THE NATIONAL-LEVEL EVALUATION OF THE CAREER CRIMINAL PROGRAM

CONCEPT AND PLAN

U.S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE

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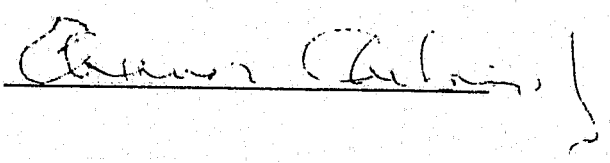
and Project Approval: 

ABSTRACT

The Career Criminal Program is a LEAA funded effort which provides resources to local prosecutors' offices to identify and rigorously prosecute serious, repeat offenders. The national-level evaluation of this program will consist of in-depth case studies of four of the programs. These case studies will be based upon an assessment of the activities implemented by the program, the changes in criminal justice system measures associated with program activities and an analysis of crime level changes in the case study jurisdictions.

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EXECUTIVE SUMMARY

The Career Criminal Program (CCP) was developed by the Law Enforcement Assistance Administration (LEAA) in 1974 to aid local jurisdictions in their fight against crime through the improved prosecution of serious, repeat offenders. The program provides funds to local prosecutors to identify defendants who appear to have established a consistent serious pattern of criminal behavior and who are assumed to be responsible for a sizable amount of criminal activity. Once identified, these career criminal defendants are to be given special prosecutorial attention to insure that their cases receive the priority that the nature of their criminal history would indicate is appropriate. This increased attention by the prosecutor is expected to result in more severe judicial penalties for career criminals than would have been the case had they been routinely handled by the prosecution. Further, it is expected that the improved prosecution of career criminal cases will result in crime reductions through the increased incapacitation of this group of offenders.

This document presents the evaluation plan for the national-level evaluation of the Career Criminal Program. The plan was developed after the Career Criminal Program had been underway for over a year and ten local Career Criminal Programs had been funded and were in operation. Given that the various local program activities were not planned with evaluation considerations in mind, the national-level evaluation will focus on four jurisdictions whose programs do not appear to be incompatible with impact evaluation.

The selected jurisdictions will be the foci of analytical case studies which will examine the processes and effects of the local CCP in terms of three distinct, but sequentially linked programmatic concerns:

- Program Activities;
- Criminal Justice System Performance; and
- Crime Levels.

In the first stage of the evaluation, the Program Activities Assessment, functional descriptions of the local case flow process will be developed which reflect criminal justice processing prior to and during the Career Criminal Programs. These case flow descriptions will provide a framework for the description of the program activities implemented as part of the CCP, and allow, as well, for the specification of system performance measures which could be expected to show an impact if the assumptions underlying the program are valid.

In the second stage of the evaluation, the System Performance Assessment, those measures associated with points of potential program impact (identified based on the Program Activities Assessment) will be

examined for several sets of cases to determine whether the program activities have had the anticipated impact on criminal justice system processing. The analysis will be based on comparisons of career criminal and non-career criminal cases, during the program operating period and during a baseline period.

Finally, in the last phase of the evaluation, crime levels in the case study jurisdictions will be examined. In this stage, a quantitative model developed by Shinnar will be employed to derive estimates of "saved" crimes due to the incapacitation of career criminals. In the evaluation these estimates will be based on changes in criminal justice system performance measures and will be used in conjunction with actual crime levels and expected crime levels (derived from crime determination models which make no use of performance measures) to determine whether differences between actual and expected crime rates can be accounted for by values derived from performance measures. In this way, it may be possible to link changes in crime rates to changes in system performance brought about by the Career Criminal Program.

1.0 THE CAREER CRIMINAL CONCEPT AND PROGRAM

The Career Criminal Program (CCP) was developed by the LEAA in 1974 to assist local criminal justice agencies in their fight against crime through the provision of federal resources for the prosecution of serious, repeat offenders in the local courts. By November 15, 1975, Career Criminal Programs had been funded in ten metropolitan areas with awards ranging from $78,548 (Kalamazoo, Michigan) to $556,155 (New York, New York) and with federal support totaling over $4 million.

The Career Criminal Program is an attempt to address the urban crime problem by focusing on the metropolitan courts and their growing caseloads of repeat offenders. By supplying resources to local court systems, the program seeks to increase their capability to prosecute career criminals (i.e., that group of repeat offenders who commit a large number of serious criminal incidents) and consequently, to have an impact on urban crime levels. As such, the program is based on certain underlying assumptions about this group of career criminals:

Existence Assumption:	There is a group of habitual violent criminals who commit a disproportionate amount of crime.
Contact Assumption:	The criminal justice system is coming into contact with these "career criminals."
Identification Assumption:	These career criminals can be identified for special consideration.
System Performance Assumption:	Because of the large caseloads and the limited resources of the criminal justice system, these serious career criminals are not prosecuted as effectively or as fully as the nature of their offenses and criminal records would warrant.

As is shown in the general schematic of the program in Figure 1, it is anticipated that through the CCP, certain actions (Treatment) will be taken in the local court system which will promote (A) improvements in the manner in which the local criminal justice system has been prosecuting the career criminal cases (System Performance). It is expected that, in turn, these improvements in career criminal prosecution will have an impact (B) on crime.

The program is based on the understanding that large court caseloads have made it possible for career criminals to take undue advantage of the criminal justice system, relative to the nature of their criminal involvement. Many career criminals escape prosecution altogether as they are screened out along with the large numbers of accused who are routinely diverted from the system. Some career criminal defendants do have charges filed against them but these charges are often dismissed due to lack of witness interest after the case has gone on for many months; yet this slow processing itself is often a by-product of trial delay and defense continuances. In some cases, prosecutors negotiate these career criminal cases down to lesser pleas and the offenders suffer only short or no sentences as part of the bargain. Prosecutors may have little leverage in these plea negotiations since the manpower in their office may be so involved in other cases that the type of case preparation necessary to assure a conviction at trial is simply not feasible.

No criminal justice system in any American city is in a position to prosecute every case in which a criminal incident occurs and a suspect is apprehended. In fact, if court systems in this country were operating at maximum capacity, between 5 and 30 percent of all cases would be brought to trial. Thus, decisions must be made at various stages of the criminal justice process as to whether to pursue further processing of the accused or whether to divert him from the system.

