

PERFORMANCE MEASURES FOR THE POLICE

A Concept Paper
Prepared By

Richard Staufenberger
Lucius J. Riccio

Police Foundation
1909 K Street, N.W.
Washington, D.C.

Submitted To The

National Institute Of Law Enforcement
And Criminal Justice
Law Enforcement Assistance Administration

For A Program Solicitation Entitled

Performance Measures For The
Criminal Justice System

February, 1978

NCJRS

JUL 13 1978

ACQUISITIONS

48502

I. PERFORMANCE MEASURES FOR POLICE

A. Research Objectives

The Police Foundation proposes to conduct research that would lead to the identification of performance measures for the police sub-system of the criminal justice system. The predominate orientation of this project will be on the crime control-related aspects of police work especially as they relate to the overall crime control goals of the criminal justice system. Measures will be developed for determining crime control goal attainment and for determining how police related factors (i.e. police outputs, police activity, and management decision-making) as well as exogenous factors (i.e. city and social characteristics) influence that goal attainment.

This project, which is the first of a multi-phase program, has as its objectives the identification of measures, data sources, and methodologies for validating those measures. The purpose of the multi-phase program is to develop measures of police performance useful to police management, city and state administrations, criminal justice planners and crime control researchers.

The fundamental approach to measurement development will be to utilize a conceptual framework describing the way the police sub-system - its management decisions, officer activities and outputs - contributes to system-wide goals.

B. BACKGROUND

The need for a valid set of police performance indicators was recognized as far back as 1931 by the National Commission on Law Observance and Enforcement (Wickersham). Again in 1967 the President's

Commission on Law Enforcement and Administration of Justice addressed the need as did the American Bar Association in its project on the standards relating to the Urban Police Function and most recently the National Advisory Commission on Criminal Justice Standards and Goals.

In the past decade a substantial amount of work has been directed toward the development of performance measures in general and police performance measures in particular. Some efforts have been university based and supported by Federal funds such as Ostrom, Deutsch, Larson, and Blumstein. Others have occurred in private research institutions such as the work at the American Justice Institute, Rand (Chaiken), Urban Institute (Hatry) and Police Foundation (Riccio, Heaphy, Lewis.) Still others have occurred as public sector effort generally such as the ambitions ongoing efforts of the National Commission on Productivity.

In addition to research specifically concerned with police performance measurement, over the past ten years we have begun to develop a true body of empirically based knowledge on police operations. For example, research on robbery units, preventive patrol, split-force, directed patrol, response time, and field interrogations have all indirectly contributed to the information about performance measurement and will be a valuable resource for the current project.

There are a number of reasons for the importance of performance measurement. One is the increased interest on the part of public officials to view themselves as managers, continuously concerned with improving operations. The tightening fiscal situation

that most state and local governments are facing has caused public officials to be more concerned with performance. A third is that increased crime over the past decade has lead to an increase in public and research scrutiny of local programs. The greater emphasis on program evaluation has intensified the need for useful measures of performance. All of these (and others) have made performance measurement an important topic for research.

C. RESEARCHABLE PROBLEMS ASSOCIATED WITH DEFINING AND VALIDATING PERFORMANCE MEASURES

Developing a set of performance measures for any public sector service is difficult. The police present some unique and difficult challenges in this regard.

One problem is the specification of goals. What are the crime control goals of the police? Crime reduction? If so, by how much? How fast? Reducing the fear of crime? How much? How fast? The police function is confused by the multiplicity of goals, goals which can often be conflicting and/or competing. For example, the police expend large portions of their time conducting activities which many observers argue have little direct relationship to crime control. Some studies have pegged the percentage of such activities as high as 80%. Nevertheless whether the figure is 30% or 80% is somewhat inconsequential. The challenge of the proposed study will be to sort out the crime control and non-crime control activities of the police, and to determine their relationship to each other, to the goals of the police and to the goals of the criminal justice system.

A second problem is once goals have been established, how can the police affect the attainment of those goals? How do various deployment decisions relate to goals? How do different patrol practices? Investigative practices? Support systems?

A third problem in police performance measurement is the consistency of goals between the police and other criminal justice agencies. It is clear that the goals and objectives of the various criminal justice agencies are at times in conflict. Recognizing this and identifying these instances will be one of the challenges of this effort.

There are also definitional problems from one agency to another. Such things as arrests, clearance rates, or even crime classifications are not very precise. For example, a clearance as one time may mean a person has been arrested, charged and convicted for the crime in question. In another instance it may merely mean that a person has been arrested for the crime. Still another time it may mean that a person is thought to have committed a crime--for example a person is arrested for a simple burglary and numerous others with similar M-O's are "cleared" even though the individual may not be charged with the other crimes.

