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Basic Issues in Police Performance

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FOREWORD

This document is one of four produced under the National Institute of Justice's Performance Measurement Program, a long-range research program to improve performance measurement practices in criminal justice agencies. Like its companions, it entails a review and synthesis of performance and measurement concepts for the purposes of conceptualizing the general problem and of developing an agenda for future performance measurement research.

Each report deals with performance in the context of some function of the criminal justice system: Police, Prosecution and Public Defense, Courts, and Adult Corrections. "Performance" is therefore discussed in terms of the objectives and activities specific to that function as well as in terms of the general definitional and measurement issues frequently raised in the context of public accountability and administration. The result is a balance between the concreteness of the daily realities of quantitative management and the abstractness of measuring an elusive concept called public agency performance.

The volumes don't advocate a host of new measures, a "bottom line" or formula for improving the administration of the corrections function. So many measures of performance have already been proposed that agency managements are faced with the prospect of expensive automation in order to produce an over-abundance of statistics. Rather than promote that kind of expenditure, the Institute embarked upon this effort to sort out perceived measurement needs and to crystallize competing perspectives on performance. The fact that each volume in this series offers a different perspective on the subject affirmed our assessment that we are still some way from mechanical application of measurement schemes.

Each volume contains an integrated, thoughtful assessment of some key performance issues, yet there is little redundancy. We encourage researchers and practitioners to read all four conceptualizations in order to familiarize themselves with the range of perspectives that can be taken. We hope that the studies will encourage others to refine their thinking on this difficult subject and to make other contributions to this critical but as yet under-developed aspect of criminal justice administration.

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ABSTRACT

This report reviews performance measurement of police agencies in the United States and suggests an approach for improving it. Performance measurement is the use of social science to assess how well an agency is doing its job. In the brief history of police performance measurement its developers have tended to emphasize the scientific measurement of crime and law enforcement efforts associated with crime fighting, but police have many jobs. Failure to consider the broad range of things police do has produced incomplete and biased evaluations of police service quality.

This study investigates three major difficulties that confront evaluators of police performance who wish to systematically measure performance: 1) Failure to recognize that the choice of performance measures raises questions about what police should do and that there is rarely consensus about what constitutes good police performance; 2) There is a lack of knowledge about how police activities produce social changes; and 3) There exist numerous obstacles to obtaining valid data about policing.

We propose that users of performance measures treat performance measurement as a learning strategy. Popular methods of conducting performance measurement now lack the flexibility required. The promulgation of standards and indexes for uniform application in police departments throughout the United States is counterproductive because departments, communities, and the people within them vary so greatly in their problems and priorities. Further, knowledge about how policing works is so sketchy that such standards are best viewed as hypotheses--more worthy of testing than of emulation.

Thus the goal of performance measurement research and development should not be a set of measures and data collection techniques that rate which departments are doing well and which are not. This goal assumes that we know far more than we do. Rather, our conclusion is that performance measurement should be a way of learning more about what police do and what effects they have on communities.

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PREFACE

In the last decade performance measurement of public institutions has increased rapidly. With increasing frequency public policies are planned, maintained, devised, or discontinued using evidence from systematic evaluations or what purports to be systematic evaluation. Police departments, like other public organizations, are besieged with requests to justify their expenditures, programs, practices, and future plans. Most departments' performance measurement efforts go only a small way toward meeting these requests, however. That is not to say that police do not have access to sophisticated technology. Many police departments use computers and produce reams of printout. But while police reports are filled with statistical tables and charts, the quality and scope of these statistics as indicators of police performance go unexamined by most departments, other government officials, and the public. The press assiduously reports the FBI crime index, and politicians frequently rely upon it to stoke campaigns. Such facile interpretations of complex problems are candidly described as "the numbers game" by knowledgeable police chiefs. This sort of "performance measurement" only deals with the appearance of public services, not the services themselves.

Much of the social science technology of performance measurement may be relatively new, but the notion itself is not. Performance measurement is no more than a systematic way of obtaining information to help people make judgments about agency programs. The recent, intense interest in police performance measurement is an attempt to make explicit the many features of evaluation that have long been implicit and to apply techniques developed by social scientists in this endeavor.

The history of police reform is littered with unexamined assumptions. Police and students of policing spend a great deal of energy trying to improve things that do not matter--or that do not matter in the ways believed. Greater patrol presence, quicker officer response time, and more specialization of criminal investigation are among the "improvements" which research has called into question. Much of police performance measurement has been based on questionable assumptions about what is important in policing.

The root of the problem in police performance measurement is not merely that we have erred in what we measure or how we measure it, however. The fundamental problem is that performance measurement has been viewed as definitive --as a way to settle arguments about policing rather than as an exploratory way to improve ongoing debate about what police should be doing. The quality and usefulness of the information obtained through performance measurement can be improved more readily if the choice of what to measure, the design of measures, the data collection procedures, and the models by which data are interpreted are all subjected to closer examination and more careful criticism by all users of police performance measures.

In this report we urge that performance measurement be viewed as a learning strategy. Improving the process of performance measurement requires a long-term commitment from all those interested in improving policing. Performance

measurement cannot be codified by a panel of experts. It is an ongoing process in which uncertainty and ambiguity are inevitable. Those who want to treat performance measurement as a learning strategy must be willing to make their assumptions and values explicit. They must be ready to reject those that closer examination shows to be invalid or untenable. Our practical assessment of the priorities for performance measurement is that we need much more knowledge about how police operations affect social problems before we promulgate lists of standards, goals, or criteria for accreditation. Such prescriptions can provide useful agendas for research and program experimentation, but they are inappropriate for widespread adoption as the only yardsticks against which departments should be measured.

This report contains neither a list of standards and goals for police nor a set of performance measure "alternatives." The report does not present a ready-to-implement program that has all of the technical and political problems of performance measurement worked out for the police chief, mayor, citizen's group, or other concerned parties. Rather, we discuss the basic issues underlying any attempt to use social science methods to assess policing. This report reviews and critiques various performance measurement projects in order to emphasize these basic issues. We present an argument for approaching performance measurement as a learning strategy, discuss difficulties that must be dealt with in improving performance measurement, and suggest some ways of handling these problems.

The book is organized into four parts. The first part, Chapter One, is an overview that describes and comments on previous performance measurement efforts and summarizes our approach. The second part, Chapters Two through Five, describes the organization and operation of local policing in the United States and their relevance for performance measurement. Chapter Two discusses local police agencies and provides a basis for understanding the nature of police work described in subsequent chapters. Chapter Three describes a variety of constituencies of police--what they want from police and how they communicate those expectations. Chapter Four documents the view that police work includes much more than "fighting crime." Chapter Five is a brief catalogue of records currently maintained by police and an assessment of their use for performance measurement.

The third part of the report, Chapters Six through Nine, addresses the technical aspects of performance measurement. Chapter Six discusses the need for modeling our understanding of how police processes work so that our assumptions are made explicit and accessible for verification. Chapter Seven discusses problems with validating performance models and ways to deal with these problems. Chapter Eight addresses problems in the construction of measures and pays particular attention to issues of data quality. Chapter Nine argues for the thorough consideration of criteria which put the modeling and indexing of performance in a normative perspective.

Chapter Ten is the fourth part to the report. It briefly discusses some practical alternatives in pursuing performance measurement as a strategy for learning more about policing and what we want police to do. Two appendixes describe research projects conducted by the authors. Some results of this research are reported for the first time in Chapters Three and Four. Appendix A is an overview of the Police Services Study, a two-phased project funded by the National Science Foundation (DASRA Grant NSF GI 43949). Appendix B describes

the set of codes used to categorize citizens' problems which come to police attention.

This report is written for a broad audience. Our assumption is that police departments will conduct most police performance measurement themselves. Much of our discussion is directed to police administrators, elected officials, government executives, planners, and other criminal justice officials. Knowledge about policing and evaluation methods varies greatly among this group. Those familiar with recent research on police may wish to skip or skim part of Chapters Two through Five. Chapters Six through Eight are technical, but we have tried to make them as free of jargon as possible. Scholars and experienced researchers may find many of the technical aspects of these chapters familiar and at times relatively elementary, but we also believe that citizens' groups, news organizations, and others concerned about policing will find this book relevant to their concerns. We have tried to make it accessible and informative to all these readers.

Writing this book was a learning experience for the authors. We held numerous conferences and exchanged many working papers and memoranda. We reviewed the large body of literature on policing and performance measurement. We consulted other researchers and police officials. The report is truly a joint product of the five of us. Each chapter was reviewed by all and then redrafted by another author, reviewed, and drafted again. During this process the report's form changed substantially.

We are indebted to many people for their assistance in producing this report. Paula Baker, Tim Graves, Robert Lester, and Cathy Senn performed tirelessly the task of literature search and summarization. Janice Thorp, Rob Worden, and Florida Young managed the data files and conducted computer analyses. Marsha Porter supervised several members of the staff who typed preliminary drafts. Sally Bernard also typed numerous drafts of this report and handled all other administrative tasks associated with running a large project with her usual efficiency and charm. Patricia Sanford edited the final draft and prepared the camera-ready copy, contributing substantially to its readability. The following people generously read the manuscript and offered comments: Dennis L. Bliss, G.R. Boynton, Bruce B. Clary, Joseph Lewis, Michael Maxfield, Harold E. Pepinsky, Gail G. Schwartz, and Lawrence W. Sherman. We are also grateful for the thoughtful comments of anonymous reviewers whose services the National Institute for Justice obtained. Members of the National Institute of Justice consortium on performance measurement also made valuable contributions at conferences and in writing: Edwin Zedlewski (NIJ project manager), Joan Jacoby (Prosecution and Public Defense), Tom Cook (Courts), Gloria Grizzle and Ann Witte (Corrections), and Stuart Deutsch and Terence Connolly (Criminal Justice System). Finally, we would like to thank the police administrators, officers, government officials, and citizens who over the last decade have shared their knowledge and experience with us.

CHAPTER 1. POLICE PERFORMANCE MEASUREMENT

Performance measurement is the use of social science methods to learn how well an agency is doing its job. Police departments do many different jobs, and it is difficult to measure their performance. Both the accuracy and the usefulness of police agency performance measurement can be improved, however, and it is toward this goal that this report is written. We review past and present police performance measurement efforts and then discuss three major issues that should be considered in the improvement of the quality of performance measurement and therefore increase its usefulness. The three issues are (1) the lack of consensus about what police should do, (2) the lack of knowledge about the social consequences of police activities and about how other social conditions also influence the safety and well being of the community, and (3) the obstacles to collecting valid data about what police do. In our view, performance measurement can best help us learn more about what police do, what they should do, and how they can do things better if its results are held open to question and provoke, rather than preclude, discussion. Given the current state of knowledge about policing, performance measurement is able to provide only partial information about the operations of a police department and their effects on the community. Given the variety of purposes police are expected to serve, performance measurement will not be likely to reflect all relevant values to which police may be held. We see performance measurement as a way of learning about policing and informing decisions about what police should do, but we do not think that performance measurement can replace discussion, negotiation, and judgment in reaching policy decisions about policing.

A. Police Performance Measurement in the Twentieth Century

1. Early years. August Vollmer is widely credited with fostering the first police performance measurement program in the United States. He became chief of the Berkeley Police Department in 1905, and during the next quarter of a century developed the department's data collection and evaluation methods far beyond those of any other local, state, or federal police agency (Carte and Carte, 1975). His reputation as a police professionalizer was national by the late 1920s. By that time several other state and local police departments had also begun data collection on crime and criminal justice activities (Walker, 1977:156; Robinson, 1933). The major milestone for systematic data collection, however, was the implementation of the Uniform Crime Reports (UCR) in 1930--a matter in which Vollmer played a major role. Some American police chiefs had expressed a desire for the compilation of crime statistics since 1871 (de Neufville, 1975:105), but the political and administrative obstacles had been too great until numerous crime commissions in the 1920s heightened public awareness of crime. In 1928, the International Association of Chiefs of Police (IACP), with support from the Rockefeller Foundation, devised a standardized crime reporting system for police departments throughout the country. The IACP wanted the Federal Bureau of Investigation (FBI), with its new reputation for effectiveness and integrity, to have responsibility for managing data collection. The IACP issued its recommendations in 1929, and Congress and President Herbert Hoover assigned this responsibility to the FBI the following year.

The FBI's role in producing crime statistics was twofold: It established crime classifications and coding rules, and it served as a clearinghouse to tally and publish the statistics. Individual police departments were responsible for collecting the data. The FBI provided standard definitions for departments to use in reporting the number of crime reports taken, the number of arrests made, and the number of cases cleared. This was seen as a vast improvement over the use of court or prison records to estimate the level of crime--methods that had been previously used. Criminal offenses were divided into two major categories: Part I and Part II crimes. Part I, or Index Crimes, were comprised of what the IACP's research committee believed were the most serious and most accurately reported crimes: murder, rape, robbery, assault, burglary, larceny, and motor-vehicle theft. Part II crimes were mostly misdemeanors and less serious felonies. They were believed to be reported far less frequently than their actual occurrence. Local agency participation was voluntary, although the number of participating agencies grew remarkably rapidly, accounting for those serving approximately half of the nation's population by the mid-30s (Vollmer, 1936). In 1980 the UCR lists statistics compiled from over 13,000 local departments serving nearly all of the nation's population.

Early criticisms of the UCR went unheeded. A technical report for the Wickersham Commission in 1931 pointed out that decentralized data collection would result in inaccurate data and suggested that responsiblity be transferred to the Bureau of the Census (de Neufville, 1975:110). The Wickersham Commission report included two other caveats: (1) that crimes reported to police did not accurately indicate the true occurrence of crime; and (2) that the causes of crime were difficult to determine and the crime rate could not be attributed solely to police activities. Thorsten Sellin's (1931) treatise on crime statistics was largely ignored. Twenty years later, Sellin (1951) pointedly criticized the UCR for failing to be more specific about the potential criminal population, rather than using the general population to estimate crime rates. In 1957, Sellin's widely publicized statement in Life magazine that American crime statistics were worse than any other country's led FBI Director J. Edgar Hoover to institute some changes to provide more precise methods of estimating the population base for between-census years. There were also some adjustments to the crime classification definitions (de Neufville, 1975:114-16). However, many of these criticisms remain valid:

1) The crime categories lack conceptual focus. Local jurisdictions vary in the way they treat some crime categories. More important, legal crime categories tell the analyst very little about why a crime was committed or how it might have been prevented. The Crime Index compounds this problem by adding together all Part I crimes--offenses as varied as murder, armed robbery, and bicycle theft.

2) UCR reports require the cooperation of the local police departments and citizens who report crimes to the police. Crimes which citizens do not report or police do not record are omitted. The data are thus more accurate in depicting police activities than patterns of crime.

3) The UCR is open to abuse by agencies which want to appear to be doing better than they are. Agencies charged with reducing crime should not be given the responsibility for collecting data used to assess their own crime control performance. A separate statisticai agency which obtained data independent of police agencies would be less tempted to

bias the data and would present information more widely usable for the public.

Despite criticism of the UCR, the measures have gained widespread use. One of Vollmer's protégés, O.W. Wilson, played a major part in encouraging their use by police agencies. His influential book, Police Administration, encouraged departments across the country to look at crime rates, arrest rates, and clearance rates as indicators of how well they were doing their jobs. Interest in these measures was based upon a presumed police capacity to solve crimes, apprehend criminals, and deter potential criminals. The validity of the underlying assumptions about police effectiveness at crime fighting went untested. Police performance measurement became associated with crime control primarily because both were part of a broad effort to professionalize and reorganize local police departments in the United States. Crime offered a vivid social threat; its eradication became a noble cause. Using crime statistics, police administrators could emphasize their commitments to the self-chosen mandate of crime control. The periodic publishing of UCR statistics provided "factual" support for a chief's claims about how well his department was doing or what it needed to do better. (See Fogelson [1977:141-92], Richardson [1974:132-57], and Walker [1977:139-66] for detailed historical descriptions of the importance of crime to the police professionalization movement.) State and federal governments also began to rely on the UCR data. In the 1970s UCR statistics were incorporated into the federal government's allocation formula for funds to fight crime (de Neufville, 1975:101-19).

At the same time, the use of the UCR data for performance measurement was subjected to increasing criticism during the late 1960s and early 1970s. Marked increases in the reported crime rate and mass civil disturbances of the 1960s gave rise to a new era of national commissions. These commissions not only articulated the previously voiced academic concerns about the accuracy of UCR data, they also called for a much broader definition of what constituted police performance. The survey interview became a highly touted means of obtaining more accurate information about the frequency at which crimes were committed. It also provided information on what citizens wanted from their police and how they felt about what they were getting from them. This permitted some evaluators to focus less on the incidence of crime and the apprehension of offenders and more on the treatment of victims, non-crime service recipients, and even suspects. Officer response time, attentiveness, and demeanor also received attention from students of police performance. The FBI did not participate in these innovations, however.

The National Criminal Justice Information and Statistics Service (NCJISS) was established as an entirely separate part of the Department of Justice by the Omnibus Crime Control and Safe Streets Act of 1968. It began to collect information on criminal justice agencies and to sponsor a nationwide survey on criminal victimization. The President's Task Force had sponsored a pilot victimization and public opinion survey in 1967. The NCJISS sponsored several additional surveys and in 1972 instituted an annual National Crime Survey, conducted by the U.S. Bureau of the Census. Since 1972 the National Crime Surveys had involved interviews with national samples of approximately 60,000 households and 39,000 businesses conducted at six-month intervals.

The most important finding of early victimization surveys was the confirmation of the suspicion that UCR statistics greatly underestimated the occurrence

of crime. The extent of the discrepancy varied according to type of crime and by city. Despite the considerable attention given to these findings by the research community, however, most police departments continued to rely heavily upon UCR statistics to evaluate their programs. This is due in part to administrative inertia of an ongoing record system with which police are familiar. It is due also to the high cost of conducting periodic victimization surveys, which is prohibitive for most local jurisdictions.

Nevertheless, the late 1960s and early 1970s mark an important period for the evolution of performance measurement in policing. Although most police departments continued to do what they had been doing with by-then traditional measures of performance, the many blue-ribbon commissions, research foundations and universities, and a few innovative police departments expressed increasing dissatisfaction with old methods and began to search for alternatives. Efforts during this period fall into three categories: (1) specification of standards and goals by national commissions, (2) elaboration of alternative measures, and (3) tests of the social effects of police activities. Each has made contributions to performance measurement.

2. Attempts to specify standards and goals. The period from 1965 to 1973 saw no fewer than six national commissions on crime, violence, and criminal justice, plus innumerable state and local commissions on these topics.[1] These commissions were not appointed to produce better performance measurement systems for police or other criminal justice agencies. They were expected to identify the causes of crime and unrest and to make recommendations about what the police and other government agencies could do to deal more effectively with these problems. The recommendations of these commissions were important harbingers of the directions that innovations in performance measurement would take in the 1970s. Most of the reports stressed administrative improvements such as training, patrol organization, pay, and discipline. In grappling with their mandates, these commissions tried to define the role of police and relate it to operational programs and policies. Although they stressed different aspects of policing, one common emphasis was that the fundamental police role is to control crime, but that police cannot and should not try to do so without the support and active cooperation of the public. With varying degrees of explicitness, the reports told the police that the pursuit of criminals and the obsession with the crime rate to the exclusion of other valued aspects of policing were wrong-headed and counterproductive. Police tactics such as aggressive patrol which might increase apprehensions were also shown to increase public hostility in many parts of the community. Police were admonished to show more concern for the many problems that some did not regard as police work but which presented severe difficulties to members of the community (family and neighborhood disturbances, medical and disaster emergencies, social

[1] The following commissions were convened and issued their reports during the periods indicated: President's Commission on Law Enforcement and Administration of Justice (1965-1967), National Advisory Commission on Civil Disorders (1967-1968), National Commission on the Causes and Prevention of Violence (1968-1969), President's Commission on Campus Unrest (1970), American Bar Association Standards Relating to the Urban Police Function (1968-1973), and the National Advisory Commission on Criminal Justice Standards and Goals (1971-1973).

problems such as drunkenness and juvenile runaways, and a variety of routine problems). They were told that it was not enough merely to respond rapidly to requests for service; how the officers treated people once they got there was also very important. Courtesy, fairness, and concern for the individual's problems should replace the old "Hey, you!" or the professional, "just the facts ma'am" approaches. Police should not only integrate their activities with other criminal justice agencies more thoroughly, but they should also make greater use of noncriminal organizations to divert individuals out of the legal process. The commissions suggested, even if only indirectly in some cases, a perceptible modification of the approach to performance measurement which relied solely on the UCR. The commissions supported the notion that the police should not be devoted only to fighting crime.

A major problem with the commissions' reports as a basis for performance measurement was the lack of research on policing. Despite the lack of research to support their recommendations, they set detailed standards, goals, and objectives and offered an array of programs and approaches to achieve them. The National Advisory Commission report, for example, stated that a realistic goal for its recommended program was to cut high-fear crimes by 50 percent within a decade. They expected too much based on too little evidence.

A second major problem was that the commissions tried to bring order to priorities for an occupation that, despite previous impressive efforts to achieve nationwide professional standards, remains a local, particularistic enterprise. Although the commissions attempted to establish clear priorities, their recommendations invariably included something for everybody. In the reports police were still identified with their role as crime-fighters, but those disaffected with this orientation could find many elements encouraging a more service-oriented approach. The commissions attempted to develop consensus on the direction to be taken by police during a period of perceived domestic crisis. The diversity and sometimes apparent conflict of their recommendations reflect the need to compromise on difficult issues.

3. Efforts to elaborate alternative measures. The commissions' efforts raised anew the question of what police should be doing, but they did not offer specific performance measurement programs for the alternatives implied in their reports. Subsequently, other groups attempted to produce alternative performance measures that were responsive to the broader range of issues raised by reform commissions. These projects wrestled with the difficulties of measuring the extent to which activities were performed and desired consequences achieved. Although they focused their efforts on producing statistical indicators of police effectiveness and efficiency (or "productivity"), perhaps their principal contribution to performance measurement has been their broadened view of what constitutes police performance. They were aware of the limitations of the UCR and incorporated some of the methodological innovations developing in the National Crime Survey. However, the pressure to produce quantitative indicators to "score" agency performance obscured the importance of crucial problems regarding the quality of the data on which those statistics were based. In the rush to develop working performance measures, many severe methodological problems were ignored. In general, these efforts also ignored other performance criteria, such as the equity and accountability of police services.

Two national projects illustrate these attempts to design alternative measures of police performance. The first is the work of the National Commission on Productivity appointed by President Nixon in 1970. The Commission established a special advisory group for police comprised of 20 law-enforcement professionals and researchers. The advisory group published its major report in 1973. The second project was conducted by the American Justice Institute (AJI) and funded by the Law Enforcement Assistance Administration. AJI produced an interim report in 1976 and a final report in 1978.

The Productivity Commission's advisory group received its mandate from a federal administration particularly concerned about the growth of the public sector, rising public expenditures for domestic problems, and declining productivity. Not surprisingly, the group's principal focus was on the relationship between police inputs and outputs--"the return received for a given unit of input" (National Commission on Productivity, 1973:1). The advisory group chose to concentrate its efforts on three aspects of police service: patrol, crime prevention, and human resources. We will discuss here their work on measuring productivity in police patrol.

The advisory group focused on three patrol objectives: deterrence of crime, apprehension of criminal offenders, and satisfaction of public demand for non-crime services. (Their report noted that two other objectives were also important--recovery of stolen property and enhancing the public's feeling of security--although they did not have time to address these.) The report acknowledged the difficulty of measuring deterrence directly. It identified three indirect measures: reported crime indices, victimization surveys, and "quantitative measurement of activities which professional judgment suggests contribute to deterrence" (1973:18). The group chose the last category to develop in detail, giving particular attention to patrol response time. Citizen satisfaction with services and the ratio of arrests surviving the first judicial screening to the total number of crime-related calls for service were also briefly mentioned. The two other objectives chosen for attention (criminal apprehension and provision of non-crime services) received similar treatment. That is, they were measured by police activity ratios, sometimes using judicial or medical professionals' review of cases as a standard. The report fails to give serious consideration to the problem of using the work of other professionals to judge the quality of police work. Even if their judgment is not biased, they--more often than not--have an entirely different set of priorities and concerns regarding these decisions than those the police may hold legitimately. For example, a judge might dismiss cases in which there was a perfectly good arrest because he has a heavy caseload and the cases are not serious enough or interesting enough to warrant devoting further resources. Or cases might be dismissed because complainants or witnesses refuse to cooperate. If such dismissals are common, a low arrest-to-conviction ratio tells us little about the quality of police arrests. On the other hand, a particularly high arrest-to-conviction ratio might be as much cause for concern as a particularly low one. It could mean that police are "playing it safe"--failing to take reasonable chances on arresting borderline cases.

Although the advisory group's intention to identify implementable productivity measures was admirable, the result of their work fell far short of their aspirations, and was quite narrow. They relied primarily on easily quantifiable measures of police activities. The suggested measures reflected more the quantity of police activities than the quality of service. Michael

Lipsky (1978) points out that this has been a fundamental flaw of productivity measurement efforts in general. Public service agencies under fiscal pressure may erode the quality of service while maintaining or increasing the quantity of their activities.

The American Justice Institute's project on police performance measures was considerably broader in scope than that of the National Commission on Productivity. Unlike the Commission's product, AJI's 1978 report made a concerted effort to provide a detailed structure for performance measurement in police departments. This program, called the "Police Program Performance Measurement System" (PPPm), identified 46 police agency objectives which were grouped into five categories: crime prevention, crime control, conflict resolution, services, and administration. The authors claimed that these objectives focused on "achievement of the ultimate goals or objectives of police rather than the processes or activities engaged in to achieve them" (American Justice Institute, 1978:1). To measure the accomplishment of each objective, PPPm provided definitions of measures, instructions on data collection and statistical computations, and standards for judging success. Recognizing that a police department might not find all objectives desirable nor all measures feasible, the authors devised a "cafeteria of measurement tools" to permit agencies flexibility in choosing some objectives and measures and rejecting others. Included in the package were cost estimates for implementing each measurement technique.

The AJI PPPm system had many features which set it apart from previous efforts in police performance measures development. First, it avoided focusing on a narrow range of police objectives. Crime fighting comprised nearly half of the objectives, but significant attention was given to areas traditionally ignored in police performance measurement. These included police handling of interpersonal conflicts, inter-group conflicts, personal stress, traffic, information and assistance, general services to the public and other agencies, police integrity, and community leadership. Also included were police protection of citizens' constitutional rights and safety of persons in police custody. Second, the measures relating to crime prevention recognized the value in distinguishing crimes according to their "preventability." Third, some of the crime-control measures showed a sensitivity to the shared responsibility of police and other agencies dealing with crime and criminals.

There are numerous serious drawback to AJI's performance measurement program, however. First, its claims to comprehensiveness are misleading, and despite its scope, numerous aspects of police work are ignored. The measurement tools are particularly weak in the areas of conflict resolution and services. Here very diverse problems and processes are grouped together and glossed over. General client or expert evaluations are relied upon without specification of what constitutes performance in these categories. An inherent limitation is the exclusion of distributional issues. Performance measures that reflect on questions of equity are completely lacking. Both of these deficiencies grow out of the AJI method for determining objectives for a police agency:

> The first step to take to develop a new effectiveness and productivity measurement system or enrich an existing one is to model a system. Modeling involves determining how many and which departmental objectives will be measured.

> For public policy and technical reasons, an agency should consider total measurement, at least initially. It should decide to measure every objective for which it may properly be held accountable. Modeling is the most crucial system development activity. The comprehensiveness of the model and the technical quality of the objectives within it govern the comprehensiveness and quality of the entire measurement system which is developed.
>
> An agency models a system by preparing a Structure of Objectives. A Structure of Objectives is a collection of all objectives for which a department may be held accountable, clustered in thematically logical groupings (American Justice Institute, 1978:7).

The process by which an agency "models" its structure of objectives is left undescribed, except to note that

> Preparing a Structure of Objectives is an intellectually demanding and time consuming task. Potential difficulties can be minimized through extensive use of the objectives supplied in this document (p. 7).

The implication is that police objectives can be derived through an intellectual process that produces a series of logically consistent propositions about what police should be trying to accomplish. Missing is the recognition of the divergent and conflicting objectives to which police must often respond.

A second major deficiency in AJI's approach to performance measurement is the suggestion that closure is possible in the development of performance measures.

> The Package [PPPm] contains the conceptual material, measurement tools, and procedural guidelines agencies need to build or improve effectiveness and productivity measurement systems (p. i).
>
> . . . . . .
>
> These materials constitute all of the basic technology agencies now need to improve their effectiveness and productivity measurement capabilities (p. ii).
>
> . . . . . .
>
> In short, PPPm offers police chiefs, sheriffs, and city and county officials a management information system that comprehensively assesses achievement of the law enforcement function (p. 1).

Missing from the PPPm package is sensitivity to the dynamic, developmental nature of the performance measurement. As knowledge develops about the impact of police practices on the achievement of objectives, the need for modifying performance measures becomes apparent. Further, changes over time in the nature of police work and its environment place new demands on what should be measured.

A third major problem with the PPPm is its inattention to problems affecting data quality. Part of this problem stems from insufficient theoretical development of crucial measurement concepts. For example, crime prevention measures are limited to those crimes which are "preventable" by police, that is, "those that occur in places to which police have recurrent, legal access" (American Justice Institute, 1978:40). (This includes crimes in public places and certain commercial or industrial establishments where crime frequency is high, and in situations where police might intervene in time to prevent crime.) Distinguishing crimes according to preventability would be a powerful analytic tool, but the AJI guidelines for classifying those incidents are vague, and empirical validation of the categories is not presented. In lieu of compelling evidence, the PPPm package relies upon the judgment of police officers and supervisors to make classification decisions in which they have a personal stake. For many objectives the package relies heavily upon existing organizational structures and practices to generate data without thoroughly considering their biases and limitations. For example, the measure intended to indicate the extent to which police provide for the personal safety of prisoners in police custody relies upon current agency records (injury-in-custody reports, arrest reports, and the jail booking log). Without knowing what procedures are undertaken to ensure that reports are filed when such incidents occur and that such reports are accurate, the quality of the data remains suspect. The PPPm package's attention to the minute detail of tabulating statistics from report forms may lead some users to ignore the more fundamental issue of the validity and reliability of data.

The work of the Productivity Commission and AJI is representative of many other efforts by police and researchers to quickly obtain measures that police could and would implement easily.[2] Given the time constraints and pressures to produce an immediately usable set of measures, these efforts were remarkable in their ingenuity at applying current police data collection methods to many of the problems of performance measurement. At the same time, they paid too little attention to the basic issues of the dissensus over police goals, the questionable validity of much police data, and our general lack of knowledge about the social consequences of police activities.

4. Tests of the social effects of policing. Research on police expanded rapidly during the late 1960s and 1970s. Research projects usually focused on limited problems. Although many were not conducted to advance performance measurement, they had a very important impact on the thinking about police activities and what they accomplish. The research efforts were both academic and policy-evaluation oriented. They were directed either to developing a better understanding of what police do or toward evaluating particular programs.

These research efforts are far too numerous to describe in detail here. Their contribution to performance measurement can be summarized as raising severe doubts about the appropriateness of many of the goals, objectives, standards, and measures that had been or were being proposed. Many presumed performance indicators were found to have surprising relationships to other measures. Preventive patrol and getting more officers on the street, for

[2] See National Institute of Law Enforcement and Criminal Justice (1978b) for an annotated listing of recent studies on police productivity.

example, showed no relationship to the level of victimization, to citizen perceptions of services, or to citizen evaluations of services (Kelling et al., 1974). Response time was found to be unimportant for solving many crimes and apprehending most offenders and was less important than supposed in influencing citizen satisfaction (Pate et al., 1976; Van Kirk, 1978). Sophisticated technology and expert investigation were found to be critical to solving only a small proportion of crimes (Greenwood et al., 1975). Officers with a great deal of education and training often did not make more or better arrests, provide more courteous service, or increase citizen satisfaction with service (Smith, 1978). Large police organizations were found to be less effective in many respects (for example, speed of response and citizens' evaluations) than the presumably less professional, smaller departments (Ostrom and Whitaker, 1973; Ostrom, 1976). Of course, many of these research efforts were flawed--severely according to some critiques. They nevertheless provided a firmer base of knowledge than had been available before, and they cast doubt on the accuracy of many standard views of policing. In addition, these projects often tried nontraditional data collection techniques, which suggested alternatives to the traditional means by which departments obtained data. Their findings and methods stimulated rethinking about what constitutes police performance and how to go about measuring it.

B. Current Practices

Many police departments have not modified their performance measurement systems despite the efforts of commissions and researchers. In fact, many administrators are still diligently trying to institute changes from previous reform eras. A dominant feature of most current police agency performance measurement is the overriding concern that it be guided by a coherent framework of police goals and objectives. Another characteristic of many current programs is the reliance on one or a few statistics to indicate performance, rather than making an attempt to develop a greater number of indicators which shed light on many aspects of the agency's operations. Together these characteristics produce a performance-measurement process which fails to address many valued aspects of policing, fails to encourage knowledge development and adaptation to new information about how the process works, and fails to produce valid data.

1. Measurement by objective: A method gone amuck. "Evaluation research," "productivity measurement," and "program evaluation" refer to closely related techniques involving the measurement of organizational or program performance. These approaches are derived from systems analysis, the broad intellectual tradition developed during and after World War II. Early work in this tradition stressed the iterative, learning nature of the enterprise, but recent applications have routinized it into defined steps. Blind acceptance by evaluation researchers of these reconstituted approaches to performance measurement can have severe consequences for the quality and usefulness of the work produced. This is especially so for policing.

Many current works stress that evaluation research should begin with the determination of organization or program goals. Even though he disagrees with this approach, Leonard Rutman's (1977) recent introduction to evaluation research methodology states that:

> Most definitions of evaluation research mention that programs are measured against their stated goals. Inherent in these definitions is the notion that there is some goal which has a value attached to it and the task of evaluative research is, therefore, to first identify and then determine the program's degree of success (p. 17).

A recent work, Policing by Objectives, by V.A. Lubans and J.M. Edgar (1979), is devoted to applying this approach to police needs. Lubans and Edgar outline a four-step planning process. The first three steps are concerned with establishing a hierarchy of organizational purpose (or "mission"), departmental goals, and objectives:

> Planning in PBO [Policing by Objectives] may be characterized as a top-down, bottom-up process. Broad guidelines are sent down the hierarchy to be turned into detailed plans by lower-level managers and sent back up the hierarchy for coordination and approval. The basic purpose of the organization is established by the executive in the mission statement. Middle management transforms this stated purpose into departmental goals. These goals in turn are reduced to suitable objectives by each unit and sub-unit. Once objectives are approved, line managers and line personnel develop action plans to achieve these objectives. The product of each step is returned up the hierarchy for coordination and approval before the next step begins. In this manner overall control by senior management is preserved, while each management level makes a significant contribution to the planning process (pp. 23-24).

Although the authors recognize the existence of diverse views on mission, goals, and objectives, they view this diversity as an obstacle to be overcome rather than an inherent feature of public policy.

a. Problems with an initial focus on agency goals. Police performance measurement is seriously distorted when it is seen as comprehensive, yet is based on a single set of agency "goals." Goal statements come to dominate the work of measuring performance even though those statements are necessarily incomplete. An initial emphasis on agency goals also results in an overemphasis on effectiveness and productivity and a lack of attention to other values important to police constituencies. The emphasis on initial determination of agency goals means that performance is then measured entirely in terms of these reputed goals. These are (by definition) the only legitimate goals for the organization and all efforts of those in the organization should go to achieving them. Once the process of measuring performance is cast in this manner, the statement of organizational or program goals determines what is to be measured. Thus, not only is it the first step in the process, it becomes the key step. Items not mentioned in initial goal statements are not considered relevant for performance measurement. If one accepts this position, the initial specification of goals (by whomever undertakes this task) determines on what grounds performance is to be evaluated. It is for this reason that Rutman (1977) disagrees with the practice. He argues that evaluation researchers following this perspective,

> often limit their attention to only those outcomes which fall under the stated goals. This places restrictions on the scope of the research because such an approach can miss latent goals (i.e., those which are not formally stated), unintended consequences, as well as other anticipated effects (p. 17).

Many of the early practitioners of operations research and systems analysis rejected the selection of goals and objectives as the paramount step in their analysis. Hitch (1960) viewed "the injunction to first choose the right objectives" as "one of the more tiresome bromides to which operations researchers or systems analysts are subjected" (p. 1). Wildavsky (1966) wrote that it could not be "emphasized too strongly that a (if not the) distinguishing characteristic of systems analysis is that the objectives are subject to change" (p. 299, his emphasis). The attempt to specify some objectives was a useful starting point in their view, but the process of analysis should lead to the uncovering of additional, unstated objectives, and the revision of earlier ones. The first attempt to specify objectives is particularly useful for providing insight into the different purposes that relevant participants thought any system was serving. Hitch argued that

> learning about objectives is one of the chief objects of this kind of analysis. We must learn to look at objectives as critically and as professionally as we look at our models and our other inputs. We may, of course, begin with tentative objectives, but we must expect to modify or replace them as we learn about the systems we are studying--and related systems. The feedback on objectives may in some cases be the most important result of our study. We have never undertaken a major system study at RAND in which we were able to define satisfactory objectives at the beginning of the study (p. 11; emphasis added).

In many more recent discussions, what was once described as a useful step in an iterative, learning process has become the essential first step. If one cannot identify the goals of a program or organization whose performance is to be measured, then, according to this view, performance measurement cannot be undertaken.

Furthermore, while the "how to" manuals tell us to begin with the definition of the organization's or program's goals, no accepted method exists for doing this. There are no standards for knowing when you have been successful. One approach uses existing statements or diverse kinds such as an organization's charter, its legislative mandate, or its program budget. Connolly and Deutsch note that reliance on such formal goal statements have three major drawbacks. The very broadness of the terms in which such goal statements are couched is the first problem. Police departments are often charged to "prevent crime" for example. Connolly and Deutsch (1978a) point out that "such statements leave a very large gap between the stated goal and any conceivable operational measure of how well it is being achieved" (p. 3). In the second place, only a very loose relationship may exist between the formal goals statement and what members of the organization are actually trying to achieve. A third problem is that such formal goal statements may simply not exist. As Hitch (1960) indicated twenty years ago, for "all sorts of good reasons that are

not about to change, official statements of national objectives (or company objectives) tend to be non-existent or so vague and literary as to be non-operational" (p. 4).

If instead of using formal goal statements, you ask people in the organization about organizational goals, whom do you ask? In any complex organization --even one producing a physical product in the private sector--there is often considerable disagreement about appropriate goals for the organization. To obtain the goals of a police department do you ask the police chief, the mayor or city manager, leaders of civic organizations such as the Chamber of Commerce or the Rotary Club, or leaders of civil rights groups? Some would ask the chief. Others would ask local political leaders. Others would say you should ask them all. If you ask them all, how do you get a single set of goals? While the statement about goals from each group might contain some overlap, do you only use those items on everyone's list? Doesn't that give one group the absolute power to define what are not the proper goals of the police by omitting that goal from their list? Further, how do you weight the importance of different goals on a compound list? The prosecutor may have different priorities than civil rights groups; the police chief may rank goals differently than does the head of the Fraternal Order of Police. No generalized agreement to a single weighting scheme is likely. Hitch (1960) long ago made these same points.

> Actually, ours is a democratic and plural society, with a government distinguished by division rather than concentration of power. There is no single authority, neither the joint Chiefs nor the N.S.C. nor the President, that can say 'These are our national objectives.' There are many important influences on national decision--high officials, assorted law officials, Congress as a body and many individual Congressmen, the judiciary, public opinion and the opinions of any influential private persons.
>
> And the views of these bodies and these persons differ. Some are risk takers, others risk avoiders. Some are conservative, others liberal. Some emphasize and others de-emphasize military solutions. When objectives conflict, they will assign different weights to the alternatives, and sometimes different signs to their values (p. 6).

Some analysts have adopted as goals for police the statements made by national organizations or commissions. Three of the most quoted statements were developed by the International City Managers Association (ICMA) in its volume on Municipal Police Administration (1969), the American Bar Association (ABA) in its volume on Standards Relating to the Administration of Criminal Justice (1974), and the National Advisory Commission on Criminal Justice Standards and Goals (NACCJSG) in its volume, Report on Police (1973). The objectives prepared by each of these groups are compared in Table 1, which appeared in an early draft of the American Justice Institute's report on performance measurement (1976:24).

While there is some agreement among the set, there is also disagreement. Both the ABA and the NACCJSG pose the protection of constitutional guarantees as a basic objective, but the ICMA does not. The ICMA poses the recovery of

TABLE 1-1. POLICE OBJECTIVES: ALTERNATIVE MODELS

SOURCE								
ICMA: "THE POLICE MISSION" MUNICIPAL POLICE ADMINISTRATION (1969)	PREVENTION OF CRIMINALITY	REPRESSION OF CRIME	APPREHENSION OF OFFENDERS	RECOVERY OF PROPERTY	REGULATION OF NON-CRIMINAL CONDUCT	PERFORMING MISCELLANEOUS SERVICES		
ABA: "RESPONSIBILITIES OF POLICE" STANDARDS RELATING TO THE URBAN POLICE FUNCTION (1972)	REDUCE OPPORTUNITIES FOR THE COMMISSION OF SOME CRIMES THROUGH PREVENTIVE PATROL AND OTHER MEASURES	IDENTIFY PROBLEMS THAT ARE POTENTIALLY SERIOUS LAW ENFORCEMENT OR GOVERNMENTAL PROBLEMS	IDENTIFY CRIMINAL OFFENDERS AND CRIMINAL ACTIVITY AND WHERE APPROPRIATE, TO APPREHEND OFFENDERS AND PARTICIPATE IN SUBSEQUENT COURT PROCEEDINGS		• FACILITATE MOVEMENT OF PEOPLE AND VEHICLES • RESOLVE CONFLICT	• ASSIST THOSE WHO CANNOT CARE FOR THEMSELVES • AID INDIVIDUALS WHO ARE IN DANGER OF PHYSICAL HARM • PROVIDE OTHER SERVICES ON AN EMERGENCY BASIS	• CREATE AND MAINTAIN A FEELING OF SECURITY IN THE COMMUNITY • PROMOTE AND PRESERVE CIVIL ORDER	PROTECT CONSTITUTIONAL GUARANTEES
NACCJSG: THE POLICE FUNCTION A NATIONAL STRATEGY TO REDUCE CRIME (1973)	PREVENTION OF CRIMINAL ACTIVITY		• DETECTION OF CRIMINAL ACTIVITY • APPREHENSION OF CRIMINAL OFFENDERS		• CONTROL TRAFFIC • RESOLUTION OF DAY-TO-DAY CONFLICT AMONG FAMILY, FRIENDS, NEIGHBORS • PROMOTION AND PRESERVATION OF CIVIL ORDER	• PARTICIPATION IN COURT PROCEEDINGS • ASSIST THOSE WHO CANNOT CARE FOR THEMSELVES OR ARE IN DANGER OF PHYSICAL HARM	CREATE AND MAINTAIN A FEELING OF SECURITY IN THE COMMUNITY	PROTECTION OF CONSTITUTIONAL GUARANTEE •

SOURCE: American Justice Institute, "Measuring Police Effectiveness and Productivity: Volume I" (Draft) (Sacramento, California: American Justice Institute), 1976, p. 24. Reprinted with permission.

property as an objective, while the other two do not. The ABA formulates a more extensive service role than either of the other two. The ABA and NACCJSG statements also require measures related to the creation and maintenance of a feeling of security in the community. The ICMA set of objectives does not suggest any measures in this area of concern.

Efforts to determine a single set of organizational goals are usually misdirected and at times pernicious, resulting from a fundamental confusion concerning purposive behavior in organizational life. We assume that individuals are purposive in the way they organize much of their lives. At least it is useful for analysts to assume that individuals are purposive or goal seeking. It is also useful to assume that individuals frequently share similar goals. But even those who work in the same organization may have different purposes for the work they do together. What one person sees as an obstacle or limit can easily be considered as a goal by another. Connolly and Deutsch (1978a) illustrate this point by using as an example the furnace-thermostat system used in domestic heating.

> At first glance, it appears obvious that this system has an unambiguous purpose--the maintenance of internal temperature within certain present limits. However, this purpose is not derivable from merely observing how the system works. Such observational data are equally interpretable in terms of a systems purpose like 'maximize fuel consumption, subject to not exceeding an upper temperature limit,' or 'minimize fuel consumption, subject to not falling below a lower temperature limit.' Indeed, if the system were operated by a human furnace operator, these two statements might well describe what they saw as the system purpose (p. 19).

The selection of any one person's or group's set of performance criteria as the set is essentially arbitrary and capricious. Further, important aspects of the ongoing work of the organization are lost if one evaluates performance from only one perspective. In fact, what we find are both many groups of people with legitimate interest in the assessment of an organization's performance and many aspects of the organization requiring measurement (Connolly and Deutsch, 1978a:15). Instead of deploring this situation, Connolly and Deutsch urge that efforts to do performance measurement should self-consciously deal with it.

Connolly and Deutsch (1978a) define two key terms for performance measurement. A relevant constituency is "an individual or group which wishes to make an assessment of how the focal system, or some part thereof, is performing, generally with a view to taking some action which will impact the system" (p. 16). A performance measure is any type of information about the system that affects the performance evaluation of a constituency. If one accepts this definition of performance measurement, it is not necessary to assume that all individuals are pursuing the same goal to measure performance of the organization against that goal. In terms of policing, this means that we can evaluate the performance of police in producing outcomes preferred by some constituency without having to assume that police themselves are pursuing that goal. For example, we believe it is appropriate to examine the performance of police in protecting constitutional rights regardless of whether the police see that as a relevant or important goal. Equity and accountability of police services

are important to many police constituents, but have rarely been included in lists of police objectives.

b. The numbers game: The method becomes the madness. Current performance measurement practices are not only distorted by the goals/objectives approach to evaluation, they are also impaired by their reliance on a few key indicators. Police chiefs scramble at budget time to find the correct statistic to justify budget proposals. In their handbook on Policing by Objectives, Lubans and Edgar (1979) note, "Whenever possible, quantified objectives are used in preference to qualitative objectives because quantified results can be more accurately determined" (p. 88). Numerical data, statistics, and mathematical techniques are currently appropriate for performance measurement, but failure to use these methods thoughtfully and recognize their limits has resulted in widespread abuse of quantitative methods. These problems are elaborated below.

i. Collecting data on what is easily counted. Although the purpose of measurement is precision, the generation of quantitative data often produces precision at the expense of relevance. Obtaining data about many aspects of policing is costly and time-consuming. Furthermore, some data collection routines have already been established in most departments. Once established, such routines are often difficult to change or replace. Therefore, what is studied about police performance is usually limited by data already collected. Too often, this means that evaluators use data which really do not represent the intended concepts. This also means that research can be directed away from important performance questions.

ii. Confusing service quantity with service quality. Michael Lipsky (1978) criticizes the tendency of performance measurement programs to infer service quality from indicators of service quantity or to ignore service quality altogether. The quantity of a service is often much easier to measure than its quality, but knowing the quantity of the service is meaningless without knowing its quality. Lipsky maintains that human services delivered by street-level bureaucrats are inherently difficult to measure because they are provided largely outside management control. The essence of street-level service is that the public servant must exercise discretion to deal with highly contingent circumstances. Officers need discretion to deal with each unique situation. Except for gross violations of rules and guidelines, management is usually unable to second-guess police officers. As Lipsky (1978) argues:

> The more discretion is part of the bureaucratic role, the less one can infer that quantitative indicators bear relationship to service quality. Even in such an apparently straightforward measure as the number of arrests made by policemen, or the number of people treated in emergency rooms, we have no idea whether the arrests were made with care, or that treatment met appropriate standards. Sophisticated management specialists acknowledge the problems of inferring quality from quantitative measures as surrogates for service quality and the common practice of ignoring the problems of inference in their utilization (p. 25).

Lipsky's pessimism about measuring the quality of performance is premature, but his assessment of the difficulty of doing it is accurate and challenges those who want to measure police performance. To develop the example offered by Lipsky, consider that police departments rely heavily upon arrest tallies to indicate the department's effectiveness in apprehending criminal offenders. The mere counting of arrests is relatively easy. Police have developed procedures over the last 50 years which make it routine--an accepted part of police work. Measuring the quality of arrests is a far more difficult task, however. Measuring quality of arrests requires some way to measure the probability of guilt of the person arrested, the police officer's adherence to due process standards, the presence of extenuating circumstances which might mitigate the legal requirements of arrest, the appropriateness of the amount of force used, the amount of information about crimes generated by the arrest, etc. Developing ways to measure and collect data on these features of police arrest behavior has not been a key concern of police practitioners and has not been a frequent topic in the research community either.[3]

iii. Failure to scrutinize the data collection process. Efforts to improve performance data might begin by scrutinizing more closely data currently used to measure police performance. Handbooks on police data collection and analysis devote very little attention to the fundamental problems of observing phenomena and recording those observations. Far more attention has been paid to structuring data (for example, choice of unit of analysis, scale construction, rate construction, time-period selection, aggregation problems) than to the means by which the observations are made and the data recorded. As Sherman and Glick (1980) point out, before comparing one department's arrest rates to another's, we need to know how an arrest is defined in each department and how line officers, supervisors, records personnel, and administrators report and refine these data. Before analysts get involved in complex statistical manipulations and elegant mathematical models, they must first look at the process by which phenomena come to be represented by numbers.

iv. The search for a single indicator. The attempt to summarize police agency performance with one measure is particularly misleading. Despite the often explicit and more often implicit acknowledgment that police agency performance has many aspects, many people still seek (or even use) all-purpose indicators of police performance.

The Uniform Crime Report index of crime is one such "all purpose" indicator. This index lumps broad classes of crimes together by summing the number of homicides, forcible rapes, robberies, aggravated assaults, burglaries, larceny-thefts, and motor vehicle thefts. Using this index as an indicator of police performance is like measuring American farmers' performance by summing the weight of all tomatoes, wheat, corn, sugar, beef, tobacco, and cotton produced in a given year. Although weighting a crime index according to seriousness has some theoretical underpinning (Sellin and Wolfgang, 1964), it has little

[3] One exception is the work of the Police Foundation on criminal apprehension techniques in Kansas City (Pate et al., 1976). Some work was done in this project assessing the quality of arrests according to disposition information generation and complaints filed.

direct application to performance measurement that could instruct the evaluator on how to improve police performance. There have also been other attempts to produce a single score for a police agency's overall performance--covering such diverse activities as conducting general patrol, making arrests, conducting traffic patrol, conducting criminal investigations, answering calls for service, rendering public assistance for stranded motorists, consulting with prosecutors, etc. (Reynolds, 1979). The prospect of interpreting such an index is perplexing. How would one validate a police department's performance index without merely correlating the amalgamated measure with one or more of its constituent measures? And what could be made of an index? Some argue that a general performance index could be used "to compare police agencies individually over time or to compare several agencies by region or size of municipality" (Reynolds, 1979:118). We might well ask, "To what end?" Some might argue that the general index could be used to hire or fire police chiefs, but sufficient agreement on the construction of this measure is highly unlikely in any community. Even assuming that all those concerned about police performance share the same values for police which are incorporated in the index, so general a measure would not be nearly specific enough to guide the police administrator in improving agency performance. Perhaps the only use of such indices is to allow ambitious or defensive politicians and bureaucrats the opportunity to boast about their own performance or deride that of others. We do not find that use very important. The simple truth is that police agencies are too complex and do too many things to summarize their performance so generally.

C. Performance Measurement as a Learning Process

Many of the current problems with police agency performance measurement come from inappropriate views of what performance measurement is like. One metaphor is that measuring performance is like scoring a game. We should score competing police agencies, divisions, or strategies to determine which is the best and how much better it is. Presumably the best will be rewarded providing incentives for the others to improve. Another frequently used analogy is that a performance program is like a thermometer, or even a thermostat, not only accurately and independently reflecting changing conditions, but even indicating the sorts of responses to make. After careful design and testing the program is set into operation and continues to produce information to policy makers, requiring only routine maintenance and minor repairs. Neither analogy is appropriate. Treating performance measurement as a game limits the uses to which measures can be put, because the emphasis is placed on getting higher scores rather than on understanding how those scores are generated and whether, in fact, they are worth achieving. The "packaging" of program evaluation and performance measurement programs tends to foster the second analogy. Such packages are likely to require substantial and continued redesign, however. Practices originally regarded as essential to police performance may be later shown (by the agency's own research or others') to be irrelevant to the value they were supposed to achieve. Both analogies assume that we know a great deal more about policing than we actually do.

We think it more appropriate and fruitful to view performance measurement as a learning process. As a learning process, performance measurement can serve three functions: problem identification, program development, and theory building. The identification of problems frames and focuses decisions about

what police should do. Program development involves the planning of means by which problems are to be handled. Theory building is learning about how police service processes work.

1. Identification of problems. To identify problems performance measurement brings together information about what is valued and about current conditions with regard to those values. Each local police agency in the United States has a number of constituents whose views on what police should do are relevant to the identification of problems requiring police attention.

Each police constituency is interested in some of the possible consequences or outcomes of policing. In addition to their preference for certain "products" of policing, most constituencies also have preferences for the means by which these are produced. Preferences for means as well as results is typical for service-producing agencies. Citizens are interested both in a variety of results (for example, lower crime rates and safer traffic flow) and in how police accomplish those ends. Police are expected to try to reduce crime using legal means respecting the constitutional rights of those suspected of a crime.

Learning what constituencies value about policing is only part of the process of identifying problems. Police must also be aware of changes in and outside their community which may affect their work. It is difficult to monitor the entire range of conditions with which police might deal in a community. Police, themselves, typically restrict their monitoring to a very narrow range of indicators, such as UCR crimes, traffic accidents, and levels of miscellaneous requests for service. It is difficult for police planners and executives to monitor circumstances or events that do not fall into the agency's current problem definitions. The initial stimulus for identifying new problems for police thus often comes from elsewhere. Newspaper articles, interest group lobbying, demonstrations, riots, and other dramatic occurrences are the usual "triggers" for the process that illuminates a new police problem (see Wilkins, 1964:138). Often it is a change in values, not circumstances, which is behind the identification of a situation which has existed for some time.

Performance measurement can in fact help people decide whether police should be expected to handle a particular problem. Wilkins (1964), in discussing the use of social research to address juvenile delinquency as a problem, suggests that problems must not be taken at face value.

> It would appear that the questions which need answering at the early stages of research planning are best answered by more abstract questions than the problem itself may suggest. If the problem exists, will it exist in the same way and to the same extent in the foreseeable future? Is the intensity of the problem likely to increase or diminish? Particularly, is the real problem the problem as defined, or merely some obvious part of it? If it is only a part, with what parts should action proceed? To answer these questions pilot projects, concentrating on describing the nature of the problems, seem to be called for. It may, of course, be possible to make use of reported research of other investigators, but if such other work exists it should be brought into

formal consideration of the proposed demonstration-action-research proposals under review (p. 141).

The use of social science methods to collect information about troublesome social conditions and to analyze and learn more about those problems is an important use of performance measurement.