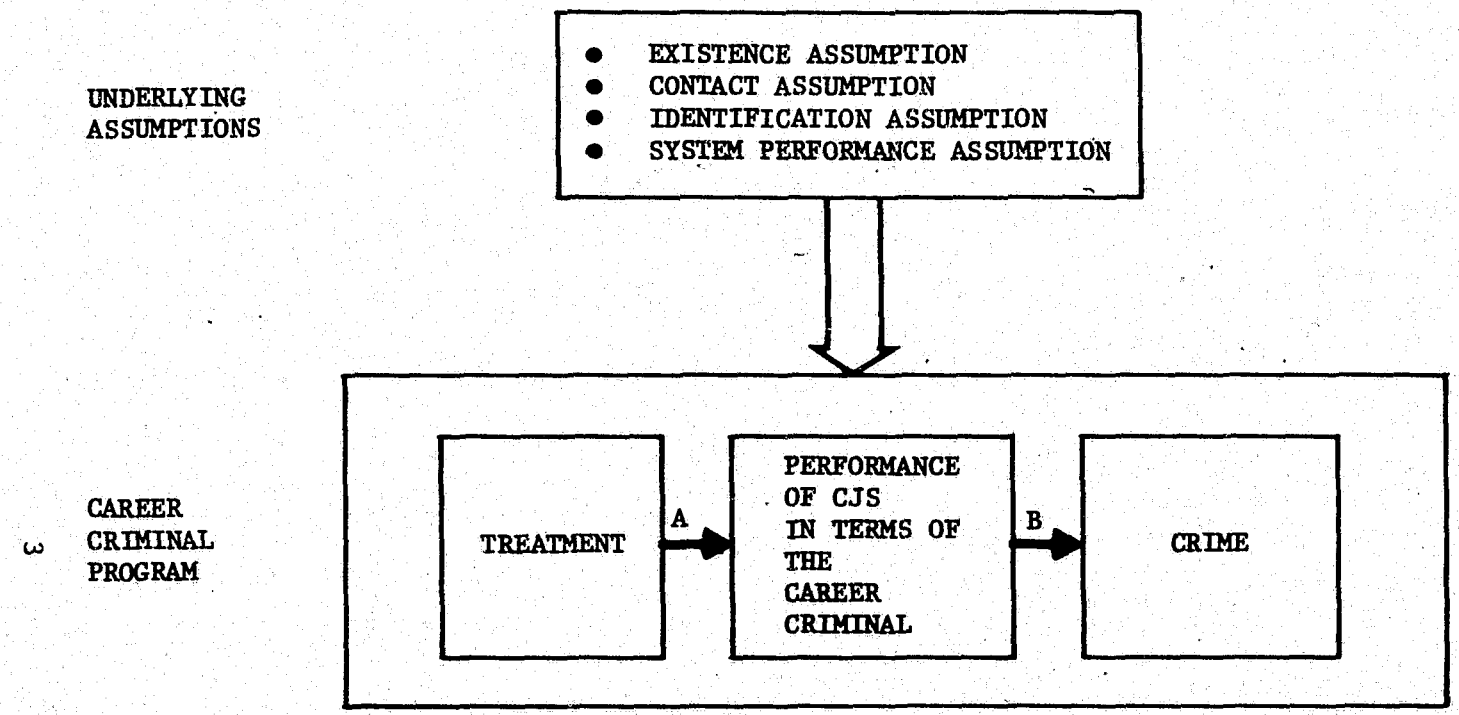


FIGURE 1
CAREER CRIMINAL PROGRAM

The number of cases diverted from the system, the types of cases diverted, and the time and manner in which diversions occur are a function of both local resources and local policy. With increases in the numbers of cases and stability in availability of court resources, more and more cases are not getting the prosecutorial attention they might warrant.

The CCP is one of several ongoing programs which address the problems facing metropolitan court systems. Another federal initiative in this area is the Improved Lower Courts Case Handling (ILCH) Program, also funded by the LEAA and in the process of being implemented in four metropolitan court systems. Both programs approach the problem of heavy caseflow directly, but target differing caseload areas. The Improved Lower Courts Case Handling Program provides resources for the more efficient handling of the lowest priority cases (certain categories of misdemeanor) and, in this way, hopes to free available resources for the prosecution of cases of higher priority. The CCP, on the other hand, earmarks resources for use in the prosecution of a particular type of high priority case. In this way the CCP attempts to impact local policy such that more career criminal cases are prosecuted more fully and effectively than has been possible previously.

The manner in which CCP funds are used to achieve these ends is dependent upon the grantee and his local system and there is some variety among the programs included in the program. Theoretically a Career Criminal Program can exhibit a wide range of variation in the scope of the particular program effort.

In the most "narrow" case, program resources may be devoted entirely to the preparation of the career criminal cases by the prosecutor's office (additional prosecutors may be hired; more experienced prosecutors may be assigned the career criminal cases). Career Criminal Programs may be of a wider scope and may involvedactivities which go

beyond the customary jurisdiction of the prosecutor's office into the handling of earlier stages in the criminal justice system process (including early screening at central offices or at police stations, legal information for police officers as part of a training program or on-site at the time of the arrest), or increased investigative capacity of the prosecutor's office itself. Career Criminal Programs may go further into the court area of the criminal justice system, adding support facilities and personnel to ease the burden of already heavy caseloads and of the potential increase in caseflow which may have resulted from preceding (earlier) program activities. Finally, it is possible that as part of the program, other, less direct, actions may be taken to reduce court congestion (such as increasing the types and capacity of diversion programs for less serious offenders, thus freeing the courts to focus their resources on cases of higher priority).

In sum, then, the Career Criminal Program is one which aims to reduce crime by focusing attention and resources on one group of criminals whose successful prosecution will have a greater impact on crime than would the prosecution of other segments of the criminal population.

2.0 EVALUATION OVERVIEW

The national-level evaluation of the Career Criminal Program will be based on in-depth evaluations of four cities selected from the pool of all cities implementing the program. The processes and effects of the Career Criminal Program in each of these four cities will be evaluated in terms of the assessment of three distinct, but sequentially linked programmatic concerns (see Figure 2):

(1) Program activities;

(2) Criminal justice system performance; and

(3) Crime levels.

As indicated in Figure 2, these three areas of focus are derived from the program and its anticipated effects. The analyses involved in the assessment of each of these areas are detailed below in sections 4.0, 5.0 and 6.0.

The first stage of the evaluation, the assessment of program activities, has two purposes. First, it will provide an extensive examination and description of the nature of criminal justice processing (from arrest to sentencing) in each city before the implementation of the Career Criminal Program and during the program. These before-during analyses, therefore, are designed to indicate the changes in criminal justice processing and operations involved in each city's CCP; in effect, they will provide a description of the program as a "treatment." These analyses will be represented by flow diagrams indicating the nature of case processing and points of program impact in this process.

The second purpose of this assessment of program activities is to allow the specification of those criminal justice performance measures likely to be affected by these program activities. For instance, if the description of program activities and operations indicates that more experienced prosecutors are now being assigned to career criminal cases going to trial, it would be reasonable to examine trial conviction

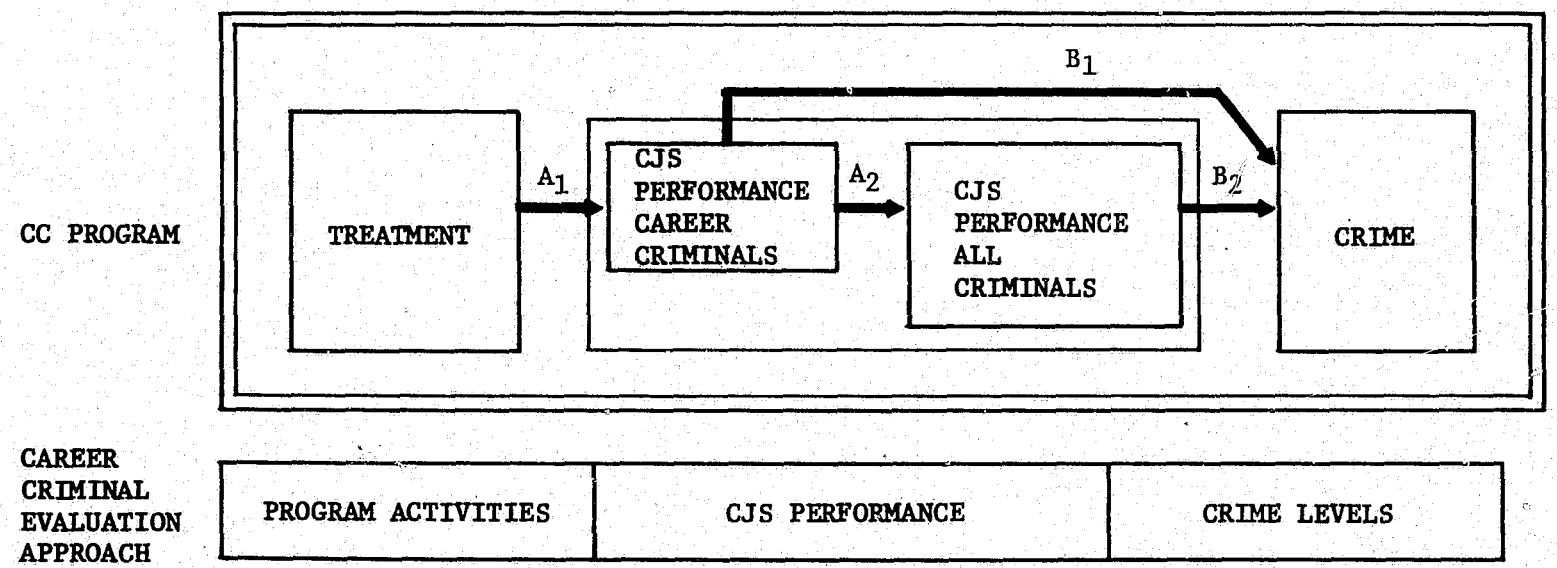


FIGURE 2
CAREER CRIMINAL PROGRAM AND PROPOSED EVALUATION APPROACH

rates in relation to this change in operations. The flow diagrams mentioned above are designed to facilitate the specification of performance measures likely to be affected by the treatment by providing a framework for a more detailed narrative delineation of this treatment. In this way the assessment of program activities, the first stage of the evaluation, is critical if changes in performance measured (assessed in the second stage) are to be reasonably attributed to the Career Criminal Program.