Another problem has been the quality of the data sources utilized. Questions about the accuracy and utility of UCR reports are well known. Clearly, as the victimization surveys have shown reported crimes varies dramatically from jurisdiction to jurisdiction, from neighborhood to neighborhood, from age group to age group, sex to sex, and income group to income group. Not only are the UCR reports open to question but so are many other data sources. For example, the quality, completeness, and accuracy of agency reports such as crime reports, incident reports, field interrogation reports, citations, etc. have caused many a research plan to be seriously flawed.

A final problem (for discussion) is the problem of determining precisely what data will measure the concepts that one wishes to measure. How best to measure crime and its reduction? Reported crime? Victimization studies? What is a "unit" of citizen fear? How do we measure it? How do we measure deterrence? What data do we need to measure quality of arrest?

These are examples of some of the researchable problems associated with police performance measurement. In the next section we show how these and other problems will be addressed by our research.

D. RESEARCH APPROACH

The fundamental approach to measurement development will be to utilize a conceptual framework describing the way the police subsystem contributes to system-wide goals. The framework can be simply diagrammed as follows:

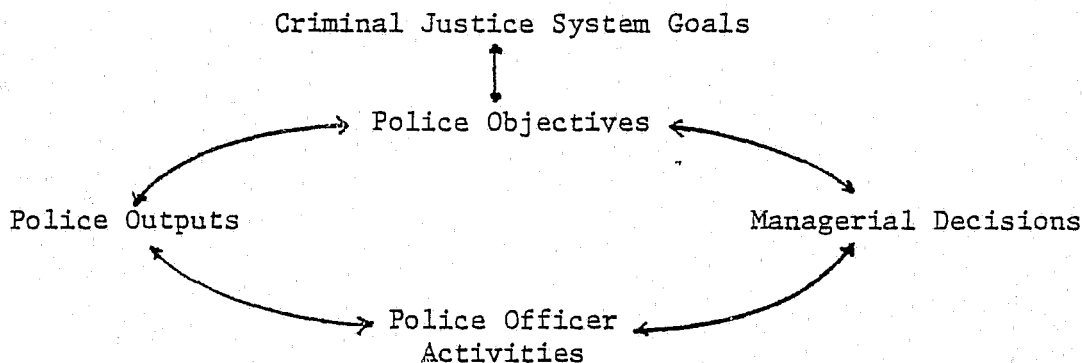


Figure I

As the diagram shows police managers influence their departments operations by making decisions that affect the activities and performance of the resources under their commands. Police managers can make decisions about organizational arrangements, personnel administration, rules, regulations, and procedures, and the use of special equipment. These decisions directly influence the activities officers perform and/or how often they perform them. For example, allocation decisions determine the work load officers have and, consequently, determine how much time officers have to do field interrogations, and other officer-initiated activities. Personnel decisions such as promotional criteria influence an officer's interest in performing certain activities that may, for example, lead to arrests. Procedures on investigations influence the amount of information patrol officers might obtain at the scene of a crime. And finally, the use of computers may improve the exchange of information between officers in different units.

The activities officers perform (including how well and/or how often they perform them), in turn, influence the generation of useful police related outputs. For example, the number of field interrogations might, to a certain extent, influence the number of arrests an officer makes or influence the amount of crime deterrence that is presented. Or the number of citizen contacts, the amount of victim/witness assistance, the thoroughness of investigations, or time devoted to case preparation, might influence the amount and/or quality of prosecutions. These are just examples of how officers' activities lead to the production of police outputs.

It should be noted that police managers do not affect outputs directly; they influence their production through the encouragement of officer performance of various activities. Those activities in turn influence the production of useful outputs.

Finally, the generation of useful outputs affects the degree of goal attainment a department achieves. Thus, if a department chooses as a primary goal the reduction in armed robbery it might then be concerned with number of arrests for that crime (if it was found that a strong link existed between the two).

Thus, we have a simple framework relating, first, management decisions to police activities and the performance of activities; second, police performance activities to police outputs; and third, police outputs to police goals. Of course, there are numerous other factors that influence these relationships. For example, citizen cooperation affects response time as well as the probability of making arrests. Such factors will be integrated into the basic framework for developing measures of police work.

Figure 2 is an expanded version of the basic framework. It is an example of how the framework can be used to help develop measures. A measure will be created for each entry in the list that is finally approved.

