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6-13-83

A PROGRAM OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH AND

DEVELOPMENT AS APPLIED TO

SELECTED URBAN CONNECTICUT POLICE AGENCIES

PART I: Interim report to the Connecticut Research Commission:
            A literature review of police planning and research

PART II: A recommended crime and incident, and arrest recording
            system for the Hartford Police Department

PART III: Records systems procedures manual for the youth services
            division of the New Haven Police Department

VOLUME II
(of 2 volumes)

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Frank J. Leahy, Jr.

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THE TRAVELERS RESEARCH CORPORATION

250 Constitution Plaza / Hartford, Connecticut 06103   203 277-0133

TRC

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December 1969
TRC-7642-382b

THE TRAVELERS RESEARCH CORPORATION

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PREFACE

This is Volume II (of two volumes), A Program of Scientific and Technological Research and Development as Applied to Selected Urban Connecticut Police Agencies. Volume II contains three parts, each of which was a major report produced during the program.

● Part I contains the Interim Report of Research to the Connecticut Research Commission entitled: <u>A Literature Review of Police Planning and Research</u>.

● Part II is a project report to the Hartford Police Department entitled: <u>A Recommended Crime and Incident and Arrest Recording System</u>.

● Part III is another project report: <u>Records System Procedures Manual for the Youth Services Division of the New Haven Police Department</u>.

Volume I contains a summary of the program in addition to findings, conclusions and recommendations.

A LITERATURE REVIEW OF

POLICE PLANNING AND RESEARCH

Interim Report

to

The Connecticut Research Commission

by

Frank J. Leahy, Jr.
Ann Bussemey
Edmund F. Fennessy, Jr.
Benjamin Goldstein
Peter Leibowitz
Paul Pinsky

October 1968
7642-325

FOREWORD

The Travelers Research Center, Inc. (TRC), proposed to undertake a program
of technical assistance to three urban Connecticut police departments (Hartford,
New Haven and Stamford) over an 18 month period in the design and implementation of
innovative projects aimed at improving police operational effectiveness. The
Connecticut Research Commission (CRC), a State agency, funded this project effective
February 1, 1968.

The first phase of the project was identified as "project identification" and
was designed to accomplish:

 • a survey of police operations in the three communities;

 • a survey of the three communities in terms of their socio-
economic characteristics to provide greater insight into the problems
the departments face; and

 • a state-of-the-art review of police planning and research
literature.

With the publication of this interim report, the next three phases of the project
can be undertaken: project planning in conjunction with each of the agencies;
implementation; and, finally, program evaluation.

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1.0 INTRODUCTION

The President's Commission on Law Enforcement and Administration of Justice (hereafter referred to as the President's Crime Commission or the Commission) in its summary report The Challenge of Crime in a Free Society [1] made strong recommendations regarding police planning. The report recommends (page 114):

> Police departments must take every possible step to implement the guiding organizational principle of central control. Specialist staff units for such matters as planning, research, legal advice, and police personnel should include persons trained in a variety of disciplines and should be utilized to develop and improve the policies, operations, and administration of each police function.

The Commission's Task Force Report: The Police [3] was more direct and explicit in its prescription (page 49):

> A police force cannot be effective if it is administered on a day-to-day or crisis-to-crisis basis. It needs plans: contingency plans about, for example, how to handle a visit by the President or how to capture an armed desperado holed up in an apartment; operational plans about how to deploy men in various neighborhoods at various times of day or how to deal with the problem of apartment burglaries; long-range plans about improving the quality of personnel, installing new equipment or controlling widespread vice activities; budgetary plans, community-relations plans, techological plans, plans of many other kinds. It needs not only to develop new plans but to review continually the operation of plans already in effect and to amend them or discard them when necessary. To do this kind of planning to best advantage, a department must first engage in research and analysis. Crime trends, long range and short range, must be studied, as well as the social conditions associated with them. Experimental projects must be devised to test novel police techniques on a limited scale and under controlled conditions.

These words were echoed in TRC's project proposal [505]:

> As a result of the changing patterns of urban life and a rapidly rising crime rate, traditional operating methods of metropolitan police agencies are in serious need of modernization.

Continuing, we postulated that:

> On the other hand, there is a growing body of police knowledge-especially federally-sponsored "demonstration projects" conducted in the past two years which were designed to provide models for effective police operations. However, this research is not being adequately disseminated nor is it being put to use by police agencies below the "big city" level.

1

TRC's approach was to:

...assist several police agencies in the implementation of specific scientific research findings into their daily operations.

The approach is one that devolves about "technology transfer"—the transferral of innovation and improvement from one organization or operation (wherein it has been proven effective) to a similar organization. The hope, of course, is to achieve the same degree or level of effectiveness. For example, a non-computerized management information system installed in the Redondo Beach (California) Police Department might be applicable (with minimum modification) to the Stamford Police. Or, a model records system designed for the Boston Police Department might be applicable (again, with modification) to New Haven.

The literature collection effort, as detailed in Section 1.2, required five months. It was an intensive (500 + documents) but in no way exhaustive effort. Very little effort has been put into the collection of materials related to the forensic sciences and crime lab operations. This is a particularly technical area with an extensive literature that is well covered in terms of digests, abstracts, and publishing journals. Finally, little effort has been put into the collection of documents related to police traffic services. This area of police activity has been better researched and more adequately published than other areas by such organizations as: the International Association of Chiefs of Police, the Northwestern University Traffic Institute, and the Department of Police Administration at Indiana University. Additionally, TRC has just completed an extensive review of the literature entitled: Police Traffic Services and Road Safety: An Evaluation of the Literature [506]. Although a short evaluation essay is included in Section 3.0, no special efforts have been made in this regard.

1.1 Objectives

The objectives of the research collection effort were to discover what police planning and research literature exists and to read and analyze it. Criminal justice agencies were visited, letters were written requesting reports, and orders were placed for literature available through commercial channels.

The specific objectives of this report are to:

(1) give the three cooperating police departments a working document for planning improvements;

(2) give other Connecticut police departments and all other agencies that contributed to the report a police planning and research document; and

(3) provide a basis for seeking additional reported research that the three cooperating departments may find of value or that may be highlighted in the final report to the Connecticut Research Commission.

1.2 Methodology

A week-long trip to Washington commenced the collection effort. This included visits to:

• Office of Law Enforcement Assistant (OLEA) of the Department of Justice. As indicated in our proposal, a significant portion of the gathering of research was to come from OLEA [505, pg. 11]. Unfortunately, only one document of significant completed police research was obtained: the A. D. Little, Inc. report on records and communications in the Boston Police Department [162]. Many projects were still in progress and their final reports had not yet been submitted. Since February, several items have been received, most notably those dealing with the Los Angeles County helicopter experiments [315, 224]. Through the efforts of OLEA staff, several leads were developed and followed up:

• International Association of Chiefs of Police (IACP). Several key personnel were contacted and the IACP library was searched.

• Institute for Defense Analyses, which produced the Task Force Report: Science and Technology [8] for the President's Crime Commission. Drs. Alfred Blumstein and Joseph Coates were contacted.

• National Institute of Mental Health, a sponsor of police oriented research, and

• Office of Economic Opportunity, International Police Academy, National Aeronautics and Space Agency, National Highway Safety Bureau, International City Manager's Association, Library of Congress, and U.S. Government Printing Office, among others were contacted.

A collection of documents by mail was the next phase. Most U.S. police departments known to have a formal police planning agency were contacted by letter, as were all departments in cities with a population over 100,000. Twenty-three police agencies replied and included valuable documents (a list of the cities and their contributions is contained in Appendix A). Sixty-eight letters were mailed and 23 replies were received for a return of 33%.

A selected list of very large foreign police departments was also contacted. Replies were received from several Canadian departments (see Appendix A): Toronto, Montreal, Quebec, and Ontario.

All U.S. educational institutions known to have a police program were contacted (see Appendix B for the listing of those who replied). While very little research of significance was collected, leads furnished were extremely valuable. Of 184 letters sent, replies were received from 68, or 37%.

A selected list of governmental research institutes (public and private), libraries (primarily at universities), and other agencies and individuals were contacted. The latter included leads developed from the preceding mailings. Approximately 350 letters were sent to such sources. Many replies were received, several of which expressed concern about the lack of research in this whole area.

A visit to the Federal Bureau of Investigation was arranged. Bureau personnel provided no written information and indicated that their library, because of classified documents, was off limits to other than Bureau personnel. A visit to the Department of Justice Library was fruitless. Several principal investigators of OLEA—sponsored projects were contacted by phone and mail, but this proved to be of limited value.

A survey was made of California police departments and criminal justice agencies. This effort was undertaken to obtain an up-to-date assessment of current efforts in California, since police agencies in that state have a reputation for using advanced techniques and have put considerable effort into planning. The following agencies and persons were contacted:

- Berkeley P. D. (Sergeant Thomas)
- Los Angeles P. D. (Chief Davis, Inspector Fulton, Captains Gaunt and Kirby, Lieutenant Long, Sergeants Ebersole and Metcalf)

- Oakland P. D. (Captain Connolly, Lieutenant Goode)
- Redondo Beach P. D. (Lieutenant Peterson)
- Glendora P. D. (Chief Posey)
- Los Angeles County Sheriff's Agency
- California Department of Justice (Mr. Comber)
- School of Criminology, University of California at Berkeley (Prof. Jerome Misner)
- Sacramento State College (Prof. Paul B. Weston)
- California State College at Los Angeles (Prof. G. Douglas Gourley)
- School of Public Administration; University of Southern California
- Stanford Research Institute (Mr. Fields)
- Lockheed Missiles and Space Company (Mr. Husmann)
- Research and Consulting, Inc. (Mr. Herbert Isaacs)

The findings of this investigation are reported in Appendix C.

Conference sessions were attended at the Second National Symposium on Law Enforcement Science and Technology in Chicago (supported as a dissemination effort by OLEA), and key individuals were contacted. The visit to Chicago afforded an opportunity to explore the Northwestern University Traffic Institute Library, the Joint Reference Library at 1313 East 60th Street, and the City of Chicago's Municipal Reference Library. Visits were made to the Chicago Police Planning Division, Data Systems Division, and the newly formed (under Dr. Albert Bottoms) Operations Research Group.

Considerable effort was expended in obtaining research conducted by the Police Research & Development Branch (formerly Police Research & Planning Branch) of the British Home Office. Thus far, 37 documents have been secured that in our opinion represent a truly significant body of research. Because of the breadth of topics covered and the potential value of these works, a brief survey of police research and planning in the United Kingdom is presented in Section 3.16.

Several other libraries were visited particularly to survey periodical literature; these included the John Jay College of Criminal Justice and the library of the National Council on Crime and Delinquency—both in New York City. Also, libraries

were visited in the Hartford area, and an inter-library loan service was utilized with 25 U. S. libraries.

As documents were received, they were scanned and a very brief abstract was prepared. These abstracts called for an evaluation of the document vis a vis police planning and research and whether the document deserved a more thorough abstracting. Selected documents were subjected to the more intensive abstracting, but a lack of time curtailed this effort.

After 362 documents had been received and abstracted, a classification scheme was developed. Each abstract was classified, copied, and filed by functional area. This classification scheme was used as the basis for preparing essays—with the exception of the treatment accorded to the English documents.

All documents received before July 19, 1968 were reviewed and included in the essays and bibliography.

1.3   Organization of the Report

There are four principal parts in this report.

Section 2.0 is an overview of police planning and research, with primary emphasis on the United States. Findings and conclusions are presented about police planning and research, generally, and about police planners and planning agencies.

Section 3.0 constitutes the bulk of the report, and includes 17 essays that have been prepared regarding the materials collected. In each instance, the intent has been to present materials of value to the working police administrator—essentially materials available that might be adapted to improve operational efficiency. Background reading and other references are also included.

Section 4.0 is the bibliography. First is a complete list of documents numbered sequentially in order of receipt. These numbers are used as text references. Second, an author index is provided with the cross-reference to the appropriate numbered document.

The fourth and last principal part comprises the Appendices.

2.0   POLICE PLANNING AND RESEARCH: AN OVERVIEW

The general objective of this section is to provide a framework within which to consider the essays in Section 3.0.

Specific objectives include:

- an identification of the nature and scope of the police planning function;

- some history and the current status of police planning and research—in institutional terms (police planning and research literature is considered in Section 3.13); and

- the importance of police planning and research to the future of law enforcement.

2.1   The Nature and Scope of Police Planning and Research

2.1.1   Planning Defined

The most widely read author in the field of police planning, O. W. Wilson, defines "planning" in his book Police Planning [372, p. 3] as:

> ...the process of developing a method or procedure or an arrangement of parts intended to facilitate the achievement of a defined objective.

A broader and more complete definition is contained in a work about city planning. As a governmental function, planning is defined as:

> ...a continuing process carried on in intimate relation with policy-making. It provides the coordinating link between long-range goals, intermediate programs to attain such goals, and detailed operating plans to implement these intermediate programs. Furthermore, from this planning process come the means to harness into effective team effort the work of many different operating agencies responsible for carrying out segments of the total program. Finally, planning works in cyclical fashion, constantly evaluating progress towards goal achievement and furnishing the basis for reexamination and refinement of goals and programs through replanning.*

2.1.2   Scope and Activities

The scope and activities of a police planning and research unit in a progressive police department will be many and varied. They will be determined by what the unit

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*Local Planning Administration (Chicago: International City Managers' Association, 1959), p. 46.

has done in the past, and by how the police chief views the planning function and what he asks of the unit.

O. W. Wilson has laid down a set of duties for a police planning officer or unit [372, p. 12]:

1. To review and analyze periodically all department plans (including operational plans) in order to assure that they are suitably recorded and up-to-date.

2. To modernize and improve plans that are department-wide in scope.

3. To suggest, either directly to the heads of operating divisions or to the chief, the modernization and improvement of operational plans.

4. To lend such assistance to the operating divisions in the preparation and improvement of their plans as they may desire.

5. To obtain assistance from operating personnel, either directly or through the chief, in the preparation or improvement of plans.

6. To analyze the operation of plans to ascertain their suitability; when a new plan is placed in operation, to discuss its weaknesses with operating personnel and to effect needed improvements in it.

In short, the planning unit will examine the minute detail of every aspect of police organization, operation, and management, and will attempt, by analysis and contemplation, to increase the effectiveness of police efforts and the economy of their operations in every field of operation. The busy workday of line officers with its stress and bustle leaves little or no time for the development of ideas into full-blown plans. This is the task of the planning unit.

The planning unit is primarily responsible for the development of plans that are department-wide in scope. The extent to which it will participate in the development of operational plans will vary greatly among departments and among divisions within the same department; it will be influenced principally by the willingness of the operating divisions to seek assistance in accomplishing its planning duties.

The Commission's Task Force Report: The Police [3, p. 49] lists similar items in its recommendations:

1. Review and analyze periodically all department plans and suggest, either directly to the heads of operating divisions or to the police chief, the modernization and improvement of their plans.

2. Develop plans having departmentwide application.

3. Analyze the operations of plans to ascertain their suitability; when a new plan is placed in operation, discuss its weaknesses with operating and clerical personnel to effect needed improvements in it.

4. Prepare statistical and other reports of police department activities, needs and objectives.

5. Prepare the annual budget and extend project fiscal and manpower requirements for up to 5 years.

6. Engage in crime and traffic analyses and supply data and patterns to operating divisions.

In addition to these recommendations, the police planning and research unit has another important function to perform that is only alluded to in the above listings, and that is research. An illustration of this is described in the next section.

2.1.3 An Outstanding Example of Police Research

The research project, An Evaluation of Crime Cut Sheffield [402] was conducted by the British Home Office Police Research and Planning Branch. The objective was to determine the impact a public-relations crime-prevention campaign would have on the public and on the crime rate. Four criteria were selected to measure public response to the campaign: (1) levels of security of parked vehicles, (2) volumes and quality of "999" calls (telephone reports from the public of suspicious persons and activities), (3) sales of security devices by local merchants, and (4) the flow of criminal intelligence information from police personnel. Similarly, four categories of criminal statistics were selected to measure the effect of the public relations effort on crime: (1) burglaries of private homes, (2) burglaries of business establishments, (3) larcenies from vehicles, and (4) larcenies of stolen vehicles.

The two sets of criteria and the arrest rate were measured over three distinct time periods:

1. A four week period preceding the campaign.

2. The six week period during which the public relations campaign was in progress.

3. The six week period immediately after the public relations effort had terminated.

As an example of the methodology employed in testing the standard, "levels of security of parked vehicles," four streets and designated time periods during the day were selected. Every day during each individual phase of the research operation, a police officer recorded whether or not the vehicles on the streets particularly at the times chosen were locked and whether or not there was any property visible inside the vehicle. The remaining elements within the two sets of criteria were substantially tested for the three distinct time phases in a similar manner. The results were extremely interesting, and a cross section of the information obtained is shown below.

	Pre-campaign period (4 wks)	Campaign period (6 wks)	Post-campaign period (6 wks)
# of calls from public	1996	2340	2205
Ratio of arrests to "other calls"	.085	.064	.062
# crimes committed (includes house & business establishments, larcenies from MV and theft of MV)	769	550	552
Ratio of arrests to crime	.065	.111	.140
Larcenies from vehicles	182	137	157
Stolen MV	146	139	138

Statistics for the current survey were also compared to those for similar surveys conducted in the two previous years. In this way a meaningful analysis could be made as to the effect of the public relations campaign.

This is a significant piece of police research presented to give additional insight into the nature of police planning and research. It is the type of police research vitally needed.

2.2 History and Current Status of Police Planning and Research

2.2.1 Police Planning and Research to 1950

P. H. Colliton's The Evolution and Application of the Planning-Research Function in the American Police Service [289] provides a summary of developments since the first American police agencies were formed in the middle 1800's. Colliton finds evidence that police planning and research had basic roots in the drive for adequate crime reporting and recording systems. The 1927 IACP convention was cited as the basis for the formation of a committee to study uniform crime reporting. The result was the uniform crime reporting manual, that standardized categories of offenses used by departments in reporting crimes to a national clearinghouse which had been set up previously.

In 1929, the Wickersham Commission studied the entire picture of U.S. law enforcement. Uniform reliable records were cited as a basic need for all significant police work for purposes of reference, control, and the formation of strategic plans. In 1930, the FBI assumed responsibility for the uniform crime reporting system as known today.

Colliton again notes the inadequacies of police records systems as a major factor in the evolution of planning and research units. In 1935 New York City is cited as having the first identifiable planning unit. The author also reviews major police surveys in Fort Worth (1940), Baltimore (1941), Hartford (1942), Dallas (1944) and New York City (1950) that exemplifies methods of research and planning utilized at these times.

2.2.2 Police Planning and Research Since 1950

Colliton cites two items of significance after 1950. One is the establishment of a Bureau of Administration that included a Planning and Research Division (to conduct "management research") in the Los Angeles Police Department. The other is the organization of a planning and research unit in the Oakland (California) Police Department.

A third item must be added, the appearance of O. W. Wilson's first edition of Police Planning [372] in 1952. As Dean of The School of Criminology at the University of California at Berkley and as a police consultant from 1940 to 1960, Wilson probably had more impact than any other single person in fostering the development of planning units. His book has become a classic in its field, and is still highly regarded even though the second edition is eleven years old.

Since 1960, there has been heightened interest in police planning, which is in part a reflection of the increasing complexity of large city policing and is also due to the introduction of the computer to American law enforcement. As Superintendent of Police in Chicago, Wilson built a major police planning unit in 1960 and 1961. St. Louis, Detroit, Dade County (Florida), Dallas, Kansas City, Syracuse, and the California cities have all built major planning units.

Since 1955 there have been several attempts to coordinate agencies and to exchange research. The most notable effort was the "Oakland Institutes." The 1965 Police Research and Development Institute (Proceedings) [139] relates the story of the first four institutes:

> The initial Seminar in 1957 was conceived by Dean O. W. Wilson, of the School of Criminology, the principal developer of planning units in law enforcement agencies in the country. Sponsored by the School and the California Peace Officers' Association, the Institute brought participants from Kansas City, New York, Philadelphia, Berkeley, Oakland, and Los Angeles. Those discussion leaders brought together their ideas and experiences in police planning. Response was enthusiastic.

> The 1958 Seminar, with added sponsorship of the School of Law, returned to Berkeley participants from the departments represented in 1957, from Cincinnati, and the California Highway Patrol. Despite continuing interest, the program was suspended in the following year, when reorganization of the School was pending.

> In 1963, Dean Joseph P. Lohman, of the School of Criminology revitalized the program as an Institute, with additional sponsorship of the International Association of Chiefs of Police and broadened participation of the School of Law, the police departments of St. Louis and San Francisco, Department of the Army, California Department of Justice, a City Manager, and representatives of industry.

> In 1964 Institute, as in the preceding year, was held in the auditorium of the Police Administration Building in Oakland, with continuing cooperative participation of IACP, the California Peace Officers' Association, and industry representatives. Out-of-state participation included the Metropolitan Police Department of Washington, D. C.

The fifth and the final Institute was held in 1965 and resulted in publication of Abstracts, 1965 [75]. This compilation of abstracts was prepared from original research reports submitted to the Institute. Fourteen police planning agencies contributed approximately 75 documents, a list of which is included in Appendix D.

Because of the importance of five institutes, their tables of contents are reproduced in Appendix E.

At the 1965 Institute [139], R. Dean Smith of the IACP announced the formation of CLERI—The Center for Law Enforcement Research Information. This IACP service (supported in part by a Ford Foundation Grant) publishes a quarterly journal that lists and abstracts new major acquisitions. A document photo copy service makes all listed items available for distribution.

One final item of significance. The British Home Office initiated a monthly publication in January 1967 entitled Police Research Bulletin. This publication is written specifically for police officers and deals solely with matters relevant to their problems and work. It includes studies being carried out by planners and scientists, connected with the fight against crime.

2.2.3   Federal Assistance

Since passage of the Law Enforcement Assistance Act in 1965, OLEA has entered the police planning and research picture through:

- funding several hundred research projects conducted by public and private agencies;
- sponsoring two national symposia that featured reports of current and future projects, and other significant research;
- providing grants to medium-sized police departments for forming planning and research units; and
- sponsoring a Police Research and Planning Training Institute.