The second stage of the evaluation involves the analysis of changes in various measures of criminal justice performance and the attempt to link these changes to activities and operations engendered by the Career Criminal Program. Although there are three general categories of performance measures of direct concern--conviction rates, incarceration rates, and length of sentences--there are many more specific measures which fall within and outside these categories. These other measures, such as "plea-to-charge" rates or "negotiated plea" rates are essential if the specific impacts of the program are to be elaborated.

Although the program is designed to affect these performance measures for only one group of offenders, the career criminal group, it will be necessary to collect data on the same measures for other groups for comparison purposes. Data will be collected for four groups: (1) designated career criminals during the treatment year; (2) non-career criminals during the treatment year; (3) criminals from a baseline year who theoretically would have been designated career criminals; and (4) criminals from a baseline year who would not have been designated career criminals. Thus, it will be possible to assess whether performance has changed with respect to the career criminal because of the program, as measured in terms of conviction and incarceration rates, length of sentence, and in terms of more detailed measurement breakouts for each CCP city. Additionally, the analysis of performance

measures with respect to the two groups of non-career criminals will allow the examination of possible indirect effects of the Career Criminal Program on the prosecution of the non-career criminal group.

In addition to providing the primary basis for the evaluation of the effects of the Career Criminal Program, the analysis of performance measures will provide the data necessary for the examination of potential programmatic effects on crime levels, the last stage of the evaluation. In this stage, a quantitative model developed by Shinnar will be employed to derive estimates of "saved" crimes based on anticipated changes in criminal justice system performance measures. These estimates of "saved" crimes will be used in conjunction with actual crime levels and expected crime levels (derived from crime determination models which make no use of performance measures) to determine whether differences between actual and expected crime rates can be accounted for by values derived from performance measures. In this way, it may be possible to link changes in crime rates to changes in system performance brought about by the Career Criminal Program.

In summary, then, the national-level evaluation is designed to provide an intensive description of the nature of the Career Criminal Program and the changes in criminal justice system operations it has brought about. Second, it seeks to link these changes in operations to anticipated changes in the performance of the system with respect to the career criminal. Finally, the evaluation attempts to link changes in system performance to changes in actual crime rates. The basis for the evaluation are intensive analyses of program activities, system performance, and crime levels in four selected cities which have implemented the Career Criminal Program.

3.0 CITY SELECTION

As of November 1975, ten cities had successfully made application for LEAA Career Criminal Program funding. The cities in this group and the amounts of their individual CCP awards are listed in Table I. This group of cities will form the pool for the selection of the four cities to be examined as case studies in the national-level evaluation of the Career Criminal Program.

Several factors will be considered in the selection of the cities to be included in the evaluation. The first of these involves operational considerations. Potential cities will be examined to ascertain whether the implementation of their Career Criminal Programs has progressed to a point such that it would be reasonable to attempt to measure the anticipated outcomes of the program within the time frame set for program evaluation.

Secondly, the availability of data will play an important role in city selection. Baseline data requirements of the evaluation will be discussed in some detail in Section 5.0 below. An attempt has been made to limit as much as possible those particular measures and data items requisite to the evaluation and thus maintain a degree of flexibility in the choice of measures to be used in each city case study. However, in all the case studies it will be necessary to insure that reliable baseline data are available to provide an adequate comparison base for assessing the career criminal program performance.

Finally considerations concerning the nature of the individual programs will also be taken into account in selecting the case study cities. Programs with features of particular interest on a national level or with a high transfer potential will be given special consideration for inclusion, provided that other practical considerations are met. For instance, one city, Kalamazoo, Michigan, may be included as

TABLE I

CAREER CRIMINAL AWARDS AS OF NOVEMBER 1975

Wayne County Detroit, Michigan	$576,040
New York County New York, New York	$556,155
Suffolk County Boston, Massachusetts	$463,192
New Orleans, Louisiana	$421,489
Marion County Indianapolis, Indiana	$315,000
Harris County Houston, Texas	$266,068
San Diego County San Diego, California	$247,118
Franklin County Columbus, Ohio	$239,415
Salt Lake County Salt Lake City, Utah	$201,708
Kalamazoo County Kalamazo, Michigan	$78,548

(Source: LEAA Newsletter, Volume 5, Number 4, November 1975.)

one of the four cases since, concurrent with the Career Criminal Program, Kalamazoo is implementing the Improved Lower Courts Case Handling Program with LEAA funds. As discussed earlier (see page 4), this program addresses the problems of heavy case flow and court congestion in the lower court system. Examination of the Kalamazoo experience offers the unique opportunity to assess the combined impact on the performance of the criminal justice system of (1) lowering the burden on the courts with respect to less serious cases (ILCH) and (2) providing additional resources for the prosecution of more serious cases (CCP).

Within the set of cities selected, an attempt will be made, if possible, to build some planned variation into the national-level evaluation. By choosing cities where different types of interventions are employed, the evaluation will allow for increased information gains through the comparison of individual city experiences.

Operational considerations and the availability of data resources will be investigated for all Career Criminal Programs, first, based on information obtained from the National Legal Data Center in Thousand Oaks, California and second, through direct contact with the city program administrators. Those cities which appear to be candidates for the evaluation based on these first two criteria will then be investigated in terms of the third criteria, program features. The candidate city Career Criminal Programs will be examined and described using an approach similar to that presented in the following section (4.2 Description of City Career Criminal Programs, see page 15) albeit in a more abbreviated form. These structured descriptions of the CCP interventions in each candidate city, in addition to city visits to observe each candidate program, will provide the framework for assessing the final criterion for selection, the nature of individual programs.

The findings of this city selection process and MITRE recommendations on those cities to be included in the evaluation will be provided to the Program Manager at the National Institute, who will make the final city selection.

4.0 PROGRAM ACTIVITIES ASSESSMENT

The program activities analysis is designed to provide a comprehensive description of: (1) the nature of program activities implemented as part of the CCP, (2) the points of impact of these activities in the case flow process, and (3) the criminal justice performance measures likely to be affected by these activities. In order to provide a context (or baseline) for delineating these specific activities, it will be necessary to examine, as discussed earlier, the nature of the case flow process and related operations and activities prior to the implementation of the CCP. The difference, then, between typical processing and operations during the baseline year and during the year of the CCP constitutes the treatment. It is expected that this treatment will improve the performance of the criminal justice system (especially, the prosecutor's office) with respect to certain habitual, violent offenders designated as career criminals.

4.1 Baseline Description of Case Flow and Processing

The first step of the program activities analysis will be to provide a baseline description of typical case flow and operations with respect to serious offenders prior to the CCP. In addition to providing a flow chart of all steps in the processing of cases, narrative descriptions of the activities and operations related to the case flow process will be presented. Of particular interest (given the focus of the CCP) will be an analysis of the operations of the prosecutor's office, again prior to the CCP.

