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THE CRIMINAL INVESTIGATION PROCESS: A SUMMARY REPORT, (U)

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THE CRIMINAL INVESTIGATION PROCESS:
A SUMMARY REPORT

by

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June 1976

ABSTRACT

→ The criminal investigation process in municipal and county police departments was studied by survey, interviews and observations, and special data collection. Investigators spend about ^{7%} 7 percent of their time on activities that lead to solving crimes. Case solutions reflect activities of patrol officers, members of the public, and routine clerical processing more than investigative techniques. Nearly half of investigators' case-related activities are devoted to post-arrest processing; these activities are inadequately responsive to the needs of prosecutors. Collecting physical evidence at crime scenes does not help solve crimes unless evidence processing capabilities are adequate. Policy implications are discussed.

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The criminal investigation process is one of the more important functions of municipal and county police departments. Yet many police administrators know little about the nature or effectiveness of their own department's investigative operations and even less about other departments.

At the request of the National Institute of Law Enforcement and Criminal Justice, The Rand Corporation undertook a nationwide study to fill some of these knowledge gaps.¹ The objectives of the two-year study were:

- o To describe, on a national scale, current investigative organization and practice.
- o To assess the contribution that police investigation makes to the achievement of criminal justice goals.
- o To ascertain the effectiveness of new technology and systems being adopted to enhance investigative performance.
- o To reveal how investigative effectiveness is related to differences in organizational form, staffing, procedures, etc.

While the objectives were broad, many questions of potential interest had to be excluded from consideration in order to have a study of manageable size. In particular, the study was focused on investigations of Part I crimes,² thereby excluding analysis of how misdemeanors and vice, narcotics, and gambling offenses are investigated. Also, little attention was paid to personnel practices such as selection, promotion, and motivation of investigators.

Several principles guided our design of the study. First, it had to be conducted with the participation and oversight of experienced police officials from around the country. Second, information had to be collected from many police departments, since single-city studies had already been conducted and failed to be persuasive by virtue of the possibility that the host department was unique in some way. Third, in as many departments as possible, information had to be obtained by direct on-site interviews and observations.

Participation by the law enforcement community was accomplished by appointing an advisory board,³ retaining a prosecutor and retired federal and local investigators as consultants,⁴ and assembling a panel of currently working investigators. The advisory board reviewed and vigorously criticized our research approach, data-collection instruments, findings, and interpretations of the findings. The consultants assisted in designing data instruments and participated with Rand staff in on-site interviews in many locations. The panel of working investigators commented on the validity of our observations in other cities, by comparing them with their own daily experiences, and highlighted important issues that could not be captured by numerical data.

Collection of data from a large number of departments was accomplished by developing a comprehensive survey questionnaire and distributing it to all municipal or county law enforcement departments that had 150 or more full-time employees or that served a jurisdiction whose 1970 population exceeded 100,000. This survey produced extensive information from 153 jurisdictions (of the 300 solicited) on such topics as department characteristics, investigator deployment, investigator

training and status, use of evidence technicians, nature of specialization, evaluation criteria, prosecutorial interaction, case assignment, use of computer files, and crime, clearance, and arrest rates.⁵ For example, the number of officers assigned to investigative units was found to average 17.3 percent of the police force. Thus, the investigative function costs about \$1 billion per year in the United States, approximately the same as the entire court system.⁶

On-site interviews were conducted in more than 25 of the 153 police agencies. Many of these were selected because they were known to have implemented novel investigative practices that were reportedly successful, while others were selected based on their survey responses. Project staff and consultants visited each of these departments, observing and participating in the operations of the investigative units and discussing their procedures with personnel at various departmental levels. In some cities, Rand staff monitored individual investigators and their supervisors continuously over a period of several days to obtain realistic profiles of their activities.

From some departments we obtained written evaluations of their investigative programs. In addition, several departments cooperated closely with the Rand staff and provided access to data that were subsequently used in one of the component studies.

One useful data source located during the course of the survey and made available was the Kansas City (Missouri) Detective Case Assignment File, which had been maintained in that department since 1971. On the basis of daily information submitted by individual detectives, this computer file permitted us to determine, for each investigator and each

investigative unit, a description of the time spent on various activities, the number of cases handled, and the number of arrests and clearances produced. This unique information source greatly facilitated the analyses of how detectives spend their time and to what purposes and effects.

Additional sources of information used in the study included a computer-readable file of 1972 Uniform Crime Reporting data provided by the FBI and a limited telephone survey of robbery and burglary victims.

ARREST AND CLEARANCE RATES

Several earlier studies, each conducted in a single city or a small number of nearby cities, had shown that department-wide clearance⁷ and arrest statistics are not suitable measures of the effectiveness of investigative operations. Our own study, using data from cities across the country, confirmed this observation in several different ways. The implication is that measures of effectiveness related to solving crimes must be defined carefully and can only be interpreted in conjunction with other information related to prosecution of arrestees, public satisfaction with the police, deterrence effects, and so forth.

In a study in New York City published in 1970, Greenwood⁸ found that the average number of clearances claimed for each burglary arrest varied from 1 to 20 across the city's precincts, depending on how frequently clearances were credited on the basis of modus operandi only. Similarly, Greenberg's 1972 study⁹ in six California departments found wide variations in clearance rates that arose from differences among departments in the strictness of their application of FBI "exceptional clearance" guidelines. Our own study,¹⁰ using 1972 data from all departments with 150 or more employees, showed that the average number

of clearances claimed for each arrest for a Part I crime ranged from a low of 0.38 to a high of 4.04, a factor of over 10. The ratio from high to low was even larger for each individual crime type, such as robbery or auto theft. Some departments claim a clearance for an auto theft whenever the vehicle is recovered, while others will not claim a clearance unless the perpetrator is arrested and charged for the instant offense. Clearance statistics are also affected by the amount of effort devoted to classifying reported crimes as "unfounded" (i.e., the police find there is no evidence that a crime was actually committed). This practice reduces reported crime rates as well as increasing reported clearance rates.

With administrative discretion playing such a large role in determining a department's clearance rates, any attempt to compare effectiveness among departments using clearance rates is evidently meaningless. Even comparisons over time within a single department are unreliable unless steps are taken to assure that no change occurs in administrative practices concerning clearances and classification of crimes. Arrest rates are also unreliable measures of effectiveness, since arrests can be made without resulting in any clearance.¹¹ The frequency of such events can be judged from the fact that in half of all departments the number of arrests for Part I crimes exceeds the number of clearances.¹²

Quite apart from the unreliability of arrest and clearance rates is the fact that they reflect activities of patrol officers and members of the public more than they reflect activities of investigators. Isaacs,¹³ Conklin,¹⁴ and our own study showed that approximately 30 percent of all clearances are produced by pickup arrests by patrol officers who respond to the scene of the crime.¹⁵ In roughly another

50 percent of cleared crimes (less for homicide and auto theft), the perpetrator is known when the crime report is first taken, and the main jobs for the investigator are to locate the perpetrator, take him or her into custody, and assemble the facts needed to present charges in court. (See Table 1.) This means that around 20 percent of cleared crimes could possibly be attributed to investigative work, but we found¹⁶ that most of these were also solved by patrol officers, members of the public who spontaneously provide further information, or routine investigative practices that could also have been followed by clerical personnel.

