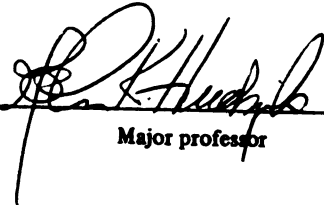


This is to certify that the
thesis entitled
Manpower Planning in Police Organizations:
State of the Art and Feasibility
presented by

Gary W. Cordner

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Social Science


Major professor

Date May 5, 1980

MICHIGAN STATE UNIVERSITY LIBRARIES



3 1293 10677 4809



OVERDUE FINES:

25¢ per day per item

RETURNING LIBRARY MATERIALS:

Place in book return to remove
charge from circulation records

NOV 12 '88
JAN A 158

FEB 1989

JUL 05 @ 2000 3

MANPOWER PLANNING IN POLICE ORGANIZATIONS
STATE OF THE ART AND STABILITY

JOSE M. LAMARCA

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

School of Criminal Justice

1980

MANPOWER PLANNING IN POLICE ORGANIZATIONS:

STATE OF THE ART AND FEASIBILITY

By

Gary W. Cordner

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

School of Criminal Justice

1980

survey sent to the 49 state police agencies and the 201 largest city and county police departments in the United States. The usable response rate for the mail survey was 55%.

ABSTRACT

MANPOWER PLANNING IN POLICE ORGANIZATIONS: STATE OF THE ART AND FEASIBILITY

By

Gary W. Corder

614942

The purpose of the study was to explore the state of the art and feasibility of manpower planning for police organizations. Broadly defined, manpower planning refers to efforts undertaken in organizations to determine the numbers and kinds of employees needed, and how best to utilize them. How such determinations are presently made in police agencies is not well known, so that one aim of the study was to identify the current state of manpower planning in police departments. The second objective was to explore the kinds of capacities and constraints within and without police agencies that might influence the perception of manpower planning as a feasible, or realistically practical, undertaking.

The method of the study is best characterized as exploratory. Research questions were used, rather than hypotheses, because of the absence of a well developed theoretical framework, and because of the ambiguity of the construct "manpower planning." Data were obtained from an extensive number of interviews with police and other government officials throughout the country, and from a mail

survey sent to the 49 state police agencies and the 201 largest city and county police departments in the United States. The usable response rate for the mail survey was 65.6%.

With respect to present efforts in police organizations, it was found that a considerable amount of manpower-related activity is undertaken, but that little manpower planning is done. Police officials responding to the survey reported that their agencies collected most of the specific kinds of data, and undertook most of the specific activities, about which questions were asked. This high level of effort was generally corroborated by information collected during interviews at a variety of police organizations. Despite this high level of activity, however, the orientation in police agencies was clearly one of problem solving within personnel administration, rather than one of manpower planning. Little goal-orientation, forecasting, or extensive search activity was found, and planning was further inhibited by the tendency to regard much of the police organization and its environment as not manipulable.

Viewed as problem solving or decision making, rather than as planning, the manpower activities of police agencies still exhibit some serious deficiencies. The different facets of human resource activity tend to be taken up disjointedly, due both to the cognitive complexity of the whole "numbers and kinds of people and how to use them" problem and to the division of labor in police departments. Activities that are obviously interdependent on a conceptual level are performed nearly independently in practice, with little coordination or integration. These tendencies are

reinforced by external demands and pressures on police agencies, which usually result in specific manpower problem solving activities aimed at the resolution of narrow issues.

Factors that were generally associated with more manpower-related activity in police agencies included better economic conditions, greater recent changes in the number of allocated positions, more competition from other employers for qualified applicants, and greater perceived rationality in determinations about the numbers and kinds of people to employ. Two conditions that were associated with less reported manpower activity were more union constraint on personnel processes, and greater pressure to increase the employment of women and minorities. With these and other factors statistically controlled, more manpower-related activity in police agencies was associated with a greater reported ability to attract and retain the kinds of employees believed needed.

Within certain fundamental limitations, police manpower-related activities could feasibly improve both as planning and as more integrated problem solving. The political nature of police work and police employment decisions, however, places important bounds on the policy formulation role of any scientific approach to manpower issues.

ACKNOWLEDGMENTS

This study of manpower planning for law enforcement would not have been possible without the cooperation, assistance, and guidance of a large number of law enforcement officials. Guarantees of anonymity were also given the names of interviewees and their agencies. The contributions made by them were:

Dedicated to my sister, Gwen,
and to my parents

of the individuals who helped in the study are law enforcement officials at each site. Four law enforcement agencies have been acknowledged by name provided letters of support and approval for acceptance of the mail survey: Police Captain Peter William G. Regarty of New Rochelle, New York; Trooper Gerald L. Hough of the Michigan State Police; Sheriff William Edgar of Wayne County, Michigan; and Superintendent of Police James C. Parsons of New Orleans. Thanks are extended to these and the unnamed officials for their generous and irreplaceable contributions.

The data for this study come from a portion of the Manpower Planning Development Project of the School of Criminal Justice, Michigan State University. I would like to thank the Director of the project, John K. Hudzik, and the Director of the School, George T. Folkner, for providing the research opportunity and for

facilitating and guiding my efforts. The research was also greatly facilitated financially by the Law Enforcement Assistance Administration (LEAA), which part-

ACKNOWLEDGMENTS

This study of manpower planning in police organizations would not have been possible without the cooperation, assistance, and guidance of a large number of police and other government officials. Guarantees of anonymity prevent me from disclosing the names of interviewees and survey respondents, but the contributions made by them were obviously of critical importance. The same can be said of the experts who aided in interview site selection, and of the individuals who helped us gain access to busy officials in each site. Four law enforcement executives who can be acknowledged by name provided letters of support that undoubtedly enhanced acceptance of the mail survey: Police Commissioner William G. Hegarty of New Rochelle, New York; Director Gerald L. Hough of the Michigan State Police; Sheriff William Lucas of Wayne County, Michigan; and Superintendent of Police James C. Parsons of New Orleans. Thanks are extended to these and the unnamed officials for their generous and irreplaceable contributions. The data for this study come from a portion of the Manpower Planning Development Project of the School of Criminal Justice, Michigan State University. I would like to thank the Director of the project, John K. Hudzik, and the Director of the School, George T. Felkenes, for providing the research opportunity and for

facilitating and guiding my efforts. The research was also greatly facilitated financially by the Law Enforcement Assistance Administration (LEAA), which partially supported the Manpower Planning Development Project with grant number 78-CD-AX-0004. Particular gratitude is owed Price Foster and Jean Moore of the Office of Criminal Justice Education and Training of LEAA.

I am especially indebted to the members of my dissertation committee for their assistance and guidance in the preparation of this document. My chairman, John Hudzik, critiqued each succeeding draft of each section, and both provided good ideas and identified many of my bad ones. He took direct interest in the dissertation and in my progress, to my benefit. I thank him very much. The remaining members of my committee also made inestimable contributions. Ken Christian worked with me on the project from the start, and provided detailed comments on the dissertation draft. Cleo Cherryholmes took particular interest in my attempts to make inferences about feasibility and about policy implications, and consequently forced me to think much harder than I otherwise would have. Neal Schmitt carefully previewed my data analysis, preventing and correcting several blunders, and also made numerous constructive suggestions that greatly improved all parts of the dissertation. In addition, I was honored to have Peter Manning as the Dean's representative at my oral examination.

My work on the Manpower Planning Development Project was made enjoyable, and perhaps slightly productive, with the aid of

my colleagues, including Tim Bynum, Ken Christian, Steve Edwards, Maryellen Geyer, Jack Greene, Dave Hayeslip, and John Hudzik. Their encouragement and good natures made working almost a pleasure. I must single out Steve, my office-mate, and Tim and Jack, my road trip comrades, for their support and ministrations to the soul. They are the finest of friends and colleagues.

Thanks are due a number of my teachers for their direct and indirect contributions to my ability to write, think, and analyze (such as it is). In the hope that they are not embarrassed too greatly by their product, I especially thank George Berkley, Cleo Cherryholmes, Terry Dungworth, Carl Frost, Larry Hoover, Jack Hunter, Edward Lloyd, Terry Moe, Chuck Ostrom, Neal Schmitt, and Evelyn Stopak.

I offer my special thanks, heart-felt gratitude, and profoundest admiration to my teacher, friend, and guide, Robert Sheehan. His has been a deep moral and intellectual influence. It has been my tremendous benefit and good luck to find myself under his wing, and I hope to prove to have been worthy of his faith. In particular, I promise him that I will eventually return to that real world to which we are both committed.

Finally, I must thank family and friends for their support over the years, and apologize to them for frequent and extended absences. I have missed them much more than they know or suspect. Most of all, thanks and deepest gratitude to my sister, my mother, and my late father.

Chapter	Page
Environment	110
Manpower Planning	118
Summary	123
TABLE OF CONTENTS	
III. DESIGN OF THE STUDY	144
Introduction	Page
LIST OF TABLES	x
LIST OF FIGURES	xiv
Chapter	
I. THE PROBLEM	1
Introduction	1
Purpose	5
Framework	7
Research Questions	10
Overview	22
II. REVIEW OF THE LITERATURE	25
Introduction	25
Planning	26
Definitions of Planning	26
Varieties of Planning	30
Processes Related to Planning	34
Justifications of Planning	38
Planning Theory	39
The Planning Process	44
Limitations on the Planning Process	47
The Planning Process Reconsidered	50
The Action Setting of Planning	60
Planning in Organizations	67
Manpower Planning	72
Definitions of Manpower Planning	75
Processes Related to Manpower Planning	78
The Manpower Planning Process	80
Manpower Planning in Practice	88
Police Organizations	93
Structure	98
Management	101
Personnel Administration	104
Planning	107

Chapter	Page
Environment	110
Manpower Planning	118
Summary	123
III. DESIGN OF THE STUDY	144
Introduction	144
Research Questions	145
Interview Component	148
Interview Sample	149
Interview Topics	154
Interview Analysis	159
Survey Component	161
Survey Sample	162
Survey Measures	167
Manpower Planning Activity	170
Manpower Planning Data Collection	172
Agency Size	174
Economic Conditions	174
Agency Size Change	175
Equal Employment Pressure	175
Union Constraint	176
Civil Service Control	176
Competition for Applicants	177
Agency Level	177
Influence	178
Anticipation	178
Rational Factors and Numbers of Positions	178
Political Factors and Numbers of Positions	179
Internal Rational Considerations and Kinds of People	180
External Rational Considerations and Kinds of People	180
External Political Considerations and Kinds of People	181
Agency Ability to Attract and Retain	181
Survey Analysis	182
Summary	186
IV. ANALYSIS AND DISCUSSION	190
Introduction	190
Univariate Analysis	192
Extent of Manpower Planning	192
Factors Affecting Extent of Manpower Planning	208
Agency Size	208
Economic Conditions	209

Chapter	Page
Agency Size Change	210
Equal Employment Pressure	211
Union Constraint	213
Civil Service Control	216
Competition for Applicants	219
Agency Level	221
Summary of Measures	221
Factors Reciprocally Related to Extent of	
Manpower Planning	223
Influence	223
Anticipation	226
Rational Factors and Numbers of Positions	228
Political Factors and Numbers of Positions	231
Internal Rational Considerations and Kinds of	
People	235
External Rational Considerations and Kinds of	
People	237
External Political Considerations and Kinds	
of People	237
Summary of Measures	241
Agency Ability to Attract and Retain	243
Bivariate Analysis	243
Intercorrelations Between Manpower Planning	
Measures	246
Factors Affecting Extent of Manpower Planning	252
Factors Reciprocally Related to Extent of	
Manpower Planning	273
Intercorrelations Between Reciprocal Factors	281
Factors Affecting Agency Ability to Attract and	
Retain	283
Multivariate Analysis	288
Factors Affecting Extent of Manpower Planning	290
Factors Reciprocally Related to Extent of	
Manpower Planning	305
Factors Affecting Agency Ability to Attract	
and Retain	311
Summary	315
V. CONSTRAINTS ON FEASIBILITY	320
Introduction	320
Manpower Planning and Policy Making	321
Manpower Planning as Planning	324
Manpower Planning as Problem Solving	334

Chapter	Page
Conditions and Constraints	339
Agency Size and Size Change	339
Economic Conditions and Competition	341
Agency Level	343
Equal Employment Pressure	343
Union Constraints	346
Civil Service Control	348
Influence and Anticipation	349
Rationality and Politics	351
Summary	353
VI. SUMMARY, CONCLUSIONS, AND POLICY IMPLICATIONS	359
Introduction	359
Purpose and Method of the Study	359
Findings and Conclusions	362
State of the Art	362
Conditions and Constraints	365
Feasibility	368
Policy Implications and Recommendations	376
Limitations of the Study	384
Recommendations	387
BIBLIOGRAPHY	393
General Economic Conditions in Jurisdictions of Responding Police Agencies	210
Changes in Number of Allocated Position During Last Two Years in Responding Police Agencies	211
Equal Employment Opportunity Pressure on Police Agencies to Increase Employment of Women and/or Minorities	212
Extent of Union Constraint on Personnel Matters in Police Agencies	214
Extent of Civil Service Control Over Police Agency Personnel Matters	218
Competition With Other Employers for Qualified Job Applicants	220
Descriptive Summary Statistics for Factors Affecting Extent of Manpower Planning in Police Agencies	222

Table	Page
4.12 Police Agency Ability to Influence Changes in Numbers of Allocated Positions	224

LIST OF TABLES

4.13 Police Agency Ability to Anticipate Changes in Numbers of Allocated Positions	227
Table Importance of Relative Factors for Changes in Numbers of Allocated Positions	Page
3.1 Description of Police Agency Interview Sample	153
3.2 Description of Police Agency Survey Sample and Response Rates	166
4.1 Extent of Manpower Planning Activity Undertaken by Police Agencies	193
4.2 Extent of Manpower Planning Data Collection and Information Importance for Police Agencies	198
4.3 Description Summary Statistics for Extent of Manpower Planning Activity and Data Collection in Police Agencies	202
4.4 Number of Full-time Allocated Sworn Position in Responding Sample Police Agencies	209
4.5 General Economic Conditions in Jurisdictions of Responding Police Agencies	210
4.6 Changes in Number of Allocated Position During Last Two Years in Responding Police Agencies	211
4.7 Equal Employment Opportunity Pressure on Police Agencies to Increase Employment of Women and/or Minorities	212
4.8 Extent of Union Constraint on Personnel Matters in Police Agencies	214
4.9 Extent of Civil Service Control Over Police Agency Personnel Matters	218
4.10 Competition With Other Employers for Qualified Job Applicants	220
4.11 Descriptive Summary Statistics for Factors Affecting Extent of Manpower Planning in Police Agencies	222

Table	Page
4.12 Police Agency Ability to Influence Changes in Numbers of Allocated Positions	224
4.13 Police Agency Ability to Anticipate Changes in Numbers of Allocated Positions	227
4.14 Importance of Rational Factors for Changes in Numbers of Allocated Positions	230
4.15 Importance of Political Factors for Changes in Numbers of Allocated Positions	233
4.16 Importance of Internal Rational Considerations for Kinds of People Determinations	236
4.17 Importance of External Rational Considerations for Kinds of People Determinations	238
4.18 Importance of External Political Considerations for Kinds of People Determinations	240
4.19 Descriptive Summary Statistics for Factors Recipro- cally Related to Extent of Manpower Planning in Police Agencies	242
4.20 Police Agency Ability to Attract and Retain the Kinds of People Believed Needed	244
4.21 Descriptive Summary Statistics for Agency Ability to Attract and Retain the Kinds of People Believed Needed	245
4.22 Kendall's Tau Correlations Between Ten Categories of Manpower Planning Activity	247
4.23 Kendall's Tau Correlations Between Thirteen Categories of Manpower Planning Data Collection	250
4.24 Kendall's Tau Correlations Between Categories of Manpower Planning Activity and Factors Affecting Extent of Manpower Planning	253
4.25 Kendall's Tau Correlations Between Categories of Manpower Planning Data Collection and Factors Affecting Extent of Manpower Planning	258

Table		Page
4.26	Kendall's Tau Correlations Between Extent of Manpower Planning and Factors Affecting Extent of Manpower Planning	263
4.27	Comparison of Means and Analysis of Variance for Ten Categories of Manpower Planning Activity by Police Agency Level	265
4.28	Comparison of Means and Analysis of Variance for Thirteen Categories of Manpower Planning Data Collection by Police Agency Level	267
4.29	Comparison of Means and Analysis of Variance for Extent of Manpower Planning by Police Agency Level	268
4.30	Pearson Correlations Between Seven Factors Affecting Extent of Manpower Planning	270
4.31	Comparison of Means and Analysis of Variance for Factors Affecting Extent of Manpower Planning by Police Agency Level	272
4.32	Kendall's Tau Correlations Between Categories of Manpower Planning Activity and Factors Reciprocally Related to Extent of Manpower Planning	274
4.33	Kendall's Tau Correlations Between Categories of Manpower Planning Data Collection and Factors Reciprocally Related to Extent of Manpower Planning	278
4.34	Kendall's Tau Correlations Between Extent of Manpower Planning and Factors Reciprocally Related to Extent of Manpower Planning	280
4.35	Pearson Correlations Between Factors Reciprocally Related to Extent of Manpower Planning	282
4.36	Kendall's Tau Correlations Between Agency Ability to Attract and Retain Needed Kinds of People and Seven Factors Affecting Extent of Manpower Planning	285
4.37	Comparison of Means and Analysis of Variance for Ability to Attract and Retain Needed Kinds of People by Police Agency Level	286

Table		Page
4.38	Kendall's Tau Correlations Between Agency Ability to Attract and Retain Needed Kinds of People and Seven Reciprocal Factors	287
4.39	Multiple Regression Analysis of Factors Affecting Extent of Manpower Planning Data Collection and Activity in Police Agencies	291
4.40	Multiple Regression Analysis of Factors Affecting Extent of Manpower Planning Data Collection: Separate Regressions for City, County, and State Police Agencies	297
4.41	Multiple Regression Analysis of Factors Affecting Extent of Manpower Planning Activity: Separate Regressions for City, County, and State Police Agencies	300
4.42	Bivariate and Partial Correlations Between Extent of Manpower Planning Activity and Factors Reciprocally Related to Extent of Manpower Planning	307
4.43	Multiple Regression Analysis of Factors Affecting Police Agency Ability to Attract and Retain the Kinds of People Needed	313

LIST OF FIGURES

Figure	THE PROBLEM	Page
2.1	A Framework for Manpower Planning	89
3.1	Model of Factors Affecting the Extent of Manpower Planning Data Collection and Activity Undertaken in Police Organizations	184
4.1	Model of Factors Affecting the Extent of Manpower Planning Data Collection and Activity Undertaken in Police Organizations	289

focus of manpower planning, but internally the activity is most closely related to general planning and to personnel administration.

CHAPTER I
THE PROBLEM
with respect to academic disciplines, statistics is quite important for all varieties of manpower planning, while econometrics assumes greater importance at the macro-level, and the behavioral sciences increase in importance at the organizational level.

Introduction

The aim of the research reported in this dissertation is to provide information about the state of the art and feasibility of manpower planning in police organizations. The phrase "state of the art" is meant to refer to the present extent to which police agencies undertake the component activities that comprise manpower planning. The term "feasibility" refers to the kinds of capacities and constraints that influence the perception of manpower planning as a feasible, or realistically practical, undertaking for police agencies. The level of manpower planning pertinent for this study is

Academically, manpower planning is an interdisciplinary subject, and organizationally it is a boundary-spanning activity. In its most general form, manpower planning is often described as whatever is done to assure that a system (economy, organization) has the right numbers and kinds of people in its employ, doing the right things in the right places, both currently and in the future. At the national, regional, state, or industry level, manpower planning is closely involved with labor economics, education policy, demographics, and similar broad concerns. At the level of the individual organization, these concerns are important elements of the external

focus of manpower planning, but internally the activity is most closely related to general planning and to personnel administration. With respect to academic disciplines, statistics is quite important for all varieties of manpower planning, while econometrics assumes greater importance at the macro-levels, and the behavioral sciences increase in importance at the level of the organization.¹

The term "manpower planning" is roughly synonymous with two other commonly used terms, "personnel planning" and "human resource planning." In some quarters personnel planning has a somewhat narrower connotation, and human resource planning a somewhat broader one, but in general all three terms pertain to planning for the people-related aspects of organizations. The term manpower planning is used for this study because it is the most widely recognized, both in the literature and in practice.

The level of manpower planning pertinent for this study is organizational. More specifically, the study focuses on manpower planning by police organizations. As the responsibility for police protection and law enforcement in the United States is extensively decentralized and fragmented, the principal locus of police manpower planning is at the level of the individual organization. Although a major recent study has provided industry-level projections for police employment in the coming years,² and although state-level police training commissions have established certain minimum standards for police employees, there seems to be no reason to doubt that police human resource decision making will remain a local function.

For several reasons, manpower planning is of particular importance for police agencies today. Inasmuch as police agencies are extremely labor-intensive, manpower planning is perhaps the single most crucial of all of the aspects of police planning. That is, planning to effectively obtain and utilize human resources is at the heart of police management. Certainly, police organizations are composed of other resources, including information, equipment, and money, but manpower planning contributes far more to their missions than do, for example, fiscal planning or fleet planning.

In these times of belt-tightening and fiscal uncertainty at all levels of government, manpower planning is increasingly important for police agencies. Personnel costs account for a very large percentage of every police department budget, so that financial crisis translates to manpower crisis. A police agency budget is largely a personnel budget. As the availability of public revenue stabilizes or decreases, competition between government agencies for funds increases, as does the need for sound and defensible budget justifications. One of the aims of manpower planning is to determine the numbers and kinds of people needed by the organization; this information is precisely that needed by police agencies at budget time.

The relationship between manpower planning and budgeting is primarily based on numbers of people considerations. Concern for kinds of people is also important, however. The quality of police personnel has been a dominant theme of police reform and police improvement efforts over the last century.³ At present, the relationship between college education and police performance or

effectiveness remains an unsettled and controversial issue.⁴

Another "kinds of people" consideration in policing is not so much an issue as a mandate and a problem to be solved. This is the matter of equal employment opportunity and affirmative action. Racial and ethnic minorities are generally underrepresented among the employees of police departments, as are women,⁵ and the amelioration of this situation is a major concern of the courts and the Equal Employment Opportunity Commission. Among the objectives of manpower planning are the determination of the kinds of people needed, and assuring that such people are found and employed.

Also among the considerations of manpower planning are the needs and aspirations of the individuals employed in organizations. The problem of balancing the needs of employees and the organization is an especially urgent one for police agencies, as the bulk of their employees begin in the same job and compete with one another for a limited number of special assignments and promotional opportunities. A large portion of police employees never get beyond the entry-level position of patrol officer, and thus have any advancement aspirations frustrated. Also, those best at patrol work are often among the fortunate ones promoted or transferred, so that the organization may have its least able employees doing its principal work. Again, devising solutions to these difficulties is one of the aims of manpower planning. For several of the issues and problems presently facing police departments, then, manpower planning would seem to represent an important response.

Of course, it may be true that manpower planning as undertaken by private corporations is not completely feasible for police organizations. In order to obtain resources to employ the "right number of people" police agencies must survive a gauntlet of budget analysts, elected executives, and elected legislators. In addition, police departments are frequently not in complete control of their personnel processes, and must negotiate with civil service commissions over job qualifications, selection criteria, and the like. The role of the police, or "doing the right things," is also not completely defined or controlled by the police organization. Most importantly, the nature of police work itself, as compared with jobs in the private sector, may mitigate against authoritative determinations of "right" numbers and kinds of people, and "right" things to do.

Despite these limitations, manpower planning seems to offer benefits to police organizations as a means of rationalizing human resource acquisition, development, and utilization. The extent to which police departments actually engage in manpower planning is not known, however. Also not systematically understood are the limitations themselves, or the constraints on the feasibility of manpower planning in police organizations.

Purpose

The purpose of this study is to assess the state of the art and feasibility of manpower planning in police organizations. The state of the art determination will provide information about the

extent to which police agencies now utilize the component activities of manpower planning. This determination will indicate whether the police are making use of currently available methods and techniques for improving personnel policy and decision making. The conclusion of one recent review was that police departments are slow to apply available personnel administration methods and knowledge;⁶ this study will test the assertion with respect to manpower planning.

A second purpose of the study is to identify those features of police organizations and their environments that influence the practice of manpower planning, and to examine their relative importance. This specification of the relevant features of police agencies' situations should provide considerable insight concerning the practical feasibility of manpower planning for the police. Another aspect of feasibility is more technical than practical. The study will explore the kinds of data that police agencies presently collect or receive from other sources. The availability of certain types of information is a prerequisite for undertaking manpower planning activity, and together with analytical capacity comprises the technical feasibility consideration. In a limited fashion, the study also seeks to examine the value of manpower planning for police agencies. Although the primary purpose is to explore the state of the art and feasibility of manpower planning for the police, some information is provided concerning the relationship between the activity and police agency ability to find and keep the kinds of employees needed. Moreover, manpower planning activity found in organizations is likely to take

the form of a set of somewhat Framework component programs, rather

than as a single program. Manpower planning consists of a process or a set of activities that organizations might choose to undertake in order to rationalize their policy and decision making with respect to human resources. It purports to be a means of solving or preventing human resource problems, through means/ends analysis, information provision, and uncertainty reduction.

As a form of rational planning, however, manpower planning imposes monetary and cognitive costs on organizations choosing to undertake the activity. In its complete and pure form, manpower planning requires explicit specification of organizational goals, exhaustive analysis of the present condition of the organization, identification and evaluation of all possible alternative solutions to discrepancies between present and preferred states, and constant surveillance to provide continuous feedback about goal attainment. There is considerable evidence that organizational planning and decision making are not so completely rational.⁷ With respect to complex activities such as manpower planning, March and Simon argue that "in the discovery and elaboration of new programs, the decision-making process will proceed in stages, and at no time will it be concerned with the 'whole' problem in all its complexity, but always with parts of the problem."⁸

Considerations of time, cost, and cognitive investment, then, can be expected to limit organizational pursuit of rationality, and thus the extent of manpower planning activity undertaken. Moreover, manpower planning activity found in organizations is likely to take

the form of a set of somewhat related component programs, rather than as a holistic and explicitly goal-directed process. Therefore, purely in response to internal organizational considerations, the practice of an activity such as manpower planning is substantially limited.

The decisions and activities of organizations are also affected by external considerations. Dill has developed the concept of task environment to refer to those factors and entities outside of the organization that are "relevant or potentially relevant to goal setting and goal attainment."⁹ Thus, manpower planning in organizations can be influenced, in terms of its goals and activities, by external forces. As Thompson describes it, the task environments of organizations pose a variety of contingencies and constraints which interfere with the attainment of rationality.¹⁰

In a general sense, the environment of an organization consists of everything beyond its boundaries. One way to order all of the external factors has been suggested by Hall, who refers to technological, legal, political, economic, demographic, ecological, and cultural conditions.¹¹ Another way to distinguish between important and unimportant aspects of the environment is to specify the relevant "organization set" which includes those organizations in interaction with the focal agency.¹² The interactions of entities in an organization set comprise a network of interorganizational relationships that may take a variety of forms, including cooperation, coordination, conflict, competition, contracting, coopting, and coalescing.¹³

expected. An important consideration with respect to the environment and the organization's relations with it is that the environment is not simply an objective reality "out there" to be dealt with.¹⁴ Rather, an organization's view of the environment, and its interpretation of relative power or dependence relationships with external forces, are the result of selection and perception processes. The decisions and strategies of organizations are strongly affected by their perceptions of constraints and opportunities posed in the environment, above and beyond any more objective measures of such factors.¹⁵

The conceptual framework for this study follows from these concepts. An organization interested in rationalizing its human resource system and ameliorating its personnel-related problems would, all other things being equal, undertake manpower planning. The activity imposes certain burdens not ordinarily consonant with organizational problem solving and decision making processes, however. Also, organizations react to forces other than the internally-focused need to solve problems and attain rationality. Elements of the environments of organizations, real and/or perceived, affect decision making and strategy formulation in organizations. Thus, the extent of manpower planning undertaken by organizations will be affected both by internal and by external considerations.

Decisions in police agencies about whether to undertake manpower planning activities are expected to be affected by these kinds of organizational and environmental considerations. The extent of manpower planning undertaken in police organizations is

expected to be causally dependent on some of the factors, and reciprocally related to others.¹⁶ The hypothesized dependent connections are based upon relationships in which changes in extent of manpower planning primarily follow from changes in organizational and environmental factors. The expected reciprocal connections and reflect relationships in which manpower planning is thought both to follow from and affect certain internal and external forces. Almost all of the relationships are probably at least partially reciprocal, and covariation will be the principal evidence of association, so that firm findings of causation will not result from the study. On logical grounds, however, some inferences concerning dependence may be supported.

Research Questions

In the classical research endeavor, testable and falsifiable hypotheses are deduced from the theory guiding the study, and empirical data is used to confront the hypotheses. In this instance, however, two considerations impinge on the hypothesis testing research model. One is that the construct of interest, manpower planning, is difficult to specify and operationalize, due both to its ambiguity and to the near absence of previous empirical studies of its utilization by organizations. The other problem is that organization theory is not well developed as a source of hypotheses, especially with respect to the behavior and decision making of police organizations.

In contrast to the classical research endeavor, this study is probably best characterized as exploratory. As described by Katz and by Kerlinger, the aims of exploratory field studies are to discover the significant variables that affect the construct of interest, to discover the relationships among these variables, and to develop the foundation for eventual hypothesis testing and theory construction.¹⁷ These aims equate quite closely with the limited purposes of this study.

Although not based upon formal hypotheses, the study was guided by a set of research questions derived from the preceding framework, and from the limited available information about the practice of manpower planning and decision making in police agencies. These research questions served to identify the variables and relationships for which measures were developed and data were collected. The research questions, and a brief rationale for each, follow.

1. What is the present level of manpower planning activity being undertaken in police organizations?

This research question reflects the state of the art concern of the study. The aim is to determine the extent to which police agencies now undertake the class of activities that comprise manpower planning. The specification of the state of the art will include current data collection efforts, performance of manpower planning component activities, and overall concern for right numbers and kinds of people and manpower utilization.

2. What is the relationship between police agency size and extent of manpower planning undertaken?

It seems likely that the number of employees in an organization at least partially contributes to the need for manpower planning. Certainly, many of the extensive data collection efforts and sophisticated component activities of manpower planning are not likely to be found, and may not be needed, in very small organizations. Among the few empirical studies of manpower planning in organizations, one found several differences in activity by agency size,¹⁸ while another found that extent and quality of manpower planning activity did not vary by size of organization.¹⁹ Both studies were based on rather small samples of private companies.

3. What is the relationship between general economic conditions and extent of manpower planning undertaken by police organizations?

Two of the main aspects of manpower planning are attracting and retaining qualified employees, and the accomplishment of these activities might well be somewhat dependent on economic conditions. On one hand, in difficult economic times retention of personnel may not be much of a problem, because other employment opportunities are scarce. Also, in difficult times police employment may seem more desirable to potential applicants, both because of limited alternative opportunities and because police employment offers relative job security. On the other hand, though, these consequences of difficult economic conditions may make manpower planning less necessary, because of the easy availability of human resources. In addition, manpower

planning efforts cost money, and in rough times such "fringe" staff activities may be among the early casualties. This may be especially true if manpower planning activities in a police organization are primarily associated with hiring, which may be severely curtailed during financially troubled periods.

4. What is the relationship between changes in police agency size and extent of manpower planning undertaken?

Rather than directly related to agency size or economic conditions, the extent of manpower planning in police agencies may be primarily related to personnel processing activity, and especially to increases or decreases in numbers of employees. Related to this consideration, it may be that extent of manpower planning is associated mainly with growth (and thus hiring), or it may be that the need for manpower planning is more a function simply of personnel-related activity, whether in terms of increases or decreases in police agency size. In other words, it will be important to examine the effects of the size change variable in both real (negative and positive values) form and in absolute value form.

5. What is the relationship between equal employment opportunity/affirmative action pressure and extent of manpower planning undertaken by police organizations?

As noted earlier, minorities and women are generally under-represented among the employees of police agencies, and many agencies are under formal and informal pressure to correct such situations. The relationship between this kind of pressure and agency manpower

planning efforts is not clear, however. The pressure may encourage the utilization of certain recruitment and selection methods that reduce bias and enhance minority employment opportunities, and these activities may require analysis and planning efforts for technical support. Outside pressure to employ and/or promote certain kinds of people, though, may also lead police agencies to regard their manpower planning efforts as irrelevant. That is, if agencies are told what kinds of people to employ, they may see little utility in sophisticated manpower planning activities undertaken for the same purpose.

6. What is the relationship between the degree to which police agency personnel matters are constrained by union contracts and extent of manpower planning undertaken?

Unionization of police employees seems to be increasing, and police union contracts and agreements frequently have provisions pertaining to personnel-related matters.²⁰ As with equal employment opportunity pressure, it seems unlikely that police agencies would expend great energy for manpower planning with respect to matters over which they had effectively lost control. One study of manpower planning found a strong negative relationship between the extent of the activity undertaken by organizations and the portion of employees represented by unions.²¹ As concluded in that study, collective bargaining agreements essentially redefine, and usually constrict, the domain of organizational personnel decision making.

7. What is the relationship between the degree to which police agency personnel matters are controlled by external civil service units and extent of manpower planning undertaken?

Police organizations are subunits of local, state, or national governments, and their personnel processes and decisions are often not independent of jurisdiction civil service or personnel units. To the extent that the personnel processes of police agencies are controlled by civil service units or regulations, the agencies might be expected to regard manpower planning efforts as irrelevant. On the other hand, though, civil service units have the rationalization of personnel decision making as one of their formal purposes, and may provide, encourage, or require manpower planning efforts of police agencies. A recent study found that the role and effect of civil service units vis-a-vis municipal police departments were not unitary, but instead varied considerably.²² This study will explore the relationship with manpower planning activity.

8. What is the relationship between degree of competition for qualified applicants and extent of manpower planning undertaken by police organizations?

A portion of manpower planning activities are oriented toward attracting and retaining desired kinds of employees, and the need for these activities may be related to the degree of competition for qualified applicants. It seems likely that the greater the competition for desired kinds of people, the more police agencies are likely to undertake at least some kinds of manpower planning efforts. The issue of competition for qualified applicants may be

m

nd

30

10

15

20

25

30

35

40

45

50

55

60

65

70

75

80

a more direct measure of the putative effects of economic conditions and equal employment opportunity pressure than measures of those factors themselves.

9. What is the relationship between police agency level (city, county, state) and extent of manpower planning undertaken?

Apart from agency size, economic conditions, and other factors, extent of manpower planning in police organizations may also vary by governmental level. City, county, and state police agencies are included in this study, and variation in manpower planning activity within and between these levels will be examined.

10. What is the relationship between the perceived influence of the police agency over increases and decreases in numbers of funded positions and extent of manpower planning undertaken by police organizations?

One of the major aims of manpower planning is to determine the right numbers of people needed by an organization. How many people a police agency actually employs, however, is a direct function of its budget, the nature of which is negotiated with budget analysts, elected executives, and legislators.²³ Police agencies that perceive themselves as having no influence over budgetary decision making would seem unlikely to engage in costly and extensive analysis and planning to determine numbers of people needed. It may also be the case, though, that very influential police agencies do not need to undertake manpower planning to develop budget justifications, if they can get their way regardless. Yet another possibility is that influence depends on manpower planning, rather than vice

versa; that is, the products of manpower planning activity may be a means of influence for police agencies at budget time. The complexity and cyclical form of this relationship suggests that it may be more reciprocal than causal.

11. What is the relationship between ability to anticipate increases and decreases in numbers of funded positions and extent of manpower planning undertaken by police organizations?

A significant element of any planning activity, including manpower planning, is forecasting. One of the benefits of manpower planning is the forecasting or anticipation of increases and decreases in numbers of people needed, so that personnel processes can be geared to future, rather than past, human resource needs. As noted above, however, the vagaries of public budgeting may not always provide police agencies with the numbers of people thought needed, and budget outcomes may not always be predictable. Viewed one way, police agency decisions to undertake manpower planning may depend on whether they are able to anticipate position increases and decreases; for example, agencies facing a totally unpredictable situation may regard manpower planning as a useless exercise. From the other perspective, agency ability to anticipate increases and decreases may depend to some extent on the caliber of their manpower planning efforts. Forecasting activity may allow police agencies to anticipate changes in numbers of positions, whether due to changed work load or political decision making.

12. What is the relationship between the perceived importance of rational factors in determining budget outcomes and extent of manpower planning undertaken by police organizations?

Related to influence and anticipation, police agency decisions to engage in manpower planning may be related to their conception of the importance of rational factors in budgetary decision making. Agencies that regard budget decisions (which are determinative of manpower levels) as entirely random or as completely political would not be expected to undertake extensive manpower analysis and planning in support of rational budget justifications. It might also be true that the importance of rational factors is related to the availability of defensible rational arguments. In other words, the importance of rational factors in determining budget outcomes is at least partially dependent on the provision of information and analysis on which rational decisions can be made, so that to some extent budgetary rationality may depend on manpower planning. Clearly, both directions of dependence are plausible.

13. What is the relationship between the perceived importance of political factors in determining budget outcomes and extent of manpower planning undertaken by police organizations?

In the short-hand experiential vocabulary of police agency personnel, political factors are essentially the antithesis of rational factors. It would seem probable that the extent to which police agencies engage in manpower planning would be related to their perception of the importance of political factors in determining their budgetary experiences. Again, the relationship is

expected to be reciprocal. For example, police departments that regard budget decisions as based on political factors may see little use in undertaking manpower planning activity, and their failure to conduct such analyses and provide information and arguments may contribute both to the perceived and actual importance of political factors.

14. What is the relationship between the perceived importance of internal rational considerations for determining kinds of people needed and the extent of manpower planning undertaken by police organizations?

The previous four research questions, pertaining to influence, anticipation, rational factors, and political factors, were focused on budgets and numbers of people kinds of determinations. This question and the following two pertain to kinds of people considerations. For this question, it seems likely that the extent to which police agencies choose to undertake manpower planning activity is related to their perception of the importance of internal rational considerations, such as job requirements and agency needs. Police departments that are permitted to base kinds of people decisions on their own interpretations of their needs might be expected to undertake analysis and planning in order to support and rationalize such decisions. Again, though, competent performance of such manpower planning activities might contribute to the salience of internal rational considerations, so that the relationship would seem to be reciprocal.

15. What is the relationship between the perceived importance of external rational considerations for determining kinds of people needed and the extent of manpower planning undertaken by police organizations?

In the determination of the kinds of people to be employed by police agencies, another set of considerations is more or less rational (or at least non-political) but less within the control of the organization itself than job requirements and agency needs. These considerations would include the actual supply of desired kinds of people, and other labor market conditions. The direction of association between the importance of these considerations and extent of police agency manpower planning activity is difficult to predict, but again the relationship would be expected to be one of interdependence.

16. What is the relationship between the perceived importance of external political considerations for determining kinds of people needed and extent of manpower planning undertaken by police organizations?

As with the importance of political factors in budgetary decision making, police agencies perceiving kinds of people determinations as dependent on political factors are not likely to allocate scarce resources to manpower planning. The kinds of external political factors that might influence kinds of people decisions in police agencies include direct political pressure, equal employment opportunity/affirmative action considerations, public opinion, and specific court cases or injunctions with personnel-related implications. Of course, police agencies that choose to engage in manpower

Ma

te

ig

es

ut

es

ng

a

re

ow

er

in

or

er

n

re

re

planning efforts may gain a measure of control over kinds of people determinations, and thus come to perceive the importance of external political factors as low.

17. What is the relationship between the extent of manpower planning undertaken and policy agency ability to attract and retain the kinds of people believed needed?

Ultimately, undertaking manpower planning activity should positively affect the quality of human resources in an organization, but it is important not to confuse utilization with effect. For the most part, this study seeks to discern the extent to which police organizations engage in manpower planning, and the positive benefits to be gained are taken for granted. This study cannot provide an evaluation or a cost/benefit analysis of the "program" termed manpower planning. However, the association between policy agency manpower planning and reported ability to attract and retain needed kinds of people can be examined, with a variety of other possible contributing factors statistically controlled. No knowledge claims can confidently be made regarding the affect of manpower planning on the ability to attract and retain, but statements about whether the two conditions tend to coexist can be offered.

18. Based on the evidence uncovered concerning the extent of manpower planning and the relationships among important variables, what seem to be the implications for the feasibility of manpower planning in police organizations?

The previous research questions were aimed at identifying what police agencies are currently doing in terms of manpower

planning, and at describing the important features of the world as experienced by police organizations considering whether to undertake manpower planning activities. Given this view of the situations in which police agencies find themselves, and given some understanding of the process and components of manpower planning irrespective of the police, it should be possible to make some reasoned judgments about the technical and practical feasibility of manpower planning for police organizations. These judgments will inescapably be partly deductive and partly inductive, partly positivist and partly normative.

Overview

In the next chapter a review of the literature is presented. Because manpower planning is a rather ambiguous and wide-ranging concept, the literature review is somewhat lengthy and eclectic. The three major topics considered in the review are general planning, manpower planning, and police organizations.

The design of this study of manpower planning in police organizations is more completely described in Chapter III. In Chapter IV, an analysis and discussion of the data are provided. The discussion is continued and elaborated in Chapter V, with particular concern for constraints on the feasibility of manpower planning for police agencies. In the final chapter, a summary, conclusions, and policy implications are presented.

¹²William M. Evan, "The Organization-Set: Toward a Theory of Interorganizational Relations," in Approaches to Organizational Design, ed. James D. Thompson (Pittsburgh: University of Pittsburgh Press, 1966).

FOOTNOTES--CHAPTER I

¹³Thompson, Organizations in Action, pp. 29-30, and Hall, Organizations: Structure and Process, pp. 327-332.

¹A. R. Smith, "Some Views on Manpower Planning," in Manpower Planning, ed. D. J. Bartholemew (Middlesex, England: Penguin, 1976), p. 45.

²The National Manpower Survey of the Criminal Justice System: Volume Two (Washington, D.C.: Government Printing Office, 1978).

³Charles B. Saunders, Upgrading the American Police: Education and Training for Better Law Enforcement (Washington, D.C.: Brookings Institution, 1970).

⁴Lawrence Sherman and the National Advisory Commission on Higher Education for Police Officers, The Quality of Police Education (San Francisco: Jossey-Bass, 1978).

⁵The National Manpower Survey of the Criminal Justice System: Volume Two.

⁶Joel Lefkowitz, "Industrial-Organizational Psychology and the Police," American Psychologist 32 (1977): 346-364.

⁷David Braybrooke and Charles E. Lindblom, A Strategy of Decision (New York: Free Press, 1963); and Herbert A. Simon, Administrative Behavior, 3rd ed. (New York: Free Press, 1976).

⁸James G. March and Herbert A. Simon, Organizations (New York: John Wiley, 1958), p. 190.

⁹William R. Dill, "Environment as an Influence on Managerial Autonomy," Administrative Science Quarterly 2 (March 1958): 409-443.

¹⁰James D. Thompson, Organizations in Action (New York: McGraw-Hill, 1967), pp. 29-30.

¹¹Richard H. Hall, Organizations: Structure and Process, 2nd ed. (Englewood Cliffs, NJ: Prentice-Hall, 1977), pp. 304-312.

¹²William M. Evan, "The Organization-Set: Toward a Theory of Interorganizational Relations," in Approaches to Organizational Design, ed. James D. Thompson (Pittsburgh: University of Pittsburgh Press, 1966).

¹³Thompson, Organizations in Action, pp. 29-38; and Hall, Organizations: Structure and Process, pp. 327-332.

¹⁴Hall, Organizations: Structure and Process, p. 312.

¹⁵William H. Starbuck, "Organizations and Their Environments," in Handbook of Industrial and Organizational Psychology, ed. Marvin D. Dunnette (Chicago: Rand McNally, 1976), pp. 1071-1081.

¹⁶Morris Rosenberg, The Logic of Survey Analysis (New York: Basic Books, 1968), pp. 3-21.

¹⁷Daniel Katz, "Field Studies," in Research Methods in the Behavioral Sciences, ed. Leon Festinger and Daniel Katz (New York: Holt, Rinehart, and Winston, 1953); and Fred N. Kerlinger, Foundations of Behavioral Research, 2nd ed. (New York: Holt, Rinehart, and Winston, 1973), pp. 405-408.

¹⁸Herbert G. Heneman and George Seltzer, Manpower Planning and Forecasting in the Firm: An Exploratory Probe (University of Minnesota, Industrial Relations Center, 1968).

¹⁹David E. Dimick and Victor V. Murray, "Correlates of Substantive Policy Decisions in Organizations: The Case of Human Resource Management," Academy of Management Journal 21, 4 (December 1978): 611-623.

²⁰Steven A. Rynecki, Douglas A. Cairns, and Donald J. Cairns, Police Collective Bargaining Agreements: A National Management Survey (Washington, D.C.: Police Executive Research Forum, 1978).

²¹Dimick and Murray, "Correlates of Substantive Policy Decisions in Organizations."

²²George W. Greisinger, Jeffrey S. Slovak, and Joseph L. Molkup, Civil Service Systems: Their Impact on Police Administration (Washington, D.C.: Public Administration Service, 1979).

²³Aaron Wildavsky, The Politics of the Budgetary Process (Boston: Little, Brown, 1964).

planning in police organizations is addressed. What is presently known about the state of the art is reported, along with information about police organizations in the world in which they operate.

CHAPTER II

REVIEW OF THE LITERATURE

Planning is a loosely defined, social, understood, multi-purpose social activity. Planning is a sublime power and an awesome responsibility.¹

just how considerable depends on the situation of planning chosen and the degree of atomicity.

Introduction

In this study an effort is made to assess the state of the art and feasibility of manpower planning in police organizations. In order for the state of the art to be established, the behaviors constituting manpower planning must be identified; one purpose of this chapter is to define and describe the activities of interest for the study. In addition to information about current practice, the assessment of feasibility also depends on information about the world within which manpower planning is or might be conducted by police agencies. Thus, the second aim of this chapter is to provide information about those aspects of police organizations and their environments that might affect the practice of manpower planning.

The central element of manpower planning is planning. For this reason, the first section of the chapter contains a review of the general planning literature. The more specialized activity of manpower planning is discussed in the second major section. In the third part of the chapter, the more narrow topic of manpower

is an accurate statement to say that there are as many definitions of planning as there are publications on the subject.

planning in police organizations is addressed. What is presently known about the state of the art is reported, along with information about police organizations and the world in which they operate.

Planning

Planning is a loosely defined, poorly understood, multi-purpose social activity. The literature about it is considerable; just how considerable depends on the conception of planning chosen and the degree of atomism pursued. Broad conceptions of planning can include much of politics and administration, the entire programming cycle including implementation and evaluation, and such technical fields as architecture and engineering. In addition, a detailed analysis of planning behavior could incorporate most of psychology, including such matters as perception, design, decision making, problem solving, goal and value systems, and learning. From the literature, one can easily get the impression that planning is everything.² But planning, to be a meaningful term, must be finitely defined if it is to have utility in any operational sense. An attempt is made in this section to impose some coherence on the literature and thereby to identify what it means to plan.

Definitions of Planning

One approach to identifying what it means to plan is to examine the definitions of planning that have been suggested. The literature is replete with such definitions; it would be very close to an accurate statement to say that there are as many definitions of planning as there are publications on the subject.

Some views of planning equate it quite closely with control, and are probably the cause of much of the distrust of the activity, particularly in this country. This is especially applicable to the idea of control over people's lives in the present, as with the popular connotations given to "social planning" or "planned economy." Planning thus viewed as a form of social control was opposed many years ago by Von Hayek and Popper.³ Although more modern conceptions of planning are still concerned with control, of the future in particular, they are usually carefully distinguished from any schemes to limit individual freedom. Dahl noted in 1959 the dissatisfaction with the control perspective of planning.

"Planning" has usually been an ambiguous term at best, but for a long time the word seems to have been associated with the mechanisms of hierarchy. When one spoke of a "planned economy," one usually meant a centrally directed economy with a high degree of hierarchical control. But this perverse and narrow meaning has not proved useful. . .⁴

In reaction to this narrow view of planning as hierarchical control, a view of planning as rational social action developed. By this conception, planning is seen not as a threat to liberty but as a means of enhancing individual and social fulfillment. Early proponents of this perspective included Mannheim and Wooten.⁵ Dahl summarized planning according to this approach as "a social process for reaching a rational decision . . . any deliberate effort to increase the proportion of goals attained by increasing awareness and understanding of the factors involved. . . ."⁶

This broad view of planning as rational social action serves today as a superordinate or umbrella concept within which

most current Western definitions of the activity can be filed. Some modern definitions are no narrower, such as that of Friedmann and Hudson, who identify planning as "an activity centrally concerned with the linkage between knowledge and organized action."⁷ Most other definitions, however, scale down planning to something more specific, or at least less grandiose. Many, for example, attribute to planning an explicit future orientation, as a means of separating it from other forms of social action. A sampling of such definitions of planning is presented below.

an activity by which man in society endeavors to gain mastery over himself and to shape his collective future consciously by power of his reason.⁸

a process for determining appropriate future action through a sequence of choices.⁹

the process of preparing a set of decisions for action in the future, directed at achieving goals by optimal means.¹⁰

a continuous process of carefully devising future courses of action within the framework of overall appreciation of the social system, and with a view on their net-contribution to human fulfillment.¹¹

the collection, organization and analysis of information in support of . . . decisions which commit the institution far into the future.¹²

the attempt to control the consequences of our actions
. . . the ability to control the future by current acts.¹³

Related to the future orientation of many planning definitions is a recognition of change, either as a condition to which organizations and society must adapt, or as a desirable condition to be encouraged and directed. For example, Ewing defined planning as essentially "the job of making things happen that would not

otherwise occur,"¹⁴ and Friedmann has described planning as "the guidance of chance within a social system."¹⁵

In addition to explicit mention of the future and change, definitions of planning often refer to decisions. Two of the definitions quoted above described planning as an activity undertaken in "support" of or in "preparation" for decision making. Similarly, Dyckman sees planning as a means of "facilitating and rationalizing" decisions.¹⁸ Finally, Gamm suggests that "planning might be usefully conceived of as a pre-decision control process in comparison to auditing or court adjudication as a post-decision control process."¹⁹

Concerns for the future, change, and decisions seem to be basic to planning. To plan is to think, analyze, synthesize, and forecast before decisions are made, policies are formulated, and programs are designed and implemented. The aim of planning, as of other types of social action, is to get us from where we are to where we want to go. But the behavior of planning is distinctive in that it precedes other, more direct, action and in that it formally and explicitly considers the implications of the future for what we do now. Planning seeks to develop information and choices such that the future effect of decision and policy making is as close as possible to that intended.

These definitions of planning have been deceptively consistent. In the following sections on varieties of planning, closely related processes, justifications, and planning theories the ambiguous nature of the subject will become more evident.

Varieties of Planning

A whole host of adjectives attached to the word planning can be found in the literature. These varieties of planning vary from one another in scope, subject, source of values, locus of authority, and other characteristics. Presumably, however, some core behavior called planning is common to each.

One major dichotomy is that between normative planning and functional, or instrumental, planning.²⁰ The aim of either variety of planning is the identification of means that will lead to desired ends. Functional or instrumental planning takes the ends (goals, values) as given, and submits only means to rational analysis. The ends may be supplied by higher administrators, politicians, or "the people." The normative planner, however, gives attention to both means and ends. Ends developed outside of the planning system are not merely accepted as satisfactory, but are evaluated or analyzed in much the same way as means.

For several reasons, the distinction between instrumental and normative planning is not as bold as suggested above. First, no planning is actually value-free, as instrumental or functional planning purports to be. The acceptance of ends from another source or authority is a value-laden act in itself, and choices between means also involve the distribution of values. Second, functional planners really only intend to claim to be less normative, rather than divorced from ends considerations altogether. That is, they would certainly balk at developing means for the accomplishment of some heinous or unthinkable ends, and so reserve the right to subject

the ends of planning to their scrutiny. In this respect they differ from openly normative planners only in degree, or in where they would draw the line. Third, normative planning is very susceptible to the charge of pursuing its own preferences, rather than some notion of social good or public interest, but to some extent the focus on ends may take the form of rational analysis. Inasmuch as the ends of most policies and programs are themselves means in a larger means-ends chain, rational analysis and defense of goals may be possible. For example, rational analysis of the consequences (ends) of a crime control program may show that they do not contribute to, and may even inhibit, the larger end of justice. Normative planning might expose this situation, whereas instrumental planning probably would not, accepting instead the ends of the crime control program as given.

Another important dichotomy is that of blueprint and process planning.²¹ The importance of "the plan" is the primary feature that separates the two approaches; its importance is great for the former and minimal for the latter. The end product of blueprint planning is a plan that is supposed to work and lead to the achievement of the desired ends. This approach is closely allied with the engineering and architectural perspectives on planning, and tends to be frustrated by the failure of people to behave as they should. By contrast, the end product of process planning is planning, rather than "a plan." Planning is seen as a continuous and learning endeavor using feedback to adapt means to changing and perhaps

unattainable ends. This process approach to planning is allied more with management and the social sciences.

Two major sources of planning adjectives are the variety of organizations and institutions that plan, and the objects of their planning. The domain of types of planning thus produced includes national, regional, state, metropolitan, city, urban, economic, social, transportation, environmental, health, and corporate planning, to cite but a few. Any social action can be planned for, and any organization or governmental entity can plan. Two particularly useful basic distinctions would seem to be those between government and corporate planning,²² and between planning for an organization and planning for a political jurisdiction, such as a city, region, state, or nation. The kinds of means and ends considered and chosen would seem to differ between public and private organizations, and the scope and complexity of planning are different for an organization than for an entire political jurisdiction.

Related to who plans and for what is the kind of influence used to turn planning into action. Friedmann has distinguished between three versions of planning (command, inducement, and indicative) in terms of their approach to influencing action.²³ Command planning utilizes sanctions to compel adherence to specified activities or objectives, whereas inducement planning makes use of rewards to encourage adherence to the plan. Indicative planning is more process than plan oriented, and emphasizes the participation of interested parties in plan formulation as a means of enlisting support and compliance. Persuasion and negotiation join

pa

in

tr

ki

ta

in

se

ov

ti

pl

a

is

ra

re

th

pl

fo

as

ti

re

an

at

re

participation to replace sanctions and rewards as the modes of influence.

Another major distinction between varieties of planning is that based on the generality and hierarchy of goals served. The kinds of planning produced by these considerations include strategic, tactical, policy, management, operational, and program planning. These versions of planning are most applicable to the organizational setting, and in large measure mirror distinctions often made between overall goals and subunit objectives, between management and operations, and between policies, procedures, and programs.

A final basic dichotomy is that of long-range and short-range planning. The possible time-frames for planning actually constitute a continuum, of course, rather than just two possibilities. There is not complete agreement in the literature about how long is long-range, although the figure of five years is commonly cited. More realistically, the designation of long-range should be dependent on the complexity and predictability of the particular variety of planning under consideration. Planning for time periods for which forecasts are not expected to be reliable might usefully be regarded as long-range, regardless of the distance into the future.

Although not part of formal typologies, several other varieties of planning have been developed or recommended and should be mentioned. Two approaches that differ from the basic analytical and rational (means/ends) orientation are existential and configurational planning. Existential planning relies heavily on experience, rather than theory, for its understanding of reality and how to

improve it.²⁴ The configurational approach to planning replaces or supplements the analysis/synthesis method with a concern for qualities, texture, and patterns.²⁵ According to this view, the traditional approach of dissecting a problem and then summing component solutions fails to satisfy the needs of the whole problem and its context.

Finally, recognition of the paradox that one needs to plan to plan has resulted in a variety termed meta-planning.²⁶ Meta-planning is simply planning for the planning process.

Processes Related to Planning

As if this bewildering array of varieties of planning were not enough, planning is often regarded as nearly synonymous with a number of other processes. These processes will be mentioned in this section and distinguished from planning.

During the discussion of planning definitions it was noted that a major concern of planning is decision making, and conceptually these two processes are very closely related. Both Dyckman and Dror describe planning as a kind of decision making that serves specific purposes. Dyckman argues that "dealing with the future and the extensive repercussions of limited goals" is the special charge of planning decision making.²⁷ According to Dror, the specific characteristic of planning is "its dealing with a set of decisions, i.e. a matrix of interdependent and sequential series of systematically related decisions."²⁸ Dahl noted that decisions, or choices, are accompanied by uncertainty, and described planning as the effort to

increase understanding, or reduce uncertainty.²⁹ Simon has also suggested that, in addition to reducing uncertainty, planning is aimed at providing "images," or ideas and increased choices, for the consideration of decision makers.³⁰ Taken together, these views provide several distinctions between planning and decision making: planning ordinarily precedes decision making (although it is certainly true that one must decide to plan, just as one must plan to plan); planning specifically considers the future; planning attempts to be comprehensive and systematic by dealing with a set or series of decisions, rather than with just one act of choosing; and planning supports decision making through the provision of information and ideas. One capsulized way of distinguishing between the two processes may be to think of planning as an effort to widen the range of information and choices available to and considered by the decision maker, while decision making itself is aimed at narrowing the range through the making of choices among alternatives.

Another process closely related to both planning and decision making is policy analysis. There seem to be three primary differences between policy analysis and planning: policy analysis is more concerned with a single policy or decision than with comprehensiveness;³¹ although policy analysis is concerned with decreasing uncertainty through the provision of valid information, it is not greatly concerned with the development of new ideas and choices; and policy analysis is not as emphatically concerned with future considerations as is planning. Like planning, policy analysis is essentially aimed

at supporting and improving decisions, but the scope and promise of its efforts are more limited.

Problem solving is a behavior also similar to planning and decision making. Simon has described problem solving as "basically a form of means-ends analysis that aims at discovering a process description of the path that leads to a desired goal."³² Viewed so broadly, problem solving might best be regarded as the organizing concept for a family of more specific behaviors such as planning, decision making, and policy analysis.

Two processes that are intertwined with planning in the organizational setting are programming and budgeting. Programming is usually described as the action-extension of planning, as it involves the implementation of the ideas, designs, and decisions generated through the planning process. Budgeting is the activity concerned with the allocation and timely consumption of resources throughout the organization. As with programming, budgeting is intended to assist in the realization of plans. The three administrative processes have been formally married in the celebrated and controversial planning-programming-budgeting system (PPBS).³³ A multitude of practical and technical problems have confronted PPBS in practice, but conceptually the three processes certainly remain highly interdependent.

An important distinction not simply drawn is that between planning and politics. As noted earlier, the means and ends that are the substance of planning are involved with the distribution of values in society, and so planning is inescapably a political

endeavor. This does not necessarily imply that planners and politicians do exactly the same things, or that they are similarly motivated, however. One important difference is that planning, and especially functional or instrumental planning, attempts to be less normative than politics. Planning explicitly utilizes reason and analysis in developing information and choices, whereas politics is more concerned with individual and collective preferences as bases for decisions. In addition, "the activity of planning has its centre of gravity in the future whereas politics must be concerned with the present."³⁴ Political decisions are also fundamentally disjointed, whereas planning aims to be systematic and comprehensive. In several respects, then, planning behavior and political behavior are distinguishable. Again, though, the differences in objectivity, future orientation, and comprehensiveness are matters of degree, and not absolutes.

Throughout the discussion of definitions and varieties of planning, and of processes related to planning, several core ideas have regularly surfaced as central to the activity. Each variety of planning is somehow aimed at developing images and information for the improvement of decision making, and the concern of planning with comprehensiveness and the future distinguishes it from other, similar functions. One important question as yet not directly considered is, why plan?

Le

the

the

it

fr

ha

co

to

an

pr

ca

we

of

a

c

by

we

re

Justifications of Planning

The justification of planning rests upon several assumptions, the most basic of which have been identified by Seeley. He notes that the orientation of planning toward the future "presupposes that it is in some sense 'open,' that is, that actions, in some sense free, in 'this now' affect 'that then.'"³⁵ Planning assumes that man has some freedom to choose what he does, and that the future is not completely predetermined. These assumptions may seem fairly trivial to us, but in some cultures they are not and effectively prohibit any practice of planning.³⁶

Assuming that man can influence the future, planning also presupposes that it can be influenced in intended ways, and that men can agree about what they desire the future to be like. In other words, planning assumes some agreement on ends and some effectiveness of means. Seeley has argued, however, that agreement on ends is not a prerequisite for the practice and justification of planning.

It must also be believed--if planning is to be justified--that acts now are able to affect acts, conditions, or situations then, in the respects men care about, that is, that we are capable by action now of affecting the net amount of good in the world then. . . . I wish to leave open here an alternative: that, although we do not know what is good (even with sufficient clarity for this purpose), we do know what is evil, and might aim at a sensible net diminution of evils then by our acts of planning now.³⁷

Once these basic assumptions are accepted, the justification of planning rests primarily on the value of the information produced by the activity. Planning information bears on where we are, where we want to go, and how we can get there. Skjei has described information as "the lever by which the likelihood of a gap between goals

a

i

G.

S

RE

OP

NO

W.

W2

NO

27

RE

10

1

2

G.

27

17

and achievements is reduced."³⁸ Information is thus seen as reducing uncertainty and leading to improved decisions.

An important consideration with the information justification of planning is that costs are involved. From an economic standpoint, this justification can be adequate only if the improvement in decision making exceeds in worth the costs (including opportunity costs) of the planning endeavor. As Moore has recently noted,

information should be processed until the marginal benefits of the information are just equal to the marginal costs of collecting and managing the information . . . however, the decision about the proper level of information collection is a difficult one because, without a knowledge of what the information will reveal, its value is uncertain.³⁹

In principle at least, the activity of planning can be evaluated much as any other decision, policy, or program. Such an evaluation would require explicit statements of what planning was intended to accomplish and how it was expected to do it, or, in other words, a goal state and process description for planning. The development of such statement would be tedious and perhaps threatening, but probably not impossible. In any given situation an evaluation of planning would be difficult, but seemingly the only practicable way to reach useful conclusions about the justification of the endeavor.