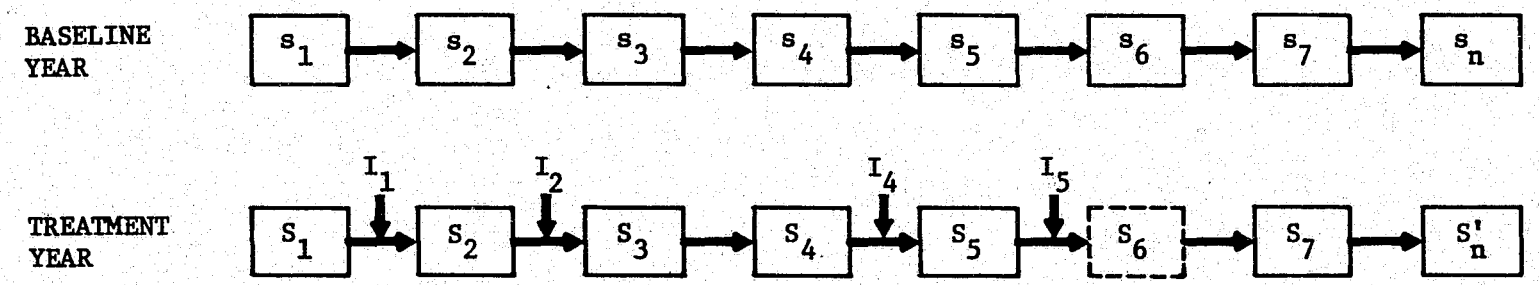
Because the CCP implements a special prosecutorial unit whose function it is to formally screen out career criminals, expedite their cases, and prosecute them fully, it will be critical to examine any informal or formal mechanisms in the prosecutor's office during the baseline year which may have had similar purposes. Likewise, it will be necessary to examine closely the case assignment process and the prosecutor's

caseloads in the baseline year because the CCP is designed to directly influence both of these factors. Other factors which may need to be described for the baseline year include felony caseloads, the use of habitual offender statutes, and prosecutor-police relationships. In each city, this analysis must be sufficiently detailed to make clear those activities and operations unique to the CCP.

4.2 Description of City Career Criminal Programs

In order to define the treatment explicitly and to attribute performance effects to this treatment, it is also necessary to have a detailed description of activities and operations implemented during the CCP and to view these activities and operations in terms of the baseline description. To facilitate this task, a flow chart of all steps in the processing of cases will be developed for the treatment year and various intervention points related to the CCP will be defined. Thus, flow charts for both the baseline year and the treatment year will have been developed providing a diagrammatic representation of the CCP, and enabling before and during activities to be viewed together. Figure 3 provides a generalized model of these flow charts.

As indicated in the figure, each of the activities and operations of the CCP will be represented as interventions ($I_1 \ldots I_n$) in the case flow process. For instance, the CCP in Detroit, Michigan, implements screening mechanisms to identify career criminals at the arrest stage, at the warrant stage, at the pre-trial stage, and at the post-trial stage. In the specific model for Detroit, S_1 would be arrest and I_1 would be screening by Major Violator's Unit. Similarly, if S_2 were issuance of warrant, I_2 would be screening by Major Violator's Unit. The most critical interventions of the CCP will probably occur at the investigation and trial preparation stages. In some cases it is possible that one of the steps may even drop out as a result of the CCP. For example, in Columbus, Ohio, it is expected that by working with



s = BASELINE YEAR CASE FLOW STEP

S = TREATMENT YEAR CASE FLOW STEP

I = CCP INTERVENTION

FIGURE 3

GENERAL MODEL OF CRIMINAL JUSTICE PROCESSING FOR SERIOUS OFFENDERS IN BASELINE AND TREATMENT YEAR TO BE USED IN PROGRAM ACTIVITIES ANALYSIS

the court assignment officers and the scheduling clerk it will be possible to bypass the preliminary hearing and present cases directly to the Grand Jury. This situation is represented in Figure 3. If I_5 were coordination with court assignment and scheduling, then S_6 would drop out (as indicated by the dotted lines) and S_7 would be the Grand Jury hearing.

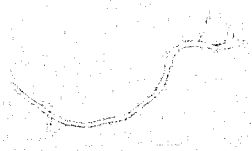
Of course, these city-specific baseline and treatment year models are only intended to provide a diagrammatic summary of the program and, thus, an easy means of looking across the cities and seeing differences in the case flow process and in their Career Criminal Programs. Detailed narrative descriptions of the operation of the various components of the CCP in each of the four cities will be provided. Although all of the programs feature some type of special prosecutor's unit, there is considerable variation regarding the nature of the screening, screening criteria, and the point(s) at which screening takes place. Likewise, there is variation in terms of factors such as the degree of involvement of the police, the use of habitual criminal statutes, mechanisms for expediting cases, and the use of computerized data processing capabilities. This variation in program interventions is especially important in terms of assessing performance changes.

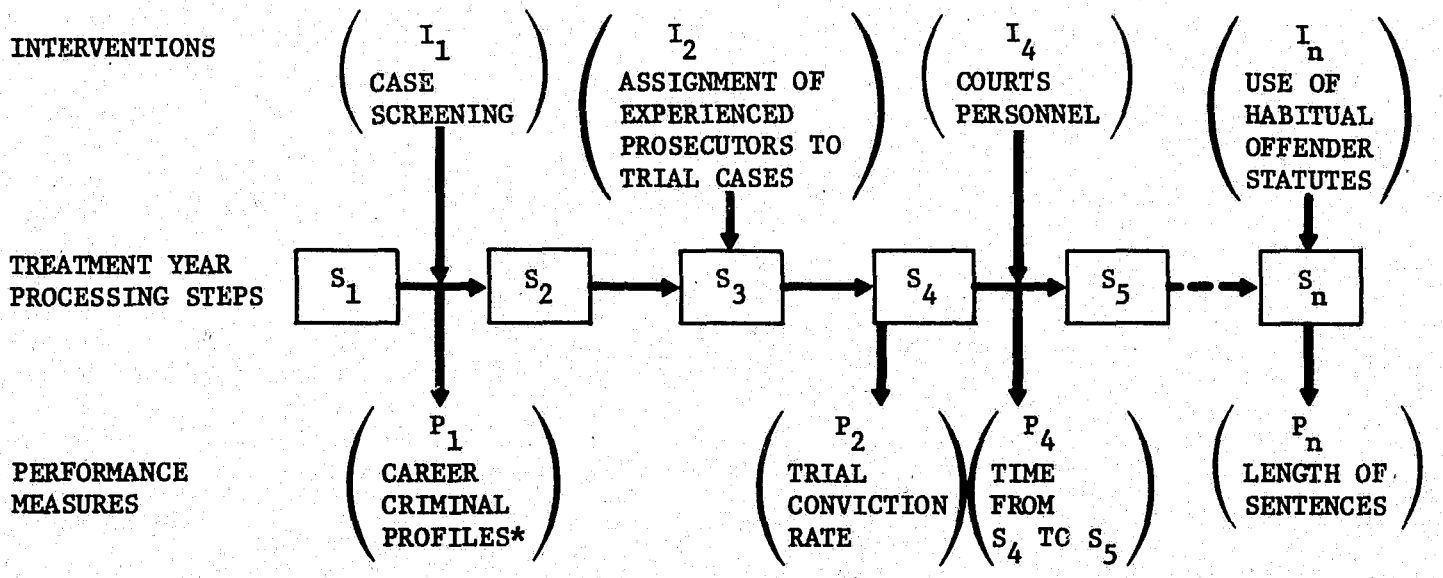
4.3 Program Activities and Performance

In addition to providing a description of the operations of the CCP, the program activities analysis will provide the basis for the specification of those performance measures likely to be affected by the CCP. This specification of performance measures will be performed in terms of an extension of the case flow diagram (see Figure 3) already developed to describe case flow and CCP interventions. Although most of these interventions are likely to affect performance measures only for career criminals, there may be some interventions which could impact performance measures for non-career criminals. These would also be specified in the case flow diagram.

Figure 4 represents an example of the extension of the flow chart to include the specification of performance measures. In this example, I_4 represents special court personnel to insure that career criminal cases are expedited through critical stages of judicial processing. In this case the specified performance measure, P_4, would be the time (in days) required to move through certain specified case flow steps (e.g., trial to sentencing). It would be expected, then, that this intervention would reduce this time period in comparison to the baseline year. The CCP in Houston will attempt to make use of habitual offender statutes. From this intervention, I_n (because it occurs at the last processing step, sentencing), the derived performance measure might be length of sentences (P_n). Because the major interventions are related to case investigation and trial preparation, the major performance measures will undoubtedly be various conviction rates.