2. Program development. If learning what "police" problems are is one important use of performance measurement, learning how to deal with them is another. Performance measurement can be conducted to provide information on the effects of police efforts on the problems they hope to alleviate. Performance measurement should tell police constituents not only whether the problem is getting worse or better, but also how much the changes are due to police efforts.

Research to develop problem-oriented programs requires performance measurement that provides information on the resources and activities which police manipulate in attempting to deal with problems. It is not enough to implement a new high-visibility antiburglary program and then monitor crime statistics. We can not presume that a program is implemented according to the formal plan; we need to know how it is actually implemented, lest we incorrectly attribute success or failure to a program significantly different in character than was actually implemented. Many factors besides patrol visibility contribute to fluctuations in crime rates, and these also must be taken into account in assessing an antiburglary program. Many are beyond police control.

3. Theory building. The responsibility for program development falls heaviest on police, not social scientists. Performance measurement can tell police how well they are doing and should indicate future directions for policies. Part of the task of program development, however, demands the use of theory about how police resources and activities relate to the social conditions they are intended to influence. Social scientists are usually more involved in theory-building than its application to particular problems. The selection of strategies to deal with public problems can be improved as we have better theories of how policing relates to the social processes which constitute problems. Performance measurement can help test theories about how police affect these social processes. Researchers can use data generated by performance measurement programs to gain a better understanding of why certain strategies produce the results they do. Data generated on the implementation of programs can help to test theories of organizational change. Theories about the relationships among multiple goals can be developed from performance measurement that is sensitive to a variety of goals. Theory-building is an integral part of learning about how police can deal with problems. One way to develop theories of how policing works is to begin by studying police agencies as they are. Understanding the scope of an organization, what it does, and how it does it can provide a foundation for subsequent efforts to change the organization or its programs to improve the agency's capacity to deal with problems. One would think that police--immersed in their organization and work--would have a comprehensive knowledge of the processes through which their work affects the public, but systematic, theory-based knowledge of police work is only beginning to emerge.

The current lack of understanding of the ways police operate and how policing and other aspects of society interact places us at a distinct disadvantage when we attempt to measure police performance. A necessary precondition to measuring the current state of performance of many valued aspects of policing is a theoretical understanding of the processes through which police services are produced.

Performance measurement not only contributes to the development of theories about policing, it is also dependent upon those theories. One interpretation of data about performance depends on our understanding of causal relationships. A key element in improving performance measurement is the continual exchange of ideas and information between those who measure police performance and those who study policing and its social effects.

4. The need for continuing change in police performance measurement. The approach we suggest implies that performance measurement systems will be continuously undergoing change. A primary cause of this change will be increased understanding of the nature of police work itself. Performance measures that might have been appropriate to the 1890s are not necessarily appropriate today. Traffic enforcement--to the extent that police were at all involved--was vastly different in horse-and-buggy days than it is today. There is every reason to suspect that demographic, economic, social, and technological changes will continue to make some measures irrelevant and create the need for others. The rapid growth of computer technology in retail business, for example, has created a vastly different set of problems with larceny and fraud than those confronting law enforcement officials in previous decades. Various police constituencies also continue to promote their own ideas about what police should do, and this brings to light new values for use in measuring police performance.

Performance measurement is a powerful tool because it links three distinct enterprises: determining what ought to be, determining what is, and determining a process of change. To gain acceptance of a set of measures for police performance is to establish what police ought to do. "Performance" refers to a valued action or the accomplishment of some valued state of affairs (or avoiding some undesired action or situation). Measurement is the description of an aspect of something according to an explicit criterion. Performance measurement is thus the process by which values are attached to criteria and those criteria are used as bases for describing events. Further, in order to change the current state to a preferred state, we must understand the complex processes of social change and police services. These parts of performance measurement--the normative, descriptive, and the explanatory--seem straightforward, but in practice the distinctions are often ignored. Interest in performance measurement, as part of a broader movement in evaluation research, has grown at least in part due to a widespread desire to supplant policy making supported by emotional appeal and rhetorical argument with policy making supported by empirical evidence (Rossi, Freeman, and Wright, 1979:29). Unfortunately, attention on the problems of organizing data often obscure the problems of deciding what should be measured and how measures should be interpreted. Some things police do are valued for the consequences they are expected to produce. Social science research may suggest that values be changed by showing that the desired consequences are not produced by those activities. In general, however, social science is inadequate to establish what should be seen as

police performance; that is, what police should do. This, to quote William Lowrance (1976), is "any-man's-land" (p. 110). Of course, police and performance researchers need to be occupied with valuative as well as empirical questions. But they cannot expect "the data" to answer the important questions of policy.

D. Improving Performance Measurement

Better performance measurement will not automatically ensure better police service. No set of measures is an adequate substitute for attentiveness, thoughtfulness, good judgment, and a strong moral sense in our public officials, police administrators, supervisors, street officers, and citizens. Performance measurement can improve the information and theories these groups have to work with. In this sense, performance measurement is more useful for asking better questions than for giving better answers. If performance measurement is used as a means of bypassing or short-circuiting the administrative and political processes involved in policing a free society, then it will be an instrument of misuse and abuse.

Performance measurement involves collecting data that give information about a valued aspect of policing. In our society there are competing, even conflicting, ideas about what police should do. Performance measurement needs to be responsive to that diversity of public purposes. Performance measurement also needs to be done with an awareness of the problems of collecting valid data about police operations and their consequences for the community. Those who collect data can be alert for better ways to measure the concepts they are seeking to measure. Those who interpret data as measures of police performance can use theories of police operations and of the effects of policing on society to help assess the impacts of particular police programs. All those who use police performance measures to inform their decisions need to be aware of the tentative nature of the theories which guide the interpretation of data and of the potential for error in the data themselves.

Some observers, like Lipsky, believe that all attempts to measure police performance are misleading. We do not share this pessimism. We may not be able to say that one agency is twice as good at reducing burglary than another, and a single performance measure may be too little a basis for policy decision, but carefully constructed measures which are based on explicit, tested theories can provide useful knowledge about service quality as well as service quantity. To abandon measurement of police services, despite the many obstacles, would be to abandon a very essential component to the necessary and never-ending debate about what constitutes good police service.

CHAPTER 2. LOCAL POLICE AGENCIES

This chapter describes several types of local agencies which conduct basic police services, including municipal police, county police, and sheriff's departments. Current estimates place the number of these agencies at 16,420 (Parisi et al., 1978:44). Not all of these agencies conduct the same services. Sheriff's departments, for example, usually devote a considerable proportion of their resources to court-related services such as bailiff duty and the serving of civil warrants. Sheriff's departments in many states are also responsible for maintaining a jail. Few municipal police departments conduct these services, and they are not central to police work as it is usually defined. The services which occupy most of the time and attention of local police are general area patrol, traffic control, and criminal investigation--called "direct services" because citizens are directly involved in producing and receiving them. A 1974 manpower survey found that of the 486,000 sworn and nonsworn local police employees in the United States, 76 percent were involved in providing direct services. Most of these (58 percent) were basic line officers performing patrol or investigations jobs (National Institute of Law Enforcement and Criminal Justice, 1978:20-21). An additional 13 percent of all local police employees were involved in support of patrol or investigative functions, as in the case of telephone operators and dispatchers, who provide the link between citizens in need of assistance and patrol officers who can provide assistance.

A. Organization of Local Police Departments

Many citizens, public officials--and even police--labor under the mistaken notion that all police departments are similar in organization and service activities. This is incorrect. The average, median, or modal police department is a statistical artifact. The majority of police officers in the United States are employed in departments with more than 1,000 officers, but the majority of departments have fewer than 30 officers each (Pigeon, 1979:174, Table1/2).[1] Many departments patrol, direct, and monitor traffic and investigate all types of offenses against the state criminal code and local ordinances, but others conduct only one or two of these services. Departments also differ in the types of auxiliary services they provide for themselves, in the extent of specialization they make in assigning officers, and in the other aspects of organization and service delivery.

Local police departments range in size from no full-time personnel to over 25,000 full-time employees. No accurate, comprehensive survey including all local police departments in the United States currently exists. A survey of all police agencies serving 80 small- and medium-sized standard metropolitan statistical areas (SMSAs) in 1974 accounted for service to 24 million residents (Ostrom et al., 1978:84, Table 5-6). Of the 1,013 municipal and county

[1] This statistic is based on a sample survey of departments in communities with populations greater than 10,000.

departments providing patrol service in these metropolitan areas--and virtually all municipal and county departments did--the variation in number of full-time personnel per department both within and between metropolitan areas and regions of the United States was substantial. Table 2-1 provides a breakdown for these departments according to number of sworn personnel and population size of the metropolitan area.

The internal organization of departments varies greatly. A brief profile of these dimensions includes: the number of police officers per 1,000 residents, the annual per capita expenditures by police departments, the proportion of personnel given the power of arrest, the proportion of officers above the rank of police officer, and the degree of specialization. Though by no means comprehensive, this list indicates the diversity in structure of these organizations.

1. Police resources. The ratio of police officers per 1,000 residents is an indication of availability of police personnel in different jurisdictions. A 1978 Municipal Yearbook showed that the average number of officers per 1,000 residents for cities over one million population (4.55) was more than double that of cities between 10,000 and 25,000 population (2.01) (see Pigeon, 1979:174, Table 1/2, for complete data). Even cities of the same size can have very different ratios. In 1977, Detroit--with a population of 1.3 million--reported 4.2 officers per thousand residents; that same year, Houston--with 1.5 million residents--reported a ratio of 1.9 (Heaphy, 1978; hereafter cited as the Police Foundation survey).

Police resources can also be measured by the per capita expenditures on police agencies. The Police Foundation survey of large municipal departments across the country shows that the per capita costs ranged from $29 in Wichita, Kansas, to $140 in Detroit, Michigan.[2] Although the majority (52 percent) of the departments were in the $40-60 range, 22 percent were below it, and 26 percent were above it. Per capita annual expenditures for police departments were directly related to city size; for instance, the International City Management Association's (ICMA) 1978 survey of municipalities of 10,000 and over in population showed that the smallest category (10,000-24,999) averaged $37 and the largest (over 1,000,000) averaged $119 (Pigeon, 1979:186). Local variations in the cost of living ameliorate some of these differences, but they certainly cannot account for all of the disparity.

2. Use of civilians. The proportion of sworn personnel in any agency suggests the extent to which all personnel share common training and background experiences. Large city police departments throughout the country were surveyed in 1977 and the proportion of sworn personnel ranged from 66-98% (Police Foundation survey).[3] Smaller departments typically rely less on civilian personnel in part because they do not themselves provide many auxiliary

[2]The Police Foundation survey notes that comparing different departments' statistics should be done with caution.

[3]The distribution of the 44 responding departments was fairly even from one extreme to the other: 10 fell in the 65-70% range; 21 fell in the 70-85% range; and 13 fell in the 85-100% range.

TABLE 2-1. SIZE OF MUNICIPAL POLICE AND COUNTY SHERIFF DEPARTMENTS IN 80 METROPOLITAN AREAS

Number of Officers	Metropolitan Population (1973 est.) 50,000-124,999	125,000-249,999	250,000-599,999	500,000 and Over	Total
Percentage of Municipal Police Departments with	N=77*	N=222	N=267	N=350	N=916
Part-time officers only	17%	14%	9%	2%	8%
1 to 4 full-time officers	40	35	26	19	27
5 to 10 full-time officers	9	20	29	26	24
11 to 20 full-time officers	1	9	14	19	14
21 to 50 full-time officers	5	10	8	21	13
51 to 150 full-time officers	25	7	6	8	9
Over 150 full-time officers	3	5	6	5	5
Percentage of County Sheriffs and Police Departments with	N=19	N=27	N=23	N=28	N=97
1 to 4 full-time officers	0	11%	0	0	3%
5 to 10 full-time officers	0	11	0	7%	5
11 to 20 full-time officers	26%	15	17%	11	17
21 to 50 full-time officers	47	41	9	21	29
51 to 150 full-time officers	26	19	44	25	28
Over 150 full-time officers	0	4	30	36	19

NOTE: Columns may not total 100 percent due to rounding errors.

*Number reporting.

SOURCE: Elinor Ostrom, Roger B. Parks, and Gordon P. Whitaker, Patterns of Metropolitan Policing (Cambridge, Mass.: Ballinger, 1978), p. 86, Table 5-7. Reprinted with permission from PATTERNS OF METROPOLITAN POLICING, Copyright 1978, Ballinger Publishing Company.

services which account for most of the civilian employees in the larger departments. Larger departments frequently provide auxiliary services both for themselves and smaller departments. In contrast to municipal police departments, sheriff's departments often have a smaller proportion of personnel assigned as police officers because of their civil court responsibilities, such as warrant serving and processing. In many small sheriffs' departments the same deputies do both civil and police work. In many of the larger departments the civil and criminal work tasks are organized in two distinct and quite separate divisions. Sometimes civil deputies are fully empowered police officers, though they never or rarely perform police functions. However the labor force is organized, the civil work has an important impact on the department's police work. For example, the organization's responsibility for serving civil process exposes it to more people, some of whom request assistance or create problems falling into the police realm. Serving a divorce summons may involve the civil deputy, a police--or "criminal"--deputy, or both, to deal with a disturance or violence when the original contact was only a civil matter, at least from the department's perspective.

3. Management. There is remarkable variation in departments' organization of management. Some departments have highly centralized command structures; others are more decentralized, with much operational policy delegated to the precinct, district, or team level. Although police departments are usually depicted as paramilitary organizations, some have experimented with participatory management (see, for example, Caiden, 1977:306-309). Unity of command, a highly valued management principle by many police executives, is displayed in varying degrees among departments (Wilson, 1975:152). Some departments devote substantially more resources to management and supervision than do others. The Police Foundation survey found that San Jose's police department assigned 6 percent of its sworn officers to ranks of sergeant or above, while the Memphis department assigned 40 percent of its sworn force to ranks of sergeant or above. Of course, rank titles often belie the actual function performed by an officer. Promotions to sergeant rank are routinely given in some departments to increase status or pay but do not reflect a supervisory function. On the other hand, departments attempting to limit personnel expenditures may give de facto supervisory functions to patrol-rank officers. Casual comparison of personnel statistics is fraught with problems. A thorough understanding of command and control structure and practices is necessary to appreciating the organizational context of policing in a community.

4. Specialization. Even large police departments vary considerably in the extent to which they create specialized units for particular kinds of work. The Police Foundation survey found that 25 percent of these large police departments had no technical services unit; 18 percent had no personnel unit; 16 percent had no youth unit; 11 percent had no traffic unit; 9 percent had no records unit; 9 percent had no communications unit; and 7 percent lacked one or more of the following units: vice, internal affairs, and research and development. Another 5 percent had no detective unit at all. This does not mean that the activities which would be assigned to such units were not performed by someone in the departments lacking the units. It does indicate that the degree and manner of intradepartmental specialization differs greatly even among relatively large departments. There is an even greater difference among departments of all sizes.

The proportion of personnel assigned to direct services divisions varies substantially according to size of department. Table 2-2 shows that variation in the proportion of full-time personnel assigned to patrol services is related to department size. In very small departments, virtually all officers are assigned to patrol. Somewhat larger departments usually have a criminal investigation unit as well as a patrol division. The largest departments typically have five or more specialized direct service units.

TABLE 2-2. TYPES OF OFFICER ASSIGNMENTS BY SIZE OF MUNICIPAL POLICE AGENCY

Officer Assignment	Number of Sworn Officers in Department					
	1-4	5-10	11-20	21-50	51-150	More than 150
Average Percentage of Sworn Officers Assigned to Direct Services Divisions	99	95	84	82	86	81
Average Percentage of Sworn Officers Assigned to Patrol Division	99	91	74	68	63	55

SOURCE: Elinor Ostrom, Roger B. Parks, and Gordon P. Whitaker, Patterns of Metropolitan Policing (Cambridge, Mass.: Ballinger, 1978), p. 319, Figure 16-1. Reprinted with permission from PATTERNS OF METROPOLITAN POLICING, Copyright 1978, Ballinger Publishing Company.

5. The meaning of structure. The indicators of internal organizational structure in the previous paragraphs should not be construed as measures of agency performance. Too often commentators use an agency's personnel, budget, or allocation of responsibility as bases for evaluating the quality of its work. This is a mistake. Police agencies face different kinds of tasks in different kinds of communities. The organizational characteristics which facilitate police work in one context may hamper it in another.

Often police officials and public leaders consider organizational structure as instrumental and manipulable. Structural changes can be made in order to affect the agency's performance according to this view. Practically speaking, however, many features of police organizational structure are not easily changed by police administrators. The number of department personnel, the creation or combination of divisions, the promotion or hiring of personnel to supervisory positions, and the other characteristics described earlier are all constrained by limited resources, civil service requirements, adherence to statutory hiring practices, union pressures, and a host of other administrative and political considerations.[4] These organizational features thus often represent "givens" to the police administrator concerned about improving performance--at least in the short term. For example, the political infeasibility of consolidating police service for the 91 departments in Paterson-Clifton-Passaic, New Jersey, makes the small department structure of service delivery to

[4]For a detailed discussion of the difficulty in changing police organizational structure, see Guyot (1978).

this area a given (whether or not consolidation would improve services). Just as infeasible is the proposal to reorganize the New York City Police Department into separate borough departments. The difficulties in implementing even less grandiose structural changes have been well-documented (Kelling et al., 1974; Wycoff and Kelling, 1978; Cohen, 1979; Gay et al., 1977b). The point is that many structural characteristics represent constraints within which local governments must work. This does not mean that major structural reform should be forsaken, but it does mean that a great deal of innovation can and must be implemented within ongoing structures. Structural reform is often a long-term venture. Performance evaluation of a police department must take the makeup of the organization into account. Comparison of departments with markedly different organizational patterns is precarious, unless of course those very structures are the focus of evaluation.

B. Patterns of Service Activity

Resources and internal organization alone do not adequately describe the variety of local police agencies; local police departments also vary in the services they provide. Approximately 7 of 10 municipal and county police agencies in the 1974 Police Services Study sample patrolled, controlled traffic, and investigated burglary and homicide. But 16 percent of municipal police departments did not perform either burglary or homicide investigation, and 3 in 10 county sheriffs' departments did not conduct traffic patrol (Ostrom et al., 1978:62-63, Tables 4-2 and 4-3).[5] A nationwide survey of county sheriff's departments found that many have very broad police mandates, including enforcement of laws in county or state parks or game preserves (51 percent), enforcement of environmental laws (41 percent), and enforcement of fish and game laws (38 percent) (National Sheriffs' Association, undated).

In general, patterns of metropolitan policing are such that only a single police agency provides a given service for its jurisdiction. Sometimes, however, several agencies conduct the same service in one jurisdiction. The Police Services Study found, for example, that there were few metropolitan areas where all jurisdictions received patrol service exclusively from their own departments. In one SMSA only 23 percent of the residents received patrol service exclusively from their own producing agency (Ostrom et al., 1978:98). Even more frequent are jurisdictions which receive different police services from different agencies. The division of police labor in a metropolitan area may cross jurisdictional boundaries, so that a local department can be the sole producer of patrol service to its jurisdiction, yet share responsibility for other services such as traffic control or criminal investigation.

Although some political units receive police service from more than one department, this seldom means duplication of services. Agencies usually either divide the work in their common jurisdiction or coordinate their activities to provide for shared delivery of the service. Sometimes, for

[5] "Municipal police departments" include city, town, and village departments, New England town police, township police. County government departments included sheriffs and county police agencies such as airport, park, housing authorities, etc.

example, a local, state, or federal department provides all of a particular kind of service to several local political units. A typical example is the state highway patrol providing traffic patrol on all interstate highways throughout the state. In other areas routine traffic patrol is conducted by local agencies, while the state highway patrol conducts all accident investigations.

Although most large police agencies provide their own complaint receipt/dispatching service, a significant proportion of smaller departments rely upon other agencies (Ostrom et al., 1978:186-189).[6] A police department may obtain services such as dispatching from another police department or another non-police agency within its own government (for instance, a fire department). Even services that are widely accepted as solely within the police domain are occasionally shared with non-police agencies. In St. Petersburg, Florida, for example, crime prevention responsibilities are shared by the police department and the Office of Crime Prevention, which reports directly to the city manager.

This diversity portends something very important for police performance measurement: To the extent that police activities (such as criminal investigation) influence service outcomes (such as the incidence of crime), responsibility for those outcomes must be shared among the police agencies which share the work. The traditional one-grade, "report card" approach for individual departments in such "subjects" as street crime, white-collar crime, traffic control, or violation of civil liberties simply does not work where authority and responsibility are shared.

C. Local Policing in the State and Federal Context

With few exceptions, locally elected officials establish the budgets and approve the policies to be implemented by local police departments.[7] Yet local police are responsible for enforcing state laws and are increasingly affected by both state and federal regulations and incentives. Performance evaluation should take into account both the local situation of the agency and its state and federal context.

Local police departments vary considerably in the extent to which they are directly accountable to local elected officials. A county sheriff's department is headed by an officer who is directly elected. The sheriff often has considerable discretion in determining department policy, making personnel decisions within the department, and preparing budgets. The sheriff in most cases must deal with a county legislature on budget matters, but he often has virtual independence regarding department operations. In contrast, municipal and county police departments are often more closely controlled by a mayor or manager at whose pleasure the chief serves, and city councils exert not only budgetary control, but also oversee department policy. They

[6] The Ostrom et al. survey of over 1,000 municipal and county direct-service police agencies in 80 small- to medium-sized SMSAs found that 32 percent did not provide dispatch services themselves (p. 187).

[7] Some departments like St. Louis and Kansas City, Missouri, have governing commissions appointed by the governor.

conduct program reviews and institute policy changes for police more commonly than is the case for sheriffs.

State and federal involvement rarely occurs in day-to-day local police operations; rather, it is typically limited to matters of the general criminal code and police authority, training and education standards, personnel practices, research and development, and finances. State and federal involvement in specific circumstances of local police affairs is usually limited to occasional, highly publicized investigations of police corruption, not routine monitoring of police department performance.

State legislatures and state and federal courts do have the potential for influencing the nature of police work by passing laws or making decisions about substantive and procedural criminal law. In fact, the legal powers granted and interpreted by these federal and state legal bodies constitute the most important sources of nonlocal influence on local police practices. They convey, define, and limit two very important legal powers of the local police: 1) authority to enforce the criminal law and 2) authority to exercise coercive force to enforce those laws and maintain community welfare (Bittner, 1974:40). Because these bodies define the criminal law, they define the scope of legal police intervention in the affairs of the community. Some legislatures are also defining the bounds of interventions not based on criminal law, such as dealing with inebriates and the mentally unbalanced. Research attempting to trace the impact of individual legislative and judicial decisions on police behavior has repeatedly shown that police agencies are slow to respond to legal changes and that the manner in which they do so is critically colored by local considerations (Griffiths and Ayers, 1967; Medalie et al., 1968; Milner, 1971; Wald et al., 1967).

A state legislature's authority to define an act as illegal or to justify a noncriminal intervention determines the basis for police arrest or other action, but the decision to arrest remains with members of the local agency whose administrators and officers are seldom "called on the carpet" for too much or too little zeal in doing so. Some laws are intentionally vague--the legislators recognizing the need for the application of local standards, as in vagrancy and disturbance laws (Goldstein, 1977:30). Some laws deal with acts so difficult to define in operational terms that their application is the source of repeated legal redefinition, requiring local police discretion, as in the case of obscenity laws.

There are also instances of outright police refusal to follow very explicit legislative or jurisprudential rules. An example is the Florida Legislature's passage in 1977 of a substantial increase in the amount of moving traffic violation fines, automatically more than doubling the size of most traffic fines. Despite the governor's strong and highly publicized support for this law, local law enforcement officers throughout the state threatened not to issue citations for any but the most severe violations because of the hardship the heavy fines would impose on motorists. Local police administrators reported a sharp reduction in traffic citations after the law went into effect, attributing it to a ticketing slowdown. In the midst of widespread public and police dissatisfaction with the law, the Florida Supreme Court struck down the fine surcharge as unconstitutional three months after it took effect.

The federal government participates even less in local police activities than do state governments. Agencies such as the FBI, DEA, or military investigation agencies become involved in local activities only when there is the possibility that a federal law has been violated. The proportion of such cases resulting in local-federal agency contact is very small relative to the total number of local investigations undertaken. The federal government's most visible influence over local practices has probably come through its massive grant programs to state and local agencies. In addition to attaching administrative guidelines to these grants, agencies of the federal government--most notably the Law Enforcement Assistance Administration--have encouraged experimentation with a variety of organizational structures and practices by providing special program funds and disseminating information. The impact of the massive federal aid program on local police practices, begun over a decade ago, is not entirely clear, but recent studies have maintained that the stated goals of most programs have not been achieved or have been substantially modified by local agencies (Congressional Budget Office, 1978).

Many state and national professional organizations also have a stake in the directions taken by local police (for example, the American Bar Association, the International Association of Chiefs of Police, the National Sheriffs' Association, the Police Executive Research Forum, several large police unions, the National Association of Criminal Justice Planners, and the International City Managers Association). Interest groups representing consumers of police service also attempt to influence police practices. Examples are the NAACP, the Urban League, and senior citizen groups. To exert influences, professional associations rely primarily upon access to members of occupations directly involved in the production of police services. Consumer interest groups have greater difficulty marshaling resources that will have a direct affect on behavior, but they attempt to influence elected and appointed officials through publicity and participation in the electoral process. They can also use their resources to instigate legal proceedings to induce changes in local practices. Generally, neither professional nor consumer groups have constituencies numerous or powerful enough to fundamentally transform the character of local policing.

To say that policing in America remains untouched by state and national influences would ignore a major trend in local, state, and national politics, especially in urban areas. State- and national-level interest and involvement in local police affairs has increased dramatically in the last decade. What is remarkable about this trend is the ability of local police departments to absorb these pressures and incentives and still retain styles of policing sustained by local politics and colored thoroughly by local considerations.

D. Local Police in the Criminal Justice Context

Thinking of police as part of a criminal justice system is a relatively recent development.[8] As public concern over the crime rate has grown, the response of those grappling with the problem in research and government has

[8] See Goldstein's (1977:21-24) discussion of the development of the criminal justice system notion in policing.

been to "systematize" human endeavors to deal with it. The agencies of social control that have come to form the "criminal justice system" in the United States have been the police, the courts, and correctional institutions.

A popular conceptualization of the criminal justice system is an assembly line that gathers raw materials (alleged criminals), processes them (applies criminal law), and eventually returns them (or nearly all of them) to the environment. It is now routine for criminal justice texts to note that the police comprise by far the largest component of the criminal justice system. National estimates including all levels of government indicate that police accounted for 52 percent of all 1977 criminal justice expenditures and 57 percent of the employment (Law Enforcement Assistance Administration and Bureau of Census, 1979:1-31). Local police accounted for roughly 64 percent of local criminal justice expenditures and employment; local police expenditures comprised 36 percent of all criminal justice expenditures in the United States and 34 percent of the employment.

The assembly-line view of criminal justice describes the principal police function as intake--that is, identifying crimes, apprehending alleged criminals, and collecting evidence of their wrongdoing. Considering statistics on agency activities, the police role in the criminal justice system seems even more dominating than their expenditures or employment indicate. National estimates for 1975 show that the police recorded 11.3 million index crimes, which comprise only a very small proportion of all crimes reported to police. They made 9.3 million arrests--about one fourth for index crimes. Eighty percent of the adults arrested for index crimes went to court, and 73 percent were found guilty of some offense. Juvenile arrests accounted for one fourth of all arrests and 43 percent of index-crime arrests, and nearly one half of all juvenile arrests were handled without making formal charges or referral to juvenile authorities; these figures do not include most traffic offenses (Kelly, 1976).

The police make critical decisions about the volume and character of the "raw material" available to other agencies which process persons accused of crime. Police also influence the nature of those agencies' work by the quality of evidence they produce. Some police have been given de facto prosecutorial powers to determine the formal charges against suspects (McIntyre, 1968:463-464). They also exert considerable informal (and sometimes public) pressure to influence subsequent decisions made--especially by prosecutors and judges. The police bartering position in the "exchange process" among criminal justice agencies is a potent one in light of the formally specified separation of powers under which they operate (Cole, 1973). The conventional view of police in the criminal justice system has served a very useful purpose in calling attention to the important influence of police discretion on subsequent stages of the processing of suspects.

The emphasis on police as the intake unit for other criminal justice agencies, however, should not be allowed to obscure other important services which police conduct. For example, many local police assist victims of crime. This service does not fit neatly into the conventional picture of the criminal justice system. Victim assistance activities may include some of the activities important to apprehending offenders, but the purposes of the two services are quite different in many cases. A comprehensive measurement program needs to be able to address both services.

The police also provide services that may be viewed as part of other distinct service systems: social welfare, medical, psychiatric, and general information. Regardless of whether these services may be relevant to improved law enforcement and criminal apprehension, they are services which are thoroughly integrated into the daily routine of policing. Performance evaluation focusing only on "criminal justice" when the police participate in so many other ways in the community is of limited usefulness. Police administrators are confronted with the task of participating in many service systems--not just criminal justice.

Herman Goldstein (1977) points out that it is the local government base of police which encourages them to provide so many different services:

> [V]iewing the police primarily as an agency of municipal government is a way of emphasizing the fact that each community has the opportunity to make its own judgments as to what its police force should do.... Implicit in this approach is the belief that most of the noncriminal functions police now perform are not inappropriate tasks if a community concludes that the police agency is the logical administrative unit in which to house them (p. 33).

Local governments have ensured three police capabilities which have not only supported police efforts to deal with crime, but have enabled them to provide many other services as well:

--high accessibility, around-the-clock and throughout the jurisdiction (Jerry Wilson, 1975:144);

--expertise and resources for dealing with situations requiring immediate action (Bittner, 1974); and

--personnel having information on a wide variety of local conditions and practices (Rubinstein, 1973:129-217).

The ready availability of local police services is manifest in a number of ways, not the least of which is the sheer size of local police departments compared to other local service agencies. A survey of the nation's 12 largest municipalities (excluding New York City) indicated that police accounted for a larger proportion of the municipal budgets than did any other departments. Cities in the next category (300,000-750,000 population) showed the same pattern except that expenditures for education exceeded those for police (Odoni, 1977).[9] Police personnel expenditures are typically the largest of the labor-intensive local services except for education (Pigeon, 1979:183).

The relative size of the police department in municipal and county government is not the most telling characteristic of police department availability. Rather, police are made accessible by the kinds of rules set up to mobilize their services. Fire protection, sanitation, parks and recreation, hospitals, highways and transportation, public welfare, education, and mental

[9] Education is a major expenditure which is included in some budgets but not others, which makes precise comparison difficult.

health all have one or more of the following characteristics which specialize their service and limit the work they do:

--a regular, clearly defined, and predictable clientele (sanitation, public welfare, and education);

--a clearly defined service routine that does not require, nor is it very adaptable to, numerous and separate client-initiated requests for mobilization (sanitation, parks and recreation, highways and transportation, and education[10]; and

--rigorous and difficult-to-alter (or make exception to) screening criteria for deciding who may receive service (fire, hospitals, public welfare, education, and mental health).

There are, of course, elements of these characteristics within police departments, but they are less than in other local service agencies. Local governments need a generalized social response agency to categorize, route, or alleviate service problems whose applicability to an existing specialized service function is either unclear or nonexistent. It is not surprising in light of a traditionally felt need for around-the-clock protection against crime (the specialized domain of the police) and the standard organization for providing this protection (dispersion of personnel in beats throughout the jurisdiction) that the preponderance of this work falls to the police.[11]

The resources and structure of police departments not only make them the most likely candidates for diagnosing problems--they are also the most likely candidates for stabilizing these problems. They are often first on the scene at fire, medical, and emotional crises and are expected to render aid and attempt to stabilize the situation until more appropriate, specialized agencies can mobilize their resources (for example, ambulance service, fire department, social workers, and psychiatric services). The last characteristic making local police particularly open to requests for help with non-crime service problems is not a direct product of any single local government policy, but rather it is the product of a variety of government policies, economic factors, and the general nature of crime-related police work. Occupationally, the police are not very mobile; they tend to have strong local roots. Police promotion practices are such that advancement is penalized for a transient officer whose record is unknown and untested in a new locale; departments require a substantial period in rank before officers are eligible for advancement. The rank-and-file place great value on personal reputation, which can only be developed locally. In an occupation where variation in salary scales is relatively small from one department to another, pay increases offer scant incentive to transfer out of the department. Numerous researchers have stressed the importance of information about local territory and people to individual officer performance in policing (Rubinstein, 1973; Van Maanen, 1974;

[10]The principal reason is that these agencies do not have a highly developed rapid communications system as do police--and other emergency services. Police are much more adaptable.

[11]See Jerry Wilson (1975:143) for a discussion of this generalist role filled by local police agencies.

Murphy, 1977). Consequently, the more familiar an officer becomes with his jurisdiction, and particularly his assigned territory, the more effective he is in maintaining order, making good arrests, etc. Thus, because of the selection process, career patterns, and the reigning occupational wisdom, police are highly motivated to have very detailed knowledge of the area they serve. Unless the department has taken special care to make officers aware of certain local services, the accumulation of this knowledge is quite incidental to any locally acknowledged non-crime services. Yet the widely accepted practice of seeking information from police if no other source seems appropriate or available is testimony to the public's expectations that the police officer should be willing to share some of his knowledge, even when the request is unrelated to a criminal matter.

E. Summary

Viewing the local police agency primarily as part of a well-ordered criminal justice system ignores the real-world context of American policing. Performance measurement based upon such a viewpoint overlooks the many other services that local police conduct. Overall agency performance evaluation depends upon careful identification of the particular agency: its organizational structure and its service activities. Although police receive very important legal authority from the states (via the criminal code and case law), local communities strongly influence the nature of their police organization and its service activities. The result of this local influence is that police are not only an integral part of the criminal justice system, but they are also important to the operation of other local service systems. Police performance measurement should be designed to reflect the broad range of duties police are organized to do and must take account of the organization of the agency which conducts these services.

CHAPTER 3. WHAT PEOPLE WANT FROM POLICE

How should police agencies determine what kind of performance is desirable? A police executive may have his own ideas about how his agency should be evaluated, but a performance measurement program should encompass more priorities than those held by its chief, other members of the department, or professional organizations--police performance measurement should look to those whose lives and work are affected by police. These people are the constituents of police. Consideration of constituent requests and expectations will help police develop performance measurement programs that increase the accountability between police and the people. Unless the expectations of these various constituents are openly scrutinized, debated, and tested, performance measurement can effectively exclude certain groups from having a say in how their community is policed. Failure to take constituents' preferences into account can lead to inequitable public service and weakened support for police.

Police agencies that evaluate community preferences in their performance measurement programs, however, often find that there is no consensus on what police should do or what is meant by good and poor performance. Not only do expectations differ at any given point, but they can also change over time. Further, the profile of constituents' expectations for one department may not be the same for another department at the same point in time.

The police, as the public servants charged with fulfilling their constituents' expectations, have a legitimate self-interest in determining policy. These in-house concerns, however, must be balanced against constituent concerns. Moreover, while we often hear of <u>the</u> police perspective, police are rarely uniform in their views on performance. Police face the difficult tasks of assimilating diverse priorities within and outside the police organization to produce coherent policies.

This chapter describes some of the perspectives different constituencies have on police. We focus here on those constituencies having the most frequent contact with police officers.

--the general public: the street-level constituents of police, which include suspects as well as those receiving services from police;

--local governing officials: elected and appointed officials not directly in charge of the police organization, but responsible to the citizenry for its performance; and

--members of the courtroom workgroup (prosecutors, judges, and defense attorneys): the local legal actors who convey the working meaning of the criminal law to the police.

In describing the performance outlooks of constituents in these categories, we note differences within categories as well as between them. We also discuss the police as an "internal" constituency concerned with performance measurement.

Constituents express their performance preferences to police in a variety of ways. Some preferences are directed to police in the form of an explicit request for service: a burglary victim's telephone call or a request from the district attorney for additional evidence on a case. Despite repeated attempts to narrow the range of legitimate expectations of policing coming from both within and outside of police circles, policing in America remains essentially <u>reactive</u> to the general public's routine requests for service and to the work-related requests of other agencies (Reiss, 1971a; Clark and Sykes, 1974). Performance measures now in use ignore much of the reactive work of police. Highly reactive service organizations need performance measures which help them monitor their activities and accomplishments in terms of these explicit requests for service.

Not all performance expectations are expressed explicitly to the police, of course. Expectations may remain tacit because police are satisfactorily fulfilling them--they may not be expressed because constituents feel that there is little likelihood that police will be responsive and may even be punitive. Finally, they may remain tacit because the perceived cost of expressing them is not worth the benefit expected if the police were responsive. Nonetheless, failure to take tacit expectations into account overlooks the values held by at least potentially important constituents.

Such tacit concerns typically include freedom from fear of crime, police presence, and police civility. Common measures used by police relating to these expectations are crime rates, traffic statistics, and public opinion survey responses. However, citizens rarely call the police to request that the department achieve lower crime rates, fewer traffic accidents, or higher marks on citizen surveys. Police infer these expectations from their many transactions with citizens and from statements of public officials, the media, and other public figures.

A. The General Public

The citizens of a community are the fundamental reference group for a police department in a democratic society. Public officials and police administrators often justify their policies by referring to "what the public wants." On many issues, however, there are substantial differences in what people want. Before the police can deal with this diversity, they must openly acknowledge it and try to understand it. One way for a local police department to match its performance measurement program to its local community is to examine the requests for service it routinely receives from individual citizens.

1. <u>Requests for police services</u>. Citizens communicate problems to police in a variety of ways: telephoning, walking into the police station, hailing officers on the street, mailing requests, and even calling by citizens' band radio. In bringing problems to police attention, citizens indicate a desire for police action. Sometimes citizens are quite specific about what they want police to do. Other times they do not request specific police actions; they only want the problem dealt with somehow. A police officer may interact

not only with the person initiating the request, but also with others who have other, sometimes conflicting requests.

For what sorts of problems do citizens routinely call police? Numerous surveys of police calls-for-service records indicate that the great majority of calls do not involve crimes.[1] Estimates of the proportion of non-crime calls range from 40 to 80 percent, most falling around 75 to 80 percent. (This variation is due to what each researcher has defined as a "crime" problem and how the data were obtained as well as to differences in problems police handle in the various jurisdictions studied.)

a. Requests received by telephone. A conversation between a citizen and a police telephone operator is the most frequent means of initiating police-citizen contact. To describe the intracacies of this expectation-expression, we will relate the findings of the 1977 Police Services Study survey of 26,465 telephone calls for service in 21 police departments. This is one of the largest surveys of calls relying solely on independent observation instead of police records and dealing with a variety of police and sheriffs' departments. (See Appendix A for greater detail on this survey.)

The description of the public's "street level" requests for service is based upon a problem classification scheme developed for the Police Services Study (PSS). Problems, in Herman Goldstein's (1979) words, are "the incredibly broad range of troublesome situations that prompt citizens to turn to police..." (p. 242). A problem is a circumstance that someone brings to police attention for police action. The PSS used 236 problem descriptions in characterizing the nature of the problems people bring to the police. Since over 200 problem descriptions would prove unwieldy, we have grouped them into 13 categories. This classification scheme is described briefly in Table 3-1. (Detailed description of the 236 problem descriptions and how they were grouped into the 13 categories is provided in Appendix B.)

The 13 problem categories are based upon terms widely applied by police and citizens to groups of problems. A single incident may require more than one category to describe it. For example, a mugging can involve a citizen's request to enforce a criminal law against the assailant (a violent crime) and a citizen's request for medical assistance. Some circumstances by definition fall into several categories: a hit-and-run is at once a violent crime, a medical situation, and a traffic problem.[2]

[1] See J.Q. Wilson (1975b), Bercal (1970), Cumming et al. (1965), Lilly (1977), Reiss (1971a), Webster (1970), Meyer (1974), Shearing (1972), Misner (1967). Scott (1979) reviews this literature and discusses his own research, which supports this view.

[2] Scott (1979) develops a similar 12-category problem typology based upon the same 236 problem-definition codes used here, but the precise meaning of the categories is different. Scott's categories are mutually exclusive. His typology focuses on the nature of the action requested; the typology applicable to this book focuses upon the substance of the problem prompting the call. The difference between our typology and Scott's is an example of the importance of being specific about how problem typologies are constructed to facilitate interpretation and comparison.

TABLE 3-1. TELEPHONE REQUESTS FOR SERVICE ACCORDING TO 13 PROBLEM CATEGORIES

Category	% Calls Involving This Kind of Problem
Non-violent crime: non-personal injury or property loss involving criminal liability	20%
Traffic problem: dangerous or illegal operation of a motor vehicle, motor vehicle accident, or other hazard on a public thoroughfare	14
Assistance: all situations other than the above where a citizen requests or appears in need of help	13
Public nuisances: unpleasant or annoying circumstances	13
General information request: person wants information from police (only if no other categories apply)	11
Interpersonal conflict: persons involved in a dispute; it may involve violence, but no criminal liability is indicated a priori.	8
Suspicious circumstances: circumstances about which there is great uncertainty, but threatening	5
Medical problem: injured or ill persons in need of medical assistance	4
Dependent person: persons unable to care for themselves	4
Violent crime: bodily injury or threat of bodily injury by a person when there is criminal liability	3
Information for police: person only provides information to police (only if other categories apply)	3
Public morals crime: an affront to legal standards of "right conduct"	2
Internal police operations: no direct service to citizens (e.g., administrative tasks, internal legal procedures, internal investigations)	1

*Percentages sum to more than 100 percent because a single call may involve more than one problem.

Nonviolent crimes were the most frequent of the 13 types of problem. This comprises a diverse set of problems including such situations as family neglect, theft, break-in, fraud, leaving the scene of a property damage accident, vandalism, and civil rights violation. Traffic problems were the second most frequently mentioned category. The proportions of calls involving a request for assistance and reporting of nuisances were nearly as large. General information requests were the fifth largest category. The eight remaining problem categories were each applicable to less than 10 percent of the calls. Calls oftentimes involve more than one problem. Six percent of all calls involved more

than one problem category. The probability of multiple problem categories varied with the type of problem. Forty-two percent of the calls involving medical problems also involved other problems. In these incidents the second problem was most often traffic related.

For some analyses we find it useful to reduce the problem categories to four general areas: crime, order maintenance, service, and traffic. These four are mutually exclusive and hierarchically organized so that each incident is assigned to only one category. They are described in Table 3-2 with the proportion of telephone calls relevant to each.

TABLE 3-2. TELEPHONE REQUESTS FOR SERVICE ACCORDING TO FOUR PROBLEM CATEGORIES

Category	% Calls Involving This Category
1) Crime: Violent crimes, nonviolent crimes, public morals crimes, suspicious circumstances, criminal warrants, and officer assists. If there is any indication that one of these categories applies, the incident is considered in the crime category only.	36%
2) Order maintenance: interpersonal conflicts, disturbances, nuisances, dependent persons. If the crime category does not apply, and one of these categories does, then the incident is in the order maintenance category.	22
3) Service: assistance, information request, information for police. If neither the crime nor the order maintenance categories apply and one of these categories does, then the incident is in the service category.	30
4) Traffic: traffic problems. If neither crime nor order maintenance nor service categories apply to the incident and the traffic problem category does, then it is considered in the traffic category.	12

These categories are similar to those employed by James Q. Wilson (1975b) and subsequently by others in describing police functions. They are clearly too broad to be of much benefit in designing operational policies and procedures, but they do permit some useful generalizations about requests for service in this chapter and police response to these problems (see Chapter 4). The figures in Table 3-2 support the findings of other research on calls for service. The majority of problems citizens refer to police are not crime-focused.

b. Face-to-face requests for service. The most specific requests for police actions often occur in face-to-face encounters between citizens and police officers. The in-person encounter may take place as a consequence of a telephone conversation, a citizen request on the street, or police initiative. Regardless of how it begins, it is during the encounter that the complexity of citizens' problems and requests becomes known to police. A telephone conversation nearly always provides police with only one view of the problem. Once on the scene, the officer may confront a situation far more complex than the telephone conversation indicated. He must then develop and refine a definition of the problem, often in the face of competing definitions provided by people who are at odds with each other.

The Police Services Study's observation of police-citizen encounters in 24 police departments gives som indication of the complexity that characterizes many police-citizen contacts. In more than 7,200 hours of in-person observation of patrol officers, researchers recorded 5,688 police-citizen encounters, 3,167 of which were citizen-initiated. We defined as "citizen-initiated" any calls which were radioed by the dispatcher or which began when a citizen requested assistance directly from an officer. Virtually all of the dispatched calls in the departments studied were based upon citizen telephone or walk-in requests for service. (See Appendix A for details on patrol observation.) Most of these citizen-initiated encounters came to patrol officer attention by way of the police operator and dispatcher. Using the 13 problem categories described earlier, the initial definition of the problem changed in one fourth of all citizen-initiated encounters. That is, one of the following occurred in one of four citizen-initiated encounters: A problem category not identified initially later became relevant, or a problem category identified initially was unfounded, or both of the above.

Regardless of how an encounter begins, there are many specific requests articulated by citizen participants. Often these specific requests, rather than the general-problem context of the encounter, most concern the citizen. Table 3-3 indicates the proportion of all Police Services Study encounters during which several kinds of specific requests were made by one or more citizens. In 52 percent of the PSS-observed encounters, one or more specific requests of the types listed in Table 3-3 were made by citizen participants.

Conflict between citizens adds to the complexity of citizen requests. In 12 percent of the PSS encounters at least one victim and one suspect were present during the encounter. Both were present in 50 percent of all interpersonal conflicts, 31 percent of all violent crime encounters, and 22 percent of all nuisance situations. In 7 percent of all encounters citizens were in verbal or physical conflict with each other during the encounter. This was most frequent in interpersonal conflicts (42 percent) and violent crimes (24 percent). These observational indices do not register more subtle forms of inter-citizen conflict and do not reflect conflict occurring before the observed officer arrived.

The general description of calls and encounters provided by statistical summaries of observations gives only a rough indication of the complexity of requests occurring in police-citizen interactions. In-depth descriptions of encounters, such as those provided by Muir (1977), Van Maanen (1974), and Skolnick (1967), indicate the truly ambiguous, developmental nature of citizen-police encounters. This complexity presents a great challenge to police

TABLE 3-3. SPECIFIC CITIZEN REQUESTS IN FACE-TO-FACE ENCOUNTERS WITH POLICE

Type of Request	% Encounters in Which This Request was Made by a Citizen (N=5688)
That force be used against another citizen	13%
That no force be used against self or others	9
That more police attention (e.g., investigation or surveillance) be given to the problem	17
That police make an official report of the matter	8
That police render physical assistance (e.g., transportation, help with child or animal, medical, referral)	5
That police provide specific information	20

performance measurement. Not only are police called upon to deal with a variety of public and private problems, they are also subject to competing, often contradictory requests.

2. Comparing community request profiles. Since publication of James Q. Wilson's widely read study, Varieties of Police Behavior, published in 1968, and similar comparative studies, such as John Gardiner's Traffic and the Police (1969), it should have been axiomatic among police professionals that communities can substantially differ in the nature of requests their people make of police. Police service priorities may need to vary substantially to accommodate differences in citizens' problems and requests. Urban areas differ from rural areas, small towns from big cities, new cities from old cities, coastal cities from landlocked cities, homogeneous communities from heterogeneous communities, and so on. Despite these obvious differences which can be seen in citizens' requests for service, many police professionals and academics try to apply a single set of service priorities to all departments. This uniform, "professional" approach to performance priorities has produced stockpiling of anti-riot equipment in isolated rural communities and the formation of SWAT (Special Weapons and Tactics Teams) units in small towns. Moreover, sometimes subtle differences in community needs are obscured in the rush to jump on the latest crime-fighting bandwagon.

Not only do communities differ in the nature of requests made to their police, but most also have significant variation within them. The more diverse the community, the more complicated the pattern of service requests will generally be. To the extent that police acknowledge diversity in request profiles, they tend to think geographically, but there are other ways of identifying service request patterns. For example, some women are more likely to report rape or spouse abuse than others. Some businesses are more likely to request escort services than others. Nevertheless, police orient their deployment decisions in terms of beats and districts. It is therefore important that they obtain useful information about variation in the quantity and

quality of requests. Some police chiefs like to appear to be in the forefront of performance evaluation by requiring that each precinct captain reduce crime by X percent to keep their precinct command. This sort of performance measurement is both naive and unfair because it fails to consider that both the level and type of crime committed in different parts of the city may vary greatly. For example, it may be easier to reduce shoplifting in a business district than to reduce domestic assaults in a poor residential area. A careful profiling of requests for service and other problems in different parts of the jurisdiction is an important step toward a more realistic basis for setting forth relevant performance criteria and standards.[3]

3. Citizens' tacit performance expectations of police. Citizens' direct requests for police service are a very compelling source of information about public priorities for policing and can readily be used in developing a performance measurement system. However, direct requests for service embodied in the telephone call or street encounter do not express the full range of the public's expectations of police service. There are many tacit expectations of police. Here we focus on three major concerns of street-level constituents: 1) freedom from the fear of crime, 2) desire for police presence, and 3) civility in police behavior. Police telephone operators seldom receive telephone calls explicitly requesting that police reduce crime or be more polite, yet these are powerful undercurrents of the public's wants and their standards for police performance.

a. Freedom from fear of crime. It has long been a professional axiom that a fundamental priority for local police is to soothe the public's anxiety about crime. James Q. Wilson (1975a), reacting to the community service orientation to policing, supported this position:

> He [the citizen] believes, with reason, that if there were no police at all there would be more crime, and therefore he supposes that if there were more police there would be less crime. When he sees a policeman on a street corner, the citizen often feels more secure and assumes that the burglar or mugger seeing the officer will feel less secure. If a crime is committed, the citizen believes that the police should diligently look for the criminal, even if it means neglecting their community service functions. The citizen is impatient with theories that argue that crime can only be prevented by reforming prisons or ending poverty. He thinks that crime--or at least crime that affects him--will be prevented if sufficient policemen walk by his home or business often enough (p. 82).

Despite the traditional appeal of this outlook, we now have some evidence indicating that many of its assumptions are questionable. It is clear that fear of crime is a major concern among citizens. It is far less than clear that they hold police responsible for the level of crime, however.

[3] See Boydstun and Sherry (1975) for a description of one technique for profiling the needs of different beats. Using statistics on citizen requests for service is another.

Academics, criminal justice administrators, and elected officials have identified the threat of crime as the major public policy priority for police (Morris and Hawkins, 1977; Silberman, 1978; Wilson, 1975a), yet recently analyzed data on citizen attitudes and experiences with crime and police in eight "impact" cities of the National Crime Survey imply that fear of crime, though significant, is neither as widespread nor as influential as many had thought (Garofalo, 1977b). Twenty percent of the survey respondents reported that they were afraid to go into certain parts of their metropolitan area during the day; 36 percent were afraid of doing so at night. Slightly more than half felt very safe about being out alone in their neighborhood during the day, but only 18 percent felt very safe alone in their neighborhoods at night. Such figures are unsettling. However, most respondents had no complaints about their neighborhood, and the vast majority of those who did cited problems other than crime (e.g., traffic, environmental problems, public transportation, inadequate schools, shopping facilities). In fact, only 7 percent of the respondents rated their neighborhoods as more dangerous than others in the same metropolitan area. Although a very large proportion (82 percent) felt that people have limited their activities in recent years because of fear of crime, a much smaller proportion (45 percent) indicated that they personally had limited their activity for this reason. Crime was reported by only a small proportion of respondents as a reason for not going out for entertainment or as a major motivating factor in a decision to move from the neighborhood.

Of course, the degree of alarm or optimism one takes from these findings depends largely upon one's expectations. Charles Silberman (1978:3-20), claiming "Criminal violence is debasing the quality of life in American cities and suburbs," vividly describes the subtle ways in which the fear of crime corrodes individuals' confidence even with familiar places and people--ways not measured by a survey researcher's questions.

Regardless of the importance of fear of crime to the public, survey research implies that most citizens do not hold the police accountable for the level of crime in their communities. The survey research team for the Kansas City Preventive Patrol Study asked neighborhood residents, "Can you give me an example of anything that needs to be done to reduce the amount of crime in this neighborhood?" At least two thirds of each neighborhood sample failed to suggest some aspect of policing or criminal justice in their response (Kelling et al., 1974:346-347). The data from the eight cities in the National Crime Survey produced only a very weak association between respondents' fear of crime and their evaluations of police performance, leading Garofalo (1977b) to conclude, "the public does not 'blame' the police for the problem of crime" (p. 30).

b. Police presence. Regardless of citizen perceptions of the linkage between crime and police performance, it is clear that many people value police presence above any other police service. Police presence involves more than answering requests for service; it includes preventive patrol as well. When National Crime Survey respondents in 13 large metropolitan areas were asked what ways their local police could improve, 46 percent of those offering suggestions indicated a top priority for hiring more police officers or deploying more police officers of a certain type in certain areas or at certain times (Garofalo, 1977a:14). When Kansas City residents were asked to indicate

any particular thing about police service in their neighborhood they least liked, the most frequent single response in all neighborhoods was that the police were not patrolling enough. When asked to indicate what they liked best about their police service, the most frequent responses also stressed police presence: frequent police patrol, responding promptly when called, foot patrol, and helicopter service. Different groups of citizens stress different aspects of police presence. White residents in large metropolitan areas are more likely to prefer more police serving their neighborhoods than are black residents in those metropolitan areas. Black residents, on the other hand, are more likely to indicate that the police should respond to service requests more rapidly (Garofalo, 1977b:30).

The complex relationship between the public's desire for police presence and the desire to be free from the fear of crime in the neighborhood is an issue of more than academic interest. Police departments typically allocate patrol officers to neighborhoods according to measures of demand for police presence (calls for service and response time). Many of the neighborhoods that have the highest number of calls for service are also the neighborhoods with the highest serious crime rates and, not surprisingly, also the highest levels of fear of crime. The correlations are far from perfect in most large cities, however, and when residents of a neighborhood express a fear of crime greatly out of proportion to the workload criterion the department uses to routinely allocate personnel, then department decision-makers are faced with deciding which "squeaky wheel" to grease. The most effective expression of fear of crime usually comes through neighborhood organizations (Henig, 1978). Police department management is usually the only advocate of allocative rules based on workload. Management's commitment to these rules may be strong enough to weather a grass roots assault on them, but quite frequently they make some accommodation. Given limited resources, some other neighborhood or district of the city will have fewer officers assigned to it, and it will likely be the one that does not mobilize its own organization or lacks influential representation in the local government. A performance measurement system which informs allocational decisions facing this tradeoff should provide information relevant to both citizens' fear of crime and other service aspects reflected in their desire for police presence.

c. Police civility. In his book, The Police and the Public, Albert J. Reiss stresses the importance of civil relations between police and citizens. Civility, according to Reiss (1971a), "exists when men behave in ordinary affairs with a sense of concern and responsibility for the interest of others" (p. 174). Reiss emphasizes that civil behavior is the responsibility of both police and citizens if civility is to be maintained. A citizen seldom articulates this concern unless 1) he personally experiences or becomes aware of an egregious violation of his standard of civility, or 2) he is asked by a surveyor to indicate what he wants from his police or thinks is important.