In fact, we estimate that at most 2.7 percent of all Part I crime clearances can be attributed to special techniques used by investigators. (These are called "special action cases" in Table 2.) The remaining 97.3 percent of cleared crimes will be cleared no matter what the investigators do, as long as the obvious routine follow-up steps are taken. Of course, included in the 2.7 percent are the most interesting and publicly visible crimes reported to the department, especially homicides and commercial burglaries. But the thrust of our analysis is that all the time spent by investigators on difficult cases where the perpetrator is unknown results in only 2.7 percent of the clearances.

This finding has now been established for a sufficiently large number of departments that there can be little doubt of its general correctness, with some variation, in all departments. By establishing a restricted interpretation of what constitutes "routine processing," a department might find that investigative skill or "special action" contributes to as much as 10 percent of all its clearances. Even so, the basic conclusion remains the same. Only in cases of homicide,

Table 1

CLEARED CASES HAVING INITIAL IDENTIFICATION OF PERPETRATOR
(As a percent of all cleared cases)

Crime Type	Kansas City				Total Initial ID From Five Other Departments ^b
	Arrest at Scene	Complete ID by Victim or Witness	Uniquely Linking ^a Evidence	Total Initial ID	
Forgery/fraud	30.6	20.0	39.7	90.3	90.9
Auto theft	38.5	12.7	<7.8	>51.2 ^a	47.4
Theft	48.4	8.6	17.2	74.2	70.0
Commercial burglary	24.4	16.9	16.9	58.2	80.0
Residential burglary	26.7	42.7	<6.2	>81.7 ^a	80.0
Robbery	28.4	20.9	10.6	59.9	53.4
Felony morals	25.8	27.8	27.8	81.4	72.8
Aggravated assault	28.6	63.4	7.9	>94.1 ^a	100.0
Homicide	28.3	34.8	10.9	74.0	42.9

NOTE: Numbers may not add to total because of rounding error.

^aIf no cases of uniquely linking evidence were found in the sample, or no cases other than initial identification, 95% confidence points are shown.

^bBerkeley, Long Beach and Los Angeles, Ca.; Miami, Fla., Washington, D.C.

Table 2
SPECIAL ACTION CASES
(Percent of all cleared cases)

Crime Type	Kansas City		Five Other Departments ^a	
	Sample Estimate	Maximum Estimate at 95% Confidence	Sample Estimate	Maximum Estimate at 95% Confidence
Forgery/fraud	0	5.7	0	12.7
Auto theft	0	6.9	0	14.6
Theft	0	3.2	0	25.9
Commercial burglary	4.9	12.4	10	39.4
Residential burglary	0	3.5	0	13.9
Robbery	7.1	16.6	9.5	15.6
Felony morals	0	14.5	9.1	36.4
Aggravated assault	0	5.9	0	25.9
Homicide	10.2	37.3	0	34.8
All types ^b	1.3	2.7		

^a Berkeley, Long Beach and Los Angeles, Ca.; Miami, Fla., Washington, D.C.

^b This figure is shown for Kansas City only and reflects the relative numbers of cleared cases of each type in that city. The maximum estimate for the total is lower than the estimate for any single crime type because the sample size is larger.

robbery, and commercial theft did we find that the quality of investigative efforts could affect the clearance rate to any substantial extent. Conversely, the contribution of victims, witnesses, and patrol officers is most important to the identification and apprehension of criminal offenders.

VARIATIONS WITH DEPARTMENTAL CHARACTERISTICS

Once the nature of investigators' contributions to arrest and clearance rates is understood, it must be anticipated that variations in these rates among departments are explained primarily by characteristics that have nothing to do with the organization and deployment of investigators. This is in fact what we found from our survey data.¹⁷ The three most important determinants of a department's arrest and clearance rates are its size, the region of the country it is located in, and its crime workload.

Large departments (measured by number of employees, budget, or population of the jurisdiction) claim more clearances per arrest in all crime categories than do smaller departments. However, the arrest rates of large departments do not differ from those in small departments.

Departments in the South Central states claim higher clearance rates than those in other regions, which follow in the order North Central, South Atlantic, Northeast, and West. However, arrest rates vary in almost exactly the reverse order. Evidently these differences reflect administrative practices or patterns of crime commission rather than differences in effectiveness.

In regard to crime workload, we found that departments having a large number of reported crimes per police officer have lower arrest

rates than other departments. This relationship arises in the following way. The number of arrests per police officer in a year was found to rise nearly (but not quite) in direct proportion to the number of reported crimes per police officer until a certain threshold was reached. Beyond this threshold, increasing workload is associated with very small increases in the number of arrests per police officer. The thresholds are at approximately 35 Part I crimes per police officer per year and 3.5 crimes against persons per police officer per year. These thresholds are fairly high, as only about 20 percent of departments have greater workload levels. .

These findings are consistent with the assumption that a city can increase its number of arrests or decrease the number of crimes (or both) by increasing the size of its police force, but the effect of added resources would be greatest for cities above the threshold.

In regard to clearance rates, the data showed that departments with high crime workload tend to claim more clearances per arrest than cities with low crime workload. As a result, clearance rates are less sensitive to workload than arrest rates. Although clearance rates for every crime type were found to decrease with increasing workload, the decreases were not significant for some types of crimes.

These workload relationships apply to all police officers, not just investigators. Although investigators are known to make more arrests per year than patrol officers, and our data confirmed this, the effect was not large enough that we could find a significant variation according to the fraction of the force in investigative units. In other words, if the total number of officers in a department is kept fixed,

switching some of them into or out of investigative units is not likely to have a substantial effect on arrest or clearance rates.

Aside from the effects of size, region of the country, and workload on clearance and arrest rates, we did find a few smaller effects of possible interest. Departments that assign a major investigative role to patrolmen have lower clearance rates, but not arrest rates, than other departments. This appears to reflect the fact that patrolmen cannot carry files around with them and therefore do not clear old crimes with new arrests. Departments with specialized units (concentrating on a single crime such as robbery) were found to have lower arrest rates, but not clearance rates, for the types of crimes in which they specialize, as compared with departments having generalist investigators. Departments in which investigators work in pairs had lower numbers of arrests per officer than those in which they work singly. Since we did not collect data permitting a comparison of the quality of arrests produced by solo and paired investigators, this finding must be interpreted with caution. The practice of pairing investigators, which is common only in the Northeast, is nonetheless brought into sufficient question that further research appears warranted.

Most other characteristics of investigators were found to be unrelated to arrest and clearance rates. These include the nature and extent of training for investigators, their civil service rank or rate of pay, and the nature of their interactions with prosecutors. However, this absence of correlations probably indicates more about the inadequacies of arrest and clearance rates as measures of effectiveness than about the inherent value of training and other characteristics.