When a logical determination has been made of management decisions, officer activities, police outputs, and department objectives, our next research undertaking is to sort out the interrelationships among those facets of the framework. A perusal of Figure 2 clearly indicates that a simple management decision will



FIGURE 2
ILLUSTRATIVE
FRAMEWORK FOR POLICE
PERFORMANCE MEASUREMENT

Management Decisions

Activities

Outputs

Goals

Organizational Arrangements

- Centralization vs, Decentralization
- Geographical/Temporal Deployment of Personnel
- Functional Allocation of Personnel
- Generalist vs, Specialist
- Random vs, Directed Patrol or Fixed Post
- One vs, Two Officer Cars
- Consolidation
- Collator
- Foot Patrol vs, Car
- Crime Analysis

Personnel Administration

- Selection
- Training
- Promotion
- Motivation
- Morale
- Interorganizational Relationships

Rules, Regulations, and Procedures

- SRI/Solvability Factors
- Call Priorities
- Preemption Policies
- Back-up Policies
- Use of Firearms

Equipment

- Computerized Dispatch Systems
- Computerized Warrant Checks
- Alarms
- Cameras
- Helicopters

- Field Activities

- Responding to Calls
- Patrolling
- Field Interrogations
- Premise Security Checks
- Surveillance
- Stake Outs
- Decoy
- Citizen Contacts
- Traffic Enforcement
- Sting

- Investigative Activity

- Initial and Follow-up Investigations
- Informant Contacts
- Getting a Warrant
- Information Exchange

- Prosecution Related

- Case Preparation
- Victim/Witness Assistance

- Equipment

- Alarms in Action
- Cameras in Action
- Ident Kits used
- Radar Traps

- Arrests
- Crime Deterrence
- Citations and Warnings
- Prosecutions
- Clearances
- Disputes Mediated Without Violence
- Referrals to Social Agencies

- Reduce Crime
- Bring Criminal Offender to Justice
- Reduce Fear of Crime
- Maintain Order
- Deliver Non-Crime Services
- Citizen Satisfaction

affect multiple activities and any one activity will affect numerous outputs and any one output will effect numerous goals. The problem is to determine how much, for example, of one activity affects how much of each output. The determination of these interrelationships is a key aspect of the proposed effort.

A subsequent step will be to refine by developing specific measures, the entire output section of the framework. While the examples of outputs given (arrests, citations, etc.) have a degree of validity they still suffer from all of the problems pointed out above. Each output must be defined by a measure(s) that has accuracy and face validity. For example, some further measures of apprehension success may be (Hatry, et. al.):

- Percentage of reported crimes cleared, by type of crime and whether cleared by arrest or by "exception."
- Percentage of "person-crimes" cleared, by type of crime.
- Percentage of adult arrests, that survive preliminary court hearing (or state attorney's investigation) and percentage dropped for police-related reasons, by type of crime.
- Percentage of adult arrests resulting in conviction (or treatment) (a) on at least one charge, (b) on the highest initial charge, by type of crime.
- Percentage of cases cleared in less than "x" days (with "x" selected separately for each crime category.
- Percentage of stolen property that is subsequently recovered: (a) vehicles, (b) vehicle value, and (c) other property value.

The next logical activity if we follow the framework is to begin to identify the data sources currently available for the decisions, outputs, activities, and goals. The weaknesses of the data sources will also be identified as will new data sources necessary to validate the measures. As follows are some of the traditional data sources:

- a) victimization surveys
- b) citizen surveys
- c) business surveys
- d) crime reports
- e) incident reports
- f) officer logs
- g) arrest reports
- h) court records
- i) prosecution records
- j) citizen contact reports
- k) traffic citation reports

New ways of organizing and analyzing the data will be explored. For example, the attribute based crime reporting system may provide the capability of analyzing crime from many perspectives, the many perspectives associated with the variety of police objectives. The same could be true of crime seriousness rating systems.

The following section discusses how the research approach discussed in this part will be accomplished.

II. WORKPLAN

A. Methodological Approach

The methodology that will be used to identify the specific measures and factors influencing police performance in the area of crime control will take advantage of three primary tools. The first is the conceptual framework, outlined in Section I, which illustrates our understanding of the police sub-system of the criminal justice system. The second is the extensive literature that has developed

over the past ten years on police research and evaluation and on performance measurement in general and police performance measurement in particular. The third is the knowledge and experience of a panel of experts organized as a Delphi team to provide opinion and advice on the selection of measures.

1. Conceptual Framework

The conceptual framework need not be discussed in detail here since it is discussed in Section I. However, we wish to make it clear that the framework will be the primary vehicle for identifying the types of measures needed. The organization provided by the framework facilitates, the defining of the right questions to be asked (i.e. What activities do officers perform? How do those activities contribute to the production of valuable outputs? etc.) and provides guidance for the selection of measures.

2. Literature Review

In the past ten years an extensive literature has developed on police research. Some of this research has been directly concerned with the development of performance measures, while other work has been concerned with testing the effectiveness of various police operations. Included in the performance measurement literature are works concerned with police objectives and criminal justice system goals.