The frequency of complaints of police incivility is quite low relative to the total volume of requests for service. Of the 26,465 telephone calls for service observed by the Police Services Study, only 113 involved a complaint against a police officer. Of course, many such complaints are made in person, by mail, or directly to a police administrator or the internal affairs division. The average number of such complaints received by the internal affairs division of departments responding to the Police Foundation's administrative survey was 30 per month (Heaphy, 1978).

The relative infrequency of complaints to police departments is misleading. Fear of reprisal, minimal expectations of effectiveness or responsiveness, and lack of knowledge of complaint procedures deter potential complaints.

The Police Services Study conducted interviews with 12,022 residents of 60 neighborhoods served by 24 police departments. They were asked whether they had any reason to complain about any aspect of police service during the previous year; respondents mentioned 1,644 occasions. These respondents were asked to describe their two most recent occasions to complain; formal complaints were lodged in only 30 percent of the instances. Table 3-4 lists the distribution of reasons given for not complaining to a government official.

TABLE 3-4. DISTRIBUTION OF REASONS GIVEN FOR NOT FILING A FORMAL COMPLAINT

Reason	Percentage
Afraid of police	3%
Wouldn't do any good to complain	43
Complaining might make problem worse	8
Not important enough	5
Didn't know to whom to complain	5
No time	3
Someone else complained	4
Problem fixed without need to complain	4
Other	20
Don't know	4
Total (N=485)	99%*

*Does not sum to 100% due to rounding error.

A sample of residents of large U.S. cities was asked to indicate if their police could improve and if so, how. Sixty-five percent responded that some improvement could be made. Twenty-six percent of those listed the most important ways as being more prompt, responsive, alert, courteous, or nondiscriminatory. Forty-one percent of the young black respondents (age 16-29) gave one of these responses (Garofalo, 1977a:14-15). Twenty-eight percent of the young white respondents indicated one of these as a top priority for improving police. While the majority of all respondents (63 percent) suggested that more police officers be hired or that different services be stressed, a substantial proportion believed that the top priority for police is for more caring, civil policing. This is especially true for those categories of persons in most frequent contact with the police: young people and blacks (Garofalo, 1977a:12-15). Of course, citizens' expressed priorities for improving police may underestimate the value they place upon various aspects of police activity. Some may be generally satisfied with police civility and therefore unlikely to suggest improvement unless they perceive a substantial deterioration in police-community relations, although they value it highly.

Most research on police civility has been conducted from the perspective of the general public--taken to be usually law abiding, if occasionally obstreperous. Research on the perspective of that part of the population sometimes referred to as "the criminal element" (i.e., repeat or serious offenders) also merits consideration in the context of a civil police force. These people's allegations of police incivility are generally subject to considerable skepticism by police, prosecutors, judges, and juries. Their criminal history marks their motives suspect and their testimony biased or unreliable. Some police officers, fully aware of this, declare "open season" on such individuals--especially those who have been particularly elusive or commit strongly proscribed crimes. In fact, one tactic sometimes employed is to charge any physically coerced arrestee with resisting arrest to assure that any complaints about brutality or abuse of authority will automatically be suspect (Chevigny, 1969:147-160).

According to the testimony of felony defendants to academic researchers, overt officer misconduct is relatively infrequent. Perhaps associated with that finding, these individuals have markedly different expectations from police than does the general public. Jonathan Casper's (1972:20-50) interviews with 71 convicted felons led him to conclude that the criminal projects his own work values onto the officer. Consequently, police incivility--especially a minor abuse of authority--is seen as part of a game, where both sides play by similar, and illegal, rules. While police harrassment may not be embraced enthusiastically by habitual offenders, it is certainly accepted for the most part as one of the hazards of the business, according to the testimony reported by Casper. Suspects may be unaware that certain rights are available to them, but the repeated experience of many offenders with the arrest process also enables them to avoid behaviors which are likely to exacerbate the situation and result in police-applied physical coercion. To the extent that the experienced suspect feels indignation over police misbehavior, it is for overzealousness--beyond the bounds set by the informal rules of the game, such as illegal plants of evidence. Yet, even these acts are sometimes taken as a status symbol of the ends to which the criminal had to put the police in order to get caught (Casper, 1972).

The point of this departure from the perspective of mainstream (that is, noncriminal) American life is that criminal suspects also represent a portion of the public constituency of the police. In fact, the high frequency of their contact with police makes their representation especially important. Because their "outlaw" status places the legitimacy of any requests they make in dubious light for the public as well as the police, performance measurement should attempt to account for police response to suspects' requests to exercise their rights.

4. Police influences on citizens' requests and expectations. Policy analysts sometimes interpret requests for service and survey research findings as votes or statements of preference from the public about what the police should be doing. It is very tempting to use indices of preference as grassroots mandates to guide government and police priorities in the name of responsiveness. But the shaping of preferences actually works both ways. Citizens influence police actions through their requests for service, and the police influence the public's ideas of what to request. The police encourage the public to submit certain requests to them and discourage other requests.

Police influence the public by encouraging and facilitating citizen requests that they deal with crime. Examples include campaigns to encourage reporting by victims or witnesses of rape, domestic assault, or child abuse. A new 911 emergency communication system is generally accompanied by a campaign to encourage the public to use it and promising faster response as a result of the special status given to these calls.

Police have also encouraged citizen request for service for problems not associated with crime or emergency response. The growth of internal affairs units, store front offices, community relations, and crime prevention units in many police departments has been accompanied by campaigns to encourage citizens to seek these specialized services (Krajick, 1979). These new communication channels have probably encouraged more citizen complaints about police service and suggestions for dealing with neighborhood and community problems.

One of the most influential ways police have of affecting citizen expectations of their performance is the promulgation and promotion of performance measures. Richard Powers (1977) describes the FBI's development and marketing of the Uniform Crime Reports as an important means of molding public expectations about law enforcement objectives throughout the country. Local departments' annual reports are loaded with crime and arrest statistics, which are periodically released to the news media.

The susceptibility of public expectations to police priorities is probably nowhere better illustrated than the area of response time. The application of vastly improved transportation and communication technology encouraged the development of a doctrine that made the quality of police service directly associated with the rapidity of police officer response to requests for service. After several decades of widespread public dissemination of this doctrine, the value of a speedy response--even in non-emergency situations--has become thoroughly embedded in the public's expectations of police performance. Numerous surveys have indicated that the quickness of police response to a call for service is an important factor in the requester's satisfaction with police performance in that instance (Pate et al., 1976:48-49; Van Kirk, 1978: 20-21) and that the difference between citizen expectations of police response time and perception of police response time is the single most important determinant of citizen satisfaction with police in the encounter. This research, however, has also produced grave doubts about the importance of a rapid response for solving most crimes or apprehending criminals. Acknowledging that the police have been hoisted by their own petard, police administrators are looking for ways to alter public expectations about rapid response through public campaigns and police telephone operators in their conversations with complainants (Van Kirk, 1978:26).

Perhaps the most pervasive influence police have on the public's expectations is the reputation they develop through routine, day-in-day-out activity. If police repeatedly fail to respond to certain types of requests or show a distaste for dealing with those problems, citizens may adjust their expectations accordingly and actually come to view that particular service as inappropriate for police to provide. Slow police response to many domestic disturbance and neighborhood nuisance calls may eventually reduce the proportion of such situations reported to the police. Researchers have found that ethnic

minorities and the poor often anticipate inappropriate or uncaring police behavior and do not call the police even though they may desire assistance (Bayley and Mendelsohn, 1969). If citizens perceive that their police are particularly adept with or responsive to some problems, they will be more likely to call upon them to do these things. Thus, a police department that has developed a reputation for its willingness to pull frightened cats out of trees, pick up stray animals, investigate minor thefts, and assist citizens who have locked themselves out of their automobiles will probably find its telephone logs showing a greater proportion of such requests than one which has no such performance record.

B. Local Governing Officials

Local governing officials, as elected and appointed political figures, often make the public's tacit expectations quite explicit. Their accessibility to community groups and their access to mass communications media puts them in a strategic position to focus public attention on performance issues. Many local officials are a good deal more than mere communications conduits between police and the public. Some lead public opinion and shape police policy. The responsibilities and constraints of their office also color their views of police performance.

The local governing officials that may have influential roles in police policy include mayors, city/county managers, council members, commissioners, police board members, and civil service board members. Sheriffs are excluded from consideration here (although they are directly elected) because they have direct responsibility for administering their jurisdiction's law enforcement agency. We include appointed chief executives even though they are not legally accountable directly to the electorate; they are accountable to the community's elected representatives for general oversight of police operations. All have authority over the police agency, although the precise nature of that authority depends on the form of government. In the period since "good government" reforms were widely adopted, these officials have been identified as legitimate links between the local community and police administrators (Wasserman, 1977:21).

It is no easier to generalize about public officials than it is about the general public regarding their requests and expectations of police. Styles vary enormously (see Ruchelman [1974] for a comparison of three very different mayoral styles of dealing with police). In reviewing other research and our own interviews with local governing officials, we have found four aspects of police performance that widely concern public officials: (1) police compliance with formal policy guidelines provided by local government, (2) police responsiveness to individual citizens' complaints and requests brought to public officials' attention, (3) police expenses, and (4) the police public image. A given public official may not necessarily focus on all or any of these areas, but there are widely shared concerns peculiar to them as a group.

The oversight responsibilities of local governing officials encourage their concern that police comply with whatever policy guidelines they have provided. Often intermediaries such as public accountants and consulting firms are employed to assess compliance, especially in fiscal matters. Nevertheless, police are ultimately accountable to mayors, city/county councils, city

managers, or police boards for adherence to an approved budget. Adherence to nonfiscal policy rules is not generally a matter of routine concern, but occasions do arise when failure to enforce ordinances (or enforcing them too vigorously) becomes an important issue between public officials and police. The rare investigation into police corruption or brutality also issues from these oversight responsibilities.

Local governing officials also play an important role in communicating requests and complaints from specific citizens to the police department. Citizens expect public officials to "amplify" their requests and to make the police more responsive. Public officials not only see this as a legitimate function, but also view it as a way that they can demonstrate concern for the public. Consequently, they value police responsiveness to their requests for police attention in such cases. The mayor, councilman, or city manager who can get the police to give special attention to citizen requests often garners the gratitude of the complainant, even if the outcome is not satisfactory to the citizen. Abney and Lauth (1979) identify three types of city council members' "interventions" in police affairs which are born of individual citizens' requests: requests for information about department programs and practices (to respond to citizens' requests for such information); mediation of citizen complaints about police regulations, practices, discourtesies, illegal behavior; and procurement of additional police services (for example, more patrol units in the neighborhood), police employment, or police contracts.

For most city and county legislators, their participation in the budget process constitutes the clearest, most definitive statement of their priorities to the police department. In the 1960s and early 1970s local officials frequently articulated their priorities by <u>increasing</u> funds for police programs. More recently priorities are communicated by <u>cutting</u> funds. Because these officials bear responsibility for local tax rates, and because higher tax rates are widely perceived by public officials as a source of displeasure to voters, none want to appear "easy" with the public purse. At the same time, officials are hesitant to drastically reduce very popular services. Money matters tend to define the nature of the relationship between local governing officials and police. When public officials and police administrators are asked to describe their relationship with local governing officials, fiscal policies are the most frequently discussed.

The Police Services Study in-depth survey of police chiefs and local governing officials in 24 municipal and county departments indicated that there is great variation in the relationship between the chief and other local officials in the budget process. Five chiefs reported unsatisfactory relationships with their local chief administrators or legislatures in budget review; the rest ranged from satisfactory to excellent. The most common complaint was interference in allocation of monies within the department, not the amount of the department's total allocation. Chiefs felt that this impinged upon legitimate professional autonomy. Nearly all chiefs reported spending a great deal of time preparing the budget and "politicking" for particular budget items.

A final area of great concern to public officials is the department's public image. The particular image that a public official desires will vary substantially. The mayor of Philadelphia may want a "tough on crime" image for his department; the city manager of St. Petersburg may encourage a "service to

the citizen" image. Whatever image public officials desire, nearly all interviewed by the Police Service Study showed special concern that the department present all of its activities in the best light possible. This "public relations" or "community relations" work, as they often call it, translates their concern that their police appear to care about the people they serve. It also translates their concern that the community not appear to be crime-laden, dangerous, or disorderly--an image which would hurt the local economy by discouraging commerce, industry, and residential development. It is with great consternation that a mayor finds his city named the "murder capital of the U.S." or his scandal-plagued department called the "state's festering sore of corruption." Such images have ramifications far beyond the delivery of police services.

Officials' expectations about police department images are expressed with varying degrees of specificity. A few take form in ways particularly designed to alter police officer behavior or departmental practices. Some public officials have asked police chiefs to find ways to get officers out of their patrol cruisers more often so that they can do community relations work. Others have prodded police chiefs to implement foot patrol. Some have urged police chiefs to undertake programs to increase citizen participation in crime prevention and public safety. Mayor Daley's famous order to "shoot to kill arsonists" and to "shoot to maim or cripple anyone looting" in Chicago during the riots of 1968 is an example of a very explicitly expressed expectation to maintain his administration's "law and order" image. Many officials' requests to change or maintain the department's image are far less specific, however. Frequently public officials only bring the image problem to the chief's attention and demand that he "do something" about it. Some of these requests are described by police chiefs as "keeping the lid on." Personnel and labor problems seem particularly susceptible to this approach. Because public officials feel that a negative image (whether deserved or undeserved) can have significant consequences for their jurisdiction, they are very concerned about the impression given by their most visible public servants.

Public officials rarely gauge their department's performance or their police chief's performance by statistical indicators. Even city managers, who have been educated to approach evaluation in statistical terms, do not report that crime, arrest, or response-time statistics are the most important indicators of police department or police chief performance. A 1975 nationwide survey of 830 immediate superiors to police chiefs conducted by the International Association of Chiefs of Police reported that only 4 percent of the respondents used reports of the level of crime in their communities to evaluate their chief's performance (Davis, 1979:183). Instead of routine statistics, public officials tend to evaluate police in terms of their handling of publicized episodes and crises, or the absence of their occurrence. Governing police is only one of many responsibilities of busy local public officials. When police operate within a routine range of outputs (for example, arrest rates or complaints against officers), they have considerable autonomy from local officials.

C. Other Criminal Justice Officials

Members of criminal justice agencies have a different orientation toward police performance than do local governing officials. They are service

providers whose own work is heavily influenced by what the police do. The police supply criminal courts and corrections facilities with most of the people those agencies process. Police also provide criminal justice agencies with information used to decide how cases will be handled. Because the work of criminal justice agencies depends upon police, their performance expectations are heavily colored by ideas about their own work roles. Not only do prosecutors differ from judges, judges from defense attorneys, and so on, but individuals in each occupation have different views of their own work and how police should support it.

In this section we point out some of the widely-held concerns of prosecutors, judges, and defense attorneys. We provide examples of different perspectives that they bring to police performance issues. Eisenstein and Jacob (1977:9) refer to these as the courtroom workgroup. The law and the legal profession have long been viewed as an important source of performance standards for police. Laws are made by state and federal legislatures and interpreted by state and federal appellate courts, often relatively far removed from the concerns of any particular community. Police contact with legislatures and appellate courts is quite rare. Legislative and judicial decisions are interpreted to police members of the local legal profession. It is they who actually define the law for the working police officer.

Members of the courtroom workgroup have frequent and recurring encounters with police that are necessary to their own work. They are unique among the constituencies we discuss because they share the cases that police bring to them for processing. Although they and police are coworkers in the criminal justice system, their relationship is seldom either completely cooperative or completely adversarial. George F. Cole (1973) depicts it in terms of a bargain or exchange system, where some--but not all--goals are shared and where each group can act unilaterally in ways that affect the others and that none can dominate the process. In this sort of check-and-balance "market" system, the performance expectations of courtroom workgroup members is most meaningfully conveyed to police through the transactions and unilateral decisions made by its members, who are more disposed to deal with performance on a case-by-case basis rather than resorting to policy guidelines. The most important features of policing that concern members of the courtroom workgroup are the number and nature of cases police bring to them, and the information police provide about those cases. We discuss these features for each member of the courtroom workgroup.

1. Prosecutors. Of the three types of courtroom workgroup members, the prosecutor is the most dependent upon police and bears the greatest burden of coordinating police work with the court's activities. Police-prosecutor relations vary from highly integrated and cooperative to isolated and antagonistic (see McIntyre, 1975; Neubauer, 1974:54-65; Eisenstein and Jacob, 1977:95). Some prosecutors try to take a strong leadership role in local law enforcement, trying to "engineer" police discretion in making arrests. Other prosecutors are very low key, preferring to work closely with the police in coordinating priorities. Some make no overt attempts to influence which types of cases are brought to them at what frequency. A prosecutor elected to office on an anti-vice platform will judge police performance in terms of the department's success in making good arrests in areas such as narcotics, prostitution, and gambling. Another prosecutor may be keen to "get the drunks off

the roads," and therefore focus his police evaluation on these sorts of cases. Some prosecutors are victim-oriented, and others direct their energies to prosecuting the defendants--to the virtual exclusion of others involved in the case. Within a single prosecutorial office, several different performance perspectives may emerge, especially if the office is large and tasks are specialized according to type of crime.

While police are often most concerned about the consequences of their arrests for life on the street, prosecutors are typically most concerned about the legal and administrative ramifications of an arrest. They ask whether the charge can survive a preliminary hearing. What is the likelihood of conviction? Is the effort anticipated for this case worth the anticipated payoffs in terms of legal sanction, publicity, or crime deterrance? Because the practices of courtroom workgroups vary from one community to the next, the particular calculus that prosecutors apply to these questions will also vary (Eisenstein and Jacob, 1977). Some prosecutorial offices have relied upon police to alleviate their workloads by giving them de facto charging powers (McIntyre, 1968:464), and others have assumed a much more aggressive role in screening cases for prosecution and in selecting charges (Anderson, 1979).

Although many important aspects of police performance for prosecutors concern who is presented for prosecution in what numbers, an equally critical aspect of police performance is the quality of information police provide to prosecute those who are charged. The prosecutor depends heavily on police for information crucial to case disposition. Four aspects of the information police provide are especially important:

(1) The content of evidence: indications of what crime or crimes have been committed and that there is some basis for proceeding against those implicated by the police. For example, the following would be considerations: the presence of a victim willing to complain; eyewitness testimony; quality of witnesses; physical and trace evidence; circumstantial evidence; defendant's criminal record; and confessions.

(2) The history of the evidence: how the arrest was made; how interrogations were conducted; how search and seizure were performed; how confessions were obtained; if the rights of the defendant were protected; who has custody of evidence; who is conducting scientific analysis and when will it be completed.

(3) Administrative details: which witnesses are available; the arresting/investigating officers' work schedules; the defendant's pretrial status.

(4) Disposition-relevant details: defendant's personal background, criminal history, and employment future; defendant's family situation; injury to complainant or victim; community's attitude toward the crime; police attitude toward defendant.

The particular kind of information most important to a prosecutor varies with the prosecutorial policy. Jacoby (1979) describes four types of prosecutorial policies for charging defendants: legal sufficiency, system efficiency, defendant rehabilitation, and trial sufficiency. Each of these

approaches involves its own expectations regarding information provided by police. For example, a prosecutor with a defendant rehabilitation approach would stress the need for high quality, disposition-relevant information early in case processing. The trial-sufficiency approach emphasizes the nature of the evidence and its history.

Regardless of prosecutorial style, prosecutors depend on police to identify and apprehend criminal suspects and provide relevant information about them and the offenses with which they are charged. Prosecutors are frustrated by incomplete or inaccurate police reports (Greenwood and Petersilia, 1975: viii). Much of their assessment of police service is based on how useful police reports are for the prosecutor's work.

2. Judges. Judges share many of the prosecutors' concerns about police performance, and judges also have a variety of views about what constitutes good performance. Although legal doctrine expects judges to be "above" or separate from the maneuvering of the defense and prosecution, a judge's predisposition toward crime, criminals, and police is no secret to those who frequent the courthouse. Judges, like other criminal justice officials, exercise discretion within legal bounds. Their personal and professional role orientation is the key to their values for police performance.

Two contrasting orientations toward the role of judge provide examples of how role orientation affects performance expectations. Martin Levin (1976) identified the orientations in comparing Minneapolis and Pittsburgh trial court judges:

> The Pittsburgh judges generally are oriented toward the defendant rather than toward punishment or deterrance. Their decision-making is nonlegalistic in that it tends to be particularistic, pragmatic, and based on policy considerations; their sentencing decisions are lenient. The situation in Minneapolis...is strikingly different--here sentencing decisions are severe.... This study indicates that the Minneapolis judges typically tend to be oriented toward "society" and its needs and protection than toward the defendant. They are also more oriented toward the goals of their professional peers. Their decision-making is legalistic and universalistic (pp. 5-6).

Although Levin did not explicitly study judges' performance requests and expectations of police, we can easily see that Pittsburgh and Minneapolis judges differ substantially in what they look for in their police. Pittsburgh judges referred to their caseload as "garbage" (p. 64), implying that the police were bringing many minor cases to court that should be handled in other ways. In Minneapolis, judges accepted the minor cases with the major felonies as appropriate to their work. We might also expect that judges from these two court systems would differ substantially in the kinds of information they valued for disposing of cases. Pittsburgh judges would make greater demands for information on disposition-relevant details and the pretrial status of the defendant; Minneapolis judges would place greater emphasis on getting information on the nature of the evidence and how it was obtained.

Regardless of their role orientations, judges in most court systems are also responsible for the administration of the court. This involves them with the court calendars and trial logistics. Judges are concerned about moving people and information in order to do the court's work. The police play an important role in court logistics because they are the most frequent witnesses in cases appearing before local criminal courts. The availability of arresting officers for hearings and trials is often a key issue in a department's relations with a judge.

Although much of the judge's caseload is regulated by the prosecutor, who has the unilateral discretion to refuse to prosecute, judges are also aware of the important indirect role played by police in shaping their workload.

3. Defense attorneys. Defense attorney's relationship with police is substantially different from prosecutors' and judges' largely because they have a formal adversarial relationship. Police mistakes in handling cases are the targets of defense counsel. However, as sworn officers of the court and as part of a group of attorneys who repeatedly deal with police in the course of the criminal process, defense attorneys also serve as a police constituency.

Like other members of the courtroom workgroup, defense attorneys are interested in the people and information that police officers bring to the court. Part of the criminal bar's interest in police arrest practices stems from defense attorneys' reliance on the police to generate business in the case of private counsel or caseload in the case of public defenders. In fact, police are an important source of case referrals to many private attorneys (Wood, 1967:156).[4] Once an attorney takes a case, police can provide useful information for preparing a defense. One of the attorney's first tasks after talking to his client is obtaining a copy of the police report and perhaps talking to the arresting and investigating officers. Discussing the case with these officers not only provides counsel with information about the facts of the case, but it also gives him an indication of how badly the officer and department want a conviction and what sort of conviction would satisfy them. This is useful information in plea bargaining, which sometimes occurs directly between the attorney and the arresting officer (Wice, 1978:163). especially in minor cases. Because of their typically heavy caseloads, public defenders may be particularly interested in plea negotiations and the officers' attitudes toward the case at hand.

Many defense attorneys are also concerned about police performance beyond the individual case. Some members of the criminal bar accept the legal education of the police as part of their responsibility. A small-city attorney reported to us that he made a point of informally explaining to officers the legal complexities of cases that he won--not only to show respect for the officers, but also to improve the quality of the legal aspects of their work. The local bar association may hold seminars or invite speakers on substantive

[4] Wice (1978) believes this practice may be diminishing.

law and due process.[5] Little systematic research is available, but some evidence suggests that the frequency with which this role is found among local bar associations varies considerably.[6] Finally, an aggressive defense bar can sensitize police to many due process concerns by persuading judges to suppress evidence.

4. The courtroom workgroup's perspective on police performance. Much of our discussion of these police constituents has stressed how different their performance criteria are. Further, we have discussed their performance requests, priorities, and expectations primarily in terms of a case-by-case basis. This is not accidental. Members of the courtroom workgroup tend to evaluate their own and police performance this way. This is due at least in part to the nature of their legal education; the case approach favors study of individual cases rather than statistical trends. This does not mean that prosecutors, judges, and defense attorneys have no expectations for police performance that extend beyond the case at hand. Judges, prosecutors, and members of the criminal bar do express concern for the impact of police activities in more general terms, but the application of their values on a case-by-case basis probably has the greater effect on police. As criminal justice professionals, courtroom workgroup members also have police performance expectations that extend beyond the immediate concerns of their task environment. They are concerned about the impact of police practices on crime and disorder, yet their performance priorities emphasize those matters over which they have greatest control--and those are limited to their immediate work environment. In this regard, then, performance expectations of this constituency focus on two areas: the law and the needs of the courtroom workgroup to regulate its workload.

All three subgroups of this constituency show an interest in making the police more knowledgeable of the law and encouraging them to act accordingly. But their options are limited. It is virtually impossible for judges, prosecutors, and defense counsel to review instances where officers fail to enforce the law. Prosecutors can and do review the charges filed by police, but they have little opportunity to review police performance in situations where no charges are filed. A public that complains that police fail to respond to calls will not fare well in seeking recourse through local criminal courts.

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[5] Patrick Murphy in a 1971 address to the Association of the Bar of New York City encouraged local attorneys to offer guidance and criticism to the department and be available for consultation on legal matters (Murphy, 1971: 297). He noted the bar's contribution through a model program for impartially observing and reporting police and civilian behavior during protests and demonstrations. Our review of the five subsequent annual reports of the bar's record indicates that most of its efforts take an indirect approach in articulating expectations to the police--by trying to influence substantive and procedural criminal law. More direct participation in the affairs of the police such as that urged by the American Bar Association (1973:266) was not evidenced in the annual reports of this organization.

[6] See Neal Milner's discussion of bar associations' relations with police (1971).

To the extent that the courtroom workgroup looks beyond the individual case, its members are preoccupied with statistics on their own workload. They therefore evaluate police performance in terms of its relationship to these statistics (case backlog, delay, conviction, trials, and use of court time). Limited court resources force these constituents to set priorities for their own work. These concern the kinds of people and information police provide to the local trial courts.

D. Police Officers' Own Performance Expectations

Police reformers in the 20th Century have worked to make the police more professional and give the profession greater control over the nature of policing. In the last decade police associations have taken a central role in the federal government's efforts to produce performance standards that are widely applicable to police departments in the United States. At the same time, it has become increasingly obvious that there is no single police perspective. There are many viewpoints among police about what constitutes good agency performance. Small departments differ from large departments, sheriffs from municipal police, black police executives from white executives, labor unions from management, and specialist organizations among themselves.

1. Police management. Police executives' performance expectations are influenced by their need to keep the agency functioning and to maintain support from outside police constituencies.

Herman Goldstein (1979:238) notes that most management efforts to improve police performance have focused on their organization's internal structure and dynamics by using high-technology equipment and tinkering with organization charts. Compliance with management directives has been the principal indicator of performance used by managers. Improving the status of police personnel has been another management goal. Policies which produce better-educated, better-trained, better psychologically adjusted police officers have been the focus of many agency improvement programs since the 1960s. An even more recent area of performance for police executives is maintaining workable, if not harmonious, relations with the rank-and-file (Kleinman, 1979). A chief whose department is constantly embroiled in labor controversies runs a serious risk of losing his job. Caught in the middle between city hall and the station house, the contemporary police chief risks internal chaos if the rank-and-file are not placated and the ire of the city fathers if budget or personnel directives are not supported and enforced without substantial disruption. This situation inevitably encourages organizational quiescence as an implicit performance standard for police chiefs.

Although the internal stresses of the organization demand a great deal of a police chief's energies, he must also find a way to sustain external support for the organization. Diverse, often conflicting, constituent priorities are found in many communities. Police executives frequently deal with this problem by advocating professional goals as being above or separate from politics. Crime fighting as a police mission has proven very useful for assimilating support among wide-ranging constituencies (Fogelson, 1977; Price, 1977; Walker, 1977). It has given police an expert status. In the 60s and 70s crime fighting was an important appeal for increasing the budgets of police

departments throughout the country. Crime fighting has come to dominate priorities of many police managers. Former Los Angeles police chief Edward Davis (1979) has forcefully expressed this perspective on police performance:

> The bottom line in police work is the preservation of public order and everything has to be measured up to that. In the campaign for California governor, when I said I would cut crime in California 25 percent, my opponent said: 'No one can cut crime; that's a political statement that you can cut crime.' Well, I had cut crime. I cut crime in my precinct when I was a captain. If you don't believe that and say nothing can control crime, we ought to fold up shop, put some dummies out on the street in guard uniforms and save a lot of tax dollars (p. 31).

Despite the pronouncements of nationally known police administrators and the impression of management's concern for crime fighting conveyed to the public in local news media, police chief performance criteria throughout the country appear more diffuse. The National Manpower Survey commissioned by LEAA and conducted in 1975-76 found that of 3,310 municipal and county police executives serving in both small and large jurisdictions, over half ranked "community satisfaction" as the most important goal of their agency. Only one fifth gave top priority to "a low rate for major street crimes." The remainder cited a variety of priorities, such as rapid response to service requests, high clearance rates, or a low overall crime rate (National Institute of Law Enforcement and Criminal Justice, 1978a:20-31). In 1975 the Police Chief Committee of the International Association of Chiefs of Police conducted a nationwide survey of state and local police chief executives. Over 1,700 executives responded (67 percent), nearly all of whom were local law enforcement heads. These survey results showed remarkable diversity in police executives' performance priorities. The largest proportion of respondents felt that the quality of agency personnel performance should be most influential in an immediate superior's evaluation of the chief's performance (40 percent of the sheriffs and 50 percent of city/county police). However, this is a vague criterion, having no specific referent. Of the more specific performance criteria listed, community opinion and the level of crime were roughly equal at about 10 percent of the respondents. Most respondents felt that their immediate superiors frequently used public or news media opinion to evaluate their performance (Police Chief Executive Committee, 1976: Appendix 4-1). The differences between police chiefs' publicly expressed performance priorities and those expressed in the questionnaire may reflect the need for obtaining support for the agency in the first case and personal candor in the second.

2. Rank-and-file officers. Many police officers are wary of performance measurement programs. It is a widely shared view among the rank-and-file that the most important decisions an officer must make on the street are subject to too many contingencies to be second-guessed by management, a court, or a civilian review board (Manning, 1978). To the police officer, performance measurement programs are simply systematizations of this second-guessing, dressed up in scientific jargon. Police officers' working values are antagonistic to scientifically based performance evaluation because such measurement presupposes that it can systematically account for the many contingencies

of police work which make each case and each public encounter unique (Brown, 1980).

Rank-and-file perspectives on departmental performance understandably involve how the organization affects its police officers more than how their activities affect the public. Areas of traditional concern are pay, benefits, job security, career development, police procedures, and safety on the job. Union interest in performance programs and attempts to measure performance has been largely in reaction to management initiatives. Many programs, such as the automated vehicle monitoring system (a radar-operated tracking system which continuously monitors the precise location of a police cruiser) are viewed as threatening to police employee interests. This is not to say that the rank-and-file have no interest in the needs of the public or other external constituents. Officers often describe "real police work" as the apprehension of criminals (Skolnick and Woodworth, 1967:129, Van Maanen, 1978:225) and echo the sentiments of Edward Davis, cited earlier. Others have much more eclectic views. A growing body of research shows that there are substantial differences among police on what they should be doing (Muir, 1977; White, 1972; Brown, 1980).

3. Balancing police priorities with constituents' priorities. Police are often at odds with their constituents regarding agency priorities. It is futile to say that, as a general rule, police preferences should take precedence over external constituent preferences or vice versa. Police performance measurement should not be limited to the preferences of any single group. Broad-based performance measurement programs can provide information relevant to all sides of an issue, so that the decision-making process can be fair to all.

E. Conclusion

This chapter has described in considerable detail what some important groups expect from police. Police decisions about what to do in a given situation are often framed in the context of choosing either legal norms or local community norms (Goldstein, 1979; James Q. Wilson, 1975a; Bittner 1974). People in local communities express diverse expectations through a variety of administrative and political channels. Not only do individuals differ in their expectations, but many of the institutions which are intended to give coherence to police policy also desire quite different things of police. The courtroom workgroup plays a critical role in conveying the practical meaning of the law to police, but prosecutors, judges, and defense attorneys differ in the aspects of police performance they emphasize and prefer. The police receive no single, integrated mandate on which to base performance measurement.

Police constituencies do not offer consensus, but performance measurement fortunately does not require it. In fact, policing based upon democratic principles requires performance measures that reflect society's diverse interests. Because it is difficult for any public institution to operate in the context of so many conflicting interests, it is often tempting to turn to current professional doctrine or seek scientific analysis to prescribe authoritative standards. Both scientific analysis and expert opinion can assist, but

neither is a substitute for police accountability to the public and its legal institutions. Selecting diverse performance measures which address the expectations of all relevant constituencies is one way that accountability can be enhanced. While it is naive to suppose that the police can fulfill all expectations of all constituents, they can implement performance measurement programs that provide information on how well police are doing according to these diverse criteria. This information can encourage greater public attention to an appreciation for the difficulties police face in their daily work --as well as provide the basis for making choices which improve police performance.

CHAPTER 4. WHAT LOCAL POLICE DO

Police officer activities are the policy alternatives of primary interest in police performance. While the outcomes of policing are influenced by the actions of many different people, the accomplishments of any police department or its divisions depend on the work of individual officers. Therefore, policy and program changes to improve policing usually have as their aim some alteration in what police officers do: Officers are authorized to take new kinds of action; officers are taught new skills; officers are assigned in different combinations or concentrations; officers are provided new equipment; officers are directed to avoid certain practices. Whether it is police actions themselves that are of interest to police constituents or whether it is the consequences of police activities, anyone assessing police performance needs to know about the police activities which constitute the relevant "performance."

Despite their importance for performance measurement and planning, many police activities receive little attention and are not known in any systematic way by public officials, the courtroom workgroup, or the public at large. Indeed, most police departments themselves have no standard reporting procedures or other means for systematically describing what their own officers do. Thus, all too often police themselves, as well as the various other constituents of police performance, have an inaccurate picture of officers' activities. As Herman Goldstein (1977) notes:

> Police themselves have done little to describe the full range and importance of their activities. The typical report of a police agency will bury large volumes of highly significant work in statistical entries that record the number of calls received for service or the number of miscellaneous complaints handled. Numerous incidents are classified in such broad categories as 'disturbances,' concealing the range and diversity of situations the officer encounters. Police officers who are occasionally requested to fill out job-classification forms as part of a personnel study will consistently sell themselves short by understating the variety and significance of what they do (p. 25).

The few studies of policing that have attempted to describe aspects of police work suggest several general conclusions:

(1) Police <u>do</u> deal with much more than crime.

(2) Police spend little time on many of the activities which receive most public attention and for which they receive most training and more time on activities for which they receive little attention or training.

(3) The frequency of particular police activities varies considerably from department to department and even from area to area within a jurisdiction.

This chapter reviews studies of general area patrol and criminal investigation. Our purpose is to demonstrate that commonly held ideas of what patrol officers and investigators do are incomplete and even distorted. Anyone planning to implement a police performance measurement program needs to be aware of the inadequacy of popular views of policing as descriptions of what actually occurs in most police agencies. Given the great variety of activities that are possible on patrol or in investigations, measurement of the performance of any specific police department needs to be based on an accurate account of the relevant activities undertaken in that department.

A. Activities of Officers on Patrol

How an officer assigned to patrol uses the work time of any given shift depends on department and personal priorities and on the kinds of public problems that come to police attention during that shift. The particular actions an officer takes in dealing with citizens depend on the same sort of personal, departmental, and public factors. We do not attempt here to isolate the contributions each of these factors make to the activities of officers on patrol. Rather, our purpose is to describe the range of officer activities which occur on patrol. We bring together data from a variety of sources to explore how officers use their time during patrol shifts, the kinds of problems they deal with in their encounters with citizens, and the actions they take toward those citizens.

1. How officers spend their time. There is great variation in the amount of time police officers on patrol spend in answering assigned calls. In most places, however, assigned calls take less than half of officers' work time. Most studies of how officers spend their time are based on calls for service (or dispatch) records. Dispatch records from Wilmington, Delaware, for example, indicate that patrol officers in that city spend almost three hours (174 minutes) of every eight-hour shift answering calls for service (Tien et al., 1978:4-15). In contrast to average time on calls for service in four other departments, the Wilmington figures seem rather high. Tien and colleagues calculated that average time on calls for service per eight-hour shift was 134 minutes in Worchester, Massachusetts; 96 minutes in St. Louis, Missouri; 89 minutes in Kansas City, Missouri; and only 72 minutes in Arlington, Massachusetts (pp. 4-19). They conclude that:

> Wilmington has the highest known unit utilization factor ["fraction of time a patrol unit is responding to calls for service during an eight-hour tour"]. The paucity of available workload or productivity-related data suggests that an intensive national effort should be undertaken to fill this important gap (pp. 4-20).

In fact, the range of time on assigned calls is even greater than Tien et al. described. Another study which appeared about the same time indicates a substantially higher percentage of patrol officer time spent on calls for service. In their study of patrol staffing in San Diego, Boydstun and colleagues (1977:53) found that officers averaged more than 270 minutes (four and a half hours) on calls for service per each eight-hour shift. These figures were obtained from dispatch records for the Central Division where

the staffing study was conducted.[1] While over half of each eight-hour shift in San Diego's Central Division was, on the average, devoted to calls for service, this high average was not characteristic of the city as a whole. Boydstun and Sherry (1975:60), in their study of the Community Profile Project, report that only about 120 minutes (2 hours) of each eight-hour shift were spent answering calls for service in San Diego's North Division. While the Community Profile Project was conducted two years before the patrol staffing study, it is unlikely that the average time spent on calls for service more than doubled in that period. It is more probable that differences in the areas being policed account for the differences in how officers spent their time.

The considerable variation in average time spent on calls for service both between and within departments suggests that any department interested in assessing the activities of its own officers would be well advised to study how they spend their time. The work performed by officers who spend only one hour in eight in direct contact with citizens is necessarily quite different from that of officers who spend more than four hours in eight dealing directly with citizens.

Calls for service dispatch records usually do not provide a complete account of the time officers on patrol spend on encounters with citizens. Calls records are maintained by the dispatcher, who does not know about (or knows about, but does not record) many encounters which are initiated by officers or citizens "in the field." Field interrogations, for example, are often excluded from calls for service records. Traffic stops are also frequently not recorded by the dispatcher unless a citation is issued. Furthermore, dispatch records sometimes include meal breaks, errands, and maintenance, but sometimes do not. These records may or may not also include dispatched runs in which no police encounter with a citizen resulted.

Another source of inaccuracy in dispatch records of officers' use of time arises from the self-reporting used to obtain measures of the time spent on each call. Because the officer's report that an encounter is ended indicates that the officer is free for reassignment, an incentive exists for officers to delay such reports. The management use of the report that an encounter is ended conflicts with its use as a source of data about time devoted to encounters. Comparisons of police activities among departments are hampered by these problems with calls for service data. Similarly, any use of calls for service or dispatch records to monitor officers' activities in a single department needs to take into account these potential sources of error.

Two other sources of data on patrol officers' use of time are available: officer logs and observer reports. Officer logs from Wilmington, Delaware, indicate that officers there spent an average of 166 minutes (two and three-quarter hours) per eight-hour shift on both field-initiated and dispatched encounters in 1976 (Tien et al., 1978:4-18). This is quite similar to the

[1] Boydstun et al. (1977:47) report the mean number of calls and minutes per call for one-officer and two-officer units. The figure of 270 minutes per shift was calculated using these data and the total number of calls for each type of unit.

average of 174 minutes per shift calculated from Wilmington calls for service records, suggesting that in Wilmington officers either tend to report all field-initiated encounters to the dispatcher or else fail to record on their own logs encounters which they do not report to the dispatcher. Another piece of information from officer logs is the amount of time spent on administrative and personal activities (and thus not spent patrolling). Officers in Wilmington reported an average of about 90 minutes per eight-hour shift on meals, breaks, car checkups, arrest processing, phone calls, and so forth (Tien et al., 1978:4-18).

Observer reports are a more expensive form of data collection, but they can also give a fuller picture of police activities. They remove the bias often present in officer self-reporting yet, if carefully conducted, avoid interfering with officer activities. Observers in the Kansas City Preventive Patrol Experiment indicate that almost 40 percent of each shift was spent on encounters with citizens (both dispatched and field-initiated) (Kelling et al., 1974:500). Thus about 190 minutes (just over three hours) of every eight-hour shift were, on the average, spent on citizen-police encounters. Another 16 percent of each shift (75 minutes per eight-hour shift) was devoted to report writing and other administrative tasks. About 15 percent (73 minutes per eight-hour shift) was spent on personal breaks and errands (see pp. 504-509). This is considerably more time on administrative and personal activities reported for Kansas City than for Wilmington, but it is important to remember that the Kansas City estimates are from observer records while the Wilmington estimates are from officer logs. Some difference is probably due to variation in police practices between the two cities, but some of the difference is also likely to result from officers' tendencies to be quite conservative in reporting how much shift time they spend on personal errands.

Team observers using the same coding rules and the same observation techniques in several different departments can provide data which permit a better estimate of the extent to which the activities of officers in different departments differ. In the Police Services Study (PSS), observers recorded how officers spent their time and what they and citizens did in encounters for approximately 120 hours in each of 60 neighborhoods. Officers from 24 departments were observed. With these data it is possible to compare officer activities across neighborhoods within the same department's jurisdiction as well as to compare officer activities across departments. In each case, observations were made for 15 shifts at the same time of day and day of the week in each neighborhood.[2]

Officers in all 60 PSS neighborhoods averaged less than half their time on assigned calls and field-initiated encounters. The most time spent on encounters was an average of 217 minutes (over three and a half hours) per eight-hour shift. There was an average of just over six encounters per shift. The least time spent on encounters was an average of 53 minutes per eight-hour shift. In half of the neighborhoods officers averaged less than

[2]Gay et al. (1977c) document the patterns of peaks and valleys in calls for service which recur over a week's time. They argue that departments need to monitor both the quantity and the types of service requests received in order to make the most efficient use of patrol personnel.

130 minutes (two hours and ten minutes) per eight hours on encounters with citizens. There was also considerable variation within departments in officers' use of time. In the city with the greatest average, time on encounters ranged from 217 minutes to 103 minutes per shift for the neighborhoods studied.

Administrative activities, report writing, and police assignments other than calls for service took an average of 68 minutes per eight-hour shift in the 60 PSS neighborhoods. This compares with an average of 75 minutes on such activities in Kansas City during the Preventive Patrol Experiment. Again, there is considerable difference among the 60 neighborhoods in the Police Service Study. In one low-income neighborhoood of a large city, an average of 153 minutes per eight-hour shift was devoted to report writing, administration, and other assignments besides calls for service. This was the highest average PSS observed. In a middle-income neighborhood in another large city officers averaged only 34 minutes per eight-hour shift on these kinds of activities. This was the lowest average observed.

The amount of time officers have available for "proactive" police work also varies considerably from place to place. If we combine the time officers spend answering assigned dispatches and the time they spend on various administrative duties, we get the total "assigned time" they have. For the 60 PSS neighborhoods, assigned time averaged 167 minutes per eight-hour shift. This left an average of 313 minutes per eight hours (or two thirds of a shift, on the average) "unassigned." It is this unassigned time which officers use for initiating encounters in the field, for conducting general surveillance and patrol, and for meals and other personal activities. The lowest average unassigned time for the 60 neighborhoods was 202 minutes (less than three and a half hours). The highest was 398 minutes (more than six and a half hours) per eight-hour shift.

About 10 percent of officers' unassigned time is spent on officer-initiated encounters with citizens. For the 60 neighborhooods observed by PSS, an average of 28.5 minutes per eight-hour shift was allocated to encounters which officers themselves initiated. Most of these were traffic stops. Overall, PSS observers reported an average of one traffic stop per shift. In five neighborhoods, officers averaged more than two traffic stops per shift, while in two other neighborhoods PSS observers noted only a single traffic stop in 15 shifts studied. Officers in the 60 neighborhoods were somewhat less likely to stop people for reasons other than traffic or equipment violations. PSS observers recorded non-traffic stops in an average of two out of three shifts. In one neighborhood there were nearly two such stops per shift; in another neighborhood there was only one in the 15 observed shifts. An average of once every two shifts, officers observed by PSS themselves initiated a follow-up investigation of a problem or case they had dealt with before. In four neighborhoods there was an average of at least one such encounter per shift, while in another neighborhood no officer-initiated follow-up investigations were observed. Officers provided unassigned assistance to fellow officers an average of about once every five shifts. In only one neighborhood was there an average of one such encounter per shift. In seven neighborhoods no officer-initiated back up was observed.

Much less unassigned time is used by officers in response to requests they receive directly from citizens: an average of only four and a half

minutes per eight-hour shift. Overall, PSS observers noted one encounter of this type for every two observed shifts. In three neighborhoods there was an average of more than one encounter of this kind per shift, but in another there was none.

The major part of unassigned time is spent "on patrol." This usually consists of driving about the beat, looking for problems which may require police action and demonstrating the presence and ready availability of police. These activities are usually not directed either by supervisory personnel or by conscious planning of the patrol officers themselves. In some neighborhoods about two hours per eight-hour shift were spent on general patrol and surveillance, but the average for the 60 PSS neighborhoods was 214 minutes (about three and a half hours) per shift.[3] In one neighborhoood an average of more than five hours in eight were spent this way.

Making security checks and issuing parking tickets are two of the activities officers may perform during unassigned time. Officers conducted security checks of commercial buildings in all of the 60 PSS neighborhoods, but at substantially different rates. In only three neighborhoods did officers average one commercial security check per hour of unassigned time. In 15 of the neighborhoods officers averaged fewer than 1 commercial security check in every 10 hours of unassigned time. The PSS neighborhoods were primarily residential and varied in the extent to which they included commercial areas. Some of the difference in frequency of commercial security checks is therefore due to the lower rate of opportunity for these kinds of activities in neighborhoods with very little commercial activity. But while all 60 neighborhoods afforded ample opportunity for residential security checks, these were much less frequent than commercial checks. No residential security checks at all were observed in 10 of the 60 neighborhoods. In only three neighborhoods was there more than one residential security check per 2 hours of unassigned time. Officers issued parking tickets even less frequently.

Overall, officers assigned to patrol spend about one third of their time on specific assignments: responding to dispatches and carrying out administrative duties. The remaining two thirds of their time is spent on general patrol, officer-initiated encounters with citizens (mostly traffic stops), citizen-initiated encounters (begun directly on the street), and personal

[3] In the 60 neighborhoods observed by PSS, patrol officers spent an average of 65 minutes per eight-hour shift on meals and other personal activities. This is about 8 minutes less per shift than Kelling et al. (1974) report for Kansas City. There was considerable variation both among and within departments. In 3 neighborhoods officers averaged more than 100 minutes per eight-hour shift on meals and personal activities. In 2 neighborhoods officers averaged less than 30 minutes per shift on these activities. The highest average time (109 minutes per eight hours) was recorded in a middle-income neighborhood of a large city. In another neighborhood of that same city, officers averaged only 43 minutes of meal and personal activity time per eight-hour shift. The lowest average time (19 minutes per eight-hour shift) was recorded in an inner city neighborhood in another la: city. In that city the highest average time on these same activities was recorded as 54 minutes per eight hours.

business of the officer. About one encounter in six is initiated by an officer or citizen (on the street). Five in six are dispatched. These overall averages conceal a wide variation, however. Not only do individual shifts vary greatly from each other, but the pattern of officers' use of time varies by beat and by jurisdiction. Data from one department, or even averages from a number of departments, can not be used to estimate how officers do or should spend their time in another department.

2. The kinds of problems officers deal with in encounters. Dispatch records can also be used to describe the types of problems officers deal with on patrol. In general, crime is involved in a minority of the calls. Webster (1970:95) reports fewer than 17 percent of the "dispatches" in "Baywood" involved crime. This contrasts with almost 40 percent of all "dispatches" which were for "administration." Another 17 percent were for "social services," 7 percent for "traffic," and 20 percent "on view." This is a striking statement of the extent to which police patrol involves work on non-crime matters. To some extent it is an overstatement. The classification of all incidents in which the officer took a report of a crime under the heading "administration" reduces the percentage of calls classified as dealing with crime. Moreover, Webster includes in "administration" (and hence in the total number of "dispatches" on which all the percentages are based) officers' meals, errands, and court time. Bearing those classifications in mind, Webster's report for types of calls in Baywood does not differ greatly from that of Boydstun et al. (1977) for the Central Division of San Diego. They suggest that while only about 20 percent of all calls assigned involved "current" Part I and Part II crimes, another 15 percent involved taking reports of crimes which had already occurred and 8 percent involved checking on suspicious persons or circumstances (see pp. 22, 28). Thus, a total of about 43 percent of the calls for service answered by San Diego's Central Division patrol officers involved crime. About 30 percent of the San Diego Central Division calls were related to peacekeeping, 10 percent to traffic, 10 percent to medical emergencies, and 7 percent to other miscellaneous problems. Officers' meals, breaks, and errands are not included in these figures.

Wilmington, Delaware, appears to be an exception. Records show the majority of calls there concerned crime. It is difficult to know whether this difference is real, however. A somewhat different classification scheme was used by Tien and colleagues (1978:4-4) in reporting types of problems dealt with by Wilmington patrol officers on calls. Table 4-1 presents the breakdown they report. Note that they show 63 percent of all calls involved crime in 1974-75, and 57 percent in 1976. These percentages exceed those reported for both Baywood and San Diego. The coding rules are different, but there may also be real differences between the two cities. There appears to have been a decrease in Part II crimes dealt with by patrol officers in Wilmington in 1976. At the same time traffic calls became less numerous, while miscellaneous calls increased substantially. It seems possible that at least some of the kinds of calls which were classified as Part II crimes in 1974-75 were included in the miscellaneous category in 1976.

Differences in coding from one city to another may account for much of the apparent difference in the kinds of problems their patrol officers deal with. It is also possible that differences in coding rules make the apparent

TABLE 4-1. AVERAGE DAILY CALLS FOR SERVICE DISPATCHED IN WILMINGTON, DELAWARE

Types of Calls Assigned to Primary Patrol Units	1974-75 Daily Average	1974-75 Percentage	1976 Daily Average	1976 Percentage
Part 1 crime	24.4	16.3%	25.8	16.7%
Part II crime	70.0	46.9	62.2	40.2
Traffic	28.7	19.2	21.0	13.6
Medical	3.1	2.1	5.2	3.4
Alarm	12.9	8.6	12.2	7.9
Miscellaneous	10.4	7.0	28.1	18.2
Total per day	149.4		154.6	

SOURCE: Adapted from James M. Tien et al., An Alternative Approach in Police Patrol: The Wilmington Split-Force Experiment (Washington, D.C.: U.S. Government Printing Office), 1978.

difference less than it actually is. Without standard data for both cities, we do not know.

We have seen that from 65 to 43 percent of the calls police handled in Wilmington and San Diego were not related to control of crime. These estimates are based on dispatch records. Patrol observer reports provide another source of data on the kinds of problems patrol officers actually work on. A total of 5,688 encounters between citizens and officers were observed in the Police Services Study. Each encounter concerned one or more "problems" which occasioned police action.

Crime was the primary problem in only 38 percent of the encounters observed by PSS. This is considerably less than the proportion reported for Wilmington and also less than the proportion reported for San Diego. Comparisons of the kinds of problems officers deal with on patrol are difficult to make when they must rely on reports compiled using different categories. In general, however, it appears that patrol observers record more traffic-related encounters than are found in dispatch records. As Table 4-2 shows, one fourth of all encounters observed by PSS involved traffic accidents or violations. For 22 percent of the encounters, traffic was the primary problem in the encounter. Only 20 percent of these traffic encounters were dispatched runs: 77 percent were officer-initiated, and the rest were initiated by citizens in the field. Officers often conduct more traffic encounters than they report to dispatchers. Perhaps some of the incidents Tien and his colleagues classified as Part II Crime in Wilmington would be classified as interpersonal violence or nuisances in PSS categories. Citizens' requests for information from officers were the sole basis for six percent of the PSS encounters. Eighty percent of these requests were initiated by citizens in the field. Such encounters were probably rarely if ever included in the San Diego or Wilmington data. The lower proportion of crime-related encounters in the PSS study may thus be due in part to including more traffic and information encounters in the total number of encounters on which the percentages are based. But there are also differences in the kinds of problems officers confront in different places.

TABLE 4-2. KINDS OF PROBLEMS DEALT WITH BY POLICE IN THEIR ENCOUNTERS WITH CITIZENS (Police Services Study)

Problem Category	Percentages of All Encounters with Any Problem of This Type	Percentages of All Encounters with This Primary Type of Problem
Crime	39%	38%
Violent crime	4%	
Non-violent crime	18	
Morals offense	2	
Suspicious person/circumstances	11	
Other (warrants, assist officers, etc.)	4	
Disorder	23	22
Interpersonal violence	10	
Nuisance	13	
Service	26	18
Medical	4	
Dependent persons	6	
Information request only	6	
Other assistance	10	
Traffic	26	22
Total	114%*	100%
Total Number of Encounters	5,688	5,688

*Does not sum to 100% because some encounters involved two or three types of problems.

A clearer picture of the extent to which police patrolling different areas deal with different types of problems can be gained by closer examination of the PSS data. Table 4-3 presents the median and range for the 60 neighborhoods. In 2 of the 60 neighborhoods, over half of all encounters between patrol officers and citizens involved crime-related problems. In one neighborhood about 54 percent of the encounters concerned crime as defined by the PSS typology; in another, 51% concerned crime. The lowest percentage of encounters concerning crime was recorded in a middle-income suburb. There were also considerable differences within jurisdictions. In the same city with the highest percentage of crime-related encounters, another neighborhood had only 27 percent of the encounters that dealt with crime.

In one of the 60 neighborhoods PSS studied, 46 percent of all encounters dealt primarily with traffic. Officers assigned to patrol in that city devote a substantial part of their efforts to traffic. In the two other neighborhoods which PSS observed in that same city, 31 percent and 37 percent of all encounters involved traffic problems. In contrast, 9 of the 60 neighborhoods had fewer than 10 percent of all encounters in which traffic was the primary problem. In two of the study neighborhoods in a large city, only 5 percent of the encounters dealt with traffic problems. There was considerable

variation within that city, however, since in another of its neighborhoods, PSS observers found that 28 percent of the encounters concerned traffic.

TABLE 4-3. KINDS OF PROBLEMS DEALT WITH BY POLICE IN THEIR ENCOUNTERS WITH CITIZENS: DIFFERENCES AMONG RESIDENTIAL NEIGHBORHOODS

	Percentage of Encounters with This as Primary Problem		
Problem Category	Minimum Neighborhood	Median Neighborhood	Maximum Neighborhood
Crime	22%	38%	54%
Disorder	8	20	43
Service	8	18	33
Traffic	5	23	46

The percentage of encounters where officers dealt with disorders ranged from 43 percent in one PSS neighborhood to 8 percent in another. Encounters dealing primarily with services other than those concerning crime, traffic, and disorder accounted for a high of 33 percent of all encounters in one neighborhood and a low of 8 percent in another. Police officers assigned to patrol deal with a great variety of problems, and in only a few areas is crime their most common problem.