Planning Theory

The preceding sections have primarily dealt with two questions: what is planning, and why do planning? These two issues are

also the major concerns of planning theory, and in this section the questions will be more completely addressed.

As with many academic disciplines, there is considerable dispute within the literature of planning about what amounts to a bona fide theory. For example, soon after Davidoff and Reiner proposed their choice theory of planning in 1962, Dakin criticized it for lacking universality.⁴⁰ Earlier, Handler had voiced dissatisfaction concerning his inability to get a straight answer to the question, what is planning theory?⁴¹ These kinds of issues have not been resolved, although much has been written about the role, practice, components, functions, and context of planning.

The choice theory of planning is among the best developed and most comprehensive.⁴² It is based on the proposition that planning is a process or set of procedures that can be divorced from any particular substantive issue under consideration. Three levels of choices are seen as constituting planning: the selection of ends or goals; the identification and selection of means for goal accomplishment; and effectuation, or the guidance of action. Beyond these basic choices, the theory also includes a set of postulates concerning the environment, purposes, and characteristics of planning. Though somewhat lengthy in total, these are presented below.

Planning Environment

1. Individuals have preferences and behave in accordance with them. Actors are to some extent able to order their preferences.
2. Actors vary in their preferences.
3. Goods are produced and services, including labor, are performed subject to the constraint that diminishing returns set in at a given level.

4. Resources are scarce and consequently output is limited.

5. The entity for which planning is undertaken will typically consist of interrelated parts generally in flux.

6. Man operates with imperfect knowledge. He also is often illogical (by formal canons), as where his preferences are not transitive, or where his several values, at least at the levels at which he perceives them, are in conflict with each other.

Planning Purposes

1. Efficiency and rational action: in a world of scarcity there is a need to conserve resources and also to allocate them in an efficient manner.

2. Market aid or replacement: planning would be of little, if any, use for an environment where an open, fully competitive market (either political or economic) operated perfectly.

3. Change or widening of choice: given scarcities, social and individual choices must be made about the manner in which resources are to be allocated: how, when, to whom, to what purpose, and in what combination.

Planning Characteristics

1. The achievement of ends: planning incorporates a concept of a purposive process keyed to preferred, ordered ends.

2. Exercise of choice: as the characteristic intellectual act of planning.

3. Orientation to the future: time is a valued and depletable resource consumed in effecting any end.

4. Action: planning is employed to bring about results.

5. Comprehensiveness: in order to allow decision makers to choose rationally among alternative programs, the planner must detail fully the ramifications of proposals.⁴³

These postulates comprise what might be termed a modified or semi-rational approach to planning. The means-ends and comprehensive views of planning are modified by conditions of imperfect knowledge, goal conflict, and costs. Rational planning is also limited by problems associated with community welfare functions

and coordination.⁴⁴ These and other limitations of planning-as-practiced will be discussed more completely in following sections.

In their review of planning theory, Friedmann and Hudson identified four major traditions.⁴⁵ One they labelled philosophical syntheses, which included the development of planning thought as briefly discussed in the definitions section of this chapter. A second tradition was rationalism, which was heavily based on economic and decision theory. The third tradition of planning theory was organization development, which dealt with planning "not as an intellectual process of efficiently adapting means to given ends, but as primarily a method for inducing organizational change."⁴⁶ The final tradition identified was that of empiricism, or the study of how planning is practiced in the real world.

Another recent article attempted to lend more structure to the planning theory domain.⁴⁷ In it, Bolan suggested that planning be viewed from two basic perspectives, as a thinking process and as a social process. The thinking, or cognitive, perspective is composed of ways of understanding the past and present, ways of imagining the future, and ways of achieving the future. The social perspective is composed of a substantive framework of things and relations, a cultural framework of ideas and norms, an institutional framework of control and order, and a psychological framework of behavior and stimuli. Using these two perspectives as perpendicular axes, Bolan creates a twelve-cell matrix that "maps the planning theory terrain." These cells constitute the concerns of planning theory. According to Bolan,

From a cognitive perspective, we have developed the strongest understanding of the past and present, although much of that understanding still must be viewed as surface knowledge rather than knowledge in depth. While we have been inventive in ways to imagine the future, our efforts to give it a technical or rigorous cast have boomeranged to some extent. Our understanding of ways to achieve the future is the least developed and is marked largely by normative views about what we think ought to take place when we implement plans.

From a social perspective, we seem to have learned to most understand the objective world of things and the institutional framework of control and order. In the areas of understanding behavior and value systems we are most deficient. We can create buildings, corporations, and bureaucracies, but we have little understanding of how these creations take their toll on culture and values or on the private world of man's mind.⁴⁸

As sketched by Bolan, the planning theory terrain is clearly quite expansive. This grandiose view is affirmed by his statement that "planning theory, as it now seems to be moving, is the very core of learning to plan; and learning to plan is the major challenge of our civilization."⁴⁹ Similarly, Friedmann and Hudson predict that "planning may become more nearly synonymous with the processes that mediate between individual and social evolution."⁵⁰ These conceptions of planning designate it as a primary linkage between knowledge and action in society.

These kinds of extremely broad views of planning have been harshly criticized by Wildavsky. His claim is that "planning is not really defended for what it does but for what it symbolizes. Planning, identified with reason, is conceived to be the way in which intelligence is applied to social problems."⁵¹ He describes planners as men of secular faith, and regards planning as a subject more for the theologian than the social scientist. According to Wildavsky,

planning is often used as a substitute for action, it is costly, it neglects the present, it increases expectations, and it produces precious little. The title of his article, "If Planning is Everything, Maybe It's Nothing," sums up his argument nicely.

Although some of the expansive approaches to planning theory seem to leave no rock unturned, it does not follow that planning is everything or nothing, any more than it would be fair to characterize management, sociology, or systems theory as everything simply because a wide range of matters are of interest to them. Because planning is concerned with where we are, where we want to get to, and how to get there, its interests are diverse. As discussed previously, however, its special emphases on rationality, comprehensiveness, and the future distinguish it from other, albeit similar, endeavors. To further specify what planning is, the next section addresses the components and processes of planning.

The Planning Process

The simplest version of the planning process is that which has been mentioned several times previously: figure out where you want to go (ends, goals); figure out where you are (present state description); and figure out how to get from here to there (means, process description). A slightly enlarged description is that of the standard rational planning model, one version of which is enumerated below.

1. Establishing Objectives
2. Premising
3. Determining Alternative Courses
4. Evaluating Alternative Courses
5. Selecting a Course⁵²

Neither of these descriptions of the planning process is very informative about what it is that people do when they plan. The modern-classical model of planning outlined below is somewhat more detailed.

1. Continuously searching out goals
2. Identifying problems
3. Forecasting uncontrollable contextual changes
4. Inventing alternative strategies, tactics, actions
5. Simulating alternative and plausible actions and consequences
6. Evaluating alternatively forecasted outcomes
7. Statistically monitoring germane conditions
8. Feeding back information to simulation and decision channels⁵³

Each of the aspects of this modern-classical model of planning deserves brief discussion. The first step, continuously searching out goals, evidences recognition that ends are not patently obvious and that they change. Thus, unlike the first stage in the traditional rational planning process, this activity involves search and continuous adjustment. The second step of identifying problems serves to measure the present against the desired, and only when gaps are found (problems) is the entire planning process activated. The forecasting stage represents part of the future orientation of the planning process. With this activity, an effort is made to predict what that part of the world outside the control of the decision maker will look like at some point in the future.

The forecast thus aims to identify the fixed characteristics of the future context within which the organization, policy, or program will be expected to fit.

The stage of developing alternatives is essentially a search and design stage. The preceding steps of the planning process have provided information about present, future, and goal states, and the task here is to find or design means of achieving ends. Following the invention of alternatives, the simulation stage attempts to predict the consequences of them, prior to their actual implementation. This simulation is another element of the future orientation of planning, and also involves forecasting. Once the likely outcomes of the proposed alternatives have been established, they can be evaluated against criteria derived from the previously specified goals. Following the evaluation of alternatives, a choice can be made.

The modern-classical planning model includes two additional steps beyond the making of a choice between alternatives. The stage of monitoring germane conditions is aimed both at keeping the present state description accurate and at providing information about the actual consequences of policies and programs that are the implementation of chosen alternatives. The step of feeding back information serves to keep planners and decision makers up-to-date in their perceptions of the world and how it is affected by various actions.

Limitations on the Planning Process

The modern-classical planning model may seem logical and systematic, but for a number of reasons real-world planning behavior does not seem to heed its dictates. The task of continuously searching out goals, for example, is extremely problematic. Arrow classically demonstrated years ago the impossibility of deriving a community welfare function from the aggregation of individual preferences.⁵⁴ For public organizations, Banfield has argued that goal-states are both unclear and complex, and that focusing attention on them is more likely to produce conflict than consensus.⁵⁵ Similarly, Friedmann suggests that lack of goal consensus seriously limits planning.⁵⁶ Because of the difficulty that organizations have in clarifying and agreeing on goals, planning and decision making may well be more oriented toward avoiding specified evils⁵⁷ or satisfying a set of constraints.⁵⁸

Because of the difficulties encountered in specifying goals, the stage of problem identification is fundamentally altered. With clear goals, problem identification merely involved comparing end-states with present-states, and noting discrepancies. Without clear goals, however, the yardstick or model is absent, and problem recognition becomes complex and increasingly subjective. In addition to difficulties arising from goal dissensus or confusion, problem identification is also hampered by incomplete knowledge and uncertainty about present conditions. As Rittel and Webber describe it, "one of the most intractable problems is that of defining problems (of knowing what distinguishes an observed condition from a desired

condition) and of locating problems (finding where in the complex causal networks the trouble really lies)."⁵⁹

More difficulties are encountered with attempts to forecast uncontrollable changes in the environment of the organization or institution. Noted earlier was Bolan's assessment that rigorous prediction of future states had not yet proved very successful.⁶⁰ Banfield has also found that planners are unable to successfully predict very far into the future, and has added that it is often imprudent to decide very far in advance of necessity, particularly for public organizations.⁶¹

It is at the stage of inventing alternative strategies that the full force of the limitations on planning usually is focused. The central consideration is that in real-life planning the search for alternatives is less than completely exhaustive. This is partially the case because of the absence of clear goals guiding the search, and partially due to human cognitive limitations. Simon originally suggested that although complete rationality requires examination of all possible alternatives, "in actual behavior, only a very few of all these possible alternatives ever come to mind."⁶² In addition, the invention of alternatives is costly and time-consuming, and the necessities of decision making guarantee that only a partial subset of all alternatives will be developed.⁶³ The search process that identifies alternatives is guided by three principles, according to March and Simon.

1. Those variables that are largely within the control of the problem-solving individual or organizational unit will be considered first. There will be a serious attempt to elaborate a program of activity based on the control of these variables.

2. If a satisfactory program is not discovered by these means, attention will be directed to changing other variables that are not under the direct control of the problem solvers.

3. If a satisfactory program is still not evolved, attention will be turned to the criteria that the program must satisfy, and an effort will be made to relax these criteria so that a satisfactory program can be found.⁶⁴

Major limitations also confront the task of simulating the consequences of alternatives. First, based on the preceding discussions, only a limited portion of the entire range of possible alternatives will have been identified, and thus be available for simulation. Simulation of the operation of these alternatives, in order to predict their consequences, is severely constrained by the problem of incomplete knowledge. The process of simulation is completely dependent on information about the present-state of the world, future-states, and, most importantly, causation. That is, the predictions of simulation are based on models or theories about the world and how it changes. But our understanding of the world, and particularly of how it changes, is far from complete, thus introducing unpredictable error into the simulation of planning alternatives.

Next in the modern-classical planning model is the stage of evaluating alternatively forecasted outcomes. One immediately difficult question is, evaluate against what? Because of the absence of clear goals, the determination of which outcomes are best is not

a trivial matter. This is particularly the case with respect to public actions, as Rittel and Webber point out.

Our point . . . is that diverse values are held by different groups of individuals - that what satisfies one may be abhorrent to another, that what comprises problem-solution for one is problem-generation for another. Under such circumstances, and in the absence of an overriding social theory or an overriding social ethic, there is no gainsaying which group is right and which should have its ends served.⁶⁵

As a practical matter, because of the absence of clear goals, the limits on human cognitive ability, the difficulty of evaluating values, and time and cost considerations, alternative outcomes are evaluated against one another and against a satisfaction criterion, rather than in terms of the maximization of specific values.⁶⁶

Whether the best description of the planning and decision making process as described in this section is satisficing,⁶⁷ muddling through,⁶⁸ disjointed incrementalism,⁶⁹ or mixed-scanning,⁷⁰ it is clear that some substantial limitations constrain the process in the real world. It is important to reconsider at this stage whether planning can realistically be undertaken in spite of these limitations, assuming they are real.

The Planning Process Reconsidered

It would seem to be possible to overcome the conflict between the classical planning model and the limitations noted in the previous section. The limitations certainly constrain the practice of planning, but they do not render it impossible or fruitless. The planning process enumerated below is a modification of that presented earlier, with the most serious constraints incorporated.

- Identification of goals, values, preferences
- Monitoring of present state of the world
- Identification of problems, misfits, discrepancies
- Assessment of problem magnitude, urgency, saliency
- Differentiation between parameters and variables
- Forecasting of future conditions
- Review of programmed responses in repertoire
 - Simulation, forecasting, analysis, or guess
 - Evaluation
- Search for other developed alternatives
 - Simulation, forecasting, analysis, or guess
 - Evaluation
- Design of new alternatives
 - Simulation, forecasting, analysis, or guess
 - Evaluation
- Choice
- Implementation
- Evaluation

All planning is aimed at the achievement of some desired ends, and the identification of these ends is properly part of the planning process. The precise specification of goals is limited, however, by lack of goal consensus, goal conflict, the difficulty of aggregating individual preferences, and the complexity of goal-states. In addition, efforts to focus attention on goals may engender more conflict than consensus. Finally, the rational planning recommendation of "continuously searching out goals" involves cognitive burdens and expense that limits its utilization. For these reasons, the actual practice of planning involves something less than continuous and explicit consideration of ends.

Still, goals and values play an important role in the planning process. They serve to identify both the desired end-states and the class of legitimate means for pursuing them. These goals may be provided in legislation, by political leaders, by administrative officials, by the community, by planners themselves,

or through tradition and culture. Very frequently, the consideration of goals and values may be only implicit, and founded on numerous assumptions. Though implicit, these goals and values nevertheless guide the definition of problems and the selection of means for solving them.

Also frequently conducted only implicitly and occasionally is the planning step of monitoring the present-state. To do such monitoring continuously and exhaustively would again incur great cognitive and cost difficulties. Planning activity, however, is based on a view of the world and of causation, whether explicit or implicit. As Churchman has put it, "the selection of a plan implies a view of what the world is like."⁷¹

The practice of planning, in many instances, seems actually to begin with the identification of problems needing solution. The apparent crisis orientation of many organizations and governments, for example, is often presented as evidence that the practice of planning does not actually begin with consideration of goal- and present-states. The very recognition of a problem, however, implies some notion of a discrepancy between what is and what ought to be. Implicitly, at least, planning activity is always founded on desired ends and a view of the world.

These first three steps of the planning process, identification of goals, state of the world, and problems, are obviously highly interdependent, and might best be thought of as comprising a preliminary planning stage of consciousness, recognition, or intelligence. Explicitly, the ordering of the steps might take any

form, although some notion of goals and present-states must precede problem recognition. Taken together, these steps determine the kinds of matters that receive planning attention, and they also specify the desired ends to be sought and constraints on the kinds of means that may be employed.

Following the initial stage of consciousness, recognition, or intelligence, planning proceeds with an assessment of the seriousness of the problem or discrepancy. Organizations and individuals develop repertoires of programmed responses to recurrent situations, and the enactment of such a programmed response does not in each case require extensive analysis or forecasting. If a problem that has been recognized is very inconsequential or very familiar, a programmed response without significant planning activity may be issued. Also, some problems may be of an emergency nature, requiring instantaneous response, thus making planning impractical. Because formal planning incurs time and cost, it is not invoked in response to all discrepancies between what is and what is desired. As Wiseman notes,

some of the issues that arise are such that they can quite adequately be dealt with by an administrative rather than an analytical approach and some will be so urgent that no option exists anyway about the degree of investigation they receive.⁷²

Another preliminary stage in the planning process is that of distinguishing between variables and parameters. Although clearly an element of the world-view of the planner, the activity is cited separately because of its importance in influencing response to recognized problems. Whether extensive planning is initiated in

response to a problem, and the kinds of alternatives considered and chosen, depends largely on "what is taken as given and what is treated as subject to manipulation."⁷³

Many matters that might receive planning attention will have been screened out during these preliminary stages of the planning process. Because of cognitive and cost limitations, monitoring of end-states and present-states will not have been continuous or exhaustive, and thus some discrepancies will have eluded recognition. (In addition, no planner or other person can claim to have an unfettered or "objective" view of the world. The identification of problems or discrepancies is then inherently limited by the subjective nature of the present-state of the world, or "reality."⁷⁴) Of those problems recognized, some will have been ignored as unimportant, some will have been addressed immediately because of their urgency, and many will have elicited routine or programmed responses not requiring detailed analysis or planning. Finally, among those problems still remaining, some will be viewed as intractable, because of the absence of variables that can be manipulated practically.

Another important filter that reduces the domain of planning is the satisfaction criterion. If the operational guide for decision making and planning was the optimization or maximization of goals and values, substantial discrepancies between what is and what ought to be would be much more numerous, and the application of planning much more universal. However, organizations and individuals seem to be concerned more with the achievement of

satisfactory levels of goals and values than with maximizing those ends. Consequently, the criterion can realistically be achieved, and inaction can be a legitimate response.⁷⁵ With the optimization criterion, the pursuit of the end would be continuous, the discrepancy ineradicable, and inaction never really justifiable.

For those problems that survive the screening and filtering effects of the preliminary planning stages, a view of the future context within which alternative solutions might be applied is needed. Again, this step in the planning process is frequently carried out only implicitly, but it operates nonetheless. The most common implicit assumption is that the future context will be just like the present; this is the guiding assumption behind present-oriented problem solving, which is all that some planning amounts to. Because planning takes time, though, it is always the future in which solutions are applied, and not the present. It is for this reason that the modern-classical model of planning explicitly incorporates a forecasting stage, and the future orientation of planning is a major characteristic distinguishing it from policy analysis, problem solving, and decision making. How closely the forecasted future context resembles what actually comes about is an important determinant of the fit achieved by the chosen form. Subsequent planning steps are dependent on the view of the future context for simulating and evaluating alternatives and for making choices.

Once some view of the future has been developed, even if only implicitly, the search for alternative forms or problem-solutions can be conducted. In general, the search is begun in

familiar territory, with consideration given to variables already under control and strategies already tried. Also, the satisfaction criterion is used to judge alternatives, rather than optimization.

Simon argues that

we cannot, within practicable computational limits, generate all the admissible alternatives and compare their respective merits. Nor can we recognize the best alternative, even if we are fortunate enough to generate it early, until we have seen all of them. We satisfy by looking for alternatives in such a way that we can generally find an acceptable one after only moderate search.⁷⁶

The reconsidered planning process includes three separate stages of search. Each successive stage carries the planner farther from established routine; the stages are initiated sequentially, and successive stages are undertaken only if a satisfactory alternative has not been produced by the preceding stage. First, programmed responses already in the repertoire of the organization or individual are considered. If none of these are deemed likely to produce a satisfactory result, other alternatives already developed, but not part of the normal routine, are considered. If these are also deemed insufficient, an effort is then made to design new alternatives that will operate satisfactorily in the forecasted future context.

When alternatives are reviewed, found, or designed, their likely effects must be forecast and evaluated. The forecasting of the consequences of alternatives can be formal or informal, involving simulation, estimation, analysis, or guessing. The aim is to predict as accurately as possible what would happen if the alternative was chosen and implemented. An important input to this step

of the process is the forecast of the future context within which the alternative will be expected to perform. The evaluation of the alternatives involves comparing the likely consequences to the satisfaction criterion and to each other, in order to determine which alternative is most desirable, and which (if any) will produce satisfactory results.

The identification or design of alternatives requires, in addition to a view of the future, information about cause and effect in the world. This kind of knowledge has not been fully developed, so that a considerable degree of uncertainty is present in all planning. A further complication arises from the growing recognition that within a social system "everything affects everything else."⁷⁷ This combination of complexity and uncertainty would seem to make the likelihood of successful rational action very problematic.

In practice, the problems of uncertainty and complexity are overcome with the aid of knowledge, experimentation, and simplification. The applicable knowledge consists of empirical and theoretical information about what causes what. When gaps in this knowledge are encountered, trial and error and other forms of experimentation are employed to attempt to discern causal connections. The extreme complexity of the matters and environments to which planning is applied are simplified by focusing on subsystems and regarding them as essentially independent. None of these strategies completely eliminates the problems of complexity and

uncertainty, but there is evidence that they make them manageable.

Simon argues as follows.

. . . human problem solving, from the most blundering to the most insightful, involves nothing more than varying mixtures of trial and error and selectivity. The selectivity derives from various rules of thumb, or heuristics, that suggest which paths should be tried first and which leads are promising. We do not need to postulate processes more sophisticated than those involved in organic evolution to explain how enormous problem mazes are cut down to quite reasonable size.⁷⁸

At least some kinds of hierarchic systems can be approximated successfully as nearly decomposable systems. The main theoretical findings from the approach can be summed up in two propositions: (a) in a nearly decomposable system, the short-run behavior of each of the component subsystems is approximately independent of the short-run behavior of the other components; (b) in the long-run, the behavior of any one of the components depends in only an aggregate way on the behavior of the other components.⁷⁹

In the dynamics of social systems, where members of a system communicate with and influence other members, near decomposability is generally very prominent.⁸⁰

As a result of this characteristic of near decomposability, planners are able to realistically entertain alternatives despite the fact that everything is related to everything else in a social system. This view is shared by Alexander, who argues that "no complex adaptive system will succeed in adapting in a reasonable amount of time unless the adaptation can proceed subsystem by subsystem, each subsystem relatively independent of the others."⁸¹ Because decomposability or independence is not absolute, some effects and consequences will always be anticipated or erroneously predicted, but the characteristic serves to reduce staggering complexity to a tenable level.

Proposed alternatives developed through review, search, or design processes may be formally tested for their likely consequences through the use of computer models.⁸² Such models incorporate knowledge and assumptions about the state of the world and how it changes. The models are simplified representations of the real world that the planner can manipulate in order to simulate the effects of alternatives. To the extent that a model accurately predicts the results of an action, it can obviate the need for actual experimental testing of proposals.⁸³ The predictive capacity of a model is, of course, dependent on the validity of the knowledge, theories, and assumptions with which it is constructed. The use of computers adds speed and computational accuracy to the modelling endeavor, but in no way alters the fundamental importance of the information and relationships that comprise the model itself.

The process by which alternatives are developed, simulated, and evaluated makes the actual choice stage of planning essentially pro forma. The predicted effects of alternatives are compared to a satisfaction criterion and to one another, and search or design are continued only until a satisfactory alternative has been developed. Whether the choice stage and its two successors, implementation and evaluation, are best conceived as elements of planning or as separate activities is largely a definitional issue. The aim of the implementation stage is to translate plans and decisions into action. The task of the evaluation stage is to determine what was really implemented and what effects are attributable to the program or policy. One useful way to conceptually organize the stages may be

to think of planning, choice, implementation, and evaluation as sequential activities in a rational action cycle. The final stage, evaluation, provides information back to the preceding stages of the cycle.

The reconsidered conception of planning presented in this section occupies a middle ground between optimistic versions of rational planning and pessimistic views of disjointed incrementalism and muddling through. The planning process described is future-oriented, semi-comprehensive, and boundedly-rational. It seems to address or incorporate the cognitive and other kinds of limitations presented earlier, without completely abandoning the quest for rational social action. One kind of constraint not yet considered, however, is the setting within which planning is attempted. Given that some form of planning behavior can be enacted, how does it fare in the real world?

The Action Setting of Planning

In recent years the "environment" has come to be regarded as an important variable or set of variables for explaining all kinds of individual and organizational behavior. Faludi has identified the environment as a determinant of the forms that planning will take.⁸⁴ Among the pertinent elements of the planning environment, he specified the level and pace of development, norms and values, the political system and administrative structure, the institutional structure, cleavages in society, and specific societal features. These characteristics of the environment help explain variations

in planning along blueprint/process, comprehensive/disjointed, and normative/functional continuums, according to Faludi.

The relationship between political values and forms of planning has been explicated by Fainstein and Fainstein.⁸⁵ They argued that four approaches to politics and four types of planning correspond very closely: technocratic theory with traditional (rational) planning; democratic theory with user-oriented (functional) planning; socialist theory with advocacy (normative) planning; and liberal theory with incrementalism (not really planning, in their view). Their opinion is that in this country incrementalism predominates, because "the very notion of planning, which assumes an overriding and ascertainable public interest that can be maximized through the positive actions of government is antithetical to general American political values."⁸⁶ Faludi similarly concluded that "it is exactly the failure to reach consensus in defining the public interest that accounts for the deficiencies of planning as far as comprehensiveness is concerned."⁸⁷ On the other hand, he also argues that "the delicate affair of seeking consensus between different interest-groups in my opinion increased the sophistication of the American planning profession."⁸⁸ Earlier, these problems of dissensus were discussed, and it was shown that they do not prevent the conduct of planning, but that they do complicate it. The pessimism of Fainstein and Fainstein applies to the impossibility of pure rational planning, while the comments of Faludi are more balanced and widely applicable.

Beyond general political values and theories, the specific political and administrative structure within which planning is undertaken helps explain the forms and fate of planning. Particularly in this country, people identified as planners often lack direct control or authority over the variables and people involved in decision making and implementation, and their role is often ambiguously defined. Beckman has argued that planners should view themselves as bureaucrats serving in official, rather than personal, capacities, recognizing their limited role compared to the dominance of politicians in the governmental system.⁸⁹ Along this line, Rabinovitz found that for personal, organizational, and professional reasons planners were more likely to assume technical, rather than political, roles.⁹⁰ The professionalization of planning leads planners to emphasize their narrow and unique skills, and job security is enhanced by a bureaucratic rather than political role.

As Rabinovitz notes, however, a consequence of the narrow technical role for planning can be political ineffectiveness, and a notable lament of professional planners concerns their relationships with the political system and with politicians. As with system analysts and other problem solving professionals, planners often regard public decision making as "too political and not sufficiently rational."⁹¹ This view was seemingly contradicted by one recent study of politicians in Wisconsin, which found that they generally supported the idea of economic development planning.⁹² It was found that while the politicians were highly supportive of planning in abstract terms, they specified relatively few important

policy matters that they thought planning could help them with. The authors concluded that "our findings probably typify the situation most encountered by professional planners - circumstances where politicians are concerned over the loss of their policy making prerogatives either to the city's planning professionals or to officials of some proposed regional government body."⁹⁴ Another recent study of planning in small cities found that two basic problems were a lack of official commitment to planning, and poor relations between professional planners and municipal officials.⁹⁵

A general conclusion from the study was the following:

For many mayors, there was an inability to see planning as an agent of positive social change and community growth and development . . . planning was often used to address marginal areas of community life, and was geared more to support the status quo or to comply with governmental agency requirements.⁹⁶

Even with the active interest and support of local political officials, the fragmented and federal nature of government in this country can mitigate against comprehensive or rational planning. With respect to some kinds of matters, the various interests and decision makers involved constitute such a dense thicket that the planner cannot identify a single focus of power or authority. Banfield cited such a situation facing the Chicago Housing Authority a number of years ago.

The authority might conceivably have sought to attain its ends by one of various courses of action. . . . No major alternative to what it was doing was considered. The developing course of action - to build large slum clearance projects - was treated as fixed, this course of action had been arrived at cumulatively, so to speak, from a number of unrelated sources: Congress had made

certain decisions, the Illinois legislature certain others, the City Council certain others, and so on. Unless the housing authority was to embark upon the unpromising task of persuading all these bodies to change their minds, the development 'plan' had to be taken as settled - settled on the basis of decisions made without regard to each other.⁹⁷

Aside from political and administrative considerations, in the action setting the time and costs required for planning are major concerns. These were mentioned earlier, and it need only be noted here that some decisions are of such immediate urgency that planning would be too time-consuming, and that in general the extent of planning to be conducted can be subjected to cost/benefit consideration. A related kind of constraint on planning is the press of other business. Full-time planners, and especially managers or decision makers with some planning responsibilities, make choices about how to allocate their time, and planning activity might often seem less urgent or susceptible to closure than more mundane activities. As March and Simon argue,

daily routine drives out planning. Stated less cryptically, we predict that when an individual is faced both with highly programmed and highly unprogrammed tasks, the former tend to take precedence over the latter even in the absence of strong overall time pressure.⁹⁸

A complete specification of the action setting of planning would amount to a description of the present-state of the world. In this country, with the fragmentation of government and planning, the exact nature of the action setting is situational, of course. Certain roles and assumptions can be identified, however, that seem to pertain generally, and that comprise a simple model of public decision making.⁹⁹ Four dominant roles in the model are those of

producer, consumer, politician, and bureaucrat. Producers primarily seek profits, consumers seek personal utility, politicians seek votes, and bureaucrats seek security. Three core assumptions underlying the model relate to rationality, self-interest, and uncertainty. Within limitations, the various actors search for information and alternatives that will allow them to achieve or approximate desired ends. The actors are primarily motivated by self-interest, or the pursuit of their own desired ends. The actors are confronted with uncertainty, however, about goals, how to achieve them, the actions and motivations of other actors, and similar matters. Because of uncertainty, behavior is not fully or perfectly rational, and goals are not completely achieved.

Within this model, the function of planning is to reduce uncertainty and promote rationality. Uncertainty reduction, however, is a source of power and influence, and not just a technical or scientific concern. With information and reduced uncertainty, the various actors in the model are better able to pursue their own self-interests, but these are to some extent in conflict. The use of information by bureaucrats to enhance their security, for example, may directly conflict with the desire of politicians to safeguard their policy making authority. For politicians, the value of planning comes from the possibility of developing policies and programs that produce results pleasing to voters. Getting votes also costs money and requires the cooperation of powerful economic interests, so that politicians are also interested in information about the effects of actions on the profits of producers. The dynamics of

the model thus encourage considerable negotiation and bargaining among actors, with planning and other forms of uncertainty reduction filling an important function, without positing the need for an overarching consensual public interest.

Decision making within this model is based upon fact, value, role, and idiosyncratic premises. The nature of the role premises of the four types of actors has already been noted above. The function of planning is to enhance the rationality of decisions, or to inform the fact premises. A primary component of the value premises of decision making is the self-interest assumption, but value sets can be complex with contradictory elements. Finally, individual actors have unique or idiosyncratic decision premises, or things that they take into mind when making choices. Because of the value and idiosyncratic premises of decision making, actors in the same roles with identical information cannot be counted upon to make the same choices. On the other hand, role and fact premises exert a considerable standardizing influence on decisions, and are the bases of coordination and control in organizations.¹⁰⁰

This simple model of public decision making provides a picture of the action setting of planning. Planners are cast primarily in the role of bureaucrats, and as such seek security. Planners are also consumers, of course, and pursue their personal utility as they perceive it. To the extent that planners' fortunes are tied to those of politicians, they must also be cognizant of the need to win votes. As noted earlier, though, the desire for professional status for planning has lead to an emphasis on the narrow

technical skills of the role, and de-emphasis of its political aspects.

The planning function provides information in order to reduce uncertainty and promote rationality, but factual premises form only one part of the basis for decision making. Politicians, bureaucrats, producers, and consumers also consider role, value, and idiosyncratic premises when making choices, so that decisions are not necessarily consonant with the products of planning or the desires of planners. In the action setting, planning is a valued activity, but the information it produces may be used or ignored in conflicting and unanticipated ways.

Thus, in addition to cognitive and practical limitations on the conduct of planning, the action setting presents constraints on the utilization and impact of planning. The ability of people to envision the future and develop forms to fit it is limited, and the role of planning in public decision making is limited. At the same time, within its constraints planning can approximate rationality and comprehensiveness, and planning information is valued in the action setting. Planning has a practical and clear but limited role to perform in the making of decisions and policies to guide individual and social action.

Planning in Organizations

Although much of the preceding discussion has pertained most directly to social, economic, or city planning, the primary focus of this study is organizational planning. The aim of the previous

sections has been to examine the practice and setting of planning as a distinctive behavior, and to consider both its potential and limitations. The translation of what has been said about planning to the organizational domain is relatively straightforward.

In one sense, almost all planning is organizational, in that city planning, defense planning, regional planning, and other varieties are performed by people in organizations. Weidenbaum and Rockwood have distinguished between two types of such planning, however: planning by agencies for the management of their own activities; and planning by agencies for social or public actions.¹⁰¹ The former variety, planning within organizations for their own management, corresponds to what is termed corporate planning in the business literature, and is the principal concern of this study. Although not centrally oriented toward social action, organizational or corporate planning does directly influence the effectiveness and activities of the agency, and so the two varieties of planning are not completely independent.

All of the earlier discussion of planning definitions, varieties of planning, related activities, the planning process, and limitations on rational planning is applicable to organizational planning. With respect to private corporations, goal confusion and dissensus may be less of a problem than indicated, but for public agencies they remain difficult matters. The action setting persists as an important determinant of planning behavior, and includes both the environment of the organization and its internal structure and culture.

In the organizational context, a useful distinction can be made between planning and control. Several definitions offered by Anthony help clarify the distinctions.

Strategic planning is the process of deciding on objectives of the organization, on changes in these objectives, on the resources used to attain these resources, and on the policies that are to govern the acquisition, use, and disposition of these resources.

Management control is the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives.

Operational control is the process of assuring that specific tasks are carried out effectively and efficiently.¹⁰²

Strategic planning is the variety of main interest: it can be applied to any substantive organizational concerns, including resource allocation, structure, objectives, and all sorts of policies. The management control function also incorporates a planning component, though much narrower in scope than strategic planning. Planning within management control is analogous to the procedural or tactical planning varieties suggested by some other writers. For the most part (to the extent that it can be true for any behavior), operational control deals with programmed activities and does not involve planning.

The process of organizational planning is no different from the planning process described earlier. The same cognitive and practical limitations apply. Goals are often unclear or contradictory, the future is difficult to forecast, cause and effect

knowledge is incomplete, time and energy for search and design are not unlimited, and a satisfaction criterion is utilized.

A major concern of strategic organizational planning is survival. This concern is particularly evident in corporate planning, with an emphasis on return-on-investment and a wary focus on the turbulent and hostile environment. The following statements reflect this concern about survival and the environment.

Since business strategic planning is essentially a matter of searching for opportunities, evaluating them, and selecting a set as a basis for action, surveillance of the environment plays an important part in the entire process.¹⁰³

A strategic planning system has two major functions: to develop an integrated, coordinated, and consistent long-term plan of action, and to facilitate adaptation of the corporation to environmental change.¹⁰⁴

. . . the achievement of a good fit - or congruence - between the external challenges and opportunities and the internal organization of the firm is one of the crucial factors in long-term survival. I will argue that planning in its broadest sense can make an important contribution to this adaptive process.¹⁰⁵

Although most public organizations need not fear for their very survival, they must still be concerned with their environments. For example, most public agencies operate on annual budget allotments, and in seeking their due must deal with budget agencies, governing executives, and legislative bodies. Other agencies, particularly school boards, may be directly dependent on the public for financing. These forces in the environment of public organizations are of critical importance and strongly influence planning.

The design and organization of the corporate planning system are usually taken to be situational.¹⁰⁶ A common theme in the

literature, however, is that planning must be closely linked to general management and decision making. Although certain planning tasks may be assigned to specialized staff personnel, planning is viewed as a central and major responsibility of managers. Marks presents this position clearly.

Each firm has to find its own way; that way which fits the particular management style, the particular environment, its current practices and the burden of its historic experience. But if there is no blueprint, at least there are a number of general themes. The first is to ensure that the planning system really is concerned with the development of strategy and not with a number-crunching exercise which, as it were, freewheels outside the ongoing operation of the business. The second is to recognize that the development of strategy must be an interactive process in which most levels of management and certainly all senior levels of management are made aware of the outside pressures, the implications of alternative environmental changes and the role they have to play in coping with change. Finally, if planning is to play this creative role, it must be organized in such a way that it can be comfortably used by top management in the fulfillment of what is now their major task.¹⁰⁷

Marks also notes two other interesting points about the function and practice of corporate planning. One is that planning becomes increasingly important as forecasting becomes more difficult, while the need for professional planners decreases as planning becomes more difficult. His second point is that an institutionalized planning system can provide managers with the opportunity to consider and discuss matters of strategy.¹⁰⁸ Without a formal planning system, the clamor of crises and the relative ease of dealing with routine matters can quickly lead managers to overlook, avoid, or feel too pressed for time to bother with, planning.

Despite the apparent benefits of organizational planning, the numerous limitations on planning in the real world do constrain the activity, and studies have not found a great deal of effective planning going on. Early studies by Ewing and by Mockler found that business planning had not been very successful or effective, despite strong efforts.¹⁰⁹ In a study by Weidenbaum and Rozet, it was found that planning played a limited role in corporate decision making.¹¹⁰ Among the problems plaguing business planning were the isolation of the planners, disjointed decision making, and a tendency of decision makers to act on their predispositions. These are precisely the kinds of difficulties often cited as hindering public planning, suggesting that the differences between private and public planning (especially organizational) may not be as great as often claimed.

The particular variety of organizational planning with which this study is concerned is manpower planning. It is to manpower planning that the review now turns.

Manpower Planning

Manpower planning is a variety or specialty within the more general activity of planning. Consequently, as with the general activity, it is concerned with change, the future, and decisions, and with getting us from where we are to where we want to be. The particular focus of manpower planning, though, is people, especially in their role as resources or contributors within the labor force and organizations. Because people are the stuff of manpower planning, rather than buildings or roads or dollars, special

considerations arise. As Bramham notes, "manpower planning is concerned with the organization's most volatile resource, the only resource which has a mind of its own."¹¹¹ Smith has enlarged on the same point, as follows.

. . . manpower cannot be treated simply as one resource contributing to the economy or the efficiency of the system. It is a very special resource which can change its nature when circumstances change, in a manner not shared by any inanimate resource. It can strike, increase or decrease its productivity, migrate, and transfer itself (a valuable resource) from one employer to another, more or less at will.¹¹²

The basic justification or argument for manpower planning is the same as that for planning in general, namely, that as a result of the activity the system will more nearly achieve its objectives. No choice is really available about whether to deal with manpower issues and problems: as noted by Bramham, "decisions are made whether or not there is manpower planning . . . the real choice is whether to be systematic in planning or to be swept along by events."¹¹³ Again because people are the focus of the activity, however, a special dimension is prominent in the justification of manpower planning. According to Smith, "if manpower planning is not efficiently performed the result may be unnecessary human suffering; and again there are social costs/benefits at stake as well as the costs and benefits accruing to the planning organization."¹¹⁴

The aim of these introductory comments is to place manpower planning within the context of the previous lengthy discussion of general planning. Fundamentally, manpower planning is planning,

and the preceding sections are the foundation for what follows. As stated by Burack, "a viable approach to manpower planning is critically dependent on a thorough understanding of organizational characteristics and of the problems and features of general planning."¹¹⁵

On the other hand, the people-orientation makes manpower planning distinctive, and makes it perhaps an even more multi- or interdisciplinary undertaking than planning in general. Hughes characterizes manpower planning as "work upon frontiers; frontiers between the different sectors of the economy, different professional groups, different academic disciplines and, most of all, between the theoretical planners and the practising managers and administrators."¹¹⁶

Similarly, Bartholemew argues that "manpower planning is thus best viewed not as a new specialism within the management sciences but as a group activity requiring a diversity of specialisms and experience to be brought to bear on the optimal use of human resources."¹¹⁷

In the following sections an attempt is made to identify the elusive and frontier-spanning activity of manpower planning and to differentiate it from other related activities. The process of manpower planning is described, as well as constraints on its practice in the real world. For the most part, what was previously said about general planning will apply, with the aim of this discussion being to clarify the particular activity of manpower planning.

Definitions of Manpower Planning

There are two primary levels at which manpower planning might be undertaken: at the level of the economy, and at the level of the individual organization. Of course, the range over which manpower planning might be applied is actually a continuum, with something like the entire international ecosystem at one end, and individual people at the other. For practical purposes, though, the ends of the continuum are more likely to be the national economy and individual organizations. Between these endpoints, such levels as states, regions, localities, whole industries, educational systems, and vocational groupings are also identifiable and might be subjected to manpower planning. It is the two levels of the economy and organizations that have received the most attention, however, and Patten provides the broad definitions for these two varieties of manpower planning.

At the level of the economy, manpower planning applies the processes of planning in general to the preparation and employment of people for productive purposes. . . . In a free society such as ours, manpower planning aims to enlarge job opportunities and improve training and employment decisions through the power of informed personal choice and calculated adjustment to rapidly changing demand. . . . Manpower planning in organizations . . . is the process by which a firm insures that it has the right number of people, and the right kind of people, in the right places, at the right time, doing things for which they are economically most useful.¹¹⁸

It is manpower planning at the level of the organization that is the primary focus of this study. Within the context of the earlier discussion of general planning, this focus coincides with planning in organizations more so than with city planning, regional planning, or any of the other varieties identified. As will become evident,

manpower planning in organizations is a central element of strategic planning, and some of its narrower components fall within the category of management control.

The broad definition of manpower planning in organizations presented above, though suggestive and intuitively pleasing, lacks descriptive detail about what the activity really involves. The definitions below, all quite similar, are somewhat narrower in scope.

Anticipating the future pattern of organization and of the business environment and then relating manpower requirements to these conditions.¹¹⁹

Manpower planning aims to maintain and improve the ability of the organization to achieve corporate objectives, through the development of strategies designed to enhance the contribution of manpower at all times in the foreseeable future.¹²⁰

Manpower planning is a process which seeks to bring together business objectives and manpower resources. It is inherently future oriented.¹²¹

. . . an effort to anticipate future business and environmental demands on the organization and to meet the manpower requirements dictated by these conditions.¹²²

Each of these definitions emphasizes the future-orientation of manpower planning. This orientation primarily involves forecasting the conditions and demands that manpower resources will likely need to meet in the future. Although two of these definitions incorporate organizational objectives within manpower planning, the following statement more explicitly includes consideration of present- and future-states and of the process description for achieving the latter.

. . . manpower planning cannot effectively be confined to estimates of the probable nature and range of future personnel requirements; it must also take into account the opportunities and constraints which lie between the present situation and what is likely to be the desired state of affairs at a specified phase of future time. It must design and plan for management of this process, and it is best thought of as a regularly revised plan, with both executive and analytic aspects, to monitor and foster a complex process of organizational change.¹²³

This definition clearly relates manpower planning to the earlier discussion of planning in general. By this description, manpower planning is concerned with, in terms of human resources, where the organization is, where it wants or needs to go, and how it can get there. Manpower planning is also concerned with what is fixed and what is variable, with design, and with implementation. It is a process, rather than a document or blueprint. The key temporal consideration is the future, and change is sought, rather than accepted or opposed. Although it has its own peculiarities, manpower planning is shown by the definition above to be a form of planning.

Just as the general activity of planning is closely related to and easily confused with a number of other approaches to social rationality, so manpower planning is associated with other human resource activities. In the following section these other activities are distinguished from the principal concern of this study, manpower planning.

Processes Related to Manpower Planning

The primary set of activities that needs to be distinguished from manpower planning in organizations is that termed personnel administration or personnel management. According to Burack, there is a "key distinction between manpower planning and traditional 'personnel management' - namely that manpower planning is intrinsic to and a triggering element of organizational change, whereas personnel management as commonly conceived is reactive and adjustive to the organizational environment as it finds it."¹²⁴ As compared to the manpower planning aim of devising means for achieving desired ends in the future, the business of personnel administration is to implement policies and programs now so as to hire, train, assign, and compensate employees and get the work of the organization accomplished. Personnel administration is considerably more action- and present-oriented than manpower planning.

Needless to say, however, the two sets of activities are not completely separable. The activities of personnel administration represent the implementation of manpower plans, and the stages of planning and programming do merge together. In general, however, manpower planning involves analyzing and designing, whereas personnel administration involves selecting, teaching, appraising, and so on. Planning for manpower acquisition, development, allocation, and utilization is within the purview of manpower planning, while executing the plans and managing the activities belongs to personnel administration.

The activities of personnel and replacement planning occupy the ground where manpower planning and personnel administration intersect. Whereas manpower planning in its complete form is concerned with the goals of the organization and with devising means for achieving them with human resources, personnel planning has the more mundane aim of planning for implementation. That is, personnel planning is concerned with such matters as assuring that job vacancies are filled in a timely fashion; assuring that training programs are scheduled and staffed satisfactorily; assuring that turnover among employees is monitored and studied; and so on. These matters call for planning behavior, but are not as broad in scope as the more basic concerns of manpower planning.

With respect to the organizational planning terminology introduced previously, manpower planning corresponds to the category of strategic planning. It deals with the objectives of the organization, including changes in them, and seeks to discover resource and policy requirements for attaining them. Personnel planning and the managerial aspects of personnel administration correspond to the management control category. They are concerned primarily with obtaining and using resources in order to achieve the goals of the organization. Finally, the most routine and programmed aspects of personnel administration fall into the operational control category. These include both the supervision and implementation of specific tasks.

The interests of this study include the activities comprising both manpower and personnel planning, as described above. From this

point onward, the term manpower planning should be understood to also include those narrower activities identified with personnel planning. Those activities that are within the personnel administration category will not be of intrinsic interest for this study; inasmuch as they are what manpower planning plans for, however, they assume a certain relevance and will receive some additional attention throughout.

The Manpower Planning Process

Although several more specifically applicable words might be added, there is no compelling reason to create a special manpower planning process, as the general planning process already described can be easily adapted. In this section the application of the general planning process to manpower planning is discussed.

The identification of goals, values, and preferences precedes other stages of the manpower planning process; as with general planning, however, this activity is frequently performed only implicitly. This is probably particularly true for public organizations, as private firms at least have profit or return on investment as relatively unambiguous objectives. In all cases, desired ends of some form are needed for change to be directed and for the "right" numbers and kinds of people to be recognized. Although specific manpower objectives may be formulated and used, overall organizational goals toward which manpower planning efforts can be aimed are also needed.

Along with a view of where the organization wants to go, a picture of the present situation of the organization and its human

resources is needed for manpower planning. As Bramham notes, "before making any forecasts, or plans and policies to meet them, a clear picture of the organization is needed."¹²⁵ The principal aspects of the present-state of the organization that are of specific interest for manpower planning are workload, productivity, jobs, and people. In other words, the work of the organization, how long it takes to do it, how it is structured, how many people toil at it, and the kinds of people employed are all concerns of manpower planning. Such techniques as work load studies, time and motion studies, job analysis, career path analysis, personnel inventories and management information systems can be used to provide the pertinent information about the current condition of the organization. Also of interest for manpower planning is the present-state of the organization vis-a-vis the criteria based on overall desired ends.

By comparing manpower goals to the current manpower situation, and overall goals to the general present-state, problems and shortcomings can be identified. Because in many organizations the identification of goals and/or the monitoring of the present-stage are done only implicitly or informally, however, the identification of discrepancies between the two is often rather arbitrary and based on hunches or intuition. Since this stage produces the matters to be planned for, it would seem desirable that the identification of human resource or overall organization problems be conducted systematically. This requires that explicit attention be given to both desired ends and the current condition, as well as to discrepancies between them.

Another way to describe the initial steps in the manpower planning process is in terms of supply and demand.¹²⁶ Between the goals of the organization and information about current jobs and workload, a picture of the demand for manpower emerges. The supply side of the manpower situation is provided by information about current employees and the relevant aspects of the labor market. The comparison of manpower supply and demand is analogous to the general planning stage of problem or discrepancy identification.

Following the identification of differences between current manpower demand and supply, or more generally between the desired ends and present-state of the organization, the magnitude and urgency of the problems must be assessed. If the discrepancies are not considerable, or if the present situation is viewed as satisfactory, the complete manpower planning process may not be activated. Also, if the consequences of a discrepancy are believed to be especially urgent, immediate action may be required prior to complete or formal planning. Only in those instances in which identified problems are viewed as serious but not requiring emergency action is the entire manpower planning process likely to be undertaken.

Even given these preconditions of magnitude and time, whether manpower planning is initiated, and its extent, depends also on the dominant conception of what is variable and what is fixed. To the degree that the structure of the organization, its jobs, its policies, the kinds of employees it has traditionally attracted, or the characteristics of its environment are taken as given by planners and decision makers, the practice of manpower planning is constrained

or made impossible. In a situation characterized by fixed parameters, rather than manipulative variables, manpower planning is unlikely to be initiated, and would be severely restricted if undertaken.

For those problems and discrepancies that survive the preliminary screening stages of the planning process, information about the future situations within which they are to be resolved is needed. In general, the aim of the forecasting stage is to supply predictions about the state of goals, the organization, and the environment at specified future junctures. Forecasts are particularly needed for two classes of matters: information is required concerning changes that will occur over which the organization has little or no control; and information is required about what will happen to manipulable variables if present organizational practices are continued unchanged. With these forecasts the organization can estimate the future consequences of the current course of action, and also learn something about the context within which alternative actions would be applied, if necessary.

Beyond this general forecasting, manpower planning especially requires manpower supply and demand predictions. In addition to goals, organizational characteristics, and environmental considerations, supply and demand forecasting are concerned particularly with jobs, workload, productivity, employees, and the labor market. The measurement of the present and future internal manpower supply of the organization involves such matters as retention, assignment, and promotion, as well as characteristics of employees.¹²⁷ The forecasting of external manpower supply, beyond identifying the

knowledges, skills, and abilities available in the labor market, must also consider population changes, geographic distributions, employment preferences, and similar matters. On the other side of the ledger, one aspect of demand forecasting involves the provision of information about future jobs and manpower utilization in the organization.¹²⁸ Demand forecasting is also concerned with the future work load of the organization, and its implications for manpower needs. An important but often overlooked element of demand forecasting is consideration of the kinds of people needed by the organization in the future. Because numbers of people based on work load forecasting are simpler to determine, little attention is often given to the qualitative dimension of manpower demand. The saliency of the "kinds of people" consideration is emphasized by Bramham.

The problem seems to be that demand may imply a simple identification of workload whereas it is at least as important as workload (and indeed the purpose of requirement forecasting) to gain a knowledge of the type and quality of people the organization should employ. This should not be treated as purely a numerical problem since decisions about the way the organization is to be manned are perhaps more important.¹²⁹

Another aspect of forecasting that should be mentioned is uncertainty. With any sort of forecasting the resulting predictions are estimates, and it is important to consider their probable reliability. Past behavior, causal knowledge, the extent of turbulence in the environment and relative agreement among experts are some means of judging the certainty or uncertainty of forecasts. With respect to manpower planning, Walker has argued that "the chosen

approach to manpower forecasting should permit building in of uncertainty as a systematic feature, and its handling must be appropriate to the degree of uncertainty."¹³⁰ Clearly, in preparing to meet future human resource requirements, the organization needs to weigh carefully both the forecasts of future conditions and the likely reliability of those forecasts.

Once the problems in need of planning have been identified and the forecasts of future conditions have been made, the planning process proceeds to the development of alternative programs, policies, or practices. Phrased somewhat differently, the task is to identify forms that will solve or ameliorate the problems, and fit within the future context. In terms of manpower planning, the need is to devise combinations of people, jobs, programs, and policies such that human resource problems are overcome, and such that goal achievement by the organization in the future is satisfactory.

As in the case of general planning, the process of developing alternative forms can be expected to begin in familiar territory, and proceed onto less familiar ground only if necessary. Three relatively discrete stages in this process are the review of programmed responses already in the repertoire of the organization, search for other developed alternatives, and the design of new alternatives. The effort to locate alternatives continues only until a satisfactory one is found, so that the search and design stages are not always reached. The criteria that are used to judge alternatives are, of course, based on the goals and values (explicit or implicit) of the organization that undergird the entire planning process.

In order for alternatives to be judged, their likely consequences must be specified and compared to the satisfaction criteria. This forecasting or estimation of the effects of alternatives is no less complicated a matter for manpower planning than for general planning. In a large organization, for example, the seemingly routine need for policies and programs that rationalize personnel movements and result in jobs being filled in a timely fashion is exceedingly complex.¹³¹ Much of the published work on manpower planning in organizations is addressed to this difficulty, and tends to be technically and mathematically sophisticated.¹³² Aside from the mathematics, however, the logic of these studies is simple. In general, they seek to specify models of the personnel flows in particular organizations, so that the effects of proposed changes can be tested. The models are merely mathematical representations of hiring, training, assignment, promotion, retention, and similar practices. By changing certain personnel flows to represent possible alternatives, the models can be used to estimate the consequences at other points in the organization, and to predict consequences over time.

As complex as this modelling can be, it addresses one of the more mundane aspects of alternative testing in manpower planning. It is much more difficult to predict the effects of qualitative changes in the kinds of people sought, of changes in the work environment and organizational climate, or of fundamental changes in the whole structure of work in the firm. The uncertainty attending these kinds of forecasts is probably considerable, and formal computer or

mathematical models are not likely to be available for estimating the consequences of such changes. Nevertheless, if alternatives such as these are developed during the planning process, some predictions or guesses will be needed about their effects, so that choices can be made.

The making of choices between alternatives, the implementation of chosen practices, and their evaluation complete the human resource management cycle. Some authorities view these three final stages as elements of manpower planning, while others see the planning process ending with the development, forecasting, and evaluation of alternatives prior to choice. Again, the disagreement is largely a semantic one. By either conception, choice is made on the basis of comparing the probable effects of alternatives to those of their competitors, and to the satisfaction criteria. Following decision making, the implementation stage involves "the translation of manpower plans into a series of integrated activities."¹³³ Finally, the purpose of the concluding evaluation stage is to provide information about what actually happens when alternatives are implemented. Among the evaluation procedures used with manpower planning are human resource valuation, human capital budgeting, and cost-benefit analysis.¹³⁴

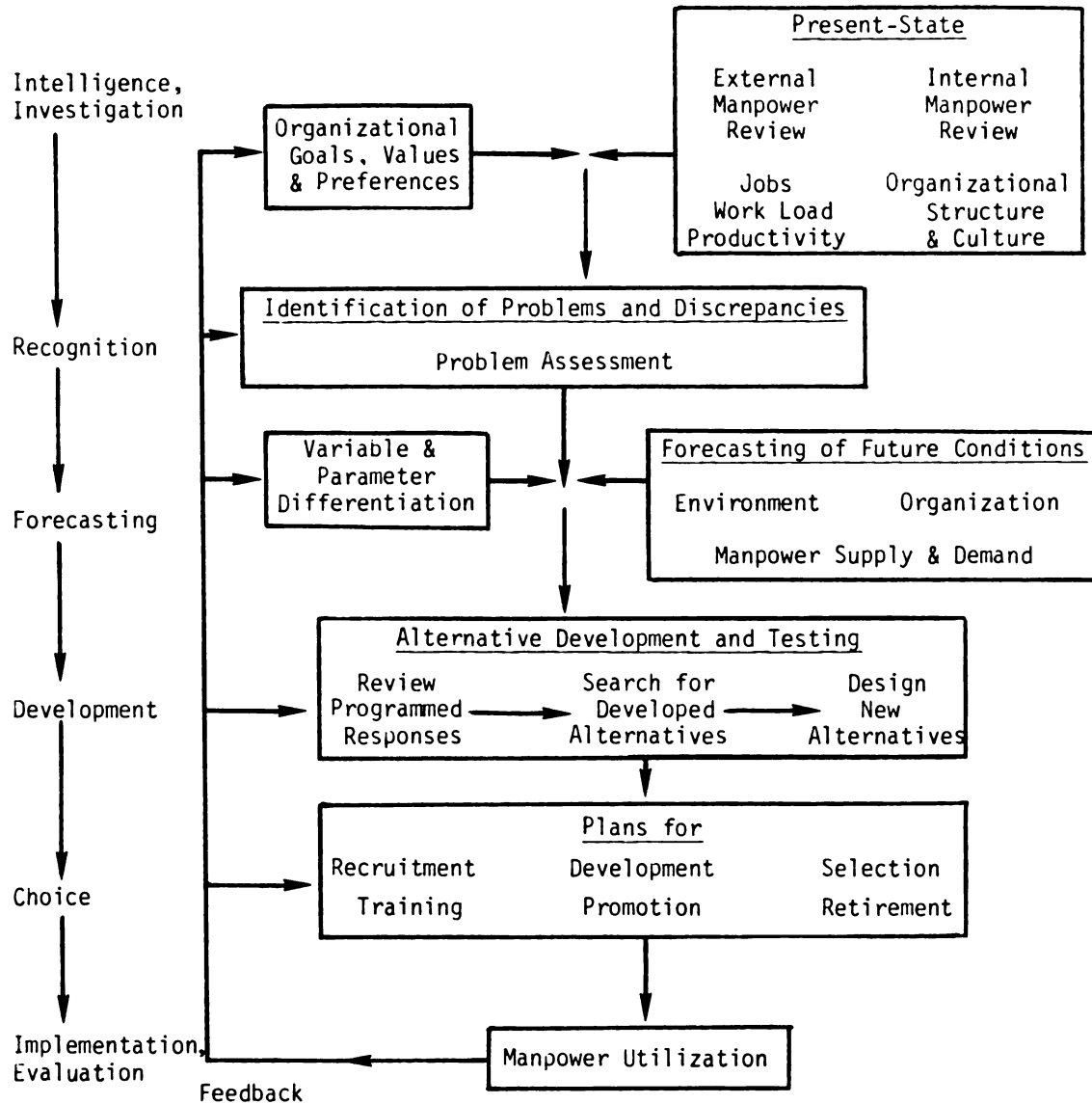
The preceding description of the manpower planning process has closely paralleled that of general planning. In principal, at least, manpower planning is simply one form of planning, and the same process and stages apply. The use of the terms supply and demand may at first seem to introduce new considerations, but they

refer only to present and future resources and requirements, and are easily handled within the general planning process. A diagram of the manpower planning process, incorporating some of the terms specific to it, is presented as Figure 1.

As with planning in general, problems of goal consensus, cost, and cognitive burden also limit the practice of manpower planning, so that it cannot be perfectly rational or comprehensive. These practical limitations should be understood to restrict the conduct of manpower planning, though they were not completely discussed above. In the following section, some of the factors that specifically influence manpower planning in practice are considered.

Manpower Planning in Practice

One of the primary practical considerations that influences the conduct of manpower planning is the location and status of the function within the organization. The very name of the activity introduces a kind of duality or schizophrenia that complicates the decision about where to assign the function. The two major options are usually the personnel unit and the planning unit. Assignment of manpower planning to the personnel unit in an organization reflects recognition of the manpower aspects of the activity, while assignment to the planning unit reflects recognition of its planning aspects. It seems likely that the choice is more than merely academic; personnel units have manpower expertise, but are ordinarily present-oriented, whereas planning units have the desired future-orientation, but lack expertise in personnel matters and often



Adapted from John Bramham, Practical Manpower Planning (London: Institute of Personnel Management, 1975), p. 29.

Figure 2.1.--A Framework for Manpower Planning.

are outside the mainstream of decision making and implementation in organizations.

Related to the question of organizational location for manpower planning is the matter of the status and influence of the activity. A common theme in the literature is that manpower planning needs to be completely integrated with other varieties of planning and other organizational processes.¹³⁵ This closely follows the earlier discussion of the need for general planning to be integrated with the overall management of the organization, and another common refrain is that the personnel function should be less isolated. The fundamental message seems to be that planning, including manpower planning, is a major responsibility of all managers, especially top executives. One of their primary duties is to think about the future and devise strategies to enhance organizational success in years to come. To assist managers in this activity, special units may perform analytical, forecasting, and developmental tasks, but the responsibility for planning and decision making remains with the managers. This is just as true for manpower planning as for planning in general.

In order for manpower planning to be undertaken, a substantial amount of information concerning the present- and future-states of the organization and its environment is needed. Bramham has noted that "it has been argued that lack of information is the single most important barrier preventing organizations undertaking manpower planning . . . (but) the lack of information about manpower springs from a general failure to tackle manpower problems."¹³⁶ This general failure to address human resource issues in organizations is an

important constraint on manpower planning, and contributes to the view that many conditions are fixed and unchangeable. The conception of the present situation as unalterable and inevitable is a key impediment to the development of any planning at all, and greatly restricts the practice of planning if attempted.

Another prerequisite for successful manpower planning, in addition to information and interest, is the know-how to do it. Although much of the activity is based on common sense, intuition, and judgment, some aspects of manpower planning require advanced technical and analytical skills. This is particularly true of the stages of forecasting, alternative simulation and evaluation, and program/policy evaluation. In a large organization, the specification of the present-state may also be a difficult and complex task. For manpower planning in organizations, Smith has suggested that statistics and the behavioral sciences are the major disciplines involved.¹³⁷ To the extent that organizations do not have people skilled in these areas, manpower planning in practice is sharply limited.

Three empirical studies of manpower planning in organizations provide evidence concerning the practice of the activity and constraining influences. The first, published in 1968, reported the general finding that manpower planning was given low priority in 44 manufacturing firms studied.¹³⁸ Among the activities given higher priority were capital expenditure programs, facility and equipment planning, corporate finance programs, and product planning. The

contention that human resource issues receive relatively little attention in organizations is supported by these findings.