HOW INVESTIGATORS' TIME IS SPENT

From an analysis of the computer-readable case assignment file maintained by the Kansas City (Missouri) Police Department, and observations during site visits, it was determined that although a large proportion of reported crimes are assigned to an investigator, many of these receive no more attention than the reading of the initial crime incident report; that is, many cases are suspended at once. The data show that homicide, rape, and suicide invariably resulted in investigative activity; while other serious types of cases received significant attention (i.e., at least a half-hour of a detective's time) in at least 60 percent of the instances. Overall, however, less than half of all reported crimes receive any serious attention by an investigator, and the great majority of cases that are actively investigated receive less than one day's attention. Table 3 shows, for several crime types, the percentage of cases that detectives worked on during the study period (May 1, 1973, to April 30, 1974).

The net result is that the average detective does not actually work on a large number of cases each month, even though he may have a backlog of hundreds or thousands of cases that were assigned to him at some time in the past and are still theoretically his responsibility. Table 4 shows the number of worked-on cases per detective per month in the various units of the Kansas City Police Department.¹⁸ The number of worked-on cases per detective is generally under one per day, with the exception of the Missing Persons Unit. If we imagine that each case is assigned to a particular investigator as his responsibility, the table shows the average number of cases that an investigator would be responsible for and work on in a month.

Table 3

PERCENT OF REPORTED CASES THAT
DETECTIVES WORKED ON

Type of Incident	Percent
Homicide	100.0
Rape	100.0
Suicide	100.0
Forgery/counterfeit	90.4
Kidnapping	73.3
Arson	70.4
Auto theft	65.5
Aggravated assault	64.4
Robbery	62.6
Fraud/embezzlement	59.6
Felony sex crimes	59.0
Common assault	41.8
Nonresidential burglary	36.3
Dead body	35.7
Residential burglary	30.0
Larceny	18.4
Vandalism	6.8
Lost property	0.9
All above types together	32.4

SOURCE: Kansas City Case Assignment File, cases reported May-November 1973.

Table 4

AVERAGE NUMBER OF WORKED-ON CASES
PER DETECTIVE PER MONTH

Unit	Number of Cases
Crimes against persons	9.2
Homicide	11.2
Robbery	7.7
Sex crimes	6.2
Crimes against property	16.9
Auto theft	19.5
Nonresidential burglary	9.4
Residential burglary/larceny	22.9
General assignment	18.6
Incendiary	7.8
Forgery/fraud/bunco	10.4
Shoplifting/pickpocket	20.9
Youth and women's	26.0
Missing persons	88.4

SOURCE: Kansas City Case Assignment
File.

Our data revealed that an investigator's time is preponderantly consumed in reviewing reports, documenting files, and attempting to locate and interview victims on cases that experience shows will not be solved. For cases that are solved (i.e., a suspect has been identified), an investigator spends more time in post-clearance processing than he does in identifying the perpetrator.

In Kansas City, the breakdown of investigators' time was as follows. About 45 percent was spent on activities not attributable to individual cases. This includes administrative assignments, speeches, travel, reading teletypes, general surveillance of junkyards, pawnshops, gathering spots for juveniles, and the like, as well as slack time (for example, in a unit that is on duty at night to respond to robberies and homicides). The remaining 55 percent of the time is spent on case work. Of this, 40 percent (or 22 percent of the total) is spent investigating crimes that are never solved, just over 12 percent (or 7 percent of the total) is spent investigating crimes that are eventually solved, and nearly 48 percent (or 26 percent of the total) is spent on cleared cases after they have been solved. While these figures apply only to Kansas City, we reviewed them, as well as more detailed tabulations, with investigators from other cities and compared them with our observational notes. We concluded they are approximately correct for other cities, with variations primarily in the areas of slack time (if investigators are not on duty at night) and time spent in conference with prosecutors.

Thus, investigators spend about 93 percent of their time on activities that do not lead directly to solving previously reported crimes.

How are they to be judged on the quality of these activities? The time they spend on cases after they have been cleared serves the important purpose of preparing cases for court; this activity will be discussed below. The time they spend on noncasework activities serves a general support function for casework activities and therefore may be useful in ways that are difficult to quantify. The time they spend on crimes that are never solved can only be judged in terms of its public relations value and a possible deterrent value, because most of these crimes can be easily recognized at the start. (They are primarily the ones for which there is no positive identification of the perpetrator available at the scene of the crime.) Police administrators must ask themselves whether the efforts devoted to investigating crimes that are initially unsolved are justified by either the small number of case solutions produced by these activities or the associated public relations benefits.

COLLECTING AND PROCESSING PHYSICAL EVIDENCE

The ability of a police agency to collect and process the physical evidence at crime scenes is thought to be an important component of the criminal investigation process. However, in our study we focused on the role of physical evidence in contributing to the solution of crimes, as distinguished from its value in proving guilt once the crime is solved.

Earlier studies showed that in only a small number of felony offenses were evidence technicians requested to process the crime scene,¹⁹ and even when the crime scene was processed a significant portion of the available evidence might not be retrieved.²⁰ Police administrators, aware of these deficiencies, have begun to experiment with a variety of

organizational changes designed to increase the number of crime sites processed for physical evidence.

Our analysis of the physical evidence collection and processing activities of six police departments which employ different procedures²¹ confirmed that a department can assure a relatively high recovery rate of latent prints from crime scenes by a sufficient investment in evidence technicians and by routinely dispatching technicians to the scene of felonies. The latent print recovery rate is also increased by processing the crime scene immediately following the report of the incident rather than at a later time. Some of our data supporting these conclusions are shown in the first three lines of Table 5.

However, the last line of Table 5 shows that the rate at which fingerprints were used to identify the perpetrator of a burglary was essentially unrelated to the print recovery rate. In fact, 1 to 2 percent of the burglary cases in each of three departments were cleared by identification from a latent print, despite substantial differences in operating procedures. In Richmond, evidence technicians are dispatched to nearly 90 percent of the reported burglaries and recover prints from 70 percent of the scenes they process, but the fraction of burglaries solved by fingerprints is about the same as in Long Beach or Berkeley where evidence technicians are dispatched to the scene less frequently and lift prints less often.

The most plausible explanation as to why lifting more prints does not actually result in a higher rate of identifications appears to be that the fingerprint file searching capabilities of police departments are severely limited. If a suspect is known, there is little difficulty

Table 5

THE PRODUCTIVITY OF CRIME SCENE PROCESSING FOR FINGERPRINTS,
RESIDENTIAL BURGLARY SAMPLE^a

Item	Long Beach	Berkeley	Richmond
Percentage of cases in which technicians were requested	58.0	76.6	87.6
Percentage of technician-requested cases in which print recovery was made	50.8	42.0	69.1
Cases in which print recovery was made, as percentage of total cases	29.4	32.2	60.5
Cases in which perpetrator was identified as a result of lifted prints, as percentage of total cases	1.5	1.1	1.2

^a200 randomly selected residential burglary cases from each of three departments (cleared or uncleared).

in comparing his prints with latent prints that have been collected. Thus, latent prints may help to confirm suspect identifications obtained in other ways. But in the absence of an effective means to perform "cold searches" (where the suspect is unknown), the availability of a latent print cannot help to solve the crime.