3. Officers' actions toward citizens. Officers' actions during encounters with citizens are an important aspect of their work. Indeed, the most sensitive work police do on patrol involves their activities with suspects, witnesses, victims, and others who need police assistance.

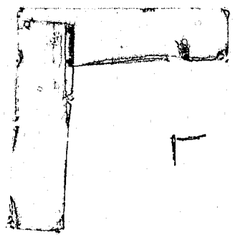
Table 4-4 presents the percentages of encounters observed by PSS in which officers took various kinds of actions. Information gathering was the most common type of officer activity. Officers interviewed witnesses or persons requesting services in about two thirds of all encounters involving crime, disorder, or service. What is surprising is not that so many encounters of these sorts involved interviews, but that so few did. In almost three quarters of all traffic-related encounters, but in less than half of the crimes and disorders, officers interrogated suspects. The high percentage of interrogations for traffic encounters reflects the circumstances of these encounters. Most of these involve stopping drivers suspected of traffic violations. The others are investigations of traffic accidents where one or more of the drivers present was suspected of violations.

Several techniques are used to influence the behavior of citizens whom police encounter. Officers threatened or used force in about 15 percent of all encounters PSS observed except those involving only general service problems. The threat of force is much more common than its use, however. Force was used in only about 5 percent of all encounters. Most of this was an officer handcuffing or taking a suspect by the arm. Most of the encounters where force was used concerned crime or disorder. More often than threatening use of force, police lectured people whose behavior they wanted to change. In over 40 percent of the disorder and traffic encounters observed by PSS,

TABLE 4-4. OFFICER ACTIONS TAKEN IN ENCOUNTERS INVOLVING EACH TYPE OF PROBLEM (Police Services Study)

Type of Problem Dealt with in Encounter	Percentages of Encounters in Which an Officer Took This Action											
	Conducted a Search or Inspection	Interrogated a Suspect	Interviewed a Witness or Person Requesting Service	Used Force or Threat of Force	Lectured or Threatened (other than force)	Calmed Disputants	Made an Arrest	Gave a Ticket	Gave Reassurance	Gave Information	Gave Assistance	Gave Medical Help
Any Crime	43%	34%	64%	17%	19%	7%	7%	1%	28%	24%	8%	1%
Disorder	15	45	68	15	41	23	5	1	30	26	11	2
Service	18	6	66	2	7	2	*	2	22	39	20	5
Traffic	28	74	26	16	48	2	4	35	9	24	8	*
All Encounters	29	40	57	14	28	8	5	9	23	27	11	2

*Less than .5%.



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police lectured or threatened legal sanctions. Persuasion is another technique officers use in attempting to change citizens' behavior. Officers used persuasion in about 25 percent of all disorders observed by PSS. People are taken into custody if officers cannot otherwise control their dangerous behavior. Arrests were observed in about 5 percent of the PSS encounters, including over 4 percent of all traffic and disorder incidents, as well as about 7 percent of all encounters dealing with crimes. An arrest also institutes legal proceedings, and many arrests are for that purpose rather than to control immediately dangerous behavior.

The most common instigation of legal proceedings observed by PSS was not arrests, but the issuance of traffic tickets. Tickets were issued in more than one third of all traffic encounters. On the average, 1 traffic ticket was issued for every 2 eight-hour shifts observed. The number of tickets per 15 observed shifts ranged from 1 (in one large city neighborhood) to 22 (in another large city neighborhood). A few tickets of various kinds were issued to participants in other kinds of encounters as well. These were misdemeanor tickets for offenses against municipal ordinances.

Overall, officers in the 60 PSS neighborhoods made arrests in somewhat fewer encounters and gave tickets in somewhat more encounters than did the officers observed in the Kansas City Patrol Study. There, officers made arrests in 6.8 percent of all encounters and issued tickets in 6.8 percent of all encounters (Kelling et al., 1974:466). Boydstun et al. (1977) report San Diego arrests in about 5.6 percent of incidents for which there were dispatch records (pp. 29-30).

Arrests are relatively infrequent occurrences for patrol officers. On the average about 1 encounter in 20 involves an arrest. Officers observed by PSS averaged a little over 6 encounters per eight-hour shift. On the average, then, each patrol officer in the 60 neighborhoods was involved in 1 encounter where an arrest was made once every three working days. Arrests are considerably more frequent in some areas than in others, however. In 2 of the 60 PSS neighborhoods, 13 arrests were observed in the 15 shifts studied. In contrast, 6 of the 60 neighborhoods had only 1 arrest during the 15 observed shifts. Many police officers (especially those working quiet neighborhoods) may go for months without making an arrest. Forst et al. (1978:48) report that 46 percent of all sworn officers in Washington, D.C., made no arrests in 1974. Most of these were patrol officers.

Officers do not use legal sanctions at every opportunity, of course. In 10 percent of all encounters, officers remarked to PSS observers that they could have instigated legal action against a participant, but did not do so.

We have seen that in most neighborhoods, police patrols spend substantial portions of their time dealing with situations that do not involve crime. Often a majority of their time is spent on non-crime matters. Moreover, in most places police institute formal legal proceedings in only a small fraction of the encounters they have with citizens. Much of this activity concerns traffic violations or disorders rather than crime. But what police routinely do in one locality is frequently quite different from what they do elsewhere. Both the mixture of problems which confront police and the kinds of police actions taken to deal with those problems vary considerably from neighborhood to neighborhood, even within a single department's jurisdiction.

B. Activities of Officers Assigned to Investigation

Criminal investigators do not "solve" most of the crimes reported to police. They do not even identify the suspects in most of the crimes which police consider cleared: cases in which a probable suspect has been identified. Most cases are cleared by patrol officers who make arrests at or near the scene of the crime or who obtain identification of suspects from witnesses or victims during their initial investigation of the crime. Thus, 87 percent of all arrests for Part I crimes (and 92 percent of all arrests) in Washington, D.C., in 1965 were made by patrol officers (Reiss, 1971a:103-104). In that same city in 1974, 89 percent of all arrests were made within 24 hours of the offense--most of these arrests made by patrol officers (Forst et al., 1978:33). Feeney and Weir (1975) note:

> [M]ost robbery apprehensions are made as the result of immediate action by citizens and the police; between 60 and 90 percent in most cities. Detectives and follow-up investigations are rarely as central to the apprehension process as is commonly thought (p. 103).

Investigators spend much of their time gathering and processing evidence for prosecution of suspects already identified and apprehended, although popular representations of their work do not give that impression.

1. How investigators spend their time. The most detailed study to date of how investigators spend their time is that conducted by Peter Greenwood and colleagues (1975) at RAND. They used data on detectives' activities in the Kansas City (Missouri) Police Department. These data were compiled from self-report forms completed by detectives for every related cluster of activities consuming a half hour or more of officer time. Greenwood and colleagues supplemented their analysis of the Kansas City data with observations and ad hoc data analyses in other departments. Still, most of their conclusions about detectives' use of time are based primarily on the Kansas City data. The description which is presented here is therefore "typical" only insofar as Kansas City during the May-November 1973 study period is typical of police operations elsewhere today. The percentages will undoubtedly vary from department to department. Still, the broad categories of action taken are suggestive of the kinds of things most investigators do. Where data from other studies are available, we present them for comparison.

On the average, detectives in Kansas City spent about 56 percent of their time on "case work"--on activities which could be related to specific reported crimes. Another 14 percent of their time was devoted to general administrative work which did not relate to specific cases, and 2 percent of their time was spent on general surveillance, crime prevention, and other service activities not related to specific cases. About 29 percent of detectives' time was not accounted for by the data system employed in Kansas City. In part this is due to the use of half hours as the units of record keeping. Activities which took less than half an hour were not recorded. Greenwood (1975) and colleagues suggest that this leads to underreporting of case-related activities. They estimate that, overall, "about 60 percent of a detective's time is spent on case work. This agrees well with our observations in other cities" (1975:52).

TABLE 4-5. BREAKDOWN OF CASE-RELATED TIME FOR KANSAS CITY DETECTIVES BY TYPE OF UNIT AND KIND OF ACTIVITY

Type of Unit	Number of Officers	Percentage of Case-Related Time Spent on Each Activity										
		Interrogation	Interview	Arrest	Arraignment	Reports	Surveillance	ATL	Crime Scene	Prosecutor	Court	Administration
Sex & Assault	15	7.5	36.0	1.3	1.4	26.5	4.7	11.5	5.9	0.0	1.7	3.3
Sex Crimes	8	6.7	34.1	1.5	2.2	19.2	0.0	28.1	2.2	1.5	2.1	0.0
Robbery	14	12.3	31.3	0.0	3.8	27.9	7.2	6.0	4.8	0.0	1.8	0.4
Property Crimes	36	16.7	28.4	2.0	4.3	24.1	2.5	9.7	7.3	0.6	4.5	0.5
Overall	73	12.9	31.1	1.4	3.4	24.8	3.6	11.4	6.0	0.5	3.1	1.0

NOTE: This table includes only the units listed; General Assignment, Youth and Women's Units, and Missing Persons Units are not reported here. Rows may not sum to 100% due to categories not shown (warrants, subpoenas, extradition) and to rounding.

SOURCE: Adapted from Peter W. Greenwood et al., The Criminal Investigation Process (Lexington, Massachussetts: D.C. Heath, 1977), Table H-4, p. 297.

Interviewing witnesses was the most time-consuming of the case-related activities conducted by Kansas City detectives. Almost one third of detectives' case-related time was spent in this way. As may be seen in Table 4-5, interviewing witnesses took a little less of the time spent by crimes-against-property units than of the time spent by crimes-against-persons units. This undoubtedly is because victims themselves are witnesses to most crimes against persons, providing witnesses in a higher proportion of these cases than for crimes against property. (See Conklin, 1972; Bloch and Bell, 1976.)

Report writing was the second most time-consuming activity. About 25 percent of Kansas City detectives' case-related time was spent writing reports. Report writing was a major use of time for all types of investigation units. Interrogation of suspects and attempts to locate suspects and witnesses were also major case-related activities in terms of the proportion of investigators' time they received. Interrogation of suspects took a higher percentage of the case-related time of detectives in units investigating property crimes. Attempts to locate suspects and witnesses were especially time consuming for investigators of sex crimes. Overall, interrogation took about 13 percent of detectives' case-related time and attempts to locate about 11 percent.

Surveillance and crime-scene searches together accounted for about 10 percent of detectives' case-related time in Kansas City. Arrest and arraignment accounted for another 5 percent. Less than 1 percent of case-related time was spent with prosecutors, and only about 3 percent spent in court.[4]

The amount of time that detectives spend on various types of crime depends on three factors: the frequency with which the type of crime is reported; the difficulty detectives have in "clearing" cases of that type; and the priority which police attach to crimes of that type. Reports of crimes against property are much more numerous than reports of crimes against persons. The latter receive as much or more attention from detectives, however, because crimes against persons tend both to be easier to clear and to be considered more serious. In most crimes against persons, the victim is an eye witness to the crime and police are more likely to obtain information about the identity of the offender. Thus, 51 percent of reported sex crimes and 30 percent of reported robberies were cleared by Kansas City detectives during the study period, while only 15 percent of the reported residential burglaries and about 2 percent of the reported larcenies were cleared (Greenwood et al., 1975:58). Crimes against persons include the types of offenses which provoke the greatest public outrage and fear (Silberman, 1978). Crimes such as homicide and rape were invariably investigated by Kansas City detectives. In contrast, only 30 percent of the reported residential burglaries and 18 percent of the reported larcenies received at least half an hour of investigator's time (Greenwood et al., 1975:56). In general, the more serious the crime is considered to be, the more likely an investigation, unless the offender is already under arrest or reasonably well identified. Greenwood and colleagues note that "well under half of all reported crimes receive any serious attention by an investigator" (p. 56).

[4] Greenwood and colleagues (1975:51) do note that court time may be underreported. Whole days spent in court are apparently occasionally overlooked in the Kansas City reporting procedure.

Not all case work is directed toward identification of offenders. In fact, for cases which are cleared (that is, where the police identify a suspect they believe to have been responsible for the crime), the total amount of time on case work after clearance generally exceeds the time spent in clearing the case. This is due to the work that police officers perform in arrest, arraignment, investigations and reports for prosecution, and court testimony. Even in cases where a patrol officer arrested a suspect when the case was initiated (which was therefore cleared before it even reached the detectives) an average of 7.9 hours per case was spent by detectives in Kansas City.

Only 13 percent of all cases in Kansas City were still under investigation a week after they were reported (Greenwood et al., 1975:62-64). This is apparently because most cases are either cleared "routinely" or not cleared at all. In Kansas City 46 percent of the clearances came from patrol officers in cases with no previous case work by detectives. Another 5 percent of the clearances were by patrol action following some case work by detectives. Detectives cleared 32 percent of the cleared cases with two hours or less case work. Only 18 percent of the clearances in Kansas City were obtained by detectives after more than two hours of case work, and most of these cases were cleared through application of police routine rather than through any kind of "special action" (Greenwood et al., 1975:73-75).

"Special action" is defined by Greenwood and colleagues as any activity involving investigator initiative or insight beyond the routine use of initial identification or identification through unsolicited tips, use of mug shots and line ups, matching of modus operandi of unsolved cases with cases already cleared, inadvertent discovery of stolen goods, or volunteered confessions. On the basis of a thorough review of the files of a sample of 92 cases where the clearance was "possibly non-routine," Greenwood and colleagues concluded that no more than 3 percent of the Kansas City clearances involved more than routine investigative work. A review of cleared case files from Los Angeles, Berkeley, and Long Beach, California; Miami, Florida; and Washington, D.C., found similar low percentages of cases cleared through special action (Greenwood et al., 1975:68-77). Most cleared cases in all departments studied began with an initial identification of a suspect either through arrest at the scene, complete identification by a witness, or unique identifying evidence.

The importance of witness or victim identification of suspects in case clearance is also shown in other studies of investigations. In Rochester, N.Y., a majority of all arrests for burglary, robbery, and larceny was made after the preliminary investigation based on a victim or witness identification of the suspect (Bloch and Bell, 1976:44,47). Conklin (1972:139) found that only 6 percent of the robbery cases in Boston in 1968 were cleared through police action other than victim identification, identification of suspects from other cases, or suspects' own confessions.

2. Investigation activities in greater detail. What detectives do has been described here only in very general terms. As with any summary description of highly varied events, categories used in the descriptions are quite broad. The particular kinds of activities that go into attempts to locate suspects or witnesses, the kinds of techniques used in interviewing witnesses and interrogating suspects, and other details of investigator activities are omitted in a cursory overview such as this. The level of detail presented

here provides only a broad picture of what detectives do. It highlights the extent to which they are involved in case work relating to preparation for trial, for example, in contrast to their efforts at case clearance which is commonly thought to be their major occupation. But this broad level of generalization provides little guidance about the kinds of investigator activities that are likely to increase the rate of identification, apprehension, or conviction of suspects.

An example of the level of detail which is required for this latter kind of analysis is provided by Greenwood and colleagues (1975:104-123) in their study of 43 robbery case reports filed by police in two unidentified California cities. Greenwood and colleagues developed a checklist of 39 types of information prosecutors would like to have available from police reports of their investigations of robberies. Each case report in the sample was reviewed to determine which items on the checklist were discussed in the police report. Two different broad patterns are evident in the kinds of interviews each department conducts, but we know nothing of the interview techniques they employ. This particular study presents a much tighter focus on reporting than on interviewing. Even here, the lack of disposition records for each case limits the kinds of conclusions which can be drawn from these data. Because disposition data were only available from a separate source with no link made between individual cases, Greenwood and colleagues could not identify the number or types of items on the checklist which were associated with convictions.

C. The Need to Determine What Police Do in Greater Detail

Any effort to assess police performance needs to incorporate accurate data on what police are doing. The few systematic studies which have been conducted suggest that police deal regularly with many kinds of problems other than crime. These problems need to be acknowledged in assessing what police accomplish. Police officers also conduct a variety of activities which are neither highly visible nor the subject of much police training. Whether they should continue to do these things (and if so whether they can be helped to do them better) are questions that can only be answered after careful study of what is being done now and how it affects those to whom it is done. There is considerable variation in the kinds of problems police deal with in different places and the sorts of activities they undertake to handle those problems. Not only do departments differ in these respects, but even within the jurisdiction of a single department there are often many different areas presenting police with a variety of problems and many different police responses to the same kind of problem.

CHAPTER 5. WHAT CURRENT POLICE RECORDS TELL ABOUT POLICE PERFORMANCE

In the course of their daily operations, police departments throughout the United States collect and store information. Communications personnel record information on telephone calls requesting police assistance. Patrol officers complete reports on offenses investigated, citations issued, field interrogations conducted, and a variety of other activities. Investigators complete reports on their investigations and the arrests they make. But while information collecting is a major activity of police, most of this information is used solely for case management and day-to-day administration. Relatively little of it is routinely available for assessment of agency performance or for guidance in policy making.

In order to appreciate the current state of police agency performance measurement, it is necessary to understand what data are now available from police departments. The availability of data depends on what information is collected and how that information is recorded and stored. However, even data which are recorded and stored so as to be potentially available for performance measurement may not be readily available for that purpose. Ready accessibility of data requires a way to retrieve selected, pertinent items of information from storage. This chapter reviews the kinds of information police departments often collect, the ways that information is recorded, the ways those records are stored, and the ways data are retrieved from storage. There is, of course, considerable variety in the procedures and equipment police agencies use to record, store, and retrieve information as well as in the kinds of information they choose to collect. This chapter is but a brief overview of this diversity. We highlight the most common kinds of data collection, recording, storage, and retrieval, and devote some attention to some of the most recent innovations in police data management.

A. Collecting and Recording Information

Most information collected by police is gathered for purposes of case management and personnel supervision. Many records are generated by operational units of the agency as the personnel in those units note down information required for conducting service activities or initiating legal proceedings. Other data are collected from individual employees in order to review their activities. The reasons for which information is gathered and recorded and the motivations of the personnel gathering and recording it shape the kinds of records that are made and the uses to which they can be put.

1. Calls for service. Much information collection in police departments involves calls for service. In larger police departments, telephone operators answer incoming calls for service. They record information about each call to which a police unit will be sent. This information is passed on to a dispatcher who uses it to determine how many police officers to send, with what urgency to send them, and what information to provide to the responding officers. The dispatcher also records (usually on the same form with the operator's information) information about the response police make to the request.

The dispatcher notes the police unit assigned responsibility for responding to the call, the time the officer was assigned that responsibility, and information the officer reports back about police arrival and departure time and the nature of the problem the officer found. Even in smaller departments where the telephone operator is also the dispatcher, similar kinds of records are kept.

Information about each telephone message requesting police assistance provides the dispatcher with a reference for informing officers where to go and what to expect. Information about dispatcher activities and dispatch time helps dispatchers and shift supervisors know which officers are available for assignment and which have had heavy assignments already. In practically all police agencies, information is recorded only for those calls to which a police unit will likely be sent. Information is seldom recorded on other types of calls (for example, those involving requests for information) where a police unit will not be dispatched.

Although there is some variation in the types of information obtained about incoming calls for service, most dispatch cards and logs provide places to record the following data: (1) caller's name, (2) address, (3) nature of problem, (4) location of problem, and (5) phone number. All items are not necessarily obtained for each call. Callers may fail or refuse to provide their name and address to the police operator. The Police Services Study included as part of research the listening to and coding of over 26,000 calls for service made to 21 police agencies located in three metropolitan areas. The caller's name was given voluntarily or upon operator request in only 45 percent of observed calls for service. Names were neither volunteered nor requested in 49 percent of calls and callers refused to identify themselves in 3 percent. Thus, in over half the observed calls for service, the name of the caller was not known to the police agency receiving the call. Many of these anonymous calls involved situations in which no police unit was sent.

Police personnel record information other than that directly provided by the citizen on the call for service record. The operator or dispatcher will usually determine and note in which police territory the problem is located (such as beat, sector). The operator may also record the time at which the call was received by the department (time clocks are often used to punch time intervals on dispatch cards). The operator generally notes his or her initials on the call record.

The primary purpose of collecting calls for service information is to facilitate the prompt dispatch of appropriate police units to respond to calls. The information on the dispatch card is a message to the dispatcher about the location and nature of the problem. This information is used in decisions regarding which unit(s) and the number of units to send in response to the call. The dispatch record is also used by the dispatcher to keep track of the call and responding units for the duration of police response.

The dispatcher adds further information to the calls for service record. He/she records the primary and back-up units assigned to the call and often the time at which units were dispatched. If the service request made by the caller is translated into some generic police code for transmission to responding units, that code is also recorded. Finally, the dispatcher may

record further remarks about the call, the time the responding unit(s) arrive at the scene, and the time the unit(s) report back in service.

In sum, the calls for service record can potentially provide data on the following items:

--name, address, and phone number of caller;

--nature of problem as reported by caller;

--location of problem;

--time call received by department;

--identification of location by police territory;

--units assigned to the call;

--time units dispatched;

--time units arrive on-scene;

--time units report back in service;

--police code describing problem; and

--identification of operator and dispatcher.

2. Offense and investigation reports. Offense reports are used by police personnel to record information on crimes against the public. (Offense reports are also known as crime, complaint, or incident reports.) The writing of offense reports normally begins with the patrol officer who through responding to a call for service or through routine patrol discovers that a crime has been committed. The responding officer records data gathered from the complainant(s), witness(es), and initial inspection of the scene. Some or all of the following kinds of information are recorded:

--name, address, phone number, race, and sex of victim(s);

--name, address, phone number, race, and sex of witness(es);

--location of incident;

--description of offense;

--time and date of offense occurrence;

--description and value of property taken;

--description of premises involved;

--description of injuries to citizens;

--weapons used;

--description of suspect(s) and suspect's vehicle;

--time report taken; and

--officer taking report.

Space is generally provided on the offense report form to record other remarks and pertinent information. Often a report includes no information about one or more of these categories. Certain types of information (weapons used, for example) are appropriate only to particular types of crime. Also, victims may have little or no information about when the crime occurred or about possible suspects.

Further information about the case is recorded by the same or other officers during subsequent investigation. This information may be recorded either on the original offense report form or on a separate supplemental form depending on departmental procedures. Typically, supplemental report forms are given the same identification number as the original offense report form. Space is usually provided somewhere in the offense record to indicate the final status of the case (for example, cleared, unfounded, or administrative closing) and whether an arrest was made. In some departments the offense and investigation reports are given the same identification number as the calls for service record corresponding to the same incident. This allows for the tying together of detailed information from two data sources. Arrest records (discussed below) may also be tied to offense and investigation reports through the specification of corresponding case identification numbers.

The primary use of offense and investigation reports is to gather and retain accurate information on particular incidents. Personnel working on different shifts or in different agency sections, for example, can determine the latest developments in the case by referring to the offense and investigation reports. These reports serve as the permanent record of the department regarding the incident and police actions taken in response.

Another important use of crime and investigative reports is to provide a place for the systematic recording of information about incidents--information which is used as the basis for making arrests and prosecuting criminal suspects. Complete and accurate information is required for arrests to withstand judicial screening. The information collected by the police about the incident is an important source of information for the public prosecutor in preparation of cases against criminal suspects. The record also may serve as a review for officers preparing to testify in court on incidents occurring many weeks prior to court appearance.

Summary data on offenses are frequently recorded separately from the offense reports. In many departments a tally sheet or log book is used to record the number of reported crimes by category of crime and day or month of reporting. The location of reported crimes may also be recorded. This is sometimes done with pin maps--maps of the jurisdiction on which pins are placed to show the location of incidents of interest. Pins of different colors are used to indicate different sorts of crime, types of victim, or other variables thought to be important. The tally sheets and pin maps are kept current by regularly posting to them information about newly reported crimes.

3. Arrest reports. The completion of arrest reports is routine in police agencies. When suspects are taken into custody and charged by police, some type of record is made of the arrest. The following types of data are generally gathered and recorded at the time of formal arrest by police:

--name aliases, address, place of birth, social security number, physical characteristics, race, sex, marital status, and year of education of arrested person;

--place and date of incident;

--place and date of arrest;

--type of arrest (e.g., on-view, turnover, warrant);

--arresting officer;

--name, section, and class of law violated;

--names and addresses of suspect's relatives and spouse; and

--injuries or illnesses of suspect.

Some arrest-report forms provide space for recording other information about the case as it proceeds through the judicial process. Forms may have places to list the telephone calls made by arrested persons along with their signatures verifying calls were made. Information may be listed about the property confiscated from the suspect when arrested and the time suspect was booked by police. Arrest forms also have places to record the time and date of arraignment, the amount of bail set, and if appropriate, the person or persons to whom the suspect is released. Finally, other information on the judicial disposition of the case may be recorded on the arrest report. As with other data collection, police agencies vary in terms of the type and detail of information collected for the arrest record.

Arrest reports are used primarily as the police agency's formal record of the arrest of criminal suspects and the crimes with which they are being charged. Certain information on the forms may be used to verify that police actually performed certain tasks such as allowing suspects to make a call when arrested. In these cases the suspect is required to sign the record to verify that police performed the activity. Either on the arrest form or on a separate form, arrested persons are often required to sign a statement indicating that they have been read their legal rights. A separate tally of arrests for various categories of crime is kept by most departments.

4. Personnel activity reports. Personnel activity reports are another type of data collection in police agencies. The most common form of activity reports are those completed daily or weekly by officers assigned to patrol. The general purpose of patrol officer activity reports is to provide patrol supervisors with descriptions of officers' activities during their shifts of duty. The format and types of information collected on daily activity records varies by police agency. Most patrol activity records have spaces for officers to identify themselves and their assignments and to record the date, condition of vehicle and equipment, and mileage figures (mileage start, end, and total). Space is also provided for the approval signature of a supervisor and/or report reviewer.

Some activity reports are formatted as an inventory on which officers can record each call or action taken involving citizens. For each incident, officers note information such as time call received, time back in service, location and nature of call, and actions taken. More comprehensive systems require officers to describe not only each incident involving citizens, but also routine activities undertaken on the shift (for example, administrative tasks, rattling doors, routine patrol).

Other police agencies utilize patrol activity reports that summarize shift activities rather than provide an inventory. This type of activity sheet generally separates activities into categories (traffic, criminal, administrative, etc.). Within each category the officer indicates the number of incidents of that kind and amount of time spent on each. For example, in the

traffic category the officer might indicate the number of accidents investigated, traffic stops made, citations issued, and the amount of time spent on traffic work altogether. Still other police agencies use some combination of the inventory and summary type activity reports.

A smaller number of police departments use activity reports for other agency personnel besides patrol officers. Some agencies require traffic officers to record either each traffic activity undertaken or a summary of activities for shifts of duty. Similarly, detectives and investigators may fill out activity reports describing work activities on a daily, weekly, or even monthly basis. The use of activity records is far less universal than calls for service, offense, and arrest records. Many agencies do not use any form of activity records.

Activity reports are used primarily for agency management purposes. These reports represent one means of tracking the activities of field officers during shifts of duty (calls for service records represent another means of tracking officers). These reports are used by supervisors to monitor the activities and time allocations of field officers under their command. Generally, activity reports are subsequently reviewed by supervisors in order to track the work of officers under their responsibility.

5. Field interrogation reports. Patrol officers in some departments complete field interrogation reports. These forms are filled out for each field stop made by officers when no arrest or other formal action is taken. Field stops include the halting of suspicious vehicles or persons on the street. Officers record descriptions of persons questioned and their vehicles; reason for the stop; and location, date, and time of the stop. The reports are handed to supervisors at the end of the shift and are used to supplement officer activity reports in informing the supervisor of officers' activities.

6. Vehicle and traffic reports. Several types of reports are routinely completed by police officers regarding motor vehicles and traffic violations. One such form is a stolen vehicle report, which is a specific type of offense report. As with other offense reports, information is gathered by the responding officer concerning the victim, witnesses, and suspects. Special attention is devoted to a description of the vehicle and license plate number, and to the location where the vehicle was stolen. Some motor vehicle forms provide space to record information on recovered vehicles, making the motor vehicle form usable for both vehicle theft and recovery reports. In other departments a separate report is filed on recovered vehicles.

Another form of traffic-related report is the traffic accident report. Generally, these reports are completed by the officer responding to the accident. The following types of information may be recorded on the accident report: names and addresses of drivers and passengers; description of vehicles involved and license plate numbers; detailed description of events leading to the accident; description of personal injuries sustained and vehicle damage; time, date, and location of the accident; and actions taken by the responding officer (for example, citation issued, arrest made).

The traffic accident report serves as the police agency's record of the accident. This information may be used in the settlement of insurance claims arising from the accident. In cases where formal charges and arrest are made, accident reports provide information useful for further investigation and prosecution of the case.

Another traffic record is the traffic citations and written warnings issued by police officers. These are issued for moving, parking, and equipment violations. Police officers record information about the driver, the vehicle involved, registration and license number, and the violations charged on the citation (or listed on the warning).

7. Other police reports. The types of information-gathering activities described thus far in the chapter represent the most frequent data collection activities of police. However, it should be noted that police agencies may also undertake other types of information gathering and record-keeping. Other forms of information collection include reports on recovered and impounded property, personnel actions, vehicle acquisition, use and maintenance, registration of private weapons, and issuance of various licenses (for instance, bicycle and dog licenses). Like most other police records, these are used primarily for internal management.

B. Storing Information

Most of the records police agencies make are kept for at least a few years. Until recently, almost all police records were written or typed and stored in physical files. Typically the physical file system involves a separate set of files for each type of record. Some of these files are organized chronologically; others are arranged by assigned case or report numbers. In recent years, computerization of files has become economically feasible for some police agencies. Automated data processing is far from ubiquitous, however, and many departments continue to rely in whole or in part on physical files for storing their records.

In a 1974 survey of police agencies undertaken by the International City Managers Association (ICMA), 56 percent of the agencies surveyed stated that they used computers in one or more police activities (Colton, 1978). Survey results indicated that police computer usage was greater for departments in larger cities and for those located in the South and West regions. The 1974 survey also requested police agencies to list all computer applications made to police work. The study found that of all computer applications, 19 percent were concerned with crime statistical files, 18 percent with police administration (personnel records, payroll, fleet management, budget analysis, etc.), 17 percent each with traffic (accident records, citations, parking violations) and police patrol inquiry (files which identify persons or property), and 16 percent with resource allocations (forecasting and setting allocations of personnel). A smaller set of computer applications concerned miscellaneous operations (e.g., jail records), computer-aided dispatch, and criminal investigation.

In 1977 the Kansas City, Missouri, Police Department surveyed 50 of the largest municipal police departments in the United States (Heaphy, 1978).

That same year, the Police Executive Research Forum surveyed 47 municipal and county police agencies (Farmer, 1978). There is some duplication in the two sets of respondents, but between them, they account for many of the largest local police agencies in the United States and also include a sample of agencies serving jurisdictions of all sizes down to 100,000 residents. Almost all of these agencies reported using computers in some way. The survey asked about 12 kinds of files which police often maintain. Stolen auto records, outstanding warrants, and license registrations were the most common automated files reported, although a few departments did not have access to such computer files. These are the kinds of files which are usually maintained by the state agencies rather than local departments, and this accounts for their general availability. Modus Operandi files were least commonly computerized. (M.O. files are usually locally maintained.) Also in 1977, the National Sheriffs' Association (undated) surveyed all sheriffs' departments in the United States. That survey found that only 10 percent of these agencies stored their own records by computer, and only about 60 percent had access to computer systems such as the National Crime Information Center (NCIC) which can provide information on stolen vehicles, outstanding warrants, and other information from other police agencies.

C. Retrieving Information

Computers enable police to retrieve information rapidly for immediate application to police activities. Many police agencies that have computerized records have installed computer terminals near the dispatch desk and at other key positions in police headquarters for ready access to NCIC and other data files. Terminals permit police personnel to search for information in records pertinent to immediate events. In Kansas City, the police department has established the ALERT (Automated Law Enforcement Response Team) System.[1] In this system, internal agency records and other data sources (for example, the FBI's National Crime Information Center) are tied together and made accessible via computer terminal to data searches on cases or individuals. Patrol officers in the field may request several types of information over the radio. Information can often be obtained in seconds via the computer terminal and relayed to officers in the field. Many police agencies in the United States have developed systems that allow the rapid search of files for information related to outstanding arrests, stolen or missing vehicles, missing persons, and other records.

Computerized record systems thus enable police personnel to retrieve information more rapidly. In some metropolitan and regional areas, several police agencies have combined records systems so that information from the files of several departments are available to all cooperating agencies. Also, more and more agencies are developing the capacity to tie into state and national police records systems, such as state motor vehicle files and the National Crime Information Center. By speeding the retrieval of information from a department's own files, and giving the department access to the files of many other agencies, computers facilitate the routine use of police records in day-to-day operations.

[1] The ALERT system is described in Kent W. Colton, 1978.

Computers have been used less for retrieving summary statistics from police records. The computerization of police records has not simplified the accessing of data for purposes of summary. This is because records are commonly filed as descriptive or narrative information, rather than as pre-coded information which can be readily counted or sorted. Thus, it may be necessary for a department with computerized calls for service records and incident reports still to rely on hand tallies to obtain statistics on the kinds or locations of crimes reported or the number of arrests made for various offenses.

Being able to retrieve information on a particular case quickly (and to save the space which physical files take up) is, of course, an advantage. But computer records which are organized as narrative files and computer processing systems which do not provide the capacity to cross-classify cases and compute summary statistics are not very helpful in providing an overview of department activities. If storage and retrieval systems permit, calls for service data can be collated and analyzed for a variety of purposes. One use is to measure service demands made on the department. Viewing calls for service as demand indicators, police agencies can plan workload levels, assignments, and the configuration of patrol assignment areas. Some police agencies code the location of calls for service by small block-group configurations. These block-groups are then aggregated into beats and beats into sectors in an effort to equalize the volume of calls for service originating from beats and districts. Computer processing greatly facilitates this kind of analysis and is a major advance over the pin map.

A few police agencies have begun to utilize calls for service data to monitor the activities of agency personnel. The calls for service record, for example, indicates which operator, dispatcher, and officers were involved in responding to particular calls. If times are accurately noted on calls for service records, then the time intervals of the response process can be examined. For example, the length of time from receipt of call to unit dispatch (dispatch time), the time from unit dispatch to unit arrival on-scene (travel time), and the total time devoted to the call by all personnel can be determined. Analysis of time allocations and delays by agency personnel provide one means of monitoring the activities of police personnel and can also provide useful planning information.

Computer access can also provide easy cross reference among police files, if adequate identification codes are provided on the files. By linking offense and arrest reports, including arrests made by other departments, police departments can determine which cases have been cleared by arrests made by its own and other law enforcement agencies. Collated data on arrests may also be employed to trace the characteristics of persons arrested for specific types of crime over time. In this way, for example, police might identify that most vandalism offenses are committed by juveniles, and burglaries by older persons. This kind of information is useful to crime prevention and investigation activities undertaken by the police.

1. Investigative reference files. The data accumulated through offense and arrest reports can be used to create a variety of specific files and reference systems to assist in investigations and other police tasks. Greenwood and colleagues (1975:11, 12) in their study of criminal investigations describe several kinds of reference files which police agencies have created from offense and arrest report data. These reference files include:

(1) Incident files contain reports of all currently unsolved crimes, potentially categorized by offender characteristics, crime location, or type of offense;

(2) Known offender files are composed of descriptions of previous offenders who reside in or frequent the jurisdiction;

(3) Mug shot files are maintained of photographs taken at the time of arrest and may be used in conjunction with the known offender file;

(4) Fingerprint files are composed of prints taken of all offenders at the time of arrest;

(5) Intelligence files are records kept on up-to-date activities of suspected offenders;

(6) Stolen property files list description and/or serial numbers of property stolen from residents of the jurisdiction;

(7) Master name files contain records of all offenders' names and aliases.

2. Resource allocation models. Another application of computer technology involves the development of models to plan personnel allocations.[2] Because there is wide variation in resources allocation models, it is difficult to present one comprehensive description. In general, the first task in developing these models is to be able to retrieve data on several items, particularly on demands for service (calls for service, incidence of crimes), and agency resource levels. With these data, models are used to predict service demands so that the agency can match agency personnel to expected demands.

Early efforts to devise resource allocation models were undertaken in the St. Louis Metropolitan Police Department (Hebert, 1978). In the original model, calls for service and crime statistics data were analyzed against a number of variables including day of week and time of day. Calculations made with this data were used to determine the allocation of personnel to different watches and the split between calls for service and preventative patrol forces within watches. More sophisticated models have since been developed (for example, Patrol Car Allocation Model and Hypercube Model) that are more comprehensive in that several types of performance measures are included within calculations of the overall model. The various models are still undergoing development, and evaluations of their usefulness and accuracy are varied.

[2] Resource allocation models are reviewed in Scott Hebert and Kent W. Colton (1978). For more recent models, see Richard C. Larson (1978) and Jan. M. Chaiken and Peter Dormont (1975).

D. The Potential for Using Current Police Records for Performance Measurement

As we have seen, one obstacle to the use of current police records for measuring agency performance is the difficulty which many departments have in retrieving summary data and conducting cross-classification and other analyses. Computerized data storage and retrieval systems have been developed which can overcome this obstacle, but few departments currently have such systems available to them. There are two other questions about current police records which also need to be answered, however, as we assess their potential use in police agency performance measurement:

--Do current records contain the information which is most appropriate for measuring agency performance?

--Do current data collection procedures ensure that the reports are accurate?

Chapter 8 addresses the issues of validity and reliability of performance indicators in detail. Here we need only note that current police records focus on day-to-day management of cases and personnel. Because of this focus the records may omit important aspects of police services and may contain substantial reporting biases.

Two examples illustrate the ways in which current police records can omit coverage of important aspects of police service. When a record of a service activity is not necessary to coordinate police activities, no record may be made. Thus, most police agencies do not record calls for service where no police officers are assigned. This is typically about half of all calls for service a department receives. Despite the fact that no record is made, a police service is provided in many of these calls as the operator provides or takes information from the caller. And each of these calls is potentially an important public relations contact with a member of the public. Calls in which the operator refuses to provide service are perhaps particularly sensitive for public relations. Data compiled by the Police Services Study indicate that there are often sizable numbers of calls which operators handle without dispatching police officers (or making a record of the call). See Table 5-1 below. Most departments are probably unaware of the volume of calls for service which they do not record, and certainly the types of requests and operator responses for these calls are not generally known to police departments.

Police records are also inadequate indicators of citizens' experiences and perceptions, even when these are an integral part of police service. Because many persons fail to report crimes to the police, police records necessarily underestimate criminal activity. Victimization surveys are a means to acquire more accurate measures of crime which includes both reported and unreported criminal incidents. Victimization surveys have repeatedly shown that a substantial amount of crime is not reported to police. For example, a report prepared by the National Crime Surveys (NCS), Criminal Victimization in the United States 1976 (Law Enforcement Assistance Administration and the National Criminal Justice Information Statistics Service, 1979), presents data indicating that a substantial proportion of crimes were not reported to police in 1976. Table 5-2 summarizes data on crime reporting to police from this National Crime Survey report. The table shows that about two thirds

TABLE 5-1. POLICE TELEPHONE OPERATOR RESPONSES TO CITIZEN CALLS FOR SERVICES

Operator's Service Role	Number of Responses	Percentage of Responses
Operator as Information Conduit		
Citizen promised officers will be sent	12,869	49%
Operator as Intermediate Service Provider:		
Citizen referred to other agency	3,918	15
Call transferred	1,164	4
Operator as Direct Service Provider:		
Information taken from citizen	4,178	16
Information provided to citizen	2,105	8
Other Responses:		
Citizen told police cannot handle call	1,256	5
Other, don't know responses	928	4
Total Observed Calls for Service	26,418	100%

SOURCE: Adapted from Eric J. Scott and Stephen L. Percy, "Improving Police Service Through Telephone Operations." Paper for Indiana Workshop in Political Theory and Police Analysis, 1980, p. 6.

of all personal and household crimes were not reported to police (and thus were omitted from police counts of crime based on crime reports).[3]

The data in Table 5-2 show that about two thirds of all personal and household crimes were not reported to police agencies. The NCS survey also asked respondents who did not report crimes about their reasons for not contacting the police about the matter. Common reasons given for not reporting

[3] Victimization surveys are not without methodological problems of their own. Respondents to the surveys are asked to acknowledge and describe all criminal incidents that occurred to them (or to members of their household) during an immediately past time period (e.g., 6 months or a year). Respondents may fail to remember minor incidents that occurred several weeks or months earlier. Thus, problems of recall and memory loss may lead to a downward biasing of criminal activity, especially for less serious crimes. Secondly, there are certain types of crimes that citizens may be unwilling to discuss with an unknown interviewer. Evidence suggests that respondents may be unwilling to acknowledge or describe personal crimes such as rape or domestic assaults. Therefore, although victimization surveys may aid the policy maker to obtain information on criminal activity that is not available through police records, the surveys suffer from methodological weaknesses which bias estimates of criminal activity. See Betty K. Eidson (1976).

TABLE 5-2. PERCENTAGE OF PERSONAL, HOUSEHOLD, AND COMMERCIAL CRIMES REPORTED TO POLICE

Type of Crime	Percentage Reported to Police
All Personal Crimes	32.2%
Rape	52.7%
Robbery	53.3
Aggravated Assault	58.4
Simple Assault	40.6
Crimes of Theft from Person	26.6
All Household Crimes	38.3
Burglary	48.1
Theft	27.0
Motor Vehicle Theft	69.5
All Commercial Crimes	74.6
Burglary	72.5
Robbery	86.6

SOURCE: Adapted from Table 92 of Criminal Victimization in the United States 1976 (Washington, D.C.: Law Enforcement Administration, U.S. Department of Justice), 1976, p. 82.

crimes included: nothing could be done about the matter, lack of proof, not important enough, and police would not want to be bothered. Reasons given less frequently include: the incident was a private or personal matter, the respondent feared reprisal, or that it was reported to someone else (for example, private security guard, apartment manager). Other data in the report and many of the reasons given for not reporting suggest that individuals are more likely to report crimes involving serious injury or loss than they are to report less serious incidents. Such information is useful to police as they plan crime prevention and public cooperation programs.

Even when current police records contain information which is appropriate for performance measurement, the information which is recorded may not be very accurate or reliable. One source of inaccuracy is the motivations of the person who initially reports the information. For example, if patrol officers know that they are liable to reassignment as soon as they report that they have completed an assignment, they may delay reporting to the dispatcher when they have finished work on a call for service. Systematic bias in reporting "back in service" creates inflated estimates of the total time officers spend dealing with assigned calls for service.

Current police records provide a place to begin in designing police performance measurement programs. But they must be examined critically. Use of these data for performance measurement in many departments will require modification of the departments' techniques for storing and retrieving data. Any use of data for performance measurement also requires careful specification of the appropriateness and validity of the data and the reliability of data collection procedures used in obtaining them. Simply because a department has

been collecting data and has particular kinds of information available is not sufficient reason to conclude that those data measure important aspects of agency performance or that the data accurately reflect conditions they are supposed to represent.

CHAPTER 6. USING MODELS TO UNDERSTAND POLICE PERFORMANCE

Perhaps the most widely used measure of police agency performance is the FBI Crime Index. Despite disclaimers from both local departments and the FBI about what the Index measures, newspapers and newscasters persist in attributing a rise in the rate of reported crime to police failure. Alternatively, editorials assert that a rise in crime means there are too few police or that police spend their time doing the wrong things. Whatever the diagnosis, the writers of the editorials are doing what every serious user of performance measures tries to do: recommend ways to improve performance. They have an implicit model which attributes the crime rate to police action. However, both the measure and the model of performance are faulty in this example. In the following chapters we discuss measurement issues and return to the shortcomings of the reported crime index as a measure of criminal activity. Here our attention is on models of policing such as those which lead editors to suggest either more police officers or different police actions as a means to reduce crime.

A model is a description of relationships. In the example presented above, one model of police performance is that an increase in the number of police officers serving an area produces a decrease in crime in that area. The other model is that more police actions of the specified type (for example, more patrol, more arrests, more surveillance, or more contacts with the community) reduces crime in the area. Both models are overly simple. They suggest that a change in policy will result in a change in social well-being and that, in this case, increasing the number or activities of police personnel will lower the level of illegal activities. Most editors do not state their models so explicitly and thereby overlook the complications present in a quick fix such as these models imply.

Anyone familiar with police operations on a day-to-day basis knows that much more is involved in controlling crime than is implied by either of the above models. For instance, there are many kinds of criminal behavior. Police actions that may be effective in reducing mugging may have little effect on residential burglary. A single model will rarely apply to a broad social objective such as overall crime reduction. Furthermore, police work occurs in a social context that can substantially influence the consequences of police activities. A model which ignores relevant features of the community can be seriously misleading. Police work is considerably more complex than is often imagined. Simply adding more officers implies nothing about what those officers might do to help control crime. Even prescriptions such as "increase patrol," or "make more arrests," offer little practical guidance about the specific activities which might reduce crime. Models using only broadly defined policies fail to identify the particular activities which are expected to produce the desired consequences.[1]

[1]Research on the two models of crime control illustrates these three deficiencies in the models. Levine (1975) and Wellford (1974) both find that the relationship between the ratio of officers to citizens and the crime rate varies from one crime type to another. Levine found that in general (cont.)

If performance measurement is to move beyond the level displayed in newspaper editorials, model refinement must accompany refinement of indicators. Improvements in our ability to measure the level of specific sorts of crime in a community do not improve our ability to make decisions about policing unless we know which police activities can reduce crime. At the very least we need to realize how little we really do understand about the ways various police activities relate to each other and to the behavior of others in society. An essential part of any program of police performance measurement is development and testing of models of policing.

In considering models, we must realize first that they are artificial--abstractions and simplifications of actual events. Models are the way we think systematically about relationships between events. Two observers watching the same events may create two different models, for models reflect not only the events being described, but the observer's reasons for creating the description. Thus, a traffic engineer might describe a set of synchronized traffic lights as a system which regulates the rate of flow of traffic along a street. A driver might depict the same set of signals as a series of targets against which to match the speed of his vehicle. Both observers in this example are concerned with the same events. Their models of those events depend on their interests in the events. The engineer's model might include the rate of traffic flow, the timing of changes for the signals at each intersection, the distances between each adjacent pair of intersections, and the schedule according to which the signals at each intersection begin their sequence of color changes. His models would relate rate of traffic flow to the other three factors. The driver's model might include the speed of his own vehicle, the color of the lights at the next two intersections he is approaching, the distance between those two intersections, and the goal of not having to stop for a signal. His model would relate vehicle speed to traffic light color and distance.

In measuring police performance, it is especially important to be aware of the divergent expectations people have of police. Police are subject to many diverse and even competing purposes, most of which are legitimate. To select only a single "goal" for policing--or even a small set of goals--requires setting aside all others. Not everything can be examined at once, but choices about policing should be informed by a variety of perspectives about what constitutes good service. In looking at models, we are focusing attention on the relationships between activities and their consequences. We must

[1]a higher ratio of officers to citizens is associated with a higher crime rate, rather than a lower one. His analysis found that social and economic variables had little effect. Wellford, in contrast, found that social differences among the cities contributed to the level of crime they reported. More recently, Fox (1979) has shown that increases in police personnel tend to follow increases in crime rather than lead to reductions in crime. A review of 11 other studies indicates that only 7 found "at least some (crime) deterrent effect of police manpower" (O'Conner and Gilman, 1978:90).

The Kansas City Preventive Patrol Experiment (Kelling et al., 1974) and attendant controversy (Fienberg et al., 1976; Larson, 1976) indicate some of the complexity hidden in the simple prescription: "more patrol." Kelling et al. describe the difficulties in implementating a program of various levels of patrol (1974:25-32). Both Larson (1976) and Fienberg et al. (1976) point out the range of possible behaviors which could have occurred even after the program was implemented satisfactorily.

also remember that many people who are concerned about the quality of policing value the way police act in addition to the consequences of police action. What others view as manipulable means to valued ends, some people value directly.[2]

Performance measurement should add to as well as draw upon knowledge of what works in policing and what does not. Adequate performance measurement should also include information relevant to various police constituents. An adequate performance measurement program must be flexible enough to permit incorporation of new knowledge about policing and newly identified purposes for police.

A. Understanding the Processes of Policing

Police do many different things for a wide range of purposes. Chapters 3 and 4 attest to that. Many of the things police do are not expected to be valuable in and of themselves. Rather, they are expected to produce valued consequences. We must use models if we want to specify the relationship of action to consequence. Any time we answer the question "Why do police do that?" we are presenting a model which relates the action in question to its intended consequence. Too frequently, however, the models available for thinking about policing are poorly developed. They have the same weaknesses as the editors' models of crime control we discussed earlier:

--The model purports to explain too much, such as attempting to account for crime in general.

--The model overlooks important controlling or contributing parts of the process, such as social conditions.

--The model overly simplifies the actions involved in producing a change, such as calling simply for more officers and ignoring the processes through which they can reduce crime.

Systematic development and testing of process models can correct these weaknesses and is an essential part of a performance measurement program.

A process model describes the steps or stages that constitute the change being modeled. It is a general statement of what happens when one kind of thing is changed to something else. It is not the history of any particular change, but rather the description of elements common to all changes of that type. For example, we can model the process of replacing a flat tire with a spare as follows:

(1) Raise the vehicle so that the wheel with the flat tire is off the ground;

(2) Remove the wheel with the flat tire from the hub;

[2]Due process, for example, implies a concern for how police act as well as what effects their actions have on the behavior of others. See Reich (1977).

(3) Place the wheel with the inflated spare tire on the hub; and

(4) Lower the vehicle to the ground.

This set of four events results in an inflated tire on the vehicle in place of the deflated one. Depending on the condition of the flat tire, it may be possible to achieve the same result by inflating the tire already on the vehicle. A process model need not describe the only way to obtain a result; but if it is an accurate model, it will describe one way to do so.

1. Deciding what change to explain. A critical part of the development of any model is the decision about what change to describe. Process models tell us how something comes to be as it is. We use them to decide how to make the changes we desire. Therefore, we should choose to model processes that result in states of affairs we want to produce or avoid. Models should suggest ways to deal with the problems police are expected to handle.

The identification of objectives for policing is thus a fundamental part of developing models of policing. This is not the same as identifying "agency goals." We have already discussed the importance of recognizing the variety of legitimate objectives people want police to accomplish and the need to incorporate multiple interests in a performance measurement program. Here, we want to point out another problem with measurement programs which attempt to identify a few, overarching agency-wide goals: They are usually too vague to serve as the basis for process models. They include so many states of affairs that no single process can be expected to affect many of them. Herman Goldstein (1979), who himself devoted considerable effort to the identification of broad, general objectives for policing, has recently written:

> Attacking police problems under a categorical heading--'crime' or 'disorder,' 'delinquency,' or even 'violence'--is bound to be futile. While police business is often further subdivided by means of the labels tied to the criminal code, such as robbery, burglary, and theft, these are not adequate.... Such broad categories frequently mask diverse forms of behavior. Thus, for example, incidents classified under 'arson' might include fires set by teenagers as a form of vandalism, fires set for the purpose of destroying evidence of a crime, fires set by persons (or their hired agents) to collect insurance, and fires set by organized criminal interests to intimidate. Each type of incident poses a radically different problem for the police (pp. 244-45).

Some goals for police are simply too general to permit elaboration of a single process for their accomplishment. Process models of manageable scope need to be developed and tested before they can be used to construct the complex models required for the solution of broad social problems.

Police work involves the interplay of many separate processes. Finding out how police handle various situations and speculating about the effects of specific police activities are essential parts of model development. If it is to serve as a basis for action, a process model must include sufficient detail about steps involved in accomplishing the change. To return to the example of

the replacement of a flat tire with a spare, a person who did not know how to use a jack to lift the car would find our earlier process model inadequate. A process model may be too general to guide action unless the person using it knows how to take the steps it outlines. In terms of Goldstein's example, we need to know how to deal more effectively with juvenile vandals, fire bugs, and commercial arsonists, among others, if we are to reduce the overall incidence of arson.

Limiting conditions such as the social and physical context of the process may also require the subdivision of models. Details about where to attach a jack to the car and how to operate the jack vary depending on the make and model of the car. Goldstein (1979) notes this reason for specifying distinct models and elaborates his example as follows:

> In addition to distinguishing different forms of behavior and apparent motivation, as in the case of incidents commonly grouped under the heading of 'arson,' it is helpful to be much more precise regarding the locale and time of day, the type of people involved, and the type of people victimized. Different combinations of these variables may present different problems, posing different policy questions and calling for radically different solutions (p. 246).

Observations of what police are asked to do and of how they try to deal with those requests is one starting place for developing process models. Police often have several courses of action for achieving the same result. These alternatives provide a variety of existing (if unarticulated) models for testing, comparison, and specification of environmental factors. Reflection on current practices and explicitly developed theories about human behavior may also suggest new approaches. No single model will work equally well in all settings.

The type of model also has important implications for its usefulness. Models are abstractions; they omit some information and highlight others. Models are like metaphors: They can sharpen our appreciation of relationships by pointing to familiar analogies, but they can also mislead by persuasively suggesting relationships which do not exist. Below we review several types of process models and suggest some of the strengths and weaknesses of each.

2. The general systems model and the black box. One type of process model most commonly used by physical, biological, and social scientists is the general systems model. At the simplest level the process being modeled is the transformation of inputs to outputs. The diagram in Figure 6-1 presents a way of representing this process model.

The general systems model is useful when first beginning to think about a problem. It focuses the analyst's attention on two elements: inputs and outputs. In its simplest applications, the general systems model allows the analyst to ignore transformation activities (to treat them as a "black box"). That is, the analyst observes that a certain combination of things results in a change in one or more of them, but the steps through which the change occurs are not explored. If the inputs to two processes are identical and the outputs are also identical, one can assume for the purposes of producing that output

FIGURE 6-1. THE GENERAL SYSTEMS MODEL

NOTE: In this diagram and those that follow, boxes indicate activities and circles represent inputs (the things to be changed) and outputs (the changes resulting from these processes). Arrows indicate the order of the transformation activities.

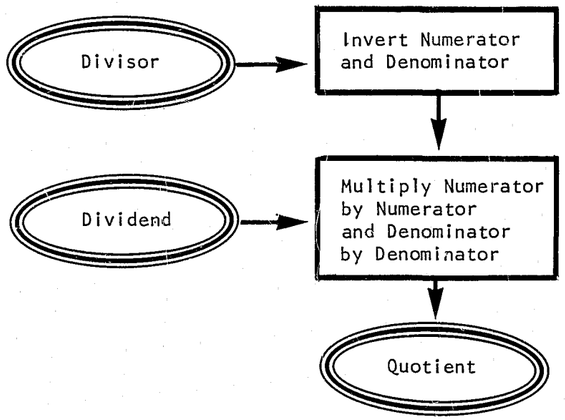
that the two processes are identical. One can represent the black box as the function which specifies what output will result from a given input. The most general equation for this process model is: $O = ST(I)$ where O equals outputs, ST is the function, and I equals inputs. Strictly speaking, "black box" models are not process models, for they include no account of the means by which inputs are transformed to outputs.