All police research concerned with performance measurement and major studies on police operations will be reviewed. Due to the increased recognition of the importance of high-quality evaluation a significant number of studies on police operations have been very concerned with measurement and sensitive to the difficulties inherent

in conducting precise evaluation given the state-of-the-art of police performance measurement. As a result many of these studies have information on the utility of various measures and on the factors that influence performance.

In the review, the various research studies will be grouped according to their contribution to the proposed project. Groupings will include establishing goals and/or objectives for police, developing definitional framework for performance measurement, testing particular measures, developing large scale empirically based measurement programs, and testing activities and/or factors that influence performance. The reports will be gleaned of their useful information as it pertains to indicator development. That information once collected, will then be organized according to the framework discussed earlier. In addition to reviewing the police performance measurement literature the staff will also review such written documents as selected police, formal statements defining agency goals, objectives, and activities (GOA) and annual reports. A content analysis of these documents will help in the determination of formally stated agency (GOA) as well as the informal or operational (GOA).

Finally, in the course of the literature review information on the available data sources, their quality and utility, as well as new data sources will be assembled. The literature review will provide much of the information for filling out the framework.

3. Panel of Experts

A panel of experts will be organized and will serve two basic purposes. One will be to serve as experts in using the Delphi technique

to help determine specific measures. The other will be to provide the staff with their experience and knowledge during the project's development stage.

The panel will not serve as an advisory board nor will they have a final say on the selection of measures. However, they will review documents prepared by the staff to check for completeness and accuracy. The panel will take part in a Delphi exercise to specify: goals, objectives, activities, outputs, interrelationships among the four, measures useful in determining performance, and data sources and their quality.

The exercises will take place following the literature search. The timing will enable the staff to design the Delphi instrument with the accumulated knowledge of past research. The results of the Delphi exercise will be the primary basis for measurement selection.

The panel will consist of ten researchers, police and other public officials, and academicians wellknown in their field and knowledgeable about performance measurement issues. The panel will meet early during the project to become familiarized with the proposed work. After that, and until the Delphi exercise, they will be contacted regularly by staff personnel on particular issues as they arise.

B. CONSORTIUM COMMITTEE OPERATION

This committee will be the coordinating vehicle for the total project. The consortium committee will be composed of the principal investigator from the system-level effort and the principal investigators of each of the sub-system grants.

The primary responsibility of the committee will be to finalize the goals and objectives first for the overall system and second for the individual sub-systems. The consortium committee will

take that work, finalize it as it applies to each particular sub-system and develop first cut goals and objectives for the individual sub-system. The first sub-system goals and objectives will be used by the individual grantees as a starting point for their work.

Once the sub-system groups have developed their goals and objectives, the committee will once again convene to finalize the sub-system goals and objectives.

After that, the consortium will operate on a more informal basis. The project teams will coordinate their individual efforts on matters that concern two or more sub-system projects through staff contacts rather than through the committee. For example, the issue of measuring arrest quality is of concern to at least the police sub-system and the prosecutor sub-system. Clearly the two respective project teams will have to coordinate their efforts to insure compatibility of their products.

It should be stressed that the authors of this concept paper recognize that, although the sub-system goals should flow logically from the total system goals, there is a high probability that there will be conflicting and/or competing goals.

The consortium committee will meet bi-monthly to inform everyone of the progress of the sub-system projects, to agree on goals and objectives of the sub-system--particularly to pinpoint conflicting and inconsistent goals and/or objectives--and to provide general assistance to each other on such things as the data sources available for measures, measurement strategies, and relevant literature available, etc.

IV The Qualifications of the Police Foundation

During the past seven years, the Foundation has either funded, or itself conducted, a significant amount of empirically-based research on police operations. Attached as an Appendix is a list of published Police Foundation studies. They include work on random preventive patrol, community team policing, special apprehension-oriented techniques, field interrogations, different ways of allocating detectives, one- and two-officer patrol car staffing, police response time, and policewomen on patrol. Other studies have looked at third party intervention approaches in domestic disputes, peer counselling techniques for errant officers and the nature of the problems in a community with which policing must deal, e.g.: firearms abuse and rates and correlates of domestic violence.

In each of these studies the issue of measurement has been paramount. What do we measure to find out whether, and to what extent, a particular police technique "works?" We have collected, audited and analyzed routinely gathered police data from manual and automated files. We have established supplemental data bases, such as observers' reports, community attitude surveys and personnel questionnaires. In the Kansas City Preventive Patrol Experiment, alone, we made 648 different comparisons of measures of performance of officers in police beats.

But the luxuries of research--relatively long time and abundant resources--are not available to the average department to measure the effectiveness of the average activity or unit. The challenge we face is to develop a few useful measures which can be used routinely. Our experience of having used a large number of different measures in a research setting is a most helpful preparation for this task.