With the recent passage of the Omnibus Crime Control and Safe Streets Act of 1968 [440], the prospects for increased Federal aid to local law enforcement and the future of police planning and research efforts appears better than ever.

2.3   Police Planning and Research and the Future of Law Enforcement

Police departments are under great pressure to alter or to reform their operations. Hardly a day goes by that some aspect of police operations is not criticized by one segment of society or another. The President's Crime Commission and the National Advisory Commission on Civil Disorders (the Kerner Commission) have both called for

change and reorientation, and with the passage of new Federal legislation, changes are in the offing.

However, no effective change can be implemented without staff assistance to point the direction of the change and to monitor results for possible modification.

The President's Crime Commission viewed police planning and research as a "change agent." More specifically though, we can also look to police planning and research for:

- identification of goals and objectives as laid out in short and long range plans, and continued monitoring of progress toward achievement of goals;

- better utilization and allocation of personnel and equipment resources;

- achievement of a better state of morale for police personnel and of an organization that operates under well planned guidelines, directions, and procedures;

- more responsiveness by a department to the needs of the community, and the provision of an adequate level of service within the community—with a resulting improved police image;

- better integration with other elements of the Criminal Justice System (the courts, corrections, other police agencies, etc.) in achieving common goals;

- a better articulation of police problems and needs as expressed and documented by the department itself; and

- assisting police leadership to achieve what former Secretary of Defense McNamara saw as the role of the public manager:

I think that the role of [a] public manager is very similar to the role of a private manager; in each case he has the option of following one of two major alternative courses of action. He can either act as judge or a leader. In the former case, he sits and waits until subordinates bring to him problems for solution, or alternatives for choice. In the latter case, he immerses himself in the operations of the business or the governmental activity, examines the problems, the objectives, the alternative courses of action, chooses among them, and leads the organization to their

accomplishment. In the one case, it's a passive role; in the other case, an active role ....I have always believed in and endeavored to follow the active leadership role as opposed to the passive judicial role*.

*Decision-Making for Defense by Charles J. Hitch, University of California Press, 1965, p. 27.

3.0 BIBLIOGRAPHICAL ESSAYS

This section comprises 17 bibliographical essays, each of which reflects the way the collected materials were classified as indicated in Section 1.2.

An attempt has been made to speak to the police administrator in understandable and (where possible) non-technical language. The individual treatments vary but usually include a review of the issues and problems of each subject and an exposition of the materials collected. As stated in the objectives, this report is intended for the police chiefs of the three cooperating departments and, as requested by the Connecticut Research Commission, to be a document of value to all Connecticut police departments.

Several essays vary from the norm. The sections on operations research in England (3.16) and on systems analysis (3.12) tend to cut across a number of other subject classifications. These have been given special emphasis although they are more closely allied with planning and research than any other single topic. The planning and research essay (3.13) is primarily devoted to the books and articles a police planning agency should have as a basic library to accomplish its mission. All essays contain many other references that should be in the possession of police planners. Finally, the essay on organization, administration, and management (3.17) differs because the subject matter almost defies description.

3.1 Crime Prevention

Crime prevention includes a broad range of activities involving the police, the public, numerous agencies of government at all levels, and private institutions. Whatever the identifiable crime-prevention activities, they are designed or intended to remove either or both the desire and opportunity to commit crime. Numerous crime-prevention activities range across the whole spectrum of the Criminal Justice System, from educational programs involving the police to rehabilitation planning and implementation in the Correctional System. Also involved are Government programs oriented toward eliminating crime by attacking the social conditions that breed it. The concept (and problem) of crime prevention is so profound, so encompassing, so all pervasive that it defies complete definition or description.

To understand the problem, one must establish a frame of reference and narrow the topic to workable proportions. For our purposes, we consider those areas involving essentially the police system and the general public, as opposed to other facets of crime-prevention activity in and outside the Criminal Justice System. Even focusing attention directly within the context of the police system poses difficulty. From an empirical standpoint, a specific internal police strategy, policy, or patrol procedure such as those described in Section 3.3 can exert a very significant influence in preventing crime. Who, for example, can dispute the positive impact upon crime prevention of a system or technique in the personnel section of an agency that places a high priority on selecting capable, well educated and emotionally stable candidates for the police service? It is within these limitations and constraints, definitions and dimensions, that the anomie of crime prevention is considered.

3.1.1 Police—Citizen Programs

From the police standpoint it appears that the best crime prevention tool is citizen involvement. In its report to the President, The Challenge of Crime in a Free Society [1], the Commission on Law Enforcement stated, "Controlling crime is the business of every American." One of the most dramatic examples of a citizens group, who with the assistance of the police have forcefully addressed themselves to the problems of crime, is the Anti-Crime Crusade in Indianapolis. When the program was fully underway it involved 50,000 women who helped in the crime fight by helping young

people get jobs, by urging better street lighting, and by providing assistance in numerous ways. The Indianapolis project is described in the December 1967 issue of the FBI Law Enforcement Bulletin [508] in an article called "Indianapolis Crime Alert." Similar programs [475] that have achieved some success are operation "Chec Mate" currently in operation in Saginaw, Michigan and "Operation Public Eye" in Albuquerque, New Mexico. Both programs merit attention.

A St. Louis "detoxification" experiment [348]—the operation of an experimental treatment center for alcoholics—has saved patrol time, reduced clerical operations, and produced savings in other outputs of police resources in the police operation in that city. Preliminary statistics reveal a 28% decrease in police contacts with drunken offenders.

A program for citizen instruction in crime prevention, presented by the Des Moines, Iowa, Police Department [32], is an example of the effort by the police to help curb crime. Businessmen were invited to attend classes at the police department and were given a basic orientation on the methods and procedures they could employ within their respective community roles.

A unique approach to the crime prevention problem has been demonstrated by a joint undertaking involving the San Francisco Police Department and the Office of Economic Opportunity in a project concerned with the "war on poverty." The duties of police officers assigned to the project included: helping anyone with a police record obtain employment; developing employer awareness of employment problems of anyone having arrest records; exploring new opportunities of employment for the under-privileged; and working in many areas designed to create better relations with the community. This action program is described in the Police Community Relations Newsletter #19 [443] from Michigan State University.

A summary of the preventive programs that communities can employ are the subject of the Report on Police Field Procedures [33]. The Advisory Group, who documented the report, suggests positive action in the following fields: auto-theft campaigns where the public is solicited to lock their automobiles; crime-prevention education in the schools; anti-burglary programs for homes and businesses; better street lighting; and use of citizens as auxiliaries. A very detailed list of ambitious programs in use by other departments to prevent crime are contained in Task Force

Report: The Police [3] in which the roles of education, citizen crime reporting programs, citizen preventive patrols, and many other concepts involving community resources are also described.

The report of the National Advisory Commission on Civil Disorders [146] recommends that intra-city planning give attention to the possibility of using youth groups to prevent inner city disorders. Dayton (Ohio) and Tampa (Florida) were the first to use teen-agers, called "White Hats," to assist the police in controlling disorders; such other cities as Rochester, St. Louis, and Hartford (Connecticut) quickly followed suit.

3.1.2 Surveillance and Detection

Security and intrusion-detection alarm systems are playing a greater role in crime prevention in the so-called effort to "harden targets." As part of a departmental public relations program, the dissemination of information on available systems and the security measures the public should take in safeguarding property can assist in preventing crime. Some of the more modern and sophisticated systems are described in Law Enforcement, Science and Technology [60]. The text also contains background information emphasizing the multifaceted approach that must involve citizens in attacking causes rather than symptoms of crime. Although Security World [479], a magazine for professional security administrators, focuses on industrial security problems, its value for police officials is the emphasis it places on the latest innovative detection systems that are being placed on the market. Home protection devices and electronic systems are the subject of an excellent article, "Making Your Home Safe Against Intruders" [478], in the July 1968 issue of Ladies Home Journal. The pros and cons of various systems, locking devices, graphic representations of security devices, and a list of firms marketing home safety equipment are presented. A study, Intrusions Alarm Systems [482], conducted by the City of Hartford, (Connecticut) discusses the feasibility of installing various type alarm systems in business establishments to halt the rising incidence of burglaries. Cost for equipment, installation, and the limitations of specific systems are considered. The study points out that the City of Oakland (California) enacted a Burglary Prevention Ordinance that gives the Chief of Police the discretion to require the installation and maintenance of intrusion detection devices when a commercial establishment has experienced a high incidence of burglaries or when the type of merchandise and inventory value require added security measures.

3.1.3 Police Tactics

While schemes for deploying police manpower are discussed in Section 3.3 (Utilization of Police Manpower) of this report, some of the special techniques employed by the various cities to prevent crime and apprehend criminals are outlined in Report on Police Field Procedures [33] by the Police Procedures Advisory Group. A midwestern city, famed as a tourist center, utilized a plan called "operation bird watch." In the downtown area, there are numerous parking lots, most poorly lighted, where burglars and petty thieves preyed on parked vehicles and individuals walking alone. The department organized teams of officers consisting of "watchers" and "catchers". The former, stationed on housetops or other high vantage points, would signal the "catchers" when a crime was in progress. The program resulted in a higher arrest rate and served as a deterent for similar crimes. Other equally innovative techniques are described in the same chapter.

Additional information discussing both the advantages and limitations of task forces, saturation patrols, and the use of dogs by uniformed patrol forces are reviewed in Task Force Report: The Police [3]. Increasingly, large urban police agencies are creating, training, and utilizing specially selected officers in task-force type units to control crime. Particular units perform special functions such as patroling in high crime areas, handling demonstrations of protest groups, and controlling disturbances and disorders.

Congress recently enacted a stricter gun control law in the hope of reducing the crime rate, but this kind of legislation is limited. The best possibility for progress in crime prevention was offered by Congressman James Sheuer of New York who proposed the creation of a National Institute for Crime Prevention and the development of an extensive research effort to understand and overcome the crime problem.

A step in this direction already has been taken by the creation of a National Institute of Law Enforcement and Criminal Justice provided for in the Omnibus Crime Control and Safe Streets Act of 1968 [440]. The "Institute" is authorized to carry out programs of behavioral research designed to determine causes of crime and to assess various means of preventing crime.

3.2 Criminal Investigation

When a crime is committed and the criminal is not identified and apprehended within a reasonable time by the uniformed officers, the task either then becomes the responsibility of investigative specialists known as detectives or in smaller departments, may fall to a uniformed officer with some experience in this area. The skill exhibited in collecting, marking, and safe-guarding evidence, and in the interrogation of witnesses and suspects, will often determine the success or failure of a particular investigation. The President's Crime Commission in its report, The Challenge of Crime in a Free Society [1] stated,

> The Commission analyzed 1,905 crimes reported in January of 1966 in Los Angeles ... The police were furnished a suspect's name in 340 of these cases, and 301 were resolved by arrest ... Of the 1,375 crimes for which no suspect was named, only 181 cases were cleared.

Obviously, then, some improvements must be forthcoming within the investigation process if it is to serve the public effectively and efficiently.

Remarkably, very little scientific research dealing with the investigation process is available to police agencies. It appears that the major body of information dealing with criminal investigation is contained in some of the standard texts and professional police periodicals already known to the police. Nevertheless, there are a few studies that merit consideration in that the principles they represent could conceivably be transferred and applied in many police departments.

One publication of the British Home Office Scientific Adviser's Branch, On The Application of Decision Tree Theory to Criminal Investigation [312], scrutinizes the manhour costs of sets of decisions made by detectives in investigating the simple crime of housebreaking or burglary. Not only are costs considered for certain operational decisions but this study also evaluates the possibility of success related to specific investigative actions and decisions that were taken. For example, the report claims that a sampling of suspects interrogated in housebreaks produced a 5% success factor, whereas when this technique was delayed in favor of a sustained surveillance and observation of the suspect, the crime solution factor rose to 20%. Further research in this area by departments particularly overwhelmed with burdensom case loads could

result in identifying those techniques and specific crimes that offer the greatest probability of solution.

A study in 1959 by the Governmental Research Institute, Reorganization of the Investigative Function in the St. Louis Police Department [199] suggests how a department can improve its efficiency through creation of special units within the Detective Bureau. The document includes a written description of duties and responsibilities of the detective commander and his units, an itemization of reports required by each unit, and a sample activity report for detectives that can be used to evaluate their performances. The guidance provided by the report can be related to improving the operational capability of many investigative units.

The Oakland Police Department's Planning and Research Division has improved its technique of using mug shots in the identification and apprehension of criminals. In a document entitled Master Rogues Gallery Phase I [75], the department points out that the established system, in which each specialized investigative unit maintained its own rogues gallery, proved ineffective. An alternative system was devised comprising a keysort punch card system. In this system, the physical characteristics of each known offender were recorded and punched on one side of a 6 1/2 x 7 1/2 card and the corresponding mug shot affixed to the back. Thus, from physical characteristics described by victims of a crime, data and photographs of all known offenders with similar physical characteristics can be retrieved from the files easily.

A system for collecting, evaluating, recording, and passing on information to police officers is the subject of a British Home Office Paper entitled, Local Intelligence Units and the Police Service [407]. Under this concept, the local intelligence unit acts as a central repository for information coming to the attention of police officers concerning vehicles, places, incidents, etc., with all officers being encouraged to contribute to the system. An officer called a "collator" receives, indexes, assesses and disseminates the information as necessary. A description of the records and indexes is included. The hypothesis is that as much information as possible, especially from the uniformed officer, must be centrally collected and later disseminated to everyone in the police command in order to improve the criminal identification, investigation, and apprehension processes. In another paper by the same agency, Scenes of Crime Work— An Appraisal [412], the use of "evidence technicians" at crime scenes is evaluated

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and their importance is stressed. Some positive ideas can be gathered from this paper, as to the organization and equipment needed for efficient crime scene searches. The conclusion of the paper, although universally accepted in principle, has rarely been put into practice by police agencies. The report states:

The value of the scientific examination of material found at scenes of crime, particularly breaking offenses and crime where violence against the person has been used, is a matter of growing importance.

The private sector of the scientific community is expressing a keen interest in the problems of law enforcement. Some studies have been conducted in applying scientific techniques in the field of criminal investigation. They are described in Law Enforcement, Science and Technology [60], but they appear to be highly technical, and at their present stage of development, most of the techniques cannot as yet be applied in a practical manner to police operations.

A survey by the Cincinnati Police Department entitled Larceny Study [123] examines the larceny problem in that city and recommends police actions and public relations measures that can be undertaken in curbing the increase in this type of crime. Another study from this department, Field Interrogation Report Study [124], recommends the technique of field interrogation for preventing crime and apprehending criminal offenders. It discusses the tactics, legal implications, and other problems related to the process.

Recently published are two task force reports that have a significant bearing on the criminal investigation process. The first, Task Force Report: Organized Crime, [5] was produced as a sub-study of the President's Crime Commission Report, which contains a summary of this research. This document examines the whole role of organized crime, its impact upon the police and the community, and the nation's efforts and overall strategy in combatting this menace. Of particular relevance to local police departments is the Commission's recommendation that they organize criminal intelligence units within their operational structures.

The second study, Task Force Report: Narcotics and Drug Abuse, [2] is essentially a review of the drug problem in this country, the effects on human behavior, the

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social policies and attitudes that have evolved, the enforcement and judicial approaches involved, and recommendations to control the spread of the drug traffic.

Some standard texts (periodicals and articles concerned with Criminal Investigation) that should be available in all police libraries can improve the efficiency of police investigators if they practice the techniques recommended. The following list represents the basic literature in the field.

- Basic Criminal Investigation, Boolsen [428]
- Elements of Police Investigation, Boolsen [429]
- Scientific Evidence and Scientific Crime Detection (Vols. 1-3), published by Wm. Hein, Buffalo, N. Y. [434]
- Crime Investigation and Interrogation, Gerber and Schroeder [430]
- Police Searching Procedures, Moynahan [496]
- Fundamentals of Criminal Investigation, O'Hara [495]
- Field Interrogation, Bristow [494]
- Crime Investigation, Kirk [498]
- "Full Course in Methods of Scientific Crime Detection", Goddard [431]
- "Selection of Criminal Investigators in Law Enforcement Agencies", Osterburg [432]
- "Significant Concepts in Scientific Criminal Investigation", Osterburg [433]
- Modern Criminal Investigation, Soderman and O'Connell [435]
- Criminal Investigation, Dept. of the Army Field Manual 19—20 [436]
- Law and Order (periodical)
- Police (periodical)
- Journal of Criminal Law, Criminology and Police Science (periodical)

3.3 Utilization of Police Manpower

Manpower is the primary resource of a police agency, and its allocation to the various police functions and subsequent chronological and geographical distribution is essential to the effectiveness of the agency. This fact is well recognized and has generated a large amount of research and planning studies designed to optimize the utilization of these scarce resources. Further, since the uniformed patrol force is the largest component of police strength, it is not surprising that almost all of the material collected in this compilation considers only patrol force optimization.

Allocation by function can only result from the definition of functional goals and objectives. This survey has discovered almost no scientific attempts to optimize the allocation process. A notable exception, A Preliminary Output-Oriented Program Budget for the Detroit Police Department, is the work of Wayne State University and the City of Detroit [119]. This study concludes that specific output measures or goals can be defined for a municipal police agency and that, while the larger problem of optimum allocative efficiency is not solved, a sub-optimum approach (by defining goals for each functional area) can result in improved allocation procedures.

An excellent treatment of the concept of police allocation procedures is contained in "Police Resource Allocation" [222] by Misner and Hoffman, Riggs [60 page 645] further delineates this problem in a "Allocative Efficiency in Law Enforcement." R. C. McLaren, in "Allocating Police Resources" [60 page 599] provides the police administrator with a practical method (used by the IACP Field Services staff) to determine police manpower allocation. A large-scale project currently underway in St. Louis to improve allocation procedures is reported by Shumate and Crowther [120] in "Quantitative Methods for Optimizing the Allocation of Police Resources." This study is further documented in Crowther [201], and Pauly, et al. [239]. More general guidelines are provided in Wilson [316], Leonard [55], Gourley and Bristow [126], and Gourley, et al. [50].

The subject that has received the most extensive treatment in the literature reviewed is that of distribution of the patrol force (e.g., the "best" way to utilize existing manpower). An excellent overview of this problem is contained in Gourley, et al., Effective Police Organization and Management: Volume II [50B]. This report

documents the history of the distribution concept and provides detailed material on the problems encountered and factors to be considered in developing a distribution plan.

Early efforts in this area include, among others, Vollmer [480], Works Progress Administration [319], Cincinnati Police Department [122], and Wilson [316]. These four documents provide excellent examples of how the distribution concept works and the types of data and analysis required.

Walton, in two articles [477], discusses the history, current practices, and recommendations concerning the concept of "selective distribution of the patrol force" which involves the assignment of weights to the various events requiring police service. R. D. Smith has developed a computer based procedure for performing this task that is described in Computer Applications in Police Manpower Distribution [113]. This document presents the concept and flow charts needed to apply the technique to any police agency. Some recent distribution plans can be found in the Syracuse Police Department [186] and the Cincinnati Police Department [122]. Evaluation of existing methods utilized in several cities are presented in Hooker's A Case Study of the Chronological and Geographical Distribution of a Selected Municipal Patrol Force [332], and the Governmental Research Institute's Study of Distribution of Patrol Services in the St. Louis Police Department [305]. In addition, almost every police management survey that has been conducted includes a study of patrol force distribution in the community surveyed. However, much of this material is restricted for general use for a variety of reasons. One of the more solid studies performed in this area was done by the Los Angeles Police Department Planning Bureau and is titled A Workload Study of the Uniformed Patrol Officer [295]. This study identifies the significant factors to be considered in measuring a patrol officer's workload, how these factors are measured, how this information can be used, and what the best procedures are for collecting, processing, and distributing workload data. Another excellent treatment of operational planning for manpower distribution is embodied in Beat Surveys for 1960 and 1962 [128 page 201] by the Oakland Police Department. Gaunt has investigated the use of electronic data processing equipment in the distribution of manpower in his thesis. Field Deployment of Police Patrol Forces and the Use of Electronic Data Processing Equipment [216]. This study attempts to unite the "selective distribution" concepts proposed by Walton and the "response to field problems" theory into a balanced deployment procedure.

During the past few years there have been a number of attempts to develop innovative procedures for police patrol. In the United Kingdom the concept of "unit beat policing" is achieving wide acceptance. The purpose of this method is to achieve the dual objectives of increasing the flow of intelligence, and restoring the "policeman" to the beat without sacrificing mobility. The basic principle of the approach consists of having one or two officers who actually live in and are responsible for a particular area or beat. A radio car services those incidents in the area requiring an immediate response and a detective is also assigned for followup. A fourth member of this team, a "collator" or central information collector, handles, distributes, and analyses the flow of intelligence data for the particular area. This technique is reported by Gregory in Unit Beat Policing: Reflections on the Experiments and Implications of a Widespread Adaption of the System [401], and by Bright in Crime Prevention and Unit Beat Policing [405]. Several other British experiments in patrol force utilization are worthy of note, particularly Chapman's "Working Party on the 'Aberdeen' System" [128 page 245], and Paterson's "The Salford Method of Team Policing" [128 page 253] and "The Results of Team Policing in Salford" [128 page 271].

Another British experiment is reported by Bright in Supplementary Report on the Experimental Use of Television Cameras and Commando Police Patrolling by Liverpool City Police [411]. This system initiates the use of plain-clothes patrol units and the use of TV units to monitor potential crime locations. The study mentioned above basically concludes that the use of this system resulted in a decrease of 15% in recorded indictable crimes for the whole force and an increase of 25% in the number of crimes cleared.

The British police planning branch has also been conducting experiments on the effectiveness of foot patrols. T. P. Turner, in Effectiveness of Foot Patrols: A Pilot Experiment [409], concludes that the use of plain clothes foot patrol officers has more disadvantages than advantages, except in the apprehension of certain types of criminals (e.g., burglars).