From a comparison of the fingerprint identification sections in Washington, Los Angeles, Miami, and Richmond, we determined that 4 to 9 percent of all retrieved prints are eventually matched with those of a suspect in each of the departments. However, the number of "cold-search" matches produced per man-year differed substantially among departments, according to the size of their inked print files and the attention devoted to this activity. In some departments, technicians performing cold searches produced far more case solutions per man-year than investigators.

The inference we reached was that an improved fingerprint identification capability will be more productive of identifications than a more intensive print collection effort. Although some techniques and equipment currently available to police departments were found to enhance identification capability, the technology needed to match single latent prints to inked prints is not fully developed and appears to us to be a high-priority item for research.

PREPARING THE CASE FOR PROSECUTION

Police investigation, whether or not it can be regarded as contributing significantly to the identification of perpetrators, is a necessary police function because it is the principal means by which all relevant evidence is gathered and presented to the court so that

a criminal prosecution can be made. Thus, police investigators can be viewed as serving a support function for prosecutors.

Prosecutors have frequently contended that a high rate of case dismissals, excessive plea bargaining, and overly lenient sentences are common consequences of inadequate police investigations. The police, in response, often claim that even when they conduct thorough investigations, case dispositions are not significantly affected. We undertook a study to illuminate the issues surrounding the controversy between police and prosecutor about responsibilities for prosecutorial failures.

A data form containing 39 questions that a prosecutor might want the police to address in conducting a robbery investigation was developed on the basis of discussions with prosecutors, detectives, and police supervisors. When this form was used to analyze the completeness of robbery investigations in two California prosecutors' offices, chosen to reflect contrasting prosecutorial practices concerning felony case screening, but similar workload and case characteristics,²² it was found that the department confronted by a stringent prosecutorial filing policy (called Jurisdiction A) was significantly more thorough in reporting follow-on investigative work than the department whose cases were more permissively filed (Jurisdiction B). Yet, even the former department fell short of supplying the prosecutor with all of the information he desired; the data show that each of 39 evidentiary questions considered by a prosecutor to be necessary for effective case presentation was, on the average, covered in 45 percent of the cases in Jurisdiction A, while 26 percent were addressed by the department in Jurisdiction B.

Table 6 lists questions that experienced prosecutors informed us should be addressed by a police investigation to facilitate the presentation of a robbery case. The summary entries indicate the percentage of cases where a question could be answered from information in the documents provided by the police to the prosecutor.

We then determined whether the degree of thorough documentation of the police investigation was related to the disposition of cases, specifically to the rate of dismissals, the heaviness of plea bargaining, and the type of sentence imposed. Our analysis showed differences between the two jurisdictions. For example, none of the sampled cases was dismissed in Jurisdiction A; furthermore, 60 percent of the defendants pled guilty to the charges as filed. By comparison, in Jurisdiction B about one-quarter of the sampled cases were dismissed after filing, and only one-third of the defendants pled guilty to the charges as filed.

A comparison between the two offices concerning the heaviness of plea bargaining is shown in Table 7. Although plea bargaining appears lighter in Jurisdiction A, this may simply reflect that the gravity of criminal conduct in the A cases was less than in the B cases, i.e., special allegations were considerably more frequent to begin with in B. One cannot conclude that only the quality of documentation of the police investigation accounted for the difference.

A similar conclusion was reached with respect to sentence imposed. That is, differences in sentencing were found, but in light of variations in other case characteristics these differences might not necessarily be related to thoroughness of documentation. This analysis leads

Table 6

PRESENCE OF INFORMATION IN POLICE REPORTS
(In percent)

Case Information Desirable for Prosecution	Jurisdiction A ^a Information From at least One Source ^b	Jurisdiction B ^a Information From at least One Source ^b
1. What INTERVIEWS were conducted?	100.0	100.0
Offense		
2. Is there a verbatim report of the instant OFFENSE?	90.4	95.2
3. Is there a verbatim report of the FORCE USED?	95.2	36.5
4. What was the PHYSICAL HARM to the victim?	47.6	18.5
5. Is there a detailed description of the PROPERTY taken?	90.4	27.2
6. What was the method of S(uspect)'s ESCAPE.	71.4	45.4
7. What type of VEHICLE was used by S?	38.0	45.4
8. What type of WEAPON was used by S?	85.7	63.6
9. If a gun was used, was it LOADED?	19.0	13.5
10. If a gun was used, when was it ACQUIRED?	28.4	.0
11. Where is the LOCATION of the weapon now?	9.5	18.1
Suspect		
12. Was S UNDER THE INFLUENCE of alcohol or drugs?	42.8	22.7
13. What are the details of S's DEFENSE?	18.9	.0
14. What is S's ECONOMIC STATUS?	14.2	4.5
15. Was S advised of CONSTITUTIONAL RIGHTS?	100.0	63.6
16. If multiple suspects, what is their RELATIONSHIP?	42.7	.0
17. Is there evidence of PRIOR OFFENSES by S?	66.6	9.0
18. Is there evidence of S's MOTIVES?	47.6	19.1
19. Is there evidence of past PSYCHIATRIC TREATMENT of S?	9.5	4.5
20. What is S's PAROLE OR PROBATION status?	37.8	18.1
21. Does S have an alcohol or drug ABUSE HISTORY?	23.8	9.0
22. Where is S EMPLOYED?	28.5	4.5
Victim/Witnesses		
23. What is the RELATIONSHIP between S and V(ictim)?	4.7	9.0
24. What is the CREDIBILITY of the W(itnesses)?	9.5	.0
25. Can the W make a CONTRIBUTION to the case prosecution?	23.8	13.5
26. Were MUG SHOTS shown to V or W?	51.7	4.5
27. If shown, are the PROCEDURES and RESULTS adequately described?	30.0	.0
28. Was a LINE-UP conducted?	53.0	.0
29. If conducted, are the PROCEDURES and RESULTS adequately described?	40.0	.0
30. Was an effort made to LIFT FINGERPRINTS at the scene?	41.0	4.5
31. If made, were USABLE FINGERPRINTS OBTAINED?	59.0	9.0
32. Were PHOTOS TAKEN at the crime scene?	35.0	4.5
33. Is the EXACT LOCATION from where the photos and prints were taken given?	29.0	.0
34. Did V VERIFY his statements in the crime report?	24.0	.0
35. Did V have IMPROPER MOTIVES in reporting the offense?	4.7	.0
Arrest		
36. What was the legal BASIS FOR SEARCH AND SEIZURE?	23.8	36.3
37. How was the LOCATION OF EVIDENCE learned?	33.3	32.0
38. How was the LOCATION OF S learned?	66.6	68.1
39. How was the ARREST OF S made?	85.7	72.7
Overall	45.0%	26.4%

NOTE: The percentages within the matrix refer only to the presence of information the police chose to record; they may not represent a complete picture of the information gathered by the police in the course of the investigation. It is possible that certain police officers record only "positive" information and assume that an omission of information automatically implies that the information is either not applicable or inappropriate in a specific case.