Our experience has also given us a considerable degree of sophistication in understanding the strengths and weaknesses of different measures. Two of our reports--Auditing Clearance Rates and Random Digit Dialing: Lowering the Cost of Victimization Surveys--have focused on the methodological and practical issues involved in using various measures of police operations. The former concluded that arrest frequency is a far more reliable measure of the productivity of police investigative activities than clearance rate. The latter showed that telephone victimization surveys are as accurate, and much less expensive, than traditional door-to-door surveys, as long as the community being surveyed has a representative telephone-owning population.

Other projects have focused particularly on the issues of measuring productivity in policing. Readings on Productivity in Policing (1975) was prepared for the Foundation-sponsored National Conference on Police Productivity. Various Foundation staff members participated in the work of the National Commission on Productivity.

Several current and pending Foundation projects will be quite useful in bringing the broadest range of issues into the consideration of police performance measure development. We are now entering the second year of work on evaluating police foot patrol operations in New Jersey. Evaluations of decoy operations in Birmingham and a variety of crime analyses and operational techniques for improving police ability to apprehend "serious" and "continuing" offenders in San Diego are also under way. These efforts represent the full usage of police goals--from citizen-interaction, service oriented work to targetted crime-fighting.

Pending grant applications for studies of the role of the police and of the factors which are related to or contribute to police arrests are also directly

related to the sorts of thinking which the performance measures project will require.

Five people on the staff of the Foundation have been directly involved in research on police performance measures.

Patrick V. Murphy, President of the Foundation has served on the Advisory Board of the National Commission on Productivity, the American Justice Institute, the Innovative Resources Planning project, the American Bar Association and the National Academy of Sciences, all of which were concerned with the measurement of police performance, the establishing of goals for police, or the measurement of crime.

Joseph Lewis, Director of Evaluation, has served on the Advisory Boards of the National Commission on Productivity, the National Academy of Sciences, Elinor Ostrom's Police Services Delivery project, The Urban Indtitute's Local Government Performance Measurement project and on the Patrol-Related National Evaluation Program First Phase projects.

John Heaphy has served on the boards of Public Technology Incorporated and the Phase-Two American Institute's Police Productivity projects, has worked with the cities of New York, Boston, Denver, and Detroit and the Connecticut Conference of Municipalities, He is co-editor of the book Readings on Police Productivity.

Dr. Richard Staufenberger has been instrumental in the design and conducting of research on police personnel performance measurement and systems development, as well as in the conception and design of experiments into police operaitons. He is co-editor of the book Police Personnel Administration.

Dr. Lucius J. Riccio has worked on police performance measurement at the National Commission on Productivity, at Lehigh University and at the Police

Foundation. He serves as Project Director of the Foundation's Arrest Productivity project. He has published extensively on the subject of police productivity and performance measurements.

Selected Bibliography

- American Justice Institute, National Project to Develop Police Performance Measures, Grant Number 75 NI-99-0007. LEAA-U.S. Department of Justice, Washington, D. C., 1975.
- Blumstein, Alfred and Larson, Richard, "Models of a Total Criminal Justice System," Operations Research, March 1969.
- Deutsch, Stuart Jay, "A Conceptual Basis for Effectiveness Measurement of Law Enforcement Activities," prepared for NILECJ/LEAA, U. S. Department of Justice, September 1975.
- Hatry, Harry, "How Effective Are Your Community Services?" The Urban Institute and the National City Management Association, 1976
- Hirsch, Gary and Riccio, Lucius, "Measuring and Improving the Productivity of Police Patrol" Journal of Police Sciences and Administration, June 1974.
- Lewis, Joseph, Evaluation of Experiments in Policing: How Do You Begin? Washington D.C., Police Foundation, 1972
- National Commission on Productivity, Opportunities for Improving the Productivity of Police Services, Washington D.C., 1973
- Ostrom, Elinor, "On the Meaning and Measurement of Output and Efficiency in the Provision of Urban Police Services," Journal of Criminal Justice, 1973
- Wolfe J. and Heaphy J. (Eds) Readings on Productivity in Policing, Police Foundation, 1975.

III BUDGET 18 Months

A. Personnel Costs

1. Police Foundation Staff	
a) Principal Investigator	
L. Riccio 50% @ \$2,667/mo.	\$ 24,000
b) Joseph Lewis, Director of Evaluation approximately 10% (Police Foundation Contribution)	*
c) John Heaphy, Assistant Director approximately 10% (Police Foundation Contribution)	*
d) Richard Staufenberger, Assistant Director approximately 10% (Police Foundation Contribution)	*
e) Two Research Assistants @ \$1,400/mo.	50,400
f) Secretary 50% @ \$1,000/mo.	<u>9,000</u>
g) Total	\$ 83,400
2. Benefits 21% of \$83,400	<u>17,514</u>
3. Total 1+2	\$100,914
4. Panel of Experts and Consultants	<u>15,000</u>
5. Total Personnel	\$115,914

B. Other Costs

1. Travel	\$ 5,000
2. Rent	6,200
3. Telephone	2,000
4. Materials - Books, etc.	1,000
5. Misc.	<u>500</u>
6. Total	\$ 14,700

C. Overhead 52% of A + B (\$130,614) \$ 67,919

D. TOTAL \$198,533

* This contribution is accounted for as an indirect cost charged to this project through the Foundation's overhead allocation.