Another 1968 study was based on survey and interview data concerning 69 firms in Minnesota.¹³⁹ Among the findings from that study were the following.

1. Larger firms were more likely than smaller firms to conduct forecasting of manpower requirements.
2. Firms were more likely to conduct demand forecasting than supply forecasting.
3. Firms with less than 1,000 employees were least likely to conduct supply forecasting, but otherwise the larger the firm the less likely that supply forecasting would be conducted.
4. Manpower planning was slightly less likely to be a personnel unit function than not, but the difference was very small.
5. In smaller firms, manpower planning was more likely to be a personnel unit function than not.
6. For forecasting, the following factors were used, in decreasing order of significance: sales, labor supply; work load; facilities expansion, turnover; technical and administrative changes; new products; company objectives; and budget.
7. Forecasts were used with the following activities, in decreasing order of significance: recruiting; budget and financial planning; training; and transfers and promotions.
8. Forecasting was most difficult for management positions, and secondly for professional/technical jobs.

Finally, a study reported in 1978 provides information concerning factors associated with manpower planning sophistication in twenty Canadian companies.¹⁴⁰ Somewhat surprisingly, size of organization was not found to be related to the extent and quality of manpower planning. The only factor strongly and positively

associated with manpower planning sophistication was the number of managerial employees above the first management level. The interpretation by the authors of this finding is that "both the influence of technical rationality and the bias introduced by a relatively large managerial group have a positive influence" on manpower planning.¹⁴¹ A factor found to be strongly and negatively related to the practice of manpower planning was the portion of employees represented by unions. The authors interpret this in the following way.

The relationship between union presence and personnel policies reflects the fact that unions alter policy by redefining what can be controlled in the area of personnel decisions. The expectations and priorities, perceived by such an influential element of the organization's environment, can have a demonstrable effect on the organization's decisions.¹⁴²

A general finding of these studies is that various characteristics of an organization and its environment are associated with the conduct of manpower planning. The study reported herein is specifically concerned with manpower planning in police organizations, and in the following section information is presented concerning these organizations and their environments.

Police Organizations

Police organizations in the United States are numerous, vary widely in size, and are extremely labor-intensive. The President's Crime Commission estimated in 1967 that 40,000 police departments operated in this country, with agencies at every level of government.¹⁴³ Apparently this figure was a serious overestimation, as

more recent studies have placed the number of police departments at 25,000,¹⁴⁴ 20,000,¹⁴⁵ and 17,000.¹⁴⁶ By any of these figures, though, the number of such agencies is considerable.

Estimates of the number of persons publicly employed in police protection also vary, but the figures have generally increased over time. The Crime Commission estimate in 1967 was 400,000;¹⁴⁷ the annual survey of criminal justice expenditure and employment conducted jointly by the Law Enforcement Assistance Administration and the Bureau of the Census reported for 1977 (the latest year available) a figure of 645,000 full-time equivalent police protection employees.¹⁴⁸ The National Manpower Survey of the Criminal Justice System projected that in 1985 state and local police protection employment (not including federal) would reach 718,000.¹⁴⁹

Based on these estimates of numbers of police organizations and employees, it is easy to compute an average agency size, which would seem to be in the range of 30-40 full-time equivalent employees. This figure is somewhat misleading, however. For example, the 34 largest city police departments (which comprise only about two-tenths of one percent of such agencies) employ over one-third of all city police employees.¹⁵⁰ In addition, the relatively few state and federal police protection agencies tend to be much larger than the typical local police agency. Consequently, the "average agency" has far fewer than 30-40 employees. One estimate for all city and county police agencies is that about two-thirds employ less than ten employees each.¹⁵¹ Support for this estimate is provided by the results of a recent national survey of sheriff's departments, which

indicated that the median size for such organizations (which also include jail employees) was 13 sworn personnel.¹⁵² In general, the population of police organizations in this country can be characterized as including a rather small number of large agencies and a substantial number of relatively small agencies.

Personnel costs account for the largest portion of police agency budgets, by far. In 1977, it was estimated that payroll costs represented 86% of total expenditures for police protection by state and local governments.¹⁵³ The results of a survey also conducted in 1977, of 50 large city police departments, indicated that the average salary budget portion of the total agency budget was 81.8%, with individual city figures ranging from 47.8% to 96.0%.¹⁵⁴ Except in years of unusually high capital expenditures, personnel costs seem to exceed 80% of total costs for almost all police agencies.

The composition of the police protection labor force certainly varies somewhat from one agency to another, but some generalizations can safely be offered. One is that the majority of police personnel occupy sworn positions, meaning that they have been "sworn in" as police officers. Almost all sworn employees start their careers in the same job classification (variously termed police officer, patrol officer, trooper, deputy sheriff, etc.) and compete with each other in the same promotional track. The 1977 survey of large city agencies found that about 80% of police employees were sworn, and that of these, about 83% were police officers or detectives, 12% were sergeants, and 5% were lieutenants or above.¹⁵⁵

The figure of 80% sworn personnel is supported by the National Manpower Survey estimate that in 1974 78% of all police protection employees were sworn.¹⁵⁶ That survey forecast increasing civilianization in law enforcement, but the projection for 1985 was still that 75% of police personnel would be sworn.

The majority of personnel resources in local police organizations are allocated to the basic functions of patrol and investigations. The National Manpower Survey estimated that 59% of police and sheriff's department employees were "directly engaged" in one of these two duties.¹⁵⁷ The study of large city agencies found that about 56% of sworn personnel were assigned to patrol units, while about 12% were assigned to detective units.¹⁵⁸ Police agencies at other than the local level vary in their allocation of personnel due to their varied missions; some state police agencies, for example, perform predominantly traffic-related functions, while many other state and federal agencies perform only specialized investigative functions. Data for these kinds of agencies is not available, but it seems likely that the majority of their personnel resources also start at a common classification (agent, investigator, etc.), compete along a common promotional track, and are assigned primarily to basic line functions (traffic enforcement, investigations).

Some information on the basic characteristics of police employees is available. With respect to sex, the 1977 survey of large city police departments found that 5% of sworn employees at the rank of police officer were female, with a smaller percentage of women at higher ranks.¹⁵⁹ Earlier, the National Manpower Survey

had estimated that in 1974 only two to three percent of total sworn police employees were female.¹⁶⁰ In general, minority racial group members are also underrepresented among police employees, especially in the South and in state police agencies.¹⁶¹ Large city agencies usually have the highest proportional representation of minority employees, but such jurisdictions also have the greatest minority populations, both by total and proportion. For those large city police agencies reporting such data in 1977, the average Black portion of sworn employees at the rank of police officer was 16.4%, while the figure for Spanish surnamed employees was 7.7%.¹⁶² Both groups were more underrepresented at higher ranks than at the police officer classification. These average figures should be interpreted cautiously, as the variation in minority employment was substantial, and a number of agencies did not report data for race.

Finally, the educational attainment of police employees has increased considerably in recent years. As the National Manpower Survey noted,

The pattern has been especially marked in the last five years. The proportion of sworn personnel with less than a high school education was 37 percent in 1960, 19 percent in 1970, and only 10 percent in 1974. The proportion of sworn personnel with some college attainment went from 20 percent in 1960 to 32 percent in 1970 and to 46 percent in 1974.¹⁶³

The 1977 survey of large city agencies found that 20% required some college education at the police officer level and that 44% provided some form of incentive pay for college credits earned.¹⁶⁴

Policing in America is primarily considered a local responsibility, and most police employees work for local agencies. In

1977, 11.1% of all police protection employees worked for the federal government, 14.5% for states, 15.0% for counties, and 59.4% for towns, cities, and other municipalities.¹⁶⁵ If counties are included within the category of local jurisdictions, almost three-quarters of all police employees toil at the local level. It should be noted that this accounting does not include those employees of sheriff's departments whose duties are primarily jail- or court-related, and thus is not inflated by such personnel.

These general comments on the organization and staffing of police agencies are meant to present some of the fundamental characteristics that impinge on any effort to conduct manpower planning in policing. As this study is concerned with manpower planning in police organizations, rather than with such planning for the entire police or criminal justice systems, more specific information about these agencies is presented in the following sections. Because police organizations are so numerous and diverse, the discussion below should be understood to focus on patterns, likelihoods, and trends, rather than on invariable attributes. Also, the study is focused on full-service police agencies, which primarily includes municipal and county police departments, sheriff's departments, and state police organizations. The characteristics of these kinds of police organizations are addressed below.

Structure

Most police agencies are similarly structured, with the major source of variation being size. As Drummond has noted,

"police departments are almost universally structured to conform to the military hierarchical model of organization."¹⁶⁶ This form of organization is pyramidal, with authority graded vertically. The principal exposition of this structural form in the police literature is the highly influential work of O. W. Wilson, Police Administration.¹⁶⁷

The largest organizational unit in a police department is usually the patrol division. This unit is divided into squads or platoons that work different shifts, in order to provide around-the-clock coverage (assuming the agency is sufficiently large). Individual officers on the shifts, if there is more than one officer, are ordinarily assigned to mutually-exclusive patrol areas. Patrol officers respond to details assigned them through the command and control system (most of which originate with telephone calls from the public), and otherwise "patrol" their areas in some loosely-defined fashion.

The second largest unit, in police organizations sufficiently large to support one, is the detective division. For the most part, detectives perform follow-up or continued investigations on matters that were originally reported by the public, and preliminarily investigated by patrol officers. In addition, some portion of detective time is often allocated to vice-related activities, such as narcotics and gambling offenses. These kinds of offenses are not usually reported by the public, and detectives must "pro-actively" seek out instances of them.

The third kind of unit or function found in almost all police agencies is communications. This function includes both receiving calls from the public and communicating with officers in the field. The latter is usually conducted via radio, and involves the assignment of details to officers and the passage of routine messages. Not all police agencies have their own communications unit, but almost all officers are in touch with some kind of central dispatching center. Many agencies utilize non-sworn personnel for some or all communications functions, but many others do not.

Larger agencies may have many additional specialized operational, administrative, and support units, whereas small agencies may be limited to patrol, detectives, and communications. In either case or at any point in between, authority is viewed as emanating from the office of the chief of police, and is delegated downward through successive levels of command and supervisory personnel. Traditional administrative principles pertaining to chain of command, unity of command, and span of control are usually held to apply.

In recent years a number of commissions and observers have recommended alterations in the standard hierarchical form of police departments. As just one example, the American Bar Association held that "more flexible organizational arrangements should be substituted for the semimilitary, monolithic form of organization of the police agency."¹⁶⁸ The recommendations that have been made usually favor a more decentralized, horizontal, team-based, open model of organization. These suggestions have certainly had some impact,

as many police departments have decentralized and instituted some form of team policing in the past few years.¹⁶⁹ However, the structural changes associated with these new programs have been largely superficial, and the vast majority of police agencies are still organized in the traditional hierarchical fashion.¹⁷⁰

Management

In consonance with the traditional hierarchical structure of police organizations and the frequent analogies to military organization, one would expect to find authoritarian police management, with strong direction and control. To some extent, this kind of management does prevail. Numerous rules, regulations, and procedures are usually promulgated that specify in great detail proper and improper behavior in certain kinds of situations. The delegation of authority and the rank structure identify superiors and subordinates, and the chain of command is often taken very seriously. Obedience and loyalty are stressed, policy is developed at the executive level and passed downward, and discipline is usually closely enforced.

It has frequently been noted, however, that patrol officers and detectives, the lowliest sworn employees in the police organization, do their work with a great deal of freedom.¹⁷¹ The rules and regulations primarily prohibit behaviors, and provide little positive guidance in difficult situations. Also, police training creates as many uncertainties as it resolves, and supervisors are rarely if ever present when discretionary decisions are made in

the field by subordinate police officers.¹⁷² This paradoxical coexistence of rigid structure, the trappings of autocratic management, and bountiful discretionary authority at the point where the work is done, is a critical and distinctive characteristic of police organizations.¹⁷³

The more recent police management literature shows an increased awareness of these kinds of issues. For example, McCreedy makes the following recommendation.

The turbulent nature of contemporary society requires that police departments institutionalize the capacity to change and innovate. This necessitates a more open and flexible organizational structure and an enlightened view of management which features negotiating skills rather than strict reliance on power and authority.¹⁷⁴

Two recent studies suggest that some police agencies may be adopting more "enlightened" views of management. A study of one police department found employees at every level in favor of the consultative form of management.¹⁷⁵ Another study of police employees from a wide variety of agencies and ranks found them reporting that the dominant management style in their organizations in 1974 was benevolent-authoritative, but that in 1976 the dominant style was consultative.¹⁷⁶

Another view of the recent history and present-stage of police management is provided by Donald F. Cawley, a former commissioner of the New York Police Department. In his article he discusses the following successes and failures of police management over the period 1972-1976, and the remaining problems.¹⁷⁷

Successes 1972-1976

improved, less authoritarian management
 reexamination of the police mission and enforcement
 emphasis
 more openness on integrity and corruption issues
 more cooperation with research efforts
 better relations with the community established
 better standards for police chief selection
 improved personnel management
 better utilization of technology

Failures 1972-1976

failure to reduce crime
 failure to harmonize police mission with community
 expectations
 failure to develop a comprehensive research program
 failure to interact harmoniously with other criminal
 justice agencies
 failure to go beyond public relations to police
 community relations
 failure to initiate lateral entry at administrative
 levels
 failure to deal effectively with line police militancy

Internal Problems

budget limitations
 poor productivity, performance, and resource allocation
 union relations
 equal employment opportunity compliance

External Problems

lack of control in relations with the community
 pressure from politicians
 problems associated with decriminalization of offenses
 problems with consolidation of support services

Some of these successes, failures, and problems will be discussed further in the following sections. In terms of the management of police organizations, Cawley's observations support the suggestion that a more open and flexible style may be evolving. This may bring police management more in line with the realities of police work. The formal distribution of authority generally remains the same, however, and it is difficult to differentiate "nice guy"

changes in management style from substantive changes in policy and decision making. Two of the currently popular programs for police operational improvement, Managing Patrol Operations (MPO) and Managing Criminal Investigations (MCI), seem to be aimed at establishing greater management direction and control in the police organization.¹⁷⁸ If, as seems to be the case, these programs reflect the state of the art of police management thinking and practice, the suggestions concerning the passing of rigid, authoritarian management in police organizations may be premature.

Personnel Administration

One of the critical aspects of police organizations for manpower planning is personnel administration. It is through the personnel function that much of the data needed for manpower planning must be sought, and manpower plans are largely implemented through the personnel function. The somewhat narrower activities of personnel planning, in particular, are intimately tied to personnel administration.

Several studies of the current state of police personnel practices have recently been published.¹⁷⁹ The descriptions of specific personnel activities presented below draw from them.

Recruitment The most used recruitment practices in medium- and large-sized cities are special posters in public places, requests for referrals from schools, special outreach programs for minorities, and want ads in local newspapers. The most effective practices are want ads in local newspapers, special posters in public places, radio/TV spot announcements, and special outreach programs for minorities.¹⁸⁰ Recruitment practices do not vary widely between sizes or types of agencies,

except that larger municipalities utilize more varied and formal procedures, and state agencies are presently most likely to use special recruiting of minorities.¹⁸¹

Selection A majority of police departments in medium- and large-sized cities utilize these selection requirements: minimum and maximum age; minimum education; visual acuity and color vision; U.S. citizenship; valid driver's license; and no prior felony conviction. A majority also use these selection devices: background investigation; medical examination; oral interview, written examination; physical agility test; and psychiatric/psychological examination.¹⁸² Efforts to establish criterion validity for selection requirements and devices have met with mixed results.¹⁸³

Promotion A majority of police department in medium- and large-sized cities use the following standards in some way in their promotional process: written examination; seniority within rank; service length in agency; performance evaluation; and oral interview. About one-half of these agencies use the "rule of three" whereby promotions must be from among the top three on the eligibility list.¹⁸⁴ The least used promotional standards are peer evaluations, in-service training, awards/commendations, and assessment center evaluations.¹⁸⁵

Appraisal A large majority of police departments use formal performance evaluation systems for both sworn and civilian personnel. Reviews are more frequent for lower ranking personnel. A majority of agencies report using appraisals for counseling, promotion, dismissal, discipline, and assignment/transfer, but few use them for salary decisions.¹⁸⁶ Many police performance appraisal systems have been judged totally inadequate by observers and police employees, although sophisticated applications have also been cited.¹⁸⁷

Another area of personnel administration that has received considerable attention in police agencies is career development.¹⁸⁸ This attention and interest is primarily attributable to two concerns: as police departments are almost completely career organizations, managers and specialists must be developed from among career employees; and, as the largest personnel category is also at the

bottom of the organization chart, the promotional aspirations of many employees may not be met, potentially creating dissatisfaction and affecting performance. It has generally been assumed that training can solve the former problem, whereas solutions to the latter difficulty have not proved so easy to find. The basic need is to find ways to reward and satisfy patrol officers other than by promoting or reassigning them. In terms of career development programming, one recent study found that most medium- and large-sized agencies had provisions for educational leaves of absence and special assignments of career value, but not formalized job rotation or personnel exchange programs.¹⁸⁹

Most observers seem to agree that, at least until recently, the personnel function in police organizations was poorly conducted. As for the current state of the art, Lefkowitz argues that "at the present time it appears that the relative unsophistication of police personnel administration practices and organizational management is due primarily to a marked lag in the application of available knowledge and techniques."¹⁹⁰ The reasons cited by Heisel and Murphy for the inadequacy of police personnel management are similarly failures in application, rather than shortages in knowledge or technique.

1. Failure to determine human resource objectives.
2. Unwillingness to delegate authority to accomplish human resource goals.
3. Inadequate total resources and disproportionate emphasis on field strength.
4. Intransigent police officials and unions.¹⁹¹

Efforts to significantly change police personnel practices have often been less than overwhelming successes. Personnel matters

that seem routine and mundane are also closely tied to the security and safety needs of employees. Referring to a massive attempt at organizational reform within the Dallas Police Department, Wycoff and Kelling state that "it now seems unquestionable that an effort at personnel reform raises an extremely complex and volatile set of issues."¹⁹² Similarly, Guyot's study led her to conclude that "reforms which make minor modifications of the present rank structure have not succeeded in achieving even their limited goals."¹⁹³

Several years ago, Gallas found that "the bulk of the pertinent police literature is confined to descriptions of police personnel practices, prescriptions, and opinions."¹⁹⁴ Since then, a number of narrow studies have been conducted into the effectiveness and validity of particular personnel practices, and the state of personnel administration in police organizations seems to have improved. Her criticism that comprehensive studies of the effectiveness of whole personnel systems have not been conducted still remains, however. This certainly reflects the atomized and disjointed focus of personnel administration, as opposed to the comprehensive approach of manpower planning.

Planning

Apparently no studies have been made of the planning function in police agencies. The only solid evidence available is from the 1977 survey of large city police departments, which indicates only that most or all such agencies have planning, or research and development, units, commonly staffed with both sworn and civilian

personnel.¹⁹⁵ But research concerning what these units do, or how well, is not to be found.

Two textbooks on police planning published in the 1950s presented the traditional planning process, and probably encouraged the development of special planning units. O. W. Wilson defined planning as "the process of developing a method or procedure or an arrangement of parts intended to facilitate the achievement of a defined objective," and discussed procedural, tactical, operational, extra-departmental, and management plans.¹⁹⁶ Kenney used a somewhat different typology, identifying policy, organizational, operational, and program planning varieties.¹⁹⁷ Since the publication of these two texts, a number of articles on police planning have appeared,¹⁹⁸ and most police administration textbooks now have sections or chapters on planning.¹⁹⁹ For the most part these publications are undistinguished, being either exhortations to plan or simplistic discussions of how to plan.²⁰⁰

Although research studies of the nature of police planning have not been conducted, the preponderance of informed opinion seems to hold that the state of the art is rather poor. The National Advisory Commission on Criminal Justice Standards and Goals reached the following two conclusions in 1973.

Extensive planning, administrative as well as operational, is one of the most critical needs of the police today. There are not many police chief executives who disagree with this, but few have taken positive steps to encourage or implement such planning.²⁰¹

Police agencies have a tendency to promote an individual or to give him a special assignment because of his proficiency as a police officer rather than because of his potential as a supervisor or specialist. In the same manner personnel are often assigned to planning units or are given planning assignments for reasons other than their expertise in planning.²⁰²

Clearly, the presence of a planning unit cannot be taken as proof that serious planning is being conducted. Munro observed in 1974 that police organizational planning often amounted to nothing more than the preparation of organization charts.²⁰³ More recently, two police insiders have identified other roles played by planners. Greenberg argues that "research and planning within law enforcement agencies usually means that someone has been hired to tap additional state and federal funds or to provide support for otherwise unsubstantiated local budget requests."²⁰⁴ And Bouza notes that "many police planning bodies become handy repositories for the ideas the police commissioner does not wish to adopt but cannot afford to reject."²⁰⁵

Given some true interest in planning, Leonard and More suggest that failures are often due to a lack of the managerial ability needed to sustain planning effort, and to a shortage of the kinds of data needed.²⁰⁶ This data deficiency problem has been elaborated by Munro.

All of these planning aspects share a common need. It is the need for reliable, largely quantifiable, information, both about the police department and about its environment. Most departments have an information system that is limited to the gathering of crime statistics (usually none too accurately) and the preparation of minimal administrative data (sick leave, payroll data, personnel records,

etc.). While such information is necessary for long range planning, it is only a small part of a system of information that is required.²⁰⁷

Finally, another difficulty with police planning is that, because it is organizational, planners and decision makers often forget or ignore that the final outcome of policing is some form of service delivery to the public. As far back as 1962, A. C. Germann noted that most police planning was concerned with administrative procedures and efficiency, and he argued that planners must additionally seek to identify goals, criteria for goal accomplishment, and factors related to successful practices, "not only with respect to generally stated norms, but also with a genuine recognition of local community values."²⁰⁸ In 1973 the American Bar Association similarly urged that "planning and research efforts must be broadened to include a concern for the end product of the daily operations in which the police are engaged."²⁰⁹ These comments are particularly interesting in that they raise two themes not otherwise found in the police planning literature: that planning is normative and has political and ideological consequences; and that planning must be fully integrated with the overall management and operations of the organization.

Environment

In the section on manpower planning, it was noted that elements in the environment of an organization, such as unions, have an effect on personnel and other practices. In general, organizations can be viewed as open systems, with permeable boundaries that

lead to interaction and interdependence with their environments. Everything beyond the boundary of an organization is in a sense part of its environment, but it is usually possible and useful to identify a more finite set of environmental entities that are of significance to an organization.²¹⁰

The primary aspects of the environment of police organizations that are of interest for this study are those that impinge on personnel and manpower planning matters. One of the most important such aspects is civil service. Civil service systems are frequently operated by governmental jurisdictions, and they specify various kinds of standards, policies, and practices that public agencies within the jurisdiction must follow. It is generally agreed that civil service and merit systems developed in response to the flagrant abuses of the political spoils system. They were aimed at introducing rational criteria into personnel decision making, in place of nepotism and political patronage. As Burpo notes,

Although they are quite diverse entities, civil service systems play integral roles in public personnel management at all levels of government in the United States. The majority of systems have as their primary purpose some measure of supervision and control over hiring, promotion and disciplinary practices of the public employer. The underlying purpose for the adoption of civil service has been to protect these particular personnel practices from adverse political influences and to insure that some measure of fairness and rationality is brought to the personnel process.²¹¹

Two recent surveys provide information on the extent of civil service influence on police agencies. In medium- and large-sized cities, over 85% of police agencies have civil service coverage for at least some of their sworn ranks, and for

three-quarters of these the coverage is the same as for other local employees. For civilian police positions, 83% of the agencies were covered by civil service, with the coverage in 91% of the cases being the same as for other local government employers.²¹² A survey of county law enforcement agencies found that most of the county police departments were covered by civil service or merit board regulations, but that less than one-half of the sheriff's departments were covered.²¹³ This is undoubtedly due to the fact that most sheriffs are elected and often somewhat independent of other aspects of county government.

The actual influence of civil service systems on police personnel policies and decisions has recently been studied in a random sample of medium- and large-sized cities. The effects of such systems were found to vary, as follows.

One of the study's major conclusions is that popular debate and discussion notwithstanding, there is no one "civil service system" which governs police personnel affairs in urban America. Civil service commissions differ from city to city in the roles they play in police personnel administration and, as a result, in the impacts they have on local officials, on police departmental programs and practices, and on the general quality of local law enforcement. Some commissions--especially those which play regulatory roles in the local police personnel system - pose significant constraints on the abilities of local officials to promote innovative police programs and to deliver high quality police services. Others - especially those which engage in the formulation of police personnel policy - tend to promote departmental innovation and more efficient and effective criminal apprehension results in local police work.²¹⁴

Another important category of elements in the police organizational environment is that of unions or employee associations. No

reliable information is available concerning the extent of police unionization, collective bargaining, or labor contracts, but one recent study analyzed the content of a sample of contracts.²¹⁵ A total of 98 police labor contracts were examined, all representing cities with populations in excess of 100,000 people. The contracts were found to have the following kinds of clauses and provisions.

- 75% had management rights clauses
- 85% specified grievance procedures
- 58% referred to employee discipline
- 15% had cost of living adjustments
- 55% referred to civil service or related systems
- 70% had seniority provisions
- 17% had transfer provisions
- 35% had reduction in force provisions
- 57% had education and training provisions
- 40% had maintenance of standards provisions
- 73% had no-strike clauses

Several of these kinds of provisions, such as those pertaining to grievances, discipline, civil service, seniority, transfers, and maintenance of standards, apply to personnel-related matters. As noted in the section on manpower planning, unions and contract agreements affect manpower planning and other personnel processes by redefining what can be controlled and changed. Burpo has argued that thus far civil service has withstood union influences, but that the growing phenomenon of productivity bargaining may have an impact on traditional civil service prerogatives.²¹⁶ From the standpoint of the police organization, both civil service systems and unions are "outside" influences, parts of the environment, and both have an effect on police personnel policies and practices.

A particularly important environmental influence on police agencies in recent years has been the growing emphasis and

enforcement of equal employment opportunity and affirmative action. Provisions for these are written into federal legislation, as well as into interpretations of the U.S. Constitution. The government apparatus for applying these policies includes the federal Equal Employment Opportunity Commission (EEOC), subunits of various other federal agencies, numerous state commissions and agencies, and the courts. In addition to the general applicability of constitutional guarantees, any local jurisdictions or agencies that accept grants or revenue sharing funds from the federal government also fall within the penumbra of federal equal employment opportunity legislation.

Although no reliable figures are available, a large number of police agencies have been challenged in the courts or before the EEOC in the past few years and been found wanting in their personnel practices. As a result these agencies have had to enter into agreements or consent decrees, or have been handed court orders and injunctions, that specify practices and goals for increasing their employment of minorities and women. Those agencies that have not been directly involved with the courts and the EEOC have also been influenced by equal employment opportunity and affirmative action. Many agencies have begun special recruiting efforts to attract minority and female applicants, and many agencies have also undertaken to test the validity of their selection and promotion processes.

Quite clearly, minorities and women are still significantly underrepresented among the employees of police agencies, so that the recent frenzy of affirmative action activity has not been completely

successful. It is also possible that the emphasis on equal employment opportunity is waning, due to a lack of commitment among federal authorities and the white backlash.²¹⁷ Nevertheless, the EEOC/affirmative action phenomenon remains an important environmental influence on personnel policy and decision making in police organizations.

Another key environmental concern for police agencies relates to fiscal matters and the budget. As public agencies, police departments are dependent on the legislative body and the chief executive in their jurisdiction for annual appropriations. Two basic considerations are that the size of the whole "pie" depends on taxation levels and the economic condition of the jurisdiction, and that numerous other agencies compete with the police for slices of the pie. In addition to the legislative and chief executive decision makers, the local budget office or budget bureau may also wield substantial authority for the allocation of funds. The important point is that all of these decision makers and competitors are "outside of" the police organization and yet have an impact on agency finances.

The size of the annual budget has tremendous ramifications for police departments, because they are so labor-intensive. In many respects the annual budget allotment fixes the size of the personnel complement, and so has a great impact on manpower planning in police organizations. Although the extent is not clear, the so-called Proposition 13 atmosphere has affected police agencies as well as other public bodies, and many departments have lost

manpower in the last year or two.²¹⁸ Heaphy has argued that severely limited resources are the strongest impetus for change in law enforcement today.²¹⁹

Another source of funds for local police agencies over the last decade or so has been the federal government. The primary sources of these funds have been the Law Enforcement Assistance Administration (LEAA), the Department of Transportation (DOT), and the Comprehensive Employment Training Act (CETA). The funds from LEAA have been available for various kinds of programs aimed at police innovation and improvement, the DOT funds have been for programs related to highway safety, and the CETA funds have subsidized the employment of previously unemployed persons. As noted earlier, acceptance of these funds by an agency has made federal EEO legislation applicable to it. The CETA program has obviously affected police personnel matters, both by making increased manpower possible and by changing somewhat the kinds of people employed. The funding from LEAA has also influenced personnel practices in police organizations, as much of the money has been spent on education, training, job analysis, career development, recruiting, and similar kinds of programs. The effects of these funding sources on the internal operation of police departments has not been uniform, but many have been influenced in some way.

Political figures also constitute an important element of the environment of police agencies. One of the central roles of politicians is resource allocation, and the impact of budget and fiscal concerns on the police agency has already been discussed.

Politicians also make policy and pass laws that affect the police, as with the equal employment opportunity issue. In most jurisdictions the chief elected executive (major, governor, etc.) also has the authority to appoint and remove from office the chief of police, or whatever the title of the top administrator of the law enforcement agency (director, superintendent, commissioner, etc.). From the point of view of the chief of police, this is certainly an important environmental consideration, and influences policy and decision making in the police organization. The proper relationship between the chief of police and the chief elected executive of the jurisdiction has received some discussion lately,²²⁰ but regardless of its form, political figures clearly are significant actors in the environment of police agencies.

Finally, the community, crime, and the rest of the criminal justice system are major elements of the police organization environment. Two of the main contributors to police improvement in the recent past, according to Heaphy, have been civil disorders and the emergence of crime as a political issue.²²¹ Each focused attention on the police and led to changes, many of which involved personnel matters. The closest unit of the criminal justice system to the police is the courts, and as case processors and legal supervisors the courts have a substantial impact on police practices.

The various elements of the police organizational environment discussed above seem to have some influence on the activities of police agencies, including personnel affairs, despite the fact that they are "outside of" the agencies. In the data collection

and analysis phase of this study, considerable attention will be given to the influence of such factors on the state of the art and feasibility of manpower planning in police organizations.

Manpower Planning

From the discussion of police organizations up to this point, three generalizations particularly important for manpower planning can be drawn. First, police agencies are career organizations with rigidly defined ranks and authority structures. Second, the state of police personnel administration and planning is not such that comprehensive manpower planning is likely to be found in many police agencies. Third, police agencies are susceptible to a variety of influences from beyond their boundaries.

The general case for manpower planning has been presented by Ring and Dyson, both of whom have direct experience with the activity in police agencies.

The intent of a human resource planning capacity within a police agency is to conduct applied personnel research, supported by an appropriate data collection effort, in order to isolate and define obstacles to cost-effective utilization of human resources, to determine viable alternative solutions to those problems, and to generate the necessary solutions to those problems, and to generate the necessary information and analysis on which police management can base feasible objectives and appropriate decision-making.²²²

A somewhat broader description of manpower planning, which takes the individual as well as the organization into consideration, has been offered by H. H. Graham, Commissioner of the Ontario Provincial Police, Canada.

The primary goal of manpower planning is to ensure that the force's programs are staffed with the right numbers and kinds of people, in the right places, at the right time. Such a plan is developed and updated, broadly speaking, in two steps. First by forecasting the organizational requirements and the manpower supply that will be available at various times; second by determining the way in which these needs can be met through programs of recruitment, training and development, redesigning of jobs, and career planning. By these means, the force can achieve two crucial objectives: the most productive allocation of manpower and increased organizational effectiveness. In this way manpower planning may be defined as: A planned systematic approach to staffing which, whenever possible, correlates career aspirations of the individual with the needs of the force.²²³

This form of comprehensive manpower planning does not seem to be practiced, or probably even appreciated, in most police departments. The President's Crime Commission found in 1967 that "although the fulfillment of police responsibilities depends upon the effective use of manpower, relatively few departments possess the resources and capabilities for providing the sound, continuous planning essential for assigning personnel and evaluating police effectiveness."²²⁴ With respect to management development, Munro noted in 1974 that "this kind of advance evaluation and training is unheard of in police organizations."²²⁵ As another indication of failure to conduct manpower planning, a survey reported in 1976 found that one-half of all police departments allocate their patrol personnel equally across shifts, despite the fact that work load varies substantially by shift.²²⁶

Several individual police agencies are noteworthy for their attempts at comprehensive manpower planning. One such agency is the Ontario Provincial Police, as described above. Another is the

New York Police Department, which in the early 1970s had a Personnel Planning Unit, and gave considerable attention to career paths and management development. In the general area of career development, the Los Angeles Police Department and the Los Angeles County Sheriff's Office have both been innovative. Probably the most wide-ranging effort at reform through manpower planning, however, was attempted in the Dallas Police Department in the early and mid 1970s. This extensive effort included upgrading educational levels, recruiting women and minorities, validating selection and promotion criteria, providing horizontal career development opportunities, decentralizing decision making, and redesigning the basic police jobs.²²⁷ Most importantly, all of these programs were tied to an explicit statement of the goals of the organization, and to a comprehensive plan. Unfortunately, the effort was largely a failure, as forces internal and external to the police department blocked many of the reforms and innovations.

Although comprehensive efforts at manpower planning in police organizations have apparently been few and often unsuccessful, substantial energy has been devoted to some of its specific components. For example, in terms of having people in the right places at the right times, considerable work has been done to rationalize resource allocation and deployment, especially with respect to patrol.²²⁸ This is true even though, as noted earlier, one-half of all police agencies simply allocate patrol resources evenly between shifts. The effectiveness of what police officers do has also received a great deal of attention in the last five to ten years.²²⁹

With respect to the Patten definition of manpower planning presented earlier, the greatest difficulties facing police agencies are the determinations of the right numbers of people needed, the right kinds of people, and the right things for them to do. Among the arguments often used to establish quantitative personnel needs in policing are population ratios, standards, needs assessment, economic determinants, and program-specific requirements.²³⁰ Each of these kinds of arguments, however, is implicitly of the form, "in order to provide a given level and kind of service, N people are needed." This is obviously then a political decision, rather than a scientific problem, at heart. And particularly so because one of the primary kinds of services believed to be provided by the police, crime prevention or deterrence, cannot be demonstrated to result from what the police do.

The determination of the kinds of people needed by police agencies is similarly complicated. The primary method used to make such a determination is job analysis, which examines the nature of the work performed and translates that into required knowledges, skills, and abilities. A large number of police departments have performed job analyses, or had them performed for them, in recent years,²³¹ at least in part to assure the content validity of their selection processes, so as to satisfy equal employment opportunity requirements. As with the determination of numbers of people, however, arguments for kinds of people are based on an implicit assumption about the nature of police work. Most job analyses make a status quo assumption, that is, they seek to determine the

knowledges, skills, and abilities needed to perform the police job as presently constituted.²³² For most jobs this assumption does not present a serious problem, but the nature of police work is such that police officers largely define their jobs. Consequently, the reliance on job analysis to determine the qualitative manpower needs of a police agency often amounts to allowing police job incumbents to describe themselves and to perpetuate a status quo created by them. Inasmuch as police work is intimately bound up with the distribution of values in society, with who gets what, role incumbents would not seem to be the best qualified or most desirable persons for determining the kinds of people needed in police agencies.

Given all that has been said, manpower planning would seem to be a much needed but rarely performed activity in police organizations. According to Ring and Dyson, "it is clear that good human resource planning is the key to solution of many of the problems common to law enforcement administrators."²³³ Apparently many of the narrow components of manpower planning are individually utilized relatively commonly (such as manpower allocation or job analysis), and it may be the case that many or most larger agencies perform a brand of personnel planning, so as to assure that personnel slots are filled in a reasonably timely fashion. But comprehensive manpower planning, beginning with explicit consideration of the goals of the police agency and the kinds of jobs and people needed to most nearly attain them, seems to be very rarely attempted, or even recognized as something an agency might do.

Summary

The general activity known as planning is a component of rational social action. It is closely related to a number of other processes, including decision making, policy analysis, and problem solving, but planning is distinguished by its explicit attention to the future and by its concern for comprehensiveness and coordination of activities directed at limited goals. Because the conduct of planning is limited by such conditions as goal dissensus, uncertainty in forecasting, and localized, problemistic search, planning in practice is often problem-centered and only boundedly-rational. The products of planning, including uncertainty reduction, may be actively sought by decision makers, but decisions are also based on other kinds of premises, such as values, so that the role of planning is a limited one.

Manpower planning is planning with particular concern for human resources. Most generally, manpower planning is intended to assure an organization that it has the right numbers and kinds of people, and that it is using them effectively. Personnel administration, personnel management, and manpower-related decision making are activities somewhat associated with manpower planning, but the latter is distinguished by its focus on the future, strategy development, and coordination of interdependent decisions, policies, and manpower activities. The process of manpower planning is similar to that for general planning, and manpower planning in practice is also limited by such problems as goal disagreement and localized search for alternatives. In addition, the practice of manpower

planning seems to be influenced by characteristics of the organization and its environment.

Police organizations are labor-intensive, and in the United States very numerous. Most police personnel join their organizations at a common job classification, compete along a common promotional track, and are assigned to basic line functions. Most police departments are organized in the traditional hierarchical fashion, and give the impression of rigid and tightly controlled management. Paradoxically, however, the basic workers in police agencies (patrol officers and detectives) exercise a great deal of freedom and discretion, with little supervision or positive management direction.

Personnel-related matters in police organizations are affected by several environmental entities and conditions. Most police agencies are required to work through civil service commissions, which seem sometimes to constrain and other times to promote innovation. Police employee unions and associations also influence personnel matters, whether formally in contract provisions or informally in agreements and understandings. In recent years equal employment opportunity considerations have developed as another factor affecting manpower decisions and processes, especially as the police have historically employed relatively few women and minorities. For decision making about the numbers of people employed by police departments, all of the participants in the government budgeting process become important.

Available evidence concerning current manpower planning efforts in police organizations is minimal. It seems likely that

many of the component activities of personnel administration and manpower planning are widely practiced, but that manpower planning as a form of planning is not commonly undertaken by very many police agencies in this country.

FOOTNOTES--CHAPTER II

¹Richard S. Bolan, "Mapping the Planning Theory Terrain," Urban and Social Change Review 8, 2 (1975): 43.

²Aaron Wildavsky, "If Planning is Everything, Maybe It's Nothing," Policy Sciences 4 (1973): 127-153.

³Friedrich A. van Hayek, The Road to Serfdom (London: George Routledge and Sons, 1944); Karl R. Popper, The Open Society and Its Enemies (London: Routledge and Kegan Paul, 1945).

⁴Robert A. Dahl, "The Politics of Planning," International Social Science Journal 11 (1959): 340.

⁵Karl Mannheim, Man and Society in an Age of Reconstruction (New York: Harcourt, Brace, 1949); Barbara Wootton, Freedom Under Planning (Chapel Hill, NC: University of North Carolina, 1945).

⁶Dahl, "The Politics of Planning," p. 340.

⁷John Friedmann and Barclay Hudson, "Knowledge and Action: A Guide to Planning Theory," Journal of the American Institute of Planners 42 (January 1974): 2.

⁸John Friedmann, "The Study and Practice of Planning," International Social Science Journal 11 (1959): 327-328.

⁹Paul Davidoff and Thomas A. Reiner, "A Choice Theory of Planning," Journal of the American Institute of Planners 30 (May 1962): 103.

¹⁰Yehezkel Dror, "The Planning Process: A Facet Design," International Review of Administrative Sciences 29, 1 (1963): 50.

¹¹Andreas Faludi, "The Planning Environment and the Meaning of Planning," Regional Studies 4 (1970): 8.

¹²Roger L. Sisson, "How Did We Ever Make Decisions Before the Systems Approach?" Socio-Economic Planning Sciences 6 (1972): 523.

¹³Wildavsky, "If Planning is Everything, Maybe It's Nothing," p. 128.

¹⁴David W. Ewing, Long Range Planning for Management (New York: Harper and Row, 1964).

¹⁵John Friedmann, "A Conceptual Model for the Analysis of Planning Behavior," Administrative Science Quarterly (1967): 227.

¹⁶John W. Dyckman, "Planning and Decision Theory," Journal of the American Institute of Planners 29 (1961): 335-345.

¹⁷C. West Churchman, The Systems Approach (New York: Dell, 1968), p. 150.

¹⁸Abraham Kaplan, "On the Strategy of Social Planning," Policy Sciences 4 (1973): 44-45.

¹⁹Larry Gamm, "Planning in Administration," Policy Studies Journal (Autumn 1976): 74.

²⁰Faludi, "The Planning Environment and the Meaning of Planning"; Richard E. Klosterman, "Foundations for Normative Planning," Journal of the American Institute of Planners 44, 1 (January 1978): 37-46.

²¹Faludi, "The Planning Environment and the Meaning of Planning."

²²Murray Weidenbaum and Linda Rockwood, "Corporate Planning versus Government Planning," The Public Interest 46 (Winter 1977): 59-72.

²³Friedmann, "A Conceptual Model for the Analysis of Planning Behavior."

²⁴Howell S. Baum, "Toward a Post-Industrial Planning Theory," Policy Sciences 8 (1977): 401-421.

²⁵Kaplan, "On the Strategy of Social Planning."

²⁶James R. Emshoff, "Planning the Process of Improving the Planning Process: A Case Study in Meta-Planning," Management Science 24, 11 (July 1978): 1095-1108; see also Thomas D. Cook and Charles L. Gruder, "Metaevaluation Research," Evaluation Quarterly 2, 1 (February 1978): 5-51.

²⁷Dyckman, "Planning and Decision Theory," p. 336.

²⁸Dror, "The Planning Process: A Facet Design," p. 51.

²⁹Dahl, "The Politics of Planning," p. 340.

³⁰Herbert A. Simon, "Decision Making and Planning," in Planning and the Urban Community, ed. Harvey Perloff (Pittsburgh: University of Pittsburgh, 1961), p. 192.

³¹John W. Dyckman, "New Normative Styles in Urban Studies," Public Administration Review 31, 3 (May/June 1971): 327-334.

³²Herbert A. Simon, The Sciences of the Artificial (Cambridge, MA: Massachusetts Institute of Technology, 1969), p. 112.

³³See Fremont J. Lyden and Ernest G. Miller, eds., Planning-Programming-Budgeting, 2nd ed. (Chicago: Rand McNally, 1972).

³⁴Basil Dimitriou, "The Interpenetration of Politics and Planning," Socio-Economic Planning Sciences 7 (1973): 64.

³⁵John R. Seeley, "What is Planning? Definition and Strategy," Journal of the American Institute of Planners 28, 2 (May 1962): 93.

³⁶Friedman, "The Study and Practice of Planning"; Faludi, "The Planning Environment and the Meaning of Planning."

³⁷Seeley, "What is Planning? Definition and Strategy," p. 94.

³⁸Stephen S. Skjei, "Urban Problems and the Theoretical Justification of Urban Planning," Urban Affairs Quarterly 11, 3 (1976): 333.

³⁹Terry Moore, "Why Allow Planners To Do What They Do? A Justification from Economic Theory," Journal of the American Institute of Planners 44, 4 (October 1978): 396.

⁴⁰Davidoff and Reiner, "A Choice Theory of Planning"; John Dakin, "An Evaluation of the 'Choice' Theory of Planning," Journal of the American Institute of Planners (February 1963): 19-27.

⁴¹A. Benjamin Handler, "What is Planning Theory?" Journal of the American Institute of Planners 3 (1957): 144-150.

⁴²Davidoff and Reiner, "A Choice Theory of Planning."

⁴³Ibid.

⁴⁴Kenneth J. Arrow, Social Choice and Individual Values (New York: John Wiley and Sons, 1951); Anthony Downs, Inside Bureaucracy (Boston: Little, Brown, 1967).

⁴⁵Friedmann and Hudson, "Knowledge and Action: A Guide to Planning Theory."

⁴⁶*Ibid.*, p. 10.

⁴⁷Bolan, "Mapping the Planning Theory Terrain."

⁴⁸*Ibid.*, p. 41.

⁴⁹*Ibid.*, p. 35.

⁵⁰Friedmann and Hudson, "Knowledge and Action: A Guide to Planning Theory," pp. 13-14.

⁵¹Wildavsky, "If Planning is Everything, Maybe It's Nothing," p. 141.

⁵²Harold Koontz and Cyril O'Donnell, Principles of Management, 4th ed. (New York: McGraw-Hill, 1968), pp. 94-99.

⁵³Horst W. J. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," Policy Sciences 4 (1973): 159.

⁵⁴Arrow, Social Choice and Individual Values.

⁵⁵Edward C. Banfield, "Ends and Means in Planning," International Social Science Journal 11 (1959): 361-368.

⁵⁶Friedmann, "The Study and Practice of Planning."

⁵⁷Seeley, "What is Planning? Definition and Strategy."

⁵⁸Herbert A. Simon, "On the Concept of Organizational Goal," Administrative Science Quarterly 9 (1964): 1-22.

⁵⁹Rittel and Webber, "Dilemmas in a General Theory of Planning," p. 159.

⁶⁰Bolan, "Mapping the Planning Theory Terrain."

⁶¹Banfield, "Ends and Means in Planning."

⁶²Herbert A. Simon, Administrative Behavior, 3rd ed. (New York: Free Press, 1976), p. 81.

⁶³Banfield, "Ends and Means in Planning"; David Braybrooke and Charles E. Lindblom, A Strategy of Decision (New York: Free Press, 1963).

⁶⁴James G. March and Herbert A. Simon, Organizations (New York: John Wiley, 1958): pp. 179-180.

⁶⁵Rittel and Webber, "Dilemmas in a General Theory of Planning," p. 169.

⁶⁶Simon, Administrative Behavior; March and Simon, Organizations; Braybrooke and Lindblom, A Strategy of Decision.

⁶⁷Simon, Administrative Behavior.

⁶⁸Charles E. Lindblom, "The Science of 'Muddling Through,'" Public Administration Review 19 (1959): 79-99.

⁶⁹Braybrooke and Lindblom, A Strategy of Decision.

⁷⁰Amitai Etzioni, "Mixed-Scanning: A 'Third' Approach to Decision-Making," Public Administration Review 27 (December 1967): 385-392.

⁷¹Churchman, The Systems Approach, p. 173.

⁷²C. Wiseman, "Selection of Major Planning Issues," Policy Sciences 9 (1978): 73.

⁷³Richard M. Cyert and James G. March, A Behavioral Theory of the Firm (Englewood Cliffs, NJ: Prentice-Hall, 1963), p. 20.

⁷⁴See Richard J. Bernstein, The Restructuring of Social and Political Theory (New York: Harcourt Brace Javanovich, 1976), for a review and synthesis of recent developments in the philosophy of the social sciences.

⁷⁵March and Simon, Organizations, pp. 175-176.

⁷⁶Simon, The Sciences of the Artificial, p. 65.

⁷⁷Ira A. Lowry, "A Short Course in Model Design," Journal of the American Institute of Planners 31, 2 (May 1965): 158.

⁷⁸Simon, The Sciences of the Artificial, p. 97.

⁷⁹*Ibid.*, p. 100.

⁸⁰*Ibid.*, p. 103.

⁸¹Christopher Alexander, Notes on the Synthesis of Form (Cambridge, MA: Harvard University, 1964), p. 41.

⁸²Britton Harris, "Plan or Projection: An Examination of the Use of Models in Planning," Journal of the American Institute of Planners 26, 4 (November 1960): 265-272; Lowry, "A Short Course in Model Design"; Robert R. Mayer, "Social System Models for Planners," Journal of the American Institute of Planners 38, 3 (May 1972): 130-139.

⁸³Harris, "Plan or Projection: An Examination of the Use of Models in Planning."

⁸⁴Faludi, "The Planning Environment and the Meaning of Planning."

⁸⁵Susan S. Fainstein and Norman I. Fainstein, "City Planning and Political Values," Urban Affairs Quarterly 6 (March 1971): 341-362.

⁸⁶Fainstein and Fainstein, "City Planning and Political Values," p. 357.

⁸⁷Faludi, "The Planning Environment and the Meaning of Planning," p. 5.

⁸⁸Ibid., p. 4.

⁸⁹Norman Beckman, "The Planner as Bureaucrat," Journal of the American Institute of Planners 32 (November 1964): 323-327.

⁹⁰Francine F. Rabinovitz, "Politics, Personality and Planning," Public Administration Review 27, 1 (1967): 18-24.

⁹¹E. S. Savas, "New Directions for Urban Analysis," Interfaces 6, 1 (November 1975): 3.

⁹²Russell W. Getter and Nick Elliott, "Receptivity of Local Elites Toward Planning," Journal of the American Institute of Planners 42 (1976): 87-95.

⁹³Kim Quaille Hill and James C. Coomer, "Local Politicians and Their Attitudes to Planning," Long Range Planning 10 (December 1977): 57-61.

⁹⁴Ibid., p. 60.

⁹⁵Robert P. Wolensky and David L. Groves, "Planning in the Smaller City: Major Problems and a Possible Solution," Socio-Economic Planning Sciences 11 (1977): 37-41.

- ⁹⁶Wolensky and Groves, "Planning in the Smaller City: Major Problems and a Possible Solution," p. 38.
- ⁹⁷Banfield, "Ends and Means in Planning," p. 364.
- ⁹⁸March and Simon, Organizations, p. 185.
- ⁹⁹Randall Bartlett, Economic Foundations of Political Power (New York: Free Press, 1973).
- ¹⁰⁰Simon, Administrative Behavior.
- ¹⁰¹Weidenbaum and Rockwood, "Corporate Planning versus Government Planning."
- ¹⁰²Robert N. Anthony, Planning and Control Systems: A Framework for Analysis (Cambridge, MA: Harvard University, 1965), pp. 16-18.
- ¹⁰³Peter H. Gringer, "The Anatomy of Business Strategic Planning Reconsidered," The Journal of Management Studies (May 1971): 208.
- ¹⁰⁴Peter Lorange and Richard F. Vancil, "How to Design a Strategic Planning System," Harvard Business Review (September-October 1976): 78.
- ¹⁰⁵Maurice Marks, "Organizational Adjustment to Uncertainty," The Journal of Management Studies 14, 1 (1977): 1.
- ¹⁰⁶Lorange and Vancil, "How to Design a Strategic Planning System."
- ¹⁰⁷Marks, "Organizational Adjustment to Uncertainty," p. 7.
- ¹⁰⁸Ibid.
- ¹⁰⁹Ewing, Long Range Planning for Management; Robert J. Mockler, Business Planning and Policy Formulation (New York: Appleton-Century-Crofts, 1972).
- ¹¹⁰Murray L. Weidenbaum and A. Bruce Rozet, Potential Industrial Adjustments to Shifts in Defense Spending (Menlo Park, CA: Stanford Research Institute, 1963), p. 20.
- ¹¹¹John Bramham, Practical Manpower Planning (London: Institute of Personnel Management, 1975), p. 19.

- 112A. R. Smith, "Some Views on Manpower Planning," in Manpower Planning, ed. D. J. Bartholemew (Middlesex, England: Penguin, 1976), p. 39.
- 113Bramham, Practical Manpower Planning, p. 19.
- 114Smith, "Some Views on Manpower Planning," p. 39.
- 115Elmer H. Burack, Strategies for Manpower Planning and Programming (Morristown, NJ: General Learning Press, 1972), p. 54.
- 116D. B. Hughes, "Introduction," in Aspects of Manpower Planning, ed. D. J. Bartholemew and B. R. Morris (London: The English Universities Press, 1971), p. 4.
- 117D. J. Bartholemew, ed, Manpower Planning (Middlesex, England: Penguin, 1976), p. 7.
- 118Thomas H. Patten, Jr., Manpower Planning and the Development of Human Resources (New York: John Wiley & Sons, 1971), p. 14.
- 119Ben White, "Proceedings of the Tenth Annual Research Conference on Manpower Planning and Forecasting," University of California, Institute of Industrial Relations, 1967.
- 120Gareth Stainer, Manpower Planning: The Management of Human Resources (London: Heinemann, 1971), p. 3.
- 121Burack, Strategies for Manpower Planning and Programming, p. 59.
- 122Wayne F. Cascio, Applied Psychology in Personnel Management (Reston, VA: Reston, 1978), p. 158.
- 123A. T. M. Wilson, "Basic Assumptions in Manpower Planning," in Manpower Planning, ed. D. J. Bartholemew (Middlesex, England: Penguin, 1976), p. 51.
- 124Burack, Strategies for Manpower Planning and Programming, p. 12.
- 125Bramham, Practical Manpower Planning, p. 22.
- 126A. R. Smith, "Developments in Manpower Planning," Personnel Review 1 (1971): 44-54.
- 127David J. Bell, "Manpower in Corporate Planning," Long Range Planning 9 (April 1976): 31-37.

¹²⁸Gareth Jones, David Bell, Alexander Center, and David Coleman, Perspectives in Manpower Planning (London: Institute of Personnel Management, 1967).

¹²⁹Bramham, Practical Manpower Planning, p. 28.

¹³⁰James W. Walker, "Manpower Planning in Organizations: A Working Paper," Indiana University, Bloomington, 1968 as reported in Burack, Strategies for Manpower Planning and Programming, p. 66; see also Ph. Lasserre, "Planning Through Incrementalism," Socio-Economic Planning Sciences 8 (1974): 129-134.

¹³¹See, for example, A. R. Smith, ed., Models of Manpower Systems (London: The English Universities Press, 1970); Bartholemew and Morris, Aspects of Manpower Planning; D. J. Bartholemew and A. R. Smith, eds., Manpower and Management Science (Lexington, MA: D.C. Heath, 1971); D. J. Clough, C. C. Lewis, and A. L. Oliver, eds., Manpower Planning Models (London: The English Universities Press, 1974); and Bartholemew, Manpower Planning.

¹³²Somewhat technical but not overwhelming are Bell, "Manpower in Corporate Planning"; Norbert F. Elbert and William J. Kehoe, "How to Bridge Fact and Theory in Manpower Planning," Personnel (November-December 1976): 31-39; and Keith Ray, "Managerial Manpower Planning: A Systematic Approach," Long Range Planning 10 (April 1977): 21-30.

¹³³Burack, Strategies for Manpower Planning and Programming, p. 72.

¹³⁴James W. Walker, "Evaluating the Practical Effectiveness of Human Resource Planning Applications," Human Resource Management 13 (1974): 19-27; J. F. Gillespie, W. E. Leininger, and H. Kahalas, "A Human Resource Planning and Valuation Model," Academy of Management Journal 19 (1976): 650-656.

¹³⁵Burack, Strategies for Manpower Planning and Programming, p. 63; Bramham, Practical Manpower Planning, p. 23; William E. Bright, "How One Company Manages Its Human Resources," Harvard Business Review (January-February 1976): 92.

¹³⁶Bramham, Practical Manpower Planning, p. 150.

¹³⁷Smith, "Some Views on Manpower Planning," p. 45.

¹³⁸Elmer H. Burack and Thomas J. McNichols, Management and Automation (Washington, D.C.: U.S. Department of Labor, Manpower Administration, 1968).

¹³⁹Herbert G. Heneman and George Seltzer, Manpower Planning and Forecasting in the Firm: An Exploratory Probe (University of Minnesota, Industrial Relations Centers, 1968).

¹⁴⁰David E. Dimick and Victor V. Murray, "Correlates of Substantive Policy Decisions in Organizations: The Case of Human Resource Management," Academy of Management Journal 21, 4 (December 1978): 611-623.

¹⁴¹Ibid., p. 619.

¹⁴²Ibid., p. 621.

¹⁴³President's Commission on Law Enforcement and Administration of Justice, The Challenge of Crime in a Free Society (New York: Avon Books, 1968), p. 239.

¹⁴⁴National Advisory Commission on Criminal Justice Standards and Goals, Police (Washington, D.C.: Government Printing Office, 1973), p. 101.

¹⁴⁵The National Manpower Survey of the Criminal Justice System: Volume Two (Washington, D.C.: Government Printing Office, 1978), p. 5.

¹⁴⁶Cited in David J. Farmer, "The Research 'Revolution,'" Police Magazine (November 1978): 64; and Dorothy Guyot, "Bending Granite: Attempts to Change the Rank Structure of American Police Departments," Journal of Police Science and Administration 7, 3 (September 1979): 225.

¹⁴⁷President's Commission, The Challenge of Crime in a Free Society, p. 239.

¹⁴⁸U.S. Department of Justice, Law Enforcement Assistance Administration, and U.S. Bureau of the Census, Expenditure and Employment Data for the Criminal Justice System: 1977 (Washington, D.C.: Government Printing Office, 1979), pp. 5-7.

¹⁴⁹The National Manpower Survey of the Criminal Justice System: Volume Two, p. 2.

¹⁵⁰Census data cited in The National Manpower Survey of the Criminal Justice System: Volume Two, p. 5.

¹⁵¹Ibid.

¹⁵²National Sheriff's Association, County Law Enforcement: An Assessment of Capabilities and Needs (Washington, D.C.: National Sheriff's Association, 1978).

¹⁵³Computed from Expenditure and Employment Data for the Criminal Justice System: 1977, pp. 196, 207.

¹⁵⁴John F. Heaphy, ed., Police Practices: The General Administrative Survey (Washington, D.C.: Police Foundation, 1978).

¹⁵⁵Ibid., p. 10.

¹⁵⁶The National Manpower Survey of the Criminal Justice System: Volume Two, p. 2.

¹⁵⁷Ibid., p. 1.

¹⁵⁸Heaphy, Police Practices: The General Administrative Survey, p. 9.

¹⁵⁹Ibid.

¹⁶⁰The National Manpower Survey of the Criminal Justice System: Volume Two, p. 3.

¹⁶¹Ibid., p. 2.

¹⁶²Heaphy, Police Practices: The General Administrative Survey.

¹⁶³The National Manpower Survey of the Criminal Justice System: Volume Two, p. 3.

¹⁶⁴Heaphy, Police Practices: The General Administrative Survey, p. 14.

¹⁶⁵Expenditure and Employment Data for the Criminal Justice System: 1977.

¹⁶⁶Douglas S. Drummond, Police Culture (Beverly Hills, CA: Sage Professional Papers in Administrative and Policy Studies, 1976), p. 19.

¹⁶⁷O. W. Wilson and Roy C. McLaren, Police Administration, 4th ed. (New York: McGraw-Hill, 1977).

¹⁶⁸American Bar Association Project on Standards for Criminal Justice, The Urban Police Function (New York: American Bar Association, 1973), p. 227.

¹⁶⁹For example, 40% of the large city agencies surveyed in 1977 reported having some sort of team policing program - Heaphy, Police Practices: The General Administrative Survey.

¹⁷⁰Lawrence W. Sherman, Catherine H. Milton, and Thomas V. Kelly, Team Policing: Seven Case Studies (Washington, D.C.: Police Foundation, 1973); Alfred I. Schwartz and Sumner N. Clarren, The Cincinnati Team Policing Experiment: A Summary Report (Washington, D.C.: Police Foundation, 1977); William G. Gay, H. Talmadge Day, and Jane P. Woodward, National Evaluation Program: Neighborhood Team Policing (Washington, D.C.: Government Printing Office, 1977); Mary Ann Wycoff and George L. Kelling, The Dallas Experience: Organizational Reform (Washington, D.C.: Police Foundation, 1978).

¹⁷¹Michael Banton, The Policeman in the Community (New York: Basic Books, 1964); James Q. Wilson, Varieties of Police Behavior: The Management of Law and Order in Eight Communities (Cambridge, MA: Harvard University, 1968); Egon Bittner, The Functions of the Police in Modern Society (Washington, D.C.: Government Printing Office, 1970).

¹⁷²John H. McNamara, "Uncertainties in Police Work: The Relevance of Police Recruits' Backgrounds and Training," in The Police: Six Sociological Essays, ed. David J. Bordua (New York: John Wiley and Sons, 1967).

¹⁷³Bittner, The Functions of the Police in Modern Society; Drummond, Police Culture; J. Lefkowitz, "Industrial-Organizational Psychology and the Police," American Psychologist 32 (1977); Gary W. Cordner, "Open and Closed Models of Police Organizations: Traditions, Dilemmas, and Practical Considerations," Journal of Police Science and Administration 6, 1 (March 1978): 22-34.

¹⁷⁴Kenneth R. McCreedy, "The Changing Nature of Police Management: Theory in Transition," in Alvin W. Cohn, ed., The Future of Policing (Beverly Hills, CA: Sage Criminal Justice System Annuals, 1978), p. 84.

¹⁷⁵Ronald Reams, Jack Kuykendall, and David Burns, "Police Management Systems: What is an Appropriate Model?" Journal of Police Science and Administration 3, 4 (December 1975): 475-481.

¹⁷⁶Gerald W. Shanahan, J. David Hunger, and Thomas L. Wheelen, "Organizational Profile of Police Agencies in the United States," Journal of Police Science and Administration 7, 3 (September 1979): 354-360.

¹⁷⁷Donald F. Cawley, "Managers Can Make a Difference: Future Directions," in The Future of Policing, ed. Alvin W. Cohn (Beverly Hills, CA: Sage Criminal Justice System Annuals, 1978), pp. 21-55.

¹⁷⁸Donald F. Cawley and H. Jerome Miron, Managing Patrol Operations: Manual (Washington, D.C.: Government Printing Office, 1977); Donald F. Cawley, H. Jerome Miron, William J. Araujo, Robert Wasserman, Timothy A. Mannello, and Yale Huffman, Managing Criminal Investigations: Manual (Washington, D.C.: Government Printing Office, 1977); David C. Anderson, "Management Moves in on the Detective," Police Magazine (March 1978): 4-13; Kevin Krajick, "Does Patrol Prevent Crime," Police Magazine (September 1978): 4-16.