The use of helicopters for police patrol has increased in both the U.S. and Britain. An experiment reported by Rignell and Ostler, The Use of Helicopters in Police Work [400], indicates that there is a requirement for helicopters in police services, however, the size of the requirement has not yet been determined. In the

U. S., the Los Angeles County Sheriff's Department reports the use of helicopters in their jurisdiction has been of great benefit. Pitchess, in Sky Night: Project Report [315], states:

> The helicopter makes aerial procedures possible which increase efficiency of the 'man on the beat,' improving the potential of law enforcement functions and aid in the reduction of major criminal activities.

The report was evaluated by Guthrie in Aerial Surveillance Methods of Crime Prevention: Evaluation [315]. He concludes that there was a highly significant decline in Part I offenses, particularly burglaries, during the course of the study. The report also evaluates the operational and economic feasibility of helicopter use.

A highly theoretical study of the police response system was conducted by Larson in an MIT master's thesis entitled An Operational Study of the Police Response System [62]. The purpose of the study was to model the processing of calls-for-service in the Boston Police Department. Mathematical models were obtained for each of the response systems activities. A dynamic programming model was then constructed to optimize the allocation of manpower.

An innovative strategy for the more effective utilization of field manpower is reported by R. D. Smith in "Random Patrol" [128 page 217]. The term random patrol as used by Smith refers to the application of the principles of game theory to officer movement on his beat. The purpose of the system is to allow the officer to patrol his beat in an unpredictable fashion in order to foil criminals who may be observing his movements.

Litton Industries has developed a two part programmed learning course concerned with the distribution and deployment of police patrol forces. These documents in the Litton Police Science Series are Assigning Patrol Personnel I—Distribution [306] and Assigning Patrol Personnel II—Deployment [272]. The documents provide an excellent self-teaching course in this subject.

A number of additional articles and reports are deemed to be indirectly relevant to this subject area. They are: Chicago Police Department, One-Man Patrol [251]; Governmental Research Institute, One-Man Police Patrol Car Operation [261]; Skokie Police Department, Shopping Center Survey [149] (this studied the police

department responsibilities in patrolling private shopping centers); and Shoup, Standards for Distributing a Free Governmental Service: Crime Prevention [159]. The following text books provide some relevant insights into the manpower assignment process: Police Patrol Readings, S. G. Chapman [128]; Patrol Procedures, Payton [468]; Police Patrol, Holcomb [469]; Patrol Administration, Gourley and Bristow [126].

3.4 Criminal Intelligence

Perhaps no other type of criminal activity has more dramatic impact on American society than organized crime. Its tentacles reach deeply into every facet of American life, with organized crime syndicates continuing to spread their influence into previously legitimate sectors of the economy. Hired killers, labor racketeers, drug peddlers, blackmailers, and huge gambling cartels operate oftentimes openly and without significant interference from law enforcement agencies. There is substantial evidence that they have successfully corrupted entire police departments, intimidated honest citizens, exploited both the business manager and the worker, fostered the illicit spread of narcotics and gambling, and supported the efforts of criminal gangs who prey upon the citizen in his home and on the street. Organized crime has become an illegal and invisible government comparable in power to our legally constituted one and threatens the very structure of our democracy*. To combat this enemy, the first and basic task that must be undertaken is the efficient collection, evaluation, and coordinated utilization of criminal intelligence. There is a very real and inseparable relationship between the two—criminal intelligence and organized crime. The degree and the extent to which the former is developed can lead to a better understanding of the latter, and will ultimately determine the degree of success that will be achieved.

Although organized crime has been with us for some time, there is, with few exceptions, little research material available to law enforcement that can improve crime fighting techniques. Robert L. Emerich of the Department of Justice stated the case thusly:

> There has been little scientific study of organized crime, giving us little hard data and few firm conclusions. Most of our understanding derives from unsystematic observation, speculation and intuition.

Despite this paucity, however, the history of organized crime, its impact upon society, and some recommendations as to new approaches that may be undertaken are described in Law Enforcement, Science and Technology [60 page 41]. The types of criminal activity, location of organized crime activities, the membership and organization of criminal cartels, and the nation's past efforts to control organized crime are described in a voluminous document, Task Force Report: Organized Crime [5]. The report recommends, as a first step, the creation of organized crime intelligence units in local police departments and the establishment of state and local citizens crime commissions. Also recommended is a coordinated effort among all levels of law enforcement, including the free exchange of information, wire tapping authority for the police, immunity for witnesses and provision for continued research.

Experts in the field consider Combating Organized Crime [37], a sixty page booklet, a document of real significance. A group of distinguished citizens representing the academic, legal, and scientific community and practitioners from most components of the Criminal Justice System met at Oyster Bay, New York in 1965 and for the first time defined what in their opinion the words "organized crime" mean. No longer would a vague definition confuse the efforts of those interested in fighting the evil, but now enforcement officials would know precisely what each was talking about. From definition, the conference developed a methodology to cope with organized crime. The work delineates how a police intelligence unit should be organized and operated and how organized crime cases can be prosecuted more efficiently, and cites the recent advances in the sharing of intelligence information including a very brief description of the operations and objectives of the State Police compact of the six New England states.

From a member of the Law Enforcement Intelligence Unit (LEIU)*, it was learned that Ralph F. Salerno, a noted authority in the field, and Professor Donald R. Cressey of the University of California, both consultants to the President's Organized Crime Task Force, are currently researching this important subject area and will publish their findings soon.

The impact of organized crime, especially gambling, is the subject of Ploscowe's "New Approaches to the Control of Organized Crime" appearing in The Annals of The American Academy [325]. The author advocates legalization of drug distribution, and cites the advantages of a Model Anti-Gambling Act formulated by the American Bar Association Commission on Organized Crime. He concludes his work by suggesting

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*See testimony by J. Edgar Hoover, Hearings before House Subcommittee 89th Congress, 2nd Session, 272 (1966).

*Telephone conversation with Capt. Wayne Bishop of the Connecticut State Police Department, 7-2-68.

certain steps that should be taken to improve police efficiency and to eliminate police corruption in dealing with gambling and organized crime. Many of these suggestions are included in the President's Crime Commission report.

3.5 Police—Community Relations

During the past ten years, a considerable number of books and periodicals have been written on the subject of police—community relations, one of the most critical problem areas faced by police administrators. Much of the material is historical and philosophical in nature; nevertheless these writings are extremely important in providing the background necessary for a total understanding of the very complex problem involving the relations and interactions between the police and the public. All writers, researchers, and police officials who have investigated this critical area unanimously agree that the gap in this relationship, as it exists today, must be bridged if the police ever hope to become a more effective instrument in our society for achieving peace and tranquility.

The President's Commission on Law Enforcement and Administration in its general report, The Challenge of Crime in a Free Society [1], not only identifies the problem as it exists currently in our communities but makes specific recommendations as to how the police—community relationship can be improved. Primarily, they suggest better training for the police and the creation of police—community relations units. Within the same context, Task Force Report: The Police [3] clearly focuses on the importance of the problem, police policies and procedures as they affect the police-citizen relationship, the nature of community services provided by the police, citizen hostility, and recommended programs to improve the image of the police. Both references provide ideas and mechanisms that can be incorporated into the operational structure of most police agencies.

A report of a research study submitted to the President's Crime Commission by the University of California, The Police and the Community [13], is an extremely comprehensive examination of the attitudes of the police and various elements of the public toward each other; police policies on community relations; methods for controlling police misconduct; and the responsibility of community groups for better law-enforcement. The study focused upon San Diego and Philadelphia and describes in detail the action oriented community programs undertaken by each.

Dr. Nelson Watson of the IACP, in Developing Guidelines for Police Practice, [102], delineates how the use of excessive force by police officers contributes in great degree to the fertilization and growth of community tensions. He recommends that all

departments adopt clearly written policy and procedures in the use of force and he presents a written procedure that can be applied in all police agencies who have failed to furnish proper guidance for their officers. The same author, in Police and the Changing Community: Selected Readings [99], treats the whole subject in broad detail. These selections can provide agencies with ideas for community-action oriented police programs and can identify new horizons in the training process.

A research study Survey of Police—Community Relations [64] by Robert F. Hope, Jr., conducted in the State of California, examines the attitudes of 50 police chiefs, and 50 white and 50 negro citizens. Its conclusions can assist police planners in developing a direction for a police—community relations effort. The basic problem of domestic disturbances and their effect on the police image is examined by Raymond I. Parnas in The Police Response to the Domestic Disturbance [80]. He suggests new approaches for the handling of this type of case that conceivably could improve police operations.

A. C. Germann in Police Planning and Research as it Effects Police—Community Relations [357] concludes that the police must get at those harmful attitudes of the public that hinder law enforcement. This, he maintains, can be done by proper planning and research that should occupy a significant role in this problem area. The police, he also concludes, must attempt to arouse the conscience of the public, making the latter aware of its role and responsibilities.

A program for gaining community support is described in Co-Working Officers for Public Security (C.O.P.S.) Program [32] in a research project completed by the Des Moines (Iowa) Police Department (with the assistance of a Federal Grant from O.L.E.A.). The development of the program from the planning through the implementation stages is outlined and is a good example of how one department involved a segment of the community in crime prevention measures, thereby achieving a working partnership with the business men of the city. The program places no great burden on police manpower and could easily be adapted by departments regardless of size. An article in Police Chief, "The Federal Community Relations Service" by Leroy Collins [359] outlines the role of this agency in the Police—Community Relations effort. Its services are available to communities and police agencies that desire to initiate, evaluate, or solicit resource information pertaining to police—community relations problems.

Essentially, the agency serves in an advisory capacity, and contact with it could prove beneficial.

One text that has a direct practical and immediate bearing on the problem is Professional Police Human Relations Training [395] by Siegel, Federman and Schultz. It recognizes that each individual officer, rather than the organization as such, is the critical element in the whole police—community relations component. Emphasis is placed on developing the skills of individual officers through the case and role playing methods. There is considerable depth here in actual case histories and discussion guides are furnished for the police-trainer. The material has served as the basis for a training program in the Philadelphia Police Department, and it is significant because it can easily be adapted to the operational needs of most police agencies.

The Winston-Salem (North Carolina) Police Department established a Community Relations Unit in June 1966. Under a grant, the department later contracted with a team of researchers to evaluate the effectiveness of the unit. The research effort is described in Community Services Unit: First Report and Preliminary Evaluation [398]. The selection, training, and work programs of unit personnel and their relationships with other members of their own department, as well as with the public, are described in the survey. The purpose of the research effort was to improve the effectiveness of the Community Relations Unit.

A paper by Professor David J. Bordua, Comments on Police—Community Relations [399], suggests that police relations with the public can be improved only when the police assume a positive leadership role in the community. Rather than moving only when the community suggests changes in police operations, the police must be the innovators, co-opting the talent available in their jurisdiction. His conclusion is that the police must directly participate in the goal-setting functions of government.

Writing in the Wisconsin Law Review, Raymond Parnas in "Police Response to the Domestic Disturbance" [80] describes an in-depth study of how the police handle domestic complaints. Generally, police receive very little training in an area with a high frequency of activity. His suggestions can provide the basis for adopting a meaningful written procedure for handling this type of complaint.

The International City Managers Association has produced an excellent twenty-two page publication Police—Community Relations Programs [475]. The report examines the total concept of police—community relations, defines the program and its goals, describes how a PCR program is organized, how the police should be trained for this type of activity, and the types of programs presently in operation. The report contains a syllabus of the community relations training program offered to police recruits of the Los Angeles Police Department. In response to the question, "Does community relations work?", the conclusion is emphatically affirmative.

The most recent publication that bears on the subject of police—community relations is The Police on the Urban Frontier [437] by George Edwards, Judge, U.S. Court of Appeals for the Sixth Circuit and formerly Police Commissioner of Detroit. It is a guide to understanding for the police and the community in pursuit of common goals and should be required reading for all police officers. The author reflects on the police problems of the 20th Century, traces the history of conflict between negroes and police, points out that the police operate with obsolete tools, and discusses the implications in the excessive application of force. He also develops the need for better communication between police and the people they serve, and concludes by noting that the police function, to be successful, requires the wholehearted support of citizens.

Trigger Words [457] by Ruth B. Harris is a definitive study of terms and words that are offensive to minority groups. As an example, the work points out that the term "Negress" is no longer acceptable and the study is important from the aspect that officers must be fully aware of words that can trigger explosive and sometimes violent reaction.

Police leadership today recognizes the need for public support. They have in many cases answered this challenge by creating specially selected police units designed to create new patterns of communication between the police, public and private agencies and individual neighborhoods. For many departments, the lack of adequate planning staff and particularly of finances has made this impossible. To answer this need, in part, the Office of Law Enforcement Assistance has made funds available to police agencies for initial planning and organizing of police—community relations units. Current funding availability is unknown at this time. Funding under the new "Safe Streets Act" is also unknown.

References that are noteworthy both for historical background and for insights that may be gained in developing action-based police—community relations programs are:

- "Establishing a Police—Community Relations Office Within a Police Department," Allman [460]
- "Police—Community Relations," Brown [461]
- Public Relations and the Police, Gourley [462]
- "Community Organization as a Solution to Police—Community Problems" Handlin [463]
- Rocks in the Roadway, A treatise on Police Public Relations, Hollingsworth [464]
- "The Citizen's Role in Law Enforcement," Lumbard [465]
- "Improving the Law Enforcement Image," Murphy [466]
- Public Relations for the Law Enforcement Officer, Peper [467]
- The Police Role in Racial Conflicts, Towler [501]
- Race Tensions and the Police, Curry and King [499]

3.6　Civil Disorders

Over twenty-five documents relating to police control of civil disorders were collected and evaluated. While much of the material contains useful information, primarily in terms of "lessons learned" from previous disorders, there has been no controlled research conducted in this area for fairly obvious reasons. Further, of the material collected, very little is directly concerned with police operational planning. The majority of the studies are of either a historical or philosophical type and are aimed at isolating the "cause" or "causes" of riots. This type of literature could prove very useful in the development of police—community relations programs and/or police riot-control training programs.

A number of standard reference works on civil disorder exist and should be an essential part of a police planning library. The recent Report of the National Advisory Commission on Civil Disorders [146] contains useful guidance for police agencies. More basic tactical procedures are contained in U.S. Army Manual FM 19-15, Civil Disturbances and Disasters [314] and U.S. Army Text ST 19-180, Special Text: Riot Control [22]. Wilson provides a general summary of operational planning for civil disorders in Police Planning [372]. Applegate's Crowd and Riot Control [373] contains useful material on tactical procedures that can be utilized in the development of operational plans. The Federal Bureau of Investigation has also produced an operational manual entitled Prevention and Control of Mobs and Riots [375] that provides general policy and tactical guidance.

Several U.S. police departments—particularly those of Charlotte (North Carolina) [202], Dallas (Texas) [291], San Francisco (California) [103], and Chicago (Illinois) [414]—have developed operations plans for riot control that provide an overview of the planning process.

A more general but quite useful work, Crowd Control and Riot Prevention [294], has been produced by the State of California. Another source document is Operational Guidelines: Community Tensions and Civil Disturbances [41] prepared by the IACP. There are numerous other operational plans produced by U.S. police agencies (e.g., Detroit and New York City), but the above mentioned are the only ones available to outside agencies such as TRC. Further, the May 1968 issue of Police Chief contains a summary of the material presented at the Civil Disorders Conference jointly

sponsored by the IACP and the Department of Justice. Particularly useful articles in this summary are those by Sealy on "Prevention of Civil Disorders" [374], Turner on "Planning and Training for Civil Disorders" [376], Kimble on "Planning for Civil Disorders [377], and Sagalyn on "The Riot Commission: Recommendations for Law and Order" [378]. Another useful source document will be the Proceedings of the Second National Conference on Law Enforcement Science and Technology (to be released in early 1969) co-sponsored by the Justice Department and the Illinois Institute of Technology.

Mobilization planning has been deemed absolutely essential by several authors. In assessing the Detroit Police Department's primary operational problems during the major disorders in the summer of 1967, Winkowski* noted the following basic difficulties:

- mobilization of manpower,
- prisoner processing and housing,
- handling and storing property,
- radio communication,
- shortage of manpower.

In Manpower and Command in Riots, [60 page 729], Monboisse provides examples of typical police problems that arise in the course of a civil disorder. He strongly recommends the development of an operational plan that contains as a minimum:

- a listing of personnel designated for riot duty and their assignments,
- a system of notifying personnel,
- a plan for transporting personnel to the trouble area,
- a program for periodic briefing of personnel concerning their specific assignments,
- information concerning individuals with special training (e.g., communications and photography),
- dispersal of reserve personnel and equipment to assembly areas outside the potential critical areas, and

*Bernard Winkowski, Detroit Police Department "Detroit, Summer of 1967"—Paper given at the Second National Symposium on Law Enforcement, Science and Technology, Chicago, April 17, 1968.

● sources of reinforcement and notification procedures.

The staff of the Civil Disorder Commission and the IACP have developed a model mobiliation plan [378]. The plan is or should soon be available from the Department of Justice, Office of Law Enforcement Assistance. Additional references concerning mobilization can be found in Momboisse [60], Charlotte Police Department [202], and Chicago Police Department [414]. The eventual plan would have to be adapted to local conditions by a departmental planning staff. The Los Angeles Police Department [95] has prepared a plan for a staging-area complex that is highly relevant to urban riot conditions. The use of a mobile communication unit is also strongly advocated by the Los Angeles Police Department [97].

A highly useful project entitled "Assessing Potentials for Racial Violence" [60, page 709] is currently nearing conclusion at Rice University. In it a methodology has been devised to reflect the racial tension in the Negro sector of a large southern city. The purpose of the study is to devise a way to predict in specific terms an impending riot in order to allow governmental officials to act to prevent such an outbreak.

The detection of sniper fire in urban disorder is the subject of a research project currently underway at Cornell Aeronautical Laboratories [397]. The system being developed is based on the use of doppler radar to detect bullets in flight and to pinpoint the sniper's location as a result of trajectory computations. The device is technically feasible and is currently undergoing field experimentation.

Some highly useful unclassified material concerned with urban violence in foreign countries has been prepared under contract to the Department of Defense. These studies contain interesting and relevant insights into the dynamics and control of urban violence. See particularly: Conley and Schrock, Preliminary Survey of Insurgency in Urban Areas [367]; Simulmatics Corp., Report on Urban Insurgency Studies [370] (this study contains an analysis of communication problems during the Watts Riot as well as a highly useful "game" for training police commanders in controlling urban insurgency); Atlantic Research Corporation, Patterns and Techniques of Insurgency Conflicts in Latin America [368]; and Jureidini, et al., Casebook on Insurgency and Revolutionary Warfare [366].

The San Francisco Police Department [103, 104] has prepared an operational plan for dealing with non-violent demonstrations. The plan covers in-service training, planning, and case preparation.

Other material judged to be of indirect relevance from an operational standpoint in this survey include:

● Disaster Planning for Small Communities, Haswell, et al., [167]
● Police and the Changing Community: Selected Readings, Watson (ed), [99]
● Law, Order, and Civil Disobedience, Whitaker and Coffin, [228]
● Report on 1967 Riots, Governor Hughes (New Jersey) [427]
● Observations on Emergency Operations in a Civil Disorder, Adelson, [172]

Two items were received too late to be included in the bibliography. Smith and Kobletz in Guidelines for Civil Disorder and Mobilization Planning (published by the IACP) set up guidelines geared to a medium-sized operation. Civil disorders involving large numbers of people require planning, training, and operations allowing the police to function as a disciplined, military-type team with effective command and control. A successful operation depends on a small staff to control and direct a police task force in dealing quickly and effectively with an emergency. Civil Disorders: After-Action Reports is a report to the Attorney General of the United States reviewing the experiences of eight American cities during the civil disorders of March-April 1968 following the death of Dr. Martin Luther King, Jr. Interviews were conducted with operational personnel, and municipal executives.

3.7 Police Training

The police are being scrutinzed as never before in their history. Traditional policies, procedures, and management techniques are being questioned by the public, administrators, and particularly social action groups. It is becoming increasingly apparent that not only must the police possess a thorough knowledge of the technical aspects of law enforcement, but they should also possess a better understanding of the social forces within the community and of the police role in this highly complex, rapidly changing society. A high degree of judgment and great skill are mandatory qualifications for the discharge of the police task. Thus, law enforcement performance can best be improved by continuing education and training as avenues of initial approach.

A fundamental document that points the way toward achieving basic goals in police training is The Challenge of Crime In a Free Society [1]. This document summarizes the needs as:

1. Formal police recruit training programs of a minimum of 400 hours spread over a 4—6 month period so that it can be combined with carefully selected and supervised field training.

2. All programs should provide instruction on subjects that prepare recruits to understand the forces within the community, the role of the police, the role of the total Criminal Justice System, and prepare him to exercise discretion properly in field operations. Specialized courses, law and psychology, should be incorporated into the syllabus and new teaching techniques such as problem solving seminars and visual aids must be utilized.

3. Proper use should be made of the probation tool. Administrators should fearlessly dismiss incompetents while they are in the probation stage.

4. Officers should be encouraged to advance their general education, and a minimum yearly in-service training should be provided for every officer.

There exists a great deal of literature—periodicals and some research—that reflects the current "state of the art" and that can be adapted easily to the training function. The Commission on Peace Officer Standards of California [302] has published a selected bibliography on the subject of police and minority groups that is a valuable source of information to revise or expand courses in human relations for law enforcement officers.

The University of Wisconsin has published three syllabi [233] that can be structured to meet local needs. The three prepared courses are: Training the Training Officer, Police Administration for Supervisory Personnel, and Delinquency Control. The Northern Virginia Police Academy [197], a regional effort, contains a model 592-hour training program that is divided and organized into six main divisions for newly recruited police officers. The subject material is capable of being presented in various ways—by lectures, conferences, demonstrations, role playing, field trips, motion pictures, slide films, and testing.

There are several police texts useful for developing a proper police-oriented foundation for both recruit and in-service training. Chapman's Police Patrol Readings [128] combines broad yet divergent philosophies with a mass of important detail on practices and procedures. Gourley and Bristow's Patrol Administration [126] generally serves a similar function but focuses to a greater degree on the functions and operations of the uniformed patrol unit, and includes an excellent chapter explaining the scheme for distributing and deploying members of the patrol force. Litton Industries has published two programmed instruction booklets delineating the methodology for allocating police manpower: Assigning Patrol Personnel [272] and Distribution of Patrol Personnel [306]. While useful in training command officers, the latter publications can also serve as a ready reference for anyone with a police planning responsibility.