Lucius J. Riccio
Apartment 611
1101 New Hampshire Ave., N.W.
Washington, D. C. 20037
(202) 833-8465

Police Foundation
Suite 400
1909 K Street, N.W.
Washington, D. C. 20006
(202) 833-1460

In September, 1975, Lucius J. Riccio (Ph.D., Lehigh University, 1973) assumed the position of Assistant Director for Research at the Police Foundation, Washington, D. C. and serves as Project Director of its Arrest Productivity Study. In addition, he is on the faculty of the Operations Research Department of George Washington University's School of Engineering. As an Assistant Professorial Lecturer, Dr. Riccio teaches courses on Operations Research and Public Policy. Prior to working at the Police Foundation he was an Assistant Professor of Industrial Engineering at Lehigh University where he developed courses and research in the application of industrial engineering and operation research to governmental problems. He has served on the staff of the Mayor's Criminal Justice Coordinating Council of the City of New York where he performed analyses on New York's felony processing system, police allocation, pre-arraignment processing and other criminal justice problems. He also served on the staff of the law enforcement task force of the National Commission on Productivity on which he worked on the development of productivity, effectiveness, and efficiency measures for evaluation of the patrol function of police departments.

Dr. Riccio has served as a lecturer and consultant to the Federal Judicial Center of the Supreme Court of the United States, the Police Foundation, PRC--Public Management Services, Inc., the Corruption Analysis and Prevention Bureau of New York City's Department of Investigations, and the New York City Police Department.

While at Lehigh, Dr. Riccio was Project Director of Lehigh's participation in the Allentown (Pa.)--Lehigh Urban Observatory and was principle investigator on a research project within the observatory analyzing housing problems.

Education:

Lehigh University	B.S.I.E.	June 1969	Cum Laude
Lehigh University	M.S.I.E.	June 1970	
Lehigh University	Ph.D.	December 1973	

Previous Employment: (other than consulting positions)

September 1972 - August 1975
Instructor and Assistant Professor
Department of Industrial Engineering
Lehigh University
Bethlehem, Pennsylvania

February 1973 - May 1973

Research Specialist
Law Enforcement Task Force
National Commission on Productivity
Washington, D. C.

September 1971 - August 1972

Urban Fellow and Consultant
Office of the Mayor
Criminal Justice Coordinating Council
City of New York

Summer 1970

Systems Programmer
Air Products and Chemicals
Allentown, Pennsylvania

Summer 1969

Research Assistant
Lehigh University
Bethlehem, Pennsylvania

Summer 1968

Industrial Engineering
Eastman Kodak Company
Rochester, New York

Summer 1967

Industrial Engineering
Carpenter Technology
Bridgeport, Connecticut

Publications:

"Measuring and Improving the Productivity of Police Patrol," with Gary B. Hirsch, Journal of Police Science and Administration, June, 1974.

"Opportunities for Improving Productivity in Police Services," with others, Report of the Advisory Group on Productivity in Law Enforcement, National Commission on Productivity, Washington, D. C., 1973.

"Data As A Guide To Measuring Police Productivity," in The Future Of Policing, forthcoming from Sage Publications, Beverly Hills, California.

"Simulation of New York City's Felony Adjudicatory System," Proceedings: Winter Simulation Conference, San Francisco, January, 1973.

"Direct Deterrence -- An Analysis of the Effectiveness of Police Patrol and Other Crime Prevention Technologies," presented at ORSA-TIMS Joint National Meeting in Boston, April 1974 and published in the Journal of Criminal Justice, Vol. 2, No. 3, Fall, 1974.

"A Model for Court Resource Planning," The Justice System Journal, Vol. 1, No. 2, March, 1975.

"Optimal Integrated Offensive Patrol Strategy," Proceedings: 1975 Carnahan Conference on Crime Countermeasures, University of Kentucky, Lexington, Kentucky, May 7-9, 1975.

Proceedings of the Criminal Justice Symposium Focusing on Police Productivity, Editor, Department of Industrial Engineering, Lehigh University, July 19, 1974.

"Police Productivity--The Management Analyst's Viewpoint," Proceedings of the Criminal Justice Symposium Focusing on Police Productivity, Lehigh University, July 19, 1974.