¹⁷⁹Deborah Ann Kent and Terry Eisenberg, "The Selection and Promotion of Police Officers: A Selected Review of Recent Literature," The Police Chief (February 1972): 20-29; Richard G. Kohlan, "Police Promotional Procedures in Fifteen Jurisdictions," Public Personnel Management (May-June 1973): 167-170; Terry Eisenberg, Deborah Ann Kent, and Charles R. Wall, Police Personnel Practices in State and Local Governments (Washington, D.C.: Police Foundation, 1973); Lefkowitz, "Industrial-Organizational Psychology and the Police"; Heaphy, Police Practices: The General Administrative Survey; George W. Greisinger, Jeffrey S. Slovak, and Joseph L. Molkup, Police Personnel Practices in Forty-Two American Cities (Washington, D.C.: Public Administration Service, 1978); James M. Poland, "Police Selection Methods and the Prediction of Police Performance," Journal of Police Science and Administration 6, 4 (December 1978): 374-393.

¹⁸⁰Greisinger, Slovak, and Molkup, Police Personnel Practices in Forty-Two American Cities.

¹⁸¹Eisenberg, Kent, and Wall, Police Personnel Practices in State and Local Governments.

¹⁸²Greisinger, Slovak, and Molkup, Police Personnel Practices in Forty-Two American Cities.

¹⁸³Kent and Eisenberg, "The Selection and Promotion of Police Officers"; Kefkowitz, "Industrial-Organizational Psychology and the Police," pp. 353-357; Poland, "Police Selection Methods and the Prediction of Police Performance."

¹⁸⁴Greisinger, Slovak, and Molkup, Police Personnel Practices in Forty-Two American Cities; Heaphy, Police Practices: The General Administrative Survey.

¹⁸⁵Eisenberg, Kent, and Wall, Police Personnel Practices in State and Local Governments; Greisinger, Slovak, and Molkup, Police Personnel Practices in Forty-Two American Cities.

¹⁸⁶Ibid.

¹⁸⁷Lefkowitz, "Industrial-Organizational Psychology and the Police," p. 352.

¹⁸⁸Peter J. Pitchess, "Career Development for Professional Law Enforcement," Police (September-October 1970): 5-10; Peter J. Pitchess, Career Development for Law Enforcement (Washington, D.C.: Government Printing Office, 1973); David I. Sheppard and Albert S. Glickman, "Development of a Model Police Career Path System," in Innovation in Law Enforcement (Washington, D.C.: Government Printing Office, 1973); Bernard Cohen, "A Police Career Path Management Appraisal System," The Police Chief (March 1975): 62-65; Valdis Lubans and Richard F. Dart, A Career Ladder Study for the Portsmouth Police Department (Hartford, CT: Social Development Corporation, 1976); H. H. Graham, "Manpower Development in the Ontario Provincial Police," The Police Chief (August 1976): 30-35.

¹⁸⁹Greisinger, Slovak, and Molkup, Police Personnel Practices in Forty-Two American Cities.

¹⁹⁰Lefkowitz, "Industrial-Organizational Psychology and the Police," p. 346.

¹⁹¹W. Donald Heisel and Patrick V. Murphy, "Organization for Police Personnel Management," in Police Personnel Administration, O. Glenn Stahl and Richard A. Staufenberger, eds. (Washington, D.C.: Police Foundation, 1974), pp. 1-2.

¹⁹²Wycoff and Kelling, The Dallas Experience: Organizational Reform, pp. 82-83.

¹⁹³Guyot, "Bending Granite: Attempts to Change the Rank Structure of American Police Departments," p. 253.

¹⁹⁴Nesta M. Gallas, "Research Needs," in Police Personnel Administration, O. Glenn Stahl and Richard A. Staufenberger, eds. (Washington, D.C.: Police Foundation, 1974), p. 236.

¹⁹⁵Heaphy, Police Practices: The General Administrative Survey.

¹⁹⁶O. W. Wilson, Police Planning, 2nd ed. (Springfield, IL: Charles C. Thomas, 1957), p. 3.

¹⁹⁷John P. Kenney, Police Management Planning (Springfield, IL: Charles C. Thomas, 1959).

¹⁹⁸ Richard E. McDonnell, "Planning and Research Functions," The Police Chief (September 1962): 22; Franklin G. Ashburn, "A New Dilemma in Police Planning and Research," The Police Chief (May 1969): 42-47; Howard S. Butler, "Is Research and Planning Necessary?" Law & Order (March 1970): 73; Wesley A. Pomeroy, "New Trends in Police Planning," The Police Chief (February 1971): 16-21; Gary Pence, "Program Planning Budgeting System," The Police Chief (July 1971): 52-57; Michael E. O'Neill, "A Program Planning Budget System: An Impetus for Change in a Police Organization," Police (September 1971): 50-51; Charles L. Key and Miles R. Warren, "Kansas City: Long-Range Planning Program," The Police Chief (May 1972): 72-75; Russell B. Owens and Gene Slade, "Crime Specific Planning," The Police Chief (January 1975): 46-47; James J. Zurawski and Edward C. Brooks, "Planning: The Dynamics of Police Administration," FBI Law Enforcement Bulletin (June 1975): 2-6; Michael D. Letter, "Planning and Evaluation Under Neighborhood Team Policing," The Police Chief (March 1977): 57-60; Glen Craig, "Command Management Planning," The Police Chief (January 1978): 20-21; George P. Tielsch, "Planning Training," The Police Chief (July 1978): 28-29.

¹⁹⁹ John Ashby, James L. LeGrande, and Raymond T. Galvin, "The Nature of the Planning Process," in Effective Police Administration, Harry W. More, ed. (San Jose: Justice Systems Development, 1975), pp. 180-192; Raymond T. Galvin and James L. LeGrande, "Planning and Research," in Municipal Police Administration, 7th ed., George D. Eastman and Esther M. Eastman, eds. (Washington, D.C.: International City Management Association, 1971), pp. 208-216; Jack L. Keykendall and Peter C. Unsinger, Community Police Administration (Chicago: Nelson-Hall, 1975), pp. 97-124; Paul B. Weston, Police Organization & Management (Pacific Palisades, CA: Goodyear, 1976), pp. 67-86; Victor I. Cizankas and Donald G. Hanna, Modern Police Management and Organization (Englewood Cliffs, NJ: Prentice-Hall, 1977); Charles D. Hale, Fundamentals of Police Administration (Boston: Holbrook, 1977), pp. 79-81; Vernon L. Hoy, "Research and Planning," in Local Government Police Management, Bernard L. Garmie, ed. (Washington, D.C.: International City Management Association, 1977), pp. 367-381; Wilson and McLaren, Police Administration, pp. 157-181; Donald F. Favreau and Joseph E. Gillespie, Modern Police Administration (Englewood Cliffs, NJ: Prentice-Hall, 1978), pp. 15-30; V. A. Leonard and Harry W. More, Police Organization and Management, 5th ed. (Mineola, NY: Foundation Press, 1978), pp. 358-364; Paul M. Whisenand and R. Fred Ferguson, The Managing of Police Organizations, 2nd ed. (Englewood Cliffs, NJ: Prentice-Hall, 1978), pp. 112-141; Robert Sheehan and Gary W. Cordner, Introduction to Police Administration (Reading, MA: Addison-Wesley, 1979), pp. 155-164.

²⁰⁰Among the exceptions are A. C. Germann, "Police Planning and Research as it Effects Police-Community Relations," Police (January-February 1962): 36-39; John T. O'Brien, "Planning Programming Budgeting in the Police Department of the City of New York," Police (May-June 1971): 51-54; George T. Felkenes, "Police Planning: A Stimulus for Needed Organizational Change," Police (June 1972): 24-27; Larry T. Hoover, "Planning-Programming-Budgeting Systems: Problems of Implementation for Police Management," Journal of Police Science and Administration 2, 1 (March 1974): 82-93; Dorothy Guyot, "Planning Begins with Problem Identification," Journal of Police Science and Administration 5, 3 (September 1977): 324-336; Anthony V. Bouza, Police Administration: Organization and Performance (New York: Pergamon Press, 1978), pp. 135-140; and Reuben M. Greenberg, "The Need for and Uses of Research and Planning," Law & Order (December 1978): 34-41.

²⁰¹National Advisory Commission, Police, p. 117.

²⁰²Ibid., p. 119.

²⁰³Jim L. Munro, Administrative Behavior and Police Organization (Cincinnati: W. H. Anderson, 1974), p. 165.

²⁰⁴Greenberg, "The Need for and Uses of Research and Planning," p. 36.

²⁰⁵Bouza, Police Administration: Organization and Performance, p. 135.

²⁰⁶Leonard and More, Police Organization and Management, p. 359.

²⁰⁷Munro, Administrative Behavior and Police Organization, p. 166.

²⁰⁸Germann, "Police Planning and Research as it Effects Police-Community Relations," p. 38.

²⁰⁹American Bar Association, The Urban Police Function, p. 237.

²¹⁰Michel Crozier and Jean-Claude Thoenig, "The Regulation of Complex Organized Systems," Administrative Science Quarterly (December 1976): 547-570.

²¹¹John H. Burpo, Police Unions in the Civil Service Setting (Washington, D.C.: Public Administration Service, 1979), p. 2.

²¹²Greisinger, Slovak, and Molkup, Police Personnel Practices in Forty-Two American Cities.

- ²¹³National Sheriff's Association, County Law Enforcement.
- ²¹⁴George W. Greisinger, Jeffrey S. Slovak, and Joseph L. Molkup, Civil Service Systems: Their Impact on Police Administration (Washington, D.C.: Public Administration Service, 1979), p. v.
- ²¹⁵Steven A. Rynecki, Douglas A. Cairns, and Donald J. Cairns, Police Collective Bargaining Agreements: A National Management Survey (Washington, D.C.: Police Executive Research Forum, 1978).
- ²¹⁶Burpo, Police Unions in the Civil Service Setting, p. 3.
- ²¹⁷Clinton B. Jones, "Critical Equal Employment Issues in Criminal Justice," Journal of Police Science and Administration 7, 2 (June 1979): 129-137.
- ²¹⁸Rob Wilson, "Proposition 13: Coping with the Taxpayer's Revolt," Police Magazine (March 1979): 49-53.
- ²¹⁹John F. Heaphy, "The Future of Police Improvement," in Cohn The Future of Policing, pp. 273-295.
- ²²⁰Herman Goldstein, "Governmental Setting for Police Work," in Eastman and Eastman, Municipal Police Administration, pp. 2a/1-2a/16; National Advisory Committee on Criminal Justice Standards and Goals, Police Chief Executive (Washington, D.C.: Government Printing Office, 1976); Robert Wasserman, "The Governmental Setting," in Garmire, Local Government Police Management, pp. 20-38; Patrick V. Murphy and Thomas Plate, Commissioner: A View From the Top of American Law Enforcement (New York: Simon and Schuster, 1977).
- ²²¹Heaphy, "The Future of Police Improvement."
- ²²²Peter S. Ring and Frank Dyson, "Human Resource Planning," in Stahl and Staufenberger, Police Personnel Administration, p. 46.
- ²²³H. H. Graham, "Ontario Provincial Police Promotional Process," The Police Chief (January 1978): 47.
- ²²⁴President's Commission, The Challenge of Crime in a Free Society, p. 303.
- ²²⁵Munro, Administrative Behavior and Police Organization, p. 166.

²²⁶Theodore H. Schell, Don H. Overly, Stephen Schack, and Linda L. Stabile, National Evaluation Program: Traditional Preventive Patrol (Washington, D.C.: Government Printing Office, 1976).

²²⁷Wycoff and Kelling, The Dallas Experience: Organizational Reform.

²²⁸See, for example, President's Commission on Law Enforcement and Administration of Justice, Task Force Report: Science and Technology (Washington, D.C.: Government Printing Office, 1967); J. Chaiken, T. Crabill, L. Holliday, D. Jacquette, M. Lawless, and E. Quade, Criminal Justice Models: An Overview (Washington, D.C.: Government Printing Office, 1976); Jan M. Chaiken, Patrol Allocation Methodology for Police Departments (Washington, D.C.: Government Printing Office, 1977); and Richard C. Larson, ed., "Police Deployment," Management Science 24, 12 (August 1978): 1278-1327.

²²⁹The most important and best known of these are George L. Kelling, Tony Pate, Duane Dieckman, and Charles E. Brown, The Kansas City Preventive Patrol Experiment: A Summary Report (Washington, D.C.: Police Foundation, 1974); Peter W. Greenwood and Joan Petersilia, The Criminal Investigation Process Volume I: Summary and Policy Implications (Santa Monica, CA: RAND Corporation, 1975); and Tony Pate, Amy Ferrara, Robert A. Bowers, and Jon Lorence, Police Response Time: Its Determinants and Effects (Washington, D.C.: Police Foundation, 1976).

²³⁰Ronald J. Waldron and John R. Altemose, "Determining and Defending Personnel Needs in Criminal Justice Organizations," Public Administration Review 39, 4 (July/August 1979): 384-389.

²³¹Robert N. Brenner and J. T. Duncan, Police Job-Task Analysis: An Overview (Washington, D.C.: Law Enforcement Assistance Administration, draft, 1978).

²³²Gary W. Cordner, "Job Analysis and the Police: Benefits and Limitations," Journal of Police Science and Administration, forthcoming.

²³³Ring and Dyson, "Human Resource Planning," p. 57.

CHAPTER III

DESIGN OF THE STUDY

Introduction

This study of the state of the art and feasibility of manpower planning in police organizations is probably best characterized as exploratory field research. The construct "manpower planning" is used ambiguously in the literature, and is even more difficult to define and operationalize for the action world of police agencies. This lack of precision in the dependent construct introduces validity problems, and makes it difficult to adhere to a hypothesis testing research approach.¹

An exploratory approach to the research enterprise sacrifices formal hypothesis testing in favor of less conclusive description and analysis of the state of the world and how it changes. As noted earlier, the primary aims of exploratory field studies are to identify important or relevant variables, to discover the relationships between these variables, and to set the stage for formal hypothesis testing.² For this particular study, the principal purposes are to identify the present state of police manpower planning, to identify those factors or variables that affect the extent of manpower planning undertaken by police agencies, and to explore the relationships among these variables and their relative

importance. In essence, the study seeks to develop a dynamic description of those aspects of police agencies' worlds that impinge on their manpower planning, and to offer some tentative predictions and explanations of police agency decision making with respect to undertaking manpower planning activity.

Although hypotheses are not tested in the study, data collection and analysis were guided by a set of research questions. These questions, along with a rationale for each, were presented in Chapter I. In the next section of this chapter they are restated, as they provide the foundation for the design of the study.

Two data collection efforts were undertaken for the study, a series of interviews and a mail survey. Following the research questions, the interviews are discussed, as chronologically they preceded the survey, and as they were an important source of information and ideas for survey design and refinement. The discussion of the interview component of the study is followed by a section detailing the survey component. As the mail survey produced most of the data used for analysis, complete information on sample, measures, and analytical methods is presented in this section.

Research Questions

The research questions that served in place of hypotheses for this study were presented in Chapter I, in conjunction with a discussion of the purposes and theoretical framework of the study. As noted, the purpose of the study is to assess the state of the art and feasibility of manpower planning for police organizations.

Manpower planning is a process and set of activities that promises to aid organizations in rationalizing and coordinating their human resource management, so that acquisition, development, and utilization are maximally effective. As a form of rational activity, however, manpower planning poses severe cognitive and cost burdens, and studies of organizations demonstrate that their decision making and planning are at best boundedly rational. In addition to these kinds of internal constraints on rational behavior such as manpower planning, the importance of external or environmental factors in organizational decision making has also been shown by previous research. Thus, although manpower planning would seem to represent a means of ameliorating human resource problems and achieving desired ends, a variety of internal and external considerations may limit the extent to which organizations actually choose to undertake the activity.

The research questions identify variables and relationships to be examined in the study. The rationales underlying the research questions were presented in Chapter I, and are not repeated here. The questions themselves are reiterated, though, as they provide the foundation for the interview and survey components of the study. The research questions are listed below.

1. What is the present level of manpower planning activity being undertaken in police organizations?
2. What is the relationship between police agency size and extent of manpower planning undertaken?

3. What is the relationship between general economic conditions and extent of manpower planning undertaken by police organizations?
4. What is the relationship between changes in police agency size and extent of manpower planning undertaken?
5. What is the relationship between equal employment opportunity/affirmative action pressure and extent of manpower planning undertaken by police organizations?
6. What is the relationship between the degree to which police agency personnel matters are constrained by union contracts and extent of manpower planning undertaken?
7. What is the relationship between the degree to which police agency personnel matters are controlled by external civil service units and extent of manpower planning undertaken?
8. What is the relationship between degree of competition for qualified applicants and extent of manpower planning undertaken by police organizations?
9. What is the relationship between police agency level (city, county, state) and extent of manpower planning undertaken?
10. What is the relationship between perceived influence over increases and decreases in numbers of funded positions and extent of manpower planning undertaken by police organizations?
11. What is the relationship between ability to anticipate increases and decreases in numbers of funded positions and extent of manpower planning undertaken by police organizations?
12. What is the relationship between the perceived importance of rational factors in determining budget outcomes and extent of manpower planning undertaken by police organizations?

13. What is the relationship between the perceived importance of political factors in determining budget outcomes and extent of manpower planning undertaken by police organizations?
14. What is the relationship between the perceived importance of internal rational considerations for determining kinds of people needed and the extent of manpower planning undertaken by police organizations?
15. What is the relationship between the perceived importance of external rational considerations for determining kinds of people needed and the extent of manpower planning undertaken by police organizations?
16. What is the relationship between the perceived importance of external political considerations for determining kinds of people needed and extent of manpower planning undertaken by police organizations?
17. What is the relationship between the extent of manpower planning undertaken and police agency ability to attract and retain the kinds of people believed needed?
18. Based on the evidence uncovered concerning the present extent of manpower planning and the relationships among important variables, what seem to be the implications for the feasibility of manpower planning in police organizations?

Interview Component

The interview component of the study had two major objectives. One was to provide in-depth and qualitative information with respect to the processes and relationships specified in the research questions. It was hoped that this detailed information about a limited number of police agencies would provide evidence pertaining to the research issues, with value both in its own right and as an aid in interpreting responses to mail survey items.

A second objective of the interview component was to provide input to the survey portion of the study. Interview information was used for the selection of relevant research issues, for the design of survey questions and items, and for the refinement of the survey instrument. The interviews were decidedly exploratory, and their focus evolved over time. Information from earlier interviews was used to refine later interviews, as well as to refine the mail survey. Interview information assisted particularly in the identification of important factors affecting police agency personnel decisions, and in the clarification of the construct "manpower planning" as understood in police departments.

Interview Sample

Several criteria were used to select the police agencies to be included in the interview sample. Among these criteria were expert opinion, agency size, recent agency budget experience, and geographic representativeness. Because one of the major purposes of the interviews was to identify and clarify manpower planning as a police agency activity, it was deemed desirable to allocate limited interview time and resources to agencies that seemed likely to have some conception of or experience with manpower planning, rather than to a random sample of police organizations. Thus, one of the major reasons for selecting interview sites was evidence that some manpower planning activity might be found. Because of this sample selection criterion, the interview sites cannot be regarded in any way as a random sample of police agencies. In all

likelihood, the extent of manpower planning undertaken by the police departments in the interview sample exceeds the national average, and the relative importance of factors affecting them may be atypical for the entire population of police agencies in the United States.

In order to identify police departments likely to have experience with manpower planning, a number of nationally recognized experts were contacted. These experts were persons in positions to have knowledge of the activities of police organizations throughout the country. The use of the expert opinion followed a modified Delphi approach. Initially, the largest police agencies were included on a potential site list, along with agencies identified in the literature as practitioners of manpower planning. Through telephone and personal contacts with knowledgeable persons (whose anonymity was assured), information was solicited about any other police agencies that might have experience with manpower planning.

Following this initial round of contacts and literature examination, a list of 29 police organizations was produced. This list of agencies was returned to four of the experts who seemed most likely to have complete and nationwide information about the activities of police departments. Of these four experts, one was nationally recognized in police training and standards matters, one directed a national police research organization, and two occupied major positions in a federal agency that funded police programs and research efforts. With respect to the list of police agencies, the four experts were asked to respond to the following questions.

1. How would you rate each agency in terms of whether it generally has been at the forefront of developments or has been considered a leader in the field over the last several years?
2. What is the overall quality of current top management in each of the agencies listed below?
3. To what degree do the agencies listed below undertake planning with respect to manpower and personnel issues?
4. In terms of changes over the last few years in agency size (number of positions, budgets, etc.) what has each agency experienced?
5. For each agency, please consider whether personnel staffing below the level of top management is made primarily on a political basis (e.g., partisan politics or the whims of the top administrator) or whether they are made primarily on a non-political basis (e.g., as in having a strong civil service or a "professional" orientation).
6. What are the seven to ten agencies you would most strongly recommend for site selection? Feel free to include agencies not previously listed.

These expert opinions and recommendations were used together with information on agency size and recent agency budget experience. The data on numbers of full-time equivalent employees and changes in agency size from 1971 to 1976 was available from published government documents.³ This information was used in site selection because it was believed that larger agencies, and agencies that had done more hiring in recent years, would have occasion to make more personnel-related decisions, and would be more likely to undertake manpower planning.

The agency size, recent experience, and expert opinion information was combined in a variety of ways to rank-order the possible police agency interview sites. Five different ranking

schemes were produced, each emphasizing a different aspect of the information available. Then an overall ranking of the agencies was created, based on the five different schemes.

Actual selection of the police agency interview sites was heavily based on the composite ranking, but other considerations were also used. One additional concern was for geographic representativeness, and interview sites were selected from almost every region of the country. Another consideration was a desire to compare and contrast the activities and perceptions of police agencies located close to one another. This would provide a limited reliability check, to the extent that several agencies faced the same external environment, and it would also provide an opportunity to examine interagency networks and relationships. In addition, interviewing several agencies proximate to a particular site seemed to be an efficient use of time and resources.

Although these additional considerations were used in selecting interview sites, most of the police agencies that placed highly on the composite ranking scheme were included in the interview sample. Interviews were conducted at each of the top five ranked police departments, at nine of the top ten, and at 18 of the total of 29 agencies on the list. Altogether, interviews were conducted at 36 police agencies, located in 11 states. Because all interviewees and their organizations were granted anonymity, the specific police agencies at which interviews were conducted cannot be identified, but a general description is presented in Table 3.1. As shown every level of police agency, every geographic region

TABLE 3.1.--Description of Police Agency Interview Sample.

Characteristics	N	%
Governmental Level		
City	20	55.6
County	6	16.7
State	7	19.4
Federal	1	2.8
Other	2	5.6
Geographic Region*		
Northeast	7	19.4
Middle Atlantic	5	13.9
Southeast	5	13.9
Mideast	7	19.4
Midwest	0	--
Southwest	3	8.3
West	8	22.2
National	1	2.8
Agency Size (1976 Full-time Equivalent)		
2000+	18	50.0
1000-1999	7	19.4
500-999	6	16.7
200-499	5	13.9

*The geographic regions were composed as follows:

Northeast - CT, ME, MA, NH, NY, RI, VT

Middle Atlantic - DE, MD, NJ, PA, DC

Southeast - AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV

Mideast - IL, IN, IA, MI, MN, MO, OH, WI

Midwest - CO, ID, KA, MT, NB, ND, SD, UT, WY

Southwest - AZ, NM, OK, TX

West - AK, CA, HI, NV, OR, WA

except the midwest, and a variety of agency sizes are represented in the interview sample.

The interviews conducted for this study were not limited to police agencies. The study was part of a larger examination of manpower planning conducted by the School of Criminal Justice, Michigan State University, and interviews were conducted at departments of corrections, departments of probation and parole, jails, courts, police and correctional training commissions, and state criminal justice planning agencies. Also, a variety of agencies in the environments of police departments and other criminal justice organizations were chosen for interviews. Some of these were chosen in advance as agencies likely to affect manpower planning efforts, and others were chosen after criminal justice organizations had identified them as significant actors with respect to personnel matters. These other agencies interviewed varied somewhat from site to site, but generally included budget bureaus, civil service or jurisdiction personnel units, and general administrative offices. In all, interviews were conducted at well over 100 criminal justice and other governmental agencies for this project, and well over 200 agency representatives were interviewed.

Interview Topics

The interviews conducted at police departments and other kinds of agencies were partially structured and partially unstructured. To some extent, information was sought from interviewees about the effects and importance of a set of factors

previously identified as likely to be salient. On the other hand, interviewees were encouraged to specify other kinds of considerations that influenced personnel matters in police agencies, and interview questioning was responsive to particular situational characteristics.

The kinds of officials interviewed in the police departments and other agencies varied somewhat. When arranging the interviews, whether directly or through a locally knowledgeable and influential intermediary, it was indicated that the officials interviewed ought to be in a position to discuss personnel-related decision and policy making, both in terms of internal processes and external considerations. Whenever feasible, more than one person per agency was interviewed, sometimes in joint interviews and sometimes separately. The number of interviews in each police agency ranged from one to five, and all were supplemented with interviews at other kinds of agencies in the same site. Also, in a number of instances interviews were conducted with former top administrators and policy makers at the police agencies in the interview sample.

All interviews were guaranteed anonymity, and they were also assured that the study was not intended to produce any specific manpower projections or restrictive planning models. Instead, it was emphasized that the aims of the study were to find out what police agencies were presently doing in terms of manpower planning, and to find out about the factors and constraints that affect police manpower decisions and policies. In general, the study was

described to interviewees as an attempt to learn about the "real world" in which police departments operate.

One of the primary purposes of the interviews was to clarify the meaning and forms of manpower planning for police agencies. In order not to steer interviewees away from any activities that their agencies might have undertaken, manpower planning was defined for them in only the most vague and general terms. Manpower planning was described for them as "a concern that the kinds and numbers of personnel needed now and in the future are available," and as "whatever you do to try to assure that the agency has the right numbers and kinds of people doing the right things." The aim was to point interviewees in the basic direction of interest, but not to overly restrict their conception of manpower planning.

The interviews conducted at police organizations were guided by questions organized into four major categories. The first set of questions pertained to general organizational characteristics and background information, such as size, structure, and functions. The second and third sets of questions dealt, respectively, with obtaining and filling positions, which are roughly analogous to numbers and kinds of people considerations. Within each of these categories, questions were posed concerning planning activities, personnel processes, and factors affecting decisions. The final set of questions pertained to the remaining aspects of manpower planning, and to agency perceptions of constraints, capabilities, and overall feasibility.

As mentioned above, the interviews were only partially structured. As important issues were raised by interviewees, they were encouraged to elaborate on them, and questions were posed to further investigate the issues. It was often the case that once interviewees had been pointed in the direction of interest, they addressed many of the desired issues without actually being asked direct questions. This was sometimes helpful, as some of the issues involved were controversial (affirmative action pressures, importance of political factors, etc.) and might have been answered defensively or evasively in response to direct questions. Of course, information offered voluntarily may also have been less than fully candid, but it seemed that issues raised naturally by the interviewees usually were accompanied by less wariness and suspicion than were sensitive matters introduced by interview questions. Regardless of the manner in which issues were raised, however, clarifying and elaborating questions were posed. Also, in instances when interviewees had raised many issues more or less voluntarily, those questions that had not been fully addressed extemporaneously were asked directly.

The interviews conducted at agencies other than police departments followed the same general format. Other criminal justice agencies were asked about their personnel processes, manpower planning, and salient internal and external considerations. Interviews at state criminal justice planning agencies and at police and correctional training commissions were focused both on their manpower planning activities and on their knowledge of processes

and decision making in operational agencies. People interviewed in budget bureaus, civil service units, and similar government agencies were asked about their relationships with criminal justice agencies and about their perceptions of manpower policy and decision making.

During interviews conducted within the same sites, and with multiple interviews within the same police agencies, issues and themes raised by one interviewee were pursued with others. With respect to basically objective kinds of considerations, such as the availability of types of data or the extent of unionization, this procedure provided a limited test of reliability. For more subjective kinds of considerations, such as the salience of rational and political factors in determining budget allocations, the information from several vantage points made it possible to compare and contrast perceptions. These comparisons could be made between different interviewees from within the police agencies, and also between the police agencies and other government units. In many cases agencies' perceptions of their own influence and that of other entities could be cross-checked. For example, interviewees in budget bureaus were asked about their role in determining police agency manpower levels, and about their influence vis-a-vis that of police departments with legislators and elected executives. The influence ascribed to themselves by budget bureau officials was often much different than that perceived by police agency interviewees, and it was frequently possible to probe one or both sets of interviewees for explanations of the discrepancies.

To some extent, interviews in police agencies were especially focused on issues and processes that seemed less amenable to investigation by way of the mail survey. For example, the interviews provided an opportunity to probe the "process" of decision making and change in police departments, whereas the surveys produced more information pertaining to a "variance" approach to such matters.⁴ The historical development of manpower policies and precipitating or contributory events could more easily be identified and explored in the interviews than in the mail survey. Also, the process of manpower planning, including such hazy activities as setting goals, identifying "right" kinds and numbers of people, and developing alternative solutions to problems, seemed to be more susceptible to investigation through interviews than via survey items. Many of the terms and phrases used to describe planning activities are so vague or have so many meanings that it is difficult to communicate about them in a mail survey format. Within interviews, shared understandings of the words and subject matter could be developed more easily.

Interview Analysis

For the vast majority of the interviews, at police and other kinds of agencies, more than one interviewer participated. All interviewers were familiar with the aims of the study and the questions to be posed, and all were employed in research capacities within the larger criminal justice manpower planning development project.

During the interviews all participating project staff members took notes, in order to enhance completeness and reliability of information collection. Following each interview, the participating project interviewers tape recorded their notes, comments, analysis, and conclusions. At the time of tape recording, the interviewers were able to compare their written notes taken during the interviews and their interpretations of what had been said. When the notes and analysis of interviews were recorded, cross-references were also made to corroborating or conflicting information gathered from other agencies within the site.

At a later time the tape recorded reports of interviews were all transcribed and checked for accuracy by the participating interviewers. At a point about one-half way through the study, written summary analyses for each major site were prepared, and the staff met for several days to discuss similarities and differences across sites. Following this discussion, return interviews were scheduled with a number of agencies previously visited, and additional interviews with other agencies within the sites were arranged. These additional interviews were subsequently conducted, and served to improve the comparability of the different sites and the completeness of information about each.

The pattern of tape recording and transcription was also followed for these additional interviews, so that typewritten reports of each interview were produced. Following the second round of interviews, new summary analyses of each major site were prepared, which incorporate information from all of the interviews

as well as the comments and interpretations of project personnel. Six such site summaries were produced, each about 30 pages in length.

The writer was personally present and a participant at 35 of the agency interviews, including 16 interviews within 11 different police departments. In addition, the writer participated in all project discussions of interview information, and has read each of the agency interview transcriptions and site summary reports. Therefore, the writer is familiar with the information collected from the total sample of interviews, although personally present at only a portion.

The principal uses to which interview data were put for this study were mail survey design and refinement, and interpretation of mail survey responses and analysis. No quantitative analysis of the interview information was attempted, nor were the data formally analyzed qualitatively. However, the preparation of the mail survey instrument was heavily dependent on information from the interviews, as was the interpretation of mail survey data. Recurring kinds of agency experiences, conditions, and salient factors were noted in the interview data, and in general the interview and survey data were found to be compatible and consistent.

Survey Component

The major purposes of the survey component of the study were to assess the present level of manpower planning activity in a large national sample of police agencies, and to explore the relationships

between such activity and various external and internal considerations. Data collection and analysis within the survey component were very closely guided by the research questions described earlier, and also by information gathered from the interview portion of the study. The research questions identified the constructs for which measures needed to be developed, and also the kinds of relationships anticipated between the internal and environmental factors and extent of manpower planning undertaken in police organizations. The interviews assisted with the identification of salient factors, with the design of survey items that would communicate as intended to police agency respondents, and with the interpretation of survey responses and analyses.

Survey Sample

As discussed in Chapter II, the population of police agencies in the United States is exceedingly large (approximately 17,000). However, the vast majority of police departments are very small, so that a large portion of police human resources are employed by a relatively few agencies. For the selection of the survey sample, the only criterion used was agency size. The kinds of formal manpower planning activities of interest for this study seemed unlikely to be found in very small agencies, many of which do not have units or employees whose primary responsibilities are planning or personnel management. Larger agencies are more likely to have such specialist units, they are less able to operate informally through the chief's personal knowledge of all employees, and they have to make more

personnel-related decisions. For these reasons the survey sample was limited to larger police agencies.

Based in part on project resource considerations, the original intention was to survey the 200 largest police agencies in the United States. An examination of police employment data indicated that for such a sample of local (city and county) police departments, the smallest agency included would have about 250 employees. It was then decided to include the 49 state police agencies (Hawaii does not have a state police) in the sample, both to represent another level of government and because the state agencies tend to be fairly large. As finally composed then, the survey sample included the 49 state police agencies, and the 201 largest city and county police departments, according to 1976 full-time equivalent employees,⁵ for a total sample size of 250 police agencies. The smallest local police department included in the sample had 241 full-time equivalent employees in 1976, and all but three of the state police agencies exceeded this minimum size. The survey sample represents only about 1.5% of the total population of police agencies in the United States, but the sample agencies employ approximately one-half of the nation's police personnel.⁶

The surveys were mailed to the chief administrators of the sample agencies in July, 1979, with returns requested by August 15, 1979. Accompanying the survey were a brief description of the project, a guarantee of anonymity for respondents, and letters of support for the project from four police chief executives. The

letters of support, from two city chiefs of police, a county sheriff, and a state police superintendent, were included in order to enhance the credibility of the survey in the eyes of police agency personnel. Police departments in recent years have been asked to participate in a large number of survey research projects, and many have become concerned about the time and costs incurred in responding to the surveys. It was hoped that the letters of support would help to differentiate this survey from others, and thereby to improve the response rate.

Follow-up letters were sent on August 24, 1979 to those agencies that had not yet returned completed surveys. These letters reminded sample agencies that they had been sent the survey, informed them that many other police agencies had already responded, and assured them that their completed surveys could still be used. The letters also asked sample agencies to write or call for another survey form, if theirs had been misplaced or lost.

As of August 15, the date by which survey returns were originally requested, 100 completed surveys had been received from police agencies, for a response rate at that time of 40%. As of October 15, the date after which surveys received could not be included in the analysis (because quantitative analysis began shortly thereafter), 164 completed surveys had been received, for a usable survey response rate of 65.6%. The analysis of the survey data is based upon these 164 completed and usable returns. Two additional completed surveys were received, one in November and one in December, but these arrived too late to be included in the analysis.

The number of sample police agencies and the survey response rates by government level, geographic region, and size of organization are presented in Table 3.2. As shown, the response rates for different subsets of the police agency sample vary somewhat, but for no category is the response rate less than 50%. The response rates for state police agencies were considerably higher than for local agencies, and those for larger agencies were somewhat higher than for smaller ones. These two patterns are related, as a much greater portion of the state police agencies were in the larger size categories than was the case for local agencies. With respect to geographic regions, response rates for sample agencies in the southeast, mideast, midwest, and southwest exceeded the overall average, while those for the northeast, middle atlantic, and west were below the national rate. As the survey sponsor was identified as the School of Criminal Justice, Michigan State University, respondents may have perceived a mideast/midwest source of the study, in which case the response rates are generally higher for regions more proximate to the source and lower for more distant ones. Overall, however, it does not seem to be the case that the variations in response rates by geographic region, agency size, or government level are so substantial as to introduce any systematic bias into the total sample. The response rate for each survey sample subcategory was at least 50%, so that no class of agencies was seriously underrepresented. In addition, government level and agency size are used as independent variables in the analysis, so that response variation for these characteristics is controlled.

TABLE 3.2.--Description of Police Agency Survey Sample and Response Rates.

Characteristics	N in Sample	N of Responses	Response Rate (%)
Governmental Level			
City	152	94	61.8
County	49	31	63.3
State	49	39	79.6
Geographic Region*			
Northeast	32	17	53.1
Middle Atlantic	24	12	50.0
Southeast	66	47	71.2
Mideast	43	35	81.4
Midwest	20	14	70.0
Southwest	22	16	72.7
West	43	23	53.5
Agency Size (1976 Full-time Equivalent)			
2000+	33	26	78.8
1000-1999	39	32	82.1
500-999	57	37	64.9
100-499	<u>121</u>	<u>69</u>	<u>57.0</u>
TOTAL	250	164	65.6

*The geographic regions were composed as follows:

Northeast - CT,ME,MA,NH,NY,RI,VT

Middle Atlantic - DE,MD,NJ,PA,DC

Southeast - AL,AR,FL,GA,KY,LA,MS,NC,SC,TN,VA,WV

Mideast - IL,IN,IA,MI,MN,MO,OH,WI

Midwest - CO,ID,KA,MT,NB,ND,SD,UT,WY

Southwest - AZ,NM,OK,TX

West - AK,CA,HI,NV,OR,WA

With respect to the primary attributes of the police agency sample described in Table 3.2, the sample seems reasonably representative of the population from which it was drawn.

It should be recognized, however, that all of the police agencies in the survey sample are relatively large, as compared to the entire population of police departments in the United States. This feature of the sample, together with the moderately higher response rates for larger police agencies within the survey sample, can probably be expected to result in some overestimation of the state of the art of manpower planning in police organizations. It may also be the case, of course, that police agencies engaged in manpower planning activities were more likely to complete the survey than were agencies unfamiliar with, or not engaged in, manpower planning. The degree to which this kind of bias may have been introduced cannot be known precisely, but the overall high response rate provides some assurance that the sample is fairly representative of all larger American police agencies.

Survey Measures

The research questions identified a number of characteristics of police organizations and their environments for which measures had to be developed. These important characteristics were deduced in large part from the literature and the theoretical framework of the study, but further specification of salient factors also resulted from the interviews. The interviews were also used to clarify the nature of factors affecting manpower planning in police

agencies, and to test different ways of communicating about the factors with police personnel.

In addition to gathering information from interviewees face-to-face to aid survey refinement, successive generations of draft surveys were also left behind with officials interviewed. The interviewees were asked both to complete the surveys for their agencies, and to comment on and critique the survey. They were especially asked to recommend better ways or phrasing the intended ideas, so that police survey respondents less familiar with the study might still understand what was meant by the questions. This kind of feedback from representatives of the sample to be surveyed proved very helpful in survey design and refinement.

As noted, the survey instrument was successively revised through several drafts. Interviewee feedback about the survey itself was used in this process, as was information gathered during interviews. In addition, when completed draft surveys were received from interviewees, the survey responses were compared to information gathered during the interviews with the same officials, in order to examine the reliability of the two sets of data. In general, the information collected via the two methods from the same agencies were highly comparable. In some instances, such discrepancies as were evident were clearly attributable to the specific form of survey questions, and adjustments were made. Finally, draft forms of the survey were also sent to several individuals knowledgeable about police, including two of the experts used during the interview site selection process, for their comments and criticisms.

In its final form, the police agency survey was twenty pages long, with 45 rather complex questions that became, in the analysis stage, 461 variables. The survey questions were designed to collect a considerable amount of information about the environments of police agencies, and particularly about factors affecting the budgetary and human resource experiences of police organizations. Not all of these questions were directly relevant to the assessment of the state of the art and feasibility of manpower planning in police departments, as reflected in the research questions guiding this study. Several of the questions, for example, asked police agencies to compare themselves to other kinds of government agencies in their jurisdictions in terms of how they would likely fare in different fiscal and budgetary scenarios. This information is important for understanding local influence networks and fluctuations in police department budgets, and is not completely irrelevant to police planning feasibility considerations. However, it is only indirectly related to the state of the art and feasibility of manpower planning, and in those respects in which the information is relevant, other questions sought to measure influence and budgetary predictability more directly.

For the analysis reported in this study, based directly on the research questions enumerated earlier, eighteen primary variables were used. Some of these result from a single measure in the survey, while others were created by combining several survey measures. For the composite variables or indices constructed from individual survey items, reliability was tested using Cronbach's

Alpha. The corrected item-total correlations for the individual questions were generally satisfactory, and in only one instance was an item deleted from a composite variable in order to enhance reliability. Reliability coefficients for the composite variables are presented along with the descriptive statistics in the next chapter. The variables and component measures used in the analysis are described in the following subsections of this chapter.

Manpower Planning Activity.--One question in the survey asked respondents to indicate the extent to which their agencies were engaged in ten component activities of manpower planning. The manpower planning component activities listed were job analysis, selection validation, manpower inventory, performance evaluation, personnel information system, labor market analysis, career path analysis, manpower simulation (e.g., personnel processing and career path models), job redesign, and training needs assessment. These component activities were purposefully selected to include some that almost all agencies would be expected to undertake, such as performance evaluation, and some that would be fairly uncommon, such as manpower simulation. It was hoped that the common activities would reassure respondents that their agencies would not look too backward; that is, they could honestly indicate some activity by their agencies, without feeling compelled to claim activities not actually undertaken. It was expected that the uncommon activities would provide the principal basis for distinguishing between police agencies in terms of their extent of manpower planning.

Five response options were presented for each of the manpower planning component activities. Respondents could indicate that each activity was undertaken by the agency; undertaken by an agency contractor; undertaken for the agency by another governmental unit; not undertaken but would be useful, these response options were collapsed into a three-value format: undertaken by the agency; undertaken for the agency; or not undertaken. In this form, the ten manpower planning component activity measures are regarded as ordinal variables. Although not presented, the data were also analyzed with the manpower planning activity variables in dichotomous form (undertaken or not undertaken), with results very similar to those obtained using the three-value format.

The measures of manpower planning component activities are of some interest individually, but their primary use in the analysis is in a combined form. The simple average of the ten variables in the three-value format is used as a composite measure of the extent of manpower planning activity undertaken in police agencies. An average, or mean value, is used rather than the sum of the component measures, so that appropriate adjustments could be made for missing data. The composite measure of extent of manpower planning activity has the same range as the individual component measures, but can assume many more values within that range. As with the individual measures, the composite measure is treated as an ordinal variable.

Manpower Planning Data Collection.--As a secondary indication of manpower planning in police agencies, respondents were asked about the extent of data collection on human resource matters in their organizations. The availability of such data was expected both to reflect manpower planning activity and to serve as an important feasibility consideration. In other words, police agencies that engaged in manpower planning activities would presumably need to have human resource data, and the presence or absence of such data might be an important factor in the feasibility of manpower planning for police departments.

Respondents were asked to indicate the extent to which their agencies had thirteen types of information: work loads performed by the agency; personnel turnover rate; training undergone by employees; employee educational attainment; employee assignment preferences; employee performance evaluations; employee job satisfaction; characteristics of applicants; characteristics of area labor market; career orientations of labor market; rewards offered by competing employers; changing requirements of agency jobs; and social and economic trends which may affect the agency (e.g., population trends, racial composition, economic status, etc.). As with manpower planning activities, these categories of information were selected to include both common and uncommon types of data.

Respondents were able to select from four kinds of information. These options were: regularly collect such information; occasionally collect such information; receive such information from another agency; and do not collect or receive such information. For

most of the analysis conducted, the middle two categories were combined, and the three-value variables were regarded as ordinal. Analysis was also conducted with the data collection variables in dichotomous form, with values of regularly or occasionally collect or receive such information, and do not collect or receive such information. The results obtained were very similar to those for the trichotomous data collection variable, and thus only the analysis for the three-value format is presented. Respondents were also asked to rate the importance of each type of information on a scale of 0=no importance to 5=strong importance. These ratings of individual types of data are reported and discussed, but not otherwise used in the analysis of the survey response.

As was done with the component measures of manpower planning activity, a composite measure of manpower planning data collection was created from the thirteen separate information types, and most of the analysis utilizes the composite measure. An averaging process was again used in creating the composite variable, with appropriate adjustments for missing data. These adjustments amounted to computing the average scores from only those individual variables with valid values, so that missing data was not treated as a "do not collect or receive such information" response. For those agencies that failed to respond to more than one-half of the information types, no composite score was computed, and their case was treated as missing data for the manpower planning data collection composite variable.⁷ This latter procedure was used to eliminate those few agencies that might have responded positively

for several types of data that were regularly collected, while failing to respond for the remainder of the data types. It was felt that computing an average score for these kinds of cases, on the basis of such limited and possibly unrepresentative responses, was not justified and might well distort the actual data collection efforts of the agencies involved. This kind of adjustment procedure was used in the creation of all of the composite variables utilized for the study.

Agency Size.--A survey question asked respondents to indicate their agencies' number of employees and allocated positions, with sworn and civilian categories separately enumerated. For the analysis, the measure used was full-time sworn allocated positions. This measure was used because it represents the most comparable size indicator across different police agencies, and because several other measures utilized in the analysis pertain specifically to sworn job classifications and to numbers of allocated positions.

Economic Conditions.--Respondents were asked in the survey to categorize the general economic conditions of their jurisdictions during the last two years as rapid growth, moderate growth, stable, moderate decline, or rapid decline. This measure was used in ordinal form in the analysis as a general economic indicator. The measure of recent economic trend was used, rather than median income or some other measure of relative affluence, because it was expected to be more related to manpower planning activity. In particular, recent growth or decline was expected to be a good indicator of the

state of government finances and the availability of funds for hiring police personnel and for conducting manpower planning.

Agency Size Change.--Changes in the size of police agencies was expected to be an important factor influencing the extent of manpower planning undertaken, because departments growing or shrinking would have an increased number of personnel decisions to make, and an increased rate or flow of personnel through selection, assignment, and other processes. A question in the survey asked respondents to indicate the extent of change in the number of positions allocated to their agencies during the past two years. Thirteen response options were presented, one of which was remained stable (no change). The other twelve were arranged symmetrically with six increase categories and six decrease categories: less than 5%; 5-10%; 11-15%; 16-20%; 21-25%; and greater than 25%. For most of the analysis , extent of change was regarded as the phenomenon of interest, with increases or decreases equally likely to create a demand for manpower planning. In this form, the variable was used with seven categories, ranging from no change to change greater than 25%.

Equal Employment Pressure.--As a measure of the equal employment opportunity/affirmative action pressure faced by police agencies, respondents were asked to indicate the extent to which their agencies were under pressure to increase their employment of women and/or minorities. The response options presented were very

strong pressure, strong pressure, moderate pressure, weak pressure, and no pressure.

Union Constraint.--One question in the survey asked about the extent to which six personnel decisions and processes were affected by formal agreements and/or contracts with employee associations or unions. The six personnel matters listed were initial selection process, promotion process, assignments/transfers, allocations to units or shifts, disciplinary process, and changes in working conditions. The response categories offered were completely mandated in contract or agreement; partially mandated in contract or agreement; not presently affected but likely to be an issue for future bargaining; and not affected nor likely to be an issue. For most of the analysis, a composite measure of union constraint on personnel matters is used, created by combining the six individual decisions and processes. The procedure used to generate the composite measure was the same as that described earlier for manpower planning activity and data collection. The individual and composite measures are used as ordinal variables in the analysis.

Civil Service Control.--Three questions in the survey asked about the influence of civil service or jurisdiction personnel units on specific police agency human resource decisions. The questions dealt with external civil service/personnel unit influence on the determination of minimum qualifications for entry level positions, on decisions of who to hire for primary job classifications, and on decisions of who to promote. As the indication of influence,

respondents were asked to rate civil service/personnel units on a scale of 0=no importance to 5=strong importance with respect to the three personnel decisions. A composite measure of external civil service influence on police agency personnel decisions was then created by averaging the responses to the questions. As indicated, adjustments were made for missing data, so that the averages are based only on valid responses, and so that only those cases with responses for a majority of the component measures are given valid values on the composite measure.

Competition for Applicants.--Respondents were asked to report the extent to which five classes of organizations competed with their agencies for qualified job applicants. The five categories of competitors presented were non-criminal justice governmental agencies; other criminal justice agencies; industrial operations (e.g., factories); private security companies; and non-industrial operations (e.g., farming, merchandising). The response scheme used was a scale of 0=no competition to 5=strong competition. For most of the analysis a composite competition measure is utilized, created in the same fashion as described earlier.

Agency Level.--An important independent variable used in the study is agency level, with police agencies classified as city, county, or state. This variable is the only one treated as nominal in the analysis.

Influence.--This measure is based on two survey questions: one asked respondents to indicate, in general, the degree of influence their agencies had in bringing about increases in numbers of allocated positions; the other asked similarly about influence in minimizing the size of decreases in numbers of allocated positions. For each question, the response options were a great deal of influence, a moderate amount of influence, a little influence, and no influence. A composite measure was created from the two questions, reflecting perceived general influence of police agencies on changes in their numbers of allocated positions.

Anticipation.--Two questions in the survey asked respondents how far in advance their agencies were generally able to anticipate increases, and decreases, in numbers of allocated positions. The response options presented were not at all, less than 1 month, 1-6 months, 7-12 months, and over a year. Again, the two questions were combined to form a composite measure of police agency ability to anticipate changes in numbers of allocated positions. For this and the previous measure, the averaging method described earlier was used to create the composite variable.

Rational Factors and Numbers of Positions.--For two questions in the survey pertaining to factors generally affecting increases and decreases in numbers of allocated positions in police agencies, respondents were asked to rate the importance of a variety of considerations. One factor among those listed was agency analysis and presentation of needs (rational planning). For

this and the other factors, the response arrangement was a scale of 0=no importance to 5=strong importance. Respondent ratings of the importance of rational planning for increases and for decreases in allocated positions were combined to form a composite measure of the importance of rational factors for changes in numbers of allocated positions in police agencies.

Political Factors and Numbers of Positions.--This measure was formed from the same two questions as the rational factors measure. With respect to increases and decreases in numbers of allocated positions, respondents were asked to rate the importance of political factors. This category of political factors was not further described, as it was believed that police agency respondents would share a fairly consistent image of some class of factors and considerations known generally as "politics." Further, it seemed clear from information gathered during interviews that in the eyes of police agency officials, "political factors" are the very opposite of "rational factors." It should be understood that these measures were intended to reflect the perceptions of their environments held by police agency officials, and not necessarily any objective features of government financial decision making, or any necessarily real distinctions between rational and political considerations.

Respondents rated the importance of political factors for increases and decreases in numbers of allocated positions on a 0=no importance to 5=strong importance scale. A composite measure

of political factor importance with respect to changes in allocated positions was created using the same procedure described previously.

Internal Rational Considerations and Kinds of People.--

Whereas the previous two measures pertained to numbers of positions, this and the following two measures are related to kinds of people considerations in police agencies. One question in the survey asked respondents to rate the importance of several factors in the process by which their agencies determine the kinds of people to employ.

The two factors used to create the internal rational considerations measure were analysis of job requirements and assessment of agency needs. The response options presented for rating the importance of these and the other factors were very important, somewhat important, not very important, and of no importance. Composite variables for this and the following two measures related to kinds of people considerations were created in the manner specified previously.

External Rational Considerations and Kinds of People.--This

measure was also developed from the question concerning factors affecting the process by which police agencies determine the kinds of people to employ. The factors taken to represent an external rational dimension were availability of desirable applicants and labor market conditions. It was believed that these factors, though external to police organizations and largely beyond their control, would be viewed primarily as objective and rational considerations by respondents. Respondents were able to rate these factors as very important, somewhat important, not very important, or of no

importance. A composite variable based on the two measures is used in the analysis.

External Political Considerations and Kinds of People.--

This was the third measure developed from the kinds of people question. Five factors were used to create an external political considerations measure: political pressure; equal employment opportunity/affirmative action; public opinion; specific court cases/injunctions; and union policies. These factors were all thought to reflect concerns for the kinds of people that ought to be employed, apart from such matters as applicant availability or analysis of job requirements. The same four response options were presented as for the previous two measures, and a composite variable was created as previously described.

Agency Ability to Attract and Retain.--Finally, two separate

questions in the survey asked respondents about their agencies' abilities to attract, and to retain, the kinds of people needed. The response categories presented with the questions were to a great extent, somewhat, very little, and not at all. The questions left to respondents the assessment of the "kinds of people needed" by their agencies, as well as the assessment of agency ability to attract and retain such people. As with several of the previous measures, this indication of ability to attract and retain must be regarded only as a perceived ability, and not as a direct measure of turnover rate, quality of applicants, or similar matters. A

composite measure of perceived agency ability to attract and retain needed kinds of people was formed by combining the two questions.

Survey Analysis

For an assessment of the state of the art of manpower planning in police organizations, and a description of the world in which police departments find themselves, univariate descriptive statistics for the eighteen survey measures are very useful. For each measure, mean and median values are presented, as well as standard deviations and response ranges. In addition, for those measures that are composite variables, frequencies are presented for the component measures from which they were formed.

A variety of bivariate relationships are explored in the analysis. For the nominal agency level variable (city, county, state), the analysis of variance procedure is used, along with the eta statistic. The analysis of variance provides an overall test of significance between city, county, and state police agencies with respect to the other measures. The eta statistic is a proportional reduction in error measure of association that is appropriate for use with nominal level data. Basically, it gives an indication of the extent to which predictions of dependent variable values are improved through knowledge of independent variable (agency level) values.

The remainder of the survey measures are treated as ordinal level variables. The bivariate relationships between the variables are primarily examined with Kendall's tau, a rank-order correlation

procedure measures association between two variables not in terms of their actual values, but rather in terms of the rank-order of their values. For this reason, it is the most appropriate correlation procedure for ordinal level data. The Kendall's tau statistic is used because it is recommended in instances of large numbers of tied ranks.⁸

Several multivariate analyses are also performed, in order to explore the relative importance of different factors and to test the explanatory power of sets of variables. The multivariate analysis is guided by the model shown in Figure 3.1, which displays the survey measures and their relationships in a manner consistent with temporal ordering and the theoretical framework of the study. The relationship between the factors on the left-hand side of the model and extent of manpower planning is tested using multiple regression analysis, as is the effect of those factors and extent of manpower planning on agency ability to attract and retain kinds of people needed. The relationships between the factors on the right-hand side of the model and extent of manpower planning are examined using partial correlation analysis. These factors are primarily perceptual, and their relationships with extent of manpower planning are expected to be completely reciprocal. The factors on the left, however, are thought to be related to manpower planning in a more causal way.

The nominal agency level variable is used in the multivariate analyses in two different ways. To examine the overall effects of the factors on the left-hand side of the model, agency level is

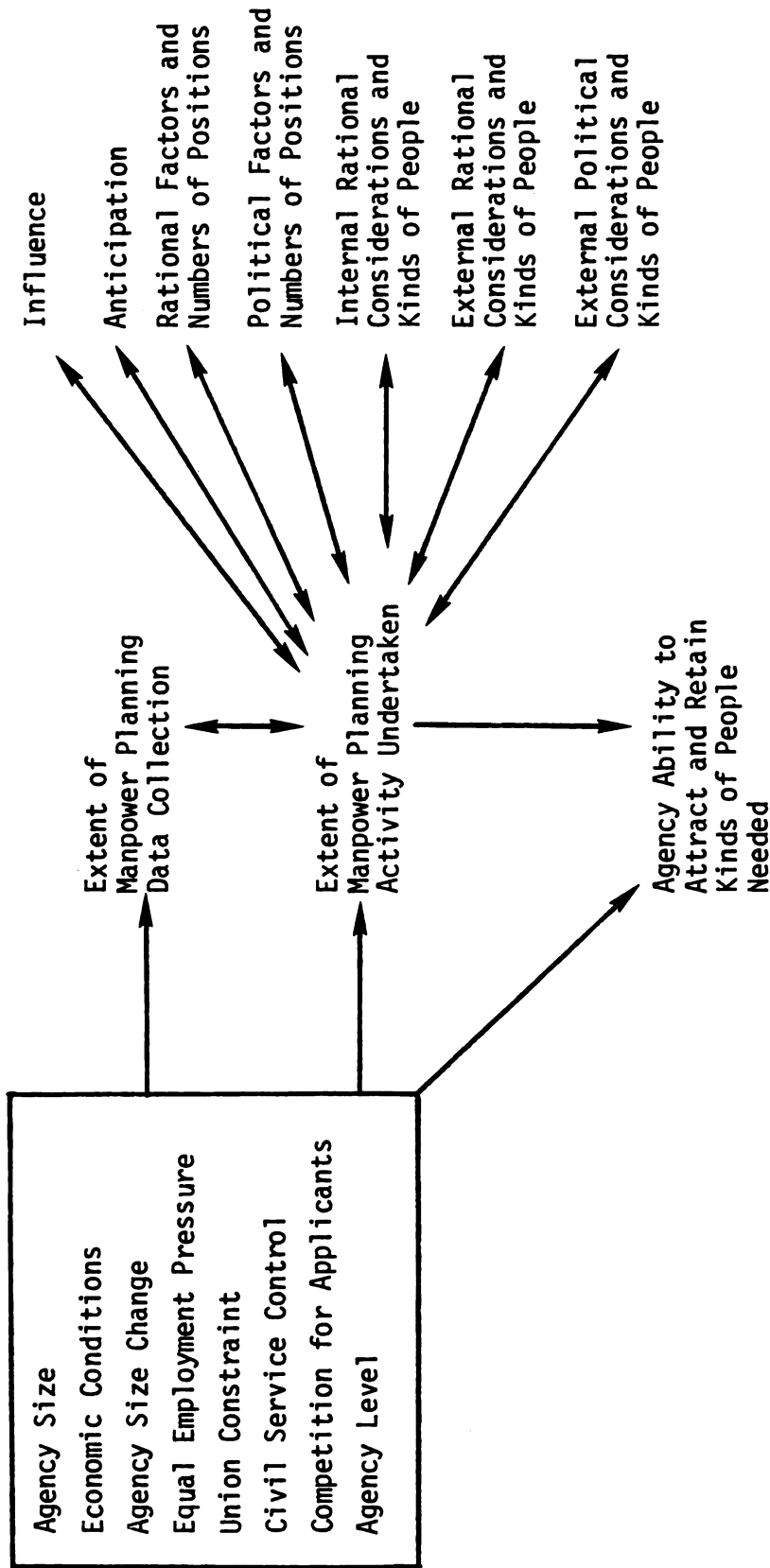


Figure 3.1.--Model of Factors Affecting the Extent of Manpower Planning Data Collection and Activity Undertaken in Police Organizations.

used as an independent variable in dummy form. A city and a county dummy variable are utilized; when using dummy variables, one value must be left out, and its effect becomes part of the regression constant.⁹ A second set of multiple regression analyses using the same factors is also presented, with separate analyses for city police agencies, county agencies, and state agencies. These analyses make it possible to explore differences in the importance of the factors for each level of police agency.

Partial correlation and multiple regression analyses are most appropriate with interval level data, but as noted almost all of the survey measures are at best ordinal. The appropriateness of these kinds of analysis for ordinal level data is a somewhat controversial issue. In general, however, correlation and regression have been found to be robust procedures, in that they provide reasonable results despite violations of their underlying assumptions.¹⁰ The argument in favor of using these procedures in instances such as that presented by this study has been summarized by Greenberg, as follows.

A growing body of evidence . . . suggests that if ordinal data are analyzed with standard regression and correlation methods little harm is done, even though the procedures cannot be justified rigorously. This insensitivity to violations of the assumptions needed to justify the procedure employed (robustness, in the technical jargon) is leading many sociologists to the view that the loss entailed in the use of techniques devised for interval-level data in the analysis of ordinal-level data is greatly outweighed by the gains from the use of mathematical tools that are much better developed than those available for analyzing ordinal data.¹¹

The argument presented by Greenberg is especially forceful with respect to this study, because of its exploratory nature. It is not one of the aims of this study to discover precise estimates of the coefficients of variables, in order to make predictions or other policy decisions. Rather, the purpose of the multivariate analyses performed are to compare the relative importance of various factors, and to obtain rough estimates of the order and sign of regression and correlation coefficients. For these purposes within this exploratory study, the gains from using standard correlation and regression procedures would seem to far outweigh the losses.

Summary

This study is best regarded as an exploratory assessment of current manpower planning activities in police agencies and of factors affecting such activities. An extensive number of interviews with police and other government officials throughout the country were conducted, and a mail survey was sent to the 49 state police agencies and the 201 largest city and county police departments in the United States.

The interview sample was selected with the aid of expert opinion and data on agency size and recent growth or decline in numbers of employees. One purpose of the interviews was to collect pertinent data about the sample police agencies, but more importantly the interviews were used to clarify issues and refine the mail survey instrument. The interviews conducted for the study

were partially unstructured, but consistently addressed a core set of police human resource planning issues. The interview data were not formally analyzed, except to identify frequently mentioned issues and considerations.

The survey sample included only larger police agencies, because such agencies are required to make more personnel-related kinds of decisions, and because such agencies so disproportionately account for a substantial number of police department employees in this country. The survey sample includes only about 1.5% of the police agencies in the United States, but almost 50% of the police employees. An overall response rate of 65.6% was obtained with the survey, and the response rates for several agency level, agency size category, and geographic region were at least 50%. Guided by the research questions, eighteen primary measures were drawn from the survey questions. Analysis of the survey data was conducted using univariate, bivariate, and multivariate procedures. The analysis was guided by the research questions and by a model presented in Figure 3.1.

FOOTNOTES--CHAPTER III

¹Fred N. Kerlinger, Foundations of Behavioral Research, 2nd ed. (New York: Holt, Rinehart, and Winston, 1973), pp. 405-408; Thomas D. Cook and Donald T. Campbell, Quasi-Experimentation (Chicago: Rand McNally, 1979).

²Daniel Katz, "Field Studies," in Research Methods in the Behavioral Sciences, ed. Leon Festinger and Daniel Katz (New York: Holt, Rinehart, and Winston, 1953); Kerlinger, Foundations of Behavioral Research.