The advantage of a "black box" model is its simplicity. Development of such a model involves only establishing a predictable relationship between inputs and outputs. The analyst is not concerned about establishing how the transformation of inputs to outputs occurs. Many of the current models used for making police decisions resemble black box models. Officers and equipment are assigned to black boxes like patrol and investigation where they interact with members of the public in unspecified ways to produce arrests, emergency assistance, information for court proceedings, and a wide variety of other outputs. But because there is little uniformity in most of these processes, the outputs cannot be predicted accurately from the inputs. These "black box" models of policing are not reliable. Even when black box models can be relied upon for accurate predictions of output for specified input, they are still inadequate for purposes of improving police performance. This is because they ignore the process itself and thus provide no means for planned intervention in it. With an accurate black box model, a decision maker can specify the desired level of outputs and then calculate the needed inputs. But the decision maker does not know how the system works and therefore cannot streamline it or modify it to produce a better output with fixed inputs. To improve the performance of a system through planned revision of the process, it is necessary to have a process model that specifies the actions through which the transformation occurs.

An example of a highly specified process model is a computational algorithm. The process model for division of common fractions is "invert the divisor and

multiply." This is a computational algorithm. In systems terms, two inputs are transformed through a two-step process into a single output. Every aspect of the change from dividend and divisor to quotient is accounted for in the model. (Figure 6-2 diagrams this model.) Algorithms such as this serve as the basis for many complex sets of actions. Computer programs, for example, are highly specified process models.

FIGURE 6-2. A COMPUTATIONAL ALGORITHM

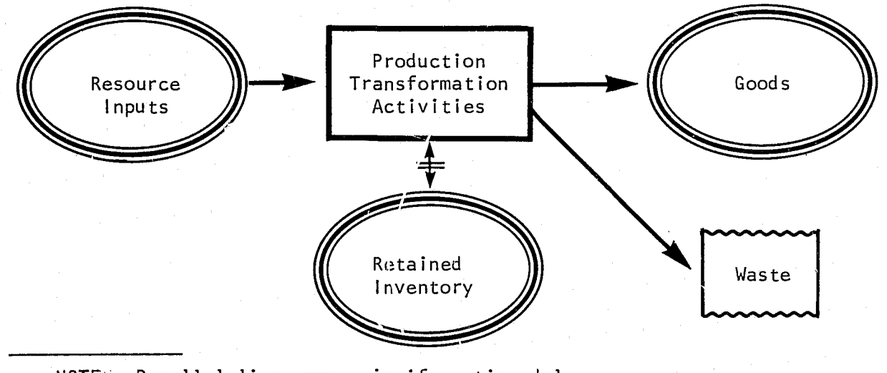


Police work can rarely be specified so exactly, although some attempts have been made to detail some of the transformation processes of police conduct. The development of systems models of this type can add considerably to our ability to measure police performance. Several modifications of the basic process model are also potentially useful ways to organize our thinking about police work and the purposes it serves.

3. The goods production model. Models to describe the production of goods or physical products are described by Harvey Garn and colleagues (1976): "a mix of resources is modified through a set of activities or processes in order to produce an array of goods, during which waste may occur" (p. 10). Retained inventory includes additions to or subtractions from assets resulting from production activities. Stocks of finished or partially assembled goods, the skill level of production workers, or the system of organizing production may all be included in a relatively broad conception of retained inventory (p. 12). The double-headed arrow in Figure 6-3 indicates that production activities both

add to inventory and draw upon inventory as they proceed. Waste is a measure of the technical efficiency of the production process. The greater the waste, the less efficient is the process. Reduction in waste should lead to the production of more goods without additional need for input resources. Broadly conceived, waste includes all undesired by-products of the production process.

FIGURE 6-3. THE GOODS PRODUCTION MODEL



NOTE: Parallel lines = signify a time delay.

SOURCE: Adapted from Harvey Garn et al., Models for Indicator Development (Washington, D.C.: The Urban Institute), p. 11.

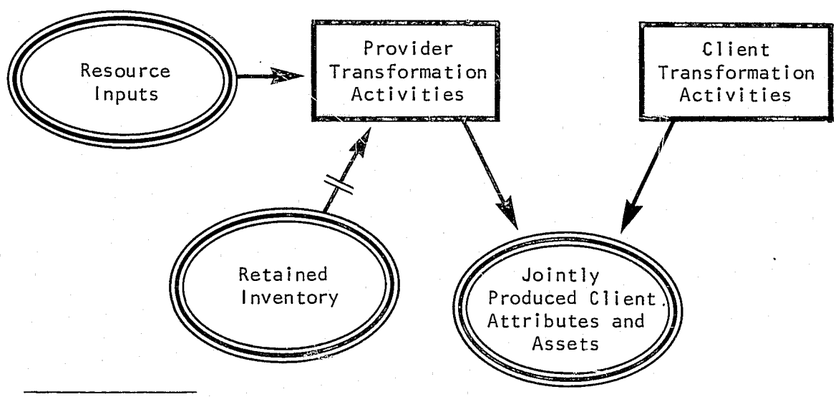
Goods production models are usually less well-specified by a designer than are computer programs. This is because production transformation activities are performed by people as well as machines, and people are more likely than machines to introduce changes into complex processes. A model of actual behavior in a factory can be different from the model developed by an industrial engineer, whereas behavior in a computer follows that of the model. Goods production models vary in the extent to which they detail their transformation processes: Some are virtually black box models with little specification of how the change of inputs to outputs occurs (that is left up to production workers to decide); others are virtually computational algorithms with very little leeway permitted in the way inputs are to be treated. Of course, even goods production models which are designed with little specification can be further specified by studying the behavior of the work force.

The important differences between goods production models and basic systems models are (1) the introduction of a distinction between inputs and retained inventory, and (2) a distinction between valued outputs (products) and valueless or negatively valued outputs (waste). An application of a goods production model to policing would call attention to the importance of veteran officers' street wisdom, established contacts, and other "retained inventory" and to the harmful consequences ("waste") of some police actions.

Useful as it is for many purposes, the goods production model is nevertheless inappropriate for understanding many police production processes. It is inappropriate, in our view, when it orients the analyst to focus on police activities alone in considering processes in which other actors also influence the output. In much of policing, the actions of various persons who are not police personnel have substantial influence on the outputs produced.

4. The service production model. An alternative to the goods production model is the service production model developed by Harvey Garn and others at the Urban Institute. As specified by Garn and his co-authors, the service production model involves a quite different concept of output than the goods production model. Service production output is a change in the attributes or assets of a client or consumer. In goods production there is little difficulty in measuring the amount produced even if none of the goods are ever purchased by consumers. But it is impossible to measure output of services without taking consumers into account. How can we say that "health services have been provided by a doctor's office with no patients, or education services by a school with no students, or banking services by a bank with no customers?" (Garn et al., 1976:14). Consequently consumers are by necessity part of the production process for services if any production at all is going to occur.

FIGURE 6-4. THE SERVICE PRODUCTION MODEL



SOURCE: Adapted from Harvey Garn et al., Models for Indicator Development (Washington, D.C.: The Urban Institute), 1976, p. 14.

They are thus necessary coproducers of services (Parks et al., 1980; Whitaker, 1980). While Garn and his co-authors do not show inputs to the client transformation activities in their figure, they argue that "the resources, motivations, and skills brought to bear by the client or consumer are much more intimately connected with the level of achieved output than in the case of goods production" (pp. 14-15).

An implication of the service production model is that the unit frequently identified as the official producer of a service does not have as much control over the production process as does a producer of goods. A producer conducting an identical set of activities can produce different outputs with different consumers. Two producers using the same production strategies may produce quite different distribution of outputs because of the difference in consumer activities. Attempting to judge the efficiency (or to apply any other performance criterion) of a service production process cannot be undertaken by examining the inputs and activities of the official producer alone. All evaluation of performance of service production must include the measurement of consumer activities as well.

Garn and his co-authors (1976) also point out that many of the strategies used to increased efficiency in goods production may not have the same effects in service production. Technologies developed in one sector may not be easily applied to the other. The routinization of service delivery may be counter-productive,

> as the service provider transmits signals reflecting unawareness of the particular aspects of the client's motivations or interests which result in lower levels of output. Such signals are, of course, two-way communications--clients may participate in such ways that the provider of the services reacts in counter-productive ways. That is, the way in which service interaction occurs directly affects satisfaction levels as well as behaviors influencing output levels (p. 15).

While many broad references are made in the police literature to just such counter-productive interactions, few efforts have been made to take account of citizen activities in measuring police performance. The orientation provided by the goods production model has been far more pervasive in police performance measurement efforts than models that one might derive either from notions of the service production process or from some of the general literature on police-citizen interactions.

One systematic way to deal analytically with the effects of the independent activities of police "clients" is to employ cybernetic models. In a cybernetic model, transformation activities are broken into two components: a regulator and the rest of the system. Police activity can be thought of as the regulator. The activities of others comprise the rest of the system.

Using an airport as an example, Conant and Ashby (1970) described the elements of a regulated system in the following way:

(1) There is the total set Z of events that may occur, the regulated and the unregulated; e.g., all the possible events at an airport, good and bad.

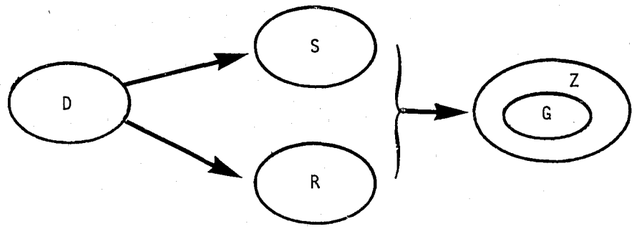
(2) The set G, a subset of Z, consisting of the 'good' events, those ensured by effective regulation.

(3) The set R of events in the regulator R; (e.g., in the control tower)....

(4) The set S of events in the rest of the system S (e.g., positions of aircraft, amounts of fuel left in their tanks)....

(5) That set D of primary disturbers...; those that, by causing the events in the system S, tend to drive the outcomes out of G; (e.g., snow, varying demands, mechanical emergencies (p. 90).

FIGURE 6-5. THE REGULATED SYSTEMS MODEL



SOURCE: Adapted from Roger C. Conant and W. Ross Ashby, "Every Good Regulator of a System Must Be a Model of That System." International Journal of Systems Science 1, 1970:89-97.

There are three relationships in this system. The arrows indicate direction of influence: a change in D implies a change in S, but not vice versa, The relationships are diagramed in Figure 6-5. Regulation occurs "if and only if, for all values of D, R is so related to S that their interaction gives an event in G" (p. 91).

The mere presence of a regulator does not insure adequate regulation of any system. Considerable work has been undertaken in cybernetics to establish the conditions under which a regulator can effectively regulate a system. One condition is that every good regulator (that is, one that achieves regulation) must build a realistic model of the system it is regulating (Conant and Ashby, 1970). Thus, "the rest of the system" must also be modeled if police are to be effective regulators. Another condition is that the regulator must have at its command at least as much variety in the actions it can take as exist in the disturbances to and in the other parts of the system. Systems involving high variety may require multiple regulators (Ashby, 1960:158-170).

Cybernetic process models have obvious applications to the study of policing. Much of what police are asked to do is "to regulate disturbances." Traffic congestion caused by bad weather, accidents, or the rush hour can be considered a disturbance which police are asked to regulate by sending officers to particular intersections to intervene by affecting the driving patterns of a relevant set of drivers. Domestic disturbances resulting from many causes are the source of other requests for police to intervene and change the behavior of members of a family fight. Crime itself can be viewed as a disturbance that

police are asked to regulate by changing the behavior patterns of people living in their jurisdiction. Such regulation can only be expected if the behavior of the non-police part of the system is modeled sufficiently well for police to tailor their actions to the behavior of the rest of the system as well as to the disturbance at hand.

A cybernetic process model provides a somewhat different orientation to the identification of relevant inputs than a general systems model. Instead of a broad concept of inputs, one now has a more focused concept of disturbances. As with goods production, the outputs which may occur are viewed as including both those which are preferred and those which are undesirable. Disturbances have the potential of shifting the distribution of desirable and undesirable events to include a higher proportion of undesirable events. Regulator actions shift them back. To model a cybernetic system, one requires concepts specifying:

(1) a potential set of disturbances;

(2) the actions undertaken by the rest of the system;

(3) the actions undertaken by a regulator or complex set of regulators;

(4) the set of resulting events, both desired and undesired; and

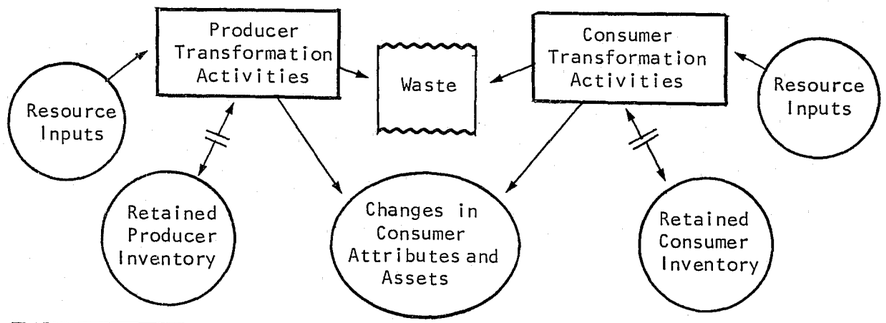
(5) the preferences that some identified group interested in the performance of the system have for the events resulting from the operation of the system.

Since the distribution of desired and undesired events is the result of the interaction of the actions of the regulator (or set of regulators) with the actions in the rest of the system, policy recommendations concerning ways to improve the system performance may include proposed changes in the actions of the regulator or actions in the rest of the system, or both. The service production model is closer to the cybernetic than the general systems model. The service production model is a particular type of cybernetic model in which the rest of the system (or at least a substantial part of it) is comprised of conscious actors who are themselves trying to regulate system outputs. They sometimes call upon police to assist them, and sometimes the police intervene without receiving a specific request.

Slight modifications, drawing inspiration from the cybernetic model, from Garn et al.'s text, and from their first model, lead to the revised service production model shown in Figure 6-6.

Individual police officers and individual members of the public may well operate in the fashion suggested by this service production model. Patrol officers who know their beats are often able to predict how the people they encounter will react to common sorts of disturbances. People who frequently interact with the police (whether prosecutors, defense attorneys, habitual offenders, or barkeepers and others who frequently call for police assistance) are undoubtedly able to predict with considerable accuracy the responses of veteran officers. Both police and the people they work with act on those predictions to tailor their own behavior so as to produce the transformation in the situation which they prefer (Rubinstein, 1973; Muir, 1977; Skolnick, 1967).

FIGURE 6-6. REVISED SERVICE PRODUCTION MODEL



SOURCE: Adapted from Harvey Garn et al., Models for Indicator Development (Washington, D.C.: The Urban Institute), 1976.

At the agency level, however, there has been little effort to develop service production models which attempt to generalize about the behavior of groups of people and to develop appropriate responses for those types of behavior. Service production models of policing need to be flexible, and when new models of the non-police part of the system are developed and new resources are incorporated or new responses added to the repertoire of the actors, they should be revised. Work on developing service production models can alert police to resource-allocation issues which might otherwise be ignored and suggest to police how to better prepare to deal with a variety of problems. The greatest advantage of the service production system for modeling many aspects of police work is that it does not attempt to specify a single course of action for police, but rather suggests that police officers be taught how to predict the behavior of those they encounter in their work and a range of possible actions from which the officer on the scene can select an appropriate response.

5. Causal models. Causal models are also encountered in the literature on police performance measurement. Despite the name, causal models describe static relationships between two or more sets of events. The models are based on an untested assumption that the events are causally related. Black box models, for example, are causal models rather than process models because they describe a relationship between inputs and outputs in terms of the systematic differences between those two states of events rather than in terms of the actions which transform one state to the other (Blalock, 1964). Causal models are useful where processes cannot be observed directly and must be inferred from observed differences in state. Causal models are adequate when we are not concerned about how a change occurs, but only with what it is and how regularly it happens. And causal models may also give sufficient information to monitor processes which we already understand. Many studies of criminal behavior, economic activity, and social change employ causal models. To the extent that

they provide reliable predictions of the behavior of relevant actors, causal models can be used to develop or modify cybernetic and service production models. To the extent that causal models of policing identify related inputs and outputs, they suggest systems which may merit further study. To the extent that they describe already well-understood processes, they can serve as less expensive ways to monitor performance.

6. Decision models. Decision models prescribe rather than describe. Both causal models and process models describe, but also can be used to inform decisions. Causal models help inform decisions by telling us that given some specified state of affairs, we can expect to find another (and presumably consequent) state of affairs. Process models inform decisions by describing the actions which occur in the transformation from one state to another. A decision maker can use those descriptions in choosing among inputs and activities. Decision models differ from others in that they explicitly incorporate values and generate an optimal solution to the decision. Decision models use information from descriptive models along with measures of value to calculate the preferred course of action. In police work, for example, Larson (1972), and Chaiken and Dormont (1975), among others, have designed models to determine how to allocate patrol units to minimize response time. Obviously the appropriateness of such a model depends on the reliability of the descriptive models it uses. But the adequacy of the value estimates provided for the model is equally important. If the response time standards used in the model do reflect priorities for police, the use of such a model is appropriate. But if there are other, competing priorities, or if minimizing patrol time creates waste as well as benefits, this decision model may not be appropriate. Decision models which incorporate multiple values and which assess costs as well as benefits have been developed and some applications of such models to policing have been suggested in the literature (for example, Bodily, 1978).

We do not deal extensively with decision models in this volume because we think their usefulness in police performance measurement is severely limited by two factors. First, the lack of adequate descriptive models of policing means that we, in general, lack formal information about productive relationships essential to good decision making. In the absence of adequate formal models, those who make choices about policing use their informal understandings of policing to augment the information on which they base decisions. Decision models exclude that informal understanding from their calculations. The use of decision models in policing is therefore likely to mean less informed decisions rather than better informed decisions. At the same time the rigor of the quantitative methods employed in decision models may falsely suggest a high level of accuracy for the solution generated by the model.

The second reason police and others should be skeptical about the use of decision models for police work is that the models impose their own implicit decision rules on policy making. By specifying whose values to incorporate into the model and how those values shall be balanced against others, decision models specify an allocation of authority and responsibility. This allocation is typically not based on the legal and political relationships prevelant in the community where the model is to be used, but is an allocation dictated in part by the requirements of the mathematical techniques used in the model and in part by the analyst's views of appropriate decision rules. In most communities, decision about policing are the result of a complex interaction of

actions by many interested parties. Decision models should be used only when they do not alter the allocation of the authority and responsibility to influence police performance or when there is a lawful public decision to make such alterations.

B. Using Models in Performance Measurement

Performance measurement can be used for policy and management decisions only to the extent that an agency's accomplishments can be identified with the activities which produced them. Simply knowing how well a police department is doing at recovering stolen property or reducing public fear of crime is insufficient basis for making decisions about police programs. Decision makers also need to know what police are doing which results in the recovery of stolen property (and whether activities with those intended effects really do have them). The usefulness of linking activities to their consequences is widely recognized in discussions of systems analysis, program evaluation, and performance measurement. Too often, however, the models of policing which are presented in the literature on performance measurement have been too broad in scope, have been restricted only to police resources or activities, and have lacked detail about transformation processes. These deficiencies cannot be remedied at once. Developing models of police work is necessarily an incremental process. For one thing, the shifting priorities and problems police deal with mean that attention will shift from one police process to another. Also, models suggest what to measure, but as measurement proceeds, it raises new questions about the adequacy of the models. Measurement permits the testing of models, but testing can indicate parts of the model which need revision or elaboration.

A note on the means of expressing models may be helpful. Models may be verbal, physical, graphic, or mathematical. A verbal model uses words to describe relationships. Verbal models are quite common. Most of the implicit models we use in thinking about daily activities (and about police work) are verbal models. Expressing consciously developed models in words can also be very useful. Imprecise definitions of terms can be a major problem in the verbal expression of models. This is a problem which must be addressed with mathematical and graphic models, too, of course. But in the case of these non-verbal models, we are generally more careful to offer clear definitions because mathematical or graphic terms are often not as readily interpretable as words.

Physical models describe relationships through their construction (and, in the case of "working models," their operation). Physical models are used primarily for physical relationships. They therefore have been little used in modeling police service processes. Graphic models, such as the figures we have used in this chapter, show relationships visually. They are especially useful in helping us think about the order in which events occur and about multiple relationships between a number of events. Mathematical models use symbols of mathematics to express relationships. They permit manipulation of models in accordance with the principles of mathematics which express the modeled relationships. Any of the models we have discussed may be presented in verbal, graphic, or mathematical form. Often it is useful to model the same process all three ways.

We have discussed two related uses of descriptive models: the simulation of action and the guidance of action. Both extend a model's usefulness beyond mere description. Models are used to simulate a process when the model itself is manipulated. We use simulation to determine how changes in the types of inputs or activities or the relationships between activities may affect other activities and outputs. If we are unsure of the model, simulation can suggest adjustments to improve accuracy. If we are reasonably certain about the accuracy of the model, simulation can provide predictions about the effects of changes in resources, programs, or service conditions. Some models are determinate--for any given input, they always provide a corresponding given output. Simulation can establish what that is. Other models are indeterminate. For these models simulation can establish a likely range of outputs for a given input. Most of the processes of policing are indeterminate.

Models are used to guide action when the model provides a set of instructions for a course of action. If the model is accurate, actions which are the "real world" equivalents of those specified in the model, will transform real world equivalents of model inputs into real world equivalents of model outputs. Instructions on changing a flat tire, for example, are a model of the process of changing a tire. In order to be adequate as a guide to action, the model must be expressed in terms that are understandable to the person taking the action. Whether the model is verbal, physical, graphic, or mathematical, the events and relations it describes must be translated into concrete actions by the person using it as a guide. Instructions in German are no use to a person who does not comprehend German. Similarly, the instruction to "remove the wheel with the flat tire" is no use to someone who does not know how to remove a hubcap and lug nuts. Any model is expressed in terms that the model does not define. If the person seeking to use the model does not understand the meaning of those terms, that person cannot use the model as a guide to action. Sometimes the lack of understanding can be solved by providing a different static description of the term--by substituting a known word or phrase for an unknown, for example. Other times, however, the lack of understanding involves an ignorance of the process implied in a state description. Not knowing how to remove the tire because of ignorance about removing hub caps and lug nuts is an example. Describing a state of affairs is not sufficient if one needs to know how to produce that state of affairs. Recognition of a lack of understanding due to ignorance about process requires elaboration of "micro-models" of the processes within individual steps of a more general process model.

Models are essential for a performance measurement program that can inform policy and program decisions. To the extent that models convey an accurate understanding of what happens in policing, they provide predictions about the likely consequences of altering police programs. But even less well-substantiated models are useful. Not only may they suggest possible outcomes, they can also help direct our investigation of the processes of policing, and thus help to develop better models of policing. By specifying what we do know (or at least what we expect to be the case) we take the first step in testing and refining process models which can eventually provide the basis for more informed decisions about policing. Various types of models each have their uses in police performance measurement, but the service production model is likely to be most appropriate for describing the kinds of influence police actions have on many of the social problems they are expected to handle. Many of the processes of police service are quite complex. Rapid progress on modeling them is not likely, but it is important that we start.

CHAPTER 7. DEVELOPING VALID PERFORMANCE MODELS

Most policymakers are interested in establishing a performance measurement program because of their interest in change. People want to know how and how well a system is operating so that they can improve system performance if at all possible. In Chapter 6, we have argued that the first and most essential step in an effective performance measurement program is the development, testing, and improvement of accurate models of the many processes involved in policing. Without knowing how the current system operates it is very difficult to achieve improvements in system performance. Accurate performance models enable policymakers to derive predictions about likely results of changing some aspects of a police department's operation. However, how do we know whether a model is an accurate description of the process being modeled? In other words, how do we know when we have a valid model?

Knowing we have a valid model is a basic problem of performance measurement. In modern social science practice, a valid model is one which parsimoniously:

1) identifies the relevant input variables which affect the response of some system, and

2) predicts which output variables will be affected and how they will be affected.

Valid process models also accurately characterize the structure of the system which transforms inputs to outputs. A variable is any attribute of the input, transformation, or output which can have more than one value. Variables are frequently referred to mathematically by using symbols such as the capital letters X, Y, or Z. We follow this convention. The number of officers assigned to the patrol division of a police department could be considered as an input variable X. In process models of police patrol, transformation variables might include patrol practices used in a department. Whether a department uses one or two officers in each patrol car is one transformation variable. We might refer to it as Z. The specific procedures used by officers when on patrol are other transformation variables. How fast do officers drive? Do officers follow a predetermined route? Do officers patrol only in a defined beat? Must officers stay in continuous radio contact with a dispatch center? Answers to these questions provide the values for other transformation variables in police patrol. Output variables include such intermediate outputs as the number of patrol cars on the street at a particular time, the total number of miles patrolled, and the average time it takes police to respond to calls for service. These intermediate outputs are presumed themselves to be inputs into crime prevention and other police processes. Research questions are frequently phrased as: Does a change in X (some input variable) produce a change in Y (an output variable)?

All processes produce outputs which become inputs to other processes. Complex processes can be broken down into many sub-processes contained within them. One way of studying large and complex processes is to examine how the

sub-processes contained within the larger one are behaving. Which variables are identified as inputs, transformations, or outputs depends upon which level of a system is being examined. The same event will simultaneously be an output from one system and an input into another. The outputs from one process may operate as the transformation variables in another process. Organizational arrangements (such as team policing) are transformation variables at a more general level of analysis than are production practices (such as patrol strategies). However, production strategies are themselves affected by organizational arrangements. One of the reasons some police professionals recommend the adoption of team policing is that they believe police officers who are able to determine their own operational practices in a particular neighborhood will be able to transform the day-to-day input resources available to them in a more productive manner tailored to the specific problems in the neighborhood than would a central command making production strategy decisions for a whole variety of different neighborhoods. This reform is a recommended change in the transformation process at one level which is believed to change the transformation processes at other levels and consequently affect valued outputs.

A. Developing Process Models

No foolproof method exists for developing valid process models for any kind of system. Physical scientists and engineers are more experienced with developing, testing, and using models of complex processes than are social scientists. When the process being modeled is some natural event such as a chemical transformation, known physical laws describe the structure of the process. The model developer can draw on previous theoretical and empirical study of the chemical process under various types of initial conditions and changes in relevant input variables. To the extent that physical laws are known and valid, and good data exist for relevant input variables, relatively accurate predictions about the effects on output variables of changes in either input variables or particular processes can be stated and tested.

It is sometimes possible to develop a process model of a complex physical process by placing a tracer on an input and measuring the transformations occurring at each step of the process. The effects of other inputs can be measured as they affect the process. While the cost of obtaining a process model of a complex process may be high, it is noramlly possible to develop an accurate and valid process model of a determinate physical system. Once this is accomplished, it is then possible to monitor the performance of such a system by obtaining measurements of key variables at each of several stages in the process. Complex chemical transformations involved in the production of many modern products are well specified and easily monitored. Information about rates on input of raw materials, temperature, pressure, or other physical conditions during a transformation process and key aspects of the resulting product is frequently sufficient to monitor the performance of highly complex physical production processes.

Given the level of validated knowledge of many physical processes, major attention in performance measurement of physical processes is devoted to the development of better measures for input and output variables and for various internal states of the system under study. Given the emphasis on the development of better instruments for measurement it is easy to get the impression

that the most important problems in performance measurement relate to measuring the state of variables rather than to specifying models of the process. The existence of many well-validated physical process models is overlooked by those who see the key issue in police performance measurement as the effort to develop better methods for measuring particular concepts. While measurement issues are extremely important, good measurement without good process models is insufficient.

When complex processes involve not only physical transformations but also different individuals making decisions with considerable discretion, specifying a process model is more difficult. Given the large number of different decision makers involved in policing, specifying process models for policing is extremely difficult. In policing, service activities occur at many different locations. No one person can observe all related actions and their results. Little uniformity is likely in the actions taken by individual police officers even in what appears to the outside observer to be similar situations. What is "similar" must be viewed by the participants as being similar. Prior experience and general orientation may lead one officer to perceive a situation to be dangerous while another officer in the same situation may consider it to be safe. The actions of the first officer are apt to vary considerably from those of the second officer. Given this difference it is hard to specify what the situation is. Tracing the steps followed in one situation does not automatically generate accurate information of what the process will look like the next time it happens. Further, many key influences are not under the control of police. While the effects of some conditions not under police control can be modeled in a simple and straightforward manner, other participants may interact with actions taken by police to produce vastly different consequences depending upon the actions of other individuals not under police control.

Managers of complex human systems frequently attempt to increase the predictability of these systems by developing Standard Operating Procedures (SOPs). SOPs tell each individual what to do at each step of a process. (In situation X, you do A first, then B, and C.) If SOPs are actually followed by those doing the work, the prescriptive set of SOPs and a descriptive process model of the work flow will be identical. In such a situation, it would be possible to monitor performance by gathering a limited amount of information at points in the process where information is normally recorded. Using SOPs to interpret the information would give an accurate picture of the process being followed.

A production line in a factory is the clearest example of imposing predictability on a complex human system. By its physical arrangement a production line severely limits the options available to each worker on the line. How each job is to be performed is also closely prescribed and monitored. Supervisors are usually present at all times and expected to monitor work closely. The severe restriction of options and close monitoring means that prescribed behavior is likely to be similar to actual behavior. Once the production line and related job specifications have been in operation for some time, the system usually works in practice similar to the idealized prescription for how it should operate.

Some police managers and authors of police administration texts have incorrectly presumed that the regularity of a production line could be created in a police department by writing a sufficient number of regulations defining

the SOPs to be used in their department. But regulations cannot reflect the wide variety of different situations in which individual police officers find themselves. They describe an arbitrary set of actions that individual officers may feel are inappropriate in many of the specific situations they face. Since the technology of policing is so little known in any case, individual police officers can justify adopting their own procedures for handling particular types of situations as improving upon what they have been told to do. A rookie police officer is often told to forget everything he learned in the police academy by the first officer to whom he is assigned in the field. Further, it is also almost impossible to monitor police officer actions because they are so widely dispersed. Supervisors can observe only a limited number of police activities.

The wide gap between the prescriptions for what <u>should</u> occur in the day-to-day processing of police work and what actually <u>does</u> occur makes the development of valid and accurate process models for policing quite difficult. We cannot simply take the prescribed procedures as the basis for what is actually occurring; nor can we simply observe a small set of activities and infer that the pattern of observed behavior is similar to the pattern of unobserved behavior. Instead, we need to develop a generalized model of the steps involved in a particular transformation process <u>and</u> develop micro models of individual behavior of the participants in the process. For police officers several different motivational patterns need to be assumed. We then need to ask what pattern of behavior would be predicted if officers were to pursue a particular set of values when given a particular set of work assignments, faced with a particular set of service conditions, and rewarded or punished by the application of the rules of a particular department. Often, however, we do not have the resources to develop such complex models and must fall back on causal models relating inputs to outputs, with perhaps a few key intermediate outputs included.

B. Testing the Validity of Models

Given the complexity of the processes involved, the difficulty of reducing the variety of behavior through prescribing standardized procedures, and the need to examine alternative models of behavior, models of policing can become quite complex. Undertaking empirical research to ascertain whether the model of the process is a valid representation of the real world process will always be difficult. Testing such models requires the imagination and skill of those designing and using process models as the basis of a performance measurement program. We can never know for certain all of the inputs involved and exactly how they are related to produce specific positive and negative outputs. While we may observe one set of activities closely for a short period of time, it is physically and economically infeasible to monitor and record everything that occurs in complex police processes.

We should stress at this point that it is never possible to verify that a model of a process represents the actual process being studied. A model is a theoretical construct which helps us reconstruct the reality which we observe. While it is not possible to verify that a model is completely valid, it is possible to know when one is adequate. A model is inadequate when predictions from the model are not borne out in repeated real world situations. Any one "test" may not invalidate it because the test itself may not be valid. However,

if the concepts specified by the model are well measured, if sufficient variation in input variables is measured, and if resulting output variables are not changed in the predicated pattern, a model should be judged invalid for explaining the process in that sort of setting. In ascertaining the validity of models, we proceed by eliminating inadequate models rather than establishing the complete validity of any one model. Models are thus testable even though we can never conclusively verify their validity. Models which survive a long process of testing are presumed to be valid.

The term "validity" is used in two senses. A model is presumed to have internal validity when it is thought to be a good representation or set of relationships in a particular location. Internal validity represents the "goodness of fit" between the model and observations of a process in a particular setting. A model is judged to have external validity when it is thought to be a good representation of similar processes in many different settings. The larger the number of settings for which a model adequately describes a process, the higher the level of external validity.

1. Designing research to test the validity of models. A research design is a plan for the conduct of empirical research to bring evidence about the validity of a statement about relationships in the real world. "Research designs are operational models of proof for inferring cause-and-effect relations..." (Nachmias, 1978:250). To test a model we need to select and implement an appropriate research design and obtain operational measures for relevant variables. Simply finding a statistical relationship between two variables, X and Y, is no guarantee that the relationship does in fact exist in the world. Conversely, a finding of no statistical relationship is also potentially misleading. Two types of false inferences from empirical research can occur. The first type of false inference occurs if we assert that a change in X leads to a change in Y when in reality X and Y are not related (or, even worse, X and Y are related in the opposite direction than that predicted). The second type of false inference occurs if we conclude from an empirical study that X and Y are not related when in reality they are.

Both types of false inference are relatively easy to make if careful attention is not given to the initial model, the research design used for conducting an empirical study, and the measures used for variables. Both types of false inference have serious consequences for those who base policy decisions on such empirical findings. The first type of error leads police departments to continue practices believed to be beneficial when they make no difference or are counter-productive. The second type of false inference may lead departments to discontinue (or never adopt) practices that are genuinely productive.

a. Explanatory and extraneous variables. In considering the dangers of false inference from empirical research, we need to distinguish between explanatory and extraneous variables. Following Kish (1959) we will use the term "explanatory variables" for the particular input, transformation, or output variables of interest in a specific study. Attempting to understand the relationship among a set of explanatory variables is the object of a study. All but the explanatory variables will be referred to as "extraneous variables" in the following discussion. These variables are extraneous in the sense that they are not referred to in the formulation of the initial

research question concerning whether a change in particular explanatory input or transformation variables leads to a change in particular output variables. Extraneous variables may include other input or transformation variables which also affect the output variables. If such extraneous variables are ignored, false inference may be derived from the empirical relationships observed.

In any empirical study, there are three types of extraneous variables. To quote Kish (1959):

> There are extraneous variables which are controlled. The control may be exercised in either or both the selection and the estimation procedures.
>
> There may exist extraneous uncontrolled variables which are confounded with [explanatory variables].
>
> There are extraneous uncontrolled variables which are treated as randomized errors. In "ideal" experiments ...they are actually randomized; in surveys and investigations they are only assumed to be randomized. Randomization may be regarded as a substitute for experimental control or as a form of control (pp. 329-330).

The aim of a good non-experimental research design is to place as many of the extraneous variables as possible into the first group (controlled extraneous). The purpose of randomization in experimental studies is to remove the systematic effects of as many of confounding variables as possible by distributing them across control and test cases. In an ideal research design, there would be no variables of the second type.

Physical scientists have relied on laboratory experiments as the most efficient design to reduce the effect of uncontrolled or non-random extraneous variables. By carefully controlling (or randomizing) all variables other than those being manipulated, the researcher conducting an experiment can have relatively high confidence that relationships (or lack thereof) in the experimental data reflect relationships in the phenomena under study.

Few processes of importance for policing lend themselves to experimentation. Several major efforts to conduct large-scale field experiments have been undertaken to examine policy questions related to policing. Despite the great care exercised by the researchers involved in these studies, however, it was extremely difficult to control or randomize all relevant extraneous variables. Field experiments are also quite costly to run and require a very high level of cooperation from a police department for a long period of time. Consequently, researchers must rely mostly on studies which measure variables in on-going natural settings. Statistical analysis is used to control for extraneous variables in this type of study. To control a potentially confounding extraneous variable through statistical analysis, the researcher must have identified that variable so that it can be measured. The researcher cannot statistically control for a variable that has not been measured.

b. Potential false inferences about the effects of changes in input variables. Among the policy-relevant changes considered by police administrators, public officials, and citizens are various changes in the inputs to police processes. Possible changes in input variables include:

--increasing the number of sworn officers employed by a department,

--reducing the volume or variety of demands made on a department through various screening and referral activities, and

--changing the attributes of new police recruits through educational or training requirements.

Whenever we want to examine the question of whether a change in a particular input will produce a particular change in an output variable, it is necessary to ask the following questions:

1) Are there other variables affecting this output?

2) Is the transformation process properly specified?

(i) Do other variables affect this process? Most police processes are characterized by having a relatively large number of different inputs which simultaneously affect outputs. However, police managers are interested in knowing the specific effects of particular inputs on particular outputs. A policy-relevant question is, for example, whether an increase in the number of police officers serving a jurisdiction decreases the level of fear in a community. If one were to conduct a study which simply examined the relationship between changes in the number of police officers and changes in the level of fear expressed by citizens, it is highly likely that other variables would strongly affect the findings from such a study. A third variable--the reported crime rate--might potentially affect both of the other two variables. Police departments are more likely to increase personnel in response to an increase in reported crime. An increase in reported crime is also likely to affect the level of expressed fear by citizens living in a jurisdiction. Even if there were no relationship at all between the number of police officers serving a jurisdiction and the level of fear in the jurisdiction, a study which examined only these two variables and did not control other variables in some manner might make a false inference that having more police leads to an increase in citizens' fear. If the model being examined were that shown in Figure 7-1a and the relationship in the real world were that shown in Figure 7-1b, then research based upon the initial model might lead to the false inference shown in Figure 7-1c. If the real world relationships were as shown in 7-1b, examining only the variables in 7-1a would suggest the findings in 7-1c. But the relationship between number of police officers per capita and level of fear would be spurious. In this example, it is totally explained by relationships between each of those variables and an extraneous variable--the reported crime rate. If the reported crime rate were introduced as a control variable in the analysis, the relationship between number of police officers per capita and level of fear would disappear. The possibility of false inference from spurious relationships can be reduced by self-conscious attempts to think of other input variables which might potentially affect the explanatory variables. Then, through research design or by statistical methods, the effect of such

variables can be controlled so that resulting statistical relationships have a higher probability of being an accurate reflection of real world relationships.

FIGURE 7-1. MODELS OF POLICE CAPACITY AND FEAR OF CRIME

Model Used in Study (a)	Real World Relationships (b)	Potential False Inference (c)
Number of Police Officers Per Capita — (-) → Level of Fear	Reported Crime Rate (+) → Number of Police Officers Per Capita; Reported Crime Rate (+) → Level of Fear	Number of Police Officers Per Capita — (+) → Level of Fear

A change in an extraneous variable may just affect the output variable (and not the explanatory input variable) and still lead to a false inference. If a study were to examine the effect of a particular change in an input variable which occurred at the same time as a change in another relevant input variable, a false inference about the existence or strength of the relationship would result if the effect of the extraneous variable were not accounted for in the analysis. For example, a police chief might increase the number of police officers per capita in an effort to reduce burglary rates at the same time as a major drop in unemployment occurred. In this case, it is possible that any change in burglary rates might be primarily explained by the change in unemployment, rather than the change in number of officers. If the level of unemployment alone affects burglary rates as hypothesized in Figure 7-2b(1), then a study which did not control for employment levels through design or statistical methods would make the false inference that the number of police officers per capita fully accounted for the change in burglary rates. If, however, both the level of employment and the number of police officers per capita affected the output variable, then a study which was confined to an examination of only the effect of the number of police officers would overestimate the strength of the relationship between number of police officers per capita and burglary rate. The larger the number of extraneous input variables which affect an output variable, and the greater the range of variation in their level, the more difficult the problem of deriving a valid inference about the relationships among the explanatory variables.

(ii) Is the transformation process correctly specified in the model? In the examples presented above the type of transformation from input variables to output variables was not specified at all. The arrows in the diagrams represent some unspecified transformation process to change inputs to outputs. These are what we referred to in Chapter 6 as "black box" models. Considerable research is conducted without explicit consideration of alternative ways of specifying relationships among input variables and the changes which transform inputs into outputs. Most common techniques for

modeling the association between input and output variables assume that the input variables are combined in an additive fashion. This sort of model is often appropriate. Many production processes are based on the addition of a number of input variables together to produce an output.

FIGURE 7-2. MODELS OF POLICE CAPACITY AND THE BURGLARY RATE

Model Used in Study	Real World Relationships	Potential False Inference
(a) Number of Police Officers Per Capita $\xrightarrow{-}$ Burglary Rate	(b-1) Unemployment Rate $\searrow^{+}$ Burglary Rate	(c-1) Number of Police Officers Per Capita $\xrightarrow{-}$ Burglary Rate
	(b-2) Unemployment Rate $\searrow^{+}$ Number of Police Officers Per Capita $\xrightarrow{-}$ Burglary Rate	(c-2) Overestimation of the Strength of this Relationship Number of Police Officers Per Capita $\xrightarrow{-}$ Burglary Rate

However, additive relationships are not the only type of relationships possible among inputs. In many instances there is some type of interaction among inputs. Interaction among two variables occurs when the type of transformation depends upon the value of both variables. The effect of the addition of extra units of one input depends on how much of the other input is also present. For example in a multiplicative relationship, the value of one independent variable is the rate at which another independent variable affects the value of the output variable.

We can quickly illustrate the difference between specifying additive and multiplicative relationships. Suppose we were interested in the effect of the level of training and experience of officers in a detective bureau (inputs) as they may affect an output such as the clearance rate for a particular crime. If we represent the clearance rate by C, the level of training in the division by T, and the years of experience by E, an additive relationship between the input variables would be represented in the following equation:

$$C = a + b_1T + b_2E.$$

An equation of this form specifies that the clearance rate for a detective bureau can be predicted by adding the effects of the average level of training to the effects of the average years of experience of officers in the bureau.

(In this equation, a is the estimate of the clearance rate without officer training or experience, b_1 is the rate at which training affects the clearance rate, and b_2 is the rate at which experience affects the clearance rate.) If both b_1 and b_2 are reasonably large, a department whose officers have little experience can substitute more training to match the clearance rates of a department whose officers have more experience.

Alternatively, training and education may interact. The effect of training may be greater in departments where officers have more experience. Such a model would be specified by the following multiplicative equation:

$$C = a + b_1(T)\ (E).$$

In this instance, the effect of increases in the average level of training on clearance rate is not independent of the experience of the officers. The effect of improved training increases as the experience of the officers increases (and vice versa). An increase in the average level of training would have no effect on clearance rates if the officers in the bureau had no experience. Substantively, the model implies that training will have more effect on clearance rates in a department where officers also have more experience. Thus, this model posits that training and experience are not direct substitutes for one another.

Another nonadditive model might state that clearance rates are related to input in the following manner:

$$C = a + b_1T/E.$$

This equation suggests that the effect of training decreases as the level of experience in a division increases. Among departments with inexperienced officers, extra training increases clearance rates but among departments with more experienced officers, additional training affects clearance rates only a little.

The mathematical model selected should reflect whether the process is conceptualized as additive, multiplicative, or based on the ratio of inputs. The most frequent analysis techniques used assume an additive relationship. If the real world process is nonadditive and an additive model is tested, we may conclude that no relationship exists between inputs and outputs when in fact they are related in a way not tested. Specifying the nature of the transformation between inputs and outputs is as important as identifying all of the relevant variables.

When the amount of input changes within a relatively narrow range, it may be reasonable to assume that the transformation process itself also remains the same. Adding a few officers to a relatively large department will usually not affect the workload of individual officers, the beat structure, how officers interact with citizens, or other transformation processes. When the ratio of change in an input variable to the change in an output variable remains constant, internal transformation processes probably also remain constant. However, it is possible to produce either increasing or decreasing rates of change in output variables as input variables change. Under either increasing or decreasing rates of change of output variables relative to input variables, it is reasonable to assume that internal transformations are

changing as well. Doubling the number of officers employed in a department will usually not result in doubling the number of officers on the street. The proportion of officers assigned to communication, supervision, administration, and specialized backup services usually rises as departmental size increases over a large range. In this case conclusions about the effect of input variables on output variables over a broad range may be subject to false inference if changes in transformation processes are not consciously taken into account in the design of empirical work examining the effect of input variables on output variables.

A recent study conducted by Parks and Ostrom estimated the production functions for municipal departments for clearance rates and for response capacity (the number of patrol units on the street at 10 pm). In this 1980 study we found that the way inputs are translated into outputs varies across differently sized departments. The average department of 25 sworn officers is able to place 3.6 cars on the street at 10 pm in its jurisdiction. If the transformation process remained constant across sizes of police departments, then we should find that a department of 250 officers could produce an output of approximately 26 cars on the street at 10 pm. However, we found that it takes a department approximately 500 sworn officers to produce 37.8 cars on the street.

c. Potential false inferences about the effects of changes in transformation processes. Besides wanting to know the consequences of changing particular inputs, police managers, public officials, and citizens are also interested in knowing the results of changing the way inputs are transformed into outputs. Possible changes in transformation processes include:

--changing the manner in which police officers undertake patrol activities,

--changing the way detectives investigate reported crime,

--changing dispatching procedures, or

--changing organizational arrangements.

Whenever the question of whether a change in some particular transformation process produces a particular change in some output variables, we need to ask the following questions:

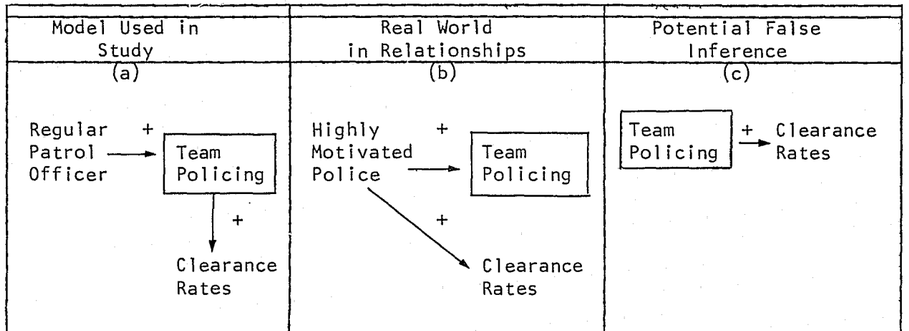
1) Is there a simultaneous change in input variables?

2) Is the operating transformation the same as the explanatory transformation?

(i) Is there a simultaneous change in input variables? Attempts to monitor transformation variables are frequently plagued by problems of a simultaneous change in input variables. This is particularly true when departments adopt an experimental program in one district and allow officers to volunteer for the program. The officers who volunteer are usually those who are the most motivated to succeed personally, may be among the brighter members of a department, and will usually be highly motivated to make the program

work. Consequently, attempts to measure the impact of the new way of doing things are confounded by the simultaneous change in the sort of officers serving the area. If an experiment with team policing in one district of a large police department allows officers to volunteer to be in the team policing district, this may change both the transformation process and the types of inputs. If the policy research does not take both changes into account in its design or analysis, this kind of false inference can not be studied. If the model of the process used in the research is as shown in Figure 7-3a and the real world relationships are those shown in Figure 7-3b, then the evidence would be interpreted as supporting the false inference shown in Figure 7-3c. That is, the researchers would conclude that a change in the clearance rates is the result of the change in the transformation process.

FIGURE 7-3. MODELS OF TEAM POLICING AND CLEARANCE RATES



Once the officers selected for an experimental program are aware that they are participating in an experiment, their esprit and desire to perform better than those not in the experiment might rise substantially. One would need to examine whether the increase in performance is the result of the particular change in transformation or the result of any change in transformation. The latter would be considered an example of the "Hawthorne effect," named after a Western Electric study of the effects of varying light intensity on the output of an electronic part division of the Hawthorne plant. The researchers in this study discovered that any change was associated with increases in worker productivity. Because of the experimentation, the workers assumed the firm was interested in their welfare and morale soared. With the increase in worker morale came a consequent increase in productivity (Roethlisberger and Dickson, 1939). It is also possible that officers not assigned to the new experimental program might engage in compensatory rivalry to show that the change was not effective or a "John Henry effect" (Cook and Campbell, 1975:228-229). In this case, other processes in the department would be simultaneously changing and effects on outputs would need to take those changes into account.

(ii) Is the transformation operating as predicted? Another potential source of false influence is the possibility that the transformation process is not operating as expected. Many studies do not detail the operations involved in a program. For example, new ways of organizing work may be

resisted by street-level police officers. If there is substantial non-compliance with the new program, analysis of the effects of the program will probably find the program made no difference. If the lack of impact is interpreted to mean that the transformation does not produce the expected results, false inference is being made. One cannot make any valid conclusion about the effect of changing a police process without knowing that the process has actually been changed in the expected ways.

Failure to implement a new program in practice does not necessarily result from resistance by street-level patrol officers alone. The Kansas City Patrol experiment, for example, supposedly changed the allocation of cars to two kinds of experimental districts. In one district, no cars were assigned to conduct regular area patrol. In the second, twice the number of cars were assigned as before the experiment. In a third (control) district, the number of cars was kept the same as before. This allocation was expected to affect the actual number of cars on the street, which in turn was expected to affect both citizen's feelings of safety and the level of crime in the area. A major critique of this experiment, however, is that the number of cars on the street in each district remained basically unchanged since the volume of calls for service in the three districts was relatively high (Larson, 1976). The "real" allocation of cars to the street, Larson argues, depends on rules for dispatching. These remained the same. Since patrol cars had little time to engage in general area patrol in any of the three districts and spent most of their time responding to calls for service, the "presence" of patrol cars in the three districts remained about the same. Larson has concluded that the research team made a false inference that the change in assignment mechanisms made no difference in crime rates or citizen evaluation. He argues that no fundamental change in the assignment mechanism took place.

2. Complex simultaneous processes. In the discussion above, we characterized a number of problems which can lead a researcher to make false inferences. In studying police processes, many of these problems may occur simultaneously. Several input and transformation variables operate together. It is likely that some relationships will be nonadditive. It is also likely that changes in inputs will eventually lead to changes in transformation processes and vice versa. Several responsible models could probably be developed for any one process. The presence of multiple competing recommendations for ways to improve police performance is itself an indicator that individuals are operating with difficult models of police processes in mind.

Without careful attention to the development of relatively complex models and the examination of alternative attempts to test models of policing, false inferences are likely to be made. While it is not possible to design a perfect study, most empirical studies can be greatly improved by serious attention to the development of process models before any research is conducted. Two sources of alternative process models exist. One source is the set of arguments produced by proponents and opponents of proposals to change the way police service activities are organized. If their arguments are well developed, proponents and opponents will have alternative theories of the consequences of the change. The second source of alternative process models is literature on threats to the internal validity. These general discussions of research design can suggest aspects of program operation which might need to be included in the process model.

a. Arguments about police reform as sources of alternative process models. When what is being evaluated is a "reform," the statements made by proponents of the reform can be used to generate alternative process models. Why do those who support the change think it will be beneficial? What is the program they envision? How do they think it will operate? Opponents of reform are likely to envision an alternative process. They may think that other, extraneous variables will confound the relationship and thus change the way the program would operate. Opponents may also be concerned about harmful effects not originally taken into account by proponents. Including measures of these other possible outputs in a study can help determine whether opponents are correct in their expectations. Donald Campbell has argued strongly for the inclusion of possible noxious side effects in any policy study and for examining the arguments of opponents concerning sources of noxious side effects:

> I think if we regularly made it our business to interview the opponents of every new program...we could get a list of feared undesirable side effects.... By interviewing the people who oppose the program, brainstorming with them about possible indicators of their fears, we could do much better than we do now about setting in motion indicators that might pick up some of the unanticipatable, undesirable side effects (Campbell [1973] as quoted in Deutscher, 1976:261).

b. Methodological threats to internal validity. In addition to attempting to derive alternative models from the competing explanations of the consequences of a proposed reform, we should also be alert to peculiarities of the research site or in the methodology used in a study which provide alternative explanations for the study's findings. Cook and Campbell (1975) discuss several threats to internal validity. Reviewing one's models in light of these threats may suggest alternative models which can also be tested. The threats include:

1) History. History is a threat in which an observed effect between two variables is due to some other change which took place between the time the first variable was measured and the time the second variable was measured.

2) Maturation. Maturation is a threat in which an observed effect is due to an internal change in respondents. Examples include respondents gaining experience and skills. If maturation is not itself the object of empirical research, the presence of such a change may lead to false inference.

3) Statistical regression. If respondents in a study were selected on the basis of extreme scores, those with high initial scores will score lower later, and those with low initial scores will score higher at a later time. If these scores measure the output, it would be false to infer that the differential change resulted from a change in an explanatory variable since the change in the score would have occurred regardless of the presence or absence of the explanatory variable.

4) Selection and mortality. These threats occur when the kind of person selected for a program or the rate of people leaving a program differs from the general population the program is supposed to serve.

In addition to these threats to internal validity from changes not specified in the model, there are other threats to internal validity which result from an improper measurement of the variables in the models.

c. Implications for the design of studies to test models. This chapter has painted a rather grim picture of the possibilities of testing process models without making false inferences. There are many ways to make false inferences from data. Simply conducting a study may not enable us to test a model adequately. We have purposely stressed the threats to research validity because of the optimistic acceptance most studies have received. One hears the phrase all too often, "the data say that this relationship exists" or "the data say that theory is wrong." Data in and of themselves never say anything. It is the models that we use to design and interpret data that enable a researcher to make assertions about real world relationships.

Several precautions should be taken in designing research so that we can have confidence that the findings are valid. The first step is carefully describing the process involved. While any model will be a simplification of the real world process, the model should be sufficiently complex to include the key inputs and transformations likely to occur. One way to gain a preliminary sense of the validity of a model is to discuss a preliminary model with the participants in the process. If those familiar with the process agree that a model is a relatively accurate representation of the process, the model can be said to have face validity. The absence of face validity does not automatically rule out further consideration of models. However, one should be hesitant to spend much time or money collecting data unless: 1) the model has face validity, or 2) the model is thought to identify underlying processes not immediately apparent. Usually only a well-developed deductive theory can provide the basis for this second kind of assurance.

A second precaution is developing alternative models. These can be derived by reflecting on potential threats to internal validity statements made by opponents or proponents of recommended reforms of their (often implicit) models of the process under investigation.

Another precaution is to select a research design tailored to the particular model being studied. If many variables are thought to be interacting, the researcher will need to pick those which constitute the explanatory variables in a particular study. Once these are selected, the research also needs to identify other variables operating and how they might be brought under control through initial design or statistical analysis. By seeking multiple sites where key variables are known to be constant, control over some extraneous variables can be achieved in the initial design. Randomization of participants or sites is a means of reducing the possibility of still other processes operating in a systematic way to confound the analysis. However, more frequently, that alternative is not available to a designer of research related to police service production processes. Consequently, it will be necessary to measure key extraneous variables not controlled by design or randomization so that their impact can be assessed through statistical methods. After data are collected,

the researcher needs to explore whether there were changes occurring where data were collected which might account for any of the relationships. Finally, the researcher needs to select statistical techniques appropriate to the model and the data.

If sufficient care is taken in the design of research, we can begin to eliminate alternative models and gain greater confidence in our understanding of police service production. Failure to test models is even riskier than making tentative false inferences in a program of continued testing and re-evaluation of models.