"Productivity in the Public Sector: Its Measurement and Improvement," Proceedings, AIE Systems Engineering Conference, Boston, Massachusetts, December, 1976.

"Simulation of Arrest Processing in the New York City Police Department," with William P. Mann, Proceedings, Summer Computer Simulation Conference, Washington, D. C., July, 1976.

"Productivity Measurement: New Directions for Police Management Information Systems," presented at the Pre-Conference Workshop on Law Enforcement and Criminal Justice Information Systems of the Urban and Regional Information Systems Association National Meeting, Atlanta, Georgia, August, 1976.

"Crime in New York--A Systems Analysis," presented at ORSA-TIMS Joint National Meeting in Chicago, April 30 - May 2, 1975.

"Fault Detection of Electronic Microcircuits Using GERTS," with G. E. Whitehouse, presented at the 36th National ORSA Conference, October, 1969.

"Development of a Methodology for Neighborhood Indicators," with Gary E. Whitehouse and James R. Brown, Allentown Urban Observatory, Allentown, Pennsylvania, January, 1976.

"Neighborhood Dynamics and Neighborhood Indicators," with James R. Brown, presented at the ORSA-TIMS Joint National Meeting, Miami, Florida, November, 1976.

"Apprehension Productivity of Large United States Cities," presented at the ORSA-TIMS Joint National Meeting, Miami, Florida, November, 1976.

Evaluations:

Evaluation of LEAA Grant No. 73-NI-99-0030-G, "Computer Simulation of Police Patrol and Dispatching Function," with Dr. Michael Maltz, 1975.

Evaluation of Division of Criminal Justice Services, New York State, Grant DCJS-1209, "Queens Central Booking," with William P. Mann, Feb., 1976.

Invited Presentations:

"Improving Criminal Justice Policy: Can Management Science Play A Role?", a presentation to the Wharton Public Policy Club, University of Pennsylvania, September 29, 1976.

"Productivity Measurement: A Revolution In Our Government," a presentation at the AIEE-Region II Annual Conference, Valley Forge, Pennsylvania, October 22, 1976.

"Modeling Court Systems," a presentation to the Federal Judicial Center of the Supreme Court of the United States, Washington, D. C., December 6, 1974.

"Developing a Science of Crime Control," a presentation at LEAA, Washington, D. C., April 6, 1976.

Working Papers:

"Simulation of Brooklyn's Pre-Arrest Processing," prepared for New York City's CJCC, 1971.

"Allocation of Patrol Force--A Work Unit Approach," working paper prepared for Chief Donald Cawley, NYCPD, 1971.

"Apprehension Productivity of Large United States Cities," prepared for the Police Foundation, 1975.

"Police Management Science--The Effective Utilization of Police Resources," prepared for the Police Foundation, 1975.

"A Model for the Study of Crime Control Administration," Lehigh University, 1971.

Dissertation

"A Dynamic Systems Model and General Theory of Crime Control," Ph.D. Dissertation under Gary E. Whitehouse, Lehigh University, 1973, University Microfilms, Ann Arbor, Michigan.

Honors and Fellowships:

New York City Urban Fellow, 1971-1972
NSF Trainee, 1969-1971
Membership in Sigma Xi, Alpha Pi Mu

Professional Societies:

American Institute of Industrial Engineers
Operations Research Society of America
Washington Operations Research Council

Symposium Coordinator:

Dr. Riccio was the organizer and coordinator of the "Criminal Justice Symposium Focusing on Police Productivity," held at Lehigh University, July 19, 1974, presented by the Department of Industrial Engineering in cooperation with the National Commission on Productivity.

In conjunction with that symposium, Dr. Riccio was moderator of a PBS produced television show entitled, "Police and Crime Control: A Conversation with Patrick V. Murphy and Edward J. Kiernan," produced at Channel 39, Bethlehem, Pennsylvania.

POLICE FOUNDATION SELECTED PUBLICATION LIST

- Domestic Violence and the Police: Studies in Detroit and Kansas City, 1977
- Firearm Abuse: A Research and Policy Report, 1977
- Guidelines and Papers from the National Symposium on Police Labor Relations, 1974
- Kansas City Peer Review Panel: An Evaluation Report, 1976
- Kansas City Preventive Patrol Experiment: A Summary Report, 1974
- Kansas City Preventive Patrol Experiment: A Technical Report, 1975
- Managing Investigations: The Rochester System, 1976
- Patrol Staffing in San Diego One- or Two-Officer Units, 1977
- Performance Appraisal in Police Departments, 1977
- Police Chief Selection: A Handbook for Local Government, 1976
- Police Corruption: A Perspective on Its Nature and Control, 1975
- Police Officer Height and Selected Aspects of Performance, 1975
- Police Personnel Administration, 1974
- Police Personnel Exchange Programs: The Bay Area Experience, 1976
- Police Response Time: Its Determinants and Effects, 1976
- Police Use of Deadly Force, 1977
- Policewomen on Patrol: Final Report, 1974
- Policewomen on Patrol: Final Report (Methodology, Tables, and Measurement Instruments), 1975
- Random Digit Dialing: Lowering the Cost of Victimization Surveys, 1976
- Readings on Productivity in Policing, 1975
- San Diego Community Profile: Final Report, 1975
- San Diego Field Interrogation: Final Report, 1975