^a 21 cases in each sample.

^b Percentage of cases that presented this information from at least one source.

Table 7

A COMPARISON BETWEEN A AND B OF DISPOSITIONS
BY PLEAS OF GUILTY

Disposition	Percentage in A Sample	Percentage in B Sample
Plea of guilty to original charges	61.1	31.8
Plea of guilty to original charges but with special allegations stricken or not considered	27.7	22.7
Plea of guilty to 2nd degree robbery reduced from 1st degree robbery	5.5	18.1
Plea of guilty to other lesser offense	5.5	4.5
Cases dismissed	--	22.7

NOTE: Columns do not add to 100 percent due to rounding.

us to suggest that police failure to document a case investigation thoroughly may have contributed to a higher case dismissal rate and a weakening of the prosecutor's plea bargaining position.

RELATIONS BETWEEN VICTIMS AND POLICE

Many investigators, as well as top-ranking police officials, have defended the investigative function, not because it contributes significantly to the identification of perpetrators, but because it is one of the principal contacts the police maintain with the victims of serious crimes. But although the police verbally espouse the public service function as an important part of the investigative role, our observations in departments across the country indicate that most police merely respond initially to the crime scene and file a cursory report; subsequent police contacts with the victims concerning the progress of the case are rare. This is understandable given the rising number of reported crimes and relatively stable police budgets.

If the public's confidence in their local police department is to be strengthened, it seems reasonable that when the perpetrator has been identified, the victim should be notified. However, a policy of routinely providing case information feedback to crime victims poses some risk of being self-defeating. For example, if a victim is informed that the perpetrator of his crime has been apprehended but not charged with his offense and is being prosecuted on another, the victim, rather than feeling more confident in the police or the criminal justice system, may in fact be disillusioned by such information. A resentful victim also could become highly vocal about his dissatisfactions and cause other citizens to be negative about police performance.

How much information to give the victim and when it is appropriate to convey it were the questions behind a telephone survey taken of robbery and burglary victims. This study must be regarded as exploratory; the survey was conducted simply as an initial attempt to explore how victims feel about receiving information feedback regarding their specific case, and which types of information they feel are most important.

The inquiry summarized by Table 8 was accompanied by two pairs of questions, with the first question of each pair addressing the victim's desire to have feedback on a specific matter and the second eliciting his probable reaction if the feedback occurred. Table 9 displays the responses on whether or not the victim desired to be told of a police decision to suspend or drop investigative effort on his case if such a decision were made. These suggest a consistent preference for knowledge about this police decision, but with an observable tendency in cleared robbery cases (a relatively small segment of the underlying population) to the contrary.

Table 10 exhibits the responses that the victims made when asked what their reactions would be if they had been told that no further investigation was intended on their cases. We note that approximately one-third of our sample would react negatively to unfavorable feedback (and the proportion would be higher if the data were weighted to reflect the relative numbers of each crime type).

To the extent that our survey results may reach beyond the confines of our small sample, they broadly underscore the belief that there exists a strong market for information feedback to victims from the police. But they also tend to confirm the view that giving unfavorable

Table 8

KIND OF INFORMATION DESIRED BY VICTIMS

Survey Question: As a Victim, Did You Want the Police to Inform You?	Yes	No	Indif- ferent	If Your Answer Was "Yes" How Important Was It to You to Be Informed?	
				Very	Somewhat
If your case was solved?	32 (89%)	1 (3%)	3 (8%)	26	6
If a suspect was arrested?	30 (83%)	5 (14%)	1 (3%)	22	8
If a defendant was tried?	27 (75%)	4 (11%)	5 (14%)	15	12
If a defendant was sentenced?	27 (75%)	4 (11%)	5 (14%)	16	11
What sentence was imposed?	27 (75%)	4 (11%)	5 (14%)	16	11
If the defendant was released from custody?	18 (50%)	11 (31%)	7 (19%)	11	7

Table 9

RESPONDENT'S DESIRE TO BE TOLD OF POLICE DECISION
TO SUSPEND INVESTIGATION OF HIS CASE

Victim's Response	Burglary	Robbery	Total
Yes	16	10	26 (72%)
No	3	4	7 (19%)
Indifferent or no answer	1	2	3 (8%)
Total	20	16	36 (100%)

Table 10

VICTIM'S PREDICTED REACTIONS TO INFORMATION THAT POLICE
INVESTIGATION OF HIS CASE WOULD BE SUSPENDED

Victim's Prediction of his Reaction	Burglary	Robbery	Total
Appreciative of being told and agreeable to police decision	3	1	4 (12%)
Understanding and resigned	11	7	18 (53%)
Disturbed and resistant	4	1	5 (15%)
Angry and resentful	2	5	7 (21%)
			34 ^a (100%)

^aTwo victims were omitted: the response to one was not applicable and the other declined to answer.

information to victims creates undesirable reactions in attitude toward the police in some of these victims. Finally, our results suggest that other repercussions from information feedback, of which the police are sometimes apprehensive, are of slight significance. Few victims, no matter how much distressed by information coming to them from the police, indicated they would act inimically to police interests.

PROACTIVE INVESTIGATION METHODS

In contrast to the typically reactive mode (so called, because the investigator does not focus on the case until after a crime has occurred) of most investigators assigned to Part I crimes, some police departments have shifted a small number of their investigators to more proactive investigation tactics. These units are usually established to deal with a particular type of offender such as known burglars, robbery teams, or active fences. A number of such units have been supported on an experimental basis with LEAA funds.²³

The proactive team members often work quite closely with other investigators, but unlike regular investigators they are not assigned a caseload of reported crimes. Instead they are expected to generate other sources of information to identify serious offenders. These other sources may include informants they have developed, intelligence data from surveillance activities, or undercover fencing operations which the police operate themselves.

The primary **objective** in establishing these units is to reduce the incidence of the target crime. The reduction is supposed to result from the containment effect of successfully arresting and prosecuting offenders and the deterrent effect which the publicity given these

programs is expected to have on others. Therefore, the arrest productivity of these units is typically used as a measure of their primary effect. Changes in the incidence rate for the target crime type is also cited for this purpose. The chief problem in using these two measures is the difficulties in isolating the unique effects of the proactive units from either other activities of the police department or external factors affecting crime or arrest rates.

In the course of our study we looked at several such units by either examining evaluation reports or direct observation. In general, they all seemed to result in a much higher number of arrests for the officers assigned than other types of patrol or investigative activities. Consistent effects on targeted crime rates could not be identified.

In order to determine which activities of these units actually resulted in arrests, we examined a sample of cases from two of them in considerable detail. These units were the Miami Stop Robbery Unit and the Long Beach (California) Suppression of Burglary unit.