It should be noted from Figure 4 that under I_1 (case screening) the derived performance measures (P_1) are career criminal profiles. These profiles are not performance measures per se. However, profiles of the career criminals (in terms of current and previous offenses) are the natural outcomes of the screening process and figure here as an important product of the development effort. The a priori specification of performance measures with respect to specific CCP interventions is necessary if any confidence is to be placed in the attribution of various performance changes to the program. In summary, then, the program activities analysis will provide detailed characterizations of the treatment and processing of serious offenders prior to the CCP and during the CCP. Additionally, it will specify those changes in the performance of the criminal justice system with respect to career criminals that should occur given the CCP interventions.





*THESE CAREER CRIMINAL PROFILES ARE NOT PERFORMANCE MEASURES, PROPERLY SPEAKING, BUT WILL BE DERIVED AS A RESULT OF THE SCREENING PROCESS, MUCH AS THE PERFORMANCE MEASURES ARE DERIVED; THEY FIGURE HERE BECAUSE OF THEIR IMPORTANCE IN THE ONGOING ASSESSMENT.

FIGURE 4

EXAMPLE OF SPECIFICATION OF ANTICIPATED PERFORMANCE EFFECTS IN TERMS OF CCP INTERVENTIONS

5.0 CRIMINAL JUSTICE SYSTEM PERFORMANCE ASSESSMENT

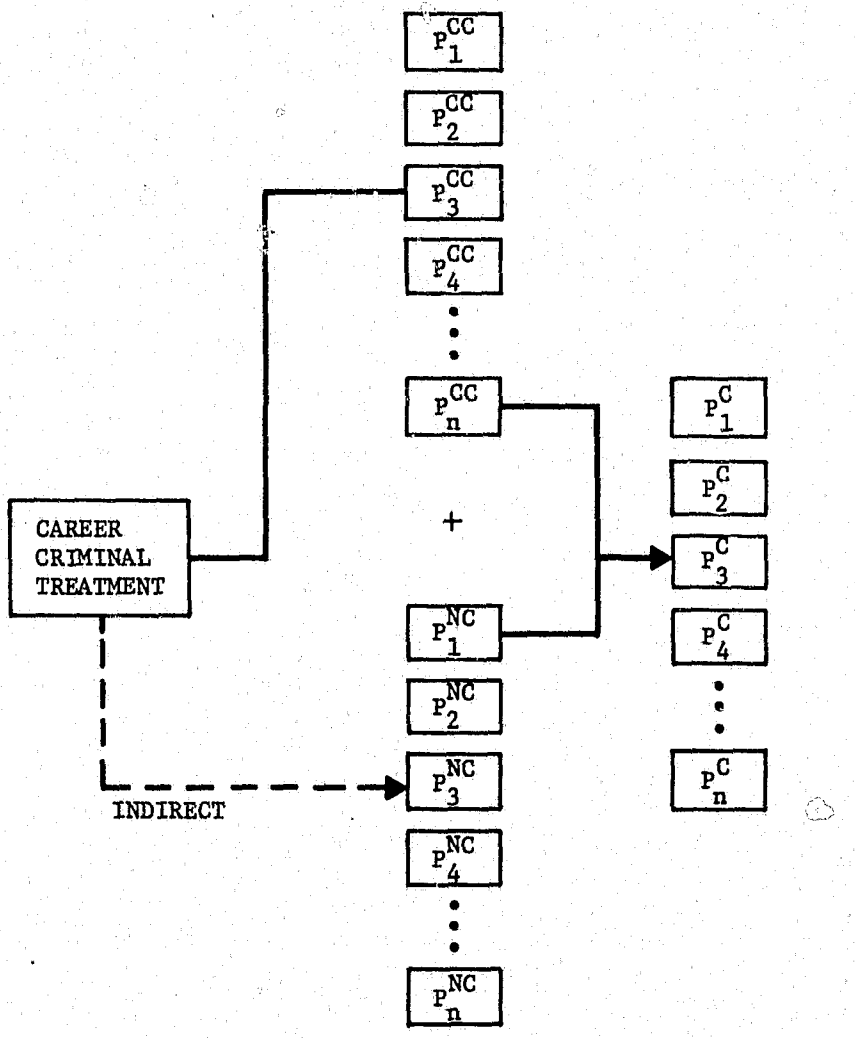
5.1 Purpose

It is anticipated that the CCP interventions implemented in each of the cities will have an impact on the capability of that city's criminal justice system to prosecute career criminals. In this stage of the national-level evaluation, the four CCP cities will be examined to assess whether these anticipated changes have occurred. As is discussed in Section 4.0 above, the individual city program activities may vary - as will those points at which potential impact of the program could be expected (i.e. anticipated performance changes). Because of this variation across cities, it is desirable that the national level assessment of the impact of the CCP on criminal justice system performance be specific enough (and thus sensitive enough) to detect the impact of individual city programs, yet general enough to allow for comparison among programs and discussion of the CCP across the cities.

5.2 Analysis Approach

The approach proposed here foreassessing whether the Career Criminal Program interventions have resulted in improvements in the prosecution of career criminals will be based on an analysis of changes in various measures of criminal justice system (CJS) performance, such as those discussed in Section 4.0 (see Figure 4 above). Measures of CJS performance in regard to the career criminal population will be the focus of the analysis. However, the overall assessment will involve measurement of CJS performance for non-career criminals as well (see Figure 5 below).

Non-career criminal measures have been included for several reasons. First, while the program directs its attention toward the career criminal cases in the system, it is possible that CCP activities may have an indirect impact on the manner in which the system handles those cases not designated as involving career criminals. For instance,



WHERE:

P_1-P_n = SELECTED PERFORMANCE MEASURES

CC = CAREER CRIMINALS

NC = NON-CAREER CRIMINALS

C = ALL CRIMINALS (CAREER CRIMINALS + NON-CAREER CRIMINALS)

FIGURE 5
PERFORMANCE ASSESSMENT APPROACH IN TREATMENT YEAR

if the CCP involves the addition of prosecutorial manpower for the handling of career criminal cases, this would mean a reduced caseload for the prosecutor's office, in general, which in turn could result in a larger number of non-career criminal cases being taken to trial than would have been possible without CCP funds. Secondly, measures of CJS performance for non-career criminals offer a context for assessing the impact of improvements in the prosecution of career criminals.

Selected measures (see Section 5.3 below) of CJS performance in terms of career criminals (P_1^{CC}-P_n^{CC} in Figure 5) and in terms of non-career criminals (P_1^{nC}-P_n^{nC}) will be derived during the period of project treatment. These treatment measures will be compared with expected levels of CJS performance, derived from baseline data, to determine whether the anticipated effects of the CCP interventions have been observed.

5.3 Baseline Data Analysis

In order to assess whether anticipated improvements in criminal justice system performance have been realized, it is necessary to obtain some reliable basis of comparison for treatment measures of system performance (that is, an estimation of expected levels of system performance without the CCP). This can be accomplished through the calculation of the selected system performance measures for a group of defendants (or cases) moving through the criminal justice system at some point in time, prior to the initiation of the program interventions.

Based on available records, a sample of baseline cases will be tracked as they passed through the various steps in the case flow process from charging to disposition. Data will be gathered on this baseline group which can be used to calculate system measures comparable to those for the treatment year. Case records will be used to make the determination as to whether or not a given baseline case would have

been considered a career criminal case using the criteria developed by the city for the CCP. The group of baseline career criminals (designated in this fashion) will serve as a comparison group for the treatment year career criminals.

The extent to which these two groups (baseline career criminals and treatment career criminals) are comparable will be investigated, using the career criminal profiles generated as part of the city program descriptions (see Figure 4 page 19 above), and in those cases where wide discrepancies exist, matching procedures will be employed to correct for the difficulties encountered in applying the CCP screening criteria in this post-hoc fashion. Where possible, assistance from the local prosecutor's office will be solicited in validating the application of the screening criteria to the baseline cases.