³U.S. Department of Justice, Law Enforcement Assistance Administration, and U.S. Bureau of the Census, Expenditure and Employment Data for the Criminal Justice System: 1976 (Washington, D.C.: Government Printing Office, 1978); U.S. Department of Justice, Law Enforcement Assistance Administration, and U.S. Bureau of the Census, Trends in Expenditure and Employment Data for the Criminal Justice System: 1971-1976 (Washington, D.C.: Government Printing Office, 1978).

⁴Lawrence B. Mohr, "Process Theory and Variance Theory in Innovation Research," in The Diffusion of Innovations: An Assessment, eds. Michael Radnor, Irwin Feller, and Everett Rogers (Evanston, IL: Northwestern University Center for the Interdisciplinary Study of Science and Technology, 1978).

⁵Expenditure and Employment Data for the Criminal Justice System: 1976.

⁶The 201 city and county police departments in the sample had a total of 227,187 full-time equivalent employees in 1976. Comparable figures for the state police agencies were not available, as employment data for states include other enforcement agencies in addition to the state police. However, the responses of the 39 state police agencies that returned completed surveys indicate that an average size of 1,000 employees would probably be a conservative estimate. Using this estimate, the sample police agencies account for 276,187 full-time equivalent employees as of 1976. The total reported number of police protection employees for state and local governments in 1976 was 556,926. Thus, the sample agencies employed approximately 50% of state and local police agency personnel in 1976.

⁷Norman H. Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent, Statistical Package for the Social Sciences, 2nd ed. (New York: McGraw-Hill, 1975), pp. 119-120.

⁸Nie et al., Statistical Package for the Social Sciences, p. 289.

⁹Jan Kmenta, Elements of Econometrics (New York: Macmillan, 1971), pp. 409-430; Fred N. Kerlinger and Elazar J. Pedhazur, Multiple Regression in Behavioral Research (New York: Holt, Rinehart, and Winston, 1973), pp. 105-109.

¹⁰Kmenta, Elements of Econometrics, pp. 247-306; Kerlinger and Pedhazur, Multiple Regression in Behavioral Research, pp. 47-48.

¹¹David F. Greenberg, Mathematical Criminology (New Brunswick, NJ: Rutgers University Press, 1979), p. 24; see also Kerlinger and Pedhazur, Multiple Regression in Behavioral Research, pp. 441-451.

CHAPTER IV

ANALYSIS AND DISCUSSION

Introduction

In this chapter the findings of the study are presented. Most of the data analysis discussed pertains to the survey component of the study, with interview findings used primarily to interpret and elaborate survey responses. The presentation of analysis and findings is made within the framework of the research questions introduced earlier.

In the first section of the chapter the research questions are addressed using univariate statistics. Survey responses for the eighteen measures introduced in Chapter III are examined, as are responses to the individual questions that were used to create the composite variables. Frequency distributions and descriptive summary statistics are presented.

In the second section of the chapter bivariate relationships are examined. These bivariate relationships provide a portion of the evidence needed to explore the effects of various factors on the extent of manpower planning undertaken in police organizations. Kendall's tau correlations are used to measure degree of association between the variables, except in the case of agency level, for which an analysis of variance procedure is used to test for differences between city, county, and state police agencies.

In the third section of the chapter several multivariate analyses are presented. These analyses explore the relative importance of the factors affecting extent of manpower planning, and the degree to which the factors jointly explain or account for variations in the activity among police agencies. Also examined are the effects of the factors on agency ability to attract and retain the kinds of people believed needed. Multiple regression and partial correlation are used for the multivariate analysis.

The use of rank-order measures of association in the bivariate analysis and interval-based measures in the multivariate analysis is potentially confusing, and should be explained. As discussed in the preceding chapter, the variables are primarily ordinal-level, with numerous tied ranks, so that Kendall's tau is an appropriate bivariate measure. Despite the ordinality of the variables, however, regression is used for the multivariate analysis because it is a robust technique and it offers many advantages. Also, due to the exploratory nature of this study, precise estimation and hypothesis testing are not an issue. Although not presented, the bivariate relationships were also examined with interval-level measures of association, with results very similar to those obtained using Kendall's tau. The rank-order correlation coefficients were generally smaller than the product-moment coefficients, but directions of relationships were the same for each statistic and the relative magnitudes of the various relationships were similar with each measure of association.

The final research question, regarding the feasibility of manpower planning for police organizations, is discussed in Chapters V and VI. The question of feasibility requires judgments and conclusions drawn from all of the evidence gathered, rather than analysis of any particular survey measure or interview topic.

Univariate Analysis

The presentation of frequency distribution and descriptive statistics for the survey measures is organized in four major sections. In the initial section, information on extent of manpower planning activity and data collection in police agencies is presented. Information on the eight factors thought to affect the extent of manpower planning in police organizations is found in the second section. In the third section, the seven factors believed to be reciprocally related to manpower planning activity are discussed. In the final section, the responses of police agencies regarding their ability to attract and retain the kinds of people needed are reported.

Extent of Manpower Planning

Police survey respondents were asked to indicate the extent to which their agencies undertook ten component activities of manpower planning. The responses for the ten activities are summarized in Table 4.1. The vast majority of respondents indicated that their agencies had undertaken performance evaluation, training needs assessment, manpower inventory, and personnel information systems. Also, about one-half of the agencies had undertaken job analysis,

TABLE 4.1--Extent of Manpower Planning Activity Undertaken by Police Agencies (N Varies Between 159 and 162 City, County, and State Police Agencies Due to Missing Data).

Activity Types	Undertaken By the Agency	Undertaken for Agency By Contractor or Other Government Unit	Not Undertaken But Would Be Useful	Not Undertaken Nor Likely to Be Useful
Job Analysis	50.4%	38.5%	9.9%	1.2%
Selection Validation	32.5%	50.9%	15.4%	1.2%
Manpower Inventory	83.9%	3.7%	9.9%	2.5%
Performance Evaluation	92.7%	1.8%	4.9%	0.6%
Personnel Information System	74.2%	13.8%	10.7%	1.3%
Labor Market Analysis	7.3%	37.7%	34.6%	20.4%
Career Path Analysis	22.6%	12.0%	57.9%	7.5%
Manpower Simulation (e.g., Personnel Processing and Career Path Models)	13.2%	6.9%	69.8%	10.1%
Job Redesign	39.5%	15.6%	33.7%	11.2%
Training Needs Assessment	86.4%	1.8%	11.8%	-----

40% had undertaken job redesign, and approximately one-third had done selection validation. Of the remaining activities, less than one-quarter had undertaken career path analysis, 13% had done manpower simulation, and 7% had conducted analyses of their labor markets.

In addition to being asked which activities had been undertaken by their agencies, respondents were asked if manpower planning activities had been conducted for their agencies by contractors or other government units. For about one-half of the sample police agencies, selection validation had been performed by a contractor or other government unit. Over one-third of the agencies had also had job analyses and labor market analyses conducted for them by others. Less than ten percent of the respondents indicated that manpower simulation, manpower inventory, training needs assessment, and performance evaluation had been conducted for their agencies by contractors or other governmental units.

The distinction between manpower planning activities undertaken by police agencies and those undertaken for them by contractors or other government units may be an important one. At least three interpretations or explanations of the distinction might be relevant. One possibility is that police agencies might not undertake manpower planning activities themselves if they lacked the technical capacity to perform them. This explanation would seem to be at least partially accurate, as the three activities most frequently performed for police agencies by others, selection validation, job analysis, and labor market analysis, all require special

skills and knowledge. A second possible interpretation is that police agencies might be precluded from performing certain manpower planning activities, because they are regarded as proprietary functions of other government agencies. This explanation also fits the responses rather well, as most civil service or jurisdiction personnel units regularly conduct job analyses and test validation, and departments of labor or economic development ordinarily perform labor market analyses. A third interpretation is that agencies undertake themselves the manpower planning activities that they regard as most important, and leave to others the less important activities. To examine this explanation, it is helpful to include consideration of the responses shown in the two right-hand columns of Table 4.1.

The two manpower planning activities that the fewest respondents rated as "not likely to be useful" were training needs assessment and performance evaluation. These were also the two activities most frequently undertaken by police agencies themselves, indicating that agencies may be more likely to undertake themselves the activities deemed most important. Consistent with this view, the activities most frequently rated as not likely to be useful were ones that relatively few police agencies had undertaken themselves. Not consistent with this explanation, however, was the response pattern for job analysis and selection validation; these activities seemed to be regarded generally as useful, but were also frequently done for police agencies by contractors or other government units.

The overall pattern of responses suggests that all three interpretations have some merit. Activities such as performance evaluation and training needs assessment are usually undertaken by agencies themselves because they are seen as important, they do not require highly specialized skills, and they do not infringe on the turf of any other government units. Activities such as job analysis and selection validation are also seen as important, but they do require special skills, and they fall within the domain of civil service units, so that they are often performed for police agencies by others. The same is true to some extent for labor market analysis, except that fewer police agencies perceive its usefulness, so that when it is undertaken at all it is very likely that a contractor or other government unit will be the provider.

Three of the manpower planning activities, manpower simulation, career path analysis, and labor market analysis, had not been undertaken by or for a majority of the responding police agencies. A fourth activity, job redesign, had not been conducted by or for 45% of the agencies. Of those respondents indicating that their agencies had not undertaken these activities, or had them performed for them, a majority reported that each would be useful if undertaken. This sentiment was particularly strong in favor of career path analysis and manpower simulation, with the "not undertaken but would be useful" option receiving a majority of all responses. For these two activities in particular, it would seem likely that agencies regard them as important, but lack the technical capabilities to undertake them.

In addition to activities undertaken, police survey respondents were asked about manpower planning data collection in their agencies. The responses for the thirteen categories of information posed in the survey are presented in Table 4.2. Over 90% of the agencies reported that they regularly collect work load and training data, and a vast majority also regularly collect employee performance, personnel turnover, and employee education information. Over 40% reported regularly collecting employee assignment preference and applicant characteristics data, and 30% regularly collect information on the changing requirements of agency jobs.

A majority of the police agencies reported that they occasionally collected or received from another source information on social and economic trends and on characteristics of the area labor market. About one-third or more of the respondents also occasionally collected or received employee job satisfaction, changing job requirements, employee assignment preference, competing employers' rewards, labor market career orientations, and applicant characteristics data.

The only two manpower planning information categories for which a majority of the sample police agencies did not either regularly or occasionally collect or receive data were rewards offered by competing employers and career orientations of the labor market. About 40% of the police agencies also did not collect or receive information on employee job satisfaction and characteristics of the area labor market. Slightly less than one-quarter did not get data on applicant characteristics and changing job requirements.

TABLE 4.2.--Extent of Manpower Planning Data Collection and Information Importance for Police Agencies (N Varies Between 129 and 164 City, County, and State Agencies Due to Missing Data.)

	Regularly Collect Such Information	Occasionally Collect, or Receive From Another Agency, Such Information	Do Not Collect or Receive Such Information	Rated Importance of the Information (0=No Importance to 5=Strong Importance)
Work Loads Performed by the Agency	90.9%	7.9%	1.2%	4.6
Personnel Turnover Rate	79.1%	18.4%	2.5%	3.8
Training Undergone by Employees	90.3%	8.5%	1.2%	4.0
Employee Educational Attainment	68.9%	26.2%	4.9%	3.2
Employee Assignment Preferences	47.5%	42.6%	9.9%	3.1
Employee Performance Evaluations	84.1%	11.0%	4.9%	4.0
Employee Job Satisfaction	13.5%	46.0%	40.5%	3.0
Characteristics of Applicants	44.1%	32.3%	23.6%	3.1
Characteristics of Area Labor Market	9.3%	50.6%	40.1%	1.9
Career Orientations of Labor Market	5.5%	33.0%	61.5%	1.5
Rewards Offered by Competing Employers	9.9%	39.8%	50.3%	1.9
Changing Requirements of Agency Jobs	30.3%	47.5%	22.2%	3.0
Social and Economic Trends Which May Affect the Agency	21.9%	62.2%	15.9%	2.9

Agency respondents were also asked to rate the importance of the types of information on a 0-5 scale, as reported in the right-hand column of Table 4.2. In general, the police agencies rated as important those kinds of manpower planning information that they collected or received, and as unimportant those types of data that they did not have available. Also, the most highly rated kinds of information were the ones most likely to be regularly, rather than occasionally, collected. The most highly rated categories of information were work load, employee training, employee performance evaluations, and personnel turnover. The lowest rated kinds of information were labor market career orientations, labor market characteristics, and rewards offered by competing employers. The one piece of information that was rated more highly than its present availability would suggest was employee job satisfaction.

The response patterns in Tables 4.1 and 4.2 are generally consistent. For example, employee training and performance evaluation data are among the most regularly collected and most important information types, and training needs assessment and performance evaluation are the manpower planning activities most frequently undertaken by police agencies. Labor market analyses are much less likely to be undertaken, and most likely to be seen as not useful; similarly, among the least important and least available types of data are characteristics and career orientations of the labor market. All of the parallels between data and activities cannot be so clearly drawn, but the two measures seem consistent.

The general pattern of responses indicates that the sample police agencies have available a considerable amount of manpower planning data, and that they undertake or have conducted for them a substantial level of manpower planning activity. With respect to both data collection and activity, the sample agencies seem to be most active with respect to internal resource management matters (performance evaluation, training, work load). Activities and data collection pertaining to more externally oriented matters such as recruitment (labor market analysis, career orientations information) were engaged in much less frequently by the sample police departments. Also, information gathering and activity related to less conventional kinds of police administrative concerns (job satisfaction, career path analysis, job redesign) were undertaken less frequently than those in support of more conventional concerns.

Several of the manpower planning activity and data collection categories were not independent of legal considerations facing police agencies. Two of the activities, job analysis and selection validation, are major elements of efforts to demonstrate that personnel processes do not discriminate against women, racial and ethnic minorities, or other protected classes. As such, the substantial extent to which the police agencies undertook these activities may have been out of necessity, rather than choice or perceived intrinsic importance. Curiously, however, those kinds of activity and information most pertinent to accessing the availability of and locating female and minority applicants (labor market

characteristics and analysis, career orientations data) were among the least frequently utilized.

As described in Chapter III, two composite variables were created from the individual measures of manpower planning activity and data collection in police agencies. For manpower planning activity, the two "not undertaken" response options were combined, so that all of the component measures of the two variables had three values each (the importance measures for data collection categories were not used). Descriptive summary statistics for the two composite variables, which were created by averaging the component manpower planning activity and data collection measures, are presented in Table 4.3. The range and standard deviation of the activity variable are slightly greater than for the data collection variable, but the mean and median values are identical. The high mean values are further indication of the relatively substantial level of manpower planning activity and data collection reported by the sample police agencies.

The reason for combining the survey measures of manpower activity and data collection was to produce two summary variables indicative of extent of manpower planning. The procedure for creating the composite variables was analogous to scale or index construction, in which items thought to measure a common dimension are combined. An important consideration with scales and indices is reliability, or the extent to which the component items seem to measure the same phenomenon. For these and the other composite

TABLE 4.3.--Descriptive Summary Statistics for Extent of Manpower Planning Activity and Data Collection in Police Agencies (N Varies Due to Missing Data).

	Mean	Median	Standard Deviation	Actual Response Range	N	Reliability Coefficient Alpha
Manpower Planning Activity (Composite Variable, 1=Not Undertaken to 3=Undertaken By The Agency)	2.2	2.2	0.4	1.3 - 3	162	.75
Manpower Planning Data Collection (Composite Variable, 1=Do Not Collect or Receive Such Information to 3=Regularly Collect Such Information)	2.2	2.2	0.3	1.4 - 3	164	.77

variables used in the study, reliability was examined using Cronbach's Alpha.¹ The alpha reliability coefficients for the manpower planning activity and data collection composite variables were .75 and .77, respectively. These are reasonably strong reliability coefficients, providing support for the combinatorial method utilized. The component items of the two composite variables were also restructured in dichotomous form and tested in terms of Guttman scaling, with relatively little improvement in reproducibility attributable to the Guttman pattern.² Both sets of items conformed to some extent to the Guttman scale pattern, with agencies that undertook uncommon activities or data collection likely to have undertaken the more common efforts as well. The coefficients of reproducibility for the manpower planning activity and information collection Guttman scales were .87 and .88, respectively, but the percent improvements due to the Guttman scaling were only .09 and .07. These figures suggest that there is some sort of a cumulative or developmental pattern to the activity and data collection components, but that a weighting procedure would not add much to the unweighted method used for creating the composite variable.

The finding of considerable manpower planning effort in police agencies was generally corroborated by the interview data collected for the study. The interviewees in most of the police agencies visited reported a high level of data availability and manpower planning activity, along the lines of the component

information categories and activity types used in the survey and just presented. These component data and activities are integral elements of manpower planning, but it is probably not correct to infer from their presence an integrated or comprehensive approach to manpower planning. In order to do comprehensive manpower planning, a police agency would need most of these kinds of information, and would need to undertake most of these kinds of activities. However, the finding that the extent of such manpower planning data collection and activity is considerable does not demonstrate that most police agencies undertake comprehensive manpower planning. In order to do manpower planning comprehensively, an agency would need to conduct these specific activities within a planning framework of goals, analysis, problem identification, design, choice, implementation, and evaluation. The survey data provide no evidence about whether police agencies collect data and undertake manpower planning activities within such a planning framework.

Information collected from project interviews and from the literature, however, strongly suggests that police manpower planning is not so comprehensive. Rather, it seems more likely that particular manpower planning activities are initiated in response to crises or particular demands, instead of as part of an integrated and explicitly goal-directed human resource management system. In most of the police agencies at which interviews were conducted, for example, activities such as training, recruiting, performance evaluation, and work load analysis were routinely

conducted, but interviewees did not seem to sense that these and other activities were interdependent and all related to the need for right numbers and kinds of people doing the right things. These individual activities may have been performed very competently, but for narrow and sub-optimal purposes, instead of as part of a conscious effort to contribute to organizational goal attainment.

An example of demand-induced manpower planning in police agencies is provided by job analysis and selection validation. Agencies have largely undertaken these activities in response to equal employment opportunity/affirmative action pressure to demonstrate the content validity of selection and promotion processes. Similarly, much of the manpower planning data collected by police agencies is needed to satisfy equal employment opportunity related requirements or to justify budget requests. Along this line, interviewees generally indicated that government budget officials and legislative officials were increasingly requiring empirical justifications of police agency budget requests, creating an additional demand and requirements for manpower planning kinds of data. These sorts of external demands and requirements may account for some portion of manpower planning activity and data collection in police agencies; moreover, they tend to generate specific component efforts, without supplying or requiring any kind of planning framework for integration or coordination of the activities.

In general, police agency interviewees had some notion of goal-directed manpower planning with respect to numbers of people, but not with respect to kinds of people. Most police agencies visited had analyzed their work load in such a way that they knew its magnitude and temporal and geographic distribution. With this minimal information they could deploy their employees so as to equitably apportion the work load, and they could also compute the numbers of people needed in order to meet traditional standards (time per event, response time, minimum number of units available at any given time, etc.). Although these standards are not demonstrably valid, and many are accepted without reflection, they do bear some resemblance to the missions of the police agency, and provide benchmarks for numbers of people determinations.

By comparison, at present the purposes of manpower planning for kinds of people in police agencies are largely externally-imposed. Most of the attention to kinds of people is directed at finding female and minority applicants, or at demonstrating that current selection processes do not discriminate against such applicants. Beyond these concerns, interviewees did not report much manpower planning with respect to kinds of people in their agencies. It seems highly probable that numbers of people considerations are most salient because of the annual need to justify budget requests for numbers of allocated positions in police agencies. Budget and appropriations officials appeared to be very significant others, and increasingly important in times of limited growth. On the other hand, police agencies are not required to

justify their kinds of people annually, or even very frequently, except with respect to equal employment opportunity issues. In keeping with this situation, police agency interviewees seemed considerably less concerned about their relationships with civil service officials than about their relations with budget officials. And such concern as was evidenced was primarily related to filling vacant positions promptly, which was more of a numbers of people than a kinds of people issue.

The most reasonable interpretation of the survey and interview findings would seem to be that police agencies are presently engaged in a substantial amount of manpower planning activity, but not much manpower planning. A great deal of data is collected, analyses are performed, and programming is undertaken, but primarily in response to specific internal needs, external demands, and crises. Few agencies seem to have a conception of manpower planning as goal-directed, as a component of overall planning and management, and as an integrating framework for the component activities and data collection. This conclusion regarding the limited scope or breadth of manpower planning in police agencies is primarily drawn from the interview data, but it seems solidly supported and it is consistent with the literature. If it is correct, it provides an important limiting condition on any analysis of the survey data. The survey measures of extent of manpower planning activity consist entirely of discrete individual activities, and the composite variables merely average the component measures. Thus, the survey analysis pertains to

factors affecting and related to the extent to which police agencies undertake component manpower planning activities, and not to factors affecting integrated or comprehensive efforts at manpower planning in police organizations. To some degree these factors may be identical, and their relationships with specific activities and with integrated manpower planning may be similar. It should be recognized, however, that what serves essentially as the dependent variable for much of the survey analysis is a composite of specific manpower planning activities, rather than a measure of holistic or purposive manpower planning in police organizations.

Factors Affecting Extent of Manpower Planning

Information is presented in this section on eight factors believed to affect the extent of manpower planning in police organizations. These factors, agency size, economic conditions, agency size change, equal employment pressure, union constraint, civil service control, competition for applicants, and agency level, are discussed in the following subsections.

Agency Size.--Survey respondents were asked to report the current size of their police agencies, in terms of both employees and allocated positions. Number of full-time sworn allocated positions was chosen as the operational measure of size for the analysis, as other measures used also referred to sworn personnel and to allocated positions. The survey responses for this measure are summarized in Table 4.4. About one-half of the agencies in the

TABLE 4.4.--Number of Full-time Allocated Sworn Positions in Responding Sample Police Agencies (N=142 City, County, and State Police Agencies, with Data Missing for 22 Agencies).

Agency Size	N	%	Cumulative %
Less Than 200	9	6.3%	6.3%
201 - 400	44	31.0%	37.3%
401 - 600	28	19.7%	57.0%
601 - 800	18	12.7%	69.7%
801 - 1,000	10	7.0%	76.8%
1,001 - 2,000	19	13.4%	90.1%
2,001 - 5,000	10	7.0%	97.2%
5,001 - 10,000	3	2.1%	99.3%
10,001 +	1	0.7%	100.0%

sample reported less than 500 full-time sworn allocated positions, and about three-quarters had less than 1,000 such positions. The mean agency size was 932 full-time sworn allocated positions, while the median was 518 (central tendency and variance statistics for this and the following survey measures used in the analysis are summarized at the end of the section).

Economic Conditions.--This survey question asked respondents to report the general economic conditions of their jurisdictions during the last two years. Five response options were available, ranging from rapid growth to rapid decline. The survey

responses to the economic conditions question are presented in Table 4.5. Over one-half of the police agencies reported moderate growth in economic conditions in their jurisdictions, and an additional 11.6% reported rapid growth. About 13% of the agencies indicated economic decline in their jurisdictions, while one-fourth of the agencies reported stable economic conditions.

Agency Size Change.--It was expected that the degree to which an agency's size had changed recently would give some indication of personnel processing activity, which in turn would create the need for manpower planning activity. Survey respondents were asked to indicate the extent to which the number of positions allocated to their agencies had changed during the past two years, with thirteen response options in five percent increments. Reporting decreases of some magnitude were 31% of the respondents, while 21% reported no changes in numbers of allocated positions, and 48% reported increases in size. Because it was expected that personnel processing activity would result from size changes regardless of

TABLE 4.5.--General Economic Conditions in Jurisdictions of Responding Police Agencies (N=164 City, County, and State Police Agencies).

Economic Condition	N	%
Rapid Decline	1	0.6%
Moderate Decline	20	12.2%
Stable	41	25.0%
Moderate Growth	83	50.6%
Rapid Growth	19	11.6%

of direction, the measure was recoded to reflect a size change magnitude dimension, with responses in absolute value form. The survey responses in this format are presented in Table 4.6. About two-thirds of the police agencies reported either no change in agency size or change less than 5%, and almost 90% reported that their numbers of allocated positions had changed by less than 10% during the past two years. For the survey analysis the agency size change variable is used in the absolute value form shown in Table 4.6.

TABLE 4.6.--Changes in Number of Allocated Positions During Last Two Years in Responding Police Agencies (N=160 City, County, and State Police Agencies, with Missing Data for Four Agencies).

Magnitude of Increase or Decrease in Agency Size	N	%
No Change	33	20.6%
Less Than 5%	78	48.8%
5-10%	31	19.4%
11-15%	11	6.9%
16-20%	3	1.9%
21-25%	2	1.2%
Greater Than 25%	2	1.2%

Equal Employment Pressure.--One of the external factors that was expected to influence manpower planning in police agencies was equal employment opportunity pressure. A survey question asked

respondents to indicate the extent to which their agencies were under pressure to increase employment of women and/or minorities, with response options from no pressure to very strong pressure. The responses to the equal employment question are presented in Table 4.7. Almost 90% of the respondents indicated at least moderate pressure facing their agencies to increase employment of women and/or minorities, and over one-half indicated at least strong pressure.

TABLE 4.7.--Equal Employment Opportunity Pressure on Police Agencies to Increase Employment of Women and/or Minorities (N=163 City, County, and State Police Agencies, with Missing Date for One Agency).

Reported Equal Employment Opportunity	N	%
No Pressure	6	3.7%
Weak Pressure	11	6.7%
Moderate Pressure	54	33.1%
Strong Pressure	44	27.0%
Very Strong Pressure	48	29.4%

This survey finding that most police agencies are faced with at least some equal employment opportunity pressure, and that a majority of departments are confronted with strong or very strong pressure, is consistent with information collected during interviews. The majority of police agencies visited were operating under either

court orders, consent decrees, or serious affirmative action plans that required increases in the employment of women and/or minorities. The plan agreed to by one department went so far as to establish hiring quotas for Blacks, Orientals, Spanish-surnames, Indians, and females. In another state, several police agencies reported intense competition for qualified minority applicants; these agencies were consequently below their authorized personnel strengths, because of the inability to obtain sufficient numbers of minority employees to satisfy quota requirements. Several police departments also reported that their equal employment opportunity efforts had generated reverse discrimination suits, some of which had been upheld in the courts.

Union Constraint.--Another external factor believed to affect manpower planning in police organizations was union constraint on personnel processes and decisions. Respondents were asked in the survey to indicate the extent to which six personnel matters were affected by formal agreements and/or contracts with employee associations or unions. The personnel matters listed were initial selection process, promotion process, assignments/transfers, allocations to units or shifts, disciplinary process, and changes in working conditions. The responses to the question are summarized in Table 4.8. The most frequently constrained personnel matters in police agencies appear to be the disciplinary process and changes in working conditions, while the least affected by unions is the initial selection process. Also, for each of the personnel matters, a

TABLE 4.8.--Extent of Union Constraint on Personnel Matters in Police Agencies (N For Personnel Processes and Decisions Varies Between 140 and 142 City, County, and State Police Agencies Due to Missing Data).

Personnel Matters	Completely Mandated in Contract or Agreement	Partially Mandated in Contract or Agreement	Not Presently Affected But Likely to Be An Issue For Future Bargaining	Not Affected And Not Likely to Be An Issue
Initial Selection Process	-----	4.9%	12.0%	83.1%
Promotion Process	5.7%	15.6%	31.9%	46.8%
Assignments/ Transfers	5.7%	31.9%	26.2%	36.2%
Allocations to Units or Shifts	4.3%	20.6%	28.4%	46.8%
Disciplinary Process	17.8%	37.1%	13.6%	31.4%
Changes in Working Conditions	13.6%	37.1%	22.9%	26.4%

majority of the police agencies not presently affected by union contracts or agreements feel that the matters are not likely to become collective bargaining issues in the future. For the survey analysis, the six measures summarized in Table 4.8 are combined into one union constraint variable, descriptive statistics for which are presented at the end of this section.

Information from interviews at police agencies suggests that the influence of unions varies considerably, and also that such influence is not limited to contract agreements. In some states police employees were reportedly only loosely organized, without union status or collective bargaining authority. In other states unionization among police personnel was widespread, with collective bargaining an almost universal undertaking. Several police departments reported specific contract language that constrained personnel practices, particularly with respect to transfers, discipline, and working conditions. In one county police department, for example, management flexibility with respect to manpower assignment and deployment had recently been limited through the union contract. The new process required that employees receive prior notification of transfers, and that they receive credit for extended travel time necessitated by changes in assignment. In a large city department, assignment to specialized units was solely on the basis of seniority (for those interested), as a result of union negotiation. And in a smaller city police department, the union contract contained language prohibiting changes in the working conditions

of employees, which resulted in nearly all new policies and programs being adjudicated through the grievance machinery.

It was also clear from the interviews that police employee unions or associations constrained personnel processes in ways other than through collective bargaining for contract provisions. For example, several police unions had brought reverse discrimination law suits against their police agencies, in response to equal employment opportunity/affirmative action activities. In addition, in some states and localities police associations or unions are sufficiently powerful to be significant actors in political or administrative arenas beyond their relationships with police management. For instance, in one large city the police union was instrumental for many years in maintaining legislation that mandated equal allocations to the three patrol shifts, despite the obvious unequal distribution of workload throughout the day, and despite the efforts of police administrators to have such legislation eliminated.

Civil Service Control.--The extent to which police agency personnel processes and decisions were controlled by civil service or jurisdiction personnel units was also expected to influence manpower planning in police organizations. Questions were asked in the survey about civil service and three personnel matters: determining minimum qualifications for entry level positions; deciding who to hire; and deciding who to promote. For each of these matters, respondents were asked to rate the importance, on a 0-5 scale, of civil service/jurisdiction personnel units. The

survey responses for the three measures are presented in Table 4.9. In general, the determination of minimum standards was most influenced by civil service, followed by the who to hire decision, and then by the who to promote decision. The degree of civil service importance for determining minimum qualifications was generally fairly strong, while for the other two personnel matters civil service was of moderate importance.

It is interesting to note that for each of the three personnel matters, the two modal responses were the extreme values of no importance and strong importance. This suggests that most police agencies perceive themselves either as virtually independent of civil service, or as totally dependent and controlled by civil service. These kinds of responses are consistent with the interview findings. A number of police agencies visited reported being in complete control of their personnel processes (state police agencies, in particular, seemed to have this kind of independence). Other agencies reported that civil service units controlled the creation of job descriptions, selection tests, and eligibility lists. The most common mixed model seemed to involve civil service consultation with police agencies during the development of job descriptions and tests, combined with a "rule of three" procedure by which police agencies were not required to merely accept civil service lists of eligible candidates. Even in this mixed situation, however, civil service units are able to define the pool of eligibles from which police agencies must choose, and thus their role is important, if not a wholly controlling one.

TABLE 4.9.--Extent of Civil Service Control Over Police Agency Personnel Matters (N=164 City, County, and State Police Agencies).

	0=No Importance to 5=Strong Importance					Average Rating	
	0	1	2	3	4		5
Civil Service Influence in Determining Minimum Job Qualifications	21.3%	0.6%	4.9%	10.4%	11.6%	51.2%	3.4
Civil Service Influence in Deciding Who to Hire	30.5%	1.8%	9.8%	12.2%	9.1%	36.6%	2.8
Civil Service Influence in Deciding Who to Promote	35.4%	3.0%	6.1%	12.8%	11.0%	31.7%	2.6

Competition for Applicants.--One set of survey questions asked respondents to rate five other kinds of employers in terms of the extent to which they compete with the police agency for qualified job applicants. The responses to these questions are summarized in Table 4.10. The other kinds of employers listed were non-criminal justice governmental agencies, other criminal justice agencies, industrial operations, private security companies, and non-industrial operations. The response possibilities were a scale of 0=no competition to 5=strong competition. The police agency respondents indicated that their primary competitors for qualified applicants were other criminal justice agencies, followed fairly closely by industrial operations and other governmental agencies. In general, little competition with non-industrial operations (farming, merchandising) or with private security companies was reported. In order to get an overall measure of competition for qualified applicants, the five individual measures of competition were combined into a composite variable.

During interviews at police agencies, the type of competing employer mentioned most frequently as important was other police departments. In the metropolitan areas of one state in particular, several major police agencies (including the state police, a large city police department, and two large county police agencies) reported directly competing with each other for qualified people, and especially for minority applicants. The situation was such that these agencies were "raiding" each other of minority employees, through offers of higher pay or other inducements. In a major city

TABLE 4.10.--Competition With Other Employers for Qualified Job Applicants (N Varies Between 159 and 161 City, County, and State Police Agencies Due to Missing Data).

Competing Employers	0=No Competition to 5=Strong Competition					Average Rating	
	0	1	2	3	4		5
Non-Criminal Justice Governmental Agencies	13.0%	10.6%	15.5%	29.2%	14.9%	16.8%	2.7
Other Criminal Justice Agencies	8.8%	5.6%	10.6%	20.6%	25.6%	28.8%	3.4
Industrial Operations	12.4%	10.6%	19.9%	20.5%	19.3%	17.4%	2.8
Private Security Companies	47.8%	29.8%	14.9%	5.0%	0.6%	1.9%	0.9
Non-Industrial Operations	28.9%	27.0%	23.3%	14.5%	4.4%	1.9%	1.4

in another state, the city police department reportedly competed with the transit authority and housing authority police agencies, again primarily for minority applicants. In general, the police agencies visited were concerned about competition for minority employees, but otherwise reported an overabundance of qualified applicants.

Agency Level.--Some information on agency level was presented in Chapter III, with the description of the survey sample and survey respondents. The sample and respondents included city, county, and state police agencies, and agency level is used as a variable in the survey analysis. Of the 164 agencies responding to the survey, 94 (57.3%) were city police agencies, 31 (18.9%) were county, and 39 (23.8%) were state. Agency level is used as a nominal variable in the analysis, and separate multivariate analyses are also conducted for the three levels of police agencies.

Summary of Measures.--In Table 4.11, descriptive summary statistics are presented for the factors affecting extent of manpower planning in police organizations (agency level is excluded from the table). For union constraint, civil service control, and competition for applicants, the statistics are for the composite variables created from individual measures. The variables as presented in Table 4.11 are in the form used for the remainder of the survey analysis.

As discussed with respect to the composite variables for manpower planning activity and data collection, the reliability of

TABLE 4.11.--Descriptive Summary Statistics for Factors Affecting Extent of Manpower Planning in Police Agencies (N Varies Due to Missing Data).

Factors	Mean	Median	Standard Deviation	Actual Response Range	N
Agency Size (Number of Uniformed Full-time Allocated Positions)	932.3	517.5	1434.7	95-13293	142
Economic Conditions (1=Rapid Decline to 5=Rapid Growth)	3.6	3.7	0.9	1-5	164
Agency Size Change (0=Stable to 6=±25% Growth)	1.3	1.1	1.1	0-6	160
Equal Employment Pressure (1=No Pressure to 5=Very Strong Pressure)	3.7	3.7	1.1	1-5	164
Union Constraint (Composite Variable, 1=Not Affected Nor Likely to be an Issue to 4= Completely Mandated in Contract or Agreement)	2.0	2.0	0.7	1-3.8	141
Civil Service Control (Composite Variable, 0=No Importance to 5=Strong Importance)	3.0	3.3	1.8	0-5	163
Competition for Applicants (Composite Variable, 0=No Competition to 5=Strong Competition)	2.2	2.4	0.9	0-5	162

items combined into an index or scale can be examined. In this section, composite measures of union constraint, civil service influence, and competition for applicants were presented. The reliability coefficients for these composite variables, tested with Cronbach's Alpha, were .86, .87, and .61. Particularly considering the small number of items used in creating each variable (six, three, and five, respectively), these reliability coefficients are satisfactorily large for the purposes of this study. They suggest that the sets of items measured common dimensions, and that it is reasonable to combine them as described.

Factors Reciprocally Related to Extent of Manpower Planning

Seven factors believed to be reciprocally related to the extent of manpower planning in police organizations are discussed in this section. These factors are influence, anticipation, rational and political factors vis-a-vis numbers of positions, and internal rational, external rational, and external political factors vis-a-vis kinds of people. Each of these factors is largely perceptual, and they are expected both to affect and be affected by the extent of manpower planning in police agencies.

Influence.--Two questions in the survey asked respondents about their agencies' ability to influence changes in numbers of allocated positions. One question referred to general influence in bringing about increases in numbers of positions, while the other pertained to influence in minimizing decreases in allocated

positions. The responses to the two questions are summarized in Table 4.12. Overall, the respondents indicated that their agencies were quite influential; three quarters reported at least a moderate amount of influence with respect to minimizing decreases, while over 90% were at least moderately influential in bringing about increases. Apparently police agencies wield more influence with regard to increases than with decreases, although as noted the degree of influence reported is considerable in each case.

TABLE 4.12.--Police Agency Ability to Influence Changes in Numbers of Allocated Positions (N Varies Due to Missing Data).

	A Great Deal of Influence	A Moderate Amount of Influence	Little Influence	No Influence	N
Agency Influence in Bringing About Increases	45.4%	47.4%	5.3%	2.0%	152
Agency Influence in Minimizing Decreases	27.5%	48.0%	19.6%	4.9%	102

This apparently high level of influence over budgetary experience is not entirely consistent with information collected during interviews at police agencies. Officials interviewed at a number of police departments did not feel that their agencies were very influential at all. Several agencies felt, for example, that decisions concerning numbers of positions were actually made by

budget analysts on the basis of unspecified criteria. These budget analysts were seen as fulfilling a role of budget-cutting, and the police departments reportedly exercised little or no influence over them. Also, one county police agency indicated that they had recently received an increase in positions because "it was their year," by which it was meant that they had not influenced the decision, and that they would subsequently be required to wait several years before their turn came up again. This theme of periodic increases unrelated to influence or rational argument was voiced in several other interviews as well.

The experience of a large western city police department illustrates an instance of no influence over, and no opportunity to anticipate, a change in number of allocated positions. The city was facing some fiscal difficulties, and all agencies were instructed to plan for an austerity or cut-back situation. The top administrators of the police department actually regarded their agency as somewhat overstaffed anyway, and prepared a budget including a 10% reduction in expenditures. The reduction was facilitated by a civilianization program that had been previously inaugurated, which had increased the use of civilian personnel in clerical and staff positions, while returning trained and higher paid sworn personnel to operational duties. Following the preparation of the reduced police budget, however, the city administration independently signed an equal employment opportunity consent decree that called for an increase of 600 sworn employees in the police department. The new hiring was intended to focus on minority applicants, so as to bring

the personnel characteristics of the police agency more in line with those of the community. The police department, having planned for a 10% reduction, suddenly found itself required to recruit and select 600 new employees, from specified minority classes. Moreover, the city could not afford the costs of the 600 new sworn police employees, so the police department was instructed to lay off a large number of its civilian personnel. Consequently, most of the newly hired sworn employees were eventually assigned to clerical or staff positions previously filled by civilians, at unnecessary cost to the city.

Not all police agency interviewees reported such horror stories, however, or such a lack of influence over changes in numbers of positions. Several state police agencies, for example, reported cultivating relationships with their governors and legislators, eventually to their budgetary benefit. One such agency had become the "pet program" of a powerful state senator, and as a result had exercised considerable influence during his tenure. Another state police agency used older, experienced, but still uniformed troopers to "evangelize" before the legislature at budget time, apparently with great success.

Anticipation.--Another pair of questions inquired about police agency ability to anticipate increases and decreases in numbers of allocated positions. It was expected that agencies able to anticipate such changes would be more likely to undertake manpower planning, and that agencies doing manpower planning would be

more able to anticipate such changes. The responses to the two anticipation questions are presented in Table 4.13. Most respondents indicated that their agencies were at least somewhat able to anticipate changes in numbers of allocated positions. With respect to increases in positions, 95% of the police agencies reportedly were able to anticipate changes at least one month in advance, and 61% foresaw changes at least seven months ahead. Anticipation with respect to decreases in positions was not as prescient; the portion of agencies able to forecast decreases a year in advance was only about one-third as large as for increases, while the portion anticipating decreases not at all or less than one month in advance was more than twice as large as for increases in positions. Still, even with respect to decreases in positions almost 90% of the agencies were reportedly able to anticipate changes at least one month in advance.

TABLE 4.13.--Police Agency Ability to Anticipate Changes in Numbers of Allocated Positions (N Varies Due to Missing Data).

	Not at all	Less Than 1 Month	1-6 Months	7-12 Months	Over a Year	N
Agency Anticipation of Increases	2.6%	2.0%	34.2%	30.3%	30.9%	152
Agency Anticipation of Decreases	6.0%	5.0%	47.0%	31.0%	11.0%	100

The issue of anticipation is not independent of influence, as agencies with little or no influence over changes in numbers of positions are probably more likely to be caught by surprise. The previous example from the western city policy department is illustrative of a case in which substantial planning activity had been undertaken, but in which a political decision by a higher authority was unanticipated and entirely negated the plans that had been developed. In a large eastern city, a severe fiscal crisis had been forecast by many analysts and observers, but officials in the police department and other agencies were still caught off guard by the magnitude of the problem with the crisis finally coming to a head. Again, planning activity had been undertaken, and in this instance the economic situation had been correctly forecast by many analysts, but still the police agency was unable to fully anticipate the severity of the budgetary crisis that unfolded.

In general, however, the budgetary experiences of police departments are more predictable than is suggested by these two examples. Most changes in numbers of positions are by small increments, and the nature of the government budget cycle allows police agencies to anticipate changes at least a few months in advance. Even in instances in which agencies exercise relatively little influence over their budgetary experiences, the regularity of the budget cycle permits some degree of anticipation.

Rational Factors and Numbers of Positions.--Again with respect to increases and decreases in numbers of allocated positions,

agency respondents were asked about the importance of "agency analysis and presentation of needs (rational planning)" for increases and decreases in numbers of allocated positions. The responses are summarized in Table 4.14. Overall, respondents rated rational agency planning as important with respect to increases, but not with respect to decreases. The average importance rating for rational planning was twice as large for increases as for decreases.

There was considerable variance among interviewees in terms of their estimation of the importance of rational planning for changes in numbers of positions. The example noted earlier from the western city, in which the police department planned for a reduction and instead was authorized to hire 600 new sworn employees, is an extreme instance of the irrelevance of rational planning. In another city, police officials reported that funding decisions were made without regard for "whether we do a good job and present relevant and factual information." By contrast, though, two other police departments in the same state reported that their rational arguments were given careful attention at budget time, and that rational planning did influence their funding.

To some extent, police perceptions of the importance of rational factors are undoubtedly self-centered; that is, if the police get what they ask for, they perceive budgetary decision making as rational. In this regard, the perceptions of the rational basis of police requests clearly vary by vantage point. One state police agency, for example, regarded its budget proposals

TABLE 4.14.--Importance of Rational Factors for Changes in Numbers of Allocated Positions (N Varies Due to Missing Data).

	0=No Importance to 5=Strong Importance					Average Rating	N
	0	1	2	3	4	5	
Importance of Agency Analysis and Presentation of Needs for Increases	3.4%	4.8%	12.9%	21.1%	26.5%	31.3%	147
Importance of Agency Analysis and Presentation of Needs for Decreases	33.3%	18.2%	8.1%	20.2%	13.1%	7.1%	99

as tightly justified, but felt that budget analysts cut them arbitrarily, and that the legislature ignored rational arguments in favor of narrow judgments of self-interest. The budget analyst responsible for the state police, by contrast, saw very little rationality in the alleged planning and analysis supporting budget requests. In his view, the state police budget preparations were "all politics and no science."

An important theme that was commonly enunciated during interviews was the "receptivity to rational argument" or the general "climate of rationality" in the jurisdiction. Political decision making with respect to agency funding seemed to be regarded as more "rational" in some sites than in others. Some police officials described their environments as such that rational arguments were lost or forgotten by the time that funding decisions were made, while other police departments reported fiscal allocations heavily dependent on empirical analysis and justification. Frequently, this climate or receptivity seemed to be closely tied to a single strong government official (city manager, governor, etc.) whose decision making was demonstrably influenced by the analysis and plans prepared by jurisdiction agencies.

Political Factors and Numbers of Positions.--A final pair of questions pertaining to changes in numbers of allocated positions asked about the importance of political factors. The nature of the political factors was left unspecified, for reasons described earlier. The responses for these two questions are presented in

Table 4.15. In general, respondents rated political factors moderately important with respect to both increases and decreases in numbers of positions. Political factors were rated as somewhat more important with respect to decreases, but the difference between the ratings was not as large as was the case for rational factors.

Several examples of the importance of political considerations for police agency funding decisions were identified during interviews. In a number of sites, as noted, the state police indicated that they had established close relationships with governors and legislators, and that these relationships aided their fiscal requests. In a midwestern state, one city police department was completely dominated by local partisan politics, and the state police felt that their rational arguments were paid little heed at budget time. The state police agency had not received any personnel increases in almost a decade, apparently because of the political power of the state sheriff's association. Annually, their budget requests for increases in positions were approved by the department of public safety, cut partially by the governor, and eliminated by the legislature, where the rural sheriffs exercised the most influence. The sheriffs opposed the expansion of the state police on the grounds that the saliency and power of county law enforcement would be endangered.

Two eastern police departments reported going outside of the government machinery in order to increase political support for funding requests. In each case, the support of various community

TABLE 4.15.--Importance of Political Factors for Changes in Numbers of Allocated Positions (N Varies Due to Missing Data).

	0=No Importance to 5=Strong Importance					Average Rating	N
	0	1	2	3	4	5	
Importance of Political Factors for Increases	13.9%	7.6%	16.0%	25.0%	25.0%	12.5%	144
Importance of Political Factors for Decreases	9.9%	8.9%	6.9%	21.8%	36.6%	15.8%	101

groups was cultivated in order to offset unfavorable preferences of elected or appointed government officials. In one city in particular, the reform chief of police clearly threatened the operations of the traditional political machine, and funding for the agency was jeopardized. The chief was able, however, to gain the active support of business and good government groups, and thereby to force the hand of the mayor and council with respect to police funding (at least for the time being). In this instance, rational arguments were used by the chief to win the support of the community groups, after which the police funding decision was made on the basis of political power vs. political power.

A number of the interviewees recognized that budget decisions making is inherently and properly political, thus limiting the role and impact of rational planning and analysis. In general, though, the police officials made a distinction between larger political decisions and narrow self-interest politics. Clearly, a choice on revenue allocations between the police department and the board of education is political, and the role of formal rationality may be limited. On the other hand, campaign year promises to increase police personnel, or legislative domination by rural interests that leads to state police emasculation in favor of sheriffs, appear less politically legitimate to the interviewees.

The previous four sets of questions all dealt with numbers of positions, and the responses seem fairly consistent. Police agencies were reportedly more influential with respect to increases

in positions; they were better able to anticipate increases; and for increases rational factors were rated more important than political factors. Police agency influence and anticipation was not as great with respect to decreases in positions, and for decreases political factors were rated more important than rational factors. When increases in numbers of positions are awarded, they are usually preceded by police agency requests for increases; thus, agencies see themselves as influential in causing the increases, they had the opportunity to anticipate them, and they see the increases as rational based on their requests. Decreases, on the other hand, are ordinarily opposed by police agencies; thus, if they come to pass, they reflect a lack of influence, are more difficult to anticipate, and are perceived as resulting from political factors rather than rational planning.

Internal Rational Considerations and Kinds of People.--

Two questions in the survey asked about the importance of internal rational considerations in determining the kinds of people to employ in police agencies. The specific considerations listed for respondents were analysis of job requirements and assessment of agency needs. The responses for these items are presented in Table 4.16. The responses for the two questions are very similar, with over 86% of the respondents rating each consideration as at least somewhat important, and less than 7% of respondents rating them as "of no importance." This is a strong indication that police agencies perceive that they have some control over kinds

TABLE 4.16.--Importance of Internal Rational Considerations for Kinds of People Determinations
(N Varies Due to Missing Data).

	Very Important	Somewhat Important	Not Very Important	Of No Importance	N
Importance of Analysis of Job Requirements	47.2%	39.6%	6.3%	6.9%	159
Importance of Assessment of Agency Needs	44.4%	42.5%	6.9%	6.3%	160

of people determinations, and that their kinds of people decisions are based on rational analysis and assessment.

External Rational Considerations and Kinds of People.--

Two additional kinds of people questions asked about the importance of external rational considerations. These considerations, availability of desirable applicants and labor market conditions, were viewed as external to the police agency but not inherently political. That is, although largely beyond the control of the police organization, these considerations affect all employers, they do not seem to fluctuate at the whim of a few political or other decision makers, and they are accepted as givens that must be dealt with. The responses for these two items are summarized in Table 4.17. Both considerations were rated as fairly important with respect to kinds of people determinations. In particular, the availability of desirable applicants was rated as very important; more important, in fact, than the internal rational considerations presented in the previous section. This would suggest that although analysis of job requirements and assessment of agency needs are important for determining the kinds of people to employ, these internal considerations operate within the parameters established by the availability of desirable applicants.

External Political Considerations and Kinds of People.--

Five survey questions asked respondents to indicate the importance of external political considerations for kinds of people determinations. These items were viewed as political in the sense that they

TABLE 4.17.--Importance of External Rational Considerations for Kinds of People Determinations
(N Varies Due to Missing Data).

	Very Important	Somewhat Important	Not Very Important	Of No Importance	N
Importance of Availability of Desirable Applicants	59.6%	29.2%	5.6%	5.6%	161
Importance of Labor Market Conditions	25.6%	40.6%	20.0%	13.7%	160

reflected concerns about the kinds of people that should be employed in police agencies, without regard to job analyses or agency needs assessments. The five external political considerations offered were political pressure, equal employment opportunity/affirmative action, public opinion, specific court cases/injunctions, and union policies. With the exception of the equal employment concern, respondents generally rated the considerations as not too important, as shown in Table 4.18. Union policies and political pressure were rated especially low, with over 80% of the responses for each being either "not very important" or "of no importance." The rated importance of public opinion and court cases was somewhat higher, but over one-half of the respondents rated each as not very important or of no importance for kinds of people determinations. Equal employment opportunity/affirmative action considerations were rated very important, however, in determining the kinds of people to employ in police agencies. This suggests that in police organizations, analysis of job requirements and assessment of agency needs are important for determining the kinds of people to employ, but that these internal rational considerations operate within a framework defined by the availability of desirable applicants and by equal employment opportunity/affirmative action concerns.

As discussed previously, the police agencies included in the study seemed to regard numbers of people considerations as much more salient than kinds of people considerations. During the interviews, the only kinds of people concerns that consistently arose related to equal employment opportunity issues. With regard

TABLE 4.18.--Importance of External Political Considerations for Kinds of People Determinations
(N Varies Due to Missing Data).

	Very Important	Somewhat Important	Not Very Important	Of No Importance	N
Importance of Political Pressure	5.0%	11.9%	38.1%	45.0%	160
Importance of Equal Employment Oppor- tunity/Affirmative Action	56.8%	30.9%	10.5%	1.9%	162
Importance of Public Opinion	10.7%	34.0%	33.3%	22.0%	159
Importance of Specific Court Cases/Injunctions	22.5%	18.8%	22.5%	36.2%	160
Importance of Union Policies	-----	9.2%	20.3%	70.6%	153

to these issues, police agencies reported strong pressure to increase their employment of women and minorities, and most had undertaken special recruiting and selection activities to find and hire such kinds of people. A number of the agencies also indicated that the increasing numbers of college educated people in the labor market were reflected in their applicant pools, especially in these times of relatively limited employment opportunities. Few agencies, however, seemed actually to have recognized that there were kinds of people determinations to make. Instead, they relied on untested tradition, assumptions, and conventional wisdom, except as outside pressures mandated special considerations.

Summary of Measures.--In Table 4.19, descriptive statistics are presented for the seven factors reciprocally related to extent of manpower planning in police organizations. Each of the factors is in the form of a composite variable, and they are presented in the form in which they are used in the remainder of the analysis. Reliability coefficients, as measured by Cronbach's Alpha, are also presented in Table 4.19 for each of the composite variables. (It should be noted that all of the variables except external political considerations and kinds of people consist of only two items each. For these variables, alpha is equivalent to the Spearman-Brown splithalf coefficient.) Although the reliability coefficients are not exceedingly large, they are all at least .50, and would generally seem to be large enough to justify the composite variable procedure utilized in the study.

TABLE 4.19.--Descriptive Summary Statistics for Factors Reciprocally Related to Extent of Manpower Planning in Police Agencies (N Varies Due to Missing Data).

Factors	Mean	Median	Standard Deviation	Actual Response Range	N	Reliability Coefficient Alpha
Influence (Composite Variable, 1=No Influence to 4=A Great Deal of Influence)	3.3	3.2	0.6	1.5 - 4	152	.56
Anticipation (Composite Variable, 1=No At All to 5=Over A Year)	3.8	3.8	0.9	1 - 5	152	.50
Rational Factors and Numbers of Positions (Composite Variable, 0=No Importance to 5=Strong Importance)	3.0	3.0	1.4	0 - 5	148	.55
Political Factors and Numbers of Positions (Composite Variable, 0=No Importance to 5=Strong Importance)	2.8	3.1	1.5	0 - 5	146	.72
Internal Rational Considerations and Kinds of People (Composite Variable, 1=0f No Importance to 4=Very Important)	3.3	3.4	0.7	1 - 4	161	.62
External Rational Considerations and Kinds of People (Composite Variable, 1=0f No Importance to 4=Very Important)	3.1	3.2	0.8	1 - 4	161	.72
External Political Considerations and Kinds of People (Composite Variable, 1=0f No Importance to 4=Very Important)	2.3	2.2	0.6	1 - 4	161	.56

Agency Ability to Attract and Retain

Two questions in the survey asked respondents to characterize the abilities of their agencies to attract and to retain the kinds of people believed needed. The responses for these two questions are presented in Table 4.20. Over 90% of the survey respondents indicated that their agencies were at least somewhat able to both attract and retain needed kinds of people, and nearly one-half reported that their agencies were attracting and retaining the kinds of people needed "to a great extent." The reported ability of police agencies to retain people was slightly better than their ability to attract needed kinds of people, but the difference was very small.

In Table 4.21 descriptive summary statistics for the attract and retain composite variable are presented. As suggested by the responses to the two component questions, the mean values are quite high, but the responses for the composite variable do occupy the entire range. The reliability coefficient for the composite measure is .68.

Bivariate Analysis

In the preceding section information on frequency distributions and summary statistics for the survey measures was presented. In this section a variety of bivariate relationships are examined. Reviewed first are intercorrelations for the ten manpower planning activities and the thirteen categories of manpower planning data collection. Examined next are the relationships between the manpower

TABLE 4.20.--Police Agency Ability to Attract and Retain the Kinds of People Believed Needed (N Varies Due to Missing Data).

	To A Great Extent	Somewhat	Very Little	Not At All	N
Ability to Attract Kinds of People Needed	43.8%	48.8%	7.4%	----	162
Ability to Retain Kinds of People Needed	49.4%	45.7%	4.3%	0.6%	164

TABLE 4.21.--Descriptive Summary Statistics for Agency Ability to Attract and Retain the Kinds of People Believed Needed.

	Mean	Median	Standard Deviation	Actual Response Range	N	Reliability Coefficient Alpha
Agency Ability to Attract and Retain (Composite Variable, 1=Not At All to 4=To A Great Extent	3.4	3.4	0.5	1-4	164	.68

planning measures and the factors affecting extent of manpower planning in police agencies. In the third subsection, the relationships between activity and data collection and the factors reciprocally related to manpower planning are explored. Finally, the relationships between the various factors and agency ability to attract and retain needed kinds of people are reviewed.

Intercorrelations Between Manpower Planning Measures

In Table 4.22 intercorrelations between the ten component measures of manpower planning activity in police organizations are presented. The statistic used to measure association between variables is Kendall's tau, which is a rank-order correlational test. As the component manpower planning activities could take on one of only three possible values, a large number of tied ranks occur, for which the Kendall's tau statistic is recommended.

Of the 45 non-redundant correlations shown in Table 4.22, 37 are statistically significant at the .05 level using a one-tailed test. All of the coefficients are positive, indicating generally that agencies undertaking one activity tend also to undertake the other activities. The findings of positive association between the activities and frequency of statistical significance in the bivariate relationships provides support for the ordinality of the measures and for the reliability of the composite variable created by combining the component measures. The average bivariate rank-order intercorrelation for the manpower planning

TABLE 4.22.--Kendall's Tau Correlations Between Ten Categories of Manpower Planning Activity (N
Varies Between 156 and 161 City, County, and State Police Agencies Due to Missing Data).

	JA	SV	MI	PE	PIS	LMA	CPA	MS	JR	TNA
Job Analysis (JA)										
Selection Validation (SV)	<u>.40</u>									
Manpower Inventory (MI)	<u>.19</u>	<u>.20</u>								
Performance Evaluation (PE)	<u>.07</u>	<u>.15</u>	<u>.06</u>							
Personnel Information System (PIS)	<u>.24</u>	<u>.19</u>	<u>.23</u>	<u>.16</u>						
Labor Market Analysis (LMA)	<u>.13</u>	<u>.16</u>	<u>.02</u>	<u>.16</u>	<u>.07</u>					
Career Path Analysis (CPA)	<u>.15</u>	<u>.23</u>	<u>.02</u>	<u>.10</u>	<u>.13</u>	<u>.38</u>				
Manpower Simulation (MS)	<u>.17</u>	<u>.34</u>	<u>.08</u>	<u>.09</u>	<u>.12</u>	<u>.35</u>	<u>.60</u>			
Job Redesign (JR)	<u>.27</u>	<u>.25</u>	<u>.29</u>	<u>.11</u>	<u>.17</u>	<u>.23</u>	<u>.33</u>	<u>.30</u>		
Training Needs Assessment (TNA)	<u>.07</u>	<u>.08</u>	<u>.25</u>	<u>.28</u>	<u>.26</u>	<u>.20</u>	<u>.25</u>	<u>.19</u>	<u>.38</u>	

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

activities is .20, while the average corrected item to scale correlation is .40, and the reliability coefficient, as noted, is .75.

With respect to the individual component measures of manpower planning activity, those with the highest average intercorrelations were job redesign, manpower simulation, career path analysis, training needs assessment, and selection validation. The activity least correlated with the others was performance evaluation. The low correlations for this activity probably reflect the near universality of performance evaluation, and its relative independence of the other activities. Even for performance evaluation, however, all of the intercorrelation coefficients are positive, and deleting the item from the composite variable does not enhance its reliability.

Several of the larger individual coefficients would have been expected given the interdependence of the activities involved, and thus provide support for the measurement and analysis procedures used. For example, the correlation between the manpower simulation and career path analysis activities is .60, which makes sense inasmuch as career path information is needed for simulation efforts, and as one benefit of manpower simulation is information about the effects of different assignment and promotion practices and policies. Another example is the .40 correlation between job analysis and selection validation. In order to adequately validate selection processes, job analyses are usually required, and particularly for content validation, which is often the only feasible approach for

police agencies. Consequently, positive association between the two activities would be expected, and the finding of such increases confidence in the measure.

Intercorrelations for the thirteen component measures of manpower planning data collection in police agencies are presented in Table 4.23. As with the preceding discussion, the measure of association used is Kendall's tau. Of the 78 non-redundant correlations between the data collection categories, 63 are statistically significant using a one-tailed test, which is about the same significance portion (81%) as found with the manpower planning activities. One of the intercorrelations is negative, although not statistically significant, while all of the rest are positive, as should be expected. The frequency of statistical significance and the near universality of positive association lend support to the view that the component measures reflect a common dimension of manpower planning data collection, and that the measurement procedures used were reliable. The average bivariate rank-order intercorrelation for the manpower planning data collection categories is .18, the average corrected item to scale correlation is .39, and the reliability coefficient, as indicated previously, is .77. These summary measures are all very similar to those computed for the manpower planning activity composite variable.

The individual data collection category most strongly associated with the others was employee job satisfaction, with career orientations of the labor market also highly correlated with the other measures, on the average. The component measures least

TABLE 4.23.--Kendall's Tau Correlations Between Thirteen Categories of Manpower Planning Data Collection (N Varies Between 159 and 164 City, County, and State Police Agencies Due to Missing Data).

	WL	PT	TU	ED	AP	EV	JS	CA	LM	CO	RO	CR	SE
Work Loads Performed by the Agency (WL)													
Personnel Turnover Rate (PT)	<u>.21</u>												
Training Undergone by Employees (TU)	<u>.19</u>	<u>.11</u>											
Employee Educational Attainment (ED)	<u>.16</u>	<u>.12</u>	<u>.35</u>										
Employee Assignment Preferences (AP)	<u>.06</u>	<u>.21</u>	<u>.23</u>	<u>.15</u>									
Employee Performance Evaluations (EV)	<u>.09</u>	<u>.03</u>	<u>.15</u>	<u>.07</u>	<u>.20</u>								
Employee Job Satisfaction (JS)	<u>.10</u>	<u>.19</u>	<u>.20</u>	<u>.16</u>	<u>.35</u>	<u>.29</u>							
Characteristics of Applicants (CA)	<u>.14</u>	<u>.16</u>	<u>.12</u>	<u>.10</u>	<u>.16</u>	<u>.15</u>	<u>.29</u>						
Characteristics of Area Labor Market (LM)	<u>.03</u>	<u>.06</u>	<u>.01</u>	<u>.21</u>	<u>.09</u>	<u>.11</u>	<u>.23</u>	<u>.23</u>					
Career Orientations of Labor Market (CO)	<u>-.05</u>	<u>.09</u>	<u>.17</u>	<u>.18</u>	<u>.21</u>	<u>.14</u>	<u>.34</u>	<u>.18</u>	<u>.65</u>				
Rewards Offered by Competing Employers (RO)	<u>.10</u>	<u>.07</u>	<u>.06</u>	<u>.17</u>	<u>.16</u>	<u>.08</u>	<u>.29</u>	<u>.33</u>	<u>.33</u>	<u>.27</u>			
Changing Requirements of Agency Jobs (CR)	<u>.14</u>	<u>.17</u>	<u>.06</u>	<u>.14</u>	<u>.14</u>	<u>.05</u>	<u>.38</u>	<u>.24</u>	<u>.19</u>	<u>.23</u>	<u>.25</u>		
Social and Economic Trends (SE)	<u>.02</u>	<u>.10</u>	<u>.16</u>	<u>.08</u>	<u>.12</u>	<u>.04</u>	<u>.27</u>	<u>.25</u>	<u>.34</u>	<u>.39</u>	<u>.26</u>	<u>.33</u>	

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

correlated with the other data collection efforts were work load information, performance evaluations, and personnel turnover rate. These three kinds of data collection are among the most frequently undertaken of the measures, which explains in part their relatively low correlations with the other component variables. The average intercorrelations of each of these are still easily positive, though, and their inclusion in the composite variable does not reduce its reliability.