By examining a sample of robbery cases in Miami, we determined that although the Stop officers averaged 4 arrests per man-month, half of which were for robbery, in 10 out of 11 of these arrests the Stop officer was simply executing a warrant obtained by some other unit or accompanying another officer to make the arrest.

In Long Beach, the Suppression of Burglary officers averaged 2.4 arrests per man-month, half of which were for burglary or receiving stolen property. An analysis of 27 of their arrests disclosed that just half (13) resulted from their own work, with the remainder representing referral arrests or routine investigation which any other unit could have handled.

Our general conclusion from these observations was that proactive techniques can be productive in making arrests, particularly for burglary and fencing. To be effective, such units must be staffed with highly motivated and innovative personnel. Their efforts must also be carefully monitored to ensure that they do not become diverted to making arrests for other units and that their tactics do not become overly aggressive so as to infringe on individual liberties.

POLICY IMPLICATIONS

We have identified several distinguishable functions performed by investigators: preparing cases for prosecution after the suspects are in custody, apprehending known suspects, performing certain routine tasks that may lead to identifying unknown suspects, engaging in intensive investigations when there are no suspects or it is not clear whether a crime has been committed, and proactive investigations. In addition, investigators engage in various administrative and paperwork tasks related to these functions.

The information we obtained about the effectiveness of each function is adequate to begin asking whether the function should be performed at all and, if so, who should do it. The notion that all these functions must be performed by a single individual, or by officers having similar ranks or capabilities, does not stand up to scrutiny, and in fact many police departments have begun to assign distinguishable functions to separate units. Our own suggestions, to be presented below, support this development and extend it in certain ways. If a function now assigned to investigators can be performed as well or better, but at lower cost, by patrol officers, clerical personnel, or information

systems, it should be removed from investigators; if it serves the objectives of the prosecutor, then it should be responsive to the needs of the prosecutor; and if especially competent investigators are required, the function should be assigned to a unit composed of such officers.

In this section we describe the implications of our findings for needed changes in the organization of the investigative function, the processing of physical evidence, and the role of the public.²⁴

Preparing Cases for Prosecution

Post-arrest investigative activity is not only important for prosecution but is also one of the major activities now performed by investigators. This activity can perhaps be performed in a less costly or more effective manner.

From our observations, the current coordination, or lack thereof, between the police and prosecutorial agencies does not support a healthy working relationship. It allows a situation where each can blame the other for outcomes in court that they view as unfavorable.

Most prosecutors do not have investigators on their staff. If they do, these investigators are usually occupied with "white-collar" offenses rather than street crime. Generally, then, the prosecutor relies on police investigators to provide the evidence needed to prosecute and convict arrestees. But this situation contains an inherent conflict between prosecutor and police. An arrest is justified by probable cause--i.e., an articulatable, reasonable belief that a crime was committed and that the arrestee was the offender. Often, the police are satisfied to document the justification for the arrest rather than

expending further investigative efforts to strengthen the evidence in the case. The prosecutor, on the other hand, may be reluctant to file the charges preferred by the police, or to file at all, if he believes the evidence would not suffice for a conviction, i.e., proof beyond a reasonable doubt. Many cases appear to be affected by the conflicting incentives of police and prosecutor, as reflected in failures to file, lenient filing, early dismissals, or imbalanced bargaining.

One way of ameliorating this problem is to make explicit the types of information the prosecutor and police agree are appropriate to collect and document, given the nature of the crime. The form we designed for robbery cases (summarized in Table 6) gives an example of how such information can be made explicit. Each jurisdiction should develop appropriate forms for major categories of crimes. Such written documents would assist the police in becoming more knowledgeable about the type and amount of information that a prosecutor requires to establish guilt for each type of offense and in allocating their investigative efforts to provide this information.²⁵

We observed that the strictness of the prosecutor with respect to filing decisions can affect the thoroughness of case preparation. In turn, the thoroughness of documentation may affect the percentage of cases subsequently dismissed and the degree of plea bargaining. Given this finding, we suggest that prosecutors be mindful of the level of investigative documentation in their jurisdictions, especially in offices where the officer presenting the case may not have participated in the investigation.

One rationale advanced in some police departments for minimizing

the factual content of formal investigative reports is that these reports are subject to discovery by defense counsel and thereby facilitate the impeachment of prosecution witnesses, including policemen. Such departments believe the results of detailed investigations are better communicated orally to the prosecutor's office. The results of our research would tend to refute this argument, although they are not conclusive. In the jurisdiction where detailed documentation is prepared, no such negative consequences were noted, but in the jurisdiction having less information in the documentation, oral communication failed in some instances to reach all the prosecutors involved with the case.

Above and beyond merely improving coordination between police and prosecutors, it is worthy of experimentation to assign the prosecutor responsibility for certain investigative efforts. We feel that a promising approach would be to place nearly all post-arrest investigations under the authority of the prosecutor, either by assigning police officers to his office or making investigators an integral part of his staff, depending on the local situation. A test of this arrangement would permit determining whether it is an effective way of assuring that the evidentiary needs for a successful prosecution are met.

Apprehending Known Suspects

We have noted that in a substantial fraction of cases ultimately cleared, the perpetrator is known from information available at the scene of the crime. If he or she is already in custody, the case becomes a matter for post-arrest processing, as discussed above. If the perpetrator is not in custody, it is important for the responding officer(s), whether from investigative or patrol units, to obtain and make

a record of the evidence identifying the suspect. This requires that the responding officers be permitted adequate time to conduct an initial investigation, including interviewing possible witnesses, and that the crime-reporting form be designed in such a way that the presence of information identifying a suspect is unmistakably recorded.

Apprehending a known suspect may or may not be difficult. Assigning all such apprehensions to investigators does not appear to be cost-effective, especially if the investigators are headquartered at some distance from the suspect's location and a patrol officer is nearby. We believe that certain patrol officers, whom we shall call generalist-investigators, could be trained to handle this function in such a way that the arrests are legally proper and a minimum number of innocent persons are brought in for questioning. Only when apprehension proves difficult should investigative units become involved.

Routine Investigative Actions

For crimes without an initial suspect identification, we found that many of those eventually cleared are solved by routine investigative actions. These actions include listing a stolen automobile in the "hot car" file, asking the victim to view a previously assembled collection of mug shots for the crime in question, checking pawnshop slips, awaiting phone calls from the public, tracing ownership of a weapon, etc.

One implication of this finding is that any steps a police department can take to convert investigative tasks into routine actions will increase the number of crimes solved. Technological improvements, especially information systems, produced many of the clearances we identified as "routine." Such clearances might never have occurred in the

absence of such systems or might have been difficult to achieve. The ability of patrol officers to check rapidly whether a vehicle is stolen or, more important, whether the owner is wanted for questioning produced numerous case solutions in our samples. Well-organized and maintained mug shot, modus operandi, or pawn slip files also lead to clearances.

A second implication is that it may not be necessary for investigators, who are usually paid more than patrol officers or clerks, to perform the functions that lead to routine clearances. We believe an experiment should be conducted to determine the cost and effectiveness of lower-paid personnel performing these tasks.