5.4 Suggested Performance Measures

As a case moves through the criminal justice system, procedural and legal decisions are made which determine the fate of the case and its defendant. As is suggested in the introductory section of this paper, the policy of the system in handling its cases is reflected in the general pattern of case flow. Figure 6 presents a schematic of the successive steps in the criminal justice system and the alternative paths available for cases through the system. It is this type of schematic, in conjunction with the anticipated performance changes derived from the activities analysis (see Section 4.3, page 17 above), which will serve as a framework for selecting specific measures to be utilized in each CCP case study.

There are eight general types of measures implied by the schematic:

1. Charge Rates (A)
2. Plea Rates (B)
3. Trial Rates (C)
4. Conviction Rates
5. Dismissal Rates (D)

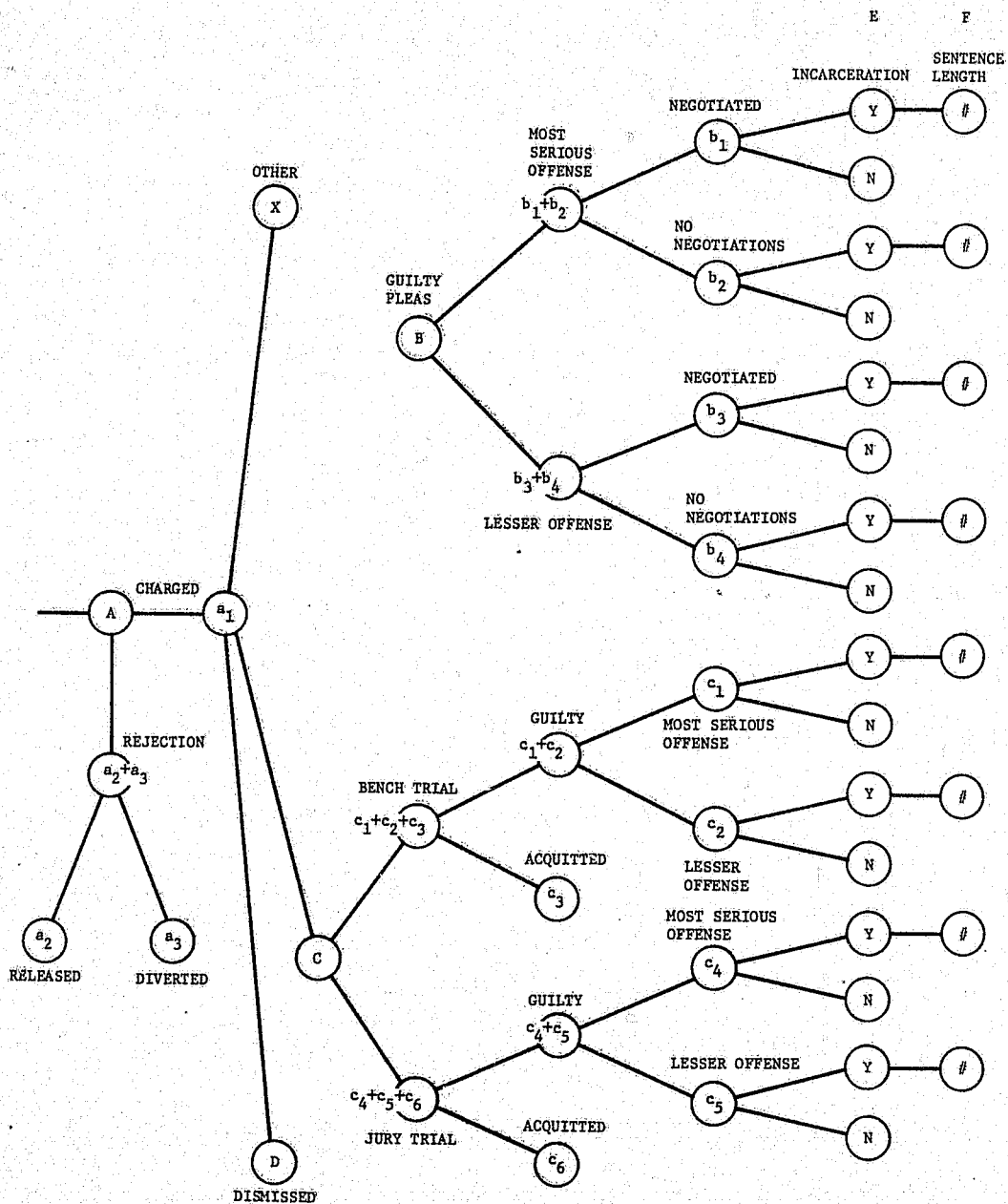


FIGURE 6
SUCCESSIVE STEPS IN CRIMINAL JUSTICE SYSTEM PROCESSING

6. Incarceration Rates (E)
7. Length of Sentences (F)
8. Processing Time

These measures are defined and described in relation to the schematic in Table II (page 26 below). Measures are defined on a per defendant basis since the CCP targets a particular group of defendants - career criminals - and because the baseline data collection process will be based on a sample of defendants during a prior time period. These eight general categories of measures will form the basis of the criminal justice system performance assessment in each case study; the specific breakouts of each measurement category to be employed in each case study will depend upon the availability of data in each locality (see Table III below for descriptions of possible breakouts). Further refinements of each measure type will be sought in cases where program interventions would suggest that certain categories of a particular measure would be affected by a program intervention. Additional breakouts of the eight measures are listed in Table III.

In summary, for each case study, a set of selected measures will be calculated for the treatment year and for a baseline year, for career criminals and for non-career criminals. Information provided in the program activities descriptions will identify those measures which correspond with points in the criminal justice system potentially impacted by the program interventions and which, if they exhibit a change, may be associated with the program. Three of these criminal justice system performance measures, conviction rates, incarceration rates, and average length of sentence will be utilized in the final stage of the evaluation: the assessment of crime level changes.

TABLE II

GENERAL MEASURES

MEASURE	DEFINITION	AS REFERENCED IN SCHEMATIC: FIGURE 6
CHARGE RATE (A)	# OF DEFENDANTS CHARGED / # OF ARRESTS MADE BY POLICE	$\frac{a_1}{\text{ARREST RATE}}$
PLEA RATE (B)	# OF DEFENDANTS ENTERING GUILTY PLEA / # OF DEFENDANTS CHARGED	$\frac{b_1+b_2+b_3+b_4}{a_1}$
TRIAL RATE (C)	# OF DEFENDANTS ENTERING PLEA OF INNOCENT AND GOING TO TRIAL / # OF DEFENDANTS CHARGED	$\frac{c_1+c_2+c_3+c_4+c_5+c_6}{a_1}$
CONVICTION RATE*	# OF DEFENDANTS FOUND GUILTY (BY TRIAL AND PLEA) / # OF DEFENDANTS CHARGED	$\frac{b_1+b_2+b_3+b_4+c_1+c_2+c_4+c_5}{a_1}$
DISMISSAL RATE (D)	# OF DEFENDANTS RELEASED BY THE COURT PRIOR TO ADJUDICATION / # OF DEFENDANTS CHARGED	$\frac{a_1-(B+C+x)}{a_1}$
INCARCERATION RATE (E)	# OF DEFENDANTS SENT TO PRISON / # OF DEFENDANTS CHARGED	$\frac{\sum(\dot{y})}{a_1}$
(AVERAGE) SENTENCING TIME (F)	TOTAL NUMBER OF YEARS SENTENCED / # OF DEFENDANTS CONVICTED	$\frac{\sum(\#)}{b_1+b_2+b_3+b_4+c_1+c_2+c_4+c_5}$
AVERAGE PROCESSING* TIME	TOTAL TIME FROM CHARGE TO DISPOSITION / # OF DEFENDANTS CHARGED	$\frac{\sum(\text{TIME FROM A TO DISPOSITION})}{a_1}$

*NEITHER CONVICTION RATES NOR PROCESSING TIME ARE DISPLAYED IN FIGURE 6 SINCE THESE MEASURES ARE COMPOSITES OF OTHER MEASURES WHICH DO APPEAR IN THE SCHEMATIC.