CHAPTER 5. THREATS TO THE QUALITY OF PERFORMANCE MEASURES

Unstructured observation is not measurement. Measurement requires the systematic comparison of observations to a standard of measure. For example, we measure the length of a table by comparing it to a tape marked off in standard units of distance. We use a clock which is set to a standard to measure time. Measuring tapes and clocks are examples of measurement instruments: They are devices which provide a standard of measure against which observations may be compared. When a police dispatcher punches a calls-for-service card in a time clock as he assigns a patrol officer to respond to that call, the dispatcher is using the clock to measure the time of day at which the assignment was made. He records the measure on the card by triggering the printer on the time clock. Another dispatcher, using a clock set to the same standard of measure should record the same time of day if she also measured the time of day at which the officer was assigned. The use of a measurement instrument permits different people to obtain the same reading when measuring a given observation.

A police dispatcher may also record the time at which an officer reports arrival at the scene of a problem and the time the officer reports completion of the assignment. Each of the times the dispatcher records is a simple measure. That is, each is a reading obtained by comparing an observation to a standard. We can construct complex measures from these simple measures. By subtracting time of assignment from time of arrival, for example, we can compute a measure of the time it takes an officer to respond to the dispatch and reach the scene of the problem. It is also important to note that time of arrival and time of assignment completion are measured differently from time of dispatch. The dispatcher himself does the dispatching so he observes directly the time of dispatch. He makes a direct measurement based on his own observation. But the dispatcher does not observe the officer's arrival or completion of assignments. The dispatcher's measurement of arrival and completion times is indirect. The dispatcher measures the time at which the assigned officer reports arrival and the time at which the officer reports completion. Indirect measures are subject to more potential error than are direct measures because the person doing the measuring does not make the observation first hand.

Most of our attention in this chapter will be devoted to issues of data collection and recording--to the validity and reliability of simple measures. The quality of complex measures rests on the quality of the simple measures from which they are constructed as well as on the adequacy of the theory which specifies the relationships between the simple measures comprising the complex measures.

Another issue considered in this chapter is the incorporation of values into measurement. Good performance measures are not simply reliable and valid descriptions, they are also clearly stated assessments of the value of that which is described. Performance measures are subject to all the potential errors of any other measures, but they are also open to the misinterpretation of values attached to the descriptions they provide.

A. Reliability and Validity of Measures

The quality of all measures can be assessed in terms of two basic questions. The first question is whether the data which are recorded reflect consistent use of the standard of measure. Would another comparison of the same observation to the same standard result in the same reading and record? This is a question of reliability. The second question concerns whether a measure provides information about what a researcher wants to know. Are the observation and standard of measure appropriate to the concept the researcher is interested in? This is a question of validity. For a measure to be valid, it must be reliable. Without reliability, there is no certainty about what the measure itself is, so there can be no certainty about whether it accurately captures the concept of interest to the researcher (Payne, 1973:58). However, even an extremely reliable measure may not validly measure what the researcher wants to know about. In addition to reliability, validity depends upon the congruence of the measure to a well-defined concept. Although we speak of reliable and unreliable measures and of valid and invalid measures, these attributes are rarely absolute. Often in social science we must choose the more reliable of two measures, neither of which is perfect.

1. Reliability. Reliability involves the reproducibility of the measure. When one is concerned about establishing reliability, one is concerned with whether the measure taken is a stable description of some observation in terms of a prescribed standard for describing that kind of observation. As Skogan (1979) puts it:

> The problem with unreliable measures is that they do not give us stable readings: one measurement does not agree with another, and repeated measures fluctuate over short periods of time. As a result we may confuse unreliable findings with true change... (p. 136).

Three sources of error can contribute to unreliable measures: the subject of the observation, the person making the measurement, and the measurement instrument used (Ackoff and Emery, 1972:265).

a. Measurement errors attributable to the subject of observation. The subject of observation is a possible source of measurement error whenever reports the subject makes are the basis of the observation. Whenever the person responsible for making measurements must rely on information provided by others, the reliability of the measures produced depends on the stability of the reports provided by the other persons. Since police must often rely on victims or witnesses for information about crimes and offenders, the quality of these indirect measures is dependent on the uniformity of the information they provide. Lapses in memory and shifting motives can both contribute to the same person providing different accounts of an event. Differences in perceptions, experience, ability to recall, and personal motivation can all contribute to different persons providing different accounts of the same event. The person responsible for measuring crime may carefully record the type of incident, number of suspects, location, loss incurred, and other observations of interest and may make those records according to prescribed standards of measurement. This will produce a reliable set of measures for the report about

the crime. But even if the report is measured reliably, the crime itself may be measured quite unreliably unless the person who provided the report correctly reported the circumstances of the incident. If the person reporting forgets to mention some of the people who were present or slants his description to favor his own case, reliable measures of that report will be unreliable measures of the incident the report is supposed to be about.

b. Measurement errors attributable to the person making the measurement. Many routine police records have serious problems of unreliability not only because citizens consciously or unconsciously modify "paper reality" (Goffman, 1961), but because police officers as data recorders are also motivated to alter the written record (Clark, 1977:33). Some alteration occurs through failure to record what is supposed to be recorded. Manning (1977) illustrates this with the following account:

> A man came into the station requesting that a car that had been left on his lot be investigated by the police as possible stolen property. He tried to hand the key to the locked car to the sergeant on duty. The sergeant refused it (policemen cannot accept gifts or property without a written reason or justification). He suggested to the lot owner that 'if the key were left, and if they looked around later, it might be found and then they might try some car in the area to ascertain if any of them belonged to the key.' The lot attendant blinked, left the key, and walked out. A PC immediately said in a false tone of surprise: 'Hey, Sarg, someone left a car key on the counter! What should we do?' None of this was recorded (pp. 189, 190).

Alteration occurs when police consciously decide to inflate or deflate measures while still pretending to subscribe to the prescribed standards of measurement. Seidman and Couzens (1973) describe pressures which produced this kind of error in the measurement of reported crime in Washington, D.C.

Unreliability may also be introduced by the person making measurements even when that person has no intention to do so. A dispatcher who simply forgets to post some of the relevant information on a dispatch record affects data reliability. Data recorded through interviews is subject to unreliability due to interviewer errors such as forgetting to ask a question or marking down an incorrect response. Even subtle differences in how interviewers ask questions or in how they appear to respondents can affect the reliability of the data they collect. Bailey et al. (1978) found that differences among interviewers conducting victimization surveys for the Census Bureau were responsible for some of the apparent differences in victimization rates in eight large cities.

c. Measurement errors attributable to the measurement instrument. Measurement instruments provide the standards against which observations are compared. If those standards of measure are ambiguous, persons using them will be more likely to apply them inconsistently. Ambiguity of measurement standards can arise in several ways. Lack of precision and clarity in defining categories is one source of ambiguity. For example, police dispatch records often indicate whether a problem police dealt with was "in progress" or not,

but the meaning of "in progress" is generally left up to each person making out dispatch records. One person may designate any call in which someone is injured and needs immediate assistance as "in progress," while another may only refer to problems as "in progress" if the threat of further injury is present. Precise definitions of the categories to be used as standards of measure help preclude this sort of inconsistency and produce more reliable measures.

The use of overlapping categories for measurement is another source of unreliable measures. Even when categories are clearly defined, they may still encourage inconsistent measurement unless they are mutually exclusive. In many police departments, the categories "domestic disturbance" and "simple assault" are both in common use to measure types of problems police deal with. Frequently, however, they are defined so that they overlap: a "domestic disturbance" is any problem involving a dispute between members of the same family or household; a "simple assault" is any situation in which one person is physically injured by another's physical aggression. Inconsistent measurement occurs when there is no standard about how to code cases in which one person is physically injured by the physical aggression of another family member. Some coders may find the relationship between the parties more important than the extent of the aggression, while others make the opposite emphasis.

All measurement instruments need to be designed so that all who use them in gauging observations can consistently interpret the standards of measure they present. Measurement instruments which are to be used as guides to in-person interviews have a further requisite, however. They must be so designed that respondents who have had the similar experiences will provide similar responses to the survey items. For example, the longer the time period referenced in a question, the greater the likelihood that respondents will have different rates of recall about events during that period. Similarly, the more complicated the question, the greater the likelihood that some respondents will be unable to understand it fully. Those designing interview schedules also need to be aware of the reliability problems created by leading questions which suggest a "preferred" answer to respondents who may be particularly disposed to please the interviewer, and the problems created by threatening questions which may antagonize potentially hostile respondents. In short, interviewers can produce unreliable measures when the questions they ask are perceived differently by different respondents or when respondents have different capacities to provide the requested information.

2. Validity. We have seen that measures which are not reliable cannot be trusted as accurate descriptions of the things of interest to us. But reliability is not enough. Even measures which are reliable may be unsuitable: that is, they may fail to describe what we think they describe--they may not be valid measures. A valid measure is not only reliable, it is also a satisfactory representation of the concept it is said to measure. Thus a police department might have a reliable count of the number of vehicles on its inventory, but few would accept that count as a valid measure of the department's reductions in traffic accidents. In this example, the measure in question does not even have "face validity." It does not seem reasonable to measure reduction of traffic accidents in terms of police vehicles on hand. If research were to demonstrate a strong and unvarying relationship between police vehicles and traffic accidents, we might come to accept the former as a proxy measure of the latter. But until we are convinced of that relationship, we are not likely to

accept a measure that seems on its face so remote from the concept we are trying to measure.

Face validity is the easiest test for a measure to fail. Unless people are willing to accept a measure as a reasonable description of what they are interested in, that measure will have little currency. Too often, however, measures which initially have little face validity come to be popularly accepted because of the authoritative source which issues them. Thus, the press and the general public have come to accept a count of reported crime as a valid measure of the occurrence of crime, at least in large part because the statistics (although gathered by local police agencies) are released from Washington by the Federal Bureau of Investigation.

If we examine more closely, however, we can see that the Uniform Crime Report (UCR) is an invalid measure of the extent of crime. Reported crime data depend not only on the occurrence of crime, but also on citizens' reports of crimes and police officers' checking and recording those reports. Thus, an increase in reported crime in the UCR might well indicate greater public reporting to police or greater police recording of reports rather than the occurrence of more crime. Indeed, some recent studies of policing have used reported crime as an indicator of improved police performance by arguing just that (Cirel et al., 1977; Schneider, 1975). In fact, it is conceivable for reported crime to rise while the occurrence of crime is declining, although this could happen only until all crimes were reported and recorded.

Another threat to the validity of measures is the confusion of small differences with large differences. How much of a change needs to be observed before we can confidently conclude that there has been a major change? This kind of validity problem often arises when we are observing changes that are a matter of degree, but want to make conclusions about changes that are a matter of kind. For example, Hudson (1977) reports on a restitution center in Minnesota where offenders with long and extensive histories of property crimes were required to make restitution agreements with their recent victims. Given the type of offender involved, the level of restitution activity covered by the center's activity was quite small. One may ask whether this was a valid operationalization of the concept of restitution. That is, was this one act of restitution sufficient to constitute a major change in behavior in view of the established pattern of non-restitution which had preceded it? When we observe only a narrow range of behavior, we need to be careful about making gross distinctions between behaviors at either end of the range (see Cook and Campbell, 1975:244).

Sometimes the way in which an observation is recorded may change the behavior of the persons being observed. Social scientists refer to this threat to validity as "reactivity." Here the person whose behavior is the subject of study changes behavior while being observed so that the behavior which is recorded is not typical of the person's behavior generally. In strictly controlled research settings, the person recording data is someone unrelated to the person observed and usually has no power over that person. The data recorder is trained to be as unobtrusive as possible so that the standards used for measurement are not apparent to the person who is observed. No clues about expected behavior are communicated to the subject of study. Anonymity is assured to respondents to reduce their sense that what is being recorded can in any way affect them later. Considerable effort is made in controlled

research settings to reduce the level of reactivity of the observed person to the process of being observed. But even in such research settings, those observed tend to react to their observers and produce behaviors or reports of behavior that they think will please the observer (Weber and Cook, 1972; Rosenberg, 1969).

In operating police departments it is almost impossible to create situations in which the observed will not react to the process of data collection and thereby affect what is recorded. Typically the person recording the data has power over the person being observed. It is also impossible to provide anonymity because the usefulness of the information for police operations (as opposed to performance measurement) depends on knowing the identity of the people involved. Suspects obviously have strong incentives to appear to be innocent in many situations in which they are guilty. Victims frequently have incentives to reduce their own possible complicity, to make their losses appear greater than they were, or to shield certain offenders. Witnesses may share similar incentives.

Measurement reactivity also occurs among police and creates validity problems for measures of police activity. In an extensive study of the factors affecting police enforcement of traffic laws, Gardiner (1968) argues that internal incentive systems within police departments are the most important factor affecting the rate of tickets written. Gardiner illustrates how a police chief can greatly increase the number of tickets given by making officers aware that this aspect of their behavior is being measured. A chief in a 28-officer department explained why tickets written by his department jumped from 881 in one year to 3,605 the next:

> The Inspector's Office maintains a breakdown of daily records on all police personnel relative to their activities. These records, of course, almost immediately put the finger on the "gold brick," or one who is not doing his job to full capacity. In this event, the officer in question is ordered into the inspector's office where comparative records are made available to him and efforts are made to determine reasons for the officer's lack of initiative. If the conference does not produce the desired results, further and more severe disciplinary action follows (pp. 160-161).

In this case the chief apparently intends to change officers' behavior all the time they are on duty by keeping them under constant observation and letting them know the standards by which their behavior is to be measured. If the procedures for recording the number of tickets each officer writes produce reliable measures, the department has a valid measure of tickets written. But if the chief is really interested in having officers issue more tickets in potentially hazardous situations, the measure may not be valid. If the new policy encourages officers to issue tickets primarily for minor infractions which are not threats to safety while ignoring more serious violations, the chief's policy would be creating a paper record suggesting a crackdown on serious violators while actual enforcement practices encompassed a much broader range. These are the kinds of reactivity problems that are most serious for they lead us to believe the opposite of what is occurring.

Given the complexity of the concepts involved in most process models related to policing and the various problems of unreliability and reactivity discussed above, reliance on single indicators or even on a single model of data collection can be a serious threat to the validity of performance measures. Clark (1977) argues that a good rule of performance measurement is "to beware of one researcher, one method, or one instrument" (p. 50). In a similar vein, Rivlin (1971) articulates a similar rule for development of performance measures in social action areas as "single measures of social service performance should be avoided" (p. 141).

However, simply putting together a number of indicators into an arbitrary computed index does not solve the problem of valid measurement of complex concepts. It is quite possible to form an index that combines too many dimensions and indicators. "The chief danger here," Etzioni and Lehman (1967) argue, "is that in the pursuit of a single score, the internal variation among the dimensions that are covered by the index will be ignored" (p. 4). This is one of the key problems with the FBI crime index in which all seven offenses are given equal weight. One homicide equals one theft on the index, but few police constituencies would weight a homicide and a theft equally.

Since it is not always possible, or even desirable, to combine several indicators into a single index, a useful strategy is to compare several indicators which purportedly measure the same concept to ascertain whether consistent patterns of relationships exist among the multiple measures. Where similar patterns are found, the validity of each of the potential measures is enhanced. However, where different patterns of relationships exist, the indicators are measuring different phenomena. At least one indicator is not a valid indicator of the concept being studied.

Research staff members at the Illinois Law Enforcement Commission recently undertook an extremely insightful and important comparison of similar indicators derived from official crime statistics and from victimization surveys for the city of Chicago for the same time period (Block and Block, 1980). Depending upon which data source they used, systematic differences existed in the answers found to two relevant policy questions. The first question they examined is how many attempted noncommercial robberies were "successful"--that is, when property was actually taken. Drawing on victimization data, they showed that no property was lost in one third of the incidents involving a potential noncommercial robbery. However, due to systematic citizen underreporting of attempted robberies and under-recording and unfounding by police, the proportion of incidents involving an unsuccessful robbery in official crime statistics was only 6 percent. Using official statistics, it appears that almost all attempted robberies are completed, while use of victimization data provides contrary findings that at least one third are not completed.

Block and Block also examined the question of the effect of victim resistance on the completion rate for noncommercial burglaries. When they used official statistics, victim resistance made a small difference in whether an attempted robbery was completed. When assailants used a gun, resisting a possible robbery lessened the completion rate from 98 percent to 81 percent (see Table 8-1a). Resisting decreased the chances of property loss from 97 percent to 75 percent when the robber did not use a gun. When Block and Block analyzed the victimization data, they found an even more substantial difference in the robbery completion rate dependent upon victim resistance. When victims

reported that they did not resist an armed robber property was lost in 91 percent of the incidents. However, when they reported resisting an armed robber, the percentage of incidents that were completed fell to 49 percent (see Table 8-1b).

TABLE 8-1. PERCENTAGE OF INCIDENTS IN WHICH ATTEMPTED ROBBERY WAS COMPLETED

a. OFFICIAL CRIME DATA

Was a gun used?	Did the victim resist? Yes	No
Yes	81%	98%
No	75	97

b. VICTIMIZATION SURVEY DATA

Was a gun used?	Did the victim resist? Yes	No
Yes	49%	91%
No	39	87

SOURCE: Adapted from Richard Block and Carolyn Rebecca Block. Decisions and Data: The Transformation of Robbery Incidents into Official Robbery Statistics (Chicago, Illinois: Illinois Law Enforcement Commission, Statistical Analysis Center), 1980, p. 26.

Findings such as this raise serious questions whether victimization data and official crime statistics are measuring the same concepts.

B. Other Threats to the Quality of Performance Measures

The quality of performance measures is subject to other potential problems as well. Performance measures need to be reliable and valid in all of the senses we have discussed, but they must also meet additional tests. Performance measures are not simply comparisons of observations to standards, they are valued comparisons. Certain categories of the standard of measure are preferred to other categories. Performance measures not only tell us how one observation differs from another, they also tell us which observation is better. For performance measures to be used well, the assignment of values must be clearly stated. We do not say that the assignment of values to the categories of the standard of measure must be correct. We believe that there is room for honest difference of opinion and for debate about what should be valued in policing. But for performance measures to be most useful, the value preferences

on which they are based must be clearly stated. If values are only loosely tied to performance measures, confusion over the interpretation of the measures is likely. Two questions need to be answered in clarifying how values relate to standards of measure: 1) How do values correspond to categories of the standard of measure? and 2) Is the concept which is measured valued intrinsically or is it valued because it is thought to be systematically related to something else of value?

How do values relate to standards? They often relate in complex ways. More is not always better. Up to a point, increasing the retention of employees in a department may be valued. But at some point, no turnover in employees may become stultifying and harmful. Nor does value necessarily change at the same rate as the thing being measured. It may be very important to increase the number of traffic stops per officer from say 5 a week to 20 a week. But it may be of little value to increase the number of stops beyond that to say 35 per week. If performance measures are to be used to inform decisions about policing, it is essential that the people using the measures be clear about how the categories of the measure translate into values.

Those using performance measures also need to know whether they value something for itself, as inherently valuable, or whether they value that thing because of its relation to something else of value. To return to an earlier example, does the chief value traffic tickets for themselves or does he value traffic tickets because he expects an increase in tickets to lead to a decrease in traffic accidents? The use of measures to improve policy making depends on knowing the answer to this question. If tickets are valued intrinsically, then in terms of the chief's values the department is doing better by issuing more of them. If tickets are valued as a means of reducing accidents, then the chief needs some understanding of the relationship of tickets to accidents so that he can make best use of increases in ticketing. Is there some point beyond which tickets do not contribute substantially to reducing accidents? Are tickets issued for certain kinds of infractions or at certain times or places more productive of accident reduction than other kinds of tickets?

Finally, it is important to remember that there are many constituencies for police and a variety of values for policing. A performance measure which is quite satisfactory to one constituency may concern an aspect of policing which is not of interest to other constituents. Furthermore, two different constituents could make quite different performance measures out of the same measure. Thus a merchants' association along a busy street might view the number of parking tickets issued there as an indicator of the level of police insensitivity and harrassment, while the commuters who regularly use the street for getting to work might view the number of parking tickets issued as an indication of police efforts to improve traffic flow.

Performance measures add subjective assessments of value to the intersubjective assessments of reliability and validity by which all measures need to be tested. The quality of any measure depends on the consistent application of the appropriate standard of measure. Complex measures require not only valid and reliable simple measures, but also valid theories about how those simple measures relate to each other to form the complex measure. A performance measure must meet all of these requirements to provide data which all observers can recognize as being an accurate description. In addition, a performance

measure needs to state clearly the worth the constituent of policing attaches to the categories of the measurement standard. Good performance measures must assure confidence in their descriptions and provide clarity about the preferences they represent.

CHAPTER 9. CRITERIA FOR EVALUATING POLICE PERFORMANCE

An evaluation of police performance is an attempt to answer a question, or a set of questions, about some aspect of police service production. The potential set of questions which constituents can ask is large. These questions can be grouped according to several categories of evaluation criteria. When a constituency wants to know how well police are accomplishing one or more objectives, it is asking about "effectiveness." "Efficiency" concerns refer to constituents' questions about the relationship between resources utilized and results obtained. "Equity" concerns involve the fairness of distribution of services or results to different groups or individuals. "Accountability" questions relate whether officials have been legally and fiscally responsible for their decisions and activities. Many other questions are asked about police performance. However, we will confine our discussion of evaluative criteria to these four broad categories: effectiveness, efficiency, equity, and accountability.

Any of the above criteria may be of interest to any police constituency. However, the specific concerns grouped under each criterion tend to vary depending upon who is evaluating police performance. For example, the particular equity concerns of a constituency may involve the distribution of inputs (for example, whether the same amount of money is spent in each neighborhood), the distribution of activities (for example, whether all neighborhoods are patrolled with the same frequency), or the distribution of results (for example, whether all neighborhoods have equal levels of crime). What is considered equitable depends on the values of the constituency. Some constituencies think that police services should be greater in poor neighborhoods where crime rates are the highest. Others think services should be distributed according to who pays for them with wealthier areas getting more service.

A. What is Being Evaluated

Inputs are resources used in a production process. Inputs include the number and types of employees, the physical plant, the supplies, and materials used by police agencies. Activities are the processes which transform these inputs. In the delivery of police services, activities include patrolling, investigating cases, talking with juveniles, responding to calls for services, meeting with citizens, making out reports, processing evidence, etc. Outputs are the direct results of these activities. An arrest is the output of specific investigating activities: questioning witnesses and suspects, examining the crime scene, locating the suspect, and so on. A case report is an output of a number of investigatory activities.

Evaluation of the performance of public agencies requires more than analysis of their outputs. Some police outputs may have little impact on the citizens who are supposed to benefit from them. Other outputs may even make things worse rather than better. In the private sector, a firm that produced outputs of little value (or of negative value) to consumers would not survive. But, in the public sector, agencies producing outputs with little or even

negative impact on the public can survive. The consequences of outputs--we call them outcomes--must also be used to evaluate public organizations.

An illustration will point out the difference between police services and goods in the private market. A brickworks makes bricks. Bricks are its outputs. Its success is determined by how well the bricks sell. The use consumers make of the bricks is irrelevant in evaluating the organization of the brickworks. Police make arrests and traffic stops. But those arrests and traffic stops have value only to the extent that they produce other consequences: reducing criminal activity, increasing citizens' feelings of safety and well being, and reducing traffic accidents, for example. Arrests which do not result in publicly desired outcomes may, in fact, produce negative activities and outlooks among members of the community being policed. Similarly, traffic stops which are not related to traffic hazards do not improve safety, but may instead lead to increased citizen frustration with and hostility toward police.

Outcomes may be divided into two types: objective and subjective. "Objective outcomes" may be defined as the impact of the outputs of public agencies upon general community conditions. For example, a decrease in a community's crime rate could be an objective outcome of police crime-solving activities and arrests. It is important to note, however, that the outputs of police agencies are not the only factors affecting objective outcomes. Socioeconomic conditions, such as unemployment rates and age distributions, are also likely to have impact on crime rates. Other public agencies simultaneously influence objective community conditions. The failure of a labor department to locate jobs for large numbers of unemployed individuals may also have impact upon crime rates in the community. School systems that are quick to suspend students may be adding to the pool of potential criminals on the street. Objective outcomes, then, result from many factors, only some of which are the outputs of a given public agency. This makes assessment of the unique impact of police outputs on objective community conditions quite difficult and is one reason models of police service production are so important for performance measurement.

In addition to affecting general community conditions, outputs of public agencies may have a psychological impact upon citizens. We refer to these as "subjective outcomes." Subjective outcomes of policing include the perceptions and evaluations of public agencies, police outputs, and the objective outcomes by individual citizens in the community. For example, the arrest rate of a police department may affect citizen perception of safety and/or citizen evaluation of police performance.

B. A Variety of Evaluative Criteria

Effectiveness, efficiency, and equity have been the subject of many extended essays and books. We do not intend to provide the definitive statement about any of the four evaluative criteria we discuss. In fact, our major contention is that these terms are used in many different ways by different constituencies at different points in time. It is futile to try to resolve definitional issues about such important but conflict-ridden questions as, for example, how to define and measure equity by urging adoption of a single meaning for the term. For each of the four types of evaluative criteria, we plan to

discuss the general questions about police processes addressed when constituencies use this type of criterion to evaluate police performance. We will try to help police administrators and others understand how different individuals might not agree on whether a particular police program was efficient or equitable. Disagreements frequently result from different frames of reference used by different participants. The specific definition of an evaluative criterion being used by individuals may also differ. Further, programs evaluated positively using one criteria will most frequently be evaluated less positively using others.

Sincere people can disagree about the criteria they use to judge police performance. Given the wide variety of values for police service, only conflict and rancor can result from any attempt to impose a single summative measure of performance. Departments are more or less effective in meeting the specific expectations of specific groups for specific programs. Efficiency in one service might be inefficiency in another. Programs that are equitable in the distribution of police activities may be inequitable in their impacts on various parts of a community. Instead of developing a specific set of measures of police performance to be applied comprehensively to entire departments, those interested in police performance should ask much more detailed questions about police processes and their results.

1. Effectiveness. Effectiveness concerns involve how well outputs or outcomes match goals. "Analysis of effectiveness requires identification of goals and measurement of outcomes to determine how well goals have been achieved" (Poland, 1974:335). The most frequently used definition of effectiveness in the current evaluation research literature is a measure of how well an organization meets its own stated goals. Because police departments are responsible to a variety of constituents, the focus on organization goals is too limiting. If all constituents of a police organization agree upon goals--an unlikely situation--then it is easy to define effectiveness in a satisfactory manner for all constituents. However, the more normal state of affairs is disagreement rather than consensus on the goals to be achieved for police, as for most other organizations.

After reviewing the extensive body of literature on a variety of organizations, Hrebiniak (1978) concludes that the term effectiveness is used in many ways because of the variety of goals people have for organizations: "The problems in the literature merely reflect the situation in the real world--one in which organizations themselves show a great propensity to redefine and change the indicators of effectiveness to suit the demands made of them" (p. 303). Hrebiniak suggests that researchers and managers think of the term effectivenesses rather than effectiveness. The plural term, effectivenesses, "serves notice that a unique decision regarding overall organizational effectiveness may never be attainable"(p. 321). A single summary score for effectiveness would depend upon the weights given to separate assessments of the organizations by different organizational publics. Agreement on weights is no more likely than agreement on goals. The plural terms "effectivenesses" recognizes this diversity:

> the impression of an organization constantly being evaluated on a number of fronts, by a number of different publics. The outcome (or outcomes) of the many-sided process depends

> upon the ability of the organization and its various reference groups to make and back demands (Hrebiniak, 1978:320-321).

No single set of effectiveness measures is appropriate for every police department to use. Concern for effectiveness is interest in how well a division, program, or the entire department is accomplishing some activity, output, or outcome of interest to some constituent. Any particular police department will want to develop effectiveness measures related to particular ongoing programs of interest to its constituents. It is indeed important for an individual police agency to know how well it is doing with the programs it is self-consciously attempting to develop and improve. But other constituents of a police department may also be interested in measuring the effectiveness of a program or department in terms of values primarily of interest to that constituency.

Conflict among goals is endemic to the entire process of policing. Consequently, it is to be expected that every department will find it is effective in achieving some goals and not effective in achieving others. Departments may even find that they are rated as being more effective at achieving some goals for external constituents than they are at achieving goals that have been developed through internal decision-making processes. It simply does not make sense to talk about whether a police department is effective overall. It only makes sense to address specific questions about whether a police department is effective in doing a particular task or producing a particular output or outcome.

Responsiveness is frequently considered as a separate evaluative criterion. Because responsiveness is concerned primarily with the satisfaction of consumer goals for policing, we will consider it as a particular sort of effectiveness measure. Responsiveness concerns involve assessing how effective a police department or program satisfies the preferences of the citizens it is serving. Like all measures of effectiveness, responsiveness measures assess congruence between some preferred state of affairs and program accomplishments.

2. Efficiency. Constituents concerned about efficiency want to minimize the inputs required to produce the desired output. Like effectiveness, efficiency is a general category of constituent concern and refers to many specific police operations. In order to make an overall efficiency assessment, all results would need to be evaluated on a single scale of value. As we argued above, this would require agreement on the relative value of each police output. Such agreement is very unusual. If such a summation of results were feasible, police chiefs' decisions about how to allocate resources efficiently would be much simpler. Under those conditions, police chiefs could simply compare the total expected benefits from different ways of using inputs and select those uses which produce the highest benefit levels. However, there is no general agreement on the value of various police outputs so it is not possible to add together the diverse benefits of policing. Consequently, police chiefs and local government managers must evaluate the efficiency of separate programs without being able to obtain one overall measure.

When one is examining specific programs within police departments, it is sometimes possible to make valid efficiency conclusions even when inputs and outputs are not converted to some single unit of value. By comparing the amount of the inputs used and the amount of outputs produced, efficiency

conclusions can be reached in two of the four possible types of cases illustrated in Figure 9-1. Whenever more outputs are produced for the same (or less) input, one program is more efficient than another. Conversely, when outputs are equal, the program with the lesser input is the more efficient. However, whenever it takes more inputs to produce more outputs, efficiency conclusions are indeterminant unless some uniform value can be computed for both inputs and outputs (see Simon, 1945:179).

FIGURE 9-1. EFFICIENCY CONCLUSIONS FOR SPECIFIC POLICE PROGRAMS WHERE INPUTS AND OUTPUTS ARE NOT MEASURED IN THE SAME UNIT OF VALUE

Relationships between Inputs and Outputs for Program A and Program B	Efficiency Conclusions
I. Inputs into Program A are less than the inputs into Program B and the outputs of Program A are greater than or equal to the outputs of Program B	Program A is more efficient than Program B
II. Inputs into Program A are greater than the inputs into Program B and the outputs from Program A are less than or equal to the outputs from Program B	Program A is less efficient than Program B
III. Inputs into Program A are less than the inputs into Program B and the outputs of Program A are less than the outputs of Program B	Indeterminant
IV. Inputs into Program A are greater than the inputs into Program B and the outputs of Program A are greater than the outputs of Program B	Indeterminant

An efficiency evaluation of even a particular program challenges the evaluator to consider several assumptions about inputs and outputs. Consider the common situation of justifying a special unit according to efficiency standards. Suppose that a department forms a traffic enforcement division and hires additional officers to staff it or fill vacancies left in other divisions. The chief claims that he needs more people to increase traffic safety and that a special division will be more efficient because it will be devoted exclusively to traffic enforcement. After two years the city council asks the chief to justify the program. Has this program produced benefits in excess of its costs, and if so, how much? A chief disposed to conduct a fair assessment of the program's efficiency will find the task difficult.

First, estimating the cost of program input is not as easy as it seems, despite sophisticated budgeting techniques available to some departments. Expenditures for salaries, benefits, training, equipment, and capital outlay for the traffic squad during the two years may not exhaust the costs incurred by the program. For example, the creation of a specialized unit may create morale problems among officers who did not receive their preferred work assignments. This may affect other, nontraffic aspects of police performance in the patrol division. The creation of a new traffic division may require that high-ranking staff spend more of their time coordinating its operations with other divisions' operations. Some costs do not appear at the time of program implementation or during the evaluation period but appear later. The large influx of patrol-rank officers at one time may create management difficulties several years hence when many of them become eligible for promotion. The department, unable to promote all of its acceptable candidates, may lose many good officers to other departments offering better opportunities for advancement. The heavy investment in training and screening officers must be amortized over a shorter time period in these instances. These less apparent and immediate costs may seem too insubstantial, unpredictable, or intangible to warrant the evaluator's attention, yet they can provide real difficulties in managing service delivery.

Estimating the financial value of benefits for the traffic enforcement program is even more difficult than estimating the dollar costs of its inputs. Not only must the evaluator estimate the dollar value of traffic safety, he must first estimate how much of that safety is due to the traffic enforcement division's activities. The latter requirement calls for modeling the process which presumably transforms police personnel into traffic safety. The chief's model links a series of hypotheses: specializing traffic enforcement produces more officer activity (stops, warnings, citations, surveillance); these officer activities affect the way people drive, and in some cases, who is permitted to drive; changes in drivers' behavior--other conditions being the same --result in fewer and less severe traffic accidents (see O.W. Wilson, 1963:353). We have little information on the validity of this model (Gardiner, 1969:159), and we certainly do not have accurate estimates of the parameters of the model, meaning that we cannot predict reliably the number and severity of traffic accidents that a given level or style of enforcement will produce. Estimating the effects of enforcement are particularly difficult when other potential factors not influenced by enforcement levels are subject to change: the weather, street and automobile design, the availability of fuel, public education programs, and patterns of street use. Further, the practices of other patrol officers, which might be affected by the traffic division's operations, must also be taken into account.

Even if the evaluator were comfortable with a model of the special unit's contribution to traffic safety, how should he express the benefit of that contribution in dollar units? For one thing, he must decide on the beneficiaries. Are beneficiaries only those who are stopped by police? Do those who frequent a street derive more benefit from traffic safety there than those who do not frequent it? Is more benefit derived from preventing an accident on a well-traveled street than on a less traveled one? Should benefits include the public monies that would have been spent on handling traffic accidents which were prevented by the enforcement program? Once the scope of benefits is decided the evaluator must translate prevented damage into dollar terms. Actuaries do this for insurance companies, but the figures they provide are not necessarily

appropriate for measuring the performance of law enforcement agencies. Does one limit the calculation of damages to the medical expenses incurred, or does one include the loss of economic productivity of victims? How is the dollar value of death estimated? If safer streets produce less anxiety among travelers, should one attempt to estimate the dollar value of that as well?

The purpose of posing all of these questions in the traffic safety example is to illustrate the complexity of applying efficiency as a performance criterion even to specific police programs. Attempts to apply efficiency standards to police policies and practices often look deceptively simple because they are based upon a string of underlying assumptions that are not made explicit. Making assumptions explicit may call the adequacy of underlying models into question. It may also encourage disagreement about the values assigned to inputs and outputs. Ignoring these assumptions may direct discussion away from the issues at the very heart of the disagreement. More useful assessments of efficiency are explicit about alternative models and valuation standards.

3. Equity. A constituent concerned with equity directs attention to how the benefits of policing are distributed. While many definitions of equity exist, they all share the notion that individuals or groups of individuals should receive services according to some criterion of fair distribution. The notion of appropriateness of distribution according to a previously specified rule is crucial to any concept of equity. Whitaker and Mastrofski (1976) identify five equity criteria, each of which represents an ideal type:

1) The universal criterion of equity is an unconditional standard specifying that a public service should be the same for all individuals or groups.

2) The status criterion directs attention to distribution of public resources according to standing in the community. Equity is achieved under this criterion when those in each status category receive what they are entitled to and provide what they are obliged to provide.

3) The contract criterion of equity is based upon the market model of how people relate to each other. People are entitled to receive according to their ability and willingness to pay.

4) The demand criterion, like the contract criterion, relies upon citizen-consumers to determine what is to be distributed to whom. Here, however, patterns of requests for services justify their distribution; ability and willingness to pay are not relevant. Those who ask, receive.

5) The need criterion says that a basic level of service should be provided to all. Equity here involves closing the gap between existing conditions and an externally determined standard.

Because of our lack of knowledge about outcomes of policing and how police can best produce them, considerable attention is now paid to the distribution

of police inputs. Many police constituencies are interested in the distribution of patrol units within police jurisdictions. Those who advocate a universal standard urge that the ratio of patrol units to residents be equal across all neighborhoods. Those who utilize the demand criterion would distribute patrol units according to the volume of calls received from each neighborhood. Those who are most concerned about distribution according to need might distribute patrol units according to the severity of crime in different neighborhoods.

A focus on activities rather than inputs leads to somewhat different equity questions: Should all citizens in a jurisdiction expect to have police respond to them with equal speed? Should police response be determined by the severity of the incident? If one focuses on what the officers do after they arrive, the questions turn to whether people get the same type of response in equally difficult cases. Is the level of courtesy shown and type of help offered the same for black as well as white citizens of the same jurisdiction, etc.?

Questions concerning equity of police outcomes include whether all citizens in a jurisdiction should have an equal likelihood of being victimized. Or, should the loss from crime be distributed in such a fashion that those who can afford a higher loss also experience a higher probability of loss? While few empirical studies of output equity have been conducted, Philip Coulter (1979) provides a study of output equity of police service delivery in Tuscaloosa, Alabama. He has developed a statistical procedure for computing a Coefficient of Service Inequality which could be adapted to apply to any of the five criteria discussed above. (See also, Bloch, 1974; Lineberry, 1977.)

Efforts to distribute inputs, activities, or objective outcomes according to some external standard do not address the question of whether the distribution pattern provided any particular neighborhood is responsive to the preferences of the citizens of that neighborhood. Those interested in equalizing the level of citizen satisfaction with police services across neighborhoods would argue for different combinations of services to different neighborhoods depending upon the type of service demands of most importance to the neighborhood. The inputs, activities, and outcomes of importance to firms located in a central business district are usually quite different from many of the inputs, activities, and outcomes of importance to people in a densely-populated, poor residential neighborhood. To gain equality of subjective outcomes (or equal satisfaction with local police) may require quite different mixtures of inputs and activities in different neighborhoods.

4. Accountability. When a constituency is inquiring about accountability, the focus of the questions is on whether inputs are used for proper purposes and whether activities are authorized and conducted by proper authorities. Officials responsible for public funds are normally required to take only those actions which are formally authorized and to maintain accurate records of the actions and expenditures made so that these records can be reviewed by external, independent agents. Examining the actions of public officials in terms of their legal or fiscal conformance is so traditional and common that accountability in its various forms is often overlooked in discussions of evaluative criteria (but see Greer et al., 1978; and Sze and Hopps, 1978). Holding public officials accountable for their actions is so much a part of the functioning of a

democratic system that systematic review of both fiscal and legal compliance are built into the normal processes of local, state, and national government. A major focus of these review processes is usually on individual cases rather than general patterns of performance, however.

When examining the question of fiscal accountability, auditors review specific expenditures made by the public agency. They may also inquire as to whether the amount expended for any particular input was appropriate. The methods of determining fiscal accountability have been more finely developed than most other evaluation methods. Bookkeeping procedures used for many police agencies conform to standards developed in part to facilitate auditing.

Another sort of accountability assessment is the examination of the specific actions taken by public officials. This is particularly important in examining how police treat citizens. Since police are authorized to use force against private citizens in the appropriate circumstances, it is particularly important to many constituents that police actions be within the law. The concept of due process is related to the questions of whether the actions of public officials at each stage in the processing of criminal charges against an individual is properly within the scope of authorized actions. Police are expected not only to refrain from the use of unnecessary force against citizens, but also to insure that fundamental constitutional rights of citizens are observed. In examining legal accountability, courts examine not only what an officer did, or did not do, to a citizen, but also the content in which the actions were taken.

C. Measuring Performance by Type of Criterion

Measuring performance so that numerous evaluative criteria may be applied requires considerable planning. Each type of criterion presents special design problems for the analyst. Failure to account for these needs in instrument design will probably produce inadequate data.

Effectiveness measures typically focus on outputs and outcomes, although analysts sometimes define effectiveness in terms of inputs (e.g., number of patrol officers on the street) and activities (making arrests).

The problem is more complicated for measures of efficiency. Not only must the analyst have data on outputs and outcomes, but he must also have data which link these outputs/outcomes to the inputs or costs of producing them. This is not always easy to do, because any given police officer or unit often performs more than one function, and diverse units share the same function. For example, patrol officers typically work traffic, respond to non-crime requests for services, and serve warrants in addition to patrolling for criminal violations. Thus, only a small proportion of a patrol officer's workday may be spent actually working on crime cases. Any attempt to assess the crime-fighting efficiency of the patrol division (for example, arrests per officer) should thus take into account that only a fraction of the division's time is given to activities specifically designed to increase arrests. If the department's arrest efficiency is being assessed, it is necessary to include the inputs and outputs of a variety of units besides the patrol division (e.g., the detective division, vice squad, juvenile bureau, etc.). Some inputs are particularly difficult to "cost out." How should a response to a domestic disturbance call

be classified? Is arrest as appropriate a disposition in this kind of case as in, say, a burglary complaint?

Measurement of equity inherently requires some cross-sectional comparison of people, neighborhoods, beats, businesses, or some other grouping of cases. The analyst must first decide what the important distributional unit is and then decide how to distinguish among these various units. Many departments routinely collect data on predesignated administrative units, such as beats, or precincts. Sometimes, however, departments need to compare the delivery of services according to distinctions that are not routinely made. For example, a center city that has substantial commuter traffic may wish to estimate the distribution of its services between residents and nonresidents. Unless information about who receives police services is routinely collected and stored in an easily retrievable fashion, the department will be unable to make this analysis.

To evaluate the responsiveness of a program, policy, or set of police activities, it is necessary to decide what is desired by the relevant constituency. Sometimes police departments examine constituents' requests for police service that are received through routine channels (e.g., calls for service, complaints about police service) to assay community priorities. These are limited in their ability to distinguish among citizens' preferences for competing priorities, leaving most of that to conjecture by police. Survey research is now used more frequently to determine what the public wants from their police. Surveys permit the analyst to get answers to more specific, complex questions, but a host of methodological complications accompany survey administration and interpretation. Police administrators frequently rely upon less bureaucratic or "scientific" ways of assessing public priorities. As Chapter 3 points out, local elected officials express their feelings about what their constituents want. Likewise, the occurrence of an unusual event, such as a demonstration or widespread media criticism can be taken as an indicator of constituents' preferences.

D. Inconsistencies Among Competing Values

Even the same constituency may hold inconsistent values for police performance. These value conflicts require people to choose among their own values. They are not easy choices. For example, an effort to increase effectiveness may have the effect of decreasing efficiency and vice versa.

> A program might be highly effective in achieving its goal... but be inefficient in that it employs inordinate amounts of resources to achieve its results. A second program might be minimally effective in attaining goals, but use limited resources very efficiently. It is not clear which program is preferable in budgeting resources (Poland, 1974:336).

As James Q. Wilson (1975b) has pointed out, the rules of equity and efficiency are also often in conflict. If a police chief follows a crime minimization rule, he would "allocate patrolmen so that the last one assigned would deter an equal amount of crime no matter where in the city he was placed" (p.62). Application of this criterion would lead to the lowest total amount of crime within a jurisdiction. However, because the "deterrence value of a patrolman

varies by type of neighborhood, some neighborhoods would have more crime than others" (James Q. Wilson, 1978:62). If the chief follows a crime equalization strategy, he would allocate patrolmen so that all citizens had an equal probability of being victimized. If successful, this might leave a higher level of crime in the jurisdiction as a whole because resources would need to be concentrated in the most crime-prone neighborhoods "to drive down those rates while allowing the rates in relative crime-free areas to rise. In short, the police administrator...must make decisions about equity as well as about efficiency" (James Q. Wilson, 1975b:62; see also Thurow, 1970:76; and Shoup, 1964).

All police managers are thus faced with the frequent necessity of making decisions that lead to mixed results: According to one value performance is better, while according to another it is worse. No methodology for measuring police performance will reduce the difficulties involved in making tough decisions. In fact, the more explicit, careful, and comprehensive the performance measurement program, the more obvious some of the trade-offs will be. At least some resistance to performance measurement probably comes from a reluctance to acknowledge the consequences of these tough decisions. More informed decision making may actually involve a higher personal cost for those making them. Performance measurement systems should not be thought of as painless ways of reducing the difficulty of public decision making.

CHAPTER 10. THE FUTURE OF PERFORMANCE MEASUREMENT

Three major problems confront those who seek to measure police agency performance. A brief review of these will prepare us for a discussion of our suggestions for improving police performance measurement programs. The first problem involves the variety of purposes people expect police to serve. Police agencies in the United States have many legitimate constituencies. Each includes people with different expectations of police performance. Furthermore, the interplay of values about what police should accomplish and how they should act is continuous. Not only do people disagree about what they want police to do, but they also often have expectations about police accomplishments that are unrealistic and inconsistent. For these reasons and because social conditions are always changing, consensus about police priorities is rarely attained. Performance measures are therefore political. Decisions about policing often involve competition over scarce resources or conflict over desired results. When people with different values interact in making decisions about police agencies, they use performance measures which reflect their own values. The choice of what to measure and the interpretations of data are influenced by the priorities of those who use the measures. Any set of performance standards will be subject to criticism from those whose interests are not sufficiently represented. The same data may indicate good performance to some constituents and poor performance to others. The lack of consensus about police performance measures does not preclude performance measurement, but it does suggest that we should not look to performance measurement programs for definitive answers about how well an agency is doing. Lack of consensus about what police should do inhibits certain uses of performance measurement, but encourages other uses.

A second problem is that little is known about the processes that transform police resources into valued products of policing. Studies of how police identify suspected offenders, of how various patterns of patrol officer allocation and assignment affect services, and of how to train officers to avoid violence have begun to increase our knowledge of some aspects of policing. Much remains to be learned about even the most studied of these service-production processes, however. Any use of performance measurement will necessarily be limited by what we know about the relevant processes.

A third issue concerns the reliability and validity of measures of what police do and of the presumed consequences of police activities. Many of the observations about policing which are currently recorded as data are made hapazardly, are organized into poorly defined categories, or are otherwise unreliable. A special problem with the reliability of many police data is that the person responsible for observing and/or recording them also has a direct stake in what the record shows. Such a person may be tempted to record a personally favorable score rather than the observed score. Even data which reliably reflect a set of observations may not produce valid measures of what they are thought to measure. Many social phenomena are difficult to measure directly. The data we collect may sometimes reflect only vaguely the reality we are trying to measure.

Each of these problems--lack of consensus for policing, lack of theory about policing, and lack of valid data on policing--should be confronted in planning performance measurement programs for policing. Improving the usefulness of performance measurement depends on recognizing the limitations that these problems pose and either accepting or overcoming them. Performance measurement programs which proceed without attention to the problems of lack of consensus, theory, and valid data for policing are likely to mislead their users.

A. Improving Performance Measurement for Specific Uses

Performance measurement is used in three ways: to rate how well an agency is doing, to identify service delivery problems confronting an agency, and to develop better theories of police service processes. Performance measures permit comparisons of an agency to performance standards, to another agency, or to itself at an earlier time. These comparisons can be used to rate the agency or to identify service problems. Using performance measures to rate the quality of an agency is particularly problematic, both in terms of the potential accuracy of such ratings and in terms of their fairness. In general, we believe that the use of performance measures for rating should be discouraged. Nevertheless, we recognize the widespread interest in rating police agencies and therefore offer some suggestions about how to reduce the likelihood that ratings will be taken as definitive or comprehensive and therefore be misleading. Using performance measures to identify service delivery problems is less problematic because it is considered by most users to be less conclusive. Researchers conducting comparisons to identify service problems are likely to inquire further into the values, models, and measures underlying their comparisons than are those whose interest is only in rating departments. The development of theory is usually subjected to even greater critical review. Results from this sort of research are typically published with sufficient detail on the methods and assumptions used to permit other researchers to identify alternative explanations and test competing theories. Theory-building research is often more removed from police decision making than either rating or problem identification. This contributes to the opportunity for external review and criticism, but it also means that this use of performance measurement may have less practical effects on policing. If our purpose is to improve policing, then new and better theories of police processes must also be taken into account in making decisions about policing.

1. Rating how well an agency has done. Rating of police departments can be done by comparing performance measures to standards, to measures from other departments, or to earlier measures from the same department. Although there have been several sets of standards proposed for police agencies in the past few years, these have not been widely used to make ratings of police agency performance. Perhaps this is becuase the standards do not reflect the values most important to many police constituents. Most of the standards relate to details of resource allocation or police operations rather than the results of policing. Constituents are often more concerned with the consequences of police activities than with the details of police operations. An important exception to the general interest of constituents in results rather than operations is the widely held concern that police conduct themselves lawfully and with civility. Police are held accountable through audits for the lawful use of funds and

property. They are subject to review by the courts for their adherence to standards of due process and to statutory guidelines. Various community groups have used political pressure to force some departments to encourage civil, nondiscriminatory behavior by their officers. These exceptions rarely involved the use of performance measurement, however. Usually, attention is focused on individual cases of failure to meet a standard. This differs from the approach in which cases are summarized according to a few, carefully measured characteristics, and the focus is on identification of a set of cases which constitute a pattern of failure to meet the standard. The use of standards is thus usually not so much for rating departments as it is for correcting instances of improper action. Except for the legal guidelines under which police departments operate, there is little use of standards in reviewing department operations. Given the lack of knowledge about how police services produce valued social conditions and the lack of agreement about what police should try to accomplish, this restricted use of standards is appropriate.

Performance measure comparisons across agencies are meant to rate how well an agency is doing; the major (if often unstated) premise is that agencies will have the same scores if they are doing equally well. Often this premise is incorrect. The most common comparisons among agencies is the comparison of their reported crime statistics. At least twice each year, with the release by the Federal Bureau of Investigation of the Uniform Crime Reports, the news media present comparisons of reported crime rates. National media compare major national cities' scores. Local media compare cities within their states or regions. The crime data are usually reported without any other agency performance measures or any discussion of the context of policing in the various jurisdictions. The extent to which differences in social conditions or public priorities in the different localities may contribute to differences in reported crime rate may be substantial, but they are usually ignored in the ratings.

Other, more careful, comparisons can be made. For example, Bloch (1974) presents a comparison of police resources, reported crime, clearance rates, citizens' perceptions and evaluations of policing, and economic and social conditions in two areas of Washington, D.C. Bloch's study was conducted for the federal court in Washington, which was considering charges of unequal distribution of police services by the Washington, D.C., government.

The contrast between Bloch's study and media accounts of crime in major cities illustrates some problems with comparisons and suggests some methods for dealing with them. The comparisons of reported crime suggest that this is the only relevant measure of police performance. By failing to include discussion of other measures, news stories about reported crime rates emphasize a single aspect of police work, but fail to acknowledge that they are doing so. In contrast, Bloch includes data on a variety of police resources, clearance rates, and survey findings on citizen perceptions of several aspects of police service. He also discusses the lack of appropriate data for measuring other important features of policing as a factor limiting the scope of the comparison he presents. Press comparisons of reported crime make implicit assumptions that higher crime rates reflect lower police performance. This assumption may be incorrect if the communities being compared differ in ways that make some of them more susceptible to crimes. We do not

know enough about the features of communities that are conducive to crime to make adjustments in crime rates so that our comparisons can be corrected to give precise readings of the effects of police agency operations on crime in each of the communities. Bloch deals with this problem in a far better way than most news stories do. He presents data on economic and demographic conditions in the comparison areas and calls attention to factors other than police work which may affect the rate of crime in each area. The third problem illustrated by most news reports of Uniform Crime Rate (UCR) data is one of validity: Reported crime are commonly confused with the occurrence of crimes. Too few reports or editors take the trouble, as Bloch does, to point out the large gap (of unknown size) between the number of crimes reported to police and the number of crimes that actually occur.

Comparison of measures for an agency with earlier measures for the same agency involves many of the same problems as comparisons among agencies. For example, news media frequently compare current UCR figures for an agency with those for the preceding year. All of the problems which confront reliance on interagency comparison of reported crime rates also confront comparisons for the same agency across time. Here the source of competing explanations of the level of crime is changes in social and economic factors which make the community more or less susceptible to crime. Donald Fisk's study on the Indianapolis Police Fleet Plan (1970) provides an example of a study which compares performance measures for one department across time in order to rate how well the department was doing. Fisk was interested in whether the department did a better job after it had introduced the policy of providing each officer with an automobile on an around-the-clock basis. He dispelled some potential misunderstanding by using several measures to incorporate a variety of values for policing, by stating clearly the limited validity of both his data and research design, and by discussing alternative interpretations of his findings.

Carlson (1979:55) suggests that the underlying issue in comparing performance measures to rate how well an agency has done should be the fairness of the comparison. Fairness involves not only being clear about potential inaccuracies of data and models, but also taking into account--and indeed calling attention to--the pertinent values of the several constituencies concerned about the judgment being made.

Suggestion 1. Caution should be observed in using police performance measurement to rate how well an agency has done. The limitations of the rating should be stated clearly and prominently along with the rating itself. Alternative values for police service should be presented, and shortcomings of the data and models should be explained.

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2. Identifying potential service delivery problems. Comparisons of performance measures are also used to identify potential service delivery problems. Whether the comparison is with a standard, with another agency, or with earlier measures from the same agency, this use of performance measures raises questions rather than answering them. That is, the use of comparison for rating how well an agency is doing presents conclusions. It seeks to

resolve questions about performance quality. In contrast, using comparisons to identify potential service delivery problems presents no conclusions but only suggests new questions for study. If a comparison reveals that an agency is not at the recommended standard or that its performance diverges from that of other departments or from its own previous performance, that discrepancy immediately raises the question "Why?" to those who use performance measurement to identify problems. The discrepancy may or may not indicate a service problem. Only after an explanation for the discrepancy has been developed can one know whether the comparison has revealed a situation which is undesirable. Judgment is suspended until the reason for the discrepancy is understood.

If the discrepancy is due to a difference in priorities, it may be due to planned changes and therefore worthwhile and desirable for that agency to differ from standards or other agencies or its own past performance. For example, an agency may decide to stress parking control rather than speeding control. That can lead to its divergence from norms for parking tickets and excessive-speed citations. Comparison has not identified a performance problem in terms of agency priorities. If some constituents disagree with those priorities, they may seek to change them, of course.

Another explanation for a discrepancy is the identification of service conditions that present a different kind of challenge to the agency with the discrepancy than that faced by other agencies. For example, the condition of the local economy may affect the number of robberies committed, and local traffic patterns may make traffic accidents more likely. After taking relevant service conditions into account, apparent discrepancies in performance may disappear. The community in which economic conditions foster high levels of robbery may have police who are just as effective as others in reducing the incidence of robbery, but because they have a bigger problem to deal with more robberies may still be committed there. Models of the service process are needed to identify relevant service conditions and to permit measurement of their effects. A related alternative explanation concerns a discrepancy in resources or operations that is due to a department's use of a different, perhaps even better, process for producing a result. For example, a department might have fewer officers assigned to general patrol because it is using a different assignment pattern to attempt to prevent crimes. When the comparison is of resources or activities rather than results, this kind of explanation must be considered. Again, accurate models of service production processes are needed.

Discrepancies revealed by comparison may also fail to indicate a service problem if the discrepancy is due to unreliable data. If an agency's data include sufficient error, the difference between the agency's scores and the scores used for comparison may be due solely to that error. Failure to classify correctly one out of every ten reports of assault would result in a measure of the total number of assaults reported which is 10 percent below the number of reports which are in fact received. Sonenblum and colleagues (1977) report they expect that a data quality problem of this sort is responsible for at least some of the apparent differences in rates of reported assaults in the California cities they compare (pp. 197-181). Without an assessment of the size of the measurement error, it is not possible to determine whether the discrepancy does or does not indicate a difference in performance.