A Curriculum Guide [178] prepared by the Washington State Division of Vocational Education provides a model uniform curriculum for community colleges and vocational-technical institutes working closely with established police agencies to prepare young people seeking a career in law enforcement.

The IACP has developed valuable tools for use at various stages in the training process. They are designed to increase the level of knowledge of the individual officer. The Training Keys, a monthly publication is concerned with the basic fundamentals in policing (e.g., laws of arrest, burglary investigation, securing evidence, how to testify

in court). Another innovative training concept is the Sight-Sound Projector, available to departments at a low cost because of federal subsidies, which can be used both for roll call training and classroom instruction. Programmed film strips dealing with a host of police subjects, used concurrently with a specially developed projector, have proven extremely effective when used properly. For supervisory personnel development, Management Case Studies [98] presents a method for training upper level managers. Through the case study method, the practical aspects of police discipline and manpower allocation and distribution are presented in easily understood terms. An effective tool for training middle and upper management personnel is a series of lesson plans covering the whole range of supervisory responsibility, developed by the California State Department of Education [425] in Sacramento, California.

Another worthwhile text is Germann's Police Executive Development [497], which contains a bibliography of current literature on the subject, recommendations for developing training curricula, model job descriptions for supervisors, minimum personnel records required by a police agency, and many suggestions for evaluating the efficiency of the department.

A reference text that can play a practical and significant role in training is Professional Police Human Relations Training [395] by Siegel, Federman and Schultz. The central theme is built on the concept that the individual officer, rather than the organization, is the critical element in the police community relations problem. The text emphasis is on the development of individual skills and proper social attitudes through the case and role-playing methods. There is considerable depth in actual case histories, and discussion guides are furnished for the police trainer. This material served as a basis for a Philadelphia Police Department training program, but its significance lies in the fact that it can readily be adapted to the training needs of any police organization.

The legal aspects of policing occupy a very prominent role in the police effort. To fulfill a very critical need in police training, the Federal Bureau of Investigation offers a recently published booklet entitled Handbook on Law of Search and Seizure [313], while the Traffic Institute at Northwestern offers Donigan & Fisher's Evidence Handbook [438] that is specifically oriented for the practicing police officer. For specialist training of officers involved in the traffic function, the latter institution has

available a comprehensive Accident Investigation Manual [439] that gives an in-depth treatment of traffic accident procedures and the general methodology of police traffic operations.

The importance of periodicals in the police training effort must not be overlooked, for they contain many articles concerned with investigative, legal, administrative, and scientific applications to the police task. The Journal of Criminal Law, Criminology and Police Science, The Chief, Law and Order, and Police are the more widely known magazines.

Due to be released within the very near future by the IACP Training Section is a machine program-learning system called ALERT. Through the use of tapes fed into a specially designed machine, the student is forced to make a choice of decisions in problems related to police operations and management.

3.8 Communications: Problem Areas and Studies

The Task Force Report: Science and Technology [8] discusses several areas of possible research in police communications systems aimed at solving the important problems of police radio frequency congestion, command and control communications, and maintenance of communications with officers who have left their cruisers for investigatory or assistance purposes. Many of the recent papers, some quite technical, are reviewed in this report, and may be directly applicable in planning, implementing, or evaluating a police communications system. Most of these papers were presented to the First National Symposium on Law Enforcement, Science and Technology, at Chicago, Illinois, in 1967. They represent the present research effort in the communications field and reflect on the problems that will confront a total police system which according to the best estimates will include 325,000 radio equipped police vehicles in the United States in 1970.

Three major research areas in communications are of general interest. These are voice (analog) communications, digital communications, and the problem of over-crowded radio frequencies. Under voice communications systems, low-cost VHF/FM systems, small transceivers for use by law enforcement officers when they are separated from their vehicles, and tactical communications systems for adequate control of large numbers of mobile units are among the topics covered.

The problem of the overcrowded radio spectrum, common not only in the police field but in other fields in which radio communications play an essential role, are discussed and covered in many papers. Some novel approaches have been suggested using either additional electronic equipment or modifying present equipment. The problem of security of radio communications has received much attention, and some approaches to its solution are embodied in the arguments for the use of digital communications systems, including telecommunications systems designed to relate with real-time data storage and retrieval systems. Such systems would give the patrolman in the field rapid access to data stores such as stolen car reports, wanted files, and missing persons.

There have been numerous studies of the police communications system from the standpoint of design and operation. A very useful monograph by Reinke entitled Design and Operation of Police Communications Systems [38] identifies the components of police communications systems to determine the most effective means of communicating police information and to develop criteria to aid in evaluating communications system effectiveness. Reinke believes that by applying sound management and technical practices, police communications systems can contribute substantially to the achievement of a law enforcement agency's objectives. Of primary concern is the researching of the administrative and operational problems encountered in police communications systems, with the successful solutions developed in response to these problems and with providing the administrator with the basic ingredients for sound decision making.

Reinke discusses the three major approaches to providing maintenance (viz., purchase and maintenance performed by the agency itself, equipment ownership by the department with outside maintenance, and lease-maintenance arrangements). Also noted are the effects, advantages, and disadvantages of centralized control on police communications, as well as the criteria and factors that should be objectively examined in determining the desirability of centralization of a police communications system.

A good description of communications procedures is given in the APCO Public Safety Communications Procedure Manual issued by the Associated Public Safety Communications Officers, Inc. (APCO). Also issued is a monthly journal, the APCO Bulletin, that should be familiar to police communications systems planners and administrators. There are numerous procedures and operations manuals issued by various states for the use of their communications personnel. An operations- and training-oriented one is that of the Kentucky State Police entitled Radio Communications Systems, Procedure and Training Manual.

The proposal to adopt a channel zoned communication system is being considered by many departments. The Communications Planning Committee of the Albuquerque (New Mexico) Police Department, which serves a population of 200,000, in a very recent report recommended the establishment of two communications zones by assigning a radio frequency to each zone. The problems of space, location of the communications center, frequency interference, frequency assignments, receipt of incoming calls, etc., are noted and the committee's report is oriented toward needs of the city through 1980.

An important technical study of the police communications response system is Larson's thesis, Operational Study of the Police Response System [62], which studied police operations related to the processing of calls for police service in the Boston Police Department. The police response system is defined as including police telephone operators, dispatchers, patrol personnel and related equipment. The purpose of this study was to model the processing of calls for service. Mathematical models were obtained for each of the response activities using queueing theory, with the dependent variable in each case being the mean time needed to complete an activity. Using a dynamic programming resource allocation model, the response system was then analyzed to determine the minimum number of personnel needed to maintain a given weighted system response time. Data gathered for the city of Boston were used as input to the allocation model. Models were obtained for processes generating police calls, for complaint clerk activity, for dispatcher activity, and a descriptive model of patrol response time. The results were compared to actual Boston operating practices and the author made recommendations concerning specific operating policy changes. Also discussed were methods used for determinating shift starting times, personnel allocation to shifts, and determination of call priority and spatial manpower allocation. Even though heavily mathematical, the models and approach developed by Larson are of invaluable assistance to police department planners in the areas of resource allocation.

A work useful especially for medium sized departments with decentralized precinct systems is the Arthur D. Little study entitled Reports, Records and Communications in the Boston Police Department [162]. The report gives a detailed description of the reporting system at the operational level, the records-keeping system, and the communications system. It is of special interest because it points out and identifies the needed changes required, recommends how to implement them, indicates the costs involved, and estimates the timing required to activate them. In connection with the communications system, the report recommends additional radio channels and a zone dispatching system as basic to future efficiency. The report provides illustrations of the actual forms and punch cards now in use by the Boston Police Department that might be useful to other police departments.

A promising approach to a major communications problem, the overloading of radio frequencies, is discussed by Horne, Sabin and Wells in "Random Access Communications for the Safety Services" [60, page 115]. Anticipating an increasing load on public safety radio frequencies due to increasing police use of radio communications, it is argued that the simple allocation of more frequencies already in short supply, to public safety services, is not necessarily the answer. Instead, they propose a system now in use by the military services that uses frequency assignments more efficiently and should enable police communications systems to cope with the anticipated volume of traffic generated by modern police operations.

The present systems have a group of mobile units operating under the control of a base station, with a common frequency or the base on one frequency and the mobile radio units on another. Known as a "net" operation, each station in the network transmits under control of the base station. All stations can hear all transmissions from the base. A major disadvantage of this system is its susceptibility to eavesdropping and interference, since it is simple to determine the frequencies used by a particular agency. Also, there are times when the channel is idle or overloaded and several users wish to communicate. In cities with a number of channels assigned to public safety forces, similar conditions result in inefficient utilization of radio frequencies. The authors propose that if channels were made available to other users during periods of idleness, more communications could be handled within a given frequency band. Each user would have access to a group of channels through a system that would select an idle channel for each call and release the channel when the call is terminated. Such a system is known as a "random access" system. By means of discrete addressing, the call is directed to the intended group or individual without disturbing other users. A detailed description of the operation and advantages of such a system are noted. The system is practically immune to jamming and to unauthorized transmitters seeking to send false information. The paper is a must for all police communications planners because it presents a feasible and promising solution to the major communications headache—the shortage and overloading of radio frequencies.

The problem of security in police radio communications is the subject of a paper by Klein and Grabois [60, page 125] entitled "Secure Communications for Police Radio." It discusses some ways that security can be achieved electronically, either by addition

of new equipment or modification of existing equipment. The two modulation techniques described are a class of pseudo-noise signals and are secure only to the extent that the high cost and complexity of the equipment required to decode the transmission is not feasible for criminals or the general public.

A work by Larson and Miller entitled "Digital Overlay Systems for Improved Spectrum Utilization" [60, page 139] addresses the problem of efficient frequency utilization and proposes the employment of digital techniques to achieve improved spectrum utilization. This involves the sending of discrete bits of information according to some pre-determined code over a radio channel that normally carries voice transmissions. Voice traffic would be retained for emergency calling while data traffic would be for routine or special communication. The terminal devices to be used in this "digital overlay" system may be a mobile printer, keyboard, display, computer, teletypewriter, etc. Overcrowding of the voice channels and the need for slow repeated recitation from dispatcher to the mobile unit to obtain a message could be improved by digital techniques. This system gives the user a hard copy output to be used as a record of the day's activities, enables messages to be sent when the user is away from the mobile unit, and offers security in that transmission is limited to only those who have printers. Mobile locator systems, of interest today, would use digital techniques with the proper type system. The different overlay systems, their advantages and disadvantages, description of equipment, and test results are also described.

Elmer Soldau of the Detroit Police Department describes in "Innovation in Communications—Personal Radio Equipped Police" [60, page 159] the background, design, implementation, operation, and use of the city's PREP (Personal Radio Equipped Police) system, wherein patrolmen are equipped with a radio transceiver designed for the department. It may be of interest to others who are considering revamping or improving their present communications systems. The basic aim under PREP is to equip the officer with a two-way radio and thus enable him to stay in radio contact anywhere. Some advantages of the system are that it enables the officer to leave his vehicle without leaving the protection of extended communications, it permits patrolmen to be in constant contact with other cruisers and headquarters, and it eliminates the need for patrolmen to follow the rigid call box route. It also eliminates the expense of

maintaining a fixed communication system and provides more efficient use of stationary traffic officers. The use of this system under riot conditions in Detroit is described.

Yefsky and Janc [60 page 169] consider the problem of personal communication in "Personal Communication System by Mobile Repeater." Concern is expressed with the loss of communication when an officer leaves the cruiser in the investigatory or assistance process. A Chicago Police Department program to develop a personal communications system for the officer outside of his vehicle is described based on the concept of using the patrol vehicle as a communications relay from the remote patrol officer into the existing radio net. The system is designed to allow gradual implementation of vehicles without any fixed station requirements and with sufficient latitude to be compatible with communications systems of the future. Preliminary tests indicate the usefulness of the concept in highrise public housing, teen disturbances and fire-traffic patrol.

Pastore and Coulter [60 page 173] in "An Automatic Communications Printer for Radio Controlled Vehicle Fleets" describe a printer system (developed by an English firm: Ferranti, Ltd.) that allows pre-prepared information to be transmitted to vehicles over existing mobile radio systems. The printer provides clear printed messages and has been proven in field trials. A pilot system consisting of a headquarters encoder and six mobile printers was evaluated and the authors state that initial results seemed promising and the printer would soon be produced. The advantages of the system are that it enables messages to be sent to a police vehicle even when the officer is away from the automobile and it provides transmission security.

Anderson and Lomas, of the United Kingdom, in a report entitled Facsimile Equipment as a Means of Police Communication [417], describe a study undertaken for the Bristol (U.K.) Police Department in which facsimile equipment was compared with other systems of communication. The study set out to ascertain whether facsimile transmission was the most efficient system for Bristol, whether it would be suitable for other individual forces, and whether it could be used for common purposes as a link between individual forces, criminal record officers, forensic science laboratories, etc. Many charts and tables are provided and a communications system planner or administrator can learn methods of conducting in-house studies.

The concept of an integrated control and communications system for law enforcement agencies is presented by Gaffney in "Police Integrated Control and Communications System" [60, page 533]. An integrated control and communications system for a police department means the assembly of techniques, procedures, and equipment that can be applied to achieve the most effective deployment of law enforcement officers to apprehend criminals, inhibit a riot, prevent commission of a crime, etc. Pointed out are some modern communications and computer techniques and technologies that can be employed by a law enforcement agency in the more effective use of its manpower resources. The communications subsystem of this control system would be used for vehicle dispatching. An interesting aspect of the system is that it determines positions of mobile units by use of a radio geographic tracking scheme that minimizes the amount of geographic tracking equipment carried in a vehicle.

3.9   Non-Lethal Weapons

Very little information is available concerning the use of non-lethal weaponry by U.S. police agencies. The primary source of information concerning chemical weapons continues to be U.S. Army publications, particularly FM 3-8 Chemical Corps Reference Handbook [396] and FM 19-15 Civil Disturbances and Disasters [314]. Both of these manuals provide detailed performance data and concepts for the use of chemical weaponry. A fairly comprehensive treatment of tear gas characteristics and methods of delivery is also presented in Swearenger's Tear Gas Munitions [382].

Two broad surveys of non-lethal weapons concepts have recently been published. The first, Non-Lethal Weapons for Use by Law Enforcement Officers by Coates [168], was produced as a sub-study of the President's Crime Commission Report which contains a summary of the research. The paper examines situations for which non-lethal weapons are appropriate and limitations on their use. Numerous esoteric non-lethal weaponry (e.g., dart guns, sound and light, foams, marking agents, nets, tapes, sticky blobs, plastic confetti, slippery material, etc.) in various stages of research and development are also discussed. The primary conclusion of the survey is,

"The single most promising avenue for the development of new and useful police weapons is through chemical agents."

The report also notes that the agent CS, the so-called "super tear gas," is more effective and less dangerous than the traditional CN tear gas used by police agencies. The report strongly recommends that an immediate scientific evaluation be made of the chemical MACE now being widely introduced in police agencies.

The second study, New Concepts in Police Weapon Systems by Weston [210], is essentially a review of new developments in police firearms (e.g., the "Gyrojet" weapon systems, a micro-rocket powered missile). The paper is useful primarily for the criteria it presents for evaluating police weaponry.

A few descriptive articles on chemical munitions that provide useful background material are: Applegate's "Tear Gas ... CN and CS" [380]; Penn's "Riot Control Chemicals" [381]; Applegate's "Smoke vs. the Mob Cancer" [379]; and Applegate's "New Riot Control Weapons" [383].

Additional material on non-lethal weapons of the non-chemical variety can be found in: Chapman's "Whether to use Police Dogs" [386]; Smith's "Gas, Air, and Spring Guns of the World" [388]; Applegate's "A New Police Shock Baton" [385]; Stanley's "Rapidly Implaced Anti-Personnel Obstacle" [387]; and Applegate's "Bubbles and Banana Peel—A New Soft Weapon for Destroying Dignity" [384].

A study by E. Lea "Survey and Inventory of Current Police Weaponry" [60, page 783], contains a useful summary evaluation of current and projected police weapons including various non-lethal devices.

There exists a large body of classified military literature on this subject that contains references to even more promising chemical agents. Unfortunately, this material is not available to U.S. police agencies.

As announced in August 1968 by the Office of the Attorney General, the IACP under a Chemical Agent Program will make available field technical assistance and information to a selected group of cities and counties in the U.S. Interested police agencies may contact the IACP at 1319 Eighteenth Street, N. W., Washington, D. C.

3.10   Personnel Management

Personnel management has been defined as the art of selecting new employees and making use of old ones in such a manner that the maximum quality and quantity of output and service are obtained from the working force. It involves a whole series of processes that are closely interrelated with one another. Recruitment standards, selection procedures, testing, salaries, career development and fringe benefits are functions of police personnel management. The importance of people, the manner in which they are recruited, selected, trained and retained are factors vital to the police organization. The management function is the art of managing people. Although many functions in the personnel process are carried out by central personnel agencies, the police administrator is not relieved of the responsibility of being involved and knowledgeable in the mechanics and procedures. In fact, it is his duty to participate fully and actively in this area, for he must realize that it is virtually impossible to separate the performance of the police organization from the abilities of its personnel.

A broad treatment of the subject, educational requirements, character investigations, age and residency requirements, probation, and career development is discussed at length in Task Force Report: The Police [3]. The more significant recommendations include:

●   Large and medium sized cities should establish three classes of officers to be referred to as: (1) community service officer, (2) police officer and (3) police agent. The existing police functions will be divided among these officers according to their level of competence.

●   Each department should assess its manpower needs in terms of providing efficient service to the community. Where police manpower is being wasted, the practice should be halted by assigning officers to meaningful tasks. If police manpower is still insufficient to meet demands for service, the police administrator must seek additional manpower from the controlling legislative body of his city.

●   Police agencies must conduct vigorous recruitment campaigns particularly concentrated at the college campus level in order to attract better educated personnel.

• Police salaries must be raised making them competitive with other occupations and professions that seek men of ability and education.

• Police salaries and fringe benefits must be considered apart from those of other groups in the municipal structure. Traditionally police and fire salaries in many communities are identical. Since both perform entirely different tasks, their salary structures should be considered separately.

• Police departments immediately should take steps to require baccalaureate degrees for police personnel in administrative and supervisory positions. Advanced training in supervisory and management principles should also be provided to all supervisors presently serving in police agencies. A baccalaureate degree requirement should be established for all future chief administrators.

• Current selection procedures should be upgraded by requiring a comprehensive background investigation for all persons before being admitted to the police service. Psychological examinations, administered by trained professionals, should be conducted by all departments. An adequate probation period must be established in order to root out the unfit person undetected in the pre-selection process.

• Strict residency, age, height, vision, and other requirements should be flexible and sufficiently realistic to meet the demands for manpower within a community. Moreover, the physical standards should be equated with the physical qualities necessary to perform the police task in a modern society. As an example, some departments require applicants to possess 20/20 uncorrected vision in both eyes, whereas the Federal Aviation Agency will license pilots whose vision is 20/100 correctable with glasses to 20/20. Some departments remain unwavering in their determination to keep the height requirement at 5'8" when experience has produced evidence that other agencies have been successful when they lowered the requirement to 5'7". The Task Force Commission quotes the noted police author, A. C. German, from his work, Police Personnel Management [483], as an indicator of its position on the

subject. "In place of mandatory rigid requirements for all entering personnel, physical requirements should be assessed on an individual basis. The opinion of an examining physician on whether an applicant is fit to serve would prove far more reliable than mandatory civil service requirements."

In four consecutive issues of the FBI Law Enforcement Bulletin [507] beginning October 1966, the subject of recruitment, selection, and testing is treated in depth, and not only philosophically; specific guidelines, criteria and reasonable procedures are set forth that can and should be subscribed to by law enforcement executives. The importance, nature, and objectives of sound personnel management as an effective administrative tool in meeting the goals of a police department is the subject of a series of articles, Police Personnel Management [512], publication no. 2580 of the Traffic Institute of Northwestern University. The author points out that in an overwhelming number of situations, top administrators have lost control over the people within the organization through ignorance of proper personnel management practices. It is an excellent guide for police managers for the development of sound personnel policies, "in assuring effective recruitment and selection processes, and in utilizing employees to their maximum effectiveness." Department of the Army Pamphlet #611-2, Army Personnel Tests and Measurement [471], provides an understanding of how the Army applies personnel psychology and statistical methodology to its personnel problems. Personnel measurement techniques and procedures and the technical aspects of personnel management are described in language easily understood. Perhaps the most comprehensive reference text, one that should be a part of every police library and whose contents, philosophies, and procedures are easily transferable to police related activity, is Municipal Personnel Administration [189], a work of the International City Managers Association. The written text covers position classification, pay standards, recruitment, examination, placement, probation, performance evaluation, motivation, morale, employee relations, etc., and is amply supported by model charts, figures, and sample forms that are needed to exercise supervisory control of workers in any organization.

Some of the more recent research products dealing with management skills, and worthy of mention include Police Performance Rating as a Management Tool [281]

which advances the hypothesis that performance rating is a required tool for the manager or executive. The work includes a variety of sample evaluation forms that can easily be used by a police agency depending on its individual needs and requirements. The U. S. Air Force conducted a 12-week research test designed to determine the ability of apprentice air policemen who had graduated from a training school to perform the duties of their specialty in the field. The technique for measuring their effectiveness and the control forms used in the project are the subject of Performance Evaluation of Apprentice Air Policemen [341]. The Denver Police Department submitted a Preliminary Proposal—Recruitment of Police Officers [340] to the Office of Law Enforcement Assistance, asking for funds to test the effectiveness of a number of recruiting techniques. Whether the proposal was funded is unknown, but it suggests methods for recruiting policemen utilizing commercial, private, and college newspapers, radio, television, outdoor billboards, and brochures. The report also contains a structured pre-employment outline used by that department to screen applicants for police service.

The problem of salaries, recruitment, education, and minimum selection and training standards was the subject recently of a commission study, The Report of the Special Commission to Study the General Upgrading of Police Services [250] submitted in March 1968 to the Governor of Rhode Island. The effect of revising age, eye, and height standards was instrumental in the success of a recruiting campaign by the Chicago Police Department. These selection criteria and other factors in the recruiting process are the subject of Recruiting for Police Careers: A Report on the Second Annual Connecticut Law Enforcement Conference [365].