As was the case with the manpower planning activities, several of the strongest intercorrelations between data collection categories would have been expected, thus increasing confidence in the measurement procedures used. For example, the correlation between characteristics of the area labor market and career orientations of the labor market was .65, which would seem logical given that career orientations are one element of the larger class of labor market characteristics. Another example is the .35 correlation between job satisfaction and employee assignment preference information. It seems entirely likely that police agencies collecting information on employee job satisfaction would also be interested in knowing employee assignment preferences, as these would probably affect satisfaction. Similarly, the close relationship between education and training makes the strong (.35) association between employee educational attainment and employee training data collection efforts hardly surprising.

Overall, the positive and reasonably strong intercorrelations between the manpower planning activity component measures and

between the data collection categories provides support for the composite variable procedure utilized in the survey analysis. Also, the strong correlations between individual measures known to be conceptually interrelated adds confidence in the procedures used to measure and analyze manpower planning activity and data collection in police organizations. Thus, the ordinality of the component measures and the reliability of the composite variables is empirically supported, above and beyond the conceptual arguments presented in Chapter III.

Factors Affecting Extent of Manpower Planning

In this section bivariate relationships between the eight factors affecting extent of manpower planning, on the one hand, and the component and composite measures of manpower planning activity and data collection, on the other hand, are examined. The effects of one of the factors, agency level, are explored separately at the end of the section, as its nominal nature requires a different mode of analysis.

Correlations between the ten manpower planning component activities and the seven ordinal level factors are presented in Table 4.24. The measure of association used is again Kendall's tau, due to the ordinal level of the activity variables and most of the factors, and the large number of tied ranks.

Three of the factors are generally positively related to the component measures of manpower planning activity. The agency size change factor is positively associated with all of the

TABLE 4.24. --Kendall's Tau Correlations Between Categories of Manpower Planning Activity and Factors Affecting Extent of Manpower Planning (N Varies Between 136 and 162 City, County, and State Police Agencies Due to Missing Data).

	Agency Size	Economic Conditions	Agency Size Change	Equal Employment Pressure	Union Constraint	Civil Service Control	Competition for Applicants
Job Analysis	-.01	<u>.13</u>	<u>.13</u>	-.00	-.02	.02	<u>.12</u>
Selection Validation	.02	<u>.18</u>	<u>.11</u>	-.03	-.08	-.00	<u>.16</u>
Manpower Inventory	.01	.01	<u>.12</u>	.00	-.07	.07	-.01
Performance Evaluation	<u>-.13</u>	.02	.01	-.04	-.07	<u>-.14</u>	.04
Personnel Information Systems	.08	-.07	.07	-.01	.00	-.06	-.04
Labor Market Analysis	.08	<u>.14</u>	<u>.09</u>	<u>.09</u>	-.06	<u>-.09</u>	<u>.22</u>
Career Path Analysis	-.06	.03	.02	<u>-.13</u>	-.05	.02	<u>.22</u>
Manpower Simulation	-.05	.08	<u>.14</u>	<u>-.18</u>	<u>-.15</u>	-.00	<u>.18</u>
Job Redesign	-.06	<u>.14</u>	<u>.20</u>	<u>-.11</u>	<u>-.13</u>	-.06	<u>.14</u>
Training Needs Assessment	-.02	.02	<u>.09</u>	.01	-.05	.05	.07

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

activities, and significantly so with seven of the ten. The economic conditions measure is positively correlated with nine of the activities, and competition for applicants with eight of the component activities. The interpretation of these relationships is that police agencies with greater recent changes in numbers of allocated positions, those with better economic conditions in their jurisdictions, and those faced with more competition for qualified applicants are more likely to undertake the component manpower planning activities. Two of the manpower planning activities do not conform to this pattern of relationships, however. Agency size change, economic conditions, and competition for applicants were essentially unrelated to the performance evaluation measure, and erratically and somewhat negatively related to the personnel information system measure.

Three of the other factors are generally negatively associated with the manpower planning activity component measures. The union constraint factor is negatively related to nine of the ten activities, equal employment pressure with seven, and civil service control with six. The frequency of statistically significant coefficients is not as great as for the positively related factors, but the pattern of negative association is still evident. Several of the activities, though, are not very strongly associated with any of the three factors; these include job analysis, selection validation, manpower inventory, personnel information systems, and training needs assessment.

The agency size factor is not consistently correlated either positively or negatively with the component activities. It is negatively associated with six of the activities, but only significantly with performance evaluation. The four positive relationships with manpower planning activities are all weak. Apparently agency size, at least within the range tested in this study (with the lower end restricted by the exclusion of smaller agencies) is not strongly associated with agency manpower planning efforts.

Looking at Table 4.24 horizontally, rather than vertically, reveals some interesting patterns. The personnel information systems activity is not significantly correlated with any of the factors, and the manpower inventory and training needs assessment activities are each significantly related to only one factor (agency size change for both). These were three of the four most commonly undertaken activities in police agencies (see Table 4.1), which at least partially accounts for the weak correlations. They are the kinds of activities that almost all organizations undertake, regardless of enhancing factors such as size change or constraints such as union contracts.

Four of the manpower planning activities are significantly correlated with each of the three positive factors. That is, job analysis, selection validation, labor market analysis, and job redesign are all significantly associated with agency size change, economic conditions, and competition for applicants. This is strong evidence that these activities in particular are more likely

to be undertaken by police agencies faced with greater changes in allocated positions, better economic conditions, and stronger competition for qualified applicants. Thus, these activities are not ones undertaken by all police agencies regardless of their situations, but rather are more likely to be undertaken by agencies facing particular exigencies.

None of the manpower planning activities are statistically significantly related to all three of the negative factors, but for three activities the pattern is clear and fairly strong. These activities are manpower simulation, job redesign, and performance evaluation. These activities are less likely to be undertaken by police agencies faced with greater equal employment opportunity/affirmative action pressure, greater union constraint on personnel processes, and greater civil service control over their personnel matters.

Several of the individual correlation coefficients are especially interesting. As noted, most of the correlations between manpower planning activities and degree of equal employment opportunity pressure are negative, but the coefficient for labor market analysis is positive and statistically significant. This would seem to indicate that although equal employment pressure may lead police agencies to regard some manpower planning activities as irrelevant, because decisions are largely mandated, such pressure increases labor market analysis activity, in order to discern the nature of the labor market and the availability of female and minority potential applicants.

The negative and very weak correlations between equal employment pressure and the job analysis and selection validation activities had not been expected. What had been expected was that equal employment pressure would lead to the necessity of demonstrating the fairness or job-relatedness of selection processes, which would create a need for job analysis and selection validation. It would seem that this progression of events would lead to a positive association between equal employment pressure and the two manpower planning activities. The finding of essentially no relationship between the pressure and activities might suggest that two directions of causation are at work: one is as expected, with equal employment pressure leading to job analysis and selection validation; while the other has both direction and sign reversed, with lack of job analysis and selection validation by police agencies leading to increased equal employment pressure. Both explanations may be partially valid, with the two kinds of relationships canceling each other out in the data to produce the overall lack of relationship.

The preceding discussion of bivariate relationships pertained to the ten component activities of manpower planning. Another set of relationships, involving the thirteen manpower planning data collection categories, is presented in Table 4.25. Kendall's tau correlations between the factors and the data collection categories are shown.

The three factors that were positively associated with most of the manpower planning activities, agency size change, economic

TABLE 4.25.--Kendall's Tau Correlations Between Categories of Manpower Planning Data Collection and Factors Affecting Extent of Manpower Planning (N Varies Between 138 and 164 City, County, and State Police Agencies Due to Missing Data).

	Agency Size	Economic Conditions	Agency Size Change	Equal Employment Pressure	Union Constraint	Civil Service Control	Competition for Applicants
Work Loads Performed by Agency	.05	-.02	-.05	.04	-.19	.01	.04
Personnel Turnover Rate	.15	.08	.03	.26	.02	.09	.18
Training Undergone by Employees	-.04	.15	.12	-.08	-.14	.12	-.02
Employee Educational Attainment	-.04	.10	.10	-.07	.02	-.13	.01
Employee Assignment Preferences	.00	.06	.08	.01	-.00	.03	.05
Employee Performance Evaluations	-.03	.14	-.01	-.11	-.14	-.05	.07
Employee Job Satisfaction	-.03	.12	.01	-.02	-.14	-.17	.04
Characteristics of Applicants	.05	.17	.19	-.01	-.21	-.06	.17
Characteristics of Area Labor Market	.01	.14	.09	.09	-.03	-.15	.15
Career Orientations of Labor Market	.04	.14	.13	.10	-.09	-.04	.22
Rewards Offered by Competing Employers	.07	.13	.12	.03	-.02	-.12	.09
Changing Requirements of Agency Jobs	.03	.10	.13	.14	-.05	-.04	.09
Social and Economic Trends Which May Affect Agency	.06	.16	.09	-.00	-.17	.01	.14

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

conditions, and competition for applicants, also tend to be positively related to the data collection categories. Economic conditions and competition are positively correlated with twelve of the thirteen measures, and size change with eleven. In addition, for each of these three factors a majority of the coefficients are statistically significant.

Two of the three factors that were negatively associated with the manpower planning activities were also found to be negatively correlated with most of the data collection categories. Union constraint was negatively related to twelve of the data collection categories, and civil service control to eight. Seven of the negative coefficients for union constraint were statistically significant, while civil service control had four significant negative coefficients and two significant positive ones. The third factor that had been negatively associated with manpower planning activity, equal employment pressure, was found to be positively correlated with eight of the thirteen data collection measures, and four of its five statistically significant coefficients were positive.

Agency size, which had not shown any consistent direction of association with the manpower planning activities, was positively correlated with nine of the thirteen data collection measures. Only one of the coefficients was found to be statistically significant, however, and in general the strength of association with the measures was weak. Overall, it appears that larger police agencies

may be slightly more likely to collect most of the kinds of information, but agency size is not as important a variable as might have been expected.

In general, the correlations indicate that police agencies presented with better economic conditions in their jurisdictions, agencies with greater recent changes in numbers of positions, and agencies facing more competition for qualified applicants are more likely to collect the various kinds of manpower planning data. Agencies with personnel processes more constrained by union contracts, and agencies with personnel matters more controlled by external civil service units, are less likely to collect most of the manpower planning kinds of information. The patterns of association for equal employment pressure and agency size are less consistent, but police agencies under more pressure to increase their employment of women and minorities, and larger agencies, seem to be slightly more likely to collect manpower planning information.

Some of the specific measures of manpower planning data collection follow the general pattern of association with the factors very closely, while others do not. The data collection categories that most closely adhere to the overall pattern are characteristics of applicants, characteristics of the area labor market, career orientations of the labor market, rewards offered by competing employers, and changing requirements of agency jobs. Each of these kinds of information is more likely to be collected by police agencies with better economic conditions, greater size change, and more competition, and less likely to be collected by agencies

faced with more union constraints and more civil service control. Other data collection measures correlated with the factors in approximately the same pattern, but with some discrepancies, were social and economic trends, employee educational attainment, employee assignment preference, employee performance evaluation, and employee job satisfaction.

Two of the data collection measures diverged from the general pattern of association with the factors by significant positive correlation with the civil service control variable. Data on personnel turnover and employee training was more likely to be collected by police agencies faced with more civil service control over their personnel processes, in contradiction to the usual pattern of negative correlation with civil service control. The other data collection category that substantially diverged from the general pattern was agency work load. This measure was negatively, though weakly, correlated with both economic conditions and agency size change, and also very weakly correlated with civil service control and competition for applicants. Its only statistically significant correlation was a $-.19$ coefficient with union constraint. Another of the data collection measures, employee assignment preferences, though it followed the general pattern of association with the factors, was only weakly correlated with each, and had no statistically significant coefficients.

Although most of the correlations between agency size and the manpower planning data collection measures are weak, they form an interesting pattern. The larger police agencies are more likely to

collect the kinds of information pertaining to the work, jobs, turnover, and external features of the labor market and society. Smaller agencies, on the other hand, are more likely to collect those kinds of data pertaining to current employee characteristics. The correlation for extent of equal employment pressure follow approximately the same pattern. Those agencies under more pressure to increase their employment of women and minorities are more likely to collect the work, job, turnover, and external kinds of information, while those agencies facing less equal employment pressure are more likely to collect data about their current employees.

All of the bivariate relationships between the factors and the component measures of manpower planning activity and data collection are represented in the composite variable correlations presented in Table 4.26. Each of the composite manpower planning variables was created through simple combination of the component measures, as described earlier. The correlations between the factors and composite variables are consistent with the patterns of individual correlations seen in the previous two tables. Police agencies faced with better economic conditions, greater recent changes in numbers of positions, and more competition for qualified applicants undertake more manpower planning activity and collect more manpower planning data. Agencies with personnel matters more constrained by unions and by civil service units undertake less manpower planning activity and collect less manpower planning information. The relationships with agency size and equal employment pressure are less consistent and not statistically significant.

TABLE 4.26.--Kendall's Tau Correlations Between Extent of Manpower Planning and Factors Affecting Extent of Manpower Planning (N Varies Between 139 and 164 City, County, and State Police Agencies Due to Missing Data).

	Agency Size	Economic Conditions	Agency Size Change	Equal Employment Pressure	Union Constraint	Civil Service Control	Competition for Applicants
Manpower Planning Activity	-.01	<u>.14</u>	<u>.17</u>	-.07	<u>-.10</u>	<u>-.09</u>	<u>.18</u>
Manpower Planning Data Collection	.03	<u>.22</u>	<u>.17</u>	.04	<u>-.17</u>	<u>-.12</u>	<u>.17</u>

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

Larger police agencies and those faced with more pressure to increase their employment of minorities and women are slightly less likely to undertake manpower planning activity but slightly more likely to collect manpower planning information.

Manpower Planning By Agency Level.--The preceding discussion of the relationships between various factors and manpower planning activity and data collection in police agencies omitted the agency level factor, because its nominal character made correlation an inappropriate procedure. In this subsection differences in manpower planning activity and data collection by police agency level are examined using an analysis of variance procedure and the eta measure of association. The eta coefficient is a proportional reduction in error measure that indicates the degree to which prediction of the dependent variable can be improved through knowledge of the independent variable. It is a particularly useful measure when, as in the present case, the independent variable is nominal while the dependent variables are ordinal or interval in nature.

The association between agency level and the component measures of manpower planning activity is presented in Table 4.27. The eta coefficients are all fairly small, and none of the overall analysis of variance tests are statistically significant. The largest differences by police agency level are for performance evaluation, training needs assessment, and selection validation. For the first two of these, county police agencies reportedly

TABLE 4.27.--Comparison of Means and Analysis of Variance for Ten Categories of Manpower Planning Activity by Police Agency Level (N Varies Between 159 and 162 City, County, and State Police Agencies Due to Missing Data).

Activity Types	Mean Value on 1-3 Scale			F	Significance	Eta
	City Mean	County Mean	State Mean			
Job Analysis	2.4	2.4	2.4	0.16	.85	.04
Selection Validation	2.1	2.0	2.3	1.70	.19	.14
Manpower Inventory	2.7	2.7	2.7	0.07	.93	.03
Performance Evaluation	2.8	3.0	2.9	2.25	.11	.17
Personnel Information System	2.6	2.5	2.7	0.82	.44	.10
Labor Market Analysis	1.5	1.7	1.5	1.13	.32	.12
Career Path Analysis	1.6	1.7	1.5	0.23	.79	.05
Manpower Simulation	1.3	1.5	1.3	0.75	.47	.10
Job Redesign	1.9	2.1	2.0	0.97	.38	.11
Training Needs Assessment	2.7	2.9	2.8	2.02	.14	.16

undertook the activities to the greatest extent, and city police agencies the least. For selection validation, state police agencies reported the greatest activity, and county agencies the least. The differences by agency level for even these activities were not very large, however, and overall the extent to which manpower planning activities are undertaken does not seem to vary much by agency level.

Differences in manpower planning data collection by police agency level are presented in Table 4.28. As with manpower planning activity, data collection does not seem to vary substantially or consistently by agency level. The only statistically significant relationship is for employee job satisfaction information collection, with state police agencies most likely to have such data and county agencies least likely. Other differences of some magnitude by agency level can be seen for changing job requirements, employee performance evaluations, social and economic trends, and applicant characteristics. For each of these measures except social and economic trends, state police agencies engage in the most data collection, and city police agencies the least. Overall, however, the differences in manpower planning data collection by police agency level are not very great.

The relationships between police agency level and the composite variables for manpower planning activity and data collection are presented in Table 4.29. As would be expected from the component relationships just discussed, agency level is only weakly associated with the two composite manpower planning variables. Neither relationship is close to being statistically significant, and the eta

TABLE 4.28.--Comparison of Means and Analysis of Variance for Thirteen Categories of Manpower Planning Data Collection by Police Agency Level (N Varies Between 161 and 164 City, County, and State Police Agencies Due to Missing Data).

Information Types	Mean Value on 1-3 Scale			F	Significance	Eta
	City Mean	County Mean	State Mean			
Work Loads Performed by the Agency	2.9	2.9	2.9	0.21	.81	.05
Personnel Turnover Rate	2.8	2.7	2.8	0.92	.40	.11
Training Undergone by Employees	2.9	2.9	2.9	0.39	.68	.07
Employee Educational Attainment	2.7	2.7	2.5	0.89	.41	.10
Employee Assignment Preferences	2.3	2.4	2.5	0.79	.46	.10
Employee Performance Evaluations	2.7	2.8	2.9	1.49	.23	.14
Employee Job Satisfaction	1.7	1.5	2.0	4.82	.01	.24
Characteristics of Applicants	2.1	2.2	2.4	1.11	.33	.12
Characteristics of Area Labor Market	1.7	1.7	1.6	0.19	.82	.05
Career Orientations of Labor Market	1.5	1.5	1.4	0.23	.80	.05
Rewards Offered by Labor Market	1.6	1.6	1.7	0.29	.75	.06
Changing Requirements of Agency Jobs	2.0	2.0	2.3	1.54	.22	.14
Social and Economic Trends Which May Affect the Agency	2.1	2.1	1.9	1.30	.28	.13

TABLE 4.29.--Comparison of Means and Analysis of Variance for Extent of Manpower Planning by Police Agency Level (N Varies Between 162 and 164 City, County, and State Police Agencies Due to Missing Data).

	City Mean	County Mean	State Mean	F	Significance	Eta
Manpower Planning Activity (1-3 Scale)	2.2	2.3	2.2	0.96	.39	.11
Manpower Planning Data Collection (1-3 Scale)	2.2	2.2	2.3	0.57	.57	.08

coefficients are small. The average values indicate that county police agencies report undertaking slightly more manpower planning activity, and that state police agencies reported slightly more manpower planning data collection. The differences are very slight, however.

Intercorrelations Between Factors.--Although not directly pertinent to the research questions posed earlier, the correlations between factors affecting extent of manpower planning are of some interest. Knowledge of these bivariate relationships between factors will aid particularly in the interpretation of multivariate analyses, when all of the factors are employed simultaneously. In this subsection, correlations between the factors are presented, along with an analysis of variance test for the police agency level factor.

Intercorrelations for all of the factors except police agency level are shown in Table 4.30. The coefficients presented are Pearson r , which are most comparable to the multiple regression coefficients used later. The largest coefficient is a $+0.17$ between agency size and equal employment pressure, indicating that larger police agencies are facing more pressure to increase their employment of women and minorities. Another moderately strong correlation is between economic conditions and agency size change, indicating that police agencies faced with better economic conditions have had greater recent changes in numbers of allocated positions. This coefficient is considerably larger ($+0.34$) when the agency size

TABLE 4.30.--Pearson Correlations Between Seven Factors Affecting Extent of Manpower Planning (N=121 City, County, and State Police Agencies).

	Agency Size	Economic Conditions	Agency Size Change	Equal Employment Pressure	Union Constraint	Civil Service Control	Competition for Applicants
Agency Size							
Economic Conditions	-.10						
Agency Size Change	.00	<u>.14</u>					
Equal Employment Pressure	.13	.01	<u>.17</u>				
Union Constraint	.07	-.13	-.09	<u>.16</u>			
Civil Service Control	.03	.00	-.07	-.06	.12		
Competition for Applicants	.02	.12	.09	.08	-.06	.03	

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

change variable is used in its original form, with positive and negative values, rather than in the absolute form utilized in the analysis. Also interesting to note is that police agencies facing better economic conditions, agencies experiencing greater recent changes in numbers of positions, and agencies faced with more equal employment pressure report greater competition for qualified applicants.

The relationships between police agency level and the other factors are presented in Table 4.31. Three of the relationships, for civil service control, union constraint, and economic conditions, are statistically significant, and clear differences by agency level are apparent for all of the factors except competition for applicants. For civil service control and union constraint, state police agencies are the least affected, with city and county agencies about equally constrained. The differences for civil service control are especially substantial, with state police agencies reporting only about one-half the amount of civil service influence on their personnel processes as compared to city and county police agencies. County agencies reported the most positive economic conditions, and city agencies the worst. State police agencies reported the smallest recent changes in numbers of positions, and the most equal employment pressure, with city and county agencies responding about alike for each factor. In terms of agency size within the sample, the state police agencies are the largest and the county police agencies the smallest.

TABLE 4.31.--Comparison of Means and Analysis of Variance for Factors Affecting Extent of Manpower Planning by Police Agency Level (N Varies Between 141 and 164 City, County, and State Police Agencies Due to Missing Data).

Factors	City Mean	County Mean	State Mean	F	Significance	Eta
Agency Size	906.7	759.8	1123.8	0.52	.60	.09
Economic Conditions (1-5 Scale)	3.5	3.9	3.6	3.00	.05	.19
Agency Size Change (0-6 Scale)	1.4	1.5	1.0	1.82	.16	.15
Equal Employment Pressure (1-5 Scale)	3.6	3.5	4.0	1.78	.17	.15
Union Constraint (1-4 Scale)	2.0	2.0	1.7	3.26	.04	.21
Civil Service Control (0-5 Scale)	3.3	3.5	1.8	11.31	.00	.35
Competition for Applicants (0-5 Scale)	2.3	2.2	2.2	0.07	.93	.03

Factors Reciprocally Related
to Extent of Manpower
Planning

In the section just completed the relationships involving factors affecting the extent of manpower planning in police organizations were examined. In this section similar bivariate analyses are presented for the factors believed to be reciprocally related to the extent of manpower planning in police agencies. The format of the presentation will be the same as in the preceding section, except that none of the measures are nominal, so that Kendall's tau correlations will be used exclusively.

Correlations between the seven reciprocal factors and the ten component measures of manpower planning activity in police agencies are presented in Table 4.32. Five of the seven factors are clearly positively related with most of the manpower planning activities, while two have mixed relationships. The two factors with the strongest patterns of relationships, internal and external rational considerations regarding kinds of people, are each positively correlated with all of the activities, and statistically significantly related with seven of the ten. Thus, those agencies that rate internal and external rational considerations as more important for kinds of people determinations are also more likely to undertake each of the manpower planning activities. The coefficients for internal rational considerations are the largest overall, indicating that those police agencies believing that analysis of job

TABLE 4.32.--Kendall's Tau Correlations Between Categories of Manpower Planning Activity and Factors Reciprocally Related to Extent of Manpower Planning (N Varies Between 147 and 162 City, County, and State Police Agencies Due to Missing Data).

	Influence	Anticipation	Factors Affecting Numbers of Positions		Kinds of People Considerations		
			Rational	Political	Internal Rational	External Rational	External Political
Job Analysis	.03	.05	<u>.13</u>	-.05	<u>.13</u>	<u>.09</u>	.08
Selection Validation	-.04	<u>.09</u>	.02	.01	<u>.15</u>	<u>.11</u>	.07
Manpower Inventory	-.02	.08	<u>.12</u>	-.01	.04	.01	<u>.11</u>
Performance Evaluation	<u>.10</u>	-.06	.01	.07	<u>.24</u>	<u>.10</u>	-.09
Personnel Information Systems	.02	.01	<u>.11</u>	-.02	.04	<u>.09</u>	.04
Labor Market Analysis	.08	<u>.09</u>	<u>.19</u>	.01	<u>.22</u>	<u>.19</u>	.03
Career Path Analysis	.00	.09	.03	.04	<u>.22</u>	<u>.13</u>	-.10
Manpower Simulation	.03	.08	-.01	.05	<u>.11</u>	<u>.10</u>	-.03
Job Redesign	<u>.19</u>	<u>.13</u>	<u>.14</u>	-.12	.08	.06	.05
Training Needs Assessment	.06	<u>.11</u>	.08	<u>.11</u>	<u>.23</u>	.05	-.06

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

requirements and assessment of agency needs are more important in determining the kinds of people to hire are particularly more likely to be engaged in the various manpower planning activities.

The other three factors with predominantly positive correlations with the manpower planning activities are influence, anticipation, and rational factors regarding numbers of positions. Influence is positively associated with eight of the activity measures, while anticipation and rational factors are each positively related to nine. The coefficients for these three factors are not as frequently statistically significant as for the two kinds of people considerations discussed above, and in general the coefficients are smaller. The pattern of positive relationships indicates, though, that police agencies perceiving more influence over and ability to anticipate changes in numbers of allocated positions, and agencies perceiving rational factors as more important for determining such changes, are more likely also to be engaged in manpower planning activities to a greater extent.

The relationships between the two political factors measures and the manpower planning activities are mixed. The political factors affecting numbers of positions variable is positively correlated with six of the activities and negatively associated with four. The measure of external political considerations regarding kinds of people has five positive and five negative coefficients. Moreover, the directions of the relationships for the two political factors measures differ for seven of the ten manpower planning activities. The coefficients for the two factors are all rather

small, with only five statistically significant coefficients between the two. For the most part, the two political factors measures do not seem to be consistently or strongly related to the extent of manpower planning activity in police agencies.

Looking across the rows of Table 4.32, the manpower planning activities with the strongest correlations with the factors are labor market analysis, job redesign, training needs assessment, and performance evaluation. Each of these activities is positively associated with the two rational kinds of people considerations, with influence, and with rational factors affecting numbers of people. All but job redesign have their strongest correlation with the internal rational kinds of people measure; for job redesign, the strongest relationship is with influence.

The mixed pattern of relationships for the political factors variables is somewhat surprising, as more negative coefficients might have been expected. For the external political considerations regarding kinds of people measure, however, the influence of its equal employment opportunity/affirmative action component item is probably at least part of the cause of the positive coefficients. The manpower planning activities positively related to the measure (job analysis, selection validation, manpower inventory, personnel information systems, and labor market analysis) are precisely the ones that would be utilized to assess the composition of the present personnel complement, assess the composition of the labor force, and eliminate discrimination from the selection process. Thus, police agency perceptions that external political

considerations are important for kinds of people determinations could be associated with the performance of these manpower planning activities, yielding the positive correlation coefficients.

Correlations between the reciprocal factors and the component measures of manpower planning data collection in police agencies are presented in Table 4.33. The factors have the same general pattern of relationships with these information measures as they had with the manpower planning activities. Influence, anticipation, rational factors affecting numbers of positions, and internal and external rational considerations regarding kinds of people are all positively correlated with at least eleven of the thirteen data collection measures. The patterns of association for the two political factors measures are again mixed, and for the most part their coefficients are smaller than those of the other five factors.

Overall, the factor most strongly associated with the measures of manpower planning data collection is the internal rational considerations for kinds of people variable. This factor is positively correlated with all thirteen of the information categories, and eleven of the coefficients are statistically significant. This factor also had the largest correlation coefficients with the manpower planning activities. Those police agencies that believe that their kinds of people determinations are based on analysis of job requirements and assessment of agency needs seem also to be the agencies engaged to a greater extent in manpower planning activities and data collection.

TABLE 4.33.--Kendall's Tau Correlations Between Categories of Manpower Planning Data Collection and Factors Reciprocally Related to Extent of Manpower Planning (N Varies Between 149 and 164 City, County, and State Police Agencies Due to Missing Data).

	Influence	Anticipation	Factors Affecting Numbers of Positions		Internal Rational	Kinds of People Considerations	
			Rational	Political		External Rational	External Political
Work Loads Performed by Agency	<u>-.01</u>	<u>.07</u>	<u>-.05</u>	<u>-.17</u>	<u>.08</u>	<u>-.04</u>	<u>-.09</u>
Personnel Turnover Rate	<u>.02</u>	<u>.19</u>	<u>.11</u>	<u>-.08</u>	<u>.01</u>	<u>.02</u>	<u>.17</u>
Training Undergone by Employees	<u>.14</u>	<u>-.03</u>	<u>.11</u>	<u>-.08</u>	<u>.13</u>	<u>.08</u>	<u>-.09</u>
Employee Educational Attainment	<u>.05</u>	<u>.08</u>	<u>.09</u>	<u>-.11</u>	<u>.09</u>	<u>-.04</u>	<u>-.02</u>
Employee Assignment Preferences	<u>.06</u>	<u>.01</u>	<u>.06</u>	<u>.16</u>	<u>.16</u>	<u>.01</u>	<u>.03</u>
Employee Performance Evaluations	<u>.09</u>	<u>-.05</u>	<u>-.04</u>	<u>-.05</u>	<u>.15</u>	<u>.05</u>	<u>-.11</u>
Employee Job Satisfaction	<u>.04</u>	<u>.16</u>	<u>.08</u>	<u>.07</u>	<u>.26</u>	<u>.15</u>	<u>-.02</u>
Characteristics of Applicants	<u>.15</u>	<u>.21</u>	<u>.18</u>	<u>-.05</u>	<u>.15</u>	<u>.14</u>	<u>.04</u>
Characteristics of Area Labor Market	<u>.06</u>	<u>.20</u>	<u>.19</u>	<u>.06</u>	<u>.19</u>	<u>.20</u>	<u>.02</u>
Career Orientations of Labor Market	<u>.08</u>	<u>.20</u>	<u>.24</u>	<u>.04</u>	<u>.19</u>	<u>.21</u>	<u>-.01</u>
Rewards Offered By Competing Employers	<u>-.00</u>	<u>.17</u>	<u>.10</u>	<u>.07</u>	<u>.16</u>	<u>.17</u>	<u>.09</u>
Changing Requirements of Agency Jobs	<u>.20</u>	<u>.20</u>	<u>.22</u>	<u>.07</u>	<u>.29</u>	<u>.08</u>	<u>.09</u>
Social and Economic Trends Which May Affect Agency	<u>.16</u>	<u>.18</u>	<u>.14</u>	<u>.08</u>	<u>.19</u>	<u>.10</u>	<u>.02</u>

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

The two political factors variables are each negatively correlated with six of the data collection measures and positively correlated with seven. The correspondence for direction of relationship between the two political factors is greater than was the case with the manpower planning activities, as nine of the thirteen pairs of coefficients are similarly signed. As with the manpower planning activities, the relationships between the political factors variables and the data collection measures are not only mixed, but also generally weak.

The manpower planning data collection measure with the strongest overall correlations with the factors is changing requirements of agency jobs. This measure is positively associated with all of the factors, and has coefficients of .20 or greater with influence, anticipation, rational factors affecting numbers of positions, and internal rational considerations regarding kinds of people. Four other data collection categories that are almost as strongly correlated with the factors are career orientations in the labor market, applicant characteristics, labor market characteristics, and social and economic trends.

Correlations between the reciprocal factors and the two composite measures of manpower planning activity and data collection in police agencies are shown in Table 4.34. The coefficients are of the magnitude and direction that would have been expected, based on the correlations with the component measures. The correlation coefficients for both composite variables with influence, anticipation, rational factors affecting numbers of positions, and internal

TABLE 4.34.--Kendall's Tau Correlations Between Extent of Manpower Planning and Factors Reciprocally Related to Extent of Manpower Planning (N Varies Between 144 and 164 City, County, and State Police Agencies Due to Missing Data).

	<u>Factors Affecting Numbers of Positions</u>			<u>Kinds of People Considerations</u>		
	Influence	Antici- pation	Rational	Political	Internal Rational	External Political
Manpower Planning Activity	<u>.09</u>	<u>.11</u>	<u>.10</u>	<u>-.02</u>	<u>.22</u>	<u>.12</u> .00
Manpower Planning Data Collection	<u>.14</u>	<u>.22</u>	<u>.23</u>	<u>.03</u>	<u>.27</u>	<u>.18</u> .02

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

and external considerations regarding kinds of people are all positive and statistically significant. The correlations for both composite measures with the two political factors variables are essentially negligible. Interestingly, for every factor the correlations with extent of manpower planning data collection are greater than the correlations with extent of activity.

One important point to be kept in mind with respect to these correlations is that for the reciprocal factors the direction of causation is not at all clear. The correlations indicate that those police agencies perceiving themselves as more influential, perceiving themselves as more able to anticipate, perceiving rational factors as more important for changes in numbers of positions, and perceiving internal and external rational considerations as more important for kinds of people determinations, are also more likely to engage in manpower planning activity and data collection. Whether these factors lead to manpower planning efforts, or whether the manpower planning efforts lead to the various perceptions, cannot be answered from the correlational analysis, and both explanations have merit.

Intercorrelations Between Reciprocal Factors.--Correlations between the seven reciprocal factors are presented in Table 4.35. These correlations are of some interest primarily as background information for interpretation of the multivariate analyses that follow. The behavior of the factors and their partial correlations with extent of manpower planning will depend to some degree on their intercorrelations.

TABLE 4.35.--Pearson Correlations Between Factors Reciprocally Related to Extent of Manpower Planning (N Varies Between 149 and 163 City, County, and State Police Agencies Due to Missing Data).

	Influence	Anticipation	Factors Affecting Numbers of Positions		Kinds of People Considerations	
			Rational	Political	Internal Rational	External Political
Influence						
Anticipation	<u>.32</u>					
Rational Factors and Numbers of Positions	<u>.53</u>	<u>.27</u>				
Political Factors and Numbers of Positions	<u>-.14</u>	<u>-.17</u>	<u>-.06</u>			
Internal Rational Considerations and Kinds of People	<u>.15</u>	<u>.15</u>	<u>.29</u>	<u>.05</u>		
External Rational Considerations and Kinds of People	<u>.14</u>	<u>.08</u>	<u>.16</u>	<u>-.05</u>	<u>.25</u>	
External Political Considerations and Kinds of People	<u>-.05</u>	<u>.01</u>	<u>-.02</u>	<u>.13</u>	<u>.19</u>	<u>.18</u>

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

The reciprocal factors seem to be interrelated in ways that would be expected. The five factors that were positively related to extent of manpower planning activity and data collection are also positively related to each other. The political factors affecting numbers of positions variable is negatively correlated with influence and with anticipation, and only very weakly correlated with the remainder of the factors. The external political considerations for kinds of people variable is not strongly related to any of the factors, although its coefficients with internal and external rational considerations are statistically significant.

Factors Affecting Agency Ability
to Attract and Retain

The preceding bivariate analyses focused on the relationships between the sets of factors and the measures of extent of manpower planning in police organizations. In addition to examining factors affecting and related to extent of manpower planning, the relationships between the factors and agency ability to attract and retain the kinds of people needed are also of interest. The agency ability to attract and retain composite variable is the closest approximation to a workforce quality or satisfaction with workforce measure available from the survey data. It is not a direct measure, but rather an indication of agencies' perceptions of their own abilities to attract and retain the kinds of people they think they need. Nevertheless, it is the best available outcome kind of measure, and it may be related in important ways to the factors that also affect extent of manpower planning in police agencies.

In Table 4.36, the correlations between agency ability to attract and retain needed kinds of people and seven factors are presented. All of the coefficients are negative except for that of civil service control, which is zero. Thus, smaller police agencies, agencies faced with worse economic conditions, agencies with smaller recent size changes, agencies under less equal employment pressure, agencies under less union constraint, and agencies faced with less competition for qualified applicants report being better able to attract and retain needed kinds of people. The coefficients for competition and agency size change are the largest, while that for union constraint is very small.

The relationship between agency ability to attract and retain needed kinds of people and police agency level is presented in Table 4.37. State police agencies reported the greatest success in attracting and retaining the kinds of people believed needed, while city police departments reported being least successful. The differences between police agency levels in reported ability to attract and retain were statistically significant, and the value of the eta coefficient indicates a fairly strong degree of association.

Correlations between the seven reciprocal factors and agency ability to attract and retain needed kinds of people are shown in Table 4.38. The coefficients for all of the factors except the two external kinds of people considerations are positive, but several are of negligible magnitude. The two strongest positive correlations are with influence and internal rational considerations regarding

TABLE 4.36.--Kendall's Tau Correlations Between Agency Ability to Attract and Retain Needed Kinds of People and Seven Factors Affecting Extent of Manpower Planning (N Varies Between 141 and 164 City, County, and State Police Agencies Due to Missing Data).

	Agency Size	Economic Conditions	Agency Size Change	Equal Employment Pressure	Union Constraint	Civil Service Control	Competition for Applicants
Agency Ability to Attract and Retain	-.09	<u>-.11</u>	<u>-.19</u>	<u>-.13</u>	-.01	.00	<u>-.19</u>

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

TABLE 4.37.--Comparison of Means and Analysis of Variance for Ability to Attract and Retain Needed Kinds of People by Police Agency Level (N=164 City, County, and State Police Agencies).

	City Mean	County Mean	State Mean	F	Significance	Eta
Agency Ability to Attract and Retain (1-4 Scale)	3.3	3.5	3.6	4.40	.01	.23

TABLE 4.38.---Kendall's Tau Correlations Between Agency Ability to Attract and Retain Needed Kinds of People and Seven Reciprocal Factors (N Varies Between 146 and 161 City, County, and State Police Agencies Due to Missing Data).

	<u>Factors Affecting Numbers of Positions</u>			<u>Kinds of People Considerations</u>		
	Influence	Antici- pation	Rational	Political	Internal Rational	External Political
Agency Ability to Attract and Retain	<u>.11</u>	.01	.01	.03	<u>.13</u>	<u>-.12</u>
						-.06

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

kinds of people, while the stronger negative relationship is with the external rational considerations variable. These correlations indicate that police agencies with more influence over their numbers of positions, agencies that believe kinds of people determinations are based more on analysis of job requirements and agency needs, and agencies that believe applicant availability and labor market conditions are less important for kinds of people determinations, are reportedly better able to attract and retain the sorts of people they think they need. There is also some indication that police agencies for which kinds of people determinations are more influenced by external political considerations report being less able to attract and retain the kinds of people believed needed.

Multivariate Analysis

In the preceding two sections of this chapter information on frequency distributions and summary statistics for the survey measures was presented, and a variety of bivariate relationships were examined. The variables and relationships reviewed were components of the model presented in Figure 3.1, and were identified in the research questions posited in Chapter I. The research questions specified a number of factors thought to affect the extent of manpower planning in police organizations. In the univariate section of this chapter, the reported extent of manpower planning in police agencies, and the reported magnitude of the factors, were presented. In the bivariate section, the zero-order relationships between the factors and the reported extent of manpower planning were explored.

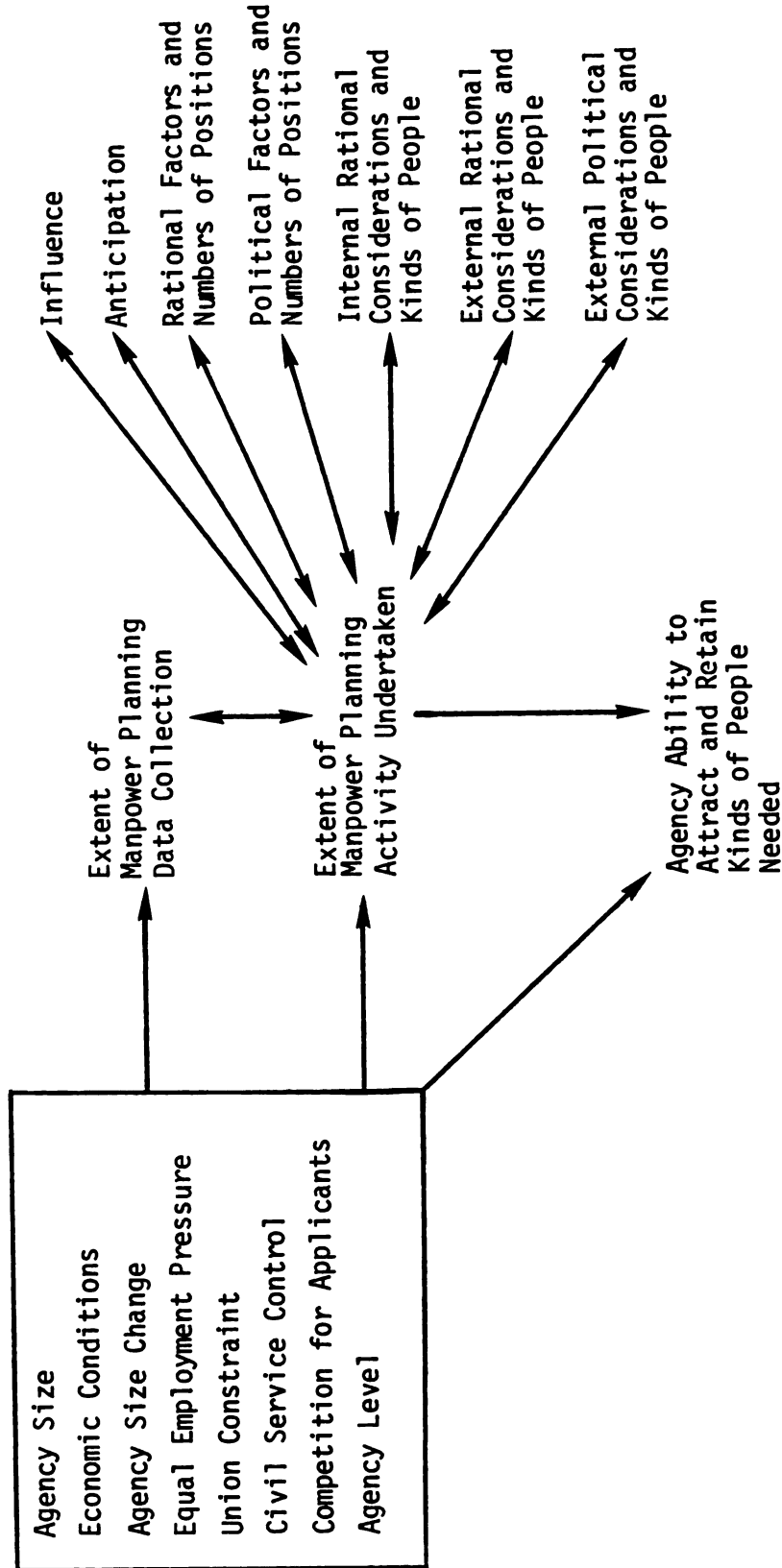


Figure 4.1.--Model of Factors Affecting the Extent of Manpower Planning Data Collection and Activity Undertaken in Police Organizations.

In this section multivariate relationships are examined. Using multiple regression analysis, the combined effects of the eight factors affecting extent of manpower planning are explored first. Next, the effects of the seven reciprocal factors are examined using partial correlation analysis. Finally, the eight factors affecting manpower planning (agency size, economic conditions, etc.) and the reported extent of manpower planning activity are used together as independent variables in a multiple regression analysis, with agency ability to attract and retain needed kinds of people as the dependent variable. These three multivariate analyses follow directly from Figure 3.1, which is reproduced here as Figure 4.1 for convenience.

Factors Affecting Extent of Manpower Planning

Two multiple regression analyses using the factors affecting extent of manpower planning as independent variables are presented in Table 4.39. For one analysis the dependent variable is the composite measure of reported manpower planning data collection, and for the other the dependent variable is the composite measure of reported manpower planning activity undertaken. For both analyses city agency and county agency dummy variables are used to represent the agency level variable.

The overall relationships between the set of factors affecting extent of manpower planning and the two dependent variables are both statistically significant at the .05 level, with about the same strength of association in each case. Although statistically

TABLE 4.39.--Multiple Regression Analysis of Factors Affecting
Extent of Manpower Planning Data Collection and Activity
in Police Agencies (N=121 City, County, and State Police
Agencies).

Factors	Standardized Regression Coefficients	
	With Extent of Data Collection Dependent	With Extent of Activity Dependent
Agency Size	.09	.03
Economic Conditions	.14	.03
Agency Size Change	.13	<u>.27</u>
Equal Employment Pressure	-.02	<u>-.18</u>
Union Constraint	<u>-.20</u>	-.06
Civil Service Control	-.02	.04
Competition for Applicants	.16	<u>.21</u>
City Agency Dummy Variable	.02	-.12
County Agency Dummy Variable	-.08	-.07
Multiple R	.37	.40
R ²	.14	.16
Adjusted R ²	.07	.09
F	1.94	2.30
Significance	.05	.02

Note: Underlined coefficients are statistically significant at the .05 level.

significant, the coefficients of determination (R^2 values) are not very large (.14 and .16), indicating that the factors affecting extent of manpower planning in police agencies do not account for or explain a great deal of the variance of the dependent composite measures of manpower planning data collection and activity in police organizations.

With the extent of manpower planning data collection as the dependent variable, the only statistically significant regression coefficient is that for union constraint. The coefficient is negative, indicating that with all of the other factors statistically controlled, more union constraint on personnel matters is associated with less manpower planning data collection. The three next largest coefficients, for competition, economic conditions, and agency size change, are each positive. Thus, with other factors controlled, more manpower planning data collection tends to be associated with more competition for applicants, better economic conditions, and greater recent changes in numbers of allocated positions in the police agency. These three factors and union constraint also had the largest bivariate correlation coefficients with extent of manpower planning data collection, and controlling for other factors did not appreciably change the size of their coefficients.

The coefficients for the other five independent variables with extent of manpower planning data collection as the dependent variable were all less than .10. The agency size coefficient was .09, which was an increase from its simple correlation of .03 with

extent of data collection. This indicates that with other factors controlled, larger police agencies collect somewhat more manpower planning data than do smaller agencies. The regression coefficient for equal employment pressure was $-.02$, which was different in sign from its zero-order correlation of $.04$, but both coefficients are negligible. This suggests that there is no direct or clear relationship between degree of pressure to increase employment of minorities and extent of manpower planning data collection in police agencies. Another negligible regression coefficient was that for civil service control. The simple correlation for this variable with extent of data collection had been $-.12$ and statistically significant, but the regression coefficient was only $-.02$. It would seem that although police agencies faced with more civil service control over their personnel processes tend to collect less manpower planning data, other factors (such as union constraint) account for more of the variance in data collection when all of the factors are considered simultaneously.

The regression coefficients for the city and county agency dummy variables are both rather smaller, as would have been expected from the bivariate relationship between agency level and extent of manpower planning data collection. No coefficient is shown for state police agencies, as the use of dummy variables is always limited to one less than the number of values of the nominal variable. In an analysis such as that shown in Table 4.39, the effect of state agencies (the excluded value of agency level) is subsumed within the regression constant. In order to explore the

effects of all three agency levels, separate regressions were computed using the other two possible pairs of dummy variables (county and state, city and state). The three pairs of agency level coefficients with extent of manpower planning data collection dependent are as follows:

City Agencies	.02	.11
County Agencies	-.08	-.09
State Agencies	-.02	.08

From these coefficients it seems clear that, with other factors statistically controlled, city agencies tend to collect slightly more manpower planning data, county agencies slightly less, and that state police agencies fall somewhere in between.

The regression coefficients with extent of manpower planning activity undertaken as the dependent variable are shown in the right-hand column of Table 4.39. The coefficients for agency size change, competition for applicants, and equal employment pressure are statistically significant with the activity measure dependent. The coefficients for agency size change and competition are positive, indicating that with other factors controlled police agencies experiencing greater recent changes in numbers of positions and agencies facing more competition for qualified applicants report undertaking more manpower planning activity. The equal employment pressure coefficient is negative, indicating that police agencies facing more pressure to increase their employment of women and minorities tend to undertake less manpower planning activity. The

magnitudes of all three of these coefficients are larger than were their simple correlation coefficients.

The bivariate correlation coefficients for economic conditions, union constraint, and civil service control with extent of manpower planning activity were each statistically significant, but the regression coefficients for these factors are considerably smaller. The directions of association for economic conditions and union constraint do not change in the regression analysis, but the zero-order negative coefficient for civil service control becomes positive, though weak, in the multivariate situation. With all of the factors used together, it is apparent that these three factors decrease in importance with respect to manpower planning activity, while agency size change, competition for applicants, and equal employment pressure increase in importance. Agency size is unimportant in both contexts.

The city agency and county agency dummy variables both have negative regression coefficients in the analysis presented in Table 4.39. As noted in the data collection analysis, all three agency level values cannot be tested in the same regression computation using dummy variables. Again, each pair of agency dummy variables was tested separately with the other seven factors, in order to clarify the effect of agency level on extent of manpower planning activity undertaken in police agencies. The three pairs of agency level coefficients were found to be as follows:

City Agencies	-.12	-.04
County Agencies	-.08	.03
State Agencies	.10	.07

These coefficients seem to indicate that with other factors statistically controlled, state police agencies undertake somewhat more manpower planning activity, and city agencies somewhat less, with county agencies in the middle somewhere.

Another method of exploring the effects of the agency level variable is to perform separate multiple regression analyses for each of the types of agencies, so that agency level is not a variable in the analysis but rather the criterion used to select cases. Using this approach, the effects of the other factors on extent of manpower planning data collection and activity can be examined for each of the three sets of agencies separately.

Multiple regression analyses for factors affecting extent of manpower planning data collection for the three agency levels are summarized in Table 4.40. Only for the state police agencies is the relationship between the factors and extent of data collection statistically significant, and for these agencies the relationship is quite strong. For city and county agencies the factors account for a relatively small portion of the variance in extent of data collection, and in neither case is statistical significance even approached.

Across the three agency types, the strongest and most consistent factor is union constraint. The coefficient for this

TABLE 4.40.--Multiple Regression Analysis of Factors Affecting
Extent of Manpower Planning Data Collection: Separate
Regressions for City, County, and State Police Agencies.

Factors	Standardized Regression Coefficients		
	For City Agencies (N=70)	For County Agencies (N=25)	For State Agencies (N=26)
Agency Size	.06	.00	.36
Economic Conditions	.13	.06	.06
Agency Size Change	.16	-.07	.31
Equal Employment Pressure	-.04	.13	-.14
Union Constraint	-.13	-.23	-.38
Civil Service Control	.01	-.19	.02
Competition for Applicants	.06	.04	.25
Multiple R	.30	.36	.73
R ²	.09	.13	.54
Adjusted R ²	.00	.00	.36
F	0.86	0.36	3.13
Significance	.54	.91	.02

Note: Underlined coefficients are statistically significant at the .05 level.

factor is uniformly negative, and especially large for county and state agencies. Other factors that are consistent in terms of direction of relationship for each agency level are competition for applicants, economic conditions, and agency size. The coefficients of these factors are positive for all agency levels, with agency size and competition being particularly important for state police agencies, and economic conditions having its largest coefficient for city agencies.

The coefficients for the civil service control, equal employment pressure, and agency size change factors are inconsistent with respect to direction of association across the agency levels. In each case, the coefficients are similarly signed for city and state agencies, but signed in the opposite manner for county police agencies. Agency size change and civil service control are negatively related to extent of data collection in county agencies. Equal employment pressure is positively associated with extent of data collection in county agencies, but negatively associated with data collection in city and state police organizations.

Focusing on agency types rather than factors, for city police agencies the most important factors seem to be agency size change, economic conditions, and union constraint. The coefficients for all of the other factors are very small. For city agencies, better economic conditions and greater recent changes in numbers of allocated positions tend to be associated with more manpower planning data collection, while greater union constraint on personnel matters is associated with less data collection.

The most important factors for county police departments are union constraint, civil service control, and equal employment pressure. The coefficients for the first two of these factors are negative, indicating that for county agencies more union constraint and civil service control over personnel matters and processes tends to be associated with less manpower planning data collection. The coefficient for equal employment pressure is positive, indicating that more pressure to increase employment of women and minorities is associated with more manpower planning data collection in county police agencies.

Three of the factors have strong positive coefficients with extent of data collection in state police agencies. These factors are agency size, agency size change, and competition for applicants. Thus, larger state police agencies, those with greater recent changes in numbers of positions, and those facing more competition for qualified applicants tend to collect more manpower planning data. In addition, for state agencies the equal employment pressure and union constraint factors were negatively signed, with union constraint especially strongly related to extent of data collection. These coefficients indicate that state police agencies facing more union constraint on their personnel matters and more pressure to increase employment of women and minorities tend to report less manpower planning data collection.

A similar set of three multiple regression analyses is presented in Table 4.41, with extent of manpower planning activity

TABLE 4.41.--Multiple Regression Analysis of Factors Affecting
Extent of Manpower Planning Activity: Separate
Regressions for City, County, and State Police
Agencies.

Factors	Standardized Regression Coefficients		
	For City Agencies (N=70)	For County Agencies (N=25)	For State Agencies (N=26)
Agency Size	-.03	.15	.40
Economic Conditions	.07	-.10	.04
Agency Size Change	<u>.31</u>	.28	.26
Equal Employment Pressure	<u>-.28</u>	-.09	-.32
Union Constraint	-.02	-.15	-.39
Civil Service Control	.14	-.14	.02
Competition for Applicants	.16	.48	-.12
Multiple R	.44	.57	.59
R ²	.19	.33	.35
Adjusted R ²	.10	.05	.10
F	2.09	1.18	1.40
Significance	.06	.36	.26

Note: Underlined coefficients are statistically significance at the .05 level.

undertaken as the dependent variable. Although none of the overall relationships is statistically significant, the coefficients of determination are reasonably large. For each of the types of agencies, the factors account for a fairly large portion of the variation in manpower planning activity, but the small sample sizes and large standard errors reduce the confidence that can be placed in the estimates.

Two of the factors, equal employment pressure and union constraint, have negative coefficients for all three agency levels, and the agency size change factor is positive for each level. The coefficients for the agency size change factor are particularly consistent, providing strong evidence that police agencies experiencing greater changes in numbers of personnel tend to undertake more manpower planning activity. The coefficients for both equal employment pressure and union constraint are largest for state police agencies, while union constraint is a negligible factor for city agencies, and the equal employment pressure coefficient is smallest for county agencies.

The competition for applicants and agency size factors are each especially important for one class of agencies, and much less important for the others. The competition for applicants factor is strongly and positively related to extent of manpower planning activity in county agencies, while agency size is strongly and positively related to activity in state police agencies. Neither the civil service control nor the economic conditions factor is

consistently or very strongly associated with extent of manpower planning activity for any of the police agency levels.

Examining Table 4.41 vertically rather than horizontally, the two factors clearly most important for extent of manpower planning activity in city police agencies are agency size change and equal employment pressure. City agencies experiencing greater size changes tend to undertake more manpower planning activity, while those facing more equal employment opportunity/affirmative action pressure undertake less such activity. More civil service control over personnel matters and more competition for applicants tend to be associated with more manpower planning activity in city police agencies, but the coefficients for these two factors are not nearly as large as those for union constraint and equal employment pressure.

For county police agencies, the two factors most strongly related to extent of manpower planning activity are competition for applicants and agency size change, with the coefficients of each positive. Thus, county agencies facing more competition for qualified applicants and experiencing greater recent size changes tend to undertake more manpower planning activity. Larger county agencies are also somewhat more likely to undertake manpower planning activity, while those facing more union constraint and civil service control over personnel matters tend to undertake less such activity.

The coefficients for four of the factors are relatively large for state police agencies; those for agency size and agency

size change are positive, while the coefficients for equal employment pressure and union constraint are negative. Thus, larger state agencies and those with greater recent changes in numbers of positions were more likely to report undertaking more manpower planning activity, while those faced with more equal employment pressure and union constraint undertook less activity. There was also some tendency for state police agencies faced with more competition for qualified applicants to undertake less manpower planning activity.

When the separate agency level analyses presented in Tables 4.40 and 4.41 are examined together, several consistent relationships for both manpower planning data collection and activity can be seen. For example, the coefficient for agency size for state police agencies is large and positive with both dependent variables. This is an indication that, although agency size does not seem to be an important factor for the entire sample of police organizations, for state police agencies it is a very important factor. Larger state police agencies apparently tend to collect more manpower planning data and undertake more activity than do smaller state police agencies, with the other factors statistically controlled.

Another consistent pattern for the two manpower planning dependent variables involves the moderately strong and negative coefficients for both union constraint and civil service control for county police agencies. One or the other of these coefficients tends to be negligible for the other two agency levels with each dependent variable, but not so for county agencies. It would seem

that for county police organizations more external control over personnel matters by unions and by civil service units is associated with less manpower planning data collection and less manpower planning activity.

Union constraint over personnel matters seems to be a particularly strong factor for state police agencies. For these agencies, it is strongly and negatively associated with the extent of both data collection and activity pertaining to manpower planning. The coefficients for the union constraint factor are negative for all three agency levels with each dependent measure of manpower planning; in fact, it is the only factor for which all six coefficients in Tables 4.40 and 4.41 have the same sign. Interestingly, the agencies for which union constraint has the strongest negative relationship with extent of manpower planning (the state police) are the ones that reported the least amount of such union constraint on personnel matters.

Agency size change and competition for applicants seem to be the most consistent and important positive factors across agency types and across the two dependent measures of manpower planning. The coefficient for the relationship between agency size change and extent of data collection is negative for county agencies, but otherwise positive and relatively strong. Similarly, the relationship between competition for applicants and extent of manpower planning activity is negative for state agencies, but otherwise positive and often fairly strong. In general, police agencies experiencing greater changes in numbers of positions and greater

competition for qualified applicants tend to undertake more manpower planning effort.

Factors Reciprocally Related to Extent of Manpower Planning

The multivariate analysis presented in the preceding section pertained to the left-hand side of the model in Figure 4.1. The factors examined were believed to be, on logical and theoretical grounds, related to the extent of manpower planning in police organizations primarily in a causal fashion. That is, different values of the factors were expected to lead to different values of the dependent measures of extent of manpower planning, rather than vice versa.

The factors examined in this section are believed to be more reciprocally related to the extent of manpower planning in police organizations. These factors are all measures of the perceived rationality and predictability of numbers and kinds of people decisions affecting police agencies. The perceptions are expected to influence the extent to which police agencies choose to undertake manpower planning activities, but the reverse order to causation is also expected. In other words, the extent to which police agencies do manpower planning may affect their perceptions of the rationality and predictability of human resource decision making. The reciprocal factors are shown in the right-hand side of Figure 4.1.

Bivariate relationships between the reciprocal factors and the two measures of manpower planning were previously presented in

Table 4.34. Kendall's tau correlation coefficients were utilized for that analysis, and the patterns of association were found to be as expected, except that the coefficients for the two political factors were very weak and in only one instance negative. A similar bivariate analysis, using the Pearson r coefficient, is presented in the first column of Table 4.42. The Pearson r correlation coefficient is used for this analysis so that comparisons can more easily be made with the partial correlation coefficients in the other columns of the table, and with the regression coefficients obtained in the other portions of the multivariate analysis.

For the analysis shown in Table 4.42, the extent of manpower planning data collection is used as a factor affecting extent of manpower planning activity, rather than as a separate dependent variable. The relationship between data collection and activity was also expected to be a reciprocal one, with decisions to undertake activities leading to data collection, and with available data leading to decisions to undertake certain activities. Also, certain kinds of manpower planning data collection may be required or seen as desirable in their own right, without any direct connection to the kinds of manpower planning activities posed in the survey (for example, agencies might collect racial information about applicants, or not collect it, based on their understanding of equal employment/affirmative action requirements, without any connection to specific manpower planning activities). In general, the extent of manpower planning activity in police agencies is the primary focus of the

TABLE 4.42.--Bivariate and Partial Correlations Between Extent of Manpower Planning Activity and Factors Reciprocally Related to Extent of Manpower Planning (N Varies Between 137 and 162 City, County, and State Police Agencies Due to Missing Data).

Factors	Correlation Coefficients with Extent of Manpower Planning Activity		
	Pearson Bivariate Correlation	Partial r with All Others Controlled	All Others Except Data Collection Controlled
Manpower Planning Data Collection	<u>.51</u>	<u>.41</u>	
Influence	.12	.03	.03
Anticipation	<u>.16</u>	.01	.12
Rational Factors and Numbers of Positions	<u>.14</u>	-.03	.03
Political Factors and Numbers of Positions	-.07	-.07	-.04
Internal Rational Considerations and Kinds of People	<u>.26</u>	.08	<u>.19</u>
External Rational Considerations and Kinds of People	<u>.23</u>	<u>.15</u>	<u>.17</u>
External Political Considerations and Kinds of People	.04	-.03	-.05

Note: Underlined coefficients are statistically significant at the .05 level using a one-tailed test.

study, so that extent of data collection is used in this section as a reciprocal factor.