Once clerical processing is complete, some action by a police officer may still be needed (e.g., apprehending the suspect). Such cases should be assigned to the generalist-investigators.

Investigating Crimes Without Suspects

Basically, two different objectives are served by taking more than routine investigative action when the suspect is unknown. One is a genuine desire to solve the crime, and the other is to perform a public service function, demonstrating that the police care about the crime and the victim. The latter function can be performed by generalist-investigators who are responsible to a local commander who is concerned with all aspects of police-community relations. This type of investigative duty does not require specialized skills or centralized coordination. The officers performing it could readily shift between patrol and investigative duties. In departments with team policing, such investigations could be a duty rotated among team members.

If the objective is actually to solve the crime, police departments must realize that the results will rarely be commensurate with the effort involved. An explicit decision must be made that the nature of the crime itself or public concern about the crime warrants a full follow-up investigation. A significant reduction in investigative efforts would be appropriate for all but the most serious offenses. If a thorough preliminary investigation fails to establish a suspect's identity in a less serious offense, then the victim should be notified that active investigation is being suspended until new leads appear, for example, as a result of an arrest in another matter.

Serious crimes (homicide, rape, assault with great bodily injury, robbery, or first-degree burglary) warrant special investigative efforts. These efforts can best be provided by a Major Offenses Unit, manned by investigators who are well-trained and experienced in examining crime scenes, interpreting physical evidence, and interrogating hostile suspects and fearful witnesses, and who are aided by modern information systems. One reason to establish such a unit is to identify the investigative positions that require special skills and training and that demand knowledge of citywide crime patterns and developments. Our observations suggest, by way of contrast, that with current staffing patterns, most investigators rarely see these highly serious cases. Therefore, when they arise, the investigators are frequently ill-equipped to cope with them and unduly distracted by the burden of paperwork on their routine cases.

The Major Offenses Unit would concentrate efforts on a few unsolved serious felonies. The team would consist of a relatively small

number of experienced investigators who would be closely supervised by a team commander. From our observations, the most serious impediment to high-quality investigative work appears to us to be the traditional method of case assignment and supervision. In nearly every department, cases are normally assigned to an individual investigator and become his sole responsibility whether he is a generalist, specialist, or engaged in team policing. Supervisors do not normally review the decisions he makes on how to pursue the case investigation--decisions that are largely unrecorded in the case file. Consequently, the relative priority an investigator gives to the tasks on one case assigned to him results largely from the number and nature of his other case assignments and from his personal predilections and biases. It may frequently turn out that caseload conflicts and personal predilections lead an investigator to unduly postpone or improperly perform important elements of a particular case assignment.

Assigning cases to investigative teams rather than to individuals could eliminate this impediment. For effective operations, this team should number approximately six men and be led by a senior investigator who is knowledgeable in the local crime situation, in criminal law, and in police management. The leader's primary responsibility would be to keep informed of progress on the cases assigned to his team and make the broad tactical decisions on the team's expenditure of effort. Each day the subordinate investigators would perform individually assigned tasks. A clerk delegated to the team would prepare progress reports to document the daily accomplishment on open cases and assist the leader in making the allocation for the following day. These

reports would also help the leader identify which of his men was most effective at which tasks. This approach should assure that significant steps in an investigation are objectively directed by a senior experienced investigator.

Proactive Investigations

Our research into proactive investigations, or strike force operations, leads us to conclude that these units can be relatively productive. In instances where such units did achieve an advantage, the units were manned by motivated and innovative personnel. The gain in employing them becomes illusory when mere quantity of arrests is emphasized, for then the efforts of this force tend to be diverted into making arrests that are not the result of unique capabilities. We feel that departments should employ strike forces selectively and judiciously. The operation of strike forces necessitates careful procedural and legal planning to protect the involved officers and to ensure that the defendants they identify can be successfully prosecuted. They also require close monitoring by senior officers to ensure that they do not become overly aggressive and infringe on individual privacy.

In all likelihood, the relative advantage of strike force operations in a particular department will not persist over a long period of time. The department must accustom itself to creating and then terminating strike forces, as circumstances may dictate.

Processing Physical Evidence

Most police departments collect far more evidence (primarily fingerprints) than they can productively process. Our work shows that

cold searches of inked fingerprint files could be far more effective in increasing the apprehension rate than routine follow-up investigations.

We believe that fingerprint-processing capabilities should be strengthened as follows. First, the reference print files should be organized by geographic area, with a fingerprint specialist assigned to each area, of no more than 4000 to 5000 sets of inked prints. Second, to assure a large number of "request searches," which imply a cooperative effort between investigator and fingerprint specialist, some communication links should be devised to help motivate and facilitate the reciprocal exchange of information between these two parties. And, third, the persons performing this function should be highly trained, highly motivated, and not overloaded with other tasks which detract from their primary function.

Several existing systems for storing and retrieving inked prints having specified characteristics (of the latent print or the offender) appear useful and were widely praised by departments that have them. However, further research might contribute a major technological improvement in the capability of police departments to match latent prints with inked prints.

Role of the Public

Our research persuaded us that actions by members of the public can strongly influence the outcome of cases. Sometimes private citizens hold the perpetrator at the scene of the crime. Sometimes they recognize the suspect or stolen property at a later time and call the investigator. In other cases, the victim or his relatives conduct a

full-scale investigation on their own and eventually present the investigator with a solution. Collectively, these types of citizen involvement constitute a sizable fraction of cleared cases.

Police departments should initiate programs designed to increase the victim's desire to cooperate fully with the police. Resources allocated to such programs may serve to increase apprehension rates as well as improve the quality of prosecutions. Specifically, police departments should announce, when major crimes are solved, the particular contribution of members of the public, although of course their desires for anonymity should be respected. A realistic picture of how crimes are solved will help eliminate the public's distorted image of detectives and will impress on them the importance of their cooperation with police in order to solve crimes.

Reallocation of Investigative Resources

If, after appropriate test and evaluation, the suggestions we have made for improving the investigative function prove to be effective, the ultimate implication of our work would be a substantial shift of police resources from investigative units to other units. First, most initial investigations would be assigned to patrol units under the direction of local commanders. To improve the quality of initial investigations, the patrol force would have to be augmented with a large number of generalist-investigators. These officers would also perform certain follow-up work such as apprehending known suspects and improving communications with victims and witnesses of crimes. The resources needed to field generalist-investigators would be obtained by reducing the number of investigators.

Additional major reallocations of resources away from "traditional" reactive investigative units are implied by our suggestions to have clerical personnel and generalist-investigators perform routine processing of cases, to increase the use of information systems, to enhance capabilities for processing physical evidence, to increase the number of proactive investigative units, and to assign investigative personnel to the prosecutor for post-arrest preparation of cases. If all these changes were made, the only remaining investigative units concerned with Part I crime would be the Major Offenses Units. The number of investigators assigned to such units would ordinarily be well under half the current number of investigators in most departments.