If none of these explanations for the discrepancy seems likely, then the discrepancy does not indicate a service problem. Performance in the agency

under study is not as good as is desired and might reasonably be expected for the service in question. A review of agency priorities and constituent interests has indicated that those involved want a better score on the measure in question. Neither service conditions nor differences in production processes account for the discrepancy. The data are reliable, and the difference shown by the comparison is not due to measurement error. After a problem has been identified, production process models can be used to identify shortages of resources or shortcomings in procedure which account for the discrepancy. Agency efforts to resolve the service problem by changing resources or procedures can then be undertaken.

The use of comparisons of performance measures to identify potential service problems is subject to the same limitations we have discussed earlier. Values for policing differ, models of police service production are poorly developed, and reliable measures of police performance are not readily available.

Suggestion 2. Before deciding that a comparison measure reveals a service deficiency, investigate alternative explanations. Looking at values of constituents will help to clarify the importance of that aspect of performance for the agency in question. Looking at theories of how the service gets delivered will increase understanding of what is happening in this particular case. Are service conditions contributing to an observed difference? Is the agency using a different process from that of the comparison? Or what changes can the agency make which might improve performance? Looking at data quality allows assessment of how much confidence to place in the size (and even the direction) of the difference between the agency in question and the comparison.

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3. Developing better theories of policing. One of the major themes of this volume has been the necessity to develop valid theories of police service production processes in order to identify resources and activities critical to the production of valued results. Good police agency performance measurement depends on valid models of policing, but performance measurement can contribute substantially to the refinement and testing of models. Research can be done by relying on special data collection intended solely for research purposes, although that approach to research is expensive and may become even less frequent as funds for research become scarcer. Valid data about policing that are collected by the agencies themselves as they monitor their operations can provide a base for research, whether the research is conducted by the agencies themselves or by others using police data.

Police agencies can also contribute to our general understanding of policing by conducting studies that focus on particular service delivery problems they confront. Indeed, given the current scarcity of valid models, most police management problems require systematic study of models. There are few validated models to provide certain guides to action.

One difficulty many police agencies face is deciding what to study and what problems deserve the extra investiment required for performance measurement. Most police administrators are accustomed to defining issues either very

generally or quite particularly. Neither sort of definition lends itself to performance measurement. Program budgets, annual reports, speeches before civic associations, and other public pronouncements by administrators typically mention as police goals the prevention of crime, the provision of safety, the assurance of justice, and similar noble sentiments. Statements of general concern and broad intentions are sometimes powerful rhetorical tools but are too vague to guide policy planning or research. They provide only indirect assistance to those developing performance measures. At the same time, most of the issues which police administrators face every day are quite particular: Bank robberies have become markedly more frequent; a major construction project has created traffic and parking congestion; racial tensions are mounting. Problems that are this specific and this urgent often do not seem amenable research. Time seems too short and the problems seem too particular.

Suggestion 3. Broadly stated goals can be made more specific, and particular crises can be viewed as instances of more general problems. Police administrators can hold discussions with elected officials and other important constituents to identify areas of crime prevention, safety, or justice that are especially troublesome. This may help head off future crises by identifying problems early and directing resources to research and planning about them. Police administrators should also investigate agency performance in areas where crises develop. Even if the findings of the study are not available in time to inform decisions about what to do in that particular crisis (and usually they will not be), they may well identify ways to avoid a similar situation or at least how to understand it better should it recur. Service problems which experience suggests are endemic should go at the top of the research agenda, followed by service problems which appear to be just developing. Looking both to broad statements of agency goals and to immediate crises are ways to help identify performance measurement topics.

Regardless of the approach police use to learn about what their constituents want, we should not expect police to have the only performance measurement agenda. Performance measurement by police may be the most technically sophisticated and best funded, but it is unlikely to satisfy all constituents or foresee all problems. Other groups may contest the findings of police performance measurement. Sometimes they may produce information based on their own data collection and analysis. Other times they may attack values for policing implicit in a department's own performance assessments. Regardless of how other performance measurements differ from those conducted by police, they are potentially useful to police and other police constituents. Alternative assessments can identify values people hold about policing, can suggest other models of police service processes, and can provide additional data about police activities and their results. Police and their sometime-critics can learn from each other. Examination of conflicting evidence and competing models is a useful tool for learning about police performance and how to improve it.

The research community has primary responsibility for developing our understanding of how police processes work. More research is now being conducted in this area than ever before, due largely to financial support from federal agencies,

particularly the National Institute of Justice. While using ever-more esoteric research designs and modeling techniques, the research community must make special efforts if its research is to be understood by police administrators and others who decide police policy. This is a particular problem for academic researchers since many universities place the highest premium on publishing for academic rather than practitioner audiences. Policy analysts are persons skilled in the application of social science techniques to public service problems and can help disseminate academic research. Most departments cannot afford to train or hire their own policy analysts, although the largest academic departments may have a staff of several people with these skills. Regional planning councils, local colleges and university government service bureaus, and other agencies of local government often employ policy analysts whose service may be available to public agencies at little or no charge. Part of their job should be to keep police administrators informed of research findings. Professional associations can also help communicate research findings to police departments. Their journals, bulletins, and conferences are channels that have already been developed for this purpose. Greater efforts could be made to review and interpret academic studies of policing.

Police departments must remain primarily in the business of providing services, not conducting research. At the same time, departments can make themselves accessible to research projects and can improve their own data collection practices. Moreover, police can be more explicit about the results they expect their programs to produce. Wagner's (1980) study of attempts to introduce performance measurement programs in two North Carolina cities demonstrates the importance of close collaboration between policy analyst and department officials. Wagner found that the policy analyst could not rely on her technical competence alone. Key departmental personnel had to supply both the information and the support necessary to implement procedures to produce and use those measures. Patton (1978) provides a thorough discussion of the importance of the interaction of policy analyst and agency management.

Suggestion 4. Policy analysts and professional associations should keep police informed about the latest research on policing and help police collect better data and be more explicit about the theories guiding their own operations. In these ways, the performance measurement efforts of departments can contribute to the development of more valid theories of police service delivery.

B. Obtaining Better Data

Making explicit the underlying models used in a performance measurement enterprise will assist users in assessing the quality of the results. But without the ability to obtain good data for those models, a performance measurement program has little value. Police collect most of the data that is used in their agency's evaluation. We believe that for police to obtain better data they must focus their efforts on the data collection process, on the scope of information they seek, and on cost-reduction strategies.

1. Improving the process of data collection. Obtaining valid data on police operations and accomplishments has been a major concern for the last 50

years. It is still a difficult challenge, despite the considerable effort which has been devoted to it. Methodological and technological innovations have expanded our knowledge of how to collect data and have increased our capacity to store, retrieve, and manipulate data. Nevertheless, valid, inexpensive, and readily available data on police performance continue to elude us. Chapters 5 and 8 describe many of these problems. The thorniest data problems cannot be solved at the social scientist's desk or computer programmer's terminal, however. Regardless of the elegance of a survey instrument, the sensitivity of a scaling procedure, the specificity of a classification scheme, sophistication of reliability checks, or the number of cases in a data set, the collection of performance data must come to grips with the realities of police organization and culture. Police officers are often isolated, suspicious of outsiders, and no more eager to be scrutinized than members of other occupations. The police have a vested interest in how performance data reflect on them, so that relying upon police to collect these data inevitably creates questions of validity and reliability. Further, even when police are motivated to do the most accurate data collection possible, they may lack the skills or not be in a position to do so: Dealing with a problem may prevent a police officer from collecting data on it.

Most efforts to improve the quality of police department data have focused on changing the management of records. Centralization of records management was expected to control distortion of reports and improve coordination of reporting. Specialization of some personnel in records management was expected to facilitate the application of new techniques for managing data (O.W. Wilson, 1963:386-388). The adoption of electronic data processing has further focused efforts to improve police data on the records division of a department. There have been important changes in how data are managed, and major improvements have resulted. But unfortunately the way the data are collected initially has not been included in most of these efforts. The quality of data depends in large part on the precision and lack of bias with which they are collected.

The officer on the street is the originator of most of the observations and classifications of observations which become police department data. Street officers (whether in patrol, traffic, investigations, or other service assignments) are also responsible for carrying out the department's programs. Although many of the reports they prepare are intended for making decisions about individual cases rather than for monitoring agency performance, in many departments, the officer who files a report rarely needs to use that report again for his or her own work. Thus, officers often do not directly perceive the need for accuracy and thoroughness, even in case reports. In reports of their own activities, which are used by their supervisors to direct their daily activities or to determine who will be rewarded, there is even less incentive for full and careful reporting. This is so especially if the kinds of officer behavior to be reported are activities supervisors want to encourage but which seem unimportant to officers or activities supervisors want to discourage but officers want to continue. Officers need to understand data collection techniques and the reasons for them. Training and supervision can be designed to help officers understand why their reports are worth doing well. One technique which may be useful is involving officers themselves in the development of data collection forms and procedures. For example, the San Diego police department conducted an experiment which encouraged officers to hold discussions with citizens to "profile" neighborhood needs and problems (Boydstun and Sherry, 1975). Profiling the service priorities of each officer's beat required the officer to undertake

field observation and much conversation with residents and neighborhood leaders. The officers interpreted their beats' needs and were responsible for communicating their impressions to the departments. The program used periodic staff conferences with open discussions between supervisors and patrol officers to compare findings and discuss their implications. The program's evaluation report documented a significant increase in police motivation to seek and report information about the beat.

Some might accuse a department that vigorously pursued this approach of turning its force into a crew of social scientists with badges, rather than police officers. What makes a good data collector does not necessarily make a good police officer, but the skills of a good observer and a careful recorder are also important to police work. It is possible to develop attitudes that encourage officers to use information that will help them and their managers to assess problems and deal with them. To accomplish this, police managers will need to modify traditional chains of command, control models of information transfer, and adopt more decentralized models. Data collection procedures need not be imposed from the top down. They can be developed jointly by police managers and officers. Officers can be convinced of the value of the data to them as well as to management. Further, the rules of data collection and coding need not be so rigid that they resist all change. Street-level officers' consistent failure to abide by rules sometimes tells more about the inadequacy of the rules than of the officers. Until the role of the street-level officer in collecting information about the agency's work is acknowledged, the validity and reliability of police-collected data will always remain suspect.

Suggestion 5. Police management can encourage and educate officers to be more accurate data collectors by explaining how the data they collect can help improve their work and by involving them in the design and testing of data collection forms and procedures.

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2. Getting more comprehensive data. Part of the difficulty in police performance measurement is that police seldom collect and manage data that permit them to follow individual people, cases, families, neighborhoods, or other units through a process. To measure the cumulative effects of police activities and their long-term consequences, police need to develop computerized "case histories." Police need to be able to trace cases through subsequent processing by other criminal justice and social welfare agencies so that they can assess the impact of police actions on subsequent decisions and also understand the impact of police actions on ultimate outcomes, such as recidivism, revictimization, etc. Some data systems are already beginning to do this. A LEAA-promoted Prosecutor's Management Information Systems (PROMIS) organizes some of this information, although many problems for management usability have been noted (Weimer, 1980:231). Police need data on what happens to cases they refer to alcohol detoxication facilities, spouse abuse assistance organizations, and other social service organizations they use. Police also need to be able to easily link data on repeated contacts with citizens. Dealing with individuals who are chronic troublemakers, chronic victims, or those chronically in need of assistance forms a large part of what police do.

Most current police accounting systems do not admit to ready compilation of long-term individual histories of citizens' problems and police interventions. Relying on officer or citizen recall to reconstruct these histories is an unsatisfactory solution to this problem, given that most of these data are already collected. Developing computerized case histories that can be adapted to performance measurement needs is a technical problem that requires a more intricate combination of data sets. In addition to the technical problems of data formatting and system design are the problems of securing the cooperation of a large number of government agencies to keep track of what the government has done to individuals as it "processes" them through the criminal justice system or diverts them to other government agencies. Securing this cooperation can be a sensitive matter. Guaranteeing mutual access to such data files is one way of increasing trust. Finally, the linking of diverse data sets on individuals, families, or addresses also raises problems of right-to-privacy violations. Limiting computer-linked case histories to information that is in the public domain may help safeguard people's privacy. The masking of individuals' names and addresses is another, since the purpose of these data sets would be to evaluate agency performance, not make operational decisions about individual cases.

More use can be made of existing records as a source of police data, too. For example, the Police Executive Research Forum staff coded data from the case records maintained by 24 local police agencies in order to study the kinds of information usually needed to clear burglary investigations (Eck, 1979).

Suggestion 6. Reorganizing the information already available may help researchers address preformance issues for which data have not been explicitly collected.

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3. Controlling the cost of data collection. The most expensive aspect of performance measurement is typically data collection. Police can do a great deal to limit the cost of data by not collecting so much of it and by judiciously integrating information collected for legal and daily operations purposes into a performance measurement program.

Police departments, like other bureaucracies, develop inertia in reporting procedures. Thus, they often produce data of little usefulness. Officers are required to collect these data because the process has become--over a long time and through sometimes considerable administrative effort--part of their routine. Those who collate the data are familiar with procedures, and those who are supposed to use it have become inured to the stream of superfluous information flowing over their desks. Outsiders who have conducted research in police departments usually participate in a scene where some police official, in response to an inquiry on what data the department collects on its activities, hauls out reams of computer printout and statistical summaries, confessing that he hopes the researcher can use it because no one else does. One cannot fail to be impressed by the weight of the evidence and its irrelevance to police needs.

Suggestion 7. Police managers should evaluate the usefulness of the data they collect in order to eliminate unnecessary record keeping procedures.

It is one thing, however, to call for flexibility and another thing to implement it. Establishing data collection routines and getting personnel to use coding schemes is a time consuming process, so that frequent changes are more likely to ensure confusion and dissaffection rather than more efficient data collection. Much of the cost of refining data collection techniques and instruments can be limited if changes are first tried on a small, experimental scale.

Another way to limit expenditures for data collection is to make better use of information that is currently collected by officers for legal and operational purposes. Most departments process for performance evaluation only a small amount of the information their personnel collect on their numerous report forms. UCR statistical requirements typically determine what information is extracted for analysis. Much additional information routinely collected and reported by officers might be used in identifying problems, testing models, and planning. It is often written in narrative text form. If time is limited, or changing report forms and codes is infeasible, it may be more productive for office staff to review reports and put the information in a form that facilitates data analysis. This does not solve reliablity and validity problems, but it does mean that the problems of teaching the new codes and coding rules can be limited to office employees. For reports which are known to be highly reliable already, this can be a useful procedure.

Data collection costs can also be minimized by sampling instead of coding data on all cases in the population. This is particularly important where the analysis focuses upon high frequency occurrences, such as offense reports or arrest reports. Careful coding of a small, carefully drawn sample of cases can provide more accurate data (and be less expensive) than trying to code data from all reports in the file.

Suggestion 8. Police can sometimes save resources by coding data from information from reports already in their files. Often only a sample of cases may need to be coded.

C. Others' Measurement of Police Agency Performance

Much of our discussion has been directed to police agencies' efforts to measure their own performance, but police performance measurement is by no means done only by police. Other public agencies, the press, and various special interest groups of citizens may all become involved in using social science techniques to assess how well their police are doing. Each of these constituencies may have a somewhat different view of what constitutes good police performance, and any one of them may decide to try to measure how well police are doing according to that constituency's performance criteria.

Nonpolice performance measurement programs serve not only their sponsors, however. They also serve the larger public interest. A fundamental question is to what extent can the police be expected to portray accurately their own activities and accomplishments, particularly when doing so may reflect poorly on the current administration or individuals in the agency. The most rigorous attempts to enhance the validity and reliability of data are subject to question until they are independently verified. Sometimes other government agencies do this, but they too may have a significant investment in the outcome. In some sense, everyone interested in measuring police performance has an ax to grind. In social science we expect that when enough perspectives are represented, potential biases and distortions will be less likely to remain unidentified.

Nongovernment groups can prove particularly effective in demonstrating the existence of a problem that government reports--through ignorance or design--have failed to illuminate. Some sources of data are limited if a research team does not have police cooperation or the resource to obtain technical services. However, disassociation from the police enhances access and credibility with offenders, victims, or witnesses.

The same standards of scientific rigor that we might expect of heavily funded government endeavors can be met by private studies. Survey techniques are particularly appropriate for groups that provide service to those who have (or might choose not to have) contact with the police. Rape crisis centers, hotlines, shelters for alcoholics or battered wives, and other service organizations can obtain useful information on police-client interactions and the reasons that potential clients did not request police services. Neighborhood organizations can conduct their own victimization and public opinion surveys. Businesses can survey their customers to assess their fear of crime and evaluate police protection in the vicinity. Churches and privately-sponsored half-way houses can collect data on police activities regarding probationers and parolees.

Some performance measurement problems may call for extraordinary forms of data collection. Survey interviews and participant observation are seldom part of police departments' routine data collection program, but they are often used by outside researchers to get information unavailable or of questionable accuracy through normal data collection channels. These methods are labor-intensive, require specialized skills, and pose special methodological problems of their own. A large scholarly literature has developed on when and how to use these techniques. We only note that these techniques can also be used to test the validity of less costly methods. Some methods, such as the follow-up interview with police clients, can and have been routinized at low expense (McCall, 1975; Parks, 1980; Reiss, 1971). The now-standard suggestion to use the resources of local colleges, which can often be obtained at little or no expense, also applies.

Suggestion 9. Other agencies and organizations which want to know how well police are doing should seek the same rigorous, objectives description of events and the same clear statements of performance criteria which we expect from police.

D. Performance Measurement as a Learning Strategy

To be most useful, performance measurement should be designed jointly by those responsible for collecting the data, those who will use the measures, and those who have technical expertise in designing measures and interpreting them. Police, their constituents, and policy analysts all need to be involved in the selection of relevant theories of policing to guide performance measurement, the choice of measures, and the implementation of the program.

Any performance measurement program will necessarily be limited and incomplete. By publicizing the kinds of measures which they find useful and the results of research they conduct, agencies can help strengthen each others' capacity for performance measurement. Probably the most readily transferable parts of a performance measurement program are the data collection and management procedures, although even these need to take into account local peculiarities and requirements. Models of police operations will continue to be somewhat less transferable without a much fuller theory of the effects of various police practices and the diversity of contexts in which police operate. Still, much can be learned from previously developed models of police services and from comparisons of models tested in different settings. Performance measurement programs need to be kept flexible and open to revision as new social problems arise, new understanding of policing develops, and new constituent expectations are formed.

APPENDIX A. THE POLICE SERVICES STUDY: AN OVERVIEW

The Police Services Study (PSS) was a two-phase research project conducted jointly by the Workshop in Political Theory and Policy Analysis at Indiana University at Bloomington and the Center for Urban and Regional Studies at the University of North Carolina at Chapel Hill between 1974 and 1980. The project was funded by a grant from the National Science Foundation. The purpose of Phase I was to provide a comprehensive description of the arrangements used to provide police services in metropolitan areas.[1] Phase II of the Study was designed to analyze the impact of these arrangements for police service delivery on a variety of community outcomes. A number of reports on Phase II of the study have been published or are in press, but some of the findings are reported here for the first time.

The first phase (1974-1976) was a census of all law enforcement organizations (local, state, and federal) providing services in a stratified random sample of 80 small-to-medium-sized SMSAs in the United States (50,000 to 1,500,000 residents) during the 1973 calendar year. Data were collected during brief site-visits, supplemented by telephone and mail communications. This census gave an overview of intra- and interorganizational arrangements for the delivery of a variety of police services in all jurisdictions in each SMSA (general patrol, traffic patrol, accident investigation, criminal investigation, dispatch, training, detention, and crime lab). Data were obtained on departmental structure, resource levels (fiscal, equipment, and personnel), allocation and deployment of personnel, types of service provided, and service arrangements with other law enforcement agencies. Data collected by other organizations were also obtained: FBI crime and arrest data; Office of Revenue Sharing data (population characteristics, housing, taxes, and intergovernmental transfers; and Census data (both for 1970 and estimated for 1973).

The second phase of the PSS, conducted from 1976 to 1980, involved intensive data collection in 24 local police departments. On-site data collection in this phase was conducted primarily in the summer of 1977 by research teams assigned to the three metropolitan areas in which the departments were located: Rochester, New York; St. Louis, Missouri; and Tampa-St. Petersburg, Florida. These metropolitan areas were selected because of the variety of departments found within each area. Departments were selected in each SMSA to produce an overall sample that would reflect a rough cross section of organizational arrangements and service conditions for urban policing in the United States. The sample clearly is not representative of the entire population of police departments in the United States.

The focus of Phase II is on patrol services and related support activities (communications and referral services). Detailed data on police organization activities, service conditions, outputs, and outcomes of patrol service were collected. Although some data instruments relied upon agency records, most

[1] For a more extensive description of Phase II, see Ostrom et al., 1977 and 1978.

techniques were researcher-intensive--conducted independently of agency-supplied data. This was done to obtain a wider range of information than normally available through police records and to enhance indicator reliability and validity. Table A-1 provides summary statistics on the 24 departments in the study.

TABLE A-1. POLICE SERVICES STUDY PHASE II POLICE DEPARTMENTS

Department	Sworn Officers	Population of Patrol Jurisdiction	Study Neighborhoods
	ROCHESTER SMSA		
Gates	22	30,000	1
Greece	68	84,000	1
Monroe County	346	185,000	2
Rochester	646	259,000	7
	ST. LOUIS SMSA		
Berkeley	38	18,000	2
Brentwood	23	10,000	2
Bridgeton	51	24,000	1
Crestwood	28	15,000	1
Ferguson	54	27,000	2
Kinloch	15	6,000	1
Kirkwood	53	34,000	2
Northwoods	18	9,000	1
Pinelawn	13	6,000	1
St. Louis (city)	2,050	499,000	8
University City	80	47,000	3
Wellston	24	6,000	1
	TAMPA-ST. PETERSBURG SMSA		
Clearwater	158	77,000	3
Hillsborough County	292	330,000	3
Largo	43	55,000	2
Pinellas County	240	210,000	4
Pinellas Park	33	29,000	1
St. Petersburg	453	236,000	4
Tampa	595	297,000	5
Tarpon Springs	23	11,000	2

Although jurisdiction-wide data on organization and service delivery were collected for each department, most of the intensive research activities focused on patrol service to a sample of 60 predominantly residential neighborhoods served by these departments (varying in number per department from one to eight, depending upon the size and heterogeneity of the community residential population). Neighborhoods were selected to reflect a cross section of the residential service conditions with which each department had to deal. These study neighborhood boundaries are beat boundaries in the majority of cases, although some modifications were made when necessary to conform to census blocks/tracts and to prevent distinctly diverse populations from being included within the same boundary. Ethnicity and family income of residents

served as the principal selection criteria, most neighborhoods being either predominantly white or predominantly nonwhite. (Nearly all nonwhites in these neighborhoods are black.) Victimization rates for neighborhood households varied substantially: from 19 to 66 incidents per 100 households in a 12-month period. Table A-2 shows the distribution of the 60 study neighborhoods according to ethnicity and family income.

TABLE A-2. INCOME AND RACIAL CHARACTERISTICS OF 60 PHASE II STUDY NEIGHBORHOODS (by number of neighborhoods)

Mean Family Income	Racial Composition: Predominantly White (0-25% Nonwhite)	Mixed (26-75% Nonwhite)	Predominantly Nonwhite (75-100% Nonwhite)
$5,000-7,500	0	0	8
$7,500-14,999	20	10	4
$15,000 +	16	1	1

Phase II Data Sets

Below are brief descriptions of the data sets collected in Phase II of the Police Services Study.

1. Data set 1: Observation of police officers on patrol. During a period of over 7,200 hours of in-person observation by trained researchers, more than 500 patrol officers were observed in a matched sample (for day of week and time of day) of 15 shifts for each of 60 study neighborhoods. During this time period, 5,688 police-citizen encounters involving more than 10,000 citizen participants were observed. Detailed coding of each encounter covered 650 variables, such as: how the encounter was initiated; location and information provided to officer by dispatcher; response time; length of encounter; the nature of the problem(s); characteristics of citizen participants; police actions and demeanor; citizen actions and demeanor; and the presence of other police and non-police public servants. Descriptive narratives were also prepared for each encounter involving a domestic disturbance and violence between officer and citizen. For each of the 900 observed shifts, observations were also coded on activities and occurrences not involving direct contact with citizens. Examples are the initiation of security checks; issuing parking tickets; contact with superviors, other patrol officers, and other public servants; time spent on a variety of activities; and officer-volunteered comments on patrol style and department priorities.

2. Data set 2: Observation of telephone calls for service. A sample of requests for service received by telephone in 21 departments was observed during the time periods that observation of patrol officers was being conducted. Observations were either coded live or tape recorded and coded later. A total of 26,465 calls were coded. Variables included the nature of the request or

[2] Methods reports describing data collection instruments and procedures are available from the Workshop in Political Theory and Policy Analysis, Indiana University at Bloomington.

problem, characteristics of complainant, location of problem or complainant, information given to the telephone operator, and nature of the police response promised by the telephone operator.

3. Data set 3: In-person, structured interviews with police officers, supervisors, and administrators. Interviews were conducted separately with each officer in private (averaging 30 minutes each). Completed interviews number 1,424, including 497 of the 500 officers observed on patrol. There were approximately 200 questionnaire items, including respondent's personal characteristics; education and training; police experience; attitudes and perceptions of job, community, supervisors, management, police role, police priorities, and department priorities.

4. Data set 4: In-depth, in-person interviews with police administrators. Less structured, lengthier interviews (1-2 hours) were conducted with top and mid-level managers in each department. Extensive descriptions and commentary on a variety of organizational topics were obtained: organizational priorities, problems, and strategies; resource allocation structures for patrol; provisions for supervision, command, and control; relations with the community and public officials; and management's patrol-style priorities. Respondents supplied additional agency records and documentation on many items. A total of 43 interviews were conducted.

5. Data set 5: In-depth, in-person interviews with representatives of citizen organizations involved in police and crime issues. One hundred and ten organizations active in the jurisdictions and study neighborhoods were selected for interview. Agencies were selected based upon interviews with police administrators, community leaders, respondents to the neighborhood surveys, and members of other citizen organizations. One or more representatives of each organization were administered a lengthy questionnaire. Questions covered the following areas: organization purpose and activities, nature of relationship with police departments, preferences and priorities for policing, and perceptions of local police performance.

6. Data set 6: In-depth, in-person interviews with public officials involved in police issues. Sixty public officials were interviewed: 19 elected executives; 15 appointed executives, 23 elected local legislators; and members of a state-appointed board. Selection of public official respondents for each jurisdiction was based upon interviews with police administrators, respondents to the neighborhood surveys, members of citizen organizations, and other public officials. Questions covered the following areas: respondent's personal background, nature of relationship with police, perceptions of police role in the community, and evaluation of police problems and performance. Both coded and narrative responses to questions were recorded.

7. Data set 7: Survey of neighborhood residents. Approximately 200 residents per neighborhood were interviewed (12,022 interviews) by telephone. There were 172 items per interview. Items included: respondent characteristics; household victimization data; respondent experiences with police; evaluation of police service in the neighborhood; attitudes toward police role and performance in specific encounters; crime reporting and other cooperative citizen behavior; and participation in crime-prevention programs and groups.

Although each of the data sets described above uses a different unit of analysis, each can be aggregated or merged at different levels (for example, SMSA, department, neighborhood, patrol shift, and officer). Aggregated data can also be applied to individual cases to perform ecological analysis (for example, neighborhood victimization surveys can be aggregated and used as control variables in analyzing officer time allocations).

APPENDIX B. THE POLICE SERVICES STUDY: PROBLEM TYPE CODES

A set of codes for the problems police deal with was essential for a study of patrol operations in order to record the type of problem involved in each request for service and each police-citizen encounter we observed. To facilitate the coding of problem types, the Police Services Study (PSS) staff developed a list which contained mutually exclusive problem definitions and which also included virtually every possible type of problem which police are asked to handle. This list was used to categorize citizens' descriptions of their problems, dispatchers' descriptions of problems assigned to officers, observers' descriptions of the problems they saw police handle, and citizens' responses describing to interviewers encounters they had with police.

The PSS staff developed its list of problem codes by recording the types of telephone requests for service, police dispatches, and citizen-police encounters observed in pretests in Chapel Hill and Durham, North Carolina, and Speedway and Indiana University, Indiana, Police Departments. This list was compatible with problems other researchers have identified. The basic list of problem types was constructed in May 1977. During the course of the data collection in the summer of 1977, any problem which did not fit the previously established categories was referred to one of the principal investigators for assignment of a new code. All research staff were promptly notified of the new category. The PSS Coding Manual, presented on p. 168 of this appendix, gives a complete list of problem codes and their definitions.

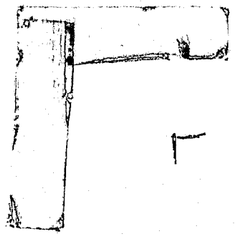
The study required a set of codes with various levels of specificity. Citizens' descriptions of their problems can be either quite specific or quite general. Similarly, police dispatchers can be quite specific in describing the problem to the patrol officer who is assigned, or they can be quite general in the description they give. To be able to record both general (and often vague) descriptions of problems when only these were given and also quite specific problem descriptions when these were available, PSS staff designed a nested set of codes. At the most general level, problems are separated into seven categories: Problems with Persons (00-199), Problems with Property (200-399), Traffic Problems (400-499), Service Problems (500-599), Information Problems (600-699), Legal Procedures (700-799), and Miscellaneous Problems (800-899). Each of these general categories is divided into more specific sub-categories. In several instances these sub-categories are divided again for even greater specificity, and a few problem types are described by yet another division. For example, a Domestic Argument (020) is a sub-category of Argument (019) which is, in turn, a sub-category of Public Nuisance or "disturbance" (010), which is a category under Problems with Persons. Problem types for any incident assigned to an observed police officer were recorded at three points in time: when the call was assigned to the officer by the dispatcher, when the officer arrived on the scene, and when the officer left the scene or the incident was concluded. Thus, as more information became available to an officer, a different or more specific problem code was often applicable.

The coding rule was to select the most specific problem type code which could be applied to the situation described by the caller, dispatcher, or interviewee. Patrol observers were instructed to also identify the problem type

categories which most completely described the problem as they observed it. Thus, if a caller reported "an argument" to police, this would be coded as problem type 019 (Argument) by the calls for service coder. If the dispatcher described this same incident to a patrol officer as a "disturbance," it would be coded 010 (Public Nuisance) by the patrol observer. If after arrival the patrol observer learned that the participants in the incident were members of the same family, he or she would code the incident 020 (Domestic Argument). The problem codes on the calls for service form were verified against written descriptions of the callers' problems. Less specific codes were deleted when there was sufficient information to permit determination of a more specific code. Additional information about coding practices and supervision is available in methods reports for the various data collection forms on which problem type codes were used.

PSS did <u>not</u> attempt to classify problems on the basis of criminal statutes or on the basis of charges filed against participants in the incident. Some PSS problem codes have names that are also the terms used for crimes, but these terms merely identify the description of a problem to police or the appearance of a problem situation to our observer. They do not indicate whether police officially classified the incident as a crime. For example, if a person was stopped by an officer because he was behaving in an erratic way and appeared to be intoxicated, a PSS researcher would categorize the problem as 011 (Drunk) whether or not there was an arrest for public intoxication or a referral to a detoxification center. If the apparently inebriated individual were driving a car, the researcher would code the problem as 471 ("driving under the influence") regardless of whether there was an arrest or whether the person was shown to be legally intoxicated according to a breath or blood test.

The study's interest was to record problems citizens described to the police; problems dispatchers assigned to officers; and the problems officers dealt with both as they appeared to observers and as they were recalled by citizen participants who were later interviewed. Each of these descriptions of the problem can, in fact, be different from the actual situation. For example, a citizen may report that he is being threatened with a weapon while, in fact, no weapon is involved. (The mention of a weapon may be an attempt to encourage a quicker response from police, or it may be an exaggeration born of anger or fear.) A dispatcher may relay an incorrect problem description from caller to patrol officer, or a dispatcher may abbreviate a problem description. The use of numeric dispatch codes or of such standard phrases as "See the lady" or "Disturbance" may result in the failure to transmit to the patrol officer specifics provided by the caller. The problem the officer deals with may also differ from the situation as it could be described with more information. For instance, when a department receives a bomb threat, considerable effort may go into evacuating occupants of the threatened building and searching for a bomb. In fact, no bomb may exist so that there is "really" no problem, but that is not the situation the officer confronts when he or she is dispatched to a place where a bomb is reported. Similarly, an officer may spend considerable time taking a report of a stolen vehicle, only to learn that another member of the owner's family borrowed the car and no theft was involved. Again, while there is "really" no problem, PSS coded the problem confronting the officer as Stolen Auto. Interviewers were instructed to use this same rule in determining which problem type code to apply to citizens' descriptions of their interactions with police.



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under study is not as good as is desired and might reasonably be expected for the service in question. A review of agency priorities and constituent interests has indicated that those involved want a better score on the measure in question. Neither service conditions nor differences in production processes account for the discrepancy. The data are reliable, and the difference shown by the comparison is not due to measurement error. After a problem has been identified, production process models can be used to identify shortages of resources or shortcomings in procedure which account for the discrepancy. Agency efforts to resolve the service problem by changing resources or procedures can then be undertaken.

The use of comparisons of performance measures to identify potential service problems is subject to the same limitations we have discussed earlier. Values for policing differ, models of police service production are poorly developed, and reliable measures of police performance are not readily available.

Suggestion 2. Before deciding that a comparison measure reveals a service deficiency, investigate alternative explanations. Looking at values of constituents will help to clarify the importance of that aspect of performance for the agency in question. Looking at theories of how the service gets delivered will increase understanding of what is happening in this particular case. Are service conditions contributing to an observed difference? Is the agency using a different process from that of the comparison? Or what changes can the agency make which might improve performance? Looking at data quality allows assessment of how much confidence to place in the size (and even the direction) of the difference between the agency in question and the comparison.

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3. Developing better theories of policing. One of the major themes of this volume has been the necessity to develop valid theories of police service production processes in order to identify resources and activities critical to the production of valued results. Good police agency performance measurement depends on valid models of policing, but performance measurement can contribute substantially to the refinement and testing of models. Research can be done by relying on special data collection intended solely for research purposes, although that approach to research is expensive and may become even less frequent as funds for research become scarcer. Valid data about policing that are collected by the agencies themselves as they monitor their operations can provide a base for research, whether the research is conducted by the agencies themselves or by others using police data.

Police agencies can also contribute to our general understanding of policing by conducting studies that focus on particular service delivery problems they confront. Indeed, given the current scarcity of valid models, most police management problems require systematic study of models. There are few validated models to provide certain guides to action.

One difficulty many police agencies face is deciding what to study and what problems deserve the extra investiment required for performance measurement. Most police administrators are accustomed to defining issues either very

generally or quite particularly. Neither sort of definition lends itself to performance measurement. Program budgets, annual reports, speeches before civic associations, and other public pronouncements by administrators typically mention as police goals the prevention of crime, the provision of safety, the assurance of justice, and similar noble sentiments. Statements of general concern and broad intentions are sometimes powerful rhetorical tools but are too vague to guide policy planning or research. They provide only indirect assistance to those developing performance measures. At the same time, most of the issues which police administrators face every day are quite particular: Bank robberies have become markedly more frequent; a major construction project has created traffic and parking congestion; racial tensions are mounting. Problems that are this specific and this urgent often do not seem amenable research. Time seems too short and the problems seem too particular.

Suggestion 3. Broadly stated goals can be made more specific, and particular crises can be viewed as instances of more general problems. Police administrators can hold discussions with elected officials and other important constituents to identify areas of crime prevention, safety, or justice that are especially troublesome. This may help head off future crises by identifying problems early and directing resources to research and planning about them. Police administrators should also investigate agency performance in areas where crises develop. Even if the findings of the study are not available in time to inform decisions about what to do in that particular crisis (and usually they will not be), they may well identify ways to avoid a similar situation or at least how to understand it better should it recur. Service problems which experience suggests are endemic should go at the top of the research agenda, followed by service problems which appear to be just developing. Looking both to broad statements of agency goals and to immediate crises are ways to help identify performance measurement topics.

Regardless of the approach police use to learn about what their constituents want, we should not expect police to have the only performance measurement agenda. Performance measurement by police may be the most technically sophisticated and best funded, but it is unlikely to satisfy all constituents or foresee all problems. Other groups may contest the findings of police performance measurement. Sometimes they may produce information based on their own data collection and analysis. Other times they may attack values for policing implicit in a department's own performance assessments. Regardless of how other performance measurements differ from those conducted by police, they are potentially useful to police and other police constituents. Alternative assessments can identify values people hold about policing, can suggest other models of police service processes, and can provide additional data about police activities and their results. Police and their sometime-critics can learn from each other. Examination of conflicting evidence and competing models is a useful tool for learning about police performance and how to improve it.

The research community has primary responsibility for developing our understanding of how police processes work. More research is now being conducted in this area than ever before, due largely to financial support from federal agencies,

particularly the National Institute of Justice. While using ever-more esoteric research designs and modeling techniques, the research community must make special efforts if its research is to be understood by police administrators and others who decide police policy. This is a particular problem for academic researchers since many universities place the highest premium on publishing for academic rather than practitioner audiences. Policy analysts are persons skilled in the application of social science techniques to public service problems and can help disseminate academic research. Most departments cannot afford to train or hire their own policy analysts, although the largest academic departments may have a staff of several people with these skills. Regional planning councils, local colleges and university government service bureaus, and other agencies of local government often employ policy analysts whose service may be available to public agencies at little or no charge. Part of their job should be to keep police administrators informed of research findings. Professional associations can also help communicate research findings to police departments. Their journals, bulletins, and conferences are channels that have already been developed for this purpose. Greater efforts could be made to review and interpret academic studies of policing.

Police departments must remain primarily in the business of providing services, not conducting research. At the same time, departments can make themselves accessible to research projects and can improve their own data collection practices. Moreover, police can be more explicit about the results they expect their programs to produce. Wagner's (1980) study of attempts to introduce performance measurement programs in two North Carolina cities demonstrates the importance of close collaboration between policy analyst and department officials. Wagner found that the policy analyst could not rely on her technical competence alone. Key departmental personnel had to supply both the information and the support necessary to implement procedures to produce and use those measures. Patton (1978) provides a thorough discussion of the importance of the interaction of policy analyst and agency management.

Suggestion 4. Policy analysts and professional associations should keep police informed about the latest research on policing and help police collect better data and be more explicit about the theories guiding their own operations. In these ways, the performance measurement efforts of departments can contribute to the development of more valid theories of police service delivery.

B. Obtaining Better Data

Making explicit the underlying models used in a performance measurement enterprise will assist users in assessing the quality of the results. But without the ability to obtain good data for those models, a performance measurement program has little value. Police collect most of the data that is used in their agency's evaluation. We believe that for police to obtain better data they must focus their efforts on the data collection process, on the scope of information they seek, and on cost-reduction strategies.

1. Improving the process of data collection. Obtaining valid data on police operations and accomplishments has been a major concern for the last 50

years. It is still a difficult challenge, despite the considerable effort which has been devoted to it. Methodological and technological innovations have expanded our knowledge of how to collect data and have increased our capacity to store, retrieve, and manipulate data. Nevertheless, valid, inexpensive, and readily available data on police performance continue to elude us. Chapters 5 and 8 describe many of these problems. The thorniest data problems cannot be solved at the social scientist's desk or computer programmer's terminal, however. Regardless of the elegance of a survey instrument, the sensitivity of a scaling procedure, the specificity of a classification scheme, sophistication of reliability checks, or the number of cases in a data set, the collection of performance data must come to grips with the realities of police organization and culture. Police officers are often isolated, suspicious of outsiders, and no more eager to be scrutinized than members of other occupations. The police have a vested interest in how performance data reflect on them, so that relying upon police to collect these data inevitably creates questions of validity and reliability. Further, even when police are motivated to do the most accurate data collection possible, they may lack the skills or not be in a position to do so: Dealing with a problem may prevent a police officer from collecting data on it.

Most efforts to improve the quality of police department data have focused on changing the management of records. Centralization of records management was expected to control distortion of reports and improve coordination of reporting. Specialization of some personnel in records management was expected to facilitate the application of new techniques for managing data (O.W. Wilson, 1963:386-388). The adoption of electronic data processing has further focused efforts to improve police data on the records division of a department. There have been important changes in how data are managed, and major improvements have resulted. But unfortunately the way the data are collected initially has not been included in most of these efforts. The quality of data depends in large part on the precision and lack of bias with which they are collected.

The officer on the street is the originator of most of the observations and classifications of observations which become police department data. Street officers (whether in patrol, traffic, investigations, or other service assignments) are also responsible for carrying out the department's programs. Although many of the reports they prepare are intended for making decisions about individual cases rather than for monitoring agency performance, in many departments, the officer who files a report rarely needs to use that report again for his or her own work. Thus, officers often do not directly perceive the need for accuracy and thoroughness, even in case reports. In reports of their own activities, which are used by their supervisors to direct their daily activities or to determine who will be rewarded, there is even less incentive for full and careful reporting. This is so especially if the kinds of officer behavior to be reported are activities supervisors want to encourage but which seem unimportant to officers or activities supervisors want to discourage but officers want to continue. Officers need to understand data collection techniques and the reasons for them. Training and supervision can be designed to help officers understand why their reports are worth doing well. One technique which may be useful is involving officers themselves in the development of data collection forms and procedures. For example, the San Diego police department conducted an experiment which encouraged officers to hold discussions with citizens to "profile" neighborhood needs and problems (Boydstun and Sherry, 1975). Profiling the service priorities of each officer's beat required the officer to undertake

field observation and much conversation with residents and neighborhood leaders. The officers interpreted their beat needs and were responsible for communicating their impressions to the departments. The program used periodic staff conferences with open discussions between supervisors and patrol officers to compare findings and discuss their implications. The program's evaluation report documented a significant increase in police motivation to seek and report information about the beat.

Some might accuse a department that vigorously pursued this approach of turning its force into a crew of social scientists with badges, rather than police officers. What makes a good data collector does not necessarily make a good police officer, but the skills of a good observer and a careful recorder are also important to police work. It is possible to develop attitudes that encourage officers to use information that will help them and their managers to assess problems and deal with them. To accomplish this, police managers will need to modify traditional chains of command, control models of information transfer, and adopt more decentralized models. Data collection procedures need not be imposed from the top down. They can be developed jointly by police managers and officers. Officers can be convinced of the value of the data to them as well as to management. Further, the rules of data collection and coding need not be so rigid that they resist all change. Street-level officers' consistent failure to abide by rules sometimes tells more about the inadequacy of the rules than of the officers. Until the role of the street-level officer in collecting information about the agency's work is acknowledged, the validity and reliability of police-collected data will always remain suspect.

Suggestion 5. Police management can encourage and educate officers to be more accurate data collectors by explaining how the data they collect can help improve their work and by involving them in the design and testing of data collection forms and procedures.

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2. Getting more comprehensive data. Part of the difficulty in police performance measurement is that police seldom collect and manage data that permit them to follow individual people, cases, families, neighborhoods, or other units through a process. To measure the cumulative effects of police activities and their long-term consequences, police need to develop computerized "case histories." Police need to be able to trace cases through subsequent processing by other criminal justice and social welfare agencies so that they can assess the impact of police actions on subsequent decisions and also understand the impact of police actions on ultimate outcomes, such as recidivism, revictimization, etc. Some data systems are already beginning to do this. A LEAA-promoted Prosecutor's Management Information Systems (PROMIS) organizes some of this information, although many problems for management usability have been noted (Weimer, 1980:231). Police need data on what happens to cases they refer to alcohol detoxication facilities, spouse abuse assistance organizations, and other social service organizations they use. Police also need to be able to easily link data on repeated contacts with citizens. Dealing with individuals who are chronic troublemakers, chronic victims, or those chronically in need of assistance forms a large part of what police do.

Most current police accounting systems do not admit to ready compilation of long-term individual histories of citizens' problems and police interventions. Relying on officer or citizen recall to reconstruct these histories is an unsatisfactory solution to this problem, given that most of these data are already collected. Developing computerized case histories that can be adapted to performance measurement needs is a technical problem that requires a more intricate combination of data sets. In addition to the technical problems of data formatting and system design are the problems of securing the cooperation of a large number of government agencies to keep track of what the government has done to individuals as it "processes" them through the criminal justice system or diverts them to other government agencies. Securing this cooperation can be a sensitive matter. Guaranteeing mutual access to such data files is one way of increasing trust. Finally, the linking of diverse data sets on individuals, families, or addresses also raises problems of right-to-privacy violations. Limiting computer-linked case histories to information that is in the public domain may help safeguard people's privacy. The masking of individuals' names and addresses is another, since the purpose of these data sets would be to evaluate agency performance, not make operational decisions about individual cases.

More use can be made of existing records as a source of police data, too. For example, the Police Executive Research Forum staff coded data from the case records maintained by 24 local police agencies in order to study the kinds of information usually needed to clear burglary investigations (Eck, 1979).

Suggestion 6. Reorganizing the information already available may help researchers address preformance issues for which data have not been explicitly collected.

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3. Controlling the cost of data collection. The most expensive aspect of performance measurement is typically data collection. Police can do a great deal to limit the cost of data by not collecting so much of it and by judiciously integrating information collected for legal and daily operations purposes into a performance measurement program.

Police departments, like other bureaucracies, develop inertia in reporting procedures. Thus, they often produce data of little usefulness. Officers are required to collect these data because the process has become--over a long time and through sometimes considerable administrative effort--part of their routine. Those who collate the data are familiar with procedures, and those who are supposed to use it have become inured to the stream of superfluous information flowing over their desks. Outsiders who have conducted research in police departments usually participate in a scene where some police official, in response to an inquiry on what data the department collects on its activities, hauls out reams of computer printout and statistical summaries, confessing that he hopes the researcher can use it because no one else does. One cannot fail to be impressed by the weight of the evidence and its irrelevance to police needs.

Suggestion 7. Police managers should evaluate the usefulness of the data they collect in order to eliminate unnecessary record keeping procedures.

It is one thing, however, to call for flexibility and another thing to implement it. Establishing data collection routines and getting personnel to use coding schemes is a time consuming process, so that frequent changes are more likely to ensure confusion and dissaffection rather than more efficient data collection. Much of the cost of refining data collection techniques and instruments can be limited if changes are first tried on a small, experimental scale.

Another way to limit expenditures for data collection is to make better use of information that is currently collected by officers for legal and operational purposes. Most departments process for performance evaluation only a small amount of the information their personnel collect on their numerous report forms. UCR statistical requirements typically determine what information is extracted for analysis. Much additional information routinely collected and reported by officers might be used in identifying problems, testing models, and planning. It is often written in narrative text form. If time is limited, or changing report forms and codes is infeasible, it may be more productive for office staff to review reports and put the information in a form that facilitates data analysis. This does not solve reliablity and validity problems, but it does mean that the problems of teaching the new codes and coding rules can be limited to office employees. For reports which are known to be highly reliable already, this can be a useful procedure.

Data collection costs can also be minimized by sampling instead of coding data on all cases in the population. This is particularly important where the analysis focuses upon high frequency occurrences, such as offense reports or arrest reports. Careful coding of a small, carefully drawn sample of cases can provide more accurate data (and be less expensive) than trying to code data from all reports in the file.

Suggestion 8. Police can sometimes save resources by coding data from information from reports already in their files. Often only a sample of cases may need to be coded.

C. Others' Measurement of Police Agency Performance

Much of our discussion has been directed to police agencies' efforts to measure their own performance, but police performance measurement is by no means done only by police. Other public agencies, the press, and various special interest groups of citizens may all become involved in using social science techniques to assess how well their police are doing. Each of these constituencies may have a somewhat different view of what constitutes good police performance, and any one of them may decide to try to measure how well police are doing according to that constituency's performance criteria.

Nonpolice performance measurement programs serve not only their sponsors, however. They also serve the larger public interest. A fundamental question is to what extent can the police be expected to portray accurately their own activities and accomplishments, particularly when doing so may reflect poorly on the current administration or individuals in the agency. The most rigorous attempts to enhance the validity and reliability of data are subject to question until they are independently verified. Sometimes other government agencies do this, but they too may have a significant investment in the outcome. In some sense, everyone interested in measuring police performance has an ax to grind. In social science we expect that when enough perspectives are represented, potential biases and distortions will be less likely to remain unidentified.

Nongovernment groups can prove particularly effective in demonstrating the existence of a problem that government reports--through ignorance or design--have failed to illuminate. Some sources of data are limited if a research team does not have police cooperation or the resource to obtain technical services. However, disassociation from the police enhances access and credibility with offenders, victims, or witnesses.

The same standards of scientific rigor that we might expect of heavily funded government endeavors can be met by private studies. Survey techniques are particularly appropriate for groups that provide service to those who have (or might choose not to have) contact with the police. Rape crisis centers, hotlines, shelters for alcoholics or battered wives, and other service organizations can obtain useful information on police-client interactions and the reasons that potential clients did not request police services. Neighborhood organizations can conduct their own victimization and public opinion surveys. Businesses can survey their customers to assess their fear of crime and evaluate police protection in the vicinity. Churches and privately-sponsored half-way houses can collect data on police activities regarding probationers and parolees.

Some performance measurement problems may call for extraordinary forms of data collection. Survey interviews and participant observation are seldom part of police departments' routine data collection program, but they are often used by outside researchers to get information unavailable or of questionable accuracy through normal data collection channels. These methods are labor-intensive, require specialized skills, and pose special methodological problems of their own. A large scholarly literature has developed on when and how to use these techniques. We only note that these techniques can also be used to test the validity of less costly methods. Some methods, such as the follow-up interview with police clients, can and have been routinized at low expense (McCall, 1975; Parks, 1980; Reiss, 1971). The now-standard suggestion to use the resources of local colleges, which can often be obtained at little or no expense, also applies.

Suggestion 9. Other agencies and organizations which want to know how well police are doing should seek the same rigorous, objectives description of events and the same clear statements of performance criteria which we expect from police.

D. Performance Measurement as a Learning Strategy

To be most useful, performance measurement should be designed jointly by those responsible for collecting the data, those who will use the measures, and those who have technical expertise in designing measures and interpreting them. Police, their constituents, and policy analysts all need to be involved in the selection of relevant theories of policing to guide performance measurement, the choice of measures, and the implementation of the program.

Any performance measurement program will necessarily be limited and incomplete. By publicizing the kinds of measures which they find useful and the results of research they conduct, agencies can help strengthen each others' capacity for performance measurement. Probably the most readily transferable parts of a performance measurement program are the data collection and management procedures, although even these need to take into account local peculiarities and requirements. Models of police operations will continue to be somewhat less transferable without a much fuller theory of the effects of various police practices and the diversity of contexts in which police operate. Still, much can be learned from previously developed models of police services and from comparisons of models tested in different settings. Performance measurement programs need to be kept flexible and open to revision as new social problems arise, new understanding of policing develops, and new constituent expectations are formed.

APPENDIX A. THE POLICE SERVICES STUDY: AN OVERVIEW

The Police Services Study (PSS) was a two-phase research project conducted jointly by the Workshop in Political Theory and Policy Analysis at Indiana University at Bloomington and the Center for Urban and Regional Studies at the University of North Carolina at Chapel Hill between 1974 and 1980. The project was funded by a grant from the National Science Foundation. The purpose of Phase I was to provide a comprehensive description of the arrangements used to provide police services in metropolitan areas.[1] Phase II of the Study was designed to analyze the impact of these arrangements for police service delivery on a variety of community outcomes. A number of reports on Phase II of the study have been published or are in press, but some of the findings are reported here for the first time.

The first phase (1974-1976) was a census of all law enforcement organizations (local, state, and federal) providing services in a stratified random sample of 80 small-to-medium-sized SMSAs in the United States (50,000 to 1,500,000 residents) during the 1973 calendar year. Data were collected during brief site-visits, supplemented by telephone and mail communications. This census gave an overview of intra- and interorganizational arrangements for the delivery of a variety of police services in all jurisdictions in each SMSA (general patrol, traffic patrol, accident investigation, criminal investigation, dispatch, training, detention, and crime lab). Data were obtained on departmental structure, resource levels (fiscal, equipment, and personnel), allocation and deployment of personnel, types of service provided, and service arrangements with other law enforcement agencies. Data collected by other organizations were also obtained: FBI crime and arrest data; Office of Revenue Sharing data (population characteristics, housing, taxes, and intergovernmental transfers; and Census data (both for 1970 and estimated for 1973).

The second phase of the PSS, conducted from 1976 to 1980, involved intensive data collection in 24 local police departments. On-site data collection in this phase was conducted primarily in the summer of 1977 by research teams assigned to the three metropolitan areas in which the departments were located: Rochester, New York; St. Louis, Missouri; and Tampa-St. Petersburg, Florida. These metropolitan areas were selected because of the variety of departments found within each area. Departments were selected in each SMSA to produce an overall sample that would reflect a rough cross section of organizational arrangements and service conditions for urban policing in the United States. The sample clearly is not representative of the entire population of police departments in the United States.

The focus of Phase II is on patrol services and related support activities (communications and referral services). Detailed data on police organization activities, service conditions, outputs, and outcomes of patrol service were collected. Although some data instruments relied upon agency records, most

[1] For a more extensive description of Phase II, see Ostrom et al., 1977 and 1978.

techniques were researcher-intensive--conducted independently of agency-supplied data. This was done to obtain a wider range of information than normally available through police records and to enhance indicator reliability and validity. Table A-1 provides summary statistics on the 24 departments in the study.

TABLE A-1. POLICE SERVICES STUDY PHASE II POLICE DEPARTMENTS

Department	Sworn Officers	Population of Patrol Jurisdiction	Study Neighborhoods
	ROCHESTER SMSA		
Gates	22	30,000	1
Greece	68	84,000	1
Monroe County	346	185,000	2
Rochester	646	259,000	7
	ST. LOUIS SMSA		
Berkeley	38	18,000	2
Brentwood	23	10,000	2
Bridgeton	51	24,000	1
Crestwood	28	15,000	1
Ferguson	54	27,000	2
Kinloch	15	6,000	1
Kirkwood	53	34,000	2
Northwoods	18	9,000	1
Pinelawn	13	6,000	1
St. Louis (city)	2,050	499,000	8
University City	80	47,000	3
Wellston	24	6,000	1
	TAMPA-ST. PETERSBURG SMSA		
Clearwater	158	77,000	3
Hillsborough County	292	330,000	3
Largo	43	55,000	2
Pinellas County	240	210,000	4
Pinellas Park	33	29,000	1
St. Petersburg	453	236,000	4
Tampa	595	297,000	5
Tarpon Springs	23	11,000	2

Although jurisdiction-wide data on organization and service delivery were collected for each department, most of the intensive research activities focused on patrol service to a sample of 60 predominantly residential neighborhoods served by these departments (varying in number per department from one to eight, depending upon the size and heterogeneity of the community residential population). Neighborhoods were selected to reflect a cross section of the residential service conditions with which each department had to deal. These study neighborhood boundaries are beat boundaries in the majority of cases, although some modifications were made when necessary to conform to census blocks/tracts and to prevent distinctly diverse populations from being included within the same boundary. Ethnicity and family income of residents

served as the principal selection criteria, most neighborhoods being either predominantly white or predominantly nonwhite. (Nearly all nonwhites in these neighborhoods are black.) Victimization rates for neighborhood households varied substantially: from 19 to 66 incidents per 100 households in a 12-month period. Table A-2 shows the distribution of the 60 study neighborhoods according to ethnicity and family income.