Two publications, closely related as to subject matter and distinguished by their originality, depth of treatment, and intelligible writing style, are Police Manpower, Equipment and Efficiency [327] and The Recruitment of People with Higher Educational Qualifications into Police Service [328], produced by the British Home Office. After prolonged and detailed examination, these papers postulate a policy position on numerous elements in the personnel management component, supported by arguments for the specific stand taken. They advocate a centrally coordinated recruiting system designed to serve a number of police departments within a geographical area. They oppose lateral entry into investigative units because they envision the creation of an elite corps

that conceivably will set itself apart from the rest of the police agency. Recommendation for the age standard is pegged at 19—30 but it is suggested that police agencies explore the possibility of raising the upper limit for recruitment to age 40, especially for discharged service personnel. Other challenging recommendations in the report provide for a shorter qualifying period on promotional examinations for college graduates, provision for the use of civilians called traffic wardens to enforce traffic regulations, modification of vision standards and specific recommendations for the use of civilians in many areas, such as in the courts and to perform fingerprinting and photography tasks, traditionally carried out by the police officer. The problems of the British police are analogous to ours, and the products of these thought-provoking and sophisticated research papers can be utilized in our system of personnel management.

Another enlightened British Study, Report of a Working Party on Cadets [364], deals with a broad range of problems associated with the employment of cadets (male and female) in a police organization. The work discusses the subjects included in educational curricula, pay and pensions, discipline, disability benefits and other personnel matters relevant to cadets. Particularly interesting is the fact that female cadets have been used in an effective manner by the British Police System since 1955. The policies, the focus of training, their duty assignments, and the effect of marriage in the work relationship, are discussed in detail and could provide useful guidance to the American Police executive contemplating the use of female cadets.

For police officials and administrative heads of various levels of government who are continually under pressure to support the creation of police review boards, Administrative Problems in Controlling the Exercise of Police Authority [339] by Herman Goldstein is a close-up examination of the problem of police discipline at the operating level and its relationship to review boards and to the command structure of a police department. The keen insights exhibited in this paper can provide support to officials confronted with the problem of police review boards in their jurisdictions.

3.11 Juvenile Delinquency

The President's Commission on Crime and the Administration of Justice recognized that the best hope for reducing crime is to reduce juvenile delinquency and youth crime. The police are aware that a disproportionate share of crime is committed by youth, because in their everyday operations they make an overwhelming number of police contacts with youthful offenders. The skill, patience, understanding, and knowledge of correct processing procedures can often influence the future behavior of youthful offenders. Properly trained juvenile officers can exert healthy influences, while those with lesser or no training can leave a negative impact on juveniles. Also essential in the whole process is the ability to identify and provide positive guidance to those who exhibit latent anti-social tendencies and who stand the risk of becoming involved in active criminal behavior. It is therefore necessary that police departments formulate guidelines for dealing with the juvenile offender; that police officers with juvenile responsibility be specially trained; that they have a working knowledge of child psychology and be familiar with the social and ethnic backgrounds of neighborhoods and their prospective clientele; and that they be intimately acquainted with custody and interrogation procedures related to the juvenile offender.

Most of the available literature is concerned with either the psychological and sociological aspects of the juvenile problem or with police practices. Nevertheless, there is pertinent literature available related directly to the problems of juveniles, and administrators and officers working in this field should be familiar with it.

Two broad surveys, The Challenge of Crime In a Free Society [1] and Task Force Report: Juvenile Delinquency and Youth Crime [6] represent a very detailed and enlightening sociological treatment of the environmental components (family, school, employment, housing) that affect the attitudes, habits and character of American youth.

One of the better works is Juvenile Delinquency and Youth Crime: The Police Role [308] by George W. O'Connor and Nelson Watson, both affiliated with the IACP. A sampling of the attitudes, opinions and views of police officers regarding the practices and issues of delinquency are reflected here. But what is particularly commendable is the guidance provided by the authors in spelling out twenty-nine written policy guides for police officers in dealing with juvenile offenders.

The U.S. Department of Health, Education and Welfare has recently published a three volume set of booklets called The Handling of Juveniles from Offense to Disposition [426]. The first two volumes are in the form of a training manual and serve two purposes by : (1) presenting case histories from the initial encounter between the police and the juvenile, through probation, to finally disposition in the courts, and (2) incorporating social science readings relevant for officers involved in juvenile work. The volumes also cite typical police case reports and offer a wealth of ideas and stimulation for training of police, especially in the procedures necessary to properly handle juveniles. The third volume serves as an instructor's guide, and contains pertinent discussion questions useful for classroom instruction. It is a useful tool to be employed in training the potential juvenile officer and a device for bridging the gap between the academic disciplines and actual field operations.

Guidelines for handling juveniles in a school dominated situation are outlined in Guidelines for Co-operation—Schools and Law Enforcement [231], published by the Institute of Governmental Affairs, University of Wisconsin. The same source has also published Law Enforcement and Juvenile Justice in Wisconsin [232], a valuable treatment of the whole background and philosophy of the juvenile justice system. The latter publication further explores such significant topics as police discretion, field interrogation, search and seizure, apprehension, records keeping, and neglect of children. Although the orientation is related to the Wisconsin legal system, the guidelines can be applied to other jurisdictions.

A recently published authoritative text, John P. Kenney's Police Work with Juveniles [493], deals with approaches to training and is essentially concerned with practical police problems in handling juveniles. Suggested guidelines are given for such aspects as fingerprinting and maintenance of records, traffic programs, and methods for processing complaints.

3.12 Systems Analysis: Law Enforcement Problem Areas and Studies

Systems analysis is a method in which technologies are matched to specific problems and was developed primarily for and by the Defense Department. The approach begins with a statement of the system's objectives and a survey of the possible means of achieving them. Costs and benefits of each alternative to achieve the desired goals are then estimated. Such analyses provide an opportunity to study many different approaches prior to actual implementation. The technique depends upon accurate data collection, analysis, and evaluation. While it is often very difficult to relate overall objectives to the alternative means of achieving them, a major advantage of the systems analysis approach is that it clarifies goals by stating them in operational terms. Attention is focused on the ways of achieving goals. Information relevant to the choices (of the decision makers) of values to be served are collected.

In view of this definition of systems analysis, some papers reviewed in this section overlap with other areas and could also be categorized under "communications systems" (Section 3.8) "computer and information systems" (Section 3.14), etc.

The Task Force Report: Science and Technology [8] gives an example of the use of systems analysis in finding out how police patrol forces can better deter crime. Starting with the principal objective of reducing crime, it is shown that by a sequence of analytical and empirical investigations and some assumptions, it is possible to proceed from the basic objective to specific recommendations concerning new technology and operational procedures. The same type of approach is equally applicable to the analysis of aspects of court operations, corrections, etc.

The report [8] is a survey of problem areas in law enforcement to which science and technology may make contributions. Such general areas as police operations, the apprehension process, communications, command and control, court management, corrections, crime prevention, criminal justice information systems, and police scientific research and development programs are covered. Some specific areas covered are: systems analysis of response time in a hypothetical city, computer simulation of felony case processing, and fingerprint classification. In each case, systems analysis techniques have been used to spotlight particular problems of the area with a survey of scientific techniques or technology that may be applicable. An extensive set of appendices covers such topics as program budgeting, fingerprint classification,

electronics equipment for police vehicles, information systems, and cost analyses. These features make the document a must for anyone contemplating the use of systems analysis techniques in the solution of law enforcement problems.

There are several very good works defining systems analysis in a general context and in the context of law enforcement. A work by Fennessy, Systems Analysis and the Administration of Justice [72], describes systems analysis, its history, and how it works, with particular emphasis on criminal justice problems.

Rowan's Systems Analysis: Problems, Progress and Potential [390] discusses the application of systems analysis techniques to socioeconomic problems of urban areas and describes several specific projects including crime and delinquency applications. Operational problems encountered in the course of the studies are also described.

Van Natta, in an earlier publication entitled Applying System Analysis to the Municipal Police System [182], considers the objective of systems analysis to be finding a means of improving the system under consideration and the application of techniques used by NASA to the solution of municipal police problems.

Hermann in The Systems Approach in Crime Prevention and Control [173] discusses some of the ramifications inherent in a systems approach to some immediate problems in the application of science and technology to law enforcement. He maintains that any meaningful applications of science and technology in this field first requires a clear definition and understanding of the objectives of the criminal justice system as well as of the technological and non-technological constraints on the operation of the system in the context of its special environments. In particular, the author addresses himself to the functions of a command-and-control system in the context of a generalized view of the law enforcement process. He defines a command-and-control system as being that which connects a commander (or a non-commanding decision-maker) with sources of information about events concerning police as well as files, equipment, field units, etc. He discusses the police command-and-control system in terms of basic functions of such a system, i.e., sensing, analysis, deciding, and acting.

A description of how the systems approach (currently being used with success in the aerospace industry and military community) could be used to help solve problems relating to law enforcement is illustrated by Warn in "System Engineering Approach to

Law Enforcement" [60, page 651]. Warn argues that the technological and tactical problems of military and law enforcement agencies are similar in many aspects. He advocates the application of systems engineering techniques to the solution of complex law enforcement problems and demonstrates the actual application of such an approach to bank robberies and riot control. The systems engineering process is defined as one that, given certain goals or objectives, identifies functions to be achieved, the requirements for these functions and what is needed in the way of hardware, techniques, etc., to enable these functional requirements to be accomplished. A clear and lucid explanation of the systems engineer's task is given, and the intricate interrelationship between the systems engineer and specialists in various disciplines is discussed. The author relates real police problems to their military counterparts that have been attacked or solved by the systems approach.

Some of the practical constraints that face the systems analyst in applying theory to the real world are discussed in a very perceptive paper by Isaacs entitled System Analysis Theory vs. Practice—A Case Study of the LAPD Information System [88]. The case history of the study and the design of the Los Angeles Police Department's Crime Information System is used as an example. The author explores the general constraints on the systems analyst operating in local and state government environments which serve to limit both the scope of effort and the objectives of the system to be designed.

The state of California was one of the first to sponsor studies by aerospace and defense firms. Systems studies aimed at solving such problems as the information explosion, prevention and control of crime and delinquency, waste management, and basic transportation problems were undertaken. Space-General Corporation made a comprehensive study of crime and delinquency in its report entitled Prevention and Control of Crime and Delinquency [29]. A systems analysis and cost/effectiveness study of the California criminal justice system was designed to model the system, to explore proposed innovations to the system, and to evaluate the probable results using the information from analysis of the simulation output. The study resulted in some interesting findings in the area of crime statistics, and in the introduction of the "career cost" concept representing the total costs required to process an average offender for his entire life. Results were obtained in the calculation of the cost/

effectiveness of system policies or other operating conditions and in an increased understanding of the interrelations between the functions of various jurisdictions. One interesting analytical model developed showed that the rate of parole violation should increase as the relative use of probation increased and predicted the magnitude of increase. The study concluded with recommendations for follow-on work aimed at improving the criminal justice system in California.

The report was criticized on such grounds as weakness in knowledge of the subject area, too much emphasis on systems engineering, and not enough attention to social and institutional aspects. The report was praised for its comprehensive scope and its demonstration of a fresh approach in thinking and in its recommendations.

Many law enforcement officials in small cities and towns are under the impression that systems analysis techniques apply mainly to large cities with complicated problems, but are of limited use in smaller cities and towns. However, Hodges and Klein in Systems Analysis and Design Applications to Small-City Police Department Data-Processing Operations [28] consider the data needs and requirements in a general model that would be applicable to city police departments serving 25,000—100,000 persons. A discussion of the applications of systems analysis techniques in developing and evaluating an advanced non-computerized data system for the Redondo Beach (California) Police Department is noted. The problems of small-city police departments are discussed with respect to data-processing and the systems analysis approach to these problems. The Redondo Beach project is not complete at this time and results are not known. It may provide valuable insights into how smaller departments can obtain automatic data-processing benefits without the prohibitive costs.

Some of the subject areas of law enforcement to which systems analysis has been actually applied with the aim of developing operational policies, equipment, or techniques, are: surveillance and detection systems, correction procedures, weapons identification systems, new weapon systems, fingerprint classification, storage and retrieval of fingerprints, information retrieval systems, information systems, file security for information systems, effectiveness measures of police-agency (and agency-subsystems) performance, communications systems, and command-and-control systems. See Appendix F for several examples of systems studies under six different headings with a brief description of the report content or significance.

Among major works in systems analysis that which should be in the library of any systems-oriented police planner, are:

- Techniques of Systems Analysis, Kahn and Mann, [515]
- Efficiency in Government Through Systems Analysis: With Emphasis on Water Resources Development, McKean [516]
- The Economics of Defense in the Nuclear Age, Hitch and McKean [517]
- Decision Making for Defense, Hitch [518]
- Defense Management, Enke [519]

3.13   Police Planning and Research

The purpose of this section is to suggest a basic police planning and research library with an emphasis on documents of immediate value. Over seventy-five documents collected were classified directly to police planning and research. The sections on systems analysis and operations research in the United Kingdom are also directly applicable here.

The first essential document every police planner should possess is O. W. Wilson's Police Planning [372]. Its treatment is broad, covering the full range of police activities: the planning process, organization, patrol, detective, auxiliary services, etc. Wilson includes 14 appendices covering such topics as: basic data required for planning, recruiting, duty, police duties at a crime scene, and contingency plans.

Wilson's companion work, Police Administration [371] and Municipal Police Administration [189] published by the International City Managers' Association are pertinent volumes. All major outputs of the President's Crime Commission should be ordered, including:

- The Challenge of Crime in a Free Society [1]
- Task Force Report: Narcotics and Drug Abuse [2]
- Task Force Report: The Police [3]
- Task Force Report: The Courts [4]
- Task Force Report: Organized Crime [5]
- Task Force Report: Juvenile Delinquency and Youth Crime [6]
- Task Force Report: Corrections [7]
- Task Force Report: Science and Technology [8]

The police planner needs a "how to do it" manual. One of the best is Pfiffner and Lane's A Manual for Administrative Analysis [215]. A detailed step-by-step procedure to do 11 types of planning and research projects is outlined. One section is devoted to a "general approach"—a generalized problem solving methodology. Other sections include methodology for projects concerning work simplification, forms analysis, development of procedure manuals, budget analysis, and survey of organization, space layout, machines and equipment, requests for additional personnel, position classification, and wages and salaries. Unfortunately, there is no similar document that is police oriented.

Several works should be gathered that relate generally to planning (most of these will be oriented toward corporate planning, but the rationale and techniques are applicable to the police). Suggestions include:

- Long-Range Planning for Management, Ewing [509]
- Planning Theory, LeBreton and Henning [510]
- Long-Range Planning, Payne [511]
- Selected References for Corporate Planning, Branch [512]
- Planning, Parts I and II, Harvard Business Review [521]

A research-oriented volume strongly recommended is The Modern Researcher [520] by Jacques Barzun and H. F. Graff. In Toward a Redefinition of the Police Function [310], Goldstein takes a broad view of the current need for research, and suggests research to:

- call attention to the significant difference between the actual functioning of the police and the widely-held notions regarding the character of police operations;
- illustrate some of the major problems and issues that are raised by actual police functioning; and
- point up the need for clarifying our thinking regarding the police role in our society as a prerequisite to undertaking specific programs intended to strengthen and improve our law enforcement agencies.

The above mentioned publications, together with works suggested in other sections of this report, will provide an adequate beginning for any police planner. Other references include:

- Police Management Planning, Kenney [77]
- Decision-making in Police Administration, Bristow and Gabard [76]
- The Police Management System, Kassoff [44]
- Police Resource Allocation, Misner and Hoffman [222]
- A Workload Study of the Uniformed Patrol Officer Including an Outline of Recommended Procedures Designed to Measure Field Activities as an Aid to Deployment, Los Angeles Police Department [295]

- A Preliminary Output-Oriented Program Budget for the Detroit Police Department, Wayne State University [119]
- Surveys of Population Samples for Estimating Crime Incidence, Biderman [326]
- The Need for a Planning Unit in the Detroit Police Department, Wilson [318]
- The Planning and Research Division of the Los Angeles Police Department, Simon [347]
- Organization and Function of Planning and Research in Small, Medium and Large Departments, Murphy [46]
- Organization and Function of the Police Planning and Research Units, McDonell [101]
- Police Planning and Research as it Effects Police-Community Relations, Germann [357]
- Report on a Pilot Study in the District of Columbia on Victimization and Attitudes Toward Law Enforcement, Bureau of Social Science Research, Inc. [9]
- Formulative Study into the Nature and Scope of Police Systems in Arizona in Order to Identify Educational and Research Needs, Carnahan [303]
- Criminal Victimization in the United States; A Report of a National Survey, National Opinion Research Center, [10]
- Criminal Justice Research, Remington [513]
- Studies in Crime and Law Enforcement in Major Metropolitan Areas— University of Michigan, 2 Volumes [11, 12]

3.14   Records, Computers, and Information Systems

There are many relevant law enforcement works in the areas of Records, Computers and Information Systems. The role of computers and automation to the field of law enforcement is expanding and becoming quite varied, as noted in Task Force Report: Law Enforcement Science and Technology [8]. This essay considers the items that reflect the general trend in the area of law enforcement records and operations, computer technology, and information systems.

The literature surveyed is categorized as:

1. Non-automated records and information systems,
2. Concept and application theories,
3. Design of information systems,
4. Operational systems

A fundamental change is reflected in police uses of records. Until recently, police departments conceived the records-keeping task as an end in itself, but there has been a shift in this attitude and are now being utilized as part of a comprehensive planning and management system.

There is a great deal of reference material available in the area of non-automated records and information systems, and it should be familiar to law enforcement agency officials. This is especially true of O. W. Wilson's classic, Police Records—Their Installation and Use in Public Administration Service [61].

Numerous manuals and handbooks have been issued by various organizations and agencies. Some of the most useful works in this area have been issued by the FBI through its Uniform Crime Reporting Program, which establishes guidelines for the uniform collection and reporting of crime statistics. Its Manual of Police Records [503] contains examples of types of records needed in everyday police operations. The Uniform Crime Reporting Handbook [486] gives guidance and assistance to law enforcement agencies in compiling statistics and preparing reports. The handbook describes methods of filling out forms, detail of offenses, classifying and scoring offenses, and sections on adjustments of previous returns, supplementary returns, annual returns, and record systems. It enables planners to design and standardize record-keeping and reporting of crimes, and provides a base to build upon. Another

FBI publication is Uniform Crime Reporting—A Complete Manual for Police Records, [559].

An early work published by The International Association of Chiefs of Police is Manual of Police Records as Installed in Pasadena, California and Applicable to Cities of 25,000 to 150,000 Population, [297]. It describes the record system in Pasadena, and discusses: services provided by a police record system; personnel records; general administrative reports; and procedures for reporting and controlling known offenses to the police, handling property identification records, reporting and controlling persons charged by the police, and recording miscellaneous police services. The actual forms in use are illustrated and recommendations for improvements are given. While this manual antedates (1931) the electronic data processing era, it is still of interest to those concerned with records systems of the non-automated variety. The IACP's Uniform Crime Reporting Manual, [560] issued by its Committee on Uniform Crime Records, should be read. Swanson's A Comparative Study of a Civilian and a Military Police Records System [561] is considered to be a major work in its field, particularly the description of a police records system. Proposed Data Processing Program for the Greensboro Police Department: A Preliminary Study [235] lists twenty-eight reports such as individual officer activity report, disposition of arrest by individual officers, and complaints by zone and tract, and a suggested print-out for each. It describes the source data, information contained in the form, when the report is needed, why the information is needed, and use of the report.

An excellent manual on field reporting and records is Field Reporting Manual, [562], a comprehensive document in loose leaf form for updating that provides the members of the Chicago Police Department with a concise set of instructions for the use and completion of the proper report form under a given set of circumstances. Samples of the forms are included with material on descriptions of persons and property to serve as interviewing aids. The reports are arranged by tabbed sections under such headings as General Regulations, Robbery, Traffic Accident Reports, Burglary, Firearms Identification, Auto Theft, and Missing Persons.

Another useful manual, with a layout and organization quite different from that of the Chicago manual, is Police Records Manual [355] issued by the Dominion Bureau of Statistics, Health and Welfare Division, Judicial Section of Canada. It was designed

for use by police officers and administrators, and covers field reporting and records processing. It includes a set of sample field reports required for the adequate reporting, recording, and analysis of police information. Instructions on how these reports are to be filled out and routinely submitted are also enclosed.

Although it focuses on traffic accident reporting, a detailed study by The Travelers Research Center, Inc., entitled A Traffic Collision Management and Investigation Manual to Accompany the Standard Police Traffic Collision Report [546] provides an overview of the responsibilities of a police investigator in collecting data during the course of a traffic accident investigation.

A study by A. D. Little, Inc., entitled Reports, Records and Communications in the Boston Police Department [162] describes an analysis of the communications and records capabilities and requirements of the Boston Police Department. It provides a model for analyzing a police records system of the non-computerized variety and gives details for implementing a command and control system for police departments with decentralized police precincts.

Hearle in Can EDP Be Applied to All Police Agencies? [279] investigates the nature of the data processing job facing law enforcement agencies, and outlines the preliminary planning required to prepare for the era of electronic data processing. He describes the nature of police data processing, discusses in detail the major activities of input, storage, processing, output, and communication, as well as data processing equipment, and recommends that police agencies begin to specify the exact role of information in police operations and cooperate in the development of comprehensive intergovernmental systems of data describing a common environment. His basic argument is that electronic data processing is essentially useless until the data to be gathered, stored, processed, communicated, and used is properly identified, and he recommends careful analysis of the events concerning the police, identification of relevant data, and specificity as to how data will be used. He envisions the use of computers in the automation of simple clerical tasks and in management decision-making. With the capabilities of data processing equipment, a strong argument can be made for a local police agency to have ready access to a suitable automated central file.

A thesis by Young entitled A Study of Police Use of Automatic Data Processing [331] provides a sketch of various applications of police science to the field of automation throughout the U.S. based on questionnaires sent to police departments of 27 major cities. The study includes the background of automatic data processing, its approaches for the police administrator, and its present state in law enforcement.