TABLE III

POSSIBLE MEASUREMENT BREAKDOWNS

GENERAL MEASURE[1]	ADDITIONAL BREAKDOWN
CHARGE RATES (A)	• REJECTION RATE: - REJECTED OUTRIGHT (a_2) - DIVERTED (a_3)
PLEA RATES (B)	• GUILTY PLEAS - PLEADS GUILTY TO MOST SERIOUS OFFENSE (b_1+b_2) - PLEADS GUILTY TO MOST SERIOUS OFFENSE WITH NEGOTIATIONS (b_1) - PLEADS GUILTY TO MOST SERIOUS OFFENSE WITH NO NEGOTIATIONS (b_2) - PLEADS GUILTY TO LESSER OFFENSE (b_3+b_4) - PLEADS GUILTY TO LESSER OFFENSE WITH NEGOTIATIONS (b_3) - PLEADS GUILTY TO LESSER OFFENSE WITH NO NEGOTIATIONS (b_4)
TRIAL RATES (C)	• ENTERS PLEA OF INNOCENT - BENCH TRIAL ($c_1+c_2+c_3$) - JURY TRIAL ($c_4+c_5+c_6$)
CONVICTION RATE	• TRIAL CONVICTION RATE - CONVICTED BY BENCH TRIAL (c_1+c_2) - CONVICTED BY JURY TRIAL (c_4+c_5) - CONVICTED OF MOST SERIOUS OFFENSE BY TRIAL (c_1+c_4) - CONVICTED OF LESSER OFFENSE BY TRIAL (c_2+c_5)

[1]NOTATION IN PARENTHESES REFERS TO SCHEMATIC IN FIGURE 6.

TABLE III (CONTINUED)

GENERAL MEASURE	ADDITIONAL BREAKDOWN
CONVICTION RATE (CONTINUED)	- CONVICTED OF MOST SERIOUS OFFENSE BY BENCH TRIAL (c_1)
	- CONVICTED OF LESS SERIOUS OFFENSE BY BENCH TRIAL (c_2)
	- CONVICTED OF MOST SERIOUS OFFENSE BY JURY TRIAL (c_4)
	- CONVICTED OF LESSER OFFENSE BY JURY TRIAL (c_5)
	• OVERALL CONVICTION RATE
	- CONVICTED OF MOST SERIOUS OFFENSE ($c_1+c_4+b+b_2$)
	- CONVICTED OF LESSER OFFENSE ($c_2+c_5+b_3+b_4$)
DISMISSAL RATE (D)	• CAN BE CATEGORIZED BY REASON FOR DISMISSAL
INCARCERATION RATE (E)	• CAN BE CALCULATED ON
LENGTH OF SENTENCES (F)	• b_1, b_2, b_3, b_4, c_1, c_2, c_4, c_5 SEPARATELY OR GROUPED.
PROCESSING TIME	• CAN BE CALCULATED ON a_1, a_2, a_3, b_1, b_2, b_3, b_4, c_1, c_2, c_3, c_4, c_5, c_6, d SEPARATELY OR GROUPED

6.0 CRIME LEVEL ASSESSMENT

The final state of the evaluation, the crime level analysis, assesses the extent to which changes in actual crime levels can be reasonably attributed to the impact of the CCP. The impact on crime levels derives from the improved prosecutor's performance with career criminals which, in turn, is based on the specific program interventions. As stated in the grant application for Detroit, Michigan: "We expect that higher conviction rates and a higher percentage of confinement sentences for dangerous career criminals should result. Therefore, reduction in the crime rate for Detroit and Wayne County is anticipated."

The crime level analysis will determine if the direction and magnitude of the difference between actual and expected crime levels can be consistently predicted from changes in criminal justice performance with respect to career criminals. Those cities which realize the greatest improvements in performance should show the greatest difference between actual and expected crime levels because of deterrence and incarceration effects on the actual crime level. Where there is no performance change, actual and expected crime levels should be the same.

6.1 Crime Level Estimates

In order to provide a basis for attributing crime level changes to the CCP it is necessary to determine three independent crime level estimates:

(1) the actual crime level;
(2) the expected crime level, without the CCP;
(3) the expected crimes "saved" via the CCP.

The estimates of actual crime levels will be provided by Uniform Crime Report (UCR) crime data. The expected crime levels will be determined through the use of Deutsch's empirical stochastic model.[1] Deutsch's

[1] Deutsch, Stuart J., Stochastic Modeling and Analysis of Crime," quarterly report prepared for The National Institute of Law Enforcement and Criminal Justice, Grant #75NI-99-0091.

model makes use of previous monthly police blotter data (representing reported crime) to forcast future crime incidence. A specific application of the model in Atlanta, Georgia, employed 48 months of monthly data in order to forecast crime incidence for a six-month period. The measurement of the forecasting efficiency of the model suggests that its predictive validity is greater than that associated with regression models which typically have been able only to describe average levels and general trends with any accuracy.

The final crime level estimate needed, expected crimes "saved" through the CCP, will be provided by a quantitative model developed by Shinnar.[2] Shinnar's model is based on the effects of incapacitation and, as such, makes use of a number of variables related to prosecutor performance. In his model, the effectiveness of the criminal justice system can be expressed as the number of crimes prevented due to given performance levels. The basic formula states:

$$\text{Effective reduction} = 1 - \frac{1}{1+\lambda qJS}$$

where: λ = recidivism rate per year per criminal

q = probability of being convicted, having committed a crime

J = probability of incarceration, given conviction

S = length of sentence

The effective reduction derived from this formula is always in terms of the crime rate with no incarceration, that is, $qJS = 0$. While the values of q, J, and S are directly measurable, the value of λ cannot be measured directly and must be estimated. Shinnar has developed a method of estimating λ from reconviction rates.

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[2] Shinnar, Shlomo and Shinnar, Reuel. "The Effects of the Criminal Justice System on the Control of Crime: A Quantitative Approach," Law and Society Review, Vol. 19, No. 4 (Summer, 1975); and Avi-Itzhak Benjamin and Reuel Shinnar, "Quantitative Models in Crime Control," Journal of Criminal Justice, Vol. 1, pages 185-217, (1973).

The validity of the estimates of "saved" crimes generated by Shinnar's model rests on the validity of the assumptions underlying the model. One basic assumption is that the number of criminals and length of criminal career are unaffected by increases in qJS, criminal justice system performance. Shinnar implies that this assumption results in a conservative estimate of "saved" crimes since his model will not account for deterrence or rehabilitative effects; he does not claim these assumptions are correct. Shinnar, however, does not consider the possibility that increases in qJS could result in an increase in the number of criminals or length of criminal career and, thus, no crimes "saved" via incarceration. This possibility is implicit in economic analyses of crime which examine the elasticity of the supply of criminals in the society and the sources of that supply outside the criminal justice system. Since it is not clear, however, that this economic analysis leads to feasible options for governmental intervention, it becomes extremely important to test the validity of Shinnar's assumptions: incarceration is a feasible governmental option and an increase in incarceration will lead to a reduction in crime.

It should also be noted that Shinnar's model reflects general values for λ and qJS for any crime or group of crimes. Thus, for any crime, the model cannot reflect the fact that there may be variance in the values of qJS for offenders with varying values of λ (the crime rate/criminal/year). Of course, the goal of the CCP is to increase qJS for those offenders with high values of λ in certain offense categories. The assumption of the program is that, by increasing the values of qJS for the group with the highest values of λ, more crimes can be saved. Although Shinnar's model makes it clear that the association of higher values of qJS with higher values of λ will lead to more "saved" crimes, the general nature of his formula does not allow for its expression in terms of two groups with different λ values. It will be possible to refine Shinnar's model to derive more accurate estimates

of the effective reduction in crime by defining this reduction in terms of offenders with high and low yearly crime rates (in the case of the CCP, career criminals and non-career criminals). Thus: Effective reduction =

$$\frac{Ncc}{Ncc + Nncc} 1 - \frac{1}{1 + \lambda cc(qJS)cc} + \frac{Nncc}{Ncc + Nncc} 1 - \frac{1}{+ \lambda ncc(qJS)ncc}$$

where: Ncc = number of career criminals

Nncc = number of non-career criminals

cc = values for career criminals

ncc = values for non-career criminals

Through use of this model it will be possible to reflect the greater leverage obtained (in terms of crime reduction) through improving prosecutor performance (qJS) for more serious recidivists.