TABLE A-2. INCOME AND RACIAL CHARACTERISTICS OF 60 PHASE II STUDY NEIGHBORHOODS (by number of neighborhoods)

Mean Family Income	Racial Composition: Predominantly White (0-25% Nonwhite)	Mixed (26-75% Nonwhite)	Predominantly Nonwhite (75-100% Nonwhite)
$5,000-7,500	0	0	8
$7,500-14,999	20	10	4
$15,000 +	16	1	1

Phase II Data Sets

Below are brief descriptions of the data sets collected in Phase II of the Police Services Study.

1. Data set 1: Observation of police officers on patrol. During a period of over 7,200 hours of in-person observation by trained researchers, more than 500 patrol officers were observed in a matched sample (for day of week and time of day) of 15 shifts for each of 60 study neighborhoods. During this time period, 5,688 police-citizen encounters involving more than 10,000 citizen participants were observed. Detailed coding of each encounter covered 650 variables, such as: how the encounter was initiated; location and information provided to officer by dispatcher; response time; length of encounter; the nature of the problem(s); characteristics of citizen participants; police actions and demeanor; citizen actions and demeanor; and the presence of other police and non-police public servants. Descriptive narratives were also prepared for each encounter involving a domestic disturbance and violence between officer and citizen. For each of the 900 observed shifts, observations were also coded on activities and occurrences not involving direct contact with citizens. Examples are the initiation of security checks; issuing parking tickets; contact with superviors, other patrol officers, and other public servants; time spent on a variety of activities; and officer-volunteered comments on patrol style and department priorities.

2. Data set 2: Observation of telephone calls for service. A sample of requests for service received by telephone in 21 departments was observed during the time periods that observation of patrol officers was being conducted. Observations were either coded live or tape recorded and coded later. A total of 26,465 calls were coded. Variables included the nature of the request or

[2] Methods reports describing data collection instruments and procedures are available from the Workshop in Political Theory and Policy Analysis, Indiana University at Bloomington.

problem, characteristics of complainant, location of problem or complainant, information given to the telephone operator, and nature of the police response promised by the telephone operator.

3. Data set 3: In-person, structured interviews with police officers, supervisors, and administrators. Interviews were conducted separately with each officer in private (averaging 30 minutes each). Completed interviews number 1,424, including 497 of the 500 officers observed on patrol. There were approximately 200 questionnaire items, including respondent's personal characteristics; education and training; police experience; attitudes and perceptions of job, community, supervisors, management, police role, police priorities, and department priorities.

4. Data set 4: In-depth, in-person interviews with police administrators. Less structured, lengthier interviews (1-2 hours) were conducted with top and mid-level managers in each department. Extensive descriptions and commentary on a variety of organizational topics were obtained: organizational priorities, problems, and strategies; resource allocation structures for patrol; provisions for supervision, command, and control; relations with the community and public officials; and management's patrol-style priorities. Respondents supplied additional agency records and documentation on many items. A total of 43 interviews were conducted.

5. Data set 5: In-depth, in-person interviews with representatives of citizen organizations involved in police and crime issues. One hundred and ten organizations active in the jurisdictions and study neighborhoods were selected for interview. Agencies were selected based upon interviews with police administrators, community leaders, respondents to the neighborhood surveys, and members of other citizen organizations. One or more representatives of each organization were administered a lengthy questionnaire. Questions covered the following areas: organization purpose and activities, nature of relationship with police departments, preferences and priorities for policing, and perceptions of local police performance.

6. Data set 6: In-depth, in-person interviews with public officials involved in police issues. Sixty public officials were interviewed: 19 elected executives; 15 appointed executives, 23 elected local legislators; and members of a state-appointed board. Selection of public official respondents for each jurisdiction was based upon interviews with police administrators, respondents to the neighborhood surveys, members of citizen organizations, and other public officials. Questions covered the following areas: respondent's personal background, nature of relationship with police, perceptions of police role in the community, and evaluation of police problems and performance. Both coded and narrative responses to questions were recorded.

7. Data set 7: Survey of neighborhood residents. Approximately 200 residents per neighborhood were interviewed (12,022 interviews) by telephone. There were 172 items per interview. Items included: respondent characteristics; household victimization data; respondent experiences with police; evaluation of police service in the neighborhood; attitudes toward police role and performance in specific encounters; crime reporting and other cooperative citizen behavior; and participation in crime-prevention programs and groups.

Although each of the data sets described above uses a different unit of analysis, each can be aggregated or merged at different levels (for example, SMSA, department, neighborhood, patrol shift, and officer). Aggregated data can also be applied to individual cases to perform ecological analysis (for example, neighborhood victimization surveys can be aggregated and used as control variables in analyzing officer time allocations).

APPENDIX B. THE POLICE SERVICES STUDY: PROBLEM TYPE CODES

A set of codes for the problems police deal with was essential for a study of patrol operations in order to record the type of problem involved in each request for service and each police-citizen encounter we observed. To facilitate the coding of problem types, the Police Services Study (PSS) staff developed a list which contained mutually exclusive problem definitions and which also included virtually every possible type of problem which police are asked to handle. This list was used to categorize citizens' descriptions of their problems, dispatchers' descriptions of problems assigned to officers, observers' descriptions of the problems they saw police handle, and citizens' responses describing to interviewers encounters they had with police.

The PSS staff developed its list of problem codes by recording the types of telephone requests for service, police dispatches, and citizen-police encounters observed in pretests in Chapel Hill and Durham, North Carolina, and Speedway and Indiana University, Indiana, Police Departments. This list was compatible with problems other researchers have identified. The basic list of problem types was constructed in May 1977. During the course of the data collection in the summer of 1977, any problem which did not fit the previously established categories was referred to one of the principal investigators for assignment of a new code. All research staff were promptly notified of the new category. The PSS Coding Manual, presented on p. 168 of this appendix, gives a complete list of problem codes and their definitions.

The study required a set of codes with various levels of specificity. Citizens' descriptions of their problems can be either quite specific or quite general. Similarly, police dispatchers can be quite specific in describing the problem to the patrol officer who is assigned, or they can be quite general in the description they give. To be able to record both general (and often vague) descriptions of problems when only these were given and also quite specific problem descriptions when these were available, PSS staff designed a nested set of codes. At the most general level, problems are separated into seven categories: Problems with Persons (00-199), Problems with Property (200-399), Traffic Problems (400-499), Service Problems (500-599), Information Problems (600-699), Legal Procedures (700-799), and Miscellaneous Problems (800-899). Each of these general categories is divided into more specific subcategories. In several instances these sub-categories are divided again for even greater specificity, and a few problem types are described by yet another division. For example, a Domestic Argument (020) is a sub-category of Argument (019) which is, in turn, a sub-category of Public Nuisance or "disturbance" (010), which is a category under Problems with Persons. Problem types for any incident assigned to an observed police officer were recorded at three points in time: when the call was assigned to the officer by the dispatcher, when the officer arrived on the scene, and when the officer left the scene or the incident was concluded. Thus, as more information became available to an officer, a different or more specific problem code was often applicable.

The coding rule was to select the most specific problem type code which could be applied to the situation described by the caller, dispatcher, or interviewee. Patrol observers were instructed to also identify the problem type

categories which most completely described the problem as they observed it. Thus, if a caller reported "an argument" to police, this would be coded as problem type 019 (Argument) by the calls for service coder. If the dispatcher described this same incident to a patrol officer as a "disturbance," it would be coded 010 (Public Nuisance) by the patrol observer. If after arrival the patrol observer learned that the participants in the incident were members of the same family, he or she would code the incident 020 (Domestic Argument). The problem codes on the calls for service form were verified against written descriptions of the callers' problems. Less specific codes were deleted when there was sufficient information to permit determination of a more specific code. Additional information about coding practices and supervision is available in methods reports for the various data collection forms on which problem type codes were used.

PSS did <u>not</u> attempt to classify problems on the basis of criminal statutes or on the basis of charges filed against participants in the incident. Some PSS problem codes have names that are also the terms used for crimes, but these terms merely identify the description of a problem to police or the appearance of a problem situation to our observer. They do not indicate whether police officially classified the incident as a crime. For example, if a person was stopped by an officer because he was behaving in an erratic way and appeared to be intoxicated, a PSS researcher would categorize the problem as 011 (Drunk) whether or not there was an arrest for public intoxication or a referral to a detoxification center. If the apparently inebriated individual were driving a car, the researcher would code the problem as 471 ("driving under the influence") regardless of whether there was an arrest or whether the person was shown to be legally intoxicated according to a breath or blood test.

The study's interest was to record problems citizens described to the police; problems dispatchers assigned to officers; and the problems officers dealt with both as they appeared to observers and as they were recalled by citizen participants who were later interviewed. Each of these descriptions of the problem can, in fact, be different from the actual situation. For example, a citizen may report that he is being threatened with a weapon while, in fact, no weapon is involved. (The mention of a weapon may be an attempt to encourage a quicker response from police, or it may be an exaggeration born of anger or fear.) A dispatcher may relay an incorrect problem description from caller to patrol officer, or a dispatcher may abbreviate a problem description. The use of numeric dispatch codes or of such standard phrases as "See the lady" or "Disturbance" may result in the failure to transmit to the patrol officer specifics provided by the caller. The problem the officer deals with may also differ from the situation as it could be described with more information. For instance, when a department receives a bomb threat, considerable effort may go into evacuating occupants of the threatened building and searching for a bomb. In fact, no bomb may exist so that there is "really" no problem, but that is not the situation the officer confronts when he or she is dispatched to a place where a bomb is reported. Similarly, an officer may spend considerable time taking a report of a stolen vehicle, only to learn that another member of the owner's family borrowed the car and no theft was involved. Again, while there is "really" no problem, PSS coded the problem confronting the officer as Stolen Auto. Interviewers were instructed to use this same rule in determining which problem type code to apply to citizens' descriptions of their interactions with police.

Using Problem Type Codes in Data Analysis

Problem type codes permit the analyst to select for study situations in which citizens, officers, or observers perceived similar problems. Not all domestic arguments are the same, of course, but domestic arguments are generally more similar to each other than they are to shoplifting or to traffic fatalities. At the level of greatest specificity, this list of codes identifies relatively homogeneous sets of situations confronting citizens and police.

Often, however, PSS researchers were not able to obtain a specific description of the problem. In coding calls from citizens to police, they had to rely on the information the citizen provided. In coding dispatches received by the officer on patrol, they relied on the content of the radio transmission. These were sometimes quite general--"See the lady," for example. In such cases, researchers had to use codes which refer to broad, general categories of problems. When a general code was used, there is necessarily less similarity among the cases receiving that code. Thus the data information is of varying levels of specificity.

The need to generalize from specific codes to more general classes of events is also important. This permits broad comparisons. That is, analysts often want to be able to divide police work into several broad categories. Because PSS coded much information in a very specific form, broad categories can be created in several ways, reflecting different aspects of the problems police deal with. Each analyst is free to reclassify problem codes according to his or her research needs. However, the PSS staff has developed a general classification scheme applicable to a variety of analyses. It provides consistency across PSS reports. Thirteen categories comprise this set:

I. Violent crime--one person injures another physically in a manner which involves potential criminal liability

II. Interpersonal conflict--persons involved in a dispute or altercation

III. Medical problem--persons who are ill or injured

IV. Public Morals Crime--affront to legal standards of "right conduct"

V. Non-violent crime--non-physical injury in a manner which involves criminal liability

VI. Traffic problem--dangerous or illegal operation of motor vehicle or motor vehicle accident or hazard

VII. Dependent person--persons thought unable to care for themselves

VIII. Public nuisance--unpleasant or annoying circumstances

IX. Suspicious circumstance--situations officers or citizens perceive as potentially threatening

X. Assistance--all other situations in which citizens request help in dealing with a problem

XI. Information request--person wants information from police

XII. Information for police--person only provides information to police

XIII. Internal police operations--no direct service to citizens is asked for or provided

The Problem Type Codes that fall into each of these 13 categories are listed in the Coding Manual on p. of this appendix. The broad categories are not mutually exclusive. Some codes indicate a type of problem which fits in several of them. Code 420 ("Hit and run"), for example, is at once a violent crime (I), a medical problem (III), and a traffic problem (VI). By treating each of the 13 categories as a separate variable, the analyst can identify each of the categories into which each case falls. Several PSS data collection forms permitted as many as three problem types to be recorded. The 13 broad categories also permit inclusion of the information from all those codes in determining which categories of police problem each case involves. An example would be a single encounter between police and citizens which involves both a moving violation in traffic (470) and a drug violation (042).

Of course it may be desirable for the researcher to "force" each case into one and only one problem type, creating a set of mutually exclusive codes. To obtain a single problem category for each case, it is necessary to rank the categories in terms of their desired inclusiveness. Each researcher may do this to suit his or her own research questions. If, for example, all cases involving violent crime are wanted, that category would be ranked first, and a case of hit and run would receive that code. Hit and run, for this purpose, would not be included among the traffic problems or among the medical problems. All categories would need to be ranked so that all combinations of multiple codes are also provided for.

The 13 categories may be combined in a variety of ways depending on the purposes of the analyst. The researcher could, then, combine all crime-related problems by combining all cases in Categories I, IV, and V. This produces a set of problems in which a crime report is probably going to be filed (if the investigation shows the situation is as it was presented). Categories II, VI, VIII, and IX can be added to include all cases in which some kind of charges are likely to be filed or citations likely to be issued. On the other hand, officers are likely to restrain violent persons only in situations involving problems in Categories I, II, VII, and IX.

CODE MANUAL

1. PROBLEM TYPE CODES AND THEIR DEFINITIONS

Problems with Persons

005 MEET COMPLAINANT -- Code when this is all the information that is given (e.g., "See a man, woman, person at..." or "I need the police at x location").

010 PUBLIC NUISANCE -- Any person(s) or circumstances alleged to be annoying, unpleasant, or obnoxious to an individual or the public welfare (e.g., general complaint about rowdy party, firecrakers, peace disturbance). Whenever possible, use more specific codes below.

011 DRUNK -- Person is inebriated or alleged to be inebriated.

012 DISORDERLY -- Person is excessively loud, rowdy, annoying to others or is alleged to be disorderly by a citizen or officer.

013 VAGRANCY -- No visible means of support. Do not use code 013 when Drunk, 011.

014 LOITERING -- Person(s) lingering in public place (e.g., youths hanging out on corner). Appropriate for encounter that begins with police officer saying "move along."

015 PORNOGRAPHY -- Sale, distribution, or consumption of illegal sexual-related literature, film, etc.

016 OBSCENE ACTIVITY -- Lewd, unchaste, indecent activity (e.g., indecent exposure, Peeping Tom). Do not code 016 when Pornography, 015 or Prostitution, 023.

017 NOISE DISTURBANCE -- Use when someone complains about or officer investigates a loud party or gathering where they have been disturbed by the excessive noise. (E.g., "That barking dog next door keeps me from getting my sleep." "They're playing their stereo for the whole neighborhood.")

018 PEDDLING, BEGGING -- A person selling pencils or other wares on the street without a permit or begging for money.

019 ARGUMENT, PARTICIPANTS UNSPECIFIED -- Any verbal disagreement that stops short of violent physical contact with persons or property where type of participants is unknown.

020 DOMESTIC ARGUMENT -- Any verbal disagreement between related family members (including couples "living together") that stops short of violent physical contact with persons or property.

021 NONDOMESTIC ARGUMENT -- Any verbal disagreement between non-related individuals that stops short of violent physical contact with persons or property.

022 GAMBLING -- Any of a number of illegal gambling activities (e.g., book making, numbers, dice, etc.).

023 PROSTITUTION -- Sexual relations for pay (e.g., street walkers, call girls, illegal massage parlors).

024 CURFEW VIOLATION OR TRUANCY -- Juveniles or adults out after designated hours or a pupil who stays away from school.

025 KEEP THE PEACE - PREVENT POTENTIAL ARGUMENT -- Use this code, for example, when a woman requests police protection while picking up her clothes from her house in a situation where she is leaving her husband. The officer is requested to be present so as to prevent any problem from developing.

026 JUVENILE PROBLEM/DISTURBANCE (Non-specific) -- Use this code for a complaint about juveniles that does not otherwise fit one of our other categories. E.g., "the boys are playing in the street again." "Those kids keep tormenting my dog."

027 ANNOYING/HARASSING TELEPHONE CALLS -- Use for any sort of harassment via telephone. If an obscene telephone call, code 027 in first slot and 016 in second slot. If clearly threatening call, code 027 in first and 091 in second. If telephoned bomb threat, simply code 332.

028 HARASSMENT (non-specific) -- Use this code when a person complains that another person is harassing them, but does not specify any additional information that would allow you to code a specific problem type. E.g., "my brother-in-law keeps coming around and harassing my wife and me."

029 FAMILY TROUBLE (unspecified) -- Use this code for a report of "family trouble" where the nature of the trouble is unspecified ("We've got a family trouble at 12th and Walnut"). Do not use this code when a more specific one applies (i.e., 029, Domestic Argument, 093, Domestic Fight, etc.).

030 NEIGHBOR TROUBLE -- Use this code for a report of "neighbor trouble" where the nature of the problem is otherwise unspecified.

040 DRUG VIOLATIONS -- Includes sale, consumption, possession, or exchange of unspecified drugs.

041 ALCOHOL CONTROL LAW VIOLATION -- Illegal possession, distribution, or consumption of alcohol (e.g., blue law violation, open after hours, speakeasy, underage drinking). Do not use code 041 is driving while intoxicated (471).

042 MARIJUANA CONTROL LAW VIOLATION -- Includes sale, consumption, possession, or exchange of marijuana.

043 NARCOTICS CONTROL LAW VIOLATION -- Includes sale, consumption, possession, or exchange of specified drugs other than marijuana.

050 CIVIL DISORDERS (RIOTS, TERRORISM, PRISON DISORDERS) -- Violent, mass public disturbance, and the use of threats of force to intimidate or coerce.

060 FAMILY NEGLECT/NONSUPPORT -- Use when a general reference to neglect or non-support of family members.

061 CHILD NEGLECT -- Neglect, nonphysical abuse, or threat of force directed at a child by a member of the family (e.g., child abandonment, locking a child in a closet, not feeding a child, etc.). Do not code 061 where there is actual physical harm involved, code as Child Abuse, 101.

062 NONPAYMENT OF SUPPORT -- Includes nonpayment of either child support or alimony payments.

070 MISSING PERSON -- A call to report a person as missing or the discovery of a person reported as missing. If person calls with additional request for or report of information, use the 600 code first and 070 second.

071 JUVENILE RUNAWAY -- A call to report a juvenile runaway, by parent or guardian, or the discovery of a juvenile runaway. See above for use of 600 codes.

072 KIDNAP -- To carry or attempt to carry a person away by unlawful force or by fraud and against the person's will.

080 MEDICAL ASSISTANCE -- An unspecified call for some form of medical help.

081 "MAN DOWN" - CAUSE UNKNOWN -- A call that there is a person lying in a public place who may require some form of medical or emergency transport service. The person might be drunk, sick, dead, or anything else, but the call does not specify the cause.

082 EMERGENCY MEDICAL TRANSPORT NEEDED -- Use for the transport of medical personnel or medical case in emergency conditions (e.g., emergency warning signals, fast driving).

083 FIRST AID, RESUSCITATION NEEDED -- Use when the call indicates that the police will be expected to administer first aid or resuscitation and not just to transport someone.

084 OBSTETRIC -- Use for call related to emergency treatment of woman during pregnancy or childbirth.

085 MENTAL DISORDER, INVOLUNTARY HOSPITALIZATION -- Code anytime that problem is presented to the officer as someone who is mentally ill or acting irrationally. Include in this category the process of commiting someone to a mental health facility that occurs in a nonemergency setting.

086 BLOOD RUN, SERUM DELIVERY -- The emergency transport of blood from hospital, blood bank, etc.

087 HELPING INVALID OR DISABLED PERSON -- Use for moving a sick or injured person from one room to another, helping an old or disabled person get back into bed if they've fallen out, etc. Do not use in emergency situations where 082, Emergency Medical Transport, or 083, 084, etc. apply.

090 PHYSICAL INJURY INFLICTED BY PERSONS -- Use for a general reference to some physical harm inflicted by one person on another where information is not sufficient to code in one of the categories below.

091 THREATENED PHYSICAL INJURY -- Code when someone has threatened to harm someone else. (I'm gonna break your arm. I'm gonna beat you up.)

092 FIGHT (PHYSICAL) -- Any disagreement that includes violent physical contact with persons or property.

093 DOMESTIC FIGHT -- A disagreement that includes violent physical contact with persons or property between related family members (including couples "living together").

094 NONDOMESTIC FIGHT -- A disagreement that includes violent physical contact with persons or property between nonrelated individuals.

994 GANG FIGHT -- Use this code for a non-domestic fight involving gangs of youths or others. Do not use for all fights involving more than two participants. Rather use 994 only when it is specified by the dispatcher, the citizen complainant, or someone else as definitely a gang fight.

095 SIMPLE ASSAULT -- The physical attack by one person upon another not accompanied by the use of a weapon.

096 DOMESTIC ASSAULT -- The physical attack by one person upon another not accompanied by the use of a weapon when it is known that the participants are related family members (including couples living together).

097 NONDOMESTIC ASSAULT - The physical attack by one person upon another not accompanied by the use of a weapon when it is known that the participants are not related family members.

098 AGGRAVATED ASSAULT - Physical attack by one person upon another accompanied by the use of a weapon or other means likely to produce death or serious bodily harm.

099 DOMESTIC AGGRAVATED ASSAULT - Code 099 when it is known that the aggravated assault is between related family members (including couples living together).

100 NONDOMESTIC AGGRAVATED ASSAULT - Code 100 when it is known that the aggravated assault is not between related family members.

101 CHILD ABUSE -- Physical harm inflicted by a person on a child, most frequently a member of the family. Includes battered children.

110 SUSPICIOUS PERSON -- A general request that there is a suspicious person in a neighborhood or a police officer stopping someone because of suspicious dress or activity. (Use this category unless officer or caller indicates with specificity what is expected, e.g., a drunk, someone using illegal drugs, etc.). For calls, "Person w/a gun" should be coded 110 and weapon mentioned, i.e., a 2 in col. 37.

111 PROWLER -- A report or officer-initiated action relating to an unidentified person in or near private property.

112 GUNSHOT -- A report that someone has heard a gunshot at a particular location.

113 SCREAMS -- A report that someone has heard screams at a particular location.

115 SUSPECTED VIOLATOR -- Use for general reference to a suspected violator without more specific information.

116 PERSON WANTED BY THE POLICE -- Suspect or apparent violator in flight (e.g., parole violator, prison escapee, wanted for questioning, etc.). Do not code when person is fleeing from officer at start of event unless person fleeing is previously known to be wanted (e.g., burglar running away upon police arrival).

117 REFUSE TO COMPLY/RESISTING ARREST -- Through verbal or physical means an individual refuses to obey a command given by a police officer (e.g., resisting arrest). Do not use this code if refused to comply temporarily, but does comply after a verbal exchange.

118 WEAPONS VIOLATION -- The unlawful possession, sale, transfer, or discharge of a weapon (e.g., carrying a gun without a license, discharge of weapon in public place, possessing sawed-off shotgun or machine pistol, etc.). Does not apply to Bomb Threat, 332.

120 ROBBERY -- Use for a generalized reference to a robbery without any further information.

121 ATTEMPTED ROBBERY

122 ROBBERY OF PRIVATE CITIZEN -- Theft directly from a person by force or threat of force. Robbery may or may not involve an actual physical attack. Threat of force is enough to place a theft from residence into this category. More force than is necessary to steal a purse must be applied to place Purse Snatch, 242 in this category.

123 ATTEMPTED ROBBERY OF PRIVATE CITIZEN

124 ROBBERY OF FINANCIAL INSTITUTION -- Theft from a financial institution accomplished by force or threat of force (e.g., hold up of check-cashing agency; bank robbery).

125 ATTEMPTED ROBBERY OF FINANCIAL INSTITUTION

126 ROBBERY OF OTHER COMMERCIAL ESTABLISHMENT -- Theft from a non-financial institution accomplished by force or threat of force. Robbery may or may not involve an actual physical attack. Threat of force is enough to place a theft from commercial establishment into this category (e.g., hold up of grocery store, shop, bar, service station, etc.).

127 ATTEMPTED ROBBERY OF OTHER COMMERCIAL ESTABLISHMENT

130 SEXUAL ATTACK -- Use when a generalized reference to some form of sexual attack without specific information.

131 ATTEMPTED SEXUAL ATTACK

132 RAPE -- The carnal knowledge of a female through the use of force or the threat of force or of a minor (e.g., statuatory rape).

133 ATTEMPTED RAPE

134 CHILD MOLESTATION -- A sexual attack upon a child.

135 ATTEMPTED CHILD MOLESTATION

140 DEATH ("DEAD BODY") -- Request to respond to report on sighting of dead body or suspicion of dead body (e.g., "my husband passed on in his sleep," death smell). Use this code when no other reason for death can be specified.

141 ACCIDENTAL DEATH -- Death by accident (e.g., drowning, industrial accident, but not traffic fatality which is 414.

142 SUICIDE -- Killing (or attempting to kill, 143) oneself intentionally.

143 ATTEMPTED SUICIDE

144 HOMICIDE -- Death of any person through the acts of another (but not traffic fatality which is 414).

145 ATTEMPTED HOMICIDE

150 CIVIL RIGHTS VIOLATION -- Denying an individual their constitutional or legal rights. Do not code when police officer does not inform individual of their rights.

160 ADULT SUBJECT OF POLICE CONCERN (non-specific) -- Use this code for cases where the police are concerned about an adult's welfare, but no specific problem type applies. E.g., "I'm going to check on the old couple who live in the back apartment, we try to look in on them every couple of days."

161 JUVENILE SUBJECT OF POLICE CONCERN (non-specific) -- Same as 160, except that the subject of concern is a juvenile.

199 OTHER PROBLEM WITH PERSON -- A residual category that should not be used without sending a Trouble Slip to Team Leader.

Problems with Property

200 DISCOVERY OF MISSING OR STOLEN PROPERTY -- Code for a request for response or for a response to call of located, missing, or stolen property, or when police officer discovers such property.

205 MISSING OR STOLEN PROPERTY -- Use this code for an unspecified problem with property that does not fit any of the categories below.

210 LOST PROPERTY -- A report that someone has lost some form of property (e.g., a lost watch, a lost wallet, etc.).

211 RETURN OF LOST PROPERTY -- Code when police officer returns lost property or caller reports recovery/return of lost property.

221 THREAT TO TAKE PROPERTY -- Someone threatens to take away the property of another person.

222 RETURN OF STOLEN PROPERTY -- Code when police officer returns stolen property; or when caller reports return/recovery of stolen property.

223 BUYING, RECEIVING, OR POSSESSING STOLEN PROPERTY -- The knowledgeable (or alleged knowledge) purchase, receipt, or possession of stolen property.

230 THEFT, UNSPECIFIED -- Use for a generalized reference to stolen property.

231 ATTEMPTED THEFT, UNSPECIFIED

232 MOTOR VEHICLE THEFT -- Involves stealing or unauthorized (without owner consent) removal of an automobile, motorcycle, snowmobile, motor boat, or other powered vehicle.

233 ATTEMPTED MOTOR VEHICLE THEFT

234 THEFT FROM RESIDENCE -- The successful stealing of property from a residence where no indication of unlawful entry is present. It is the crime of stealth that leads only to the loss (or threatened loss) of property or cash within the confines of an individual's private dwelling unit or ancillary building such as a garage, shed, or barn.

235 ATTEMPTED THEFT FROM RESIDENCE

236 THEFT FROM COMMERCIAL -- The successful stealing of property from a commercial or industrial establishment where no indication of unlawful entry is present. This does not include Shoplifting, 238. For example, items may be taken from the area within a security fence or by a person remaining in the store after hours.

237 ATTEMPTED THEFT FROM COMMERCIAL

238 SHOPLIFTING -- The stealing of articles from within a commercial establishment during regular store hours.

239 ATTEMPTED SHOPLIFTING

240 THEFT FROM MOTOR VEHICLE -- The stealing of articles from a motor vehicle (e.g., stolen motor vehicle parts and accessories, stolen audio equipment, etc.).

241 ATTEMPTED THEFT FROM MOTOR VEHICLE

242 PURSE SNATCHED/POCKET PICKED -- Theft of either purse or wallet where no more force than is necessary to remove the property from the individual is exhibited. If excessive force is used, code as Robbery of Private Citizen, 122.

243 ATTEMPTED PURSE SNATCH/POCKET PICKED

250 BURGLARY -- Use when a generalized reference to a burglary without specific information to use one of the more detailed codes listed below.

251 BURGLARY, RESIDENTIAL -- The successful theft that involves the unlawful entry of residence or related residential building such as a garage, shed, or barn. Thefts committed by persons that have a right to be in the property (e.g., personal guests and service workers) should be coded as Theft From Residence, 234. If an unsuccessful attempt, code as 282, Break-In, Residen - tial.

252 BURGLARY, COMMERCIAL -- The successful theft that involves the unlawful entry of a commercial or industrial establishment (e.g., breaking into a store after closing or breaking through a security fence and taking items). If an unsuccessful attempt, code as 284, Break-in, Commercial.

270 UNWANTED/UNAUTHORIZED ENTRY OR PRESENCE -- Use for generalized reference to an unwanted or unauthorized entry where specific information is not available to code one of the more detailed codes listed below.

271 TRESPASSING -- To nonforceably enter private or restricted public area without permission or right.

272 TRESPASSING, RESIDENTIAL -- To nonforceably enter one's private residential property without permission or right (e.g., riding or walking through a yard, a known individual [friend] walking into an unlocked house or ancillary building).

273 TRESPASSING, COMMERCIAL -- To nonforceably enter a commercial, industrial, or restricted public area without permission or right (e.g., railroad yard, jumping a fence around a school).

274 UNAUTHORIZED USE OF MOTOR VEHICLE -- Use this code when a car is used without the owner's permission, but is not considered stolen. E.g., "My brother took my car over to Elletsville when I wasn't around. I want him to bring it back right now!"

280 BREAK-IN -- Use for a generalized reference to a break-in.

281 ATTEMPTED BREAK-IN/INCLUDING ALARMS -- Use when cannot discern whether location is commercial or residential. Also use when location is public/governmental property such as school.

282 BREAK-IN, RESIDENTIAL -- The unlawful entry of a residence or related residential building where no property is removed from the premise.

283 ATTEMPTED BREAK-IN, RESIDENTIAL/INCLUDING ALARMS

284 BREAK-IN, COMMERCIAL -- The unlawful entry of a commercial premise or related commercial building where no property is removed from the premise. For this category entry will almost always be by force or stealth.

285 ATTEMPTED BREAK-IN, COMMERCIAL/INCLUDING ALARMS

286 BREAK-IN, MOTOR VEHICLE -- The unlawful entry of a motor vehicle such as a car, truck, or boat where no property is removed from the vehicle. This category will involve entry by force or stealth.

287 ATTEMPTED BREAK-IN, MOTOR VEHICLE/INCLUDING ALARMS

290 SUSPICIOUS PROPERTY CONDITION -- General request to respond to report or sighting of property condition (excluding motor vehicle) that "does not appear right."

291 PECULIAR OR PUZZLING CIRCUMSTANCE -- Request to respond to report or sighting of extraordinary or supernatural circumstances (e.g., UFOs, unusual noise, or explosion, etc.).

292 SUSPICIOUS MOTOR VEHICLE -- Request to respond to report or sighting of motor vehicle that "does not appear right" or "does not belong in the area."

293 OPEN DOOR OR WINDOW -- A report that a door or window is unexplainably open, ajar, or looks like it might have been open.

294 DANGEROUS SUBSTANCE -- This code should be used when the police receive a report that someone has found dynamite, blasting caps, ammunition, etc., and wants the police to investigate. See also 532, Transport dangerous substance, for cases where the request is for the police to haul such items away.

300 DAMAGED PROPERTY -- A generalized reference to damaged property.

310 UNINTENTIONALLY DAMAGED PROPERTY -- Code this when there is a request for response or response to call of damaged property where there is no intent (or use of force) to destroy property (e.g., tree fell on house, baseball through window, etc.).

311 UTILITY PROBLEM -- Code this when there is a request for response or response to call about a public utility problem or dangerous situation (e.g., street lights out, gas leak, down wire, transformer sparks, water main break, open fire hydrant causing flooding).

312 FIRE IN PROGRESS -- Response to report or sighting of fire in progress.

313 FIRE ALARM/SMOKE -- Use when response to report or sighting of smoke or knowledge of fire alarm.

314 ENVIRONMENTAL HAZARD OR DISASTER -- Any call or response to call about potential or actual weather or environmental problem (e.g., oil spill, tornado touched down, hail stones, flooding condition).

330 INTENTIONALLY DAMAGED PROPERTY -- A general reference to property that was damaged intentionally in some manner.

331 THREAT TO DAMAGE PROPERTY -- A threat to harm property (e.g., I'm gonna knock this shed down.").

332 BOMB THREAT -- Use for response to report of an explosive device set to go off.

340 VANDALISM -- The malicious damage of property. There has to be intent to damage property.

341 VANDALISM, RESIDENTIAL -- The malicious damage (or attempt to damage) of residential property. There has to be intent to damage property. The following are acts to be coded in this category: egging, smashing mailbox, spray painting, "lawn jobs," window soaping, and felling trees. Do not code acts of minor damage when they are unintentional, such as running through flowers after a ball or breaking a tree limb by swinging on it; incidents like these can be coded as Unintentionally Damaged Property, 310.

342 VANDALISM, COMMERCIAL -- The malicious damage (or attempt to damage) of such property. There has to be intent to damage property.

343 VANDALISM, PUBLIC PROPERTY -- The malicious damage (or attempt to damage) of such property. There has to be intent to damage property.

344 VANDALISM, MOTOR VEHICLE -- The malicious damage (or attempt to damage) of a motor vehicle. As with 341, 342, and 343, there must be intent to damage or else code Unintentionally Damaged Property, 310.

345 LITTERING, TRASH IN THE STREETS -- A complaint that someone is or has deposited trash in the street or in some other unauthorized place.

346 TAMPERING WITH AN AUTO -- Use this code where there is not enough information to specify a theft or an attempted theft, or vandalism. This code would apply, for example, to a report that "there are two boys sitting in my car at _____".

350 ARSON -- The suspected or actual setting of a fire in which property damage occurred. Do not code 350 when leaf or grass fire gets out of hand and causes damage; code as Fire in Progress, 312.

351 ATTEMPTED ARSON

352 THREATENED ARSON -- The threat to burn another's property (e.g., "I'm gonna burn your house down.").

370 PROBLEMS WITH MONEY/CREDIT/DOCUMENTS -- A generalized reference to some problem with money, credit, or documents.

371 FORGERY OR COUNTERFEITING -- To imitate a signature on a legal document or to imitate legal or exchange tender (e.g., making bogus money and making bogus entertainment tickets).

372 FRAUD OR EMBEZZLEMENT -- Deceit or trickery with the intent of taking property or cash from another person (e.g., passing bogus money, tokens or tickets, con games, fly-by-night swindle, and altering of financial accounts).

373 BAD CHECK/BAD CREDIT CARD -- Offering a stolen or invalid check, draft, or credit card in a financial transaction.

374 REFUSE TO PAY -- Refusal of an individual to give payment for goods or services that were consumed.

375 UNFAIR BUSINESS PRACTICE -- Includes mislabeling, bait and switch, overcharging, failure to provide agreed services or goods, or other practices unfair to consumers.

376 HOUSING CODE/ZONING VIOLATIONS -- Includes illegal occupancy, eviction, housing permit violation (e.g., fire or safety regulations).

377 LANDLORD - TENANT DISPUTE -- Code for disagreement between landlord & tenant not involving serious argument or other disturbance.

378 VIOLATION OF CITY ORDINANCE -- Use for situation where, for example, someone is cited for burning leaves in the street, or for letting their dog run loose, etc. Do not use for parking violations (451) or any other violations where a more specific problem type would apply.

399 OTHER PROBLEMS WITH PROPERTY -- Residual category to be used only when sending Trouble Slip to Team Leader.

Traffic Problems

410 TRAFFIC ACCIDENT -- A report of a motor vehicle accident where no indication of occurrence or extent of personal injury is given.

411 TRAFFIC ACCIDENT, PROPERTY DAMAGE ONLY -- Anything from a damaged fender to a chain reaction or total wreck that has no personal injury. A collision need not have occurred if property damage results from the efforts of a driver to avoid a collision.

412 TRAFFIC ACCIDENT, PERSONAL INJURY -- Any type of motor vehicle accident where there is bodily injury due to presence in a motor vehicle involved in an accident. An actual collision is not necessary if personal injury occurred as a result of a driver's efforts to avoid a collision.

413 TRAFFIC ACCIDENT, PEDESTRIAN HIT -- Any type of motor vehicle accident where someone other than a rider in a motor vehicle reports bodily injury. The exception to this is a Hit and Run, 420.

414 TRAFFIC FATALITY -- A traffic accident in which someone is killed.

420 HIT AND RUN (person injured) -- Hitting a person with a motor vehicle, or being involved in a personal injury automobile accident, and then escaping. See 421, Leaving the scene, if no injury is involved.

421 LEAVING THE SCENE (property damage) -- Hitting property with a motor vehicle, or being involved in a automobile accident where no personal injuries occur, and then escaping. See 420, Hit and run, if anyone is injured in the accident.

440 ROAD BLOCK -- A police action to block moving traffic on a street, road, or highway.

450 VEHICLE VIOLATION -- Use for a generalized reference to a violation related to a motor vehicle.

451 PARKING VIOLATION -- Vehicle in violation of street parking ordinance (e.g., double parking, overtime meter, two spaces, too far from curb, wrong direction, no parking zone, etc.).

452 ABANDONED VEHICLE -- Motor vehicle abandoned (i.e., not possible to move on own power or left for junk).

453 EQUIPMENT OR INSPECTION LACKING -- Covers any time police officer suspects, sights, or stops a motor vehicle travelling without proper equipment or current inspection (e.g., tail or head lights out, tail pipe, or other malfunctioning equipment).

454 MISSING OR IMPROPER LICENSE PLATE/REGISTRATION -- Covers any time police officer stops vehicle because license plate is not visible or out of date or registration is found to be missing.

455 ROUTINE CHECK -- Covers any time police officer stops vehicle to "check it over" as a matter of routine or random check.

460 TRAFFIC FLOW PROBLEMS -- Use for a generalized reference to a problem related to traffic flow.

461 TRAFFIC SIGNAL DISORDER -- Code when police officer stops to check a report of a disorder or sights a disorder (e.g., malfunctioning traffic light, broken traffic sign, etc.).

462 TRAFFIC OBSTRUCTION OR CONGESTION -- Code when police officer proceeds to investigate or call received for traffic slowdown or stoppage (e.g., unknown tie-up). Do not use this code when a Motor Vehicle Accident is indicated.

463 DIRECT TRAFFIC -- Use this when officer is dispatched to direct traffic or directs traffic as a result of a problem.

464 PEDESTRIAN CONTROL/SCHOOL CROSSING GUARDS -- Use for encounters or calls that involve pedestrian control or the provision of school crossing guards.

465 ROAD CONDITION -- Includes street depression, soft shoulders, falling rocks, washout of road, flooded street.

470 MOVING VIOLATION -- Covers any moving traffic violation for which a violator may receive a ticket (with the exception of Hit and Run, 420; Driving While Intoxicated, 471; and Excess Speed, 472) (e.g., reckless driving, running stoplight or sign, not using turn signal, tailgating, open alcohol in car, etc.).

471 DRIVING UNDER THE INFLUENCE -- An encounter or a call involving a suspicion, sighting, or determination of an operator to be driving while intoxicated.

472 EXCESS SPEED -- An encounter or a call involving a suspicion, sighting, or determination of an operator driving faster than the legal limit.

480 ASSIST MOTORIST -- A general reference to the need to assist a motorist in some manner either unspecified or not related to disabled vehicle or road directions.

481 DISABLED VEHICLE -- Motor vehicle temporarily broken down (e.g., engine trouble, flat, out of gas, keys locked in car, etc.).

482 ROAD DIRECTIONS -- Code when individual asks police officer "How do I get to ...."

499 OTHER TRAFFIC PROBLEMS -- A residual category that should not be used without sending Trouble Slip to Team Leader.

Service Problems

505 GENERAL REQUEST FOR SERVICE -- A general request for service that cannot be coded within one of the more specific categories.

506 ASSIST PERSON LOCKED IN OR OUT OF HOME, OFFICE, OTHER BUILDING -- Use when the police help someone into such circumstances, or are requested to do so. Do not use for helping a person into a locked car, this is coded as 481, Disabled Vehicle.

507 EMERGENCY - NATURE UNSPECIFIED -- Use when it is clear that the problem is of an emergency nature, but no details that would allow you to specify the problem further are available. E.g., "We've got an emergency down at the warehouse, get there right away!"

510 REQUEST FOR SURVEILLANCE -- A request to have the police look after something in general or an unspecified request for extra patrol.

511 HOUSE/VACATION CHECK OR EXTRA RESIDENTIAL PATROL -- This code applies to request for house check activities of a police officer that involve the surveillance or checking of residence such as would be requested when the occupant is on vacation or trouble has occurred there earlier. When caller reports return from vacation and/or requests termination of house check, use 620 + 511 in that order.

512 COMMERCIAL DOOR CHECK -- This code applies to the routine activities of a police officer that involve checking to see that doors are locked and windows are closed.

513 STORE OPENING OR CLOSING CALL/"ALARM SET" -- This applies to phoned-in calls where a store is reporting that it is opening or closing so that police can adjust their patrol activity and to situations where police are present to watch store opening or closing.

520 ESCORT -- The request for escort or provision of an officer on foot or in a vehicle to accompany an individual to some destination. Do not code this category if the officer transports an individual from one location to another (530, 531, 730).

521 EMERGENCY ESCORT -- The request or provision of a vehicle to accompany another vehicle under emergency circumstances (e.g., escort of ambulance, fire truck, or private citizen).

522 BANK/MONEY ESCORT -- The request or provision of officer or police vehicle to accompany someone making a deposit of money.

523 FUNERAL/PARADE ESCORT -- The request or provision of escort services related to a funeral or parade.

530 TRANSPORT -- The request for, or response to a request for, taking a person in a vehicle from one location to another; nonmedical transport (e.g., prisoner transport, bringing home accident victim, transporting person with large amount of money). Use 530 only when the status of the person to be transported is unknown; otherwise use 531 or 730.

531 TRANSPORT PERSON NOT IN CUSTODY -- Any request, or response to request, for transport where the person to be transported is not in custody.

532 TRANSPORT DANGEROUS SUBSTANCE -- Use this code when the police are requested to transport a dangerous substance from one location to another. For example, a case where someone has found blasting caps and requests the police to remove them to a safe location. See also 294 if no request to transport is made.

540 COURIER -- Code when officer is dispatched (or request for courier) to carry equipment, documents, or other materials for a citizen or public official, or when he provides same (e.g., coffee run for dispatchers, legal papers to courthouse, or other pickup and delivery).

550 ANIMAL PROBLEM -- This code applies to a request or response to any problem that is animal related (e.g., lost, found, dead, rabid, treed, dangerous, etc. animal).

560 POLICE-COMMUNITY RELATIONS, OFFICER FRIENDLY, SCHOOL VISIT -- Use when an officer makes a PCR type presentation to a school group or other type of group. This does not require a formal presentation, just stopping in to give crime prevention information to a block club meeting would qualify.

599 OTHER SERVICE -- A residual category that should not be used without sending a Trouble Slip to a Team Leader.

Information Problems

Note: A 600 code is used as the first (or only) code when the call is primarily information related. A 600 code used as the second problem code means that the request for or offer of info is separate from the first problem. If a second code can be found to describe the info desired or given, place this second code in second problem code slot.

610 PERSON WANTS INFORMATION -- An unspecified request for information.

611 POLICE OR CRIME-RELATED INFORMATION -- Code this when an individual wants to know about a specific police or crime related matter that is not about a particular case (e.g., "How many tickets does it take to lose a license?" "Did they get the person breaking into houses around here?" "What are the best locks to buy?").

612 INFORMATION ABOUT A PARTICULAR CASE OR CIRCUMSTANCE VIS A VIS POLICE -- In this instance no other request for service is made except for the police to provide the citizen with information (e.g., "Where is my towed car?"). If a request for service is part and parcel of the request for information (e.g., "Do the police here provide escort services for individuals?" Police response: "Yes." "Will you come now?"); then code only the request for service. Often a citizen will call to find out about the status of a case the person is involved in, either as a complainant, victim, defendant, or witness. These inquiries would be coded as 612. If the citizen does not specify that the information desired pertains to a particular problem or situation in which the person is involved, do not code 612; use 611 or 613 instead.

613 NONPOLICE RELATED INFORMATION -- Code when individual wants to know something about a nonpolice-related matter (e.g., "Why is the Post Office or bank closed today?").

614 DIRECTIONS (NONTRAFFIC) -- Code when a citizen calls in or hails an officer and asks for general, nontraffic directions. (For traffic directions, use 482.)

620 PERSON WANTS TO GIVE INFORMATION -- It can be used for a tip, but is not limited to such a connotation. Use, for example, when a person calls in to give additional information about an incident that occurred previously.

625 REPORT OF A FALSE ALARM -- Use this code when someone notifies the police that their alarm has gone off accidentally, and that there is no problem requiring police attention.

630 OFFICER WANTS INFORMATION (LICENSE CHECK) -- Code only when the police officer asks specific question of the individual about police related business (e.g., "Have you seen ...?" "What are you doing here?" etc.). Do not code when officer is trying to help individual and happens to ask questions such as would occur in most encounters. Use when caller is an officer requesting police-related information.

640 OFFICER WANTS TO GIVE INFORMATION -- Use when officer initiates contact to tell someone something the officer thinks they need to know.

650 HOSPITAL OR OTHER MEDICAL REPORT TO THE POLICE -- Use for reports to the police of such items as gunshot wounds, drug overdoses, etc., where the hospital, doctor's office, or other medical facility is notifying the police without (necessarily) requesting that the police take any action.

660 REQUEST FOR A SPECIFIC POLICE UNIT, PROBLEM UNSPECIFIED -- Use when a caller requests to speak with the juvenile officer, the family crisis unit, the animal control officer, etc., but does not otherwise tell the operator what the problem is that he/she wishes to discuss. Calls for service coders could then follow up with a 31 response code (or perhaps an 09) and code the particular type of unit requested with the assignment code (see List of Agency and Police Unit Types).

690 OTHER INFORMATION PROBLEM -- A residual category that should not be used without sending a Trouble Slip to a Team Leader.

Legal Procedures

710 PAPERS TO BE SERVED -- A residual code for a general reference to the need to serve papers.

711 WARRANT TO BE SERVED -- A request or response to a request for administering a writ authorizing an arrest of an individual to the individual, including traffic warrants.

712 SUBPOENA TO BE SERVED -- A request or response to a request about a legal document ordering a person to appear in court or other legal document such as an eviction notice or sheriff's note of closing a business establishment.

720 ALCOHOL OR DRUG TEST -- A request or response to a request to administer or the administering of sobriety tests (e.g., breathalyzer, "Walk by putting one foot in front of the other," "Let me smell your breath," etc.).

730 TRANSPORT PERSON IN CUSTODY -- A request or the activity of transporting a prisoner from one facility to another.

740 CITIZEN WANTS TO FILE OR DROP CHARGES -- Use this code for a citizen's request to file or drop charges against someone, where this request is the reason for their call to the police. For example, "I filed charges against _____ yesterday, but I've changed my mind. Will you let him go?"

799 OTHER LEGAL PROCEDURES -- A residual code that should not be used without sending Trouble Slip to Team Leader.

Miscellaneous Problems

810 NO PROBLEM ("ALL QUIET") -- Code for a response to investigate a request made to the police officer where the officer indicates nothing is the matter (e.g., outcome of citizen asking to check on suspicious person, "Unable to locate anyone"). Not to be used in coding calls for service.

811 NO CONTACT ("GONE ON ARRIVAL")

812 DON'T KNOW PROBLEM -- Code when no indication is given other than to proceed to a specified location (e.g., "Proceed to 1st St. and wait until further instructions," or request for service is garbled, unintelligible etc.

820 COMPLAINT AGAINST A POLICE OFFICER -- Note this change (see 821). This code should be used when a citizen complains about a police officer, and not about police service in general or in a particular case.

821 COMPLAINT ABOUT POLICE SERVICE -- Use this code when the citizen's complaint is about police service and not about what a particular officer did (or did not do). E.g., "I've called three times already and no one has shown up yet," or "Why don't we ever see a patrol car out here."

830 INTERNAL AFFAIRS INVESTIGATION -- Use this code for encounters that result from an officer engaging in an Internal Affairs Investigation.

840 COMPLIMENTS FOR POLICE -- Code when individual has a compliment about a member of the police department (e.g., courageous police work, beyond the call of duty, courtesy, etc.).

850 PERSON JUST NEEDS SOMEONE TO TALK TO -- This category should only be used if the citizen initiates no request for information or service, or does not offer to give the officer information about some past or anticipated event (e.g., chatting, talking, about the weather, lonely, etc.).

860 IRRATIONAL OR CRANK CALL TO POLICE -- Any call for which the request/information provided by citizen literally makes no sense, is irrational, or is overtly a hoax. Do not use this code if there is any question about the authenticity of request/information or if any police personnel indicates to you that the call is (will be found to be) groundless.

861 FALSE REPORT

870 OFFICER IN NEED OF AID/PROVIDE WEAPONS COVER -- This is used where officer is dispatched to be back-up firepower in serious incident (e.g., apprehending a dangerous, armed criminal, holed-up armed robbers, sharpshooter needed).

871 BACK UP AN OFFICER - OTHERWISE UNSPECIFIED, NO EMERGENCY -- Use this code where an officer is requested to back up another officer but no problem type is specified. Also there should be no mention of an emergency need for back up. If there is an emergency need, it should be coded as 870, Officer in need of aid.

872 MEET AN OFFICER - PROBLEM NOT SPECIFIED -- Use when an officer is instructed to meet another officer, but no mention of the problem to be dealt with is made.

874 ASSIST OTHER DEPARTMENT - PROBLEM NOT SPECIFIED -- Use when an officer is instructed to assist another police department, but no mention of the problem to be dealt with is made. This code would normally be used by Historical calls coders.

875 REQUEST OFFICER CONTACT OWN DEPARTMENT OR DISTRICT STATION EITHER BY PHONE OR IN PERSON

899 OTHER MISCELLANEOUS -- A residual code that should not be used without sending a Trouble Slip to a Team Leader.

994 (listed on page 4 of Appendix A)

CODE MANUAL

GENERAL CATEGORIES FOR PROBLEM TYPE CODES

I. Violent Crime
- 072 Kidnap
- 095-101 Assault
- 120-127 Robbery
- 130-135 Sexual assault
- 144 Homicide
- 145 Attempted homicide
- 420 Hit and run

II. Interpersonal Conflict

"Private Arguments"
- 020 Domestic arguments
- 029 Family trouble
- 093 Domestic fight

"Public Arguments"
- 019 Arguments, participants unspecified
- 021 Non-domestic argument
- 025 Keeping peace
- 030 Neighbor trouble
- 050 Civil disorder
- 090 Physical injury inflicted by person
- 091 Threatened physical injury
- 092 Fight, participants not specified
- 094 Non-domestic fight
- 377 Landlord-tenant dispute
- 994 Gang fight

III. Medical Problem
- 412 Personal injury traffic accident
- 413 Traffic accident involving pedestrian
- 414 Traffic fatality
- 420 Hit and run
- 080-084 Medical problems (MAN DOWN, EMT, EMS, etc.)
- 086 Blood run
- 140-143 Death, accidental, suicide, suicide attempts

IV. Public Morals Crime
- 015 Pornography
- 016 Obscene activity
- 022 Gambling
- 023 Prostitution
- 040-043 Drug violations (of control laws)

V. Non-violent
- 060-062 Family neglect, non-support
- 150 Civil rights violation
- 220-221 Threat to take property
- 223 Buying, selling, or receiving stolen goods
- 230-252 Theft and attempted theft, including burglary
- 280-287 Break-ins and attempted break-ins
- 330-353 Intentional damage including vandalism and arson
- 370-375 Theft or misuse of money, credit, documents, contracts
- 421 Leaving the scene of a property damage traffic accident
- 861 False report

VI. Traffic problem
- 410-472 All traffic-related incidents except assist motorist and give directions

VII. Dependent Persons
- 011 Drunk
- 070 Missing person
- 071 Juvenile runaway
- 085 Mentally disordered
- 087 Invalid
- 143 Attempted suicide
- 160 Adult subject of police concern, unspecified
- 161 Juvenile subject of police concern, unspecified

VIII. Public nuisance
- 010 Public nuisance or disturbance, unspecified
- 011 Drunk
- 012 Disorderly
- 013 Vagrancy
- 014 Loitering
- 017 Noise disturbance
- 018 Peddling, begging
- 024 Curfew violation or truancy
- 026 Juvenile problem/disturbance
- 027 Annoying, harassing phone calls
- 028 Harassment, non-specific
- 270-274 Trespassing, unauthorized use of auto
- 376 Housing code/zoning violations
- 378 Violation of city ordinance

IX. Suspicious circumstance
- 110-113 Suspicious person, prowler, gunshot, screams
- 115-118 Person wanted, suspect, weapons violation
- 290-294 Suspicious property condition

X. Assistance

200	Property problem
210	Lost property
300	Damaged property
310	Unintentionally damaged property
311-314	Utility problem, fire, hazard or disaster
480-481	Assist motorist
506	Assistance to person locked out
550	Animal problem
560	Police/community relations
850	Person just needs someone to talk to
860	Irrational or crank call to police

And if no other problem code is indicated:

005	Meet complainant
199	Other problem with person
200	Discovery of missing or stolen property
399	Other property problem
505	General request for service
507	Emergency, unspecified
510-513	House check, commercial check, alarm check
520-523	Escorts
530-532	Transports

XI. Information Requests

If no other problem code is indicated:

482	Road directions
610-614	Request for information
699	Other information problem

XII. Information for Police

If no other problem code is indicated:

205	Missing or stolen property
211	Return of lost property
222	Return of stolen property
620	Person wants to give information
625	Report of unintentional alarm
650	Hospital or other report to police
820	Complaint against police officer
821	Complaint about police service
840	Compliment for police

XIII. Internal Police Operations

If no other problem code is indicated:

540	Courier
630	Officer wants information
640	Officer wants to give information
710-799	Internal legal procedures
830	Internal affairs investigation
870-875	Officer assists
899	Other miscellaneous

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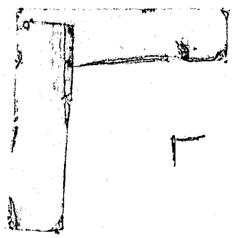

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