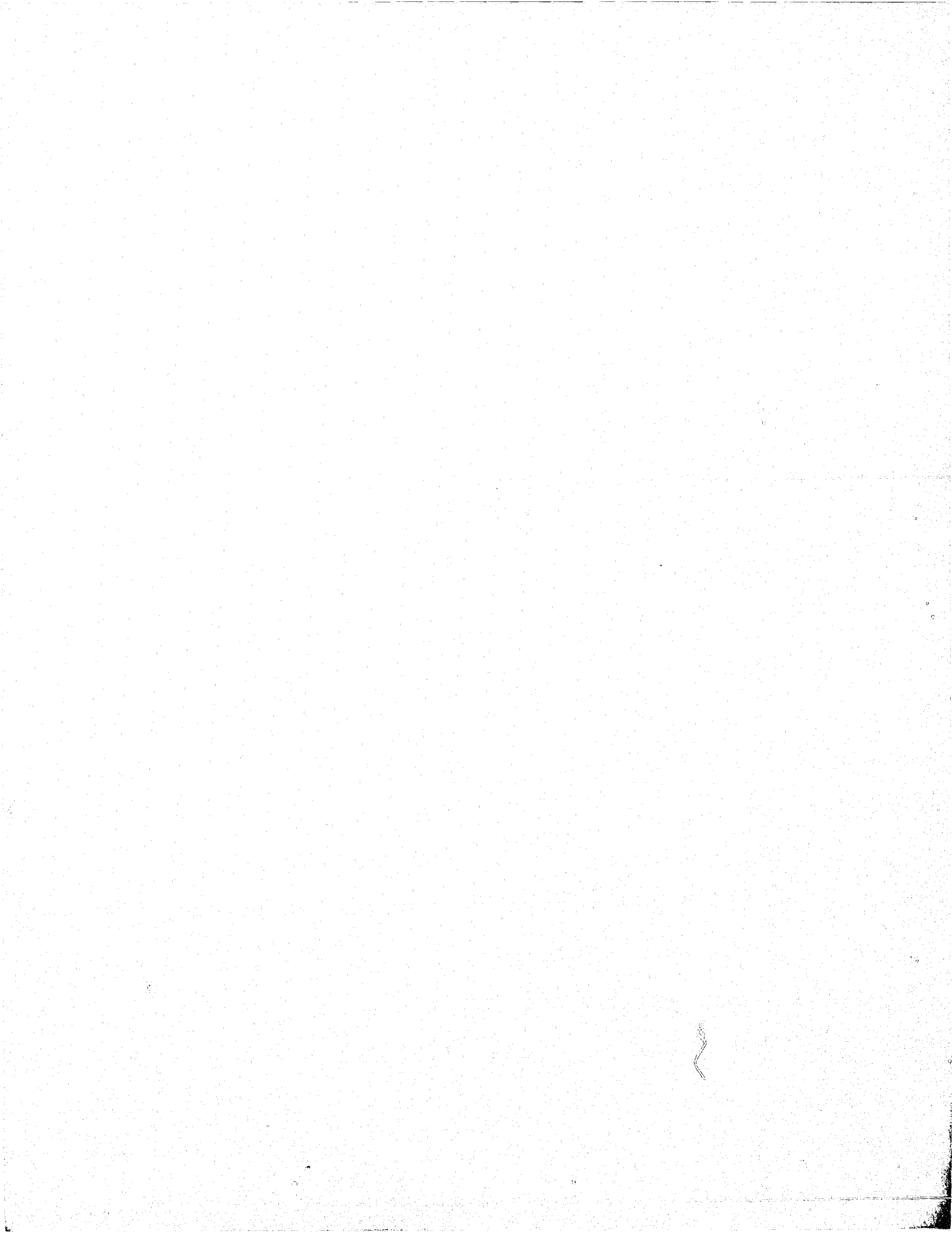
Selection Through Assessment Centers, 1977

Team Policing: Seven Case Studies, 1973

The Police and Interpersonal Conflict: Third-Party Intervention Approaches, 1976

Three Approaches to Criminal Apprehension in Kansas City: An Evaluation Report, 1976

Women in Policing: A Manual, 1975



END