6.2 Analysis

These three crime level estimates will be used in conjunction with each other in order to determine whether any crime level effects can be reasonably attributed to the program. The general logic is that the direction and magnitude of the difference between a city's expected level (derived independently of any performance measures) and a city's actual crime level can be predicted from the changes in the values of qJS. It should be noted that, because the Shinnar model is based on the effects of incarceration or incapacitation, it cannot estimate any impact due to deterrence, and can therefore predict only part of the difference between the actual and expected levels. Based on the incapacitation effects alone, however, it is presumed that if the CCP is successful there would be an increase in the number of "saved" crimes, and thus a reduction in actual crime level (relative to expected levels) because of that incapacitation.

Figure 7 provides an example of the crime level analysis employing the actual crime rate, the expected crime level, and the estimate of "saved" crimes derived from the Shinnar model. Table IV shows the

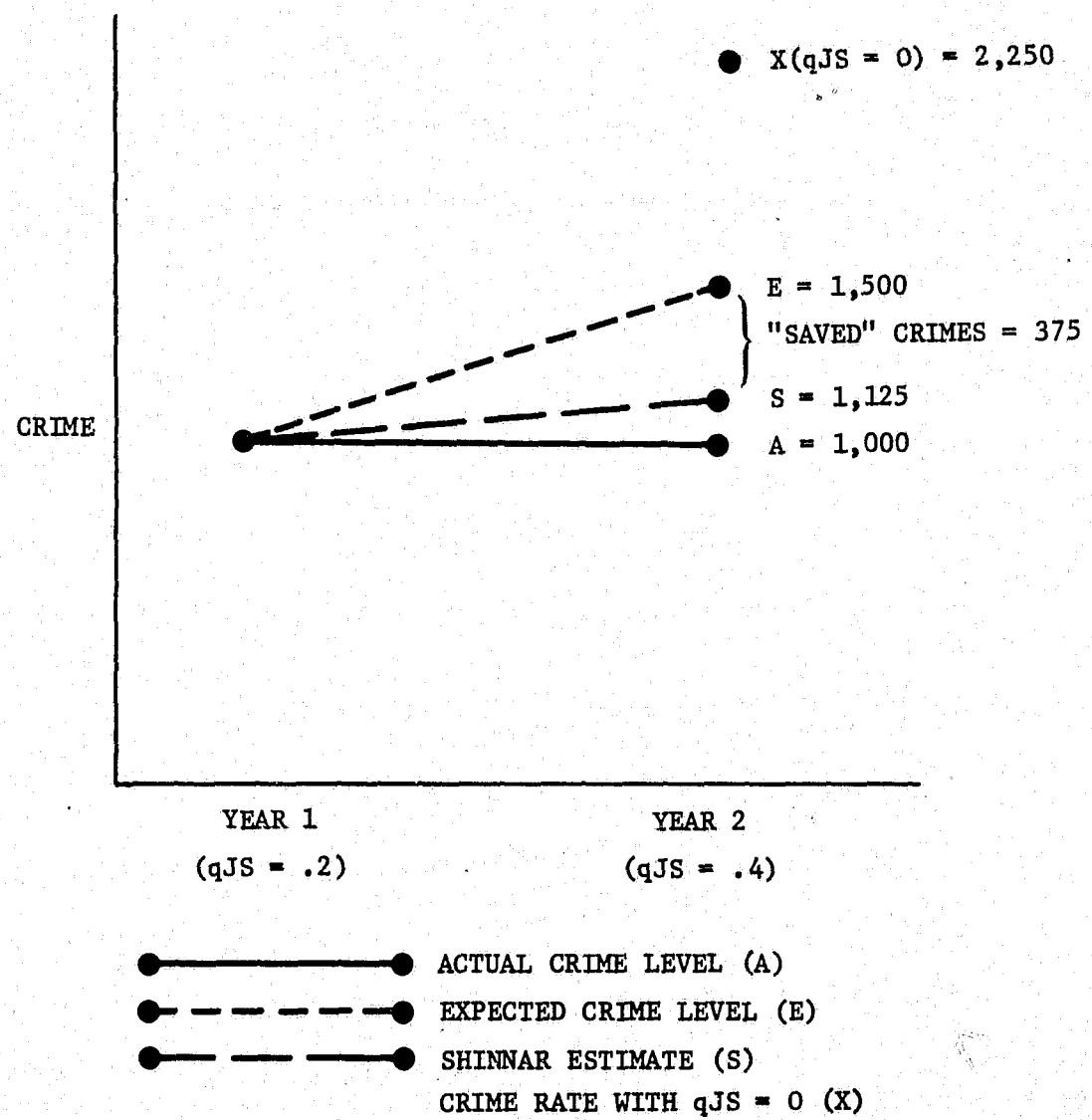

FIGURE 7
EXAMPLE OF CRIME LEVEL ANALYSIS

TABLE IV

EXAMPLE OF APPLICATION OF SHINNAR MODEL TO DERIVE "SAVED" CRIMES FOR FIGURE 7

YEAR 1	YEAR 2
ACTUAL LEVEL (A) = 1,000 (FBI DATA)	ACTUAL LEVEL (A) = 1,000 (FBI DATA)
qJS = .2	EXPECTED LEVEL (E) = 1,500 (FROM DEUTSCH)
= 2.5	qJS = .4
	= 2.5
EFFECTIVE REDUCTION $= 1 - \frac{1}{1+(2.5)(.2)}$	EFFECTIVE REDUCTION $= 1 - \frac{1}{1+(2.5)(.4)}$
BASED ON qJS = .2	BASED ON qJS = .4
= 33 1/3%	= 50%

1. BECAUSE THE EXPECTED LEVEL (E) IS DERIVED FROM CRIME LEVELS FOR YEAR 1, IT REFLECTS A qJS = .2 AND AN EFFECTIVE REDUCTION OVER THE CRIME LEVEL WHEN qJS = 0 OF 33 1/3%. THUS, THE CRIME LEVEL (X) WHEN qJS = 0 IS:

   $E = X - 1/3\ X$
   $1{,}500 = X - 1/3\ X$
   $X = 2{,}250$

2. GIVEN A qJS = .4 AND, THUS, AN EFFECTIVE REDUCTION OF 50%, THE SHINNAR ESTIMATE (S) IS:

   $S = 1/2\ X$
   $S = 1{,}125$

3. "SAVED" CRIMES DUE TO INCARCERATION, THEN, IS EQUAL TO THE DIFFERENCE BETWEEN THE EXPECTED CRIMES (E) AND THE SHINNAR ESTIMATE(S).

   "SAVED" CRIMES = E-S
   = 375

4. THE REMAINING DIFFERENCE BETWEEN THE ACTUAL AND EXPECTED LEVELS (125) MAY REFLECT DETERRENCE.

method for deriving "saved" crimes based on this example. The case presented here, in which there is an increase in qJS coupled with the actual level being lower than the expected level, represents the only situation where an attribution of positive effects to the CCP would be warranted. Cases where qJS increased but the actual level was not lower than the expected level or where the actual level was lower than the expected level but qJS did not increase, would be ambiguous in meaning. If a consistent pattern of cases were found which exhibited the first of these relationships (i.e., where qJS increased but there were no differences between actual and expected levels), it would seem that the validity of Shinnar's assumptions regarding the effects of incarceration would be in doubt.

The crime level analysis to be performed for each of the four cities will focus on those offenses most likely to be affected by increasing qJS for career criminals. Given the focus of the program and the screening criteria, it appears that the crime levels for certain serious felonies are most likely to be affected by better prosecution of career criminals. The analysis will be performed in terms of a composite crime level for these offenses. Thus, all of the parameters of the Shinnar model must be estimated in terms of these offense categories. It should be noted that the ability to detect these crime level effects and attribute them to the program is not only affected by actual changes in prosecutor performance but also by: (1) the number of career criminals affected in proportion to the total offender population; (2) the reliability and validity of UCR data, the Deutsch estimates, and the Shinnar estimates; and (3) the temporal distribution of program impact.

END