The Pearson correlation coefficients shown in the first column of Table 4.42 are identical in sign to those obtained earlier using Kendall's tau, and are all somewhat larger than their rank-order counterparts. As would be expected, the correlation between extent of data collection and extent of activity is positive and very strong, indicating that agencies collecting more manpower planning data also undertake more manpower planning activity. The two next strongest correlation coefficients are those for internal and external rational considerations regarding kinds of people. Thus, the more important a police agency perceives internal rational (agency needs and job requirements) and external rational (applicant availability and labor market conditions) considerations to be for determining the kinds of people to employ, the more manpower planning activity that agency is likely to undertake.

Three other factors with moderate positive coefficients are influence, anticipation, and rational factors for numbers of positions. These correlations indicate that police agencies better able to influence and anticipate changes in numbers of positions, and agencies perceiving rational factors as more important for affecting such changes, tend to undertake more manpower planning activity. That these three factors and the rational kinds of people factors all have positive correlations with extent of manpower planning activity is strong evidence that the perceived rationality and

predictability of human resource determinations is an important consideration for manpower planning in police agencies. It is not clear whether perceived rationality and predictability lead to a willingness of undertake manpower planning activity, or whether doing manpower planning results in such perceptions, but the positive association between the two is unmistakable.

The correlation coefficients for the two political factors variables are both rather weak, with one positive and one negative. There is some slight indication that the more important an agency perceives political factors to be in determining changes in numbers of allocated positions, the less manpower planning activity that agency is likely to undertake. This tendency is not very strong, however, and the positive association between extent of manpower planning activity and perceived importance of political factors for kinds of people decisions is even more weak.

In the middle and right-hand columns of Table 4.42, partial correlation coefficients are presented. The intent of these analyses is to explore the importance of the various factors while statistically controlling other factors. In the middle column, the extent of manpower planning data collection is included as a factor in the partial correlation analysis, while it is deleted from the analysis in the right-hand column. Both analyses were performed because the extent of data collection was thought to be a reciprocal factor, on the one hand, but also qualitatively different in nature from the other reciprocal factors tested in this study.

It is obvious from the middle column of the table that inclusion of the extent of data collection variable in the partial correlation analysis nearly eliminates the effects of most of the other factors. The two factors that best retain their importance are external rational considerations regarding kinds of people, and political factors affecting numbers of positions. The fact that the coefficients for influence, anticipation, and the two other rational factors are drastically reduced makes some sense, as these factors are closely associated with the extent of manpower planning activity. The external considerations and political factors variables are generally less strongly correlated with extent of data collection, and more independent conceptually.

Without the extent of data collection included in the analysis, the partial correlation coefficients for internal and external considerations regarding kinds of people are both statistically significant, and the coefficients for anticipation is also fairly large. All three of these coefficients are positive. The coefficients for influence and for rational factors affecting numbers of positions are positive but weak, while the coefficients for the two political factors are negative and weak. Thus, when the seven reciprocal factors are tested simultaneously for their relationships with extent of manpower planning activity in police agencies, the three that seem to have some importance are anticipation and internal and external rational considerations for kinds of people determinations. The agencies that are better able to anticipate changes in numbers of positions, and the agencies that

perceive internal and external rational considerations as more important for determining the kinds of people to employ, tend also to be the agencies that undertake more manpower planning activity.

Factors Affecting Agency Ability to Attract and Retain

Ultimately, it would be expected that the manpower planning activities of police agencies should contribute to the ability of those agencies to attract and retain the kinds of people they need. In both of the preceding multivariate analyses, the focal or dependent variable is agency ability to attract and retain, with extent of manpower planning activity as an independent variable. As shown in Figure 4.1, the factors affecting manpower planning in police agencies, and the extent of such activity, were all expected to influence the ability of police departments to attract and keep the kinds of people believed needed.

It is important to recognize that the dependent variable for this analysis incorporates only the subjective judgments of officials working within the sample police agencies. Neither the assessment of the kinds of people needed by the police agency, nor the assessments of agency ability to attract and retain such people, were made on the basis of any specified criteria. Thus, some agencies reporting higher ability to attract and retain may have had lower expectations of the kinds of people needed; similarly, agencies reporting lower ability to attract and retain may have had higher criteria for assessing kinds of people needed. The measure of agency ability to attract and retain needed kinds of people, then,

should not be viewed in any way as a direct or "true" measure of workforce quality, but rather as a measure of agency satisfaction with the kinds of people employed, which should indirectly be related to actual qualitative characteristics of employees.

The results of a multiple regression analysis with agency ability to attract and retain needed kinds of people as the dependent variable are shown in Table 4.43. Overall, the factors have a statistically significant relationship with the dependent variable, and account for a sizeable portion of the variance in reported police agency ability to attract and retain. The coefficients for three of the factors are statistically significant and negative, while one factor has a strong and significant positive relationship in the multivariate analysis. The negative factors that individually are statistically significant are equal employment pressure, competition for applicants, and the city agency dummy variable. The one large positive coefficient is for the extent of manpower planning activity variable. The regression coefficients for agency size, economic conditions, agency size change, and the county dummy variable are all negative and of moderate size, although not statistically significant.

In order to clarify the effect of the agency level variable, within the constraints of the dummy variable procedure, additional regression analyses were performed with the remaining two combinations of agency levels. The three pairs of dummy variable coefficients for agency level with ability to attract and retain dependent are as follows:

TABLE 4.43.--Multiple Regression Analysis of Factors Affecting
Police Agency Ability to Attract and Retain the Kinds
of People Needed (N=121 City, County, and State Police
Agencies)

Factors	Standardized Regression Coefficient with Agency Ability to Attract and Retain Dependent
Agency Size	-.16
Economic Conditions	-.10
Agency Size Change	-.09
Equal Employment Pressure	<u>-.19</u>
Union Constraint	.01
Civil Service Control	.05
Competition for Applicants	<u>-.25</u>
City Dummy Variable	<u>-.30</u>
County Dummy Variable	-.10
Manpower Planning Activity	<u>.22</u>
Multiple R	.51
R^2	.26
Adjusted R^2	.19
F	3.77
Significance	.00

Note: Underlined coefficients are statistically significant at
the .05 level.

City Agencies	-.30		-.18
County Agencies	-.10	.15	
State Agencies		.25	.10

Reported police agency ability to attract and retain the kinds of people needed seems to be affected by several factors. City police agencies, agencies faced with more competition for qualified applicants, and agencies faced with more equal employment opportunity pressure report considerably less ability to attract and retain. Also reporting somewhat less ability to find and keep the kinds of people needed were larger agencies, agencies presented with better economic conditions, and agencies experiencing greater recent changes in numbers of positions. On the other side of the ledger, state police agencies were somewhat more likely to report satisfaction with their ability to attract and retain needed kinds of people.

Most importantly for this study, the extent of manpower planning activity undertaken by police agencies was positively related to their reported ability to attract and retain the kinds of people needed. In the multivariate analysis, with other factors controlled, the coefficient for extent of manpower planning activity was statistically significant and reasonably large (.22). Although the dependent variable is a measure of agency satisfaction rather than a measure of workforce quality, this finding that police agencies doing more manpower planning report being able to attract and retain the kinds of people needed is an important one.

In addition, it is very interesting that in the multivariate analysis for agency ability to attract and retain the coefficients for union constraint and civil service control are negligible. Union constraint, in particular, was earlier found to be negatively associated with extent of manpower planning in police agencies, and civil service control had strong negative coefficients for county agencies. Despite the fact that these conditions may tend to depress the extent of manpower planning in police organizations, though, they seem almost completely unrelated to the reported ability of police agencies to attract and retain needed kinds of people.

Summary

The sample police agencies were found to be engaged in a substantial amount of manpower-related data collection and activity. The agencies were most active in relation to internal resource management, with manpower planning pertaining to more externally oriented and less conventional matters undertaken much less frequently. The substantial manpower activity was generally not undertaken within a planning process or framework, but rather tended to be initiated in response to particular problems, crises, or external demands.

Assessments of several conditions and constraints facing police departments were obtained from respondents. Most reported stability or moderate growth in general economic conditions in their jurisdictions, and two-thirds of the police agencies had

changed in size less than 5% during the last two years. Almost 90% of the police officials reported that their agencies had encountered at least moderate equal employment opportunity pressure, and over one-half reported at least strong pressure. The personnel matters in police agencies that are most frequently constrained by union contracts are the disciplinary process and working conditions, while the least affected is the initial selection process. On the average, civil service units exercise moderate control over police personnel matters, with the modal conditions being no civil service influence and strong civil service influence. Police departments face the most competition for qualified applicants from other criminal justice agencies, industrial concerns, and other government agencies.

The survey respondents reported that their police agencies were quite influential with respect to changes in numbers of allocated positions, and particularly in bringing about increases in positions. Agencies were also better able to anticipate increases than decreases in positions, although in either event police agencies were reportedly able to anticipate changes at least one month in advance. Agency analysis and presentation of needs was rated an important factor affecting increases in positions in police organizations, but not for decreases in positions. Political factors were rated as moderately important for both increases and decreases.

For determinations about the kinds of people to employ, internal rational considerations (analysis of job requirements and

assessment of agency needs) were rated as important by police officials. The availability of desirable applicants was rated even more important, however, as were equal employment opportunity considerations. Labor market conditions were also regarded as fairly important, while specific court cases, public opinion, political pressure, and union policies reportedly had little effect on kinds of people determinations.

Much of the analysis focused on the effects of these conditions and constraints on the extent of manpower planning data collection and activity in police agencies. The bivariate analysis indicated that police agencies faced with better economic conditions, greater recent changes in numbers of positions, and more competition for qualified applicants undertook less manpower planning. The relationships with agency size and equal employment pressure were less consistent and not statistically significant. City, county, and state police agencies varied only slightly in their manpower planning efforts.

Also with respect to bivariate relationships, more manpower planning data collection and activity was associated with more perceived influence over changes in numbers of positions, better ability to anticipate such changes, and greater perceived importance of rational factors for both numbers and kinds of people determinations. The importance of political factors for numbers and kinds of people decisions was unrelated to the extent of manpower planning in police departments.

In the multivariate analysis, the various factors were found to account for only a small portion of the variation in manpower planning data collection and activity among police agencies. In the regression analyses, the factors most positively associated with manpower planning were agency size change and competition for applicants, while equal employment pressure and union constraint were negatively related to manpower planning. Of the reciprocal factors tested with partial correlation analysis, internal and external rational considerations for kinds of people decisions had the strongest (and positive) relationships with extent of manpower planning activity undertaken in police agencies.

The reported ability of police agencies to attract and retain the kinds of people believed needed was also examined as a dependent variable in the analysis. City police departments, agencies facing more competition for qualified applicants, agencies facing more equal employment pressure, and larger police departments all reported being less able to attract and retain needed kinds of people. Most importantly for this study, the extent of manpower planning activity undertaken by police agencies was positively and statistically significantly related to their reported ability to entice and keep needed kinds of people. Although the dependent variable in this analysis is a self-reported perception of workforce quality, the finding that police organizations engaged in more manpower planning see themselves better able to attract and retain needed kinds of people provides some evidence that manpower planning may have beneficial effects for police agencies.

FOOTNOTES--CHAPTER IV

¹L. J. Cronbach, "Coefficient Alpha and the Internal Structure of Tests," Psychometrika 16 (1951): 297-334; Jum C. Nunnally, Psychometric Theory, 2nd ed. (New York: McGraw-Hill, 1978), pp. 225-255; Edward G. Carmines and Richard A. Zeller, Reliability and Validity Assessment (Beverly Hills, CA: Sage, 1979), pp. 37-51.

²Earl R. Babbie, The Practice of Social Research, 2nd ed. (Belmont, CA: Wadsworth, 1979), pp. 414-417; Norman H. Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent, Statistical Package for the Social Sciences, 2nd ed. (New York: McGraw-Hill, 1975), pp. 528-539.

CHAPTER V

CONSTRAINTS ON FEASIBILITY

Introduction

The purpose of this chapter is to extend the discussion of the findings of the study, particularly with regard to constraints or limitations on the feasibility of manpower planning for police organizations. An effort is also made to integrate the findings of the study with the literature reviewed in Chapter II. It should be understood that the discussion of constraints and feasibility, though based on empirical evidence and analysis, necessarily involved judgments and assessments and is therefore openly subjective. This is especially the case in the present instance, as much of the empirical data consist of individual respondents' subjective interpretations of the situations confronting their police agencies.

In the first section of the chapter the relationship between manpower planning and police making in police organizations is discussed. As "science" or as "theory," the role of manpower planning in policy decisions regarding "right" numbers and kinds of people and what they ought to do is limited in important ways. In the next two sections the findings of the study pertaining to current manpower planning activity in police organizations are more directly reviewed and assessed. Police manpower planning is considered first as a form of planning, and then as a form of

problem solving or decision making. In the final section of the chapter, the implications of the factors affecting and related to manpower planning in police agencies are examined. From the standpoint of the police organization, some of these factors are largely uncontrollable (such as economic conditions), while others are more manipulable (such as the extent of equal employment pressure).

Manpower Planning and Policy Making

Probably the most fundamental limitation on the feasibility of manpower planning for police organizations derives from its appropriate role in decision and policy making. As most commonly defined, manpower planning is a process by which an organization "insures that it has the right number of people, and the right kind of people, in the right places, at the right time," doing things for which they are most useful.¹ Defined in this way, the process termed manpower planning is viewed as "science" or "theory," and it is expected to provide answers to problems. This expectation of authoritative guidance, however, often leads to inappropriate relationships between science and public policy, and between theory and practice.² Science rarely provides clear and definitive solutions to social issues,³ and yet policy makers frequently look to science for answers to what should be viewed as practical or political problems.⁴

The question of the right number of people for a police department provides one example of this fundamental limitation. Numerous algorithms and computer software packages are now available

to police agencies for determining how many people they need (and where and when to deploy them). In this sense the science or technology is well developed. Many police departments use this technology, both for internal resource allocation and to justify their budget requests. All of the algorithms and models, however, are based on assumptions about causal relationships, and on assumptions about what the police should do and how they should do it. These "should" issues are political matters, but they are often not recognized as such. To the extent that the should issues are not widely debated and resolved in public and political forums, their resolution may be left to the algorithms and their designers. This is a common occurrence, in part because of the difficulty of reaching consensus politically about what the police should do and how they should do it. It is a seriously inappropriate role for the science of manpower planning, though.⁵

Kinds of people considerations also provide a ready illustration of the improper relationship between science and public policy in policing. The technology or science in this instance is job analysis. As widely employed, job analysis involves research about the work and tasks that constitute the police job, research about the behaviors required to do the job, and then translation of these qualities into the knowledge, skills, abilities, and other characteristics required of successful police officers. In practice, the methods of job analysis primarily involve observing police officers at work, and asking them about their work. From these kinds of data, tests are eventually created for use in selecting

future police officers. The process is often a clear example of the unthinking derivation of an "ought" from an "is."⁶ Little effort is usually devoted to collecting data about what the public thinks the police should do. Instead, public policy is based on the validation and institutionalization of what is, or the status quo, under the guise of science.⁷

Examples of the general improbability of science providing authoritative guidance or definitive resolution of social issues are yielded by research into the effects of different ways of utilizing police personnel. One study of this type showed that a high level of police field interrogation activity (aggressive patrol) resulted in decreased street crimes in the experimental areas.⁸ However, this study cannot tell a policy maker whether the decrease in street crime is a benefit worth the infringement on personal liberty. Similarly, a celebrated study demonstrated that varying the number of units allocated to traditional preventive patrol, within certain limits, had no effect on crime, citizen satisfaction, or several other measures.⁹ Again, such a study cannot tell a policy maker whether to retain the practice of preventive patrol, although the results may be useful and may inform decision making. More importantly for this example, the research provides little or no guidance to the policy maker concerning what might replace traditional preventive patrol. This situation of dissatisfaction with traditional patrol, but lack of ideas or confusion about alternatives, is in fact the current state of affairs with respect to police patrol strategies.

These considerations in the relationship between manpower planning and police policy making are important, because manpower planning is often viewed as a scientific approach to problem solving. As discussed in the following sections, however, determinations of "right" numbers and kinds of people and how to utilize them in policing are inherently political, and consequently cannot entirely be made by science. In important ways such determinations can never be justified on the basis of theory or science.¹⁰ In this respect the role and impact of manpower planning in police organizations are fundamentally limited.

Manpower Planning as Planning

Within the limited policy making or policy impact role of manpower planning, it remains to characterize the state of the art and identify further constraining conditions. In the preceding chapter survey and interview information was used to describe the manpower planning data collection and activities of police agencies. In this section the efforts undertaken by police departments are compared to the planning and manpower planning processes elaborated in the literature review, so that a more orderly assessment can be made.

Planning processes are expected to begin with the identification of goals and preferences, or desired end-states. This presents an immediate problem for the police, because of our general inability to specify or agree upon the desired ends to be achieved by policy organizations. This lack of consensus applies

both to the goals of policing and to the means employed in police work.¹¹ The effect of this goal dissensus and conflict is to render the phrase "right numbers and kinds of people doing the right things" nearly useless, because of the lack of agreement about what is "right."

Another initial stage in planning and manpower planning is monitoring of the present-state of the world. The results of the study indicate that police agencies undertake considerable activity and data collection pertaining to present human resources and work load, but much less with respect to the labor market and other conditions external to the agency. It must also be noted that the actual competency of monitoring was not examined with the survey, and only indirectly investigated during interviews with police officials. The interview data suggests, however, that the existence of a personnel information system or manpower inventory activity does not guarantee that they are used or that monitoring is regular. Similarly, when asked about specific kinds of manpower data (such as turnover rate or educational attainment), it was common for interviewees to respond that such data were available somewhere, and that they could be found if needed, but that the information was not readily or instantly available. Inasmuch as the interviewees were highly placed officials, this would seem to indicate that even internal monitoring was not continuous, and that external monitoring was at best undertaken occasionally by most police departments.

Ideally, problems are identified in the planning process through a comparison of desired ends and the present-state. In other words, problems or discrepancies can be defined as the differences between where you are and where you would like to be. For manpower planning in police organizations, the initial stages of the planning process do not seem to operate this way. Because goals are not clear or explicit, a formal comparison with the present-state cannot be made. Instead, problems seem to achieve recognition primarily as the embodiment of some undesirable condition, rather than in contrast to a desired condition. In line with Seeley's suggestion, it seems that in practice police manpower planning focuses on avoiding "evil numbers and kinds of people doing evil things" rather than on the achievement of "right" conditions.¹²

One example of this approach to problem identification in policing pertains to the numbers of people question. In part because we do not have any clear idea about what the police should achieve (and partially because we know little about the consequences of police activity), it is not possible to specify how many police are needed. We are able to identify some undesirable conditions, however. Among these are long delays in police response to emergency calls, failure to conduct follow-up investigations of serious offenses, and lack of certain kinds of highly trained experts. Recognition of these evils amounts to problem identification for the planning process, despite the fact that little agreement could be reached about desired response times, case screening criteria, or needed specialized personnel. Using "evils" such as

these, a number of police departments were found to have specified a minimum manning level, or minimum number of people needed, below which undesirable consequences would result. Such levels were quite important in the planning process, because agencies were generally not able to identify desirable conditions that could be achieved with certain numbers of people.

Another illustration of this approach to planning applies to the kinds of people issue in policing. Considerable controversy abounds concerning this issue, with little agreement about the "right" kinds of people for police work. A number of "wrong" kinds of people can be identified, though (convicted felons, psychopaths, etc.), and police personnel decision making is largely a matter of eliminating such kinds of people, rather than one of identifying preferred kinds. More in a planning vein, the principal kinds of people concern found in police agencies pertained to equal employment opportunity considerations. Although in one sense police departments had goals (externally imposed) for female and minority employment, the issue was more commonly framed in terms of avoiding undesirable conditions. The conditions to be avoided were extreme public reaction, absolute quotas, or injunctions against hiring, and police agency efforts to increase female and minority employment were aimed at preventing or correcting such situations, rather than at achieving some notion of right numbers of women and minorities.

Following the identification of problems in the planning process, the magnitude and urgency of the problems need to be

assessed, and distinctions need to be made between those features of the problem and its context that are fixed, and those that are variable. For manpower planning in police agencies, neither of these stages seemed to be explicitly enacted, but both were important filters in the planning process and determinants of the degree of planning undertaken. Problems of insufficient magnitude were clearly screened out of the planning process. For example, several police agencies indicated that they thought they had been hiring more educated people as police officers in recent years, and that such people were leaving police work after only a few years of employment. But these were at best vague notions, and most of the police departments had not analyzed the problem more closely or sought to devise alternative strategies for better retention of educated officers. The problem was not viewed as serious enough to warrant undertaking substantial planning activity.

The general observation by Cyert and March that in organizations decisions whether to plan, and the kinds of alternatives considered, are strongly influenced by "what is taken as given and what is treated as subject to manipulation"¹³ is supported by the case of manpower planning in police agencies. One important set of conditions often assumed to be given includes the traditional hierarchical police organizational structure, the military rank structure, the traditional job structure, the conventional array of operational strategies, and the work load as defined by calls for service from the public. With all of these assumed as given, the range of alternatives generated through the planning process in

police agencies is obviously limited. Another set of conditions that may be perceived as given or fixed includes the external factors examined in this study, such as civil service control, equal employment pressure, and union constraints. To the extent that these kinds of constraints are viewed as beyond the control of the police agency, manpower planning may be less likely to be undertaken at all. If conditions such as these are seen as fixed, police agencies are presented with futures that are not "open" to their influence, and consequently planning is not justified."¹⁴

It needs to be recognized that what is regarded as given and a constraint by one person or in one setting, may be viewed as manipulable by another observer or in another context. For example, while some police administrators bewail employee unionization as a straightjacket on human resource decision making, others see manpower planning as a means of manipulating or at least moderating union policies. Similarly, civil service may be viewed as a major roadblock to reform, or as a valuable ally that can provide useful policy guidance, technical assistance, and substantial administrative support.¹⁵ Also, though many police officials see their agencies as captive of increasing calls for service from the public, others argue that the work load is manipulable and that it can be managed, rather than merely reacted to.¹⁶

Following the identification of problems, assessment of their magnitude and urgency, and differentiation between parameters and variables, the planning process requires a forecasting stage. For those problems that are recognized and deemed worthy of planning

activity, information is needed about the future context within which solutions would be applied. With respect to manpower planning, the only kind of forecasting that most police agencies were found to have undertaken pertained to demand for numbers of people. Some forecasting of work load was found, amounting primarily to extrapolations of past and present calls for service data, and these were sometimes used to support manpower requests. The most common type of forecasting involved projections of turnover rates, which were used by police agencies to plan hiring practices and training schedules.

Very little forecasting activity was found in police agencies with respect to qualitative manpower demand, manpower supply, organization and job characteristics, or features of the environment. Thus, the forecasting activity of police departments closely mirrored their monitoring activity, which was also primarily focused internally on the present personnel complement. It is apparent that with regard to many other elements of their situations police agencies make the common assumption that the future will be much like the present, or that information about the elements is not needed for planning and decision making.

All of the preceding steps of the planning process set the stage for the development and testing of alternatives. The effect of the preliminary steps is to identify the subset of problems to which planning will be applied, and to provide information on which to base alternative development and testing. In particular, the preceding steps provide information about the problem itself, the

manipulability of various conditions, and the future situation within which alternatives would actually be implemented and expected to function. As described, for police manpower planning the problems are usually in the form of undesirable conditions to avoid or ameliorate, and the information available is primarily internally-focused, present-oriented, and often pessimistic about the manipulability of conditions and characteristics.

Within this constrained situation, the planning stage of alternative development in police organizations is further limited by the shortage of cause and effect information in policing about how to achieve desired consequences. Even with specified goals for a police agency, or specified evils to avoid, the current body of knowledge about the police yields little instruction about the numbers and kinds of people to employ, or how to utilize them. The effects of various police practices are not well understood, nor are the behavioral consequences of different police employment levels or different kinds of police employees. The current controversies concerning the effects of traditional patrol and case investigation, the deterrent effects associated with varying police employment levels, and behavioral differences of female and of college educated police officers, are illustrative of the extreme uncertainty that permeates knowledge about policing.¹⁷

In conjunction with these limitations, it also seems to be the case that the search for alternatives begins among familiar policies and strategies, and continues only until a satisfactory solution appears likely.¹⁸ With respect to the utilization of

police personnel, for example, the kinds of alternatives to the "problem" of traditional patrol that have been developed are mostly person-oriented and location-oriented directed patrol strategies. These are strategies that have long been in use in policing, but on a more limited scale. Satisfaction with these alternative strategies is based on their presumed or demonstrated ability to produce more arrests than result from traditional preventive patrol. In no sense are these strategies thought to represent optimal utilization of resources, as such an efficiency criterion cannot be developed. Instead, the alternative strategies are viewed as satisfactory in that they out perform the former strategy that has come to be defined as a problem. It is also important that the amount of search and design activity required to identify and develop the alternative strategies is minimal, due to previous experience with them.

A more specific example of localized search procedures was provided by a medium-sized city police department. The agency had conducted a needs assessment, and identified a problem pertaining to organized crime investigations. It was found that these kinds of investigations required knowledge of bookkeeping and accounting, beyond the education and training of the detectives involved. The alternative strategy developed was the familiar one in police administration of providing bookkeeping and accounting training to the detectives assigned to the organized crime unit. Less familiar alternatives, such as the hiring of accountants or coordinated investigations with Federal Bureau of Investigation and

Internal Revenue Service agents (many of whom have accounting and/or law degrees), were apparently not considered. Whether these latter alternatives would have been more effective or efficient is not known nor at issue. The point is that the search procedure undertaken by the police agency began in familiar territory, and apparently ceased with the development of an alternative that was expected to be satisfactory.

When alternatives are thought of or developed in the planning process, some estimation or guess about their likely consequences is needed. These likely consequences of the alternatives are the basis for choosing among them. The difficulty mentioned earlier, however, regarding uncertain cause and effect knowledge in policing, greatly limits the specificity with which the likely effects of alternatives can be estimated. Only with respect to patrol allocation and deployment were police agencies found to be engaged in formal and technically sophisticated simulation of alternative strategies, and even this variety of alternative testing was not widely utilized.¹⁹ Several police departments reported having the technical capacity (software and hardware) to operate such alternative testing models, but not the planning or management process needed to develop alternatives and present information to decision makers.

As noted, choices from among alternatives are made on the basis of their presumed consequences, and often alternatives are developed and effects estimated sequentially, with the process ceasing as soon as an alternative promises to satisfy the current

problem.²⁰ Following choice are the planning or management stages of implementation and evaluation. Information about these processes was not systematically collected during the study, but the available evidence suggests that in police agencies, as elsewhere, implementation is often taken for granted²¹ and policies and practices are often not evaluated.²²

Manpower Planning as Problem Solving

The preceding comparison of the formal planning process to the current practice of manpower planning in police organizations identified a number of discrepancies and limitations. Manpower planning in police agencies was found to be more oriented toward the resolution of problems and the avoidance of "evils" than toward the achievement of goals or desired ends. Monitoring of present conditions was largely limited to work load, personnel, and current performance, and a number of internal and external conditions were often viewed as fixed, rather than subject to manipulation. Explicit forecasting activity was very limited, as was formal estimation or simulation of the likely effects of alternatives. The development of alternatives seemed to conform to the localized, sequential, and satisfying approach described in the literature. Development and testing of alternatives was further limited by the relative uncertainty that characterizes knowledge about the police and their practices.

A slightly different class of activities with which the practice of manpower planning in police agencies can be compared

is that of problem solving, decision making, or analysis. These activities are actually more akin to the varieties of manpower planning addressed in the survey component of the study. As discussed previously, police officials responding to the survey reported that their agencies collected most of the specific kinds of information, and undertook most of the specific activities, about which questions were asked. This high level of manpower-related activity in police agencies was generally corroborated by information collected during interviews at a variety of police organizations.

The principal distinctions between planning and problem solving, decision making, or analysis would seem to be the explicit goal- and future-orientation of the former. The activities obviously share several characteristics, such as the need for cause and effect information, that limit the performance of all of them with respect to police manpower issues. Beyond these conditions and limitations discussed in the previous section, though, the more specific manpower-related activities are also constrained by some additional considerations.

One limitation is that several of the manpower-related activities require specific skills that may not be possessed by the current personnel of most police agencies. For example, job analysis and selection validation require advanced psychometric training, and for legal purposes specific credentials may also be necessary. Several of the activities pertaining to the labor market may involve advanced economic and econometric applications

not ordinarily within the range of expertise of police employees. These two sets of special skills, though, are often readily available to police agencies through the staffs of civil service units and labor or manpower departments, respectively. Less available, it seems, are the special operations research and management science skills needed for career path analysis, manpower simulation, and similar activities. These were among the least frequently performed manpower activities in police agencies, according to the survey responses, but agencies also thought that they would be useful if undertaken. One contributing reason for the low level of such manpower activity seemed to be that the specific skills required are not readily available to many police departments. This conclusion is supported by the observation that of those few agencies that have taken advantage of career path analysis and manpower simulation models, many have done so through consultants and contractors.

Another limiting condition on the practice of manpower-related activities in police organizations is disjointed decision making. Police departments are complex organizations with complex missions and problems. A division of labor is necessary, and work behavior is often directed toward subunit objectives, which may or may not contribute to overall goal achievement or problem avoidance (suboptimization). Among the functions that are cognitively and organizationally segmented are those of determining the numbers of people to employ, the kinds of people to employ, and how to utilize employed personnel. To the extent that these

three broad problems are explicitly addressed, they tend to be addressed separately. They also tend to be addressed suboptimally, rather than as integral elements of organizational goals.

As a corollary to the lack of overall goal orientation in police agencies, the separate manpower-related activities are also usually not coordinated or integrated. Training needs assessments, for example, are frequently not integrated with performance evaluations, which provide information about individual and collective performance shortcomings; with work load and job analyses, which provide information about the tasks and activities that employees perform; or with career path analysis, which provide information about the likely future assignments and responsibilities of personnel. This lack of coordination or integration seemed to be at least partially attributable to the division of labor between training units, planning units, personnel units, budget units, and line management, and the general result was failure to perceive the interrelationships of the separate manpower activities within a human resource planning and management system.

A third important kind of constraint on manpower activities in police organizations is external environmental influence. Even if police departments were to solve their goal confusion and knowledge uncertainty problems, and then significantly enhance the rationality of their internal decision making, it would nevertheless remain that determinations of "numbers and kinds of people and how to utilize them" are heavily influenced by external forces. Numbers of people decisions are made for the police by budget

officials, governing executives, and legislators. Kinds of people decisions are strongly affected by civil service units and by equal employment opportunity/affirmative action considerations. And decisions concerning how to utilize police personnel are influenced by union constraints, public opinion, legal restrictions, and political considerations. These environmental factors substantially reduce the effective range of police manpower decision making.

It needs to be recognized, however, that although these external factors constrain the independence of police decision making, they may not necessarily impede manpower planning. The government budgeting process, for example, may require police agencies to conduct manpower analysis and planning in order to justify requests for numbers of positions. Equal employment pressure may also lead to manpower-related activity, especially pertaining to labor market and applicant characteristics, rather than discouraging it. As is apparent from these examples, however, external influence tends to result in specific manpower problem solving activities aimed at the resolution of narrow issues, rather than encouraging coordinated programming or integrated manpower planning. Budget considerations lead to purposive planning intended to justify as many positions as the market will bear, and equal employment pressures lead to effort to locate and entice people with certain legally relevant characteristics. In each instance, the whole problem of "right number and kinds

of people" is subjugated to the satisfaction of externally imposed and particularistic requirements.

Conditions and Constraints

The relationships between police manpower activity and characteristics of police organizations and their environments were the focus of much of the analysis of the survey data presented in Chapter IV. These relationships are reviewed in this section with particular attention to constraining influences on manpower planning and related activities.

Agency Size and Size Change

In the bivariate analysis of the survey data, agency size change was found to be positively associated with extent of manpower planning in police agencies, while agency size had only very weak relationships with manpower planning data collection and activity. Thus, police agencies with greater recent changes in numbers of allocated positions were likely to have undertaken more manpower-related activity, while larger police agencies were no more likely than smaller police agencies (within the size range examined) to have undertaken such activity. In the multivariate analysis, agency size change continued to be positive related to manpower planning, and in particular with the extent of activity undertaken. With other factors statistically controlled, the relationship between agency size and manpower planning was positive, but not very strong.

The positive relationship for agency size change may signal some difficult times for police manpower planning in the near

future, given the precarious nature of government finances. As described earlier, police employment in the United States has increased substantially in the last 10-15 years, but the present situation in many jurisdictions is more one of slow increases in size, hiring only to fill vacancies, with no new positions allocated, or controlled shrinkage through attrition, with no new hiring. Police agencies that are not changing in size, or that are shrinking by attrition, may perceive less demand for and utility from manpower planning. This was the case, for example, with a major police department that had been noteworthy in the middle 1970's for having a Manpower Planning Unit. In the latter part of the decade the agency, because of jurisdiction economic problems, went several years without hiring any new people, and the Manpower Planning Unit was disbanded.

The trend toward smaller agency size changes, however, does not eliminate the need for manpower planning in police organizations. Many of the external demands and pressures, for example, will not completely subside. Any hiring activity will continue to face equal employment opportunity requirements, as will internal personnel actions such as promotion and assignment. Also, budget bureaus and resource allocation decision makers (city managers, mayors, governors, local and state legislators, etc.) will continue, and presently seem to be increasing, their demand for empirical justification of funding requests, which in the case of the police amounts to arguments for numbers of people. In addition, police agencies will still need to make internal resource allocation

decisions, and these decisions may take on new importance as resource availability gets tighter. These internal decisions are also part and parcel of manpower planning, involving primarily issues of human resource utilization, and they are salient regardless of changes in agency size.

The relative unimportance of agency size has important implications for police manpower planning. Even with other factors statistically controlled, larger police departments within the size range tested were only slightly more likely to undertake manpower planning activities and data collection. It seems likely that all police agencies with more than a threshold number of employees have need of or demands for manpower planning. With only a few exceptions, the police departments included in the study had at least 250 employees, so that if the extent of manpower planning does begin to vary at some point by agency size, the critical figure would seem to be somewhere below 250. The finding that manpower planning activity does not vary by agency size is consistent with the results of the recent study of manpower planning in Canadian companies by Dimick and Murray.²³

Economic Conditions and Competition

Economic conditions and extent of competition for qualified applicants were both positively associated with manpower planning data collection and activity in the bivariate analysis. Police agencies in jurisdictions with better economic conditions, and agencies reporting more competition for applicants, apparently

undertook more manpower planning. In the multivariate analysis the positive relationships were sustained, except that the magnitude of the association between economic conditions and extent of manpower planning activity was considerably reduced.

The implications of the positive relationships for economic conditions are similar to those for agency size change, given current economic difficulties. In addition to the decreased hiring implication, interviewees at several police agencies reported that almost all of their new programming in recent years had been made possible by federal funds from the Law Enforcement Assistance Administration (LEAA); however, the news from Washington at present is that LEAA funding will be eliminated or drastically reduced in the very near future, as part of the federal budget-balancing effort.²⁴ Economic difficulties, government fiscal problems, and the demise of LEAA may greatly reduce the "slack resources" available to police departments for seemingly non-essential activities such as manpower planning.²⁵

The extent of competition from other employers is a function of position availability and the relative attractiveness of those positions compared to police employment. In the current uncertain economic environment, it seems probable that the competitive position of police agencies as employers will improve. As other employment opportunities are reduced in difficult economic times, present police employees are less likely to leave their agencies, and the number of applicants for police position vacancies increases. If, for these reasons, the extent of competition faced by police

departments decreases, agencies might perceive less need to undertake several of the manpower-related activities. In effect it would be an employers' market, and police agencies would be better able to attract and retain needed kinds of people, without special efforts being required.²⁶ As noted earlier, though, certain external demands and pressures will continue to require manpower planning activity in police organizations, and agencies will also continue to be faced with internal resource allocation decisions.

Agency Level

The extent of manpower planning data collection and activity was found to vary very little between city, county, and state police agencies. In the bivariate analysis, state police agencies reported slightly more data collection and county agencies reported slightly more activity, but the differences were far from statistically significant. In the multivariate analysis, state agencies were again associated with more data collection, while city police departments tended to have undertaken more manpower planning activity, with all other factors statistically controlled. The relationships were not strong, however, and in general the common need of the organizations to manage their human resources would seem to be more salient than any differences attributable solely to agency level.

Equal Employment Pressure

In the bivariate analysis, the relationships between equal employment opportunity pressure and extent of manpower planning in

police agencies were inconsistent. Of the nine significant correlation coefficients with manpower planning activities and data collection categories, five were positive and four were negative. A pattern can be seen in the relationships, though. Three of the positive relationships pertain to aspects of the labor market, probably indicating that more equal employment pressure leads to increased efforts to find and entice women and minority applicants. On the other hand, the negative correlations are all for internal management processes, probably indicating that equal employment pressure decreases the perceived control over personnel administration, and thus diminishes the perceived utility of career path analysis, job redesign, and similar activities. These activities are aimed at rationalizing internal personnel processing and management, but police managers who see their "hands tied" by external equal employment pressure may come to view extensive analytical effort as irrelevant.

In the multivariate analysis, equal employment pressure was essentially unrelated to extent of manpower planning data collection and negatively related to extent of manpower planning activity. This difference is probably due primarily to the individual items comprising the composite dependent variables, as several data collection categories were externally focused on the labor market, while only one of the manpower planning activities dealt specifically with locating and enticing applicants. Equal employment pressure was also negatively related to reported ability to attract and retain needed kinds of people. A possible explanation of this

relationship is that the "needed kinds of people" for police agencies faced with equal employment pressure are in fact women and minorities, the lack of which lead to the pressure. A number of police departments visited reported having an abundance of white male applicants, but a shortage of female and minority applicants. These agencies had had their definitions of "needed kinds of people" externally imposed in the form of equal employment pressure, and they were somewhat unable to attract such people.

It seems likely, given present trends, that police agencies will continue to face equal employment opportunity pressure in the near future, and that the pressure will increasingly apply to promotion and assignment decisions, as well as to the initial selection process. Thus, the range of activities and data collection efforts that are essentially externally mandated will probably increase. If this does become the case, police agencies may be forced to undertake internally-focused manpower planning data collection and activity, much as they have been required to study their external labor markets and find and entice female and minority applicants. If this scenario unfolds as described, then, equal employment pressure could begin to lead to more manpower planning in police agencies. Also, as the pressure comes to be accepted as given, police agencies should begin to realize that manpower planning activities are an important means to attract and retain the kinds of people needed, especially with such people being externally described and in relatively short supply. In a larger sense, too, manpower planning activities represent the only way for

the police to regain some control over the definition of "right kinds of people" and the determination of processes for attracting and managing them. In the short run equal employment pressure may have had the effect of dampening some kinds of police manpower planning efforts, as the courts and others are seen as controlling important decisions, but in the long run it would seem that the pressure will lead to increased manpower planning activity in police organizations.

Union Constraints

Almost all of the relationships between extent of union constraint on personnel matters and extent of manpower planning data collection and activity were negative. More union constraint tended to be associated with less manpower planning. For some of the relationships, union constraint was most likely the proximate cause of the diminished manpower planning activity. For example, job redesign would obviously be a problematic undertaking in a situation in which job titles and working conditions were specified in a union contract. In similar fashion, several police departments that were visited reported that assignments to shifts and some special units were by seniority as mandated in union contracts, and that consequently they were precluded from undertaking any planning and analysis activities aimed at identifying the best people for such positions. In other cases, however, the absence of manpower planning activity may have contributed to the development of union constraints, so that the causal direction would be reversed. An

example of this process would be police agency failure to collect information on employee job satisfaction, which could lead to increased identification with the union and to increased demands for personnel safeguards in union contracts.

It seems likely that both directions of causation are important for understanding the influence of union constraint on police manpower planning, and that they feed on each other. Agencies that deal poorly with their human resources contribute to union constraint on personnel matters, which further hampers manpower management. On the other hand, employees in police agencies with effective manpower planning may perceive less necessity for mandating personnel processes in union contracts, and consequently the organization may remain more free to undertake such planning activities. Of course, this argument assumes that the outcomes of manpower planning are pleasing to employees, which may not always be correct. For example, work load analysis may suggest that more patrol officers should work during shifts with undesirable hours, or promotion criteria may be empirically developed that do not satisfy employees. In any event, regardless of the explanation the finding of a negative relationship between manpower planning and extent of union constraint on personnel matters is supportive of the findings of the recent study of Canadian companies that the portion of employees represented by unions was strongly and negatively related to the practice of manpower planning.²⁷

Civil Service Control

The relationships between extent of civil service control over personnel processes and extent of manpower planning in police organizations were mixed and generally weak. It appears that police agencies are required by civil service units to undertake some kinds of activities, that civil service units perform some kinds of activities for police agencies, that the kinds of activities falling into these categories varies from place to place, and that some police agencies (particularly state police agencies) are almost completely independent of civil service or other general jurisdiction personnel offices. Also, there was very little relationship between extent of civil service control and the reported ability of police agencies to attract and retain the kinds of people needed.

The important consideration with respect to civil service control seemed to be the ability of the police department to manage its interdependence with civil service, rather than the simple extent of the external control. Several police departments reported almost total dependence on civil service for job descriptions, test development, test administration, and preliminary screening of applicants, and yet claimed total satisfaction with the arrangement and undertook considerable manpower planning activity in addition. Other police agencies were less dependent but still felt that civil service wielded the real power and was unsympathetic to police needs. Still other police departments were completely independent of any civil service control but did not undertake much manpower planning

activity. These findings are consistent with those of Greisinger et al. that "there is no one 'civil service system' which governs police personnel affairs" and that "the roles they play in police personnel administration" and "the impacts they have on local officials, on police departmental programs and practices, and on the general quality of local law enforcement" vary greatly from one jurisdiction to the next.²⁸

Influence and Anticipation

Police agencies that were reportedly more able to influence and anticipate changes in numbers of allocated positions were found to have undertaken more manpower planning data collection and activity. The relationships were particularly strong for extent of data collection, suggesting that the possession of such information enhances influence and anticipation, and/or that the ability to influence and anticipate changes in numbers of positions makes manpower planning data collection seem worthwhile. Each scenario received some support from the interviews with police officials. Some police agencies reported having used manpower planning data and analyses to influence executive and legislative decisions at budget time. Other police agencies claimed that it would be a waste of time for them to do manpower planning, because they were utterly without influence over budget decisions or completely unable to anticipate the nature of such decisions.

Overall, the reported ability of police agencies to influence and anticipate changes in numbers of allocated positions

was considerable. However, agencies reported being more able to influence and anticipate increases in numbers of positions than decreases. In the immediate future, given the growing concern over government spending, the likelihood of increases in the size of police agencies would seem to be diminished, while the number of police agencies facing losses of positions may be increasing. The greater incidence of position decreases could result in reduced police perceptions of influence and anticipation, which in turn could suggest to police departments that extensive manpower planning efforts are simply not worth the time and energy.

The issues of influence and anticipation illustrate the obvious but important dependence of police organizations on external provision of resources. Decisions about the numbers of positions in police agencies are made by budget bureau officials, governing executives, and legislative bodies. These decision makers respond to a variety of sources of influence, including the police department. One means by which the police agency can attempt to exercise influence is through manpower planning and analysis that justifies or demonstrates the human resource needs of the organization. Of course, police agencies may also be influential because of prestige, fear, partisan political alliances, or the activities of their natural constituencies in the community.²⁹ The important point is that police organizations necessarily develop strategies for managing their dependence on resource allocation decision makers. Those police departments that reported more success in managing this

dependence also reported more manpower planning activity as part of their strategy.

Rationality and Politics

In general, those police agencies for which rational considerations seemed more important in the making of numbers and kinds of people decisions were ones that had undertaken more manpower planning data collection and activity. Again, it seems likely both that doing manpower planning leads to a perception of the importance of rational factors, and that such a perception encourages police agencies to view manpower planning as a useful undertaking. Also, the perception of rationality may be closely related to the perception of influence, with each tied to the agency's success in gaining authorization to employ the numbers and kinds of people believed needed. That is, agencies that get what they want may perceive decision making as rational and themselves as influential, whereas unsuccessful agencies view the importance of rational considerations much differently.

The perception by police agencies of the importance of political factors for numbers and kinds of people decisions was not found to be closely related to the extent of manpower planning data collection and activity undertaken. It had been expected that the relationship would be a negative one, with political decision making leading to less manpower planning, and vice versa. However, the bivariate relationships were mixed and generally weak. In the multivariate analysis, with other factors statistically controlled,

the coefficients for the political factors were negative, but rather small.

With respect to changes in numbers of allocated positions, rational factors were perceived as more important than political factors in growth situations, while political factors were viewed as more salient in declining conditions. For increases, though, both rational and political factors were rated as fairly important, with the former rated somewhat higher. For decreases in positions, rational factors were rated much lower on the importance scale, while political factors were rated only slightly higher than they were for increases. Thus, the police officials perceived political considerations as fairly important with respect to both increases and decreases in numbers of positions, but saw rational factors as important only with respect to decisions to increase the number of police personnel. One interpretation of these relationships is that police agencies equate rationality with getting what they want, as discussed above. Also, the experience with decreases in positions to which many police agencies referred was related to recent tax limitation situations, in which rational agency arguments for personnel needs were subjugated to immediate fiscal crisis decision making. In such situations, police agencies perceived that economic conditions, more so than political factors, had dwarfed their rational arguments.

For kinds of people determinations, the two most important single considerations were reportedly equal employment opportunity/affirmative action concerns and the availability of desirable

applicants. Within these constraints, the police agencies reported that analysis of job requirements and assessment of agency needs were the most important considerations in making decisions about the kinds of people to employ. This probably represents the clearest indication within the survey data of boundedly rational decision making in police organizations. Rational analysis is viewed as helpful for decision making, within the parameters established by external demands and pressures.

Summary

The personnel-related activities of police agencies do not generally seem to take place within a manpower planning process, but rather as reactive and disjointed problem solving. Police departments have difficulty identifying acceptable goals, regard much of their situations as fixed, undertake little forecasting, develop and consider few alternatives, and devote minimal attention to implementation and evaluation. In addition, police agencies are dependent and in some respects subordinate to elements of their environments, and are influenced by a variety of external demands and requirements. Both planning and problem solving by the police are further constrained by the limited cause and effect knowledge available. Manpower-related problem solving and decision making also tend to be disjointed, with relatively little coordination or integration of activities that clearly are or should be interrelated.

The limitation on manpower planning introduced by the relationship between science and public policy, or between theory

and practice, is an especially important consideration in light of these other limitations. In particular, the characteristics of goal disensus and disjointed, satisfying decision making in police agencies provide the context for the misuse of science in policy making. The lack of explicit and coherent desired ends and means helps create the anomic vacuum that manpower planning technology is inappropriately expected to fill. In conjunction with this goal confusion situation, the short-term, particularistic, problem solving orientation of manpower planning in police organizations also directs attention away from political or value issues and toward technological resolution of what are viewed as narrow efficiency/satisfaction problems. As improper as this role for manpower planning may be, though, it is in turn fundamentally limited by the absence of reliable cause and effect knowledge. In this respect, it would not be overly cynical to regard the scientific or theoretical underdevelopment of manpower planning in police organizations as its saving grace.

Considered from this perspective of manpower police making, the roles of manpower planning and some of the external, environmental influences on decision making are reversed. Political influence on police budgets, equal employment opportunity pressure, and union influence on personnel matters all might be thought of as appropriate sources of policy, or "oughts," whereas the science of manpower planning might be viewed as the "constraint." To the extent that communicative competence and access to communication are widely distributed, determinations about what the police should

do, how they should do it, and what kinds and numbers of people should be involved in policing, ought to be made in these sorts of external, "practical" forums, it would seem. There is certainly an important role for a manpower planning science in such determinations, but it must be carefully circumscribed in order that it not infringe on the domain of praxis. Manpower planning may provide assessments of the likely consequences of alternative policies, and means of attaining chosen values, but it cannot legitimately be used to justify policies or to make decisions.³⁰

FOOTNOTES--CHAPTER V

¹Thomas H. Patten, Jr., Manpower Planning and the Development of Human Resources (New York: John Wiley and Sons, 1971), p. 14.

²Martin Rein, Social Science and Public Policy (Middlesex, England: Penguin, 1976); and Jurgen Habermas, Theory and Practice (Boston: Beacon, 1973).

³David K. Cohen and Michael S. Garet, "Reforming Educational Policy with Applied Social Research," Harvard Educational Review 45, 1 (February 1975): 17-43; and Martin Rein and Sheldon H. White, "Policy Research: Belief and Doubt," Policy Analysis 3 (Spring 1977): 239-271.

⁴Habermas, Theory and Practice.

⁵During the course of this study, a telephone call was received from a southern state policy agency. A planner for the agency had been given the responsibility of determining, and justifying to the legislature, the number of personnel needed. He was calling because he had learned of the study, and he wanted to know if we had yet devised a formula with which he could determine the "right" number of people for the agency.

⁶David Hume, A Treatise of Human Nature, Book III, Part I, Section I, as reported in Wesley C. Salmon, Logic, 2nd ed. (Englewood Cliffs, NJ: Prentice-Hall, 1973), p. 16.

⁷Gary W. Cordner, "Job Analysis and the Police: Benefits and Limitations," Journal of Police Science and Administration, forthcoming.

⁸John E. Boydston, San Diego Field Interrogation: Final Report (Washington, D.C.: Police Foundation, 1975).

⁹George L. Kelling, Tony Pate, Duane Dieckman, and Charles E. Brown, The Kansas City Preventive Patrol Experiment: A Summary Report (Washington, D.C.: Police Foundation, 1974).

- ¹⁰Habermas, Theory and Practice.
- ¹¹James Q. Wilson, "Dilemmas of Police Administration," Public Administration Review (September/October 1968): 407-417.
- ¹²John R. Seeley, "What is Planning? Definition and Strategy," Journal of the American Institute of Planners 28, 2 (May 1962): 93-94.
- ¹³Richard M. Cyert and James G. March, A Behavioral Theory of the Firm (Englewood Cliffs, NJ: Prentice-Hall, 1963), p. 20.
- ¹⁴Seeley, "What is Planning? Definition and Strategy."
- ¹⁵George W. Greisinger, Jeffrey S. Slovak, and Joseph L. Molcup, Civil Service Systems: Their Impact on Police Administration (Washington, D.C.: Public Administration Service, 1979).
- ¹⁶Richard G. Grassie and Timothy D. Crove, Integrated Criminal Apprehension Program: Program Implementation Guide (Washington, D.C.: Law Enforcement Assistance Administration, 1978).
- ¹⁷Kelling, Pate, Dieckman, and Brown, The Kansas City Preventive Patrol Experiment: A Summary Report; Peter W. Greenwood and Joan Petersilia, The Criminal Investigation Process Volume I: Summary and Policy Implications (Santa Monica, CA: Rand, 1975); David C. Anderson, "Management Moves in on the Detective," Police Magazine (March 1978): 4-13; Kevin Krajick, "Does Patrol Prevent Crime?" Police Magazine (September 1978): 4-16; James P. Levine, "The Ineffectiveness of Adding Police to Prevent Crime," Public Policy 23, 4 (Fall 1975): 523-545; Catherine H. Milton, "The Future of Women in Policing," in The Future of Policing, ed. Alvin W. Cohn (Beverly Hills, CA: Sage, 1978), pp. 183-204; and Lawrence W. Sherman and the National Advisory Commission on Higher Education for Police Officers, The Quality of Police Education (San Francisco, CA: Jossey-Bass, 1978).
- ¹⁸James G. March and Herbert A. Simon, Organizations (New York: John Wiley, 1958), pp. 179-180.
- ¹⁹For an early example of this kind of activity, see Albert M. Bottoms and the Operations Research Task Force, Allocations of Resources in the Chicago Police Department (Washington, D.C.: Law Enforcement Assistance Administration, 1972).
- ²⁰March and Simon, Organizations.

²¹See Ralph G. Lewis and Jack R. Greene, "Implementation Evaluation: A Future Direction in Project Evaluation," Journal of Criminal Justice 6, 2 (Summer 1978): 167-176.

²²Evaluations of police practices have become more frequent, though, through the mandates of LEAA and the efforts of the Police Foundation. With respect to the latter, see Joseph H. Lewis, "Evaluation of Experiments in Policing," Evaluation Quarterly 2, 2 (May 1978): 315-330.

²³David E. Dimick and Victor V. Murray, "Correlates of Substantive Police Decisions in Organizations: The Case of Human Resource Management," Academy of Management Journal 21, 4 (December 1978): 611-623.

²⁴"LEAA May Be the Big Loser in President's Inflation Fight," Law Enforcement News 6,6 (March 24, 1980): 1, 13.

²⁵March and Simon, Organizations.

²⁶For example, the New York Police Department was able to greatly increase its employment of Jews and college educated people during the Great Depression. See Nathan Glazer and Daniel P. Moynihan, Beyond the Melting Pot (Cambridge, MA: M.I.T. and Harvard University, 1964), p. 261; Arthur Niederhoffer, Behind the Shield: The Police in Urban Society (New York: Doubleday, 1967).

²⁷Dimick and Murray, "Correlates of Substantive Policy Decisions in Organizations."

²⁸Greisinger, Slovak, and Molkup, Civil Service Systems: Their Impact on Police Administration, p. v.

²⁹Jack R. Greene, Tim Bynum, and Gary W. Cordner, "Environmental Influence on Decision Making in Criminal Justice Organizations," Paper presented at the Academy of Criminal Justice Sciences Annual Meeting, Oklahoma City, March, 1980.

³⁰Jurgen Habermas, Communication and the Evolution of Society (Boston: Beacon, 1979); Habermas, Theory and Practice.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND POLICY IMPLICATIONS

Introduction

In this chapter the main features of the study are reviewed and summarized, and conclusions and implications are presented and discussed. The first section is a summary of the purpose and method of the study. In the next section the findings of the study are reviewed, along with conclusions drawn from them. In the third section some policy implications of the findings are suggested, and policy recommendations are offered. In the final two sections of the chapter the limitations of the study are discussed, and recommendations for future research are presented.

Purpose and Method of the Study

The purpose of the study was to explore the state of the art and feasibility of manpower planning for police organizations. Broadly defined, manpower planning refers to efforts undertaken in organizations to determine the numbers of employees needed, the kinds of employees needed, and the best ways of utilizing employees. How such determinations are presently made in police agencies is not well known, so that one aim of the study was to identify the current state of manpower planning in police departments. The second objective was to explore the kinds of capacities and

constraints within and without police agencies that might influence the perception of manpower planning as a feasible, or realistically practical, undertaking.

Manpower planning is potentially of particular importance for police organizations today. Because police agencies are extremely labor-intensive, manpower planning is perhaps the most crucial of all of the aspects of police planning. Also, in these times of belt-tightening and fiscal uncertainty at all levels of government, manpower planning is increasingly important. As the availability of public revenue stabilizes or decreases, competition between government agencies for funds increases, as does the need for sound and defensible budget justifications. Manpower planning efforts are intended to determine and justify the numbers and kinds of people needed by an organization, and such information is precisely that needed by police departments at budget time.

The method of the study is best characterized as exploratory field research. Research questions were used, rather than hypotheses, because of the absence of a well developed theoretical framework, and because the construct "manpower planning" is used ambiguously in the literature, and is even more difficult to define and operationalize for the action world of police agencies. The exploratory approach lends itself to clarification of the construct, identification of important or relevant variables, and examination of the relationships between variables. The approach does not provide for hypothesis testing, however, or for very definitive findings and conclusions.

In order to obtain data about police manpower planning, an extensive number of interviews with police and other government officials throughout the country were conducted, and a mail survey was sent to the 49 state police agencies and the 201 largest city and county police departments in the United States. The interview sample was selected with the aid of expert opinion and information on agency size and recent growth or decline in numbers of employees. One purpose of the interviews was to collect pertinent data about the sample police agencies, but more importantly the interviews were used to clarify issues and refine the mail survey instrument. The interviews conducted for the study were partially unstructured, but consistently addressed a core set of police human resource planning issues. The interview data were not formally analyzed, except to identify frequently mentioned issues and considerations.

The survey sample included only larger police agencies, because such agencies are required to make more personnel-related kinds of decisions, and because such agencies so disproportionately account for a substantial number of police department employees in this country. The sample included only about 1.5% of the police agencies in the United States, but almost 50% of the police employees. An overall response rate of 65.6% was obtained with the survey, and the response rates for every agency level, agency size category, and geographic region were at least 50%. Eighteen primary measures based on the research questions were drawn from the survey, and

were used in the analysis. Univariate, bivariate, and multivariate procedures were used in the analysis of the survey data.

Findings and Conclusions

In this section the principal findings and conclusions of the study are reviewed and discussed. Addressed first is the issue of the state of the art, or the current practice of manpower planning in police organizations. Next, findings concerning the conditions and constraints that affect manpower planning by the police are summarized. Based on these results of the study, in the last part of the section some conclusions are presented about the feasibility of manpower planning for police departments.

State of the Art

The best description of present efforts in police organizations is that a considerable amount of manpower-related activity is undertaken, but very little manpower planning. Police officials responding to the survey reported that their agencies collected most of the specific kinds of data, and undertook most of the specific activities, about which questions were asked. This high level of effort was generally corroborated by information collected during interviews at a variety of police organizations. Despite this high level of activity, however, the orientation in police agencies was clearly one of problem solving within personnel administration, rather than one of manpower planning. The manpower-related activities undertaken were not integrated, coordinated, explicitly goal-directed, or future-oriented, in most instances.

Instead, they tended to be disjointed efforts aimed at solving narrowly-defined current human resource problems.

The kinds of manpower-related data collection and activity undertaken most frequently by police departments are those pertaining to internal resource management (for example, work load data, performance evaluations, training needs assessments, and manpower inventories). Activities and data collection directed toward more externally-oriented matters such as recruitment (labor market analysis, career orientations information) were engaged in much less frequently by the sample police departments. Also, information gathering and activity related to less conventional kinds of police administrative concerns (such as job satisfaction, career path analysis, job redesign, and manpower simulation models) were undertaken less frequently than those in support of more conventional concerns. The most radical manpower-related activity (job redesign) and the most externally-focused (labor market analysis) were the activities characterized as not useful by the most agency respondents.

The manpower-related activities of police departments do not seem to be undertaken within the framework of a planning process. Instead of being aimed at reducing the discrepancies between goals and the present-state, manpower efforts are directed at avoiding or ameliorating problems that achieve recognition as "evils" or undesirable conditions. Very little effort at forecasting is undertaken, so that the implicit assumption is that the future will be much like the present. A large portion of the

characteristics of the police organization and its environment are taken to be fixed or given, so that many problems are seen as not amenable to rational analysis, and the range of alternatives considered in planning and problem solving is narrow. Also, the search for alternatives seems to be problemistic, localized, and sequential, with the objective being to identify a satisfactory alternative quickly and cheaply. The search for alternatives, and estimation of their likely effects, is further limited by the general inadequacy of cause and effect knowledge in relation to numbers of people, kinds of people, and utilization strategies in policing.

Apart from the planning question, the manpower activities of police agencies also exhibit some serious deficiencies in comparison to rational models of problem solving, decision making, or management. The different facets of human resource activity tend to be taken up disjointedly, due both to the cognitive complexity of the whole "numbers and kinds of people and how to use them" problem and to the division of labor in police departments. As a result, activities that are clearly interdependent on a conceptual level are performed nearly independently in practice, with little coordination or integration. The cognitive and organizational motivations behind such disjointed activity are reinforced by external demands and pressures on police agencies, which tend to result in specific manpower problem solving activities aimed at the resolution of narrow issues.

Conditions and Constraints

All but two of the research questions posed for the study pertained to relationships between specific factors (organizational and environmental) and the extent of manpower planning in police organizations. Analysis and discussion of the survey and interview data with respect to these relationships was presented in the previous two chapters. The findings are summarized below.

Agency Size: Within the size range tested (almost all of the sample police agencies had at least 250 employees, and the median was 518) the extent of manpower planning data collection and activity was virtually unrelated to agency size.

Economic Conditions: Police agencies in jurisdictions with better economic conditions undertook more manpower planning data collection and activity. With other factors controlled, though, the relationship with activity was greatly reduced, but data collection and economic conditions were still positively related.

Agency Size Change: Extent of agency size change was positively related to manpower planning activity and data collection in police departments. In the multivariate analysis it had the largest coefficient (+.27) with extent of manpower planning activity undertaken as the dependent variable.

Equal Employment Pressure: Equal employment pressure seemed to be positively associated with externally-focused manpower planning efforts, but negatively associated with internally-focused efforts. In the multivariate analysis it had the largest negative coefficient (-.18) with extent of manpower planning activity dependent, but this

may be attributable to the dominance of internally-focused activities in the dependent variable.

Union Constraint: Almost all of the relationships between degree of union constraint on personnel matters and extent of manpower planning data collection and activity were negative. More union constraint tended to be associated with less manpower planning in police agencies. In the multivariate analysis union constraint had the largest coefficient ($-.20$) with extent of manpower planning data collection as the dependent variable.

Civil Service Control: The relationship between extent of civil service control over personnel processes and manpower planning in police departments were mixed and generally weak. In the bivariate analysis more civil service control was associated with somewhat less manpower planning data collection and activity, but in the multivariate analysis the relationships were virtually nullified.

Competition for Applicants: More competition for qualified applicants was associated with more manpower planning data collection and analysis in police agencies. In the multivariate analysis, both coefficients were reasonably large ($.16$ and $.21$).

Agency Level: The extent of manpower planning data collection and activity was found to vary very little between city, county, and state police agencies.

Influence: Police agencies reporting more influence over changes in numbers of allocated position tended also to have undertaken more manpower planning data collection and activity. With other factors controlled, however, the relationships were weak.