Norwalk was the first Connecticut town (1961) to use data processing equipment in police work (keypunch, sorter, and an interpreter to file and select data). In Data Processing in Police Work [563] Orlins describes the development of the system, the gradual purchase of additional equipment, and the use of the system in recording and analyzing offense reports, parking tickets, traffic accident data, police activities, and expenditures.

One of the most useful monographs is Columbus' Automatic Data Processing: A Practical Police Tool [39]. Captain Columbus of the Fairfax County (Virginia) Police Department describes the experience of his organization in developing an efficient and economical information system without the use of a computer. He traces the steps in developing the management system, including the basic theory and discussion of daily problems. Using an IBM 402 accounting machine, keypunch, verifiers and sorter, the department has built a series of operational and administrative systems. Data generated during the course of the department's operations is accumulated, processed, and disseminated with speed and accuracy in a variety of forms. He provides actual samples of the cards and forms, which can be adapted to any manual or electronic system. The total system can be adapted to any small department and can be converted to full automation.

The real revolution in criminal information systems and in the application of computer technology to law enforcement problems began when several states and cities, principal among them being California, New York, Los Angeles and St. Louis, installed large computerized information systems. An analysis of these systems reveals how the studies connected with each were carried out, the technical approach, the analyses required, and data needed. These reports can prepare law enforcement agency planners to understand the implications and capabilities of computerized information systems.

The Police Information Network (PIN) of Alameda County, California, grew out of a series of meetings that reviewed police-records practices. As a result of these meetings, the Bay Area Study Committee, a subcommittee of the EDP Advisory Committee of the California Peace Officers' Association, concentrated on the single area of warrant control. Development of the system is described in a series of reports, and a short history of the Committee and its activities is given.

Milliman in an article entitled Alameda County's People Information System [150] briefly describes the PIN subsystem and delves into the technical details of the system and long-range goals. PIN provides a centralized electronic file for warrants of arrest, with access to the file by teletypewriter terminals via telephone lines. In practice, when a police officer calls for information about a name or license number, the dispatcher types the inquiry on the terminal and the PIN file responds in three seconds with a print out of any information on warrants of arrest associated with the license number or name. The dispatcher can indicate that the AUTOSTATIS files (Automatic State-wide Auto Theft Inquiry System [148]) should also be searched. AUTOSTATIS provides automated records of stolen and wanted vehicle information on a twenty-four hour basis.

Another example of a single-file type of application is the St. Louis Police Department's Computer-Based Field Interview File. As described in Proposal for Computer-Based Field Interview File [54], the proposed system is aimed at the procedures of identifying individuals or gangs by location, name, nickname, date, race, age, sex, and behavior pattern. The system went into operation this year and is structure to provide a real-time computer file of field interview report information that could be queried by teletype terminals throughout the St. Louis Police Department. Of particular interest is the new Field Interview Report Form that, with some local modifications, could be used by other law enforcement agencies. The actual operating system and basic procedures are described in the Field Interview Report Information Manual [137].

A manpower resource allocation system is described in an IBM Application Brief entitled Resource Allocation at the St. Louis Metropolitan Police Department [53]. The system uses dispatcher-originated information classified by type of crime, location, and time, requiring police patrol manpower. The information is used to predict and analyze future status of the environment in which the police operate. The system design assumes that the predictable factors are the chronological, seasonal, and geographic distribution of eight classes of events [crime against person (high severity), crimes against property (theft), destruction of property, fraud]. The system collects data, predicts calls for police services, and maps the density and distribution of crimes. It was developed to enable greater efficiency in the use of patrol time associated with called-for services. Tables are provided showing the predicted number of calls for service from a given area in a given time period and the predicted results that should occur if various numbers of officers are assigned to the area for the prediction period. Included in the study are geographical coding systems and sample printouts of tables and computer maps.

The subject of large-scale law enforcement management information systems is discussed in Law Enforcement Management Information System [53]. Examples of specific applications to the areas of program planning, performance evaluation, resource allocation, program evaluation, and tactical deployment are discussed. The report outlines the contents of such a system and the types of data used. The model system described is (with modifications) applicable to the structure of any law enforcement agency.

The System Development Corporation has been a leader in the study, design, and implementation of state-wide information systems, and produced Feasibility Report and Recommendations for a New York State Identification and Intelligence System [277]. It discussed the possibility of using electronic data processing to support local and state agencies in New York concerned with the identification and administration functions of criminal justice. The report develops for such a system a functional design that basically provides a means for participating agencies to pool their identification and intelligence data in a central location for more efficient coordination and rapid distribution of information. The proposed system as well as a plan for its development is discussed in great detail in A New Concept in Criminal

Justice Information-Sharing: NYSIIS The New York State Identification and Intelligence System [180]. The document discusses the nature and degree of information submitted to the system as well as the degree of participation by contributing agencies. One of the most important aspects of NYSIIS in addition to its value as an information storage and retrieval system, is its potential use as a tool for the support of criminalistic and criminological research. Flow charts and diagrams help to explain the functions, operations, inputs, and outputs of NYSIIS.

On a regional level, the Systems Science Corporation, in a study entitled A Regional Law Enforcement Systems Design [266] points out the advantages of utilizing a digital computer to serve the needs of police departments in the metropolitan Washington, D. C. area. Discussed in broad detail are the essentially economic and technologically oriented problems implicit in the feasibility study. The recommendations of the feasibility study resulted in the creation of an ongoing system. Its operations and basic procedures are described in the Washington Area Law Enforcement System Operating Manual (WALES) [196]. A description of the system, criteria for entry of information, information formats, and coding of input information as well as alphanumeric codes assigned to each agency participating in WALES, are contained in the publication.

Isaacs and Herrmann, in A Computer Based System for Processing Crime Information [87], discuss the work done by the Los Angeles Police Department (LAPD) and Systems Development Corp (SDC) with the experimental development of a computer program to process crime information in natural English language. Progress Report No. 1 of this effort, Natural Language Computer Processing of Los Angeles Police Department Crime Information [244], provides background information concerning the research effort, summarizes the work completed, and points out the need for further research. Five specific tasks were devised to aid in the evaluation of computer-based natural language processing in reference to LAPD operations and to study pattern analysis and computer aids. These tasks were (a) translate current robbery reports into machine-readable form, (b) study crime pattern analysis using cases of known repeaters, (c) study reporting and operational use of information in field units, (d) design and test a prototype computer system, and (e) analyze potential applications. The actual operating system is described by Farell in TEXTIR: (Text, Indexing and

Retrieval) A Natural Language Information Retrieval System [171].

Isaacs discusses in Crime Pattern Recognition in Natural Language [169] an investigation of the feasibility of using natural language processing techniques to assist patrol officers and detectives in crime-pattern recognition. The author defines crime-pattern recognition as a wide range of crime analysis applications including modus operandi, vehicles or weapons used, physical descriptions, speech patterns, etc. Results indicate that the information loss associated with the use of precoding techniques is practically eliminated when natural language inquiry techniques are used.

The application of computers to specific police problems is the subject of an expanding field of literature. Smith's Computer Applications in Police Manpower Distribution [113] recognizes that assignments of patrol officers are made so that each officer theoretically has the same or nearly the same workload as all other officers during the same period. Workload is defined as the amount of work likely to occur in a given beat area over a given time period. Other factors to be considered include distance between extreme points in the assigned area, distribution of criminal activity within that area, and the facility with which officers may move in their assigned districts. Smith also discusses computer methods employed in manpower distribution, the nature of the police problem, predicting the need for police service, weighting serious versus less serious activity, machine methods, and the machine as a decision tool.

Other interesting applications of computer technology to specific problems are described in Larson's Hourly Allocation of Complaint Clerks and Radio-Dispatchable Patrol Personnel *. A computer technique for determining the hourly demand for complaint clerks, dispatchers, and radio-dispatchable patrol personnel is presented. He defines the police "service level" as a weighted sum of the mean delays incurred between entrance of a caller to the telephone switchboard queue (i.e., the line of those waiting to get through) and arrival of a dispatched vehicle. Using a mathematical technique, the author calculates the minimum number of personnel, by hour and by function necessary to fulfill a specified desired service level.

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*Presented at 2nd National Symposium on Law Enforcement Science and Technology—Chicago, Illinois, April 16—18, 1968.

The Franklin Institute has been conducting studies for the City of Philadelphia in the area of prediction of crime by computer. These efforts are detailed in two works. "The Prediction of Crime in a Metropolitan Area" by Stein, et al., [60, page 749], describes the initial phases of the study. The concept is based on the assumption that an identification can be made of specific combinations of factors that increase the probability of a crime occurring with the development of a model to predict crime occurrence hour-by-hour and sector-by-sector. The second study by Stein, Herron, and Cranshaw, entitled Crime Prediction by Computer—Does it Work and is it Useful?*, describes the operational model developed, preliminary test results, and attempts to evaluate their usefulness. These concepts are still in the planning stages and have yet to be applied under actual field conditions.

*Presented at 2nd National Symposium on Law Enforcement Science and Technology—Chicago, Illinois, April 16—18, 1968.

3.15   Police Traffic Supervision

Police traffic supervision is a field for which an enormous body of literature exists. However, the majority of this material is relatively useless from a planning standpoint. Aside from the reports discussed below, the bulk of this literature is of a subjective opinionated nature.

Generally, police traffic supervision is thought to consist of three primary missions:

- Traffic Law Enforcement
- Accident Investigation
- Traffic Direction and Control

While each of these headings is discussed separately here, there are several works of a general nature that would be useful additions to any police library. Wilson's Police Administration [371] contains an excellent discussion of the overall police traffic function. Leonard's Police Organization and Management [55] provides much the same treatment of the subject aside from a few minor differences (e.g., the "value" of the police role in safety education). Gourley, et al., in Effective Police Management: Vol. II [50B] provides some interesting observations concerning police traffic operations, notably on the subject of specialization. Weston's book The Police Traffic Function [522] discusses this subject in somewhat greater depth, although it provides little operational planning guidance. One of the better, if somewhat dated, treatments of police traffic responsibilities is contained in Miller and Baldwin's State Traffic Law Enforcement [523]. While this book is primarily aimed at state-level police organizations, it provides a wealth of descriptive operational detail. Another, more recent study aimed particularly at police responsibilities on controlled access highways was performed by Smith and Espie in Guidelines for Police Services on Controlled Access Highways [524]. This study contains a discussion of operational procedures and provides practical insights and suggestions concerning police traffic procedures in general. However, the best sources of practical guidance for a police planner in this field are the publications of the Traffic Institute of Northwestern University. The Institute has published a wide array of training and reference manuals dealing with operational planning that includes such titles as Traffic Patrol [526], Traffic Road Checks [527], Parking Enforcement [525], and Charts and Tables for Stopping Distance

for Motor Vehicles [528]. A complete listing of current publications of the Institute is given at the end of this section. The Institute has also published a document by Baker and Stebbins entitled The Dictionary of Highway Traffic [529] that provides reference source of uniform terminology.

3.15.1   Traffic Law Enforcement

For a general overview of the literature that has scientifically attempted to relate police services to accident prevention, see Fennessy and Joksch's Police Traffic Services and Road Safety: An Evaluation of the Literature [506]. The purpose of their report was to evaluate all experimental or quantitative studies of police traffic performance. A complete bibliography of literature relating to police traffic services is also included.

One of the best studies in this field has been conducted by the California Highway Patrol and is known as Operation 101 [530]. The study attempted to measure the effect on accidents of doubling the patrol mapower on a defined section of highway. Particularly noteworthy in this study is an attempt to determine the relationship of violations to accidents. Other studies that should be examined in this field include: Gates and Hand, The Policing of Motorways [350] (this is a British report of police activity on major routes. The relationship of levels of policing to accident rates, required equipment, equipment utilization, helicopter patrol, etc. are described and analyzed, and recommendations are included); Hooker, Traffic Accident Costs and the Effectiveness of Highway Safety Expenditures [531]; Irby and Jacobs, Experimental Patrol Intensification at a Military Base [532]; Shumate, Effect of Increased Patrol on Accidents, Diversion and Speed [533]; Shumate, The Long Range Effect of Enforcement on Driving Speeds [534]; Calica, Crowther and Shumate, Enforcement Effect on Traffic Accident Generation [535]; Baker, Effect of Enforcement on Vehicle Speeds [538]; Fitts, An Evaluation of the Effectiveness of Police Written Warnings as a Deterrent to Traffic Law Violations in Tucson, Arizona [536]; and Smith, The Effect of Enforcement on Driving Behavior [537].

A review of the traffic operations of 101 American police agencies was recently completed and reported by Borkenstein and Joscelyn in Police Traffic Services: A State of the Art Report [539]. The document provides an excellent discussion of selective assignment and enforcement procedures. Other documents relating to

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selective enforcement include: Leyzorek, The Design of an Emergency Road Service with Implications for the Deployment of Police Forces [66]; The National Safety Council, Traffic Safety Memo 106 and 107 [541, 542]; Brenner, Fisher and Mosher, Statistical Analysis of Accident Data as a Basis for Planning Selective Enforcement [540]; and Dunlop, Manual for the Application of Statistical Techniques for Use in Accident Control [543]. There is, of course, an even wider array of documents relating to enforcement of the traffic law, but the array presented above concisely covers the state of the art in this field.

3.15.2   Accident Investigation

While numerous documents have dealt with this subject, a worthwhile study from an operational standpoint is Baker's Traffic Accident Investigator's Manual for the Police [544]. This book provides practical sound advice on the management and investigation of traffic collisions. Blumenthal and Wuerdemann have produced an excellent summary report on State Accident Investigation Programs [545]. This report introduces a new standard form for the investigation of traffic collisions and, in a related document by Blumenthal, Wuerdemann and Manseau [546], detailed instructions on its use are provided. Smith of the IACP has also produced a summary report entitled Current Practices in Accident Investigation and Reporting [547] that describes an analysis of contemporary theory and practices in the field. Additional material can be found in: LaCouture, Modern Traffic Investigation Units [549]; Luethje, Accident Records: Collection and Analysis [550]; The International City Managers Association, "The Nature of Police Traffic Supervision" in Municipal Police Administration [189, page 316]; and Arend, Traffic Accident Investigation Responsibilities of County Law Enforcement Agencies [177].

3.15.3   Traffic Direction and Control

This is one area of police traffic supervision where very few studies have been conducted, and of those that have been conducted, most are only on a very superficial level. Probably the best treatment of the subject is contained in Miller and Baldwin's State Traffic Law Enforcement [523]. This document provides elaborate detail on the development of an effective plan for traffic control. Several other works are worthy of note: Wilshire and Keese, Effects of Traffic Accidents on Freeway Operations [551];

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U.S. Army, Military Police Traffic Control [553]; Scanlon, "Patrolling the Interstate System" [554]; Lynch and Keese, Restoring Freeway Operation After Traffic Accidents [555]; Highway Research Board, Traffic Characteristics and Intersection Capacities [556]; Institute of Traffic Engineers, Traffic Engineering Handbook [552]; Davies, School Crossing Guards: A Major Police Development [268]; and Hamilton (Ontario) Police Department School Crossing Guard Survey Report [142].

Additional Material

A recent study by A. D. Little, Inc., entitled The State of the Art of Traffic Safety [557] should be an integral part of any police planning library. This study contains a relatively complete review of all studies relating to the driver, the vehicle, and the roadway, and provides the type of knowledge essential to the development of a rational police traffic supervision program. The Arizona Highway Patrol in cooperation with the IACP and the Bureau of Public Roads provides some highly useful descriptive data in a study entitled Joint Engineering and Enforcement Program or, as it is more commonly known, Operation 66 [558]. A final item worthy of note is a British study by Hand and Hills entitled Determination of the Maximum Utilization Which Can Be Achieved with Optimum Sized Traffic Patrol Car Fleets [144]. This study attempts to determine more effective means for the optimization of traffic patrol car usage.

3.15.4 Training Reference Manuals: Traffic Institute of Northwestern University

Traffic Law Enforcement Series

    Assisting in Prosecution

    Background for Traffic Law Enforcement

    Citations in Traffic Law Enforcement

    Driving Under the Influence of Alcohol or Drugs

    Locating and Identifying Wanted Vehicles

    Officer-Violator Relationships

    Parking Enforcement

    Pedestrian Violations

    Position and Direction on the Road

    Pursuit in Traffic Law Enforcement

    Reckless Driving and Negligent Homicide

    Removing Vehicles from the Roadway

    Required Stops (Revised 1965)

    Right-of-Way Violations

    Road Abuses

    Speed Offenses

    Stopping and Approaching the Traffic Violator

    Taking Enforcement Action

    Traffic Arrest

    Traffic Officer in Court

    Traffic Road Checks

    Turning Violations

Traffic Direction Series

    Directing Vehicle Movements

    Signals and Gestures for Directing Traffic

Traffic Patrol Series

    Road Conditions

    Traffic Patrol

Know the Law Series

    Disposition of Prisoner Following Arrest

    Legal Aspects of Skidmarks in Traffic Cases

    Rights and Liabilities of Examiners and Instructors in Road Test Accidents

    Speed Check Devices

Miscellaneous Subjects

    Charts and Tables for Stopping Distances of Motor Vehicles

    Giving and Scoring Driver Road Tests

    How to Develop Citizens' Support

CONTINUED

1 OF 3

3.16   English Police Research

This section is an evaluation of some of the research conducted by the Police Research and Development Branch (formerly Police Research and Planning Branch) of the British Home Office. Thirty-seven documents covering numerous topics were secured but only a few are highlighted here for the express purpose of revealing the English Police Research effort.

Cudmore, Fisher and Turner in A Progress Report on the Study of Methods of Combating Crime [410] set out to evaluate the progress of Regional Crime Squads (a unit composed of police investigators from individual towns organized to fight criminal activity on a regional basis), but came to no firm conclusions because of a difficulty in setting standards on which to base a realistic evaluation. Nevertheless, the report is extremely useful because it clearly sets forth the whole range of peripheral problems confronting the police administrator. It opens suggested avenues for further police research that, hopefully, will improve police performance. Some of the many subjects listed as areas requiring further research activity are:

- effectiveness of regional crime squads,
- current usefulness of M. O. (modus operandi) files,
- development of new techniques in criminal investigation,
- interchangeability of uniformed and plain clothes officers,
- effectiveness and deterrent value of burglar alarm systems,
- development of scramblers to maintain security of radio transmission,
- the best method for recording and collating intelligence information,
- how much can an officer be expected to assimilate with different methods of briefing,
- use of computers in the management of police information,
- further studies to develop better detection and prevention methods,
- effectiveness of juvenile liaison schemes.

In Scenes of Crime Work—An Appraisal [412], Fisher has produced an informative evaluation on the work activities of "scenes of crime" (evidence-technician) teams

from various police forces, their training, staffing methods, and procedures. He discusses the skills involved in searching crime scenes, the equipment needed, techniques of handling and safeguarding of evidence, and court preparation. The appendices reflect a depth of information concerning the application of science to the investigation of crime, and list a complete inventory of suggested equipment to be carried by the crime teams in their trucks. Among his recommendations are:

- All police forces should have evidence-technician teams to include personnel who are specialists in fingerprinting, photography and forensic science for the purpose of relieving investigating officers of duties of searching crime scenes.
- Evidence technicians should receive adequate refresher training in searching crime scenes, fingerprinting, photography and evidence collection.
- Civilians should be recruited to undertake the work expected of "scenes of crime" teams.
- Until civilians are properly trained to assume their responsibility, fingerprint experts due to retire, should be retained in a civilian capacity.
- Standard type vans properly equipped and fitted with two way radio communication should be adopted..

Bright discusses an experiment involving the use of television cameras, extensive publicity, and commando police tactics in Supplementary Report on the Experimental Use of Television Cameras and Commando Police Patrolling by Liverpool City Police [411]. The commandoes patrolled in selected areas in plain clothes at crime-prone periods, and in other experiments television cameras were situated at undisclosed observation posts near parking lots and thoroughfares. The results of the experiments reveal a substantial amount of detailed information relating to methods of detection, types and times of offenses, and detection rates of different police units. Interesting comparisons of arrest activity by commandoes vis-a-vis the uniformed force and the regular detective units are included in the study. The results although not conclusive brought about recommendations for continuation of the experiments.

The role of the intelligence unit in the police organization is described in Russell's Local Intelligence Units and the Police Service [407]. The study explores and delineates the responsibilities of this type of unit, its relationship with other elements within the police system, the types of records essential to its existence, and the use of "collators" to screen and process information up, down, and laterally for other potential users within the police information network. The author contends that local intelligence units should be established primarily as an aid to the existing patrol and detective forces dealing with crimes in a particular jurisdiction. It would serve as a central repository for information coming to the attention of the police, by any means, concerning persons, vehicles, places, incidents, and crimes in the unit. The study focuses on the fundamental approach to information problems that must necessarily be considered when organizing a police intelligence unit.

The value of information was considered by Willmer in Criminal Investigation from the Small Town to the Large Urban Conurbation [131] in which he studied the problems facing criminal investigators as communities grow from small towns to urban conurbations. According to Willmer, these are areas where people tend to work in one district, live in another, and spend their money in a third. These factors, combined with the high degree of mobility of criminals, make it more difficult for detectives to carry out their tasks because needed information is difficult to obtain. Scientifically, the solving of a crime can be regarded as the gathering and use of information about people, things, and events in an effort to associate a person or persons with a criminal act or acts with a high degree of probability. The failure to solve a crime occurs because the necessary information is either not getting into the police system or, once in the system, the information is disregarded or distorted or is not being used to the best advantage. Proposals to improve the situation indicate the need for more men and their efficient use, better equipment and better methods of operation of the police. What appears to be lacking is a concept of criminal investigation which postulates that these factors are interrelated and can be used to study and estimate improvements necessary to achieve an increase in the level of detection success. The author considers investigation of crimes as an attempt to reduce the level of uncertainty connecting people and crimes.

Greenhalgh in a survey report entitled Police-Regression Analysis [116] found that three factors significantly affect the crime rate:

- population density,
- geographic distribution of the population by social and economic order, and
- crime clearance rate of the police.