Our study does not in any way suggest that total police resources should be reduced. On the contrary, our analysis of FBI data suggests that such a reduction might lower arrest and clearance rates. Reallocating resources may lead to somewhat increased arrest and clearance rates, but our suggestions are primarily intended to result in more successful prosecution of arrestees and improved public relations.

Most of our suggestions for change are known to be practical, because we observed them in operation in one or more departments. For example, a number of departments have recently introduced "case screening," which means that each crime report is examined to determine whether or not a follow-up investigation should be conducted. Our findings indicate that the decision rule for case screening can be quite simple. If a suspect is known, the case should be pursued; if no suspect is known after a thorough preliminary investigation, the case should be assigned for routine clerical processing unless it is

serious enough to be assigned to the appropriate Major Offenses Unit. The definition of "serious" must be determined individually by each department, since it is essentially a political decision.

Another current innovation is "team policing," in which investigators are assigned to work with patrol officers who cover a specified geographical area. While there are many organizational variations on team policing,²⁶ most forms would permit the introduction of generalist-investigators having the functions we describe, and some already include such personnel.

We are not aware of any jurisdiction in which the prosecutor currently administers post-arrest investigations, although investigators have been assigned to several prosecutor's offices (for example, in Boston, New Orleans, and San Diego) to facilitate interactions with the police. To determine the feasibility and effectiveness of prosecutor responsibility for post-arrest investigations, a careful experiment will be required.

The National Institute of Law Enforcement and Criminal Justice plans to fund the introduction of revised investigative procedures in approximately ten jurisdictions. The experimental changes, which are based partly on the findings of our study, will be carefully evaluated to determine whether, to what extent, and under what circumstances they actually lead to improved effectiveness.

FOOTNOTES

1. This article summarizes the work of all the Rand research staff engaged in the study of criminal investigation. In addition to the authors, they are: Robert Castro, Konrad Kellen, Eugene Poggio, Linda Prusoff, and Sorrel Wildhorn.
2. Part I crimes are criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny, and auto theft. The FBI definitions of these crimes include attempts, except for homicide.
3. The advisory board consisted of Cornelius (Neil) J. Behan (New York City Police Department); James Fisk (member of the Los Angeles Police Commission); Thomas Hastings (Rochester, New York Police Department); Jerry Wilson (former Chief, Washington, D.C. Police Department); and Eugene Zoglio (professor, Prince George's Community College).
4. Consultants were Sydney Cooper, Carmine Motto, Albert Seedman, Seymour Silver, and Raymond Sinetar.
5. The complete results of the Rand survey are reported in Chaiken, Jan M., The Criminal Investigation Process: Volume II. Survey of Municipal and County Police Departments, The Rand Corporation, R-1777-DOJ, October 1975.
6. See, for example, "Expenditure and Employment Data for the Criminal Justice System," National Criminal Justice Information and Statistics Service, U.S. Government Printing Office, Washington, D.C., updated annually.
7. A crime is cleared when a perpetrator is apprehended or is identified as unapprehendable. The latter possibility is intended to apply in "exceptional" circumstances, such as when the perpetrator is dead.

8. Greenwood, Peter W., An Analysis of the Apprehension Activities of The New York City Police Department, The New York City-Rand Institute, R-529-NYC, September 1970.
9. Greenberg, Bernard, et al., Enhancement of the Investigative Function, Volume I: Analysis and Conclusions; Volume III: Investigative Procedures--Selected Task Evaluation; Volume IV: Burglary Investigative Checklist and Handbook, Stanford Research Institute, Menlo Park, California, 1972. (Volume II not available.)
10. The Criminal Investigation Process: Volume II, pp. 36,37.
11. In some jurisdictions, persons may be arrested "for investigation," without a crime being charged. In all jurisdictions persons are occasionally arrested by error and are subsequently released by a prosecutor or magistrate without any clearance being claimed by the police.
12. Instances in which several perpetrators are arrested for a single crime may also explain an arrest/clearance ratio over 1.
13. Isaacs, Herbert H., "A Study of Communications, Crimes, and Arrests in a Metropolitan Police Department," Appendix B of Institute of Defense Analyses Task Force Report: Science and Technology, A Report to the President's Commission on Law Enforcement and Administration of Justice, U.S. Government Printing Office, Washington, D.C., 1967.
14. Conklin, John, Robbery and the Criminal Justice System, J. B. Lippincott Co., Philadelphia, 1972.
15. After initial publication of the Rand study, this finding was further confirmed by a Police Foundation study, "Managing Investigations: The Rochester System," by Peter B. Bloch and James Bell. While this

study was primarily intended to compare team policing with non-team policing, the report presents data permitting a calculation of the ratio of on-scene arrests to all clearances by arrest for three crimes. The data show that in Rochester 31.7 percent of burglary clearances by arrest, 31.1 percent of robbery clearances by arrest, and 28.7 percent of larceny clearances by arrest were the result of on-scene arrests.

16. See Chapter 6 in The Criminal Investigation Process: Volume III. Observations and Analysis, by Peter W. Greenwood, Jan M. Chaiken, Joan Petersilia, Linda Prusoff, Bob Castro, Konrad Kellen, Eugene Poggio, and Sorrel Wildhorn, The Rand Corporation, R-1778-DOJ, October 1975.
17. See The Criminal Investigation Process: Volume II, pp. 38-47.
18. "Worked-on" means that at least one-half hour was spent on the case. The types of cases assigned to each unit are described in The Criminal Investigation Process, Volume III, pp. 53-55. For example, the homicide unit handles suicides and unattended deaths from natural causes as well as homicides.
19. Parker, Brian, and Joseph Peterson, Physical Evidence Utilization in the Administration of Criminal Justice, School of Criminology, University of California at Berkeley, 1972.
20. President's Commission on Crime in the District of Columbia, Report of the President's Commission on Crime in the District of Columbia, U.S. Government Printing Office, Washington, D.C., 1966.
21. The study departments were Berkeley, Long Beach, Los Angeles, and Richmond, California; Miami, Florida; and Washington, D.C. See

Chapter 7 of The Criminal Investigation Process. Volume III for further details.

22. Greenwood, Peter W., et al., Prosecution of Adult Felony Defendants in Los Angeles County: A Policy Perspective, The Rand Corporation, R-1127-DOJ, March 1973, led us to expect significant differences in police investigative effort and prosecutorial posture between the two selected jurisdictions.
23. For a description of five antirobbery units of this type, see Richard H. Ward, et al., Police Robbery Control Manual, National Institute of Law Enforcement and Criminal Justice, 1975.
24. An expanded discussion of the policy implications is reported in Greenwood, Peter W., and Joan Petersilia, The Criminal Investigation Process: Volume I. Summary and Policy Implications, The Rand Corporation, R-1776-DOJ, October 1975.
25. Other alternatives which might accomplish some similar aims include having the prosecutor provide the investigator with periodic evaluations of their case preparation efforts; training for new investigators in case preparation; or on-call attorneys to assist in the preparation of serious cases.
26. See, for example, Bloch, Peter B., and David Specht, Neighborhood Team Policing, National Institute of Law Enforcement and Criminal Justice, December 1973.