Anticipation: Police agencies that reported being more able to anticipate changes in numbers of positions also reported undertaking more manpower planning. This relationship was largely sustained in the multivariate analysis.

Rational Factors and Numbers of Positions: A positive relationship was found between policy agency perceptions of the importance of rational planning in budgetary decision making and extent of manpower planning data collection and activity undertaken. The relationship with other factors controlled, though, was very weak.

Political Factors and Numbers of Positions: The relationship between the perceived importance of political factors in budgetary decision making and the extent of manpower planning in police organizations was found to be generally negative, but weak.

Internal Rational Considerations and Kinds of People. Police agencies attributing more importance to analyses of job requirements and agency needs for determining the kinds of people to employ tended to have undertaken more manpower planning data collection and activity. Of the reciprocally related factors, this variable had the strongest relationships in both the bivariate and multivariate analyses.

External Rational Considerations and Kinds of People. Police agencies attributing more importance to labor market conditions and applicant availability for determining the kinds of people to employ also tended to have undertaken more manpower planning. In the multivariate analysis these external rational considerations had the second strongest relationship with extent of manpower planning activity.

External Political Considerations and Kinds of People: The perceived importance of external political factors (such as public opinion, political pressure, and equal employment pressure) for kinds of people determinations was essentially unrelated to the extent of manpower planning data collection and activity undertaken in police departments.

Agency Ability to Attract and Retain: With other factors statistically controlled, the relationship between manpower planning activity and agency ability to attract and retain needed kinds of people was positive and significant (+.22). Thus, agencies doing more manpower planning reported also being better able to find and keep the kinds of people believed needed.

Feasibility

Is manpower planning a feasible undertaking for police organizations? On one level, the data collected for this study strongly suggest that it is. Police agencies reported collecting most of the kinds of information that would be needed to do manpower planning, and also reported undertaking most of the specific activities about which questions were asked. Possession of this information and performance of the activities would seem to be a strong indication of feasibility.

As discussed, however, this picture of present efforts is misleading. First, much of the reported data collection and activity pertains to routine, present- and problem-oriented personnel administration matters, more so than to planning. Second, the survey responses provide no information about the quality of current

manpower-related data collection and activity. Rather, they are simply self-reports of efforts undertaken, with some concern for frequency and locus of activity. Third, the survey responses do not reveal whether the individual data collection efforts and activities are coordinated or integrated within a planning framework, or whether they are separately undertaken in response to crises and external stimuli. The interview data strongly suggest that the latter situation is much more common, so that police agency manpower planning efforts are more appropriately characterized as disjointed problem solving and decision making.

In order to go beyond the current situation and address the issues of feasibility, it may be helpful to return to a few basic matters. An important initial one is, what is manpower planning? Fundamentally, manpower planning is a form of planning. Thus, ideally it is a pre-decision activity, with explicit concern for goals, the future, and comprehensiveness. Manpower planning is planning with particular concern for human resources. It involves analysis, forecasting, and design in support of integrated human resource decision making that contributes to overall organizational goal achievement. The direct aim of manpower planning is to widen and clarify the range of choices available in the making of human resource decisions and policies.

Manpower planning offers several beneficial outcomes to organizations, police agencies included. On one level, sometimes referred to as personnel planning, the activity seeks to make the process of filling vacant positions more efficient. Large organizations always

have vacant positions, but the more promptly they are filled, the smaller the loss in production or service delivery. Anticipating vacancies and filling them in a timely fashion requires analytical and planning behavior, especially for organizations of any size.

A second expected benefit from manpower planning is a more coordinated or holistic approach to human resource management in organizations. At present in many agencies, such activities as training, budgeting, personnel, manpower allocation, and planning are segmented organizationally and, often, cognitively. A manpower planning approach helps make explicit the interrelationships between these activities, and encourages active integration of them.

Perhaps the most important potential benefit of manpower planning is the attention it focuses on police and value issues in the management of human resources. In the rush of day-to-day activity and reaction to crises in organizations, issues such as "right numbers and kinds of people and how to use them" are rarely recognized or addressed. The process and breadth of manpower planning, if undertaken explicitly, forces recognition of the policy questions underlying seemingly routine human resource activities, and may aid in their resolution or amelioration.

Should manpower planning be done by (or for) police organizations? If it is done correctly, manpower planning purportedly contributes to organizational goal achievement. It is important at least to consider, from the standpoints of the community and employees, whether it is desirable for police agencies to achieve their goals more completely. Depending upon how the goals of the

police are characterized, the community may be much better off when the police are less effective. Similarly, it is quite conceivable that competent manpower planning could result in organizational practices that are detrimental to the self-interests of many or most employees.

The preceding question cannot appropriately be answered in this forum, but some of its ramifications can be raised. In one sense, manpower planning should be done if it results in a net social benefit, or a net diminution of social evils. These consequences are very difficult to determine, however, and it is particularly difficult to know in advance of planning whether they will result. It may be more useful, then, to focus attention on the goals to which manpower planning in police organizations is applied. If more complete achievement of the goals would be socially beneficial, then police agencies should do manpower planning. Because goals may change, though, the crucial consideration is, who controls the goals of the police? From this perspective, it would seem that the community should favor manpower planning for the police if they are satisfied with their control over police departments and goals.

The real feasibility question is, can manpower planning be done by (or for) police organizations? Assuming that manpower planning is something, and that improved police effectiveness is desirable, is manpower planning a realistic or practical thing for police agencies to do? The answer to these feasibility questions is largely dependent on the extent to which current constraints and

limitations are believed to be universal and intractable. In this respect conclusions about the feasibility of manpower planning are similar to organizational decisions whether to undertake planning and to the planning stage of alternative development, in that the choices made are largely determined by perceptions of what is fixed and what is subject to manipulation.¹

The current limitations on manpower planning in police organizations that seem to be the most fundamental and intractable are the following.

1. Dissensus and conflict concerning the goals of the police and the means that are available to them.
2. Lack of cause and effect knowledge linking what the police do (including the numbers and kinds of people they utilize) with outputs and outcomes.
3. Dependence of the police on their environment for resources, authority, and work flow.

The consequence of these limitations is that the police cannot have any clear conception of what they are supposed to achieve; given whatever notions of objective-attainment of problem-avoidance that they do have, the police are able to determine what strategies to adopt; and to the extent that the police are able to justify the adoption of certain strategies, they need the cooperation of elected executives, legislatures, equal employment regulatory agencies, police unions, and civil service agencies in order to implement them. It should be noted, however, that the severity of these limitations may vary from one issue to another, from one locale to another, and over time. For example, conflict over the goals of the police may be much greater in New York City than in more

homogeneous Suffolk County, Long Island.² Some police departments are relatively independent of civil service units, and some police agencies are very influential with their funding sources. The supply of theory and knowledge about policing should increase over time, and knowledge in some areas, such as how to improve the physical capacities of police employees, may be more advanced than in other areas, such as the improvement of the mental fitness of police personnel. In spite of this variance, however, these limitations seem to fundamentally constrain the ability of the police to determine the "right numbers and kinds of people and how to use them."

Other current constraints on police manpower planning seem less fundamental. In particular, the disjointed approach to manpower problems and activities in police organizations seems to be the result of the narrow vision and crisis orientation of police management generally, in conjunction with the traditional division of labor between training, personnel, planning, and operations. It would seem that this problem of disjointed manpower decision making in police agencies arises much more out of convenience and convention than out of intractable conditions and constraints. Other organizations have been able to develop integrated approaches to human resource management, and there is nothing obviously unique about police departments that would prohibit them from doing the same.³

The overall conclusion concerning the feasibility of manpower planning for police organizations is therefore mixed. On the one

hand, the police are fundamentally limited in the extent to which "right numbers and kinds of people and how to use them" can be determined or achieved. The improvements that can feasibly be made are considerable, particularly with respect to coordinated or integrated approaches to manpower problem solving and decision making. Also, to some degree the limitations that have been termed fundamental are not invariable, and manipulation of them may be possible and beneficial. Goal consensus, certain knowledge, and police independence are not likely or perhaps desirable, but less dissensus, less uncertainty, and greater cooperation and cohesion between the police and their environment may well be. For these reasons boundedly rational manpower planning and comprehensive human resource decision making seem to be feasible achievements for police organizations.

An important consideration with respect to the feasibility of manpower planning for the police is situational variability. All police departments need to think about and take action regarding the numbers and kinds of people needed and how to utilize them. The extent to which these matters are undertaken formally, the capacity to perform them, and the potential consequences of the activities are all situationally determined, however. Very small police agencies, for example, have no less need than the New York Police Department for right numbers and kinds of people, but in making such determinations they may not require as formal or sophisticated a manpower planning process, and their access to manpower planning expertise may not be equal to New York's.

The impacts or effects that result from manpower also vary from one situation to another, in part because of differences in environmental conditions facing police organizations. The extent to which police agencies are able to implement manpower-related programs is influenced by civil service control, union constraints, equal employment pressure, and similar concerns. The impacts of such programs are further influenced by factors including competition for applicants, labor market and economic conditions, and the attractiveness of police employment, all of which vary situationally.

The varying influence of organizational environments was most clearly observed when police agencies were compared with other kinds of criminal justice agencies included in the larger study. Police departments generally had more powerful and vocal constituencies than did other criminal justice agencies, with resulting contingencies and constraints. With the aid of their constituencies, the police were generally more influential than the courts or corrections in budget decision making about numbers of allocated positions. On the other hand, though, the police felt constrained to continue traditional service delivery patterns, in order not to upset their allies. Support for more police is easy to mobilize, as compared to support for more probation officers or more correctional treatment programs. But the police are also often unable to change routine practices or alter precinct boundaries because of their concerned and alert constituents, whereas a probation agency could probably make wholesale changes without being noticed by the public.

A final source of situational variation in the practice of manpower planning by the police is the saliency or criticality of issues. Almost all of the police departments responding to the mail survey, for example, reported being under pressure to increase their employment of women and minorities, but for some the pressure was probably more immediately salient and motivating. The saliency of manpower problems and processes for resolving them also varies by agency size, economic conditions, and other basic characteristics of police agencies and their environments. For a very large agency the task of securing up-to-date information about current employees is often a pressing problem and a difficult undertaking, while such information is common knowledge in a small agency. In the small agency, though, attracting applicants with advanced education and skills may be an impossible dream, while large agencies have a surplus of such applicants. Despite the fact that all police organizations must be concerned with numbers and kinds of people and how they are used, then, the saliency of problems and practices varies, as do the formalization of, the capacity for, and the potential consequences of manpower planning.

Policy Implications and Recommendations

Any use of this study and its results in policy making must confront the same considerations that constrain the use of manpower planning in policy making in police organizations. This study of the state of the art and feasibility of manpower planning for police agencies cannot be used to justify any decisions, policies,

strategies, or allocations of resources that are by nature practical or political. On the other hand, within a context of politically-determined goals, means, and constraints, the results of the study can be used to inform efforts to improve the practice of manpower planning in police departments.

There are several ways in which most police agencies could substantially enhance their manpower planning efforts. At a specific level, agencies could increase their monitoring of current conditions, problem analysis, forecasting and evaluation, and they could cease regarding so many organizational and environmental characteristics as fixed. With more openness and encouragement of change in police organizations, the amount of search activity undertaken in order to develop new alternatives could be expected to increase.⁴ If the planning process were engaged in more explicitly, it might also be possible to reduce the extent to which unexamined assumptions (such as that the future will be just like the present, or that all managers must be promoted from within) permeate and hamstring manpower planning in practice in police agencies.

Police organizations could also benefit from a broader approach to manpower related problems and activities. Most agencies still seemed to be operating with a narrow personnel administration outlook, although elsewhere the personnel function in business and government has greatly expanded in recent years.⁵ The procedural and "vacancy-filling" concerns of personnel administration remain important, but with the broader approach attention is also given to

manpower policy and to the integration of the various manpower activities. It is with an appreciation of this more policy-oriented approach to human resource management that the need for manpower planning becomes apparent. With the narrower view, the principal concerns are following procedures and reacting promptly to demands and crises. With the wider policy view, however, comes the realization that decisions have to be made concerning the numbers and kinds of people to employ, and how to utilize them. Recognition that there are such decisions to be made may well be a key to the development of manpower planning in police agencies.

In addition to this expansion of the personnel function, police agencies could benefit from closer linkages between human resource management and the overall management of the organization. As one example, the forecasting stage within manpower planning needs to take into account any intended changes in organizational structure of operational strategies. In general, the scope of manpower planning is so great that it needs to be fully integrated with all of the other management processes.⁶ This is especially true for police agencies because they are so labor-intensive, making manpower planning a central form of planning, and because individual employees have considerable authority and discretion, so that decisions about kinds of people to employ and how to use them have great social significance.⁷

Beyond these exhortations to police organizations to do better, there are several strategies that might be employed to increase and improve manpower planning by the police. One would be

for civil service commissions and/or general jurisdiction personnel units to encourage, require, and assist police agencies to adopt the broader, more policy-oriented approach to the personnel function. A recent study found that civil service commissions playing a regulatory role tended to constrain personnel innovation in police agencies, while commissions playing a policy formulation role tended to promote innovation.⁸ In the present study these two roles were not differentiated, which could explain the generally weak relationships found between extent of civil service control and manpower planning efforts in police agencies. As the principal personnel administrators in most jurisdictions, civil service units have the opportunity to set the tone for human resource management in government agencies, and they have some authority to reinforce their suggestions. Instead of only promulgating forms, rules, and procedures, civil service commissions could take the lead in developing manpower planning and a policy orientation to the personnel function.

Political leaders, including elected executives and legislators, could also encourage manpower planning by police and other government agencies. The choice of the chief of police is an important source of influence, and the management ability and leadership of the chief seem to be important factors affecting police organizations and their relations with the environment.⁹ In the budgetary process, political officials have another opportunity to encourage manpower planning efforts. In their written justifications and at budget hearings, police agencies can be

required to present evidence in support of their requests. In one jurisdiction visited during the study, a project was found, operating out of the mayor's office, that sought to improve the program evaluation and cost/benefit capabilities in each of the various criminal justice agencies. As a concomitant, though, assistance was also being provided to budget decision makers so that they could more knowledgeably evaluate proposals and ask the right kinds of questions. The project was in its early stages but observers and participants reported that more planning was being done in the criminal justice agencies and that more informed decisions were being made during the budgetary process.

In line with earlier arguments, enhanced manpower planning cannot, and should not be allowed to, replace the political aspects of government decision making. The intent of the project just described was not to make allocative decision making scientific, but only to better inform such decisions about alternatives and about the likely consequences of particular choices. More generally, it would seem that political leaders could encourage manpower planning in police departments without abandoning their responsibilities. At present, in many jurisdictions police agencies never have the opportunity to introduce empirical justifications for their budget requests, and in others they are convinced that such justifications are never examined by political decision makers. These kinds of situations seem to discourage manpower planning efforts, which in turn contributes to the lack of information available for budgetary decision making.

The Law Enforcement Assistance Administration (LEAA) and the criminal justice State Planning Agencies (SPA's) could also contribute to the enhancement of manpower planning in police organizations through their planning, grant-letting, coordination, technical assistance, and standards-promulgating functions. In the past, LEAA and the SPA's have funded a great many manpower-related programs and activities, but they have generally not adopted for themselves or required of grant-receiving police departments an integrated approach to manpower planning and decision making. One SPA, for example, was found to be using the term manpower planning to describe the funding category that included personnel-related projects, but it was used as a label only, with the projects themselves being traditional and disjointed ones in training, education, manpower allocation, and the like. In turn, the same SPA had previously analyzed the criminal justice human resources in its state, in order to prioritize its funding practices, but LEAA had refused to allow the SPA to allocate Law Enforcement Education Program (LEEP) funds on the basis of the analysis and priorities. The actions of both LEAA and the SPA, then, tended to discourage manpower planning, despite vocabularly and protestations to the contrary.

Manpower planning could just as easily be encouraged by LEAA and the SPA's, given the monetary inducements that they have to offer. They could actually fund manpower planning efforts in police agencies, and they could require that other manpower-related grants be clearly part of a manpower planning process. For example,

before funding a job analysis they could require evidence that the project was part of a larger effort to determine the kinds of people needed in the police agency, and not just a reaction to outside pressure or a faddish adoption of scientific methods. Many police departments would not be able to comply with the new manpower planning approach immediately, of course, and would need instruction and assistance. With such developmental effort, however, it would seem that LEAA and the SPA's could, through judicious allocation of their funds, encourage police organizations to undertake manpower planning and a broader approach to human resource management.

Should the proposed cuts in LEAA funding be approved, the opportunities for the agency and the SPA's to promote police manpower planning through direct grant-letting to police departments would be diminished. Several avenues of influence would still be open, however. The current proposals largely maintain LEAA funding for research, and some of these dollars could be used for manpower planning development. Evaluative studies of the effects of manpower-related activities and manpower planning systems would be useful to police agencies, as would research on the consequences of difference numbers and kinds of police personnel and different strategies for utilizing them. Through their own data gathering activities, LEAA and the SPA's could also improve current knowledge about police human resources, while at the same time causing police agencies to take notice of the types of data that manpower planning would require. Within their states, SPA's are well-placed to

coordinate and influence the activities of higher educational institutions, statewide associations, and departments of labor as they affect police employment. In addition, the SPA's could work with and through the state-level police training and certification commissions in an effort to integrate the traditional police concern for training within a broader human resource development and manpower planning framework.

Finally, there is a need for continued conceptual development, and technical development, of manpower planning as a management program and as a set of methods and techniques. There are a few books and articles that are instructive about how to do manpower planning and that are understandable to the general reader, but much of the literature is very technical and mathematically sophisticated. Also, much of the literature is written for the private sector, rather than for government agencies, which raises some programs of comparability. The literature specifically pertaining to manpower planning for police organizations is very scarce. Because manpower planning is a somewhat vague and amorphous program, spanning conventional organizational and disciplinary boundaries, it is not obvious to everyone what it is and how it should be done. Thus, police departments would probably find it useful if guides to police manpower planning could be developed and disseminated.

Limitations of the Study

This study of manpower planning in police organizations had several important limitations that need to be acknowledged. One is uncertainty regarding the reliability and validity of the survey data. Because each survey was completed by one, or at best a few, representative(s) of each police department, the extent to which other observers in or around the agencies perceive conditions and constraints differently is not known. In some cases survey and interview responses from the same individuals could be compared, and in other instances survey responses could be compared to interview responses from other officials in the same jurisdictions, and in such cases the responses were usually very similar. These comparisons provided only a limited check on reliability, however, and because many of the survey measures dealt with perceptions of loosely-defined conditions, other respondents might have provided different data. The perceptual nature of the measures also introduces validity issues, as it is difficult to specify, for example, the "true" importance of political factors in budgetary decision making. On the other hand, though, for the purposes of explaining manpower planning activity in police agencies, perceptions of the importance of such factors may be more salient than more objective measures. Validity may be a greater issue for the responses pertaining to current manpower planning data collection and activity in police departments. These survey responses can only be interpreted as the self-reported activity of police agencies, and their relation to real activity is now known. Normal survey research precautions

were taken to encourage candid and accurate responses, and some comparison with data collected from other sources was possible, but again validity cannot be fully assured.

A second limitation of the study is that it was focused only on the larger police agencies in the United States. With only a few exceptions, the survey and interview samples were restricted to police departments with at least 250 employees. As noted earlier, this is a very small portion of the police agencies in country, although the sample agencies employ almost one-half of all police protection employees in the nation. The extent to which the findings of the study apply to smaller police departments, and in particular to the numerous very small agencies, is not known.

It should also be noted that the interview sample of police agencies was somewhat biased in favor of departments with reputations for "doing something" in the area of manpower planning. Expert opinion was used to identify such agencies, and most were visited. Once general interview sites were selected, such as states or metropolitan regions, however, other police agencies than those recommended by the experts were also selected and visited. As a result, the interview sample of police departments consisted of some agencies purposively selected and others proximate to them. Thus, the sample was not randomly selected, and more "progressive" police agencies may have been overrepresented. The results of the mail survey generally supported the interview findings of considerable manpower-related activity in police agencies,

though. With respect to actual manpower planning, little was found in even those agencies with reputations and expert recognition.

Another shortcoming of the study is that it did not include a program evaluation component. Consequently, some information on the purposes of manpower planning is available, and police agencies that undertook more manpower planning reported being better able to attract and retain needed kinds of employees, but the actual outputs and effects of police manpower planning efforts were not determined. Because of this limitation, at present the desirability of doing manpower planning is largely an article of faith, with its effects only presumed.

The study also suffers from the lack of an in-depth analysis of the process of manpower-related decision making.¹⁰ The survey analysis provided information of a correlative nature, and the interviews provided some qualitative and elaborative information, but the processes by which conditions and constraints come to be defined and decisions are made whether to undertake manpower planning were not exhaustively studied. As a result, for example, the study suggests that police departments more constrained by union contracts undertake less manpower planning, but little information was collected about how such situations come about. The chain of events and antecedents to decisions and effects were not carefully studied, so that causal connections can only be tenuously suggested.

In addition, the study did not include a critical component. Some discussion of the role of manpower planning and its relationship to policy making was offered, but no detailed analysis of

who wins and who loses as a result of police manpower planning was conducted. Because of the clear political role filled by the police, a critical analysis of attempts to determine and achieve "right numbers and kinds of people doing the right things" would be an important supplement to this study.

Recommendations for Future Research

Several recommendations for future research follow directly from the preceding discussion of the limitations of this study. Information about how smaller police agencies reach manpower decisions, and about the conditions and constraints they face, would be useful. Substantial contributions could also be made by evaluative studies of particular manpower-related activities and of manpower planning systems. A number of conditions could in addition be measured more directly in future studies, easing the reliance on individual perceptions. For example, union contract provisions, civil service control, and equal employment pressure could be examined through the use of official records, perhaps in addition to individual perceptions of these constraints.

It would seem to be especially important to use a process approach to study manpower decision making and planning in-depth in at least a few sample police agencies. This would essentially involve a case study approach, with all its attendant problems, particularly with respect to generalizability. The process approach is needed, however, in order to gather detailed information about events, the time order among events, and precipitating or final

causes of decisions and policies.¹¹ This form of investigation does not eliminate the need for variance studies such as the present one, but it would provide very useful supplementary information.

Finally, it might be beneficial to study manpower planning as a form of innovation in police organizations. The present study was similar in some respects to the "organizational innovativeness" approach that has recently come under considerable criticism in the innovation literature.¹² Recent developments in that literature have stressed the need to focus on specific innovation-adoption decisions,¹³ innovations in relation to organizations,¹⁴ organizations in relation to their environments,¹⁵ innovation attributes,¹⁶ innovation modification,¹⁷ and diffusion milieus.¹⁸ Whereas the current study used an index of manpower planning activity as the dependent variable, future studies might focus on individual activities and decisions in police agencies whether to adopt them. Attributes of the individual activities, such as cost and complexity, could be included as independent variables. It would be important, though, to measure these attributes in relation to the police agencies, rather than absolutely. The cost of a manpower planning activity, for example, would have more meaning in relation to the slack resources available to a police department, than simply as measured in dollars and cents. It would also be useful in future research to study the modifications that manpower planning activities undergo following original implementation, and to account for decisions to disinnovate, or cease the utilization of manpower planning activities. In general, these new developments in the

methodology for studying innovations offer some interesting and promising avenues for future research into manpower planning in police organizations.

FOOTNOTES--CHAPTER VI

¹Richard M. Cyert and James G. March, A Behavioral Theory of the Firm (Englewood Cliffs, NJ: Prentice-Hall, 1963).

²See James Q. Wilson, Varieties of Police Behavior: The Management of Law and Order in Eight Communities (Cambridge, MA: Harvard University, 1968).

³See William E. Bright, "How One Company Manages Its Human Resources," Harvard Business Review (January-February 1976): 81-93. Also, one criminal justice agency visited as part of the study, a state-level juvenile services administration with several thousand employees, was found to have integrated training, organization development, career planning, assignment practices, and performance evaluations within a human resource management system. This was the one agency visited that seemed to have conceptualized and acted upon the interrelationships of the various manpower-related activities.

⁴This is suggested for the broader class of social agencies in Bruce S. Jansson and Samuel H. Taylor, "Search Activity in Social Agencies: Institutional Factors that Influence Policy Analysis," Social Service Review (June 1978): 189-201.

⁵See Wayne F. Cascio, Applied Psychology in Personnel Management (Reston, VA: Reston, 1978) or any of the many personnel administration textbooks and journals.

⁶Elmer H. Burack, Strategies for Manpower Planning and Programming (Morristown, NJ: General Learning Press, 1972), p. 63; John Bramham, Practical Manpower Planning (London: Institute of Personnel Management, 1975), p. 23; Bright, "How One Company Manages Its Human Resources," p. 92.

⁷For a complete discussion of discretion, authority, and related issues, see Herman Goldstein, Policing A Free Society (Cambridge, MA: Ballinger, 1977).

⁸George W. Greisinger, Jeffrey S. Slovak, and Joseph L. Molkup, Civil Service Systems: Their Impact on Police Administration (Washington, D.C.: Public Administration Service, 1979).

⁹Jack R. Greene, Tim Bynum, and Gary W. Cordner, "Environmental Influence on Decision Making in Criminal Justice Organizations," Paper presented at the Academy of Criminal Justice Sciences Annual Meeting, Oklahoma City, March 1980.

¹⁰Lawrence B. Mohr, "Process Theory and Variance Theory in Innovation Research," in The Diffusion of Innovations: An Assessment, eds. Michael Radnor, Irwin Feller, and Everett Rogers (Evanston, IL: Northwestern University Center for the Interdisciplinary Study of Science and Technology, 1978).

¹¹Mohr, "Process Theory and Variance Theory in Innovation Research."

¹²George W. Downs, Jr. and Lawrence B. Mohr, "Conceptual Issues in the Study of Innovation," Administrative Science Quarterly 21 (December 1976): 700-714.

¹³Downs and Mohr, "Conceptual Issues in the Study of Innovation."

¹⁴Gerald Zaltman, Robert Duncan, and Jonny Holbek, Innovations and Organizations (New York: John Wiley, 1973).

¹⁵Irwin Feller and Donald C. Menzel, "Diffusion Milieus as a Focus of Research on Innovation in the Public Sector," Policy Sciences 8 (1977): 49-68.

¹⁶Kenneth E. Warner, "The Need for Some Innovative Concepts of Innovation: An Examination of Research on the Diffusion of Innovations," Policy Sciences 5 (1974): 433-451.

¹⁷Everett M. Rogers, "Re-Invention During the Innovation Process," in The Diffusion of Innovations: An Assessment, eds. Michael Radnor, Irwin Feller, and Everett Rogers (Evanston, IL: Northwestern University Center for the Interdisciplinary Study of Science and Technology, 1978).

¹⁸Feller and Menzel, "Diffusion Milieus as a Focus of Research on Innovation in the Public Sector."

BIBLIOGRAPHY

BIBLIOGRAPHY

- Alexander, Christopher. Notes on the Synthesis of Form. Cambridge, MA: Harvard University, 1964.
- American Bar Association Project on Standards for Criminal Justice. The Urban Police Function. New York: American Bar Association, 1973.
- Anderson, David C. "Management Moves in on the Detective." Police Magazine (March 1978): 4-13.
- Anthony, Robert N. Planning and Control Systems: A Framework for Analysis. Cambridge, MA: Harvard University, 1965.
- Arrow, Kenneth J. Social Choice and Individual Values. New York: John Wiley and Sons, 1951.
- Ashburn, Franklin G. "A New Dilemma in Police Planning and Research." The Police Chief (May 1969): 42-47.
- Ashby, John; LeFrande, James L.; and Galvin, Raymond T. "The Nature of the Planning Process." Law Enforcement Planning. Washington, DC: Government Printing Office, 1968. As reprinted in Harry W. More, ed. Effective Police Administration. San Jose, CA: Justice Systems Development, 1975.
- Babbie, Earl R. The Practice of Social Research. 2nd ed. Belmont, CA: Wadsworth, 1979.
- Banfield, Edward C. "Ends and Means in Planning." International Social Science Journal 11 (1959): 361-368.
- Banton, Michael. The Policeman in the Community. New York: Basic Books, 1964.
- Bartholemew, D. J., ed. Manpower Planning. Middlesex, England: Penguin, 1976.
- Bartholemew, D. J., and Morris, B. R., eds. Aspects of Manpower Planning. London: The English Universities Press, 1971.

- Bartholemew, D. J., and Smith, A. R., eds. Manpower and Management Science. Lexington, MA: D. C. Heath, 1971.
- Bartlett, Randall. Economic Foundations of Political Power. New York: Free Press, 1973.
- Baum, Howell S. "Toward a Post-Industrial Planning Theory." Policy Sciences 8 (1977): 401-421.
- Beckman, Norman. "The Planner as Bureaucrat." Journal of the American Institute of Planners 32 (November 1964): 323-327.
- Bell, David J. "Manpower in Corporate Planning." Long Range Planning 9 (April 1976): 31-37.
- Bernstein, Richard J. The Restructuring of Social and Political Theory. New York: Harcourt Brace Jovanovich, 1976.
- Bittner, Egon. The Functions of the Police in Modern Society. Washington, DC: Government Printing Office, 1970.
- Bolan, Richard S. "Emerging Views of Planning." Journal of the American Institute of Planners 35 (July 1967): 233-245.
- _____. "Mapping the Planning Theory Terrain." Urban and Social Change Review 8, 2 (1975): 35-43.
- Bopp, William J. Police Personnel Administration. Boston: Holbrook, 1974.
- Bottoms, Albert M. and the Operations Research Task Force. Allocations of Resources in the Chicago Police Department. Washington, DC: Law Enforcement Assistance Administration, 1975.
- Bouza, Anthony V. Police Administration: Organization and Performance. New York: Pergamon Press, 1978.
- Boydston, John E. San Diego Field Interrogation: Final Report. Washington, DC: Police Foundation, 1975.
- Bramham, John. Practical Manpower Planning. London: Institute of Personnel Management, 1975.
- Braybrooke, David, and Lindblom, Charles E. A Strategy of Decision. New York: Free Press, 1963.
- Brenner, Robert N., and Duncan, J. T. Police Job-Task Analysis: An Overview. Washington, DC: Law Enforcement Assistance Administration, 1978.

- Bright, William E. "How One Company Manages Its Human Resources." Harvard Business Review (January-February 1976): 81-93.
- Burack, Elmer H., and McNichols, Thomas J. Management and Automation. Washington, DC: U.S. Department of Labor, Manpower Administration, 1968.
- Burack, Elmer H. Strategies for Manpower Planning and Programming. Morristown, NJ: General Learning Press, 1972.
- Burpo, John H. Police Unions in the Civil Service Setting. Washington, DC: Public Administration Service, 1979.
- Butler, Howard S. "Is Research and Planning Necessary." Law & Order (March 1970): 73.
- Carmines, Edward G., and Zeller, Richard A. Reliability and Validity Assessment. Beverly Hills, CA: Sage, 1979.
- Cascio, Wayne F. Applied Psychology in Personnel Management. Reston, VA: Reston, 1978.
- Cawley, Donald F., and Miron, H. Jerome. Managing Patrol Operations: Manual. Washington, DC: Government Printing Office, 1977.
- Cawley, Donald F.; Miron, H. Jerome; Araujo, William J.; Wasserman, Robert; Mannello, Timothy A.; and Huffman, Yale. Managing Criminal Investigations: Manual. Washington, DC: Government Printing Office, 1977.
- Cawley, Donald F. "Managers Can Make a Difference." In The Future of Policing. Edited by Alvin W. Cohn. Beverly Hills, CA: Sage, 1978.
- Chaiken, J.; Crabill, T.; Holliday, L.; Jacquette, D.; Lawless, M.; and Quade, E. Criminal Justice Models: An Overview. Washington, DC: Government Printing Office, 1976.
- Chaiken, Jan M. Patrol Allocation Methodology for Police Departments. Washington, DC: Government Printing Office, 1977.
- Churchman, C. West. The Systems Approach. New York: Dell, 1968.
- Cizancas, Victor I., and Hanna, Donald G. Modern Police Management and Organization. Englewood Cliffs, NJ: Prentice-Hall, 1977.
- Clough, D. J.; Lewis, C. C.; and Oliver, A. L., eds. Manpower Planning Models. London: The English Universities Press, 1974.

- Cohen, Bernard. "A Police Career Path Management Appraisal System." The Police Chief (March 1975): 62-65.
- Cohen, David K., and Garet, Michael S. "Reforming Educational Policy with Applied Social Research." Harvard Educational Review 45, 1 (February 1975): 17-43.
- Cook, Thomas D., and Gruder, Charles L. "Metaevaluation Research." Evaluation Quarterly 2, 1 (February 1978): 5-51.
- Cook, Thomas D., and Campbell, Donald T. Quasi-Experimentation. Chicago: Rand McNally, 1979.
- Cordner, Gary W. "Open and Closed Models of Police Organizations: Traditions, Dilemmas, and Practical Considerations." Journal of Police Science and Administration 6, 1 (March 1978): 22-34.
- . "Job Analysis and the Police: Benefits and Limitations." Journal of Police Science and Administration (forthcoming).
- Craig, Glen. "Command Management Planning." The Police Chief (January 1978): 20-21.
- Cronbach, L. J. "Coefficient Alpha and the Internal Structure of Tests." Psychometrika 16 (1951): 297-334.
- Crozier, Michel, and Thoenig, Jean-Claude. "The Regulation of Complex Organized Systems." Administrative Science Quarterly (December 1976): 547-570.
- Cyert, Richard M., and March, James G. A Behavioral Theory of the Firm. Englewood Cliffs, NJ: Prentice-Hall, 1963.
- Dahl, Robert A. "The Politics of Planning." International Social Science Journal 11 (1959): 340-350.
- Dakin, John. "An Evaluation of the 'Choice' Theory of Planning." Journal of the American Institute of Planners (February 1963): 19-27.
- Davidoff, Paul, and Reiner, Thomas A. "A Choice Theory of Planning." Journal of the American Institute of Planners (May 1962): 103-115.
- Dill, William R. "Environment as an Influence on Managerial Autonomy." Administrative Science Quarterly 2 (March 1958): 409-443.

- Dimick, David E., and Murray, Victor V. "Correlates of Substantive Policy Decisions in Organizations: The Case of Human Resource Management." Academy of Management Journal 21, 4 (December 1978): 611-623.
- Dimitriou, Basil. "The Interpenetration of Politics and Planning." Socio-Economic Planning Sciences 7 (1973): 55-65.
- Downs, Anthony. Inside Bureaucracy. Boston: Little, Brown, 1967.
- Downs, George W., Jr., and Mohr, Lawrence B. "Conceptual Issues in the Study of Innovation." Administrative Science Quarterly 21 (December 1976): 700-714.
- Drandell, M. "A Composite Forecasting Methodology for Manpower Planning Utilizing Objective and Subjective Criteria." Academy of Management Journal 18 (1975): 510-519.
- Dror, Yehezkel. "The Planning Process: A Facet Design." International Review of Administrative Sciences 29, 1 (1963): 46-58.
- Drummond, Douglas S. Police Culture. Beverly Hills, CA: Sage, 1976.
- Dyckman, John W. "Planning and Decision Theory." Journal of the American Institute of Planners 29 (1961): 335-345.
- _____. "New Normative Styles in Urban Studies." Public Administration Review 31, 3 (May/June 1971): 327-334.
- Eddison, Tony. Local Government: Management and Corporate Planning. New York: Harper & Row, 1973.
- Eisenberg, Terry; Kent, Deborah Ann; and Wall, Charles R. Police Personnel Practices in State and Local Governments. Washington, DC: Police Foundation, 1973.
- Elbert, Norbert F., and Kehoe, William J. "How to Bridge Fact and Theory in Manpower Planning." Personnel (November-December 1976): 31-39.
- Emshoff, James R. "Planning the Process of Improving the Planning Process: A Case Study in Meta-Planning." Management Science 24, 11 (July 1978): 1095-1108.
- Etzioni, Amitai. "Mixed-Scanning: A 'Third' Approach to Decision Making." Public Administration Review 27 (December 1967): 385-392.

- Evan, William M. "The Organization-Set: Toward a Theory of Inter-organizational Relations." In Approaches to Organizational Design. Edited by James D. Thompson. Pittsburgh: University of Pittsburgh, 1966.
- Ewing, David W. Long Range Planning for Management. New York: Harper & Row, 1964.
- Fainstein, Susan S., and Fainstein, Norman I. "City Planning and Political Values." Urban Affairs Quarterly 6 (March 1971): 341-362.
- Faludi, Andreas. "The Planning Environment and the Meaning of Planning." Regional Studies 4 (1970): 1-9.
- _____. "The 'Systems View' and Planning Theory." Socio-Economic Planning Sciences 7 (1973): 67-77.
- Farmer, David J. "The Future of Local Law Enforcement in the United States." Police Studies 1, 2 (June 1978).
- _____. "The Research 'Revolution.'" Police Magazine (November 1978): 64.
- Favreau, Donald F., and Gillespie, Joseph E. Modern Police Administration. Englewood Cliffs, NJ: Prentice-Hall, 1978.
- Felkenes, George T. "Police Planning: A Stimulus for Needed Organizational Change." Police (June 1972): 24-27.
- Feller, Irwin, and Menzel, Donald C. "Diffusion Milieus as a Focus of Research on Innovation in the Public Sector." Policy Sciences 8 (1977): 49-68.
- Friedmann, John. "The Study and Practice of Planning." International Social Science Journal 11 (1959): 327-339.
- _____. "A Conceptual Model for the Analysis of Planning Behavior." Administrative Science Quarterly (1967): 225-252.
- Friedmann, John, and Hudson, Barclay. "Knowledge and Action: A Guide to Planning Theory." Journal of the American Institute of Planners 42 (January 1974): 2-16.
- Gallas, Nesta M. "Research Needs." In Police Personnel Administration. Edited by O. Glenn Stahl and Richard A. Staufenberger. Washington, DC.: Police Foundation, 1974.

- Galvin, Raymond T., and LeGrande, J. L. "Planning and Research." In Municipal Police Administration. Edited by George D. Eastman and Esther M. Eastman. Washington, DC: International City Management Association, 1971.
- Gamm, Larry. "Planning in Administration." Policy Studies Journal (Autumn 1976): 70-80.
- Gay, William G.; Day, H. Talmadge; and Woodward, Jane P. National Evaluation Program: Neighborhood Team Policing. Washington, DC: Government Printing Office, 1977.
- Germann, A. C. "Police Planning and Research as it Effects Police-Community Relations." Police (January-February 1962): 36-39.
- Getter, Russell W., and Elliott, Nick. "Receptivity of Local Elites Toward Planning." Journal of the American Institute of Planners 42 (1976): 87-95.
- Gillespie, J. F.; Leininger, W. E.; and Kahalas, H. "A Human Resource Planning and Valuation Model." Academy of Management Journal 19 (1976): 650-656.
- Glazer, Nathan, and Moynihan, Daniel P. Beyond the Melting Pot. Cambridge, MA: M.I.T. and Harvard University, 1964.
- Goldstein, Herman. "Governmental Setting for Police Work." In Municipal Police Administration. Edited by George D. Eastman and Esther M. Eastman. Washington, DC: International City Management Association, 1971.
- _____. Policing a Free Society. Cambridge, MA: Ballinger, 1977.
- Graham, H. H. "Manpower Development in the Ontario Provincial Police." The Police Chief (August 1976): 30-35.
- _____. "Ontario Provincial Police Promotional Process." The Police Chief (January 1978): 47-51.
- Grassie, Richard G., and Crowe, Timothy D. Integrated Criminal Apprehension Program: Program Implementation Guide. Washington, DC: Law Enforcement Assistance Administration, 1978.
- Greenberg, David F. Mathematical Criminology. New Brunswick, NJ: Rutgers University, 1979.

- Greenberg, Reuben M. "The Need for and Uses of Research and Planning." Law & Order (December 1978): 34-41.
- Greene, Jack R.; Bynum, Tim; and Cordner, Gary W. "Environmental Influence on Decision Making in Criminal Justice Organizations." Paper presented at the Academy of Criminal Justice Sciences Annual Meeting, Oklahoma City, March 1980.
- Greenwood, Peter W., and Petersilia, Joan. The Criminal Investigation Process Volume I: Summary and Policy Implications. Santa Monica, CA: RAND Corporation, 1975.
- Greisinger, George W.; Slovak, Jeffrey S.; and Molkup, Joseph L. Police Personnel Practices in Forty-Two American Cities. Washington, DC: Public Administration Service, 1978.
- _____. Civil Service Systems: Their Impact on Police Administration. Washington, DC: Public Administration Service, 1979.
- Gringer, Peter H. "The Anatomy of Business Strategic Planning Reconsidered." The Journal of Management Studies (May 1971): 199-212.
- Guyot, Dorothy. "Planning Begins with Problem Identification." Journal of Police Science and Administration 5, 3 (September 1977): 324-336.
- _____. "Bending Granite: Attempts to Change the Rank Structure of American Police Departments." Journal of Police Science and Administration 7, 3 (September 1979): 253-284.
- Habermas, Jurgen. Theory and Practice. Boston: Beacon, 1973.
- _____. Communication and the Evolution of Society. Boston: Beacon, 1979.
- Hale, Charles D. Fundamentals of Police Administration. Boston: Holbrook, 1977.
- Hall, Richard H. Organizations: Structure and Process. 2nd ed. Englewood Cliffs, NJ: Prentice-Hall, 1977.
- Handler, A. Benjamin. "What is Planning Theory?" Journal of the American Institute of Planners 3 (1957): 144-150.
- Harris, Britton. "Plan or Projection: An Examination of the Use of Models in Planning." Journal of the American Institute of Planners 26, 4 (November 1960): 265-272.

- Heaphy, John F., ed. Police Practices: The General Administrative Survey. Washington, DC: Police Foundation, 1978.
- _____. "The Future of Police Improvement." In The Future of Policing. Edited by Alvin W. Cohn. Beverly Hills, CA: Sage, 1978.
- Heisel, W. Donald, and Murphy, Patrick V. "Organization for Police Personnel Management." In Police Personnel Administration. Edited by O. Glenn Stahl and Richard A. Staufenberger. Washington, DC: Police Foundation, 1974.
- Heneman, Herbert G., and Seltzer, George. Manpower Planning and Forecasting in the Firm: An Exploratory Probe. University of Minnesota, Industrial Relations Center, 1968.
- Hill, Kim Quaile, and Coomer, James C. "Local Politicians and Their Attitudes to Planning." Long Range Planning 10 (December 1977): 57-61.
- Hoffman, W. H., and Wyatt, L. L. "Human Resource Planning." The Personnel Administrator 22 (1977): 19-23.
- Hoover, Larry T. "Planning-Programming-Budgeting Systems: Problems of Implementation for Police Management." Journal of Police Science and Administration 2, 1 (March 1974): 82-93.
- Hoy, Vernon L. "Research and Planning." In Local Government Police Management. Edited by Bernard L. Garmire. Washington, DC: International City Management Association, 1977.
- Hughes, D. B. "Introduction." In Aspects of Manpower Planning. Edited by D. J. Bartholemew and B. R. Morris. London: The English Universities Press, 1971.
- Hume, David. A Treatise of Human Nature. As reported in Logic. 2nd ed. By Wesley C. Salmon. Englewood Cliffs, NJ: Prentice-Hall, 1973.
- Jansson, Bruce S., and Taylor, Samuel H. "Search Activity in Social Agencies: Institutional Factors that Influence Policy Analysis." Social Service Review (June 1978): 189-201.
- Jones, Clinton B. "Critical Equal Employment Issues in Criminal Justice." Journal of Police Science and Administration 7, 2 (June 1979): 129-137.

- Jones, Gareth; Bell, David; Center, Alexander; and Coleman, David. Perspectives in Manpower Planning. London: Institute of Personnel Management, 1967.
- Kaplan, Abraham. "On the Strategy of Social Planning." Policy Sciences 4 (1973): 41-61.
- Katz, Daniel. "Field Studies." In Research Methods in the Behavioral Sciences. By Leon Festinger and Daniel Katz. New York: Holt, Rinehart, and Winston, 1953.
- Kelling, George L., Tony Pate, Duane Dieckman, and Charles E. Brown. The Kansas City Preventive Patrol Experiment: A Summary Report. Washington, DC: Police Foundation, 1974.
- Kenney, John P. Police Management Planning. Springfield, IL: Charles C Thomas, 1959.
- Kent, Deborah Ann, and Eisenberg, Terry. "The Selection and Promotion of Police Officers: A Selected Review of Recent Literature." The Police Chief (February 1972): 20-29.
- Kerlinger, Fred N. Foundations of Behavioral Research. 2nd ed. New York: Holt, Rinehart, and Winston, 1973.
- Kerlinger, Fred N., and Pedhazur, Elazar J. Multiple Regression in Behavioral Research. New York: Holt, Rinehart, and Winston, 1973.
- Key, Charles L., and Warren, Miles R. "Kansas City: Long-Range Planning Program." The Police Chief (May 1972): 72-75.
- Klosterman, Richard E. "Foundations for Normative Planning." Journal of the American Institute of Planners 44, 1 (January 1978): 37-46.
- Kmenta, Jan. Elements of Econometrics. New York: Macmillan, 1971.
- Kohlan, Richard G. "Police Promotional Procedures in Fifteen Jurisdictions." Public Personnel Management (May-June 1973): 167-170.
- Koontz, Harold, and O'Donnell, Cyril. Principles of Management. 4th ed. New York: McGraw-Hill, 1968.
- Krajick, Kevin. "Does Patrol Prevent Crime." Police Magazine (September 1978): 4-16.

- Kuykendall, Jack L., and Unsinger, Peter C. Community Police Administration. Chicago: Nelson-Hall, 1975.
- Larson, Richard C., ed. "Police Deployment." Management Science 24, 12 (August 1978): 1278-1327.
- Lasserre, Ph. "Planning Through Incrementalism." Socio-Economic Planning Sciences 8 (1974): 129-134.
- "LEAA May Be the Big Loser in President's Inflation Fight." Law Enforcement News 6, 6 (March 24, 1980): 1, 13.
- Leahy, Frank J., et al. A Literature Review of Police Planning and Research. Hartford, CT: Interim Report to the Connecticut Research Commission, Hartford, Travelers Research Center, October 1968.
- Lefkowitz, J. "Industrial-Organizational Psychology and the Police." American Psychologist 32 (1977).
- Leonard, V. A., and More, Harry W. Police Organization and Management. 5th ed. Mineola, NY: Foundation Press, 1978.
- Letter, Michael D. "Planning and Evaluation Under Neighborhood Team Policing." The Police Chief (March 1977): 57-60.
- Levine, James P. "The Ineffectiveness of Adding Police to Prevent Crime." Public Policy 23, 4 (Fall 1975): 523-545.
- Lewis, Joseph H. "Evaluation of Experiments in Policing." Evaluation Quarterly 2, 2 (May 1978): 315-330.
- Lewis, Ralph G., and Greene, Jack R. "Implementation Evaluation: A Future Direction in Project Evaluation." Journal of Criminal Justice 6, 2 (Summer 1978): 167-176.
- Lindblom, Charles E. "The Science of 'Muddling Through.'" Public Administration Review 19 (1959): 79-99.
- Linneman, Robert E., and Kennell, John D. "Shirt-Sleeve Approach to Long-Range Plans." Harvard Business Review (March-April 1977): 141-150.
- Lorange, Peter, and Vancil, Richard F. "How to Design a Strategic Planning System." Harvard Business Review (September-October 1976): 75-81.
- Lowry, Ira A. "A Short Course in Model Design." Journal of the American Institute of Planners 31, 2 (May 1965): 158-166.

- Lubans, Valdis, and Dart, Richard F. A Career Ladder Study for the Portsmouth Police Department. Hartford, CT: Social Development Corporation, 1976.
- Lyden, Fremont J., and Miller, Ernest G., eds. Planning-Programming-Budgeting. 2nd ed. Chicago: Rand McNally, 1972.
- Mannheim, Karl. Man and Society in an Age of Reconstruction. New York: Harcourt, Brace, 1949.
- March, James G., and Simon, Herbert A. Organizations. New York: John Wiley, 1958.
- Marks, Maurice. "Organizational Adjustment to Uncertainty." The Journal of Management Studies 14, 1 (1977): 1-7.
- Mayer, Robert R. "Social System Models for Planners." Journal of the American Institute of Planners 38, 3 (May 1972): 130-139.
- McCreedy, Kenneth R. "The Changing Nature of Police Management: Theory in Transition." In The Future of Policing. Edited by Alvin W. Cohn. Beverly Hills, CA: Sage, 1978.
- McDonnell, Richard E. "Planning and Research Functions." The Police Chief (September 1962): 22.
- McNamara, John H. "Uncertainties in Police Work: The Relevance of Police Recruits' Backgrounds and Training." In The Police: Six Sociological Essays. Edited by David J. Bordua. New York: John Wiley and Sons, 1967.
- Milton, Catherine H. "The Future of Women in Policing." In The Future of Policing. Edited by Alvin W. Cohn. Beverly Hills, CA: Sage, 1978.
- Mitroff, Ian L.; Barabba, Vincent P.; and Kilmann, Ralph H. "The Application of Behavioral and Philosophical Technologist to Strategic Planning: A Case Study of a Large Federal Agency." Management Science 24, 1 (September 1977): 44-58.
- Mockler, Robert J. Business Planning and Police Formulation. New York: Appleton-Century-Crofts, 1972.
- Mohr, Lawrence B. "Process Theory and Variance Theory in Innovation Research." In The Diffusion of Innovations: An Assessment. Edited by Michael Radnor, Irwin Feller, and Everett Rogers. Evanston, IL: Northwestern University Center for the Interdisciplinary Study of Science and Technology, 1978.

- Moore, Terry. "Why Allow Planners to Do What They Do? A Justification from Economic Theory." Journal of the American Institute of Planners 44, 4 (October 1978): 387-398.
- Morris, B. R. "An Appreciation of Manpower Planning." Organization and Methods Bulletin 25 (1970): 1-8.
- Munro, Jim L. Administrative Behavior and Police Organization. Cincinnati, OH: W. H. Anderson, 1974.
- Murphy, Patrick V., and Plate, Thomas. Commissioner: A View From the Top of American Law Enforcement. New York: Simon and Schuster, 1977.
- National Advisory Commission on Criminal Justice Standards and Goals. Police. Washington, DC: Government Printing Office, 1973.
- National Advisory Committee on Criminal Justice Standards and Goals. Police Chief Executive. Washington, DC: Government Printing Office, 1976.
- National Sheriff's Association. County Law Enforcement: An Assessment of Capabilities and Needs. Washington, DC: National Sheriff's Association, 1978.
- Nie, Norman H.; Hull, C. Hadlai; Jenkins, Jean G.; Steinbrenner, Karin; and Bent, Dale H. Statistical Package for the Social Sciences. 2nd ed. New York: McGraw-Hill, 1975.
- Niederhoffer, Arthur. Behind the Shield: The Police in Urban Society. New York: Doubleday, 1967.
- Nunnally, Jum C. Psychometric Theory. 2nd ed. New York: McGraw-Hill, 1978.
- O'Brien, John T. "Planning Programming Budgeting in the Police Department of the City of New York." Police (May-June 1971): 51-54.
- O'Neill, Michael E. "A Program Planning Budget System: An Impetus for Change in a Police Organization." Police (September 1971): 50-51.
- Owens, Russell B., and Slade, Gene. "Crime Specific Planning." The Police Chief (January 1975): 45-47.
- Pate, Tony; Ferrara, Amy; Bowers, Robert A.; and Lorence, Jon. Police Response Time: Its Determinants and Effects. Washington, DC: Police Foundation, 1976.

- Patten, Thomas H., Jr. Manpower Planning and the Development of Human Resources. New York: John Wiley and Sons, 1971.
- Pence, Gary. "Program Planning Budgeting System." The Police Chief (July 1971): 52-57.
- Pitchess, Peter J. "Career Development for Professional Law Enforcement." Police (September-October 1970): 5-10.
- _____. Career Development for Law Enforcement. Washington, DC: Law Enforcement Assistance Administration, 1973.
- Poland, James M. "Police Selection Methods and the Prediction of Police Performance." Journal of Police Science and Administration 6, 4 (December 1978): 374-393.
- Pomeroy, Wesley A. "New Trends in Police Planning." The Police Chief (February 1971): 16-21.
- Popper, Karl R. The Open Society and Its Enemies. London: Routledge and Kegan Paul, 1945.
- President's Commission on Law Enforcement and Administration of Justice. Task Force Report: Science and Technology. Washington, DC: Government Printing Office, 1967.
- _____. Task Force Report: The Police. Washington, DC: Government Printing Office, 1967.
- _____. The Challenge of Crime in a Free Society. New York: Avon Books, 1968.
- Rabinovitz, Francine F. "Politics, Personality and Planning." Public Administration Review 27, 1 (1967): 18-24.
- Ray, Ketih. "Managerial Manpower Planning: A Systematic Approach." Long Range Planning 10 (April 1977): 21-30.
- Reams, Ronald; Kuykendall, Jack; and Burns, David. "Police Management Systems: What is an Appropriate Model?" Journal of Police Science and Administration 3, 4 (December 1975): 475-481.
- Rein, Martin, and White, Sheldon H. "Policy Research: Belief and Doubt." Policy Analysis 3 (Spring 1977): 239-271.
- Rein, Martin. Social Science and Public Policy. Middlesex, England: Penguin, 1976.

- Ring, Peter S., and Dyson, Frank. "Human Resource Planning." In Police Personnel Administration. Edited by O. Glenn Stahl and Richard A. Staufenberger. Washington, DC: Police Foundation, 1974.
- Rittel, Horst W. J., and Webber, Melvin M. "Dilemmas in a General Theory of Planning." Policy Sciences 4 (1973): 155-169.
- Rogers, Everett M. "Re-Invention During the Innovation Process." in The Diffusion of Innovations: An Assessment. Edited by Michael Radnor, Irwin Feller, and Everett Rogers. Evanston, IL: Northwestern University Center for the Interdisciplinary Study of Science and Technology, 1978.
- Rosenberg, Morris. The Logic of Survey Analysis. New York: Basic Books, 1968.
- Rynecki, Steven A.; Cairns, Douglas A.; and Cairns, Donald J. Police Collective Bargaining Agreements: A National Management Survey. Washington, DC: Police Executive Research Forum, 1978.
- Saunders, Charles B. Upgrading the American Police: Education and Training for Better Law Enforcement. Washington, DC: Brookings Institution, 1970.
- Savas, E. S. "New Directions for Urban Analysis." Interfaces 6, 1 (November 1975).
- Schell, Theodore H.; Overly, Don H.; Schack, Stephen; and Stabile, Linda L. National Evaluation Program: Traditional Preventive Patrol. Washington, DC: Government Printing Office, 1976.
- School of Police Administration and Public Safety, Michigan State University. "Training Bulletins for Planning and Research Units in Medium Sized Police Departments." Washington, DC: Law Enforcement Assistance Administration, 1968.
- Schwartz, Alfred I., and Clarren, Sumner N. The Cincinnati Team Policing Experiment: A Summary Report. Washington, DC: Police Foundation, 1977.
- Seeley, John R. "What is Planning? Definition and Strategy." Journal of the American Institute of Planners 28, 2 (May 1962): 91-97.
- Shanahan, Gerald W.; Hunger, J. David; and Wheelen, Thomas L. "Organizational Profile of Police Agencies in the United States." Journal of Police Science and Administration 7, 3 (September 1979): 354-360.

- Sheehan, Robert, and Cordner, Gary W. Introduction to Police Administration. Reading, MA: Addison-Wesley, 1979.
- Sheppard, David I., and Glickman, Albert S. "Development of a Model Police Career Path System." In Innovation in Law Enforcement. Washington, DC: Government Printing Office, 1973.
- Sherman, Lawrence W.; Milton, Catherine H.; and Kelly, Thomas V. Team Policing: Seven Case Studies. Washington, DC: Police Foundation, 1973.
- Sherman, Lawrence and the National Advisory Commission on Higher Education for Police Officers. The Quality of Police Education. San Francisco: Jossey-Bass, 1978.
- Simon, Herbert A. "Decision Making and Planning." In Planning and the Urban Community. Edited by Harvey Perloff. Pittsburgh: University of Pittsburgh, 1961.
- _____. "On the Concept of Organizational Goal." Administrative Science Quarterly 9 (1964): 1-22.
- _____. The Sciences of the Artificial. Cambridge, MA: Massachusetts Institute of Technology, 1969.
- _____. Administrative Behavior. 3rd ed. New York: Free Press, 1976.
- Sisson, Roger L. "How Did We Ever Make Decisions Before the Systems Approach?" Socio-Economic Planning Sciences 6 (1972): 523-529.
- Skjei, Stephen S. "Urban Problems and the Theoretical Justification of Urban Planning." Urban Affairs Quarterly 11, 3 (1976): 323-344.
- Smith, A. R., ed. Models of Manpower Systems. London: The English Universities Press, 1970.
- _____. "Developments in Manpower Planning." Personnel Review 1 (1971): 44-54.
- _____. "Some Views on Manpower Planning." In Manpower Planning. Edited by D. J. Bartholemew. Middlesex, England: Penguin, 1976.
- Stahl, O. Glenn, and Staufenberger, Richard A., eds. Police Personnel Administration. Washington, DC: Police Foundation, 1974.

- Stainer, Gareth. Manpower Planning: The Management of Human Resources. London: Heinemann, 1971.
- Starbuck, William H. "Organizations and Their Environments." In Handbook of Industrial and Organizational Psychology. Edited by Marvin D. Dunnette. Chicago: Rand McNally, 1976.
- The National Manpower Survey of the Criminal Justice System: Volume Two Law Enforcement. Washington, DC: Law Enforcement Assistance Administration, 1978.
- Thompson, James D. Organizations in Action. New York: McGraw-Hill, 1967.
- Tielsch, George P. "Planning Training." The Police Chief (July 1978): 28-29.
- U.S. Department of Justice, Law Enforcement Assistance Administration, and U.S. Bureau of the Census. Expenditure and Employment Data for the Criminal Justice System: 1976. Washington, DC: Government Printing Office, 1978.
- _____. Trends in Expenditure and Employment Data for the Criminal Justice System: 1971-1976. Washington, DC: Government Printing Office, 1978.
- Von Hayek, Friedrich A. The Road to Serfdom. London: George Routledge and Sons, 1944.
- Waldron, Ronald J.; and Altemose, John R. "Determining and Defending Personnel Needs in Criminal Justice Organizations." Public Administration Review 39, 4 (July/August 1979): 385-389.
- Walker, James W. "Manpower Planning in Organizations: A Working Paper." Bloomington, IN: Indiana University, 1968.
- _____. "Forecasting Manpower Needs." Harvard Business Review 47 (1969): 152-164.
- _____. "Evaluating the Practical Effectiveness of Human Resource Planning Applications." Human Resource Management 13 (1974): 19-27.
- Warner, Kenneth E. "The Need for Some Innovative Concepts of Innovation: An Examination of Research on the Diffusion of Innovations." Policy Sciences 5 (1974): 433-451.

- Wasserman, Robert. "The Governmental Setting." In Local Government Police Management. Edited by Bernard L. Garmire. Washington, DC: International City Management Association,
- Weidenbaum, Murray L., and Rozet, A. Bruce. Potential Industrial Adjustments to Shifts in Defense Spending. Menlo Park, CA: Stanford Research Institute, 1963.
- Weidenbaum, Murray, and Rockwood, Linda. "Corporate Planning versus Government Planning." The Public Interest 46 (Winter 1977): 59-72.
- Weston, Paul B. Police Organization & Management. Pacific Palisades, CA: Goodyear, 1976.
- Whisenand, Paul M., and Ferguson, R. Fred. The Managing of Police Organizations. 2nd ed. Englewood Cliffs, NJ: Prentice-Hall, 1978.
- White, Ben. "Proceedings of the Tenth Annual Research Conference on Manpower Planning and Forecasting." University of California, Institute of Industrial Relations, 1967.
- Wildavsky, Aaron. The Politics of the Budgetary Process. Boston: Little, Brown, 1964.
- _____. "If Planning is Everything, Maybe It's Nothing." Policy Sciences 4 (1973): 127-153.
- Wilson, A. T. M. "Basic Assumptions in Manpower Planning." In Manpower Planning. Edited by D. J. Bartholemew. Middlesex, England: Penguin, 1976.
- Wilson, James Q. "Dilemmas of Police Administration." Public Administration Review (September/October 1968): 407-417.
- _____. Varieties of Police Behavior: The Management of Law and Order in Eight Communities. Cambridge, MA: Harvard University, 1968.
- Wilson, Rob. "Proposition 13: Coping with the Taxpayer's Revolt." Police Magazine (March 1979): 49-53.
- Wilson, O. W. Police Planning. 2nd ed. Springfield, IL: Charles C Thomas, 1957.
- Wilson, O. W., and McLaren, Roy C. Police Administration. 4th ed. New York: McGraw-Hill, 1977.

- Wiseman, C. "Selection of Major Planning Issues." Policy Sciences 9 (1978): 71-86.
- Wolensky, Robert P., and Groves, David L. "Planning in the Smaller City: Major Problems and a Possible Solution." Socio-Economic Planning Sciences 11 (1977): 37-41.
- Wootten, Barbara. Freedom under Planning. Chapel Hill, NC: University of North Carolina, 1945.
- Wycoff, Mary Ann, and Kelling, George L. The Dallas Experience: Organizational Reform. Washington, DC: Police Foundation, 1978.
- Zaltman, Gerald; Duncan, Robert; and Holbek, Jonny. Innovations and Organizations. New York: John Wiley, 1973.
- Zurawski, James J., and Brooks, Edward C. "Planning: The Dynamics of Police Administration." FBI Law Enforcement Bulletin (June 1975): 2-6.