In this study the methodology for arriving at these conclusions is revealed. It is suggested that crime could be reduced if the police increased the clearance or solution rate of reported crimes and if the opportunities to commit crime were materially reduced. The author also discusses the comparison of police organization performance, the prediction of organization requirements, and the problems inherent when adjoining forces are amalgamated. The research results indicate that police strength, expenditure per police officer in a given community, and methods of tactical deployment are not dominant factors in the incidence of crime.

The implications of using plain clothes officers to patrol an assigned area on foot are discussed by Turner in a paper entitled The Effectiveness of Foot Patrols—A Pilot Experiment [409]. In the experiment covering two small areas, officers in plain clothes patrolled a beat in a manner similar to a uniformed officer, even trying doors of business locations. It was found that the disadvantages of using plain clothes officers in this type of activity far outweighed the advantages, and the factors in each category are well documented. The general public and criminals, however, found it less restraining to talk in public to plain clothes officers. The men themselves, while on patrol activity, indicated they preferred to be in uniform for they felt it provided a better crime deterrent and a greater sense of personal security. The abilities of plain clothes men to see "incidents" on their tours were analyzed. The impact of plain clothes men on the number of crimes committed and detected in the experimental area is explored; the study committee feels that the results are inconclusive because the experiment was of too short duration, and recommends that it be continued.

Unit Beat Policing, a new system of patrol was introduced in England in 1966. The concept provides for assigning a patrol car to a particular beat or geographic area. Superimposed on the area are a given number of radio equipped constables, who

work either in uniform or plain clothes according to the demands of their duties, and each decides his own working schedule after consultation with his supervisor. In addition, the proposed scheme calls for assigning a detective who would not only be responsible for difficult investigations, but who would be able to assist uniformed officers with less serious crimes. All work together as a team and, where practicable, live in the area where they bear police responsibility. The details of the scheme are the subject of Gregory's research paper Unit Beat Policing [401]. In principle the system requires less manpower, and improves police coverage and efficiency while incorporating the following aims:

* cultivation of better understanding with the public because of the closer contact with men on the beat;

* provision of better immediate service and swifter response to calls for assistance and complaints;

* achievement of higher detection rates by increasing and improving information flow;

* overcoming the shortage of officers by combining resources;

* creating a new challenge in method of beat working.

In a supplementary research study, entitled Vehicles for Unit Beat Policing [406], Hills collected data related to selected criteria in order to determine the types of vehicles and equipment needed for unit beat policing throughout different sectors of the country. Another study, Crime Prevention and Unit Beat Policing by Bright [405], explores the need to involve the unit officer, especially if he lives on his beat, in crime prevention activities, particularly as it relates to household security. His findings support three primary arguments:

* Personal contact between the officer and the householder has the advantage of offering a long range impact on crime as opposed to the short range effects of crime prevention publicity campaigns.

* Householders are more inclined to become involved in crime prevention because they own property, bicycles, accessories, etc., and have immediate access to telephones.

* Through continued emphasis on more effective crime prevention practices, the public relations image of the police is enhanced.

The question of attracting persons with higher educational qualifications is the subject of a research effort entitled, The Recruitment of People with Higher Educational Qualifications Into the Police Service [328], written in late 1967. All possible aspects of the problem including the educational backgrounds of present members of the police establishment, are subjected to intense scrutiny. The text discusses needs of the police service, public relations, pay and working conditions, methods of entry, promotion structure, career development, and police education. The conclusions of the committee generally take on the same pattern as their American counterparts wherein higher starting salaries, better police training, subsidies for continuing education, and advancement of the concept that police service offers a challenging and worthwhile career to the intelligent are recommended. The English take a diametrically opposing viewpoint on the question of pay differentials for college trained personnel by unequivocally indicating they do not consider this incentive a desirable approach under their present system.

The Police Research and Planning Branch investigated personnel attrition and the lack of recruits entering the police service. Progress of Research Into Recruiting, Wastage and Allied Problems [413], by Hand discusses various aspects of recruitment, attrition and long term manpower planning. The effects of height reduction, lower vision standards, and suitable standardized tests as factors in the recruitment process are weighed. Suggestions are offered to analyze the relationship between recruiting and the socio-economic background of police applicants. Screening questionnaires, designed to identify significant factors related to police retention of personnel, were used in connection with a pilot experiment. Apart from pay and hours of duty, which figured prominently in the response of subjects, poor personnel management seemed to cause a great amount of discontent. Frequently mentioned were:

* strict adherence to trivial personnel rules (e.g., an application for leave rejected four times because of minor drafting errors);

* rigid application of the disciplinary process (e.g., requiring an officer off duty to report back to headquarters to explain a trivial misdemeanor).

In <u>Police Manpower, Equipment and Efficiency</u> [327], a detailed study concluded in late 1967, and produced by the British Home Office, a complete analysis is made of these factors and the manner in which they influence the operation of the police system. Some of the recommendations affecting police manpower are:

- opposition to direct entry into specialist departments of a police force.
- extension of the upper age limit to 40 to qualify former members of the Armed Services and Merchant Marine.
- modification of present vision and other minor medical standards.
- steps to recruit highly qualified men.
- shorter qualifying periods in promotion exams for college graduates.
- further research into the causes of men leaving the service.
- greater use of civilians in non-police tasks. (The report explicitly enumerates tasks which should be taken over by civilians.
- higher entrance salaries.
- improved resource allocation to reduce demand for police manpower.
- employment of civilians in the enforcement of traffic laws.
- more widespread employment of women in police work.
- use of ex-colonial officers in civilian police posts.

A comprehensive <u>Report of a Working Party on Police Cadets</u> [364] by the Home Office considers the functions, qualifications, conditions of service (including pay, allowances, and leave), training, and duties of police cadets with a view toward formulating uniform personnel practices—and making further recommendations if necessary. The analysis indicates three basic police manpower problems that the cadet program can help to alleviate; recruitment, attrition, and quality of personnel.

The basic purpose of the cadet system is to attract young people who, when eligible, will become full-time members of the police system. It also enables the police to compete in the manpower field for persons otherwise attracted to industry or business. It was generally concluded that some limit should be set on the ratio of

cadets to direct entrants* admitted to the regular police establishment because of the limited outside experience of the cadets. That is, the research group felt strongly that the total force should contain a good "social mix," the young, unexposed, unwordly cadet balanced by the direct entrant coming from a work environment that endows him with a variety of vocational and social skills. The committee further advocates that cadet training should foster and maintain interest in the police service, and also recommends the following:

- young cadets should be kept away from direct involvement with police work until the age of 18,
- full time educational training, stressing qualities of initiative and self reliance,
- encouragement to participate in volunteer community activity,
- minimum entry age should be 16,
- cadets should receive college or vocational training,
- utilization of girl cadets with equal pay,
- provision for pension and injury allowances,
- physical conditioning must be included in the training program.

Anderson and Lomas, reporting in <u>Facsimile Equipment as a Means of Police Communication</u> [417], describe a detailed study undertaken for the Bristol Police Department for a modern method of message transmission within the force in conjunction with the opening of a new police building. The objective was to determine whether facsimile transmission was the most efficient system for Bristol and its suitability for other forces (i.e., the Criminal Record Offices, the Forensic Science Laboratories, etc.). The study provides a detailed description of factors considered in planning and implementing changes in the department's communication system, including the ability of the proposed system to integrate with other police agency communication systems.

Hand and Hills have studied the problem of utilization, maintenance and purchasing strategies of police vehicles in <u>The Development of Replacement Policies for Police Vehicles</u> [135]. They analyze the total problem and develop formulas for when and how

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*Persons, usually age 21—35, recruited through traditional methods.

to replace vehicles and whether to rent or purchase them. The report includes data supplied by twenty of the larger county police forces in England and Wales. Factors affecting running costs, such as gas consumption, component wear, and tire wear are also considered. The effect of applying "discounted cash flow" methods to replacement policy is discussed. The authors conclude that considerable savings in the operation of police vehicle fleets will result from increased utilization (using fewer vehicles more intensely), negotiation of contracts for the various items associated with fleet operation and the development by police forces of an optimum replacement policy.

In a later study entitled <u>Determination of the Maximum Utilization Which Can be Achieved With Optimum-sized Traffic Patrol Car Fleets</u> [144], Hand and Hills consider providing police forces with a method for calculating the number of vehicles they must have in order to achieve a desired level of utilization. Factors considered were varying car models, fleet size, and garage facilities. The authors found that manpower shortages often prevent the desired patrol levels from being achieved, and that there is a need to match manpower and vehicle requirements.

Rignell in <u>The Use of Helicopters in Police Work</u> [416], discusses the use of helicopters by other police agencies throughout the world, particularly New York City. He sets forth many specific instances in which they have been effective and advocates their future use in the English system. Adaptability for police use, training of pilots, choice of craft, maintenance, and other problems and limitations within the police context are described.

Rignell explores the topic further in a supporting study [400] carried on in conjunction with the British Air Force. In pre-designated field experiments, procedures for alerting personnel, equipment, and communications gear are tested. In one experiment helicopters are used to search out prisoners in a swamp area while in another they are used for traffic control purposes during a major horse-racing event. The positive and negative results of these and other experiments are reported in the study.

Although the English police have done a substantial amount of research in the traffic collision and enforcement field, only two papers are the subject of review, essentially to point out the research methodology involved and to identify the fact that effort is being devoted to this area of police responsibility.

A study by Hand entitled <u>A Survey of Radar Speed Metering in England and Wales in 1964</u> [349] presents the results of a national survey of the use of radar speed meters for the enforcement of speed limits. This survey was part of an overall project aimed at examining the ways in which speed limits are enforced, with the object of developing strategies and tactics to bring about a more general observance of speed limits. The project was also aimed at defining the manpower and equipment requirements of the police for this type of work. A questionnaire was devised and used to gather data in the hope that meaningful correlations between methods used by individual agencies and results achieved could be obtained. The results showed that there are considerable variations between police forces with respect to radar use and method of operation, the planning of enforcement programs and the final results achieved. Some of the conclusions included a finding that, generally, radar speed meters are greatly under utilized, with police forces that rent radar speed meter equipment tending to use it more often than forces owning the equipment—there is a wide variation in methods used at radar check points, a need to provide written instruction for the tactical use of radar speed meter checks under various conditions, and a need for further research into the relationship between levels of enforcement and offense and accident rates.

Hand, Hills, and Wilson in <u>An Evaluation of the Effect on Vehicle Speeds of Warning Signs on Motorway 5</u> [345] discuss the results of an experiment designed to test the effect of signs to warn motorists of three common hazards—accident, fog, and skid risk. The experiment was conducted during darkness and daylight hours with two types of signs, one neon-lit, the other illuminated by regular tungsten bulbs. Speeds of vehicles at four positions along the motorway were measured by radar speed meters concealed in unmarked cars parked off the road. The report concludes that signs warning of an accident ahead cause the majority of drivers to modify their behavior, but that an advisory speed limit and a "road clear" sign should be incorporated as part of the warning sign. The "skid risk" and "fog" warning signs were found to be valuable but the research team also recommended the signs incorporate an advisory speed limit.

3.17   Organization and Administration

The principal emphasis of the preceding essays concerned operations. The research project, as proposed to the Connecticut Research Commission, concerns operational improvements and the transfer of technology to achieve desirable changes or innovations. Organization and administration were not contemplated as subjects for the collection of research or for the purposes of a joint project effort, and yet as many as eighty of the collected documents fall into these classifications. The following comments are made to complete this review of our collection and to point the way toward books and articles of merit.

For purposes of this presentation, organization is defined as:

> ...the pattern of ways in which large numbers of people, too many to have intimate face-to-face contact with all others, and engaged in a complexity of tasks, relate themselves to each other in the conscious, systematic establishment and accomplishment of mutually agreed purposes [564 page 30].

Administration is defined as:

> ...control and direction of the people and things of an organization to achieve group objectives [189 page 76].

A substantial portion of the relevant literature consists of copies of police management consulting reports, some dating as far back as the 1930's but the majority from the past ten years. A review of these documents, particularly the conclusions and recommendations, yield an interesting picture of what's wrong in the eyes of the consultants preparing the reports.

Organizational criticisms tend to focus on a proper "span of control" and clarifying and maintaining the "chain of command." A "lack of supervision," poor functional grouping of units, overspecialization, duplication of control, understaffing, too many sworn personnel engaged in non-police duties, and an inadequate ratio between supervisors and command staff are some of the other deficiencies noted. One administrative deficiency involves a lack of communications (an absence of rules and regulations and procedural manuals, dependence on verbal means of transmitting policy decisions, unsystematic written orders, not enough staff meetings, etc.). Other administrative

deficiencies include a failure to set objectives, to define policies, to gather together an adequate staff for carrying out the major administrative functions (planning, personnel, financial management, internal investigation, review and analysis, inspection), and to communicate with and relate to the community. Some administrative failings tend to concern such things as the chief administrator's time utilization (his tendency to get tied up in trivia and handling minor complaints) and the way he makes decisions.

Since it is difficult to make a distinct separation between organization and administration, many works cover both subjects. Most of the basic police texts (Wilson [371] and Leonard, et al. [55]), fall into this classification.

A basic guide to sound organization and administration of a police department covering all aspects of the structure and operation of a department is Wilson's Police Administration [371]. Greater emphasis is put on the function of leadership and administration. Administrative duties are divided into: (1) operational tasks concerned with immediate direction of the resources of the department toward accomplishment of primary police objectives, and (2) managerial duties of staffing the organization with qualified personnel and equipping it to do the job.

Leonard's Police Organization and Management [55] incorporates in one volume principles and procedures in the organization and operation of the police enterprise. It is designed for broad application to the fundamental problems of organization and management in every area of the police function (municipal, state, county, commercial and industrial security). Much of the information is directed toward the needs and problems of the smaller department.

Police Management Planning [77] by Kenney integrates theoretical management concepts and police management practices to provide police managers with some meaningful guides to bring about needed improvement. Guidelines are set for efficient planning of the management of a police department.

The best accepted administrative methods applied specifically to police problems are made available in Municipal Police Administration [189]. The major influences on police work need to be determined in addition to the purposes of police work and the affects of social, scientific and technological change. The performance of management tasks are assured by the quality of leadership, but success is dependent on (1) the effectiveness of administration of personnel, (2) ingenuity in providing adequate

resources, (3) ability to provide acceptable official and public relations and informa-tion, (4) skill in planning operations, and (5) directing and controlling efforts of the force.

Parker in "The Police Challenge in Our Great Cities" [323] notes that law enforcement does not differ greatly from private industry. A condition precedent to the establishment of efficient, professional law enforcement in a community is a desire and a demand on the part of the residents for that type of service. The character of every society lies in its method of establishing observance of the laws, and its permanence lies in its success in securing it.

Principles of Organization and Management as Applied to Law Enforcement Agencies [358] considers several principles of organization and management, demon-strating the use and limitations when applied to situations in the field of law enforce-ment. Factors that limit or negate the soundness and effectiveness of the application of a principle to a specific situation do not in any way affect application to other situa-tions.

Research conducted by Gourley and the Department of Police Science and Administration of California State College at Los Angeles, and reported in Effective Police Organization and Management [50], is a survey analysis and model development in effective police organization and management to identify issues, establish principles, and catalogue resources. Included are a literature review and an examination of a variety of existing police organizational structures. Special attention is given to technological development, the role of the behavioral sciences, development of future administrators, and implementation methods and procedures.

3.17.1 Organization

Police organization as viewed from the collected literature falls into four general subject areas:

- General—organization of a police department
- Area-wide—organizing the police function in a state or a metropolitan area
- Intra-municipal—primarily work relating to police-fire integration
- Field decentralization—as it related primarily to the organization of field forces in metropolitan police departments.

General Organization

Principles for establishing a basic organization structure to be applied when a particular organizational need arises are illustrated in Organization [40] by the IACP. General principles of organization are:

- The structure of an organization is dependent upon its purposes.
- The effectiveness of the whole organization is dependent upon the effectiveness of the several parts.
- To function effectively, an organization must have flexible structure.

The theory of group dynamics is discussed in Kassoff's Organizational Concepts [43], where he indicates that an environment of coordination and cooperation leads organizations to achieve their goals by getting all of their personnel to positively support the agency's objectives. An informal organization develops and exists because of the human element. People and their needs must be utilized to bring the objectives of the formal organization into its activities.

Typical police management of the 1960's made the development of a police "profession" impossible because of managements failure to:

- define a homogeneous police group,
- adopt the basic police organizational structure to meet modern needs,
- create the challenge and satisfaction in police service necessary for effective utilization of the brain power now available.

Myren's Crisis in Police Management [351] indicates that specification of educational requirements of a professional nature would result in a higher level of compensation than the compensation currently in use for those who perform exclusively the specifically defined "police" tasks. Changes have to be made to utilize effectively the best brainpower available to begin to identify duties denoted as true police tasks.

Area-wide Organization

The presence of hundreds of autonomous local police agencies with personnel totaling several thousand within a relatively small geographical area results in gross

duplication of effort and equipment, as well as infrequent conflict of authority and confusion. Petersen's Issues and Problems in Metropolitan Area Police Services [217] indicates that law enforcement failure is an inevitable product of a system based on conflicting, duplicating, and competing police agencies.

Municipal Police Administration in Texas [333] by the Institute of Public Affairs, University of Texas is a survey of existing facilities, practices, and procedures without an exhaustive analysis of all issues and results. It points out the many similarities and differences in various areas of municipal police administration in Texas. It also notes that variations will exist everywhere because of differences in the social, economic, and political character of urban communities. With these inherent differences and the responsibility of law enforcement on the local level, uniformity is unrealistic.

Earle's Contract Law Enforcement Services by the Los Angeles County Sheriff's Department [220] states that contract law enforcement originated because many administrators felt there was a need to retain local control for a particular geographic segment of the Los Angeles Metropolitan area, and acknowledged the necessity of administering to the crime problem through a governmental entity serving the entire area. Detailed information is included on services offered by the LACSD in incorporated cities throughout the county, on a contractual basis. A basic consideration is whether the plan will create a law enforcement system better able to deal with the duties encumbent upon it than the system of local autonomy, or other forms of consolidated law enforcement.

Consolidating Police Functions in Metropolitan Areas [282] by Pock deals with the legal problems likely to be encountered when translating proposals regarding metropolitan police administration into programs of action. The study finds interlocal compacts as showing a great promise for the centralization of staff and technical services, but such compacts have drawbacks vis a vis the provision of general police services.

On the international level, Interpol—Its Purpose, Structure, Work [191], concerns Interpol, which was organized with the purpose of enabling police forces in different countries to coordinate their work effectively in the double aim of law enforcement and crime prevention.

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Intra-Municipal Organization

Integration (of municipal public safety functions) is defined as the establishment of a single mobile force for the handling of two kinds of occasional incidents neither of which can be scheduled but each of which occurs at periodic intervals and at the time requires attention.

A report for the city of Peoria entitled Integration of Fire and Police Departments [258] illustrates the many similarities between the aims and organization of both departments. Firemen and policemen are uniformed officers of the city government in a semi-military organization both serving the public in protecting life and property.

Combined Police and Fire Services for Medium Sized and Small Cities [286], a Missouri Public Expenditure Survey, gives a description of the forms of police and fire service integration with a list of cities in the U.S. and Canada having these operations. Reasons are given for adoption of it, advantages expected from it, and arguments against it.

Integration of Police—Fire Services and the Political Process [274] is a description of plans of integration in use in various municipalities and of attempts to prove or disprove the feasibility of integration in general. The major obstacle to the adoption of police-fire integration in a municipality lies in the opposition to it, not in defects of the system.

Integration of Police and Fire Services in Port Huron, Michigan [259 A & B], contains the results of a survey conducted by the Citizens Research Council of Michigan indicating the need for public safety services and the means by which these services can best be provided. The greatest advantage is the utilization of more of the total personnel on patrol for preventive and corrective safety work. Services are improved by increased patrol, with faster response to fire alarms, and a better distribution of emergency services and preventive duties. Integration makes the maximum use of the total personnel of a public safety establishment and directs the activities of those men toward the total solution of the total problem.

This is also stressed in a thesis by McNeil entitled An Inquiry into the Feasibility of Integrating the Police and Fire Services of An American Municipality [342]. The form and decision to integrate the public safety services of a municipality must be based on local circumstances.

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Field Decentralization

A thesis by Hoy entitled The Police Specialist in District Stations [219] is a study undertaken to assist police administrators in organizing or reorganizing their departments by:

- investigating the need for the specialization and decentralization of municipal police,
- determining the proper extent to which district police stations should be maintained, and
- determining the proper degree of specializing in district stations.

The basic conclusion is that there is a correlation between the size of a city and the necessary degree of specialization, the length of time specialists are available, the degree of decentralization, and the control vested in district commanders.

In A Study of Detroit Police—Precinct Requirements [254], Wilson explores the police precinct needs of Detroit with indications that revision or consolidation of existing precincts could be undertaken without impairing the present quality of police service. A reduction in the number of precincts would be accompanied by substantial savings in capital outlay and in annual operating costs.

Police Precincts [317] by Leonard is a study of the number and location of precinct stations necessary for effective operation of the department. A recommendation was made that the precinct layout be extensively overhauled and the number of precincts reduced to effect substantial savings with an equalization of work among precincts.

Most of the collected items on field decentralization pre-date the move to establish neighborhood units, store fronts, etc., that are part of many departments' community relations program. These, then, must be viewed in that light and a study of more recent literature should be undertaken if decentralization is an issue.

3.17.2 Administration

Dimock and Dimock [565, page 10] go beyond our definition and view administration in its broadest perspective; they include the following interrelated factors as the proper concern of administration:

- objectives—what to do
- policy—how to do it
- planning—determining steps by which objectives are attained
- decision making—choosing among priorities and alternative courses of action
- organization—by levels and units, job assignments: clear mandate for all
- personnel—recruitment, motivation, human relations
- budgeting and finance—translating plans into money terms as a basis for control and decision making
- purchase and supply—a centralized function
- direction—program formulation and dynamics of leadership
- coordination—synchronizing the program, avoiding duplication
- supervision—directing works of others
- control—efficient operation, operating on target
- public relations—explain program to all parties of interest

Police administration is discussed here under four general subject areas:

- General Administration
- Rules and Regulations
- Functions and the Control of Authority
- Other topics

General Administration

Five works fall into this category. The Police Management System [44] by Kassoff stresses that management is a distinct task requiring a distinct set of skills. This IACP publication covers the areas of planning, staffing, directing, controls, and the decision-making process.

The writings of twenty-five Air Force Officers contained in Field Studies in Police Administration: Theory and Practice [129] are concerned with the responsibility of studying and reporting on five approaches to police management and performance: local community environment, administrative structure, organizational roles, communication systems, and decision-making activities. The field assignments were

designed to provide an integrating exercise whereby theoretical approaches were tested in an actual police environment.

Bristow's thesis on Police Decision Making [218] notes that very little material has been written to guide police administrators in decision making. The purpose of this study was (1) to determine the degree of similarity between decision-making problems found in industrial business and public management and those found in police administration, (2) to investigate recent decision-making techniques developed by industrial business and public management, and (3) to relate these techniques to the problems of the police administrator.

Phelan's Police Administration—Which Approach, Democratic, Authoritarian, or ...? [209] points out that in the administration of crime prevention, the alert manager adopts his leadership style to the situation at hand. It is suggested that a democratic approach to management can be instituted in an organization where (1) employees are ready to assume responsibility for joint participation, (2) they are able to identify with goals and objectives, and (3) there is sufficient experience and knowledge to deal with problems at hand.

In A Comparative Analysis of Executive's Role in Business and Law Enforcement [141], Falzone found that duties of the police and business executive were analogous. He reviews police and business oriented literature and describes functions required of persons serving in any executive position.

Rules and Regulations

Law Enforcement Manual: Rules and Regulations by Pomrenke [307] illustrates various rules and procedures intended to acquaint personnel with many of the requirements and functions of a police department. It is a guide for the law enforcement administrator with details on various operating procedures.

Francis, in a thesis entitled A Study of Methods Evolving a Satisfactory Police Manual of Standard Operational Procedures and a Consideration of the Problems Involved [248], examines methods evolving a satisfactory Police Manual of Standard Operational Procedures and the problems involved. Specific needs for manuals are to clarify procedure, train personnel, disseminate information, increase efficiency, standardize procedure, centralize information and directives, and better regulate discipline.

Functions and Control of Authority

Benjamin Goldstein in Non-Police Duties of Today's Policemen [121] cites that many sources have contributed toward a definition of the role of the police. Basically, law enforcement agencies were created with two major organizational objectives: (1) prevention of crime and disorder and the preservation of peace in a jurisdiction, and (2) protection of life and property. Police functions have been so greatly expanded that officers have acquired many duties of a non-police nature.

Herman Goldstein in Administrative Problems in Controlling the Exercise of Police Authority [339] concludes that improved control over police conduct is primarily dependent upon the willingness of a police administrator to exert tighter and more effective control over his personnel. In an effort to examine some of the underlying problems in the control of police conduct, he states that:

- proper perspective must be restored,
- forms of misconduct must be distinguished,
- problems encountered are complicated by peculiarities inherent in the nature of the police function, and
- proposed methods of external control are inadequate.

Pfiffner in The Function of the Police in a Democratic Society [179] states that the police are agents of the people and should be responsive to popular opinion and control. The function of the police should be reexamined in light of some great problems of social pathology such as unemployment, juvenile delinquency, and the growing number of handicapped people unable to adjust to the demands of a cybernetic age. Society will redefine the police role to include ideas, perceptions, and insights bringing the police into the area of dealing with social pathology on a scale larger than the present holding and containing operation.

Other Topics

Revised Organization—An Advanced Development for Police Progress [151] is a report concerned with a reorganization of ranks, personnel, operational procedures, and organizational structure of the Hamilton (Ontario) Police Department. Effort was taken to incorporate the best contemporary police management principles for improvement to operations with existing resources and facilities.

As noted in Leahy's <u>Planning—Programming—Budgeting for Police Departments</u>
[247], a planning—programming—budgeting—system helps the police administrator
in several ways in that it:

- requires a statement of objectives,
- emphasizes the use of police manpower and its distribution to
meet objectives,
- emphasizes the planning function,
- provides a budget justification tool based on logical analysis, and
- at the department level retains decision-making concerning
police operations.

The bibliography (Section 4.0) contains a listing of bibliographies which have been
collected. Most notable (and most comprehensive) is the work by William H. Hewitt,
<u>A Bibliography of Police Administration, Public Safety and Criminology</u> (to July 1, 1965)
(Springfield, Illinois, Charles C. Thomas, 1967).

Suggested further readings in police organization, administration and related
matters, which are more theoretical and more probing are contained in a bibliography
compiled by Professor Herman Goldstein of the University of Wisconsin Law School.
Excerpts from that bibliography are included as Appendix G.

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Rand Corporation: E
IACP: F
PACAF-Library Service Center: G
Montreal Police Department: H
Criminal Justice Commission: I
Jones, A., J. M. Dodson: J
International Police Association: K
Library of Congress: L
International Criminal Police Org.: M

APPENDIX A

POLICE DEPARTMENTS WITH

FORMAL POLICE PLANNING AGENCIES

WHICH CONTRIBUTED COMPLETED RESEARCH

Albuquerque, New Mexico

Communications Planning

Berkeley, California

Riot Control Techniques
Tape Record Daily Reports

Buffalo, New York

Model Accident Reporting System
Computerize Various Record Systems

Charlotte, North Carolina

Disaster Control Procedures

Cleveland, Ohio

Study of Patrol Activity in Connection with the Issuance of Traffic Tickets

Dade County, Florida

Career Development Program

Dallas, Texas

Disaster Control Plan Allocation
Distribution of Manpower
Chemical Mace Study

Denver, Colorado

Recruitment of Police Officers

Detroit, Michigan

Study Applications of Modern Science and Technology to Police Work

Greensboro, North Carolina

Computerize Records System

Honolulu, Hawaii

Distribution of Patrol Manpower
Preliminary Systems Design of Police Applications System

Kansas City, Missouri

    One-Man Car Procedure
    Operation Barrier
    Beat Study

Los Angeles, California

    Want/Warrant Program
    Organizational Manpower and Operational Planning

Oakland, California

    Five Beat Surveys
    Report Writing Procedures and Forms
    Foot Patrol Work Load Study
    Blockade Quadrant System

Pasadena, California

    Reorganization Study

Prince George County, Maryland

    Improved Reporting and Records System

San Francisco, California

    Management Information and Resource Allocation System
    System for the Storing and Recovering of People Data

Syracuse, New York

    Incident Reporting and Recording Procedures
    Roll Call Training
    Trainee Program
    Data Processing and Summary Reports
    Tactical Patrol Force

Washington, D.C.

    Washington Area Police Operating Field System

Yonkers, New York

    Computerize Records Systems

Canada

    Montreal – Upgrade Education Level
    Ontario   – Promotional Process
               – Redrafting of All Police Orders
    Quebec   – Organization Chart and Personnel Required
    Toronto – Organizational Structure
               – Centralization of Communication Bureau
               – Centralized Records Bureau
               – Computer Operation

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APPENDIX B

U.S. EDUCATIONAL INSTITUTIONS

WITH POLICE PROGRAMS

WHICH REPLIED TO OUR INQUIRY

</div>

Jefferson State Junior College, Birmingham, Alabama

Antelope Valley College, Lancaster, California

Bakersfield College, Bakersfield, California

Chaffey College, Alta Loma, California

DeAnza College, Cupertino, California

Fresno State College, Fresno, California

Glendale College, Glendale, California

Grossmont College, El Cajon, California

Mount San Antonio College, Walnut, California

Palo Verde College, Blythe, California

Pasadena City College, Pasadena, California

Rio Hondo Junior College, Santa Fe Springs, California

Sacramento State College, Sacramento, California

San Diego State College, San Diego, California

San Joaquin Delta Junior College, Stockton, California

University of California, Berkeley, California

University of Southern California, Los Angeles, California

Daytona Beach Junior College, Daytona, Florida

Florida Junior College at Jacksonville, Jacksonville, Florida

Miami Dade Junior College, Miami, Florida

Palm Beach Junior College, Lake Worth, Florida

Pensacola Junior College, Pensacola, Florida

St. Petersburg Junior College, St. Petersburg, Florida

Tallahassee Junior College, Tallahassee, Florida

Georgia State College, Atlanta, Georgia

University of Georgia Institute of Government, Athens, Georgia

Boise College, Boise, Idaho

Northwestern University Traffic Institute, Evanston, Illinois

Indiana University, Bloomington, Indiana

University of Iowa, Iowa City, Iowa

Cowley County Community Junior College, Arkansas City, Kansas

Hutchinson Community Junior College, Hutchinson, Kansas

Southern Police Institute, Louisville, Kentucky

University of Louisville, Louisville, Kentucky

Essex Community College, Essex, Maryland

Northeastern University, Boston, Massachusetts

Michigan State University, East Lansing, Michigan

Schoolcraft College, Livonia, Michigan

Wayne State University, Detroit, Michigan

University of Minnesota, Minneapolis, Minnesota

Central Missouri State College, Warrensburg, Missouri

Junior College District of St. Louis, St. Louis, Missouri

Metropolitan Junior College District, Kansas City, Missouri

University of Missouri, St. Louis, Missouri

Municipal University of Omaha, Omaha, Nebraska

Nevada Technical Institute, Stead, Nevada

University of Nevada, Reno, Nevada

Brooklyn College, Brooklyn, New York

Erie County Technical Institute, Buffalo, New York

John Jay College of Criminal Justice, New York, New York

Monroe Community College, Rochester, New York

New York State University, Farmingdale, L. I., New York

State University of New York, Albany, New York

Suffolk County Community College, Seldon, L. I., New York

Minot State College, Minot, North Dakota

University of Oklahoma, Norman, Oklahoma

Clatsop Community College, Astoria, Oregon

Southern Oregon College, Ashland, Oregon

Indiana University of Pennsylvania, Indiana, Pennsylvania

Lehigh County Community College, Allentown, Pennsylvania

Pennsylvania State University, University Park, Pennsylvania

York Junior College, York, Pennsylvania

Memphis State University, Memphis, Tennessee

El Centro College, Killeen, Texas

Grayson County College, Denison, Texas

Odessa College, Odessa, Texas

San Jacinto College, Pasadena, Texas

Weber State College, Ogden, Utah

Northern Virginia Community College, Annandale, Virginia

Virginia Western Community College, Roanoke, Virginia

College of the Virgin Islands, St. Thomas, Virgin Islands

Bellevue Community College, Bellevue, Washington

Shoreline Community College, Seattle, Washington

Milwaukee Technical College, Milwaukee, Wisconsin

APPENDIX C

THE STATE OF THE ART OF THE APPLICATION
OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH AS
APPLIED TO CALIFORNIA POLICE DEPARTMENTS

This paper is based upon a survey of several police departments, state agencies, universities, and private research firms in the last few months. The institutions contacted are listed at the end of this writing. The state-of-the-art seems quite well advanced in certain areas (information processing) while virtually non-existent in other areas (the role of the police force in society). As this paper deals with the state-of-the-art of the application of science and technology to the police field, the statement that a certain area is well advanced means that much of the technology currently available is being employed (in the opinion of the investigator).

For the purposes of this paper, the application of science and technology in the police field is divided into four areas: information processing, crime prediction and manpower allocation, equipment, and the role of the police force in society.

In the area of information processing much work has been done and more is currently going on. Several examples of the successful implementation of information processing systems exist, and the future looks promising for further applications. Much work has been done as to the feasibility of new equipment for use in police forces, but little equipment has actually been implemented, the major obstacle being cost. However, in the next few years much of this equipment should come into use.

The area of crime prediction and manpower allocation has seen some research and development done, but there exists a rapidly growing body of techniques that have not been applied to this phase of police work. Even the feasibility of applying these techniques hasn't been fully explored.

Finally, the area of the role of the police force in society has been virtually ignored by the groups contacted. This is certainly a very difficult

and sensitive area to explore, but also a very necessary one. Before the current police system is made more efficient, it should be questioned as to whether society desires this form of police institution.

Many of the currently available techniques for information processing are being employed by the police departments in California. In many large departments on-line computer systems are in use. In the San Francisco Bay area the Police Information Network (PIN) gives the beat officer very fast responses to information requests. In Los Angeles a similar system, GENTRY, will soon be implemented. The California Highway Patrol has an on-line system (AUTO-STATIS) to identify stolen vehicles throughout the state. Moreover, a few smaller departments are using computers on a batch processing basis, and several more are in the process of implementing similar set-ups. Research is currently going on to improve the existing techniques.

The Los Angeles Police Department in conjunction with Systems Development Corporation is expending considerable effort toward developing a highly sophisticated information processing system. The Redondo Beach Police Department is working on a non-computerized information handling system in conjunction with AUTOMETICS. This work will hopefully provide a guideline for information handling for small police agencies throughout the country. The California State Justice Department is working on designing a statewide information system to connect all branches of the Justice Department within the state. The results of this intense work in the information processing area appear encouraging. Although no formal cost-analysis studies have been made, the consensus is that the use of computers by police departments is economically feasible. However, a major obstacle is the initial implementation cost. Another example of the use of recent technology to help information processing

is The Facsimile Identification Network (FIN) recently implemented by the Los Angeles Police Department. This network enables documents to be sent over telephone wires, and in the future might eliminate the necessity of having duplicate documents in several different geographic locations.

Recent advances in equipment to aid the policeman in performing his duties have been numerous. Most of these advances were known by the persons contacted, but relatively few were actually in operation, the major obstacle being the initial cost.

A few examples of the use of new equipment are a mobile tactical unit in Los Angeles, helicopters in Los Angeles County, mace, two-way pocket radios, and closed circuit television to scan jail cells. Video tape cameras and radio message scramblers are two devices desired by law enforcement personnel, but not employed because of high purchase costs. Finally, an example of equipment desired by some police officers is digital transmission of radio messages to patrol cars.

Crime prediction and manpower allocation is an area of police work in which very little of the available technology has been applied. In recent years numerous statistical and operations research techniques have been developed along with computer programs to make these techniques readily available. However, beyond the simplest approaches this technology has not been put to use in police work. In Los Angeles and Oakland simple manpower allocation schemes do exist. Perhaps the main reason these statistical and operations research techniques haven't been exploited is that the relevance of these techniques to police work is not understood by most officers, thereby making it necessary to employ outside personnel. Some of the OLEA contracts might be exploring these areas (apparently the system in St. Louis uses some

operations research techniques), but at present little progress has been made in the area of crime prediction and manpower allocation at an operational level.

While some of the existing technology has already been applied to the police field and further application seems highly probable, virtually no effort has been directed toward the use of recent scientific advances to define the role of the police force in society. This is not at all to say that science and technology can define this role, but rather that it can help society with this vital definition.

This can be done by collecting and presenting data in whatever form society desires, simulating on a computer alternative configurations of police departments, predicting future needs using statistical techniques, defining in a precise manner what the role is today, and what it might be in the future if no changes are instituted. There are a few university groups concerned with this problem, but the local and state agencies haven't begun to scratch the surface of this question.

Institutions Contacted

Berkeley Police Department
California Department of Justice
California State College at Los Angeles – Police Science Department
County Supervisors Association of California
Glendova Police Department
Herb Isaacs, Inc.
Lockheed Missiles and Space Co.
Los Angeles City Police Department
Los Angeles Sheriffs Association
Oakland Police Department
Alameda County Election Data Processing Center
Redondo Beach Police Department
Sacramento State College – Police Science Department
Stanford Research Institute
University of Southern California – School of Public Administration
University of California at Berkeley – School of Criminology

APPENDIX D

DOCUMENTS SUBMITTED TO

THE 1965 POLICE RESEARCH AND DEVELOPMENT

INSTITUTE AND ABSTRACTED IN

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Los Angeles, California

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    Reorganization of the City Jail System
    Obtaining Stolen Vehicle Dr Numbers
    Establishment of Valley Police Hq
    Complaint Officer City Attorney's Office
    A Report on Auto Statis.
    Uniform Traffic Citations
    Pawn Index Cards
    Acacia Octal Notation Coding System
    Natural Language EDP
    Auto Theft Crime Codes
    Geographic Division Boundary Changes
    FBI Statistical Reporting
    Proposed Rampart Division
    Reporting District Street Index Guide
    Crime Rates National and State
    The Police Dilemma
    Survey of Street Miles
    Survey of Capital Punishment in Calif
    Police Availability Study
    Review of Civilian & Officer Overtime
    Recruit Requirement Projections
    Reclassification of Check Offense Codes

New York, N.Y.

    Telephone Notifications
    Use of Motor Scooters for Police Patrol
    Elimination of Headquarters Division
    Identification Cards
    Police and Fire Department Salary Comparison
    Voucher Number for Narcotics Operations
    Impact of World Fair on Police Conditions
    Platoon Commanders
    Police Management Review
    Judicial Conference Disposition Reporting
    Sample Motor Numbers American Autos
    Central Security Hospital
    Revision of Summons Procedure
    Limited Motorization Study 47th Precinct
    Distribution Plainclothes Personnel
    Tactical Operations NYC Police Department

Agency   Project Title

Oakland, California

    Master Rogues Gallery Phase 1
    Emergency Ambulance Procedures
    Review of Handwritten Field Reporting
    Calif Highway Patrols Auto Statis Program
    Patrol & Traffic Div Daily Activity Reports
    Problems of Sealing Police Records
    Police Information Network Warrant System
    Inventory Control on Punch Cards

Portland, Oregon

    Redistricting Program

St. Louis, Missouri

    Recruitment Incentive Program
    The Cadet Program
    Thousand Code
    Real Time Auto File
    Mobile Reserve Deployment Tactics
    Group Identification Program

Seattle, Washington

    Offense and Arrest Reporting Procedure
    Accountability of Unserved Felony Warrant

Syracuse, New York

    Emergency Mobilization Procedures
    Beat Survey Radio Patrol Territories

APPENDIX E

CONTENTS OF THE "OAKLAND INSTITUTES"

- The 1957 and 1958 Seminars on Police Planning and Research
- The 1963 and 1964 Institutes on Police Planning and Research
- The 1965 Police Research and Development Institute

<u>Seminar on Police Planning and Research</u>

November 18, 19, and 20, 1957

<u>Organization and Function of a Planning and Research Unit in a Municipal</u>
<u>Police Department</u>

Director R. E. McDonell, Planning and Research, Oakland Police Department

<u>Police Planning with Electric Data Processing Methods</u>

Captain W. J. Snyder, Planning and Research Division, Los Angeles Police
Department

<u>Psychological Testing of Police Personnel</u>

Inspector Robert R. J. Gallati, Police Academy, New York City Police
Department

<u>Completed Staff Action</u>

Chief of Police John D. Holstrom, Berkeley Police Department, Lecturer,
School of Criminology

<u>Building Effective Headquarters - District Relationships</u>

Deputy Commissioner Howard R. Leary, Philadelphia Police Department

<u>Annual Police Administrative Surveys</u>

Captain Paul H. Vice, Office of Planning and Research, Kansas City
Police Department

Seminar on Police Planning and Research

November 17, 18, and 19, 1958

Research, Analysis, and Planning in the Philadelphia Department

Deputy Commissioner Albert N. Brown, Philadelphia Police Department

Administrative Control of Sick Leave in Philadelphia

Deputy Commissioner Albert N. Brown, Philadelphia Police Department

Operation Nightwatch and Operation 200

Lieutenant Colonel James Gameson, Chief of Staff Administration,
Kansas City Police Department

Administrative Changes in the Oakland Police Department

Chief of Police Wyman W. Vernon, Oakland Police Department

Stimulating Creative Thinking in Police Personnel

Acting Captain Patrick V. Murphy, Police Academy, New York City
Police Department

In-Service Training Conference for Command Personnel

Acting Captain Patrick V. Murphy, Police Academy, New York City
Police Department

Field Operations Management Training Course

Captain R. C. Blossom, Research and Development Section, California
Highway Patrol

Effective Methods for Selecting and Training Police Supervisors

Lieutenant Colonel Robert Klug, Assistant Chief of Police, Cincinnati
Police Department

Study of Policing Needs

Sergeant Vernon L. Hoy, Administrative Research Unit, Planning and
Research Division, Los Angeles Police Department

Time Element as a Factor in Deployment of Patrol Force

Director Richard E. McDonell, Planning and Research, Oakland Police
Department

Planning Police Coverage in Annexed Areas

Lieutenant Colonel James Gameson, Chief of Staff Administration,
Kansas City Police Department

Institute on Police Planning and Research

April 24, 25, and 26, 1963

The True Meaning of Planning and of Research

Inspector David S. Luethje, California Highway Patrol

Organization and Function of Planning and Research in Small, Medium, and Large Departments

Director Glen R. Murphy, Office of Planning and Research, St. Louis
Police Department

Responsibility of Division Commanders in Planning and Research

Chief of Police (retired) John D. Holstrom, Berkeley Police Department

Legal Developments Relating to Police Practice and Procedure

Professor Arthur H. Sherry, School of Law, School of Criminology

Planning for Electronic Data Processing in the State Bureau of Criminal Identification and Investigation

Night Supervisor Thomas P. Hunter, State Bureau of Criminal Identifications
and Investigation, Sacramento

Assessment of Manpower Functions

Chief Lawrence G. Waldt, Criminal Division, Alameda County Sheriff's
Department, Oakland

Planning and Research as a Tool in Decision Making

Major General Fred C. Weyand, Chief of Legislative Liaison, Department
of the Army, Washington, D.C.

An Analysis of Police Management as Viewed by a City Manager

City Manager Lohn Ficklin, Vallejo, California

Police Planning and Research in the Twentieth Century

Deputy Chief of Police Thomas Redding, Los Angeles Police Department

Evaluating Management and Operational Decisions

Executive Director Quinn Tamm, International Association of Chiefs of
Police, Washington, D.C.

Problems and Limitations on Police Records

Director Edward V. Comber, San Francisco Police Department

Planning Co-operative Information Sharing Among Law Enforcement Agencies

Mr. Richard E. McDonell, Industry Operations Analyst for Law Enforcement,
International Business Machines, Oakland

Planning and Research in Private Business

Mr. William J. McBride, Technical Assistant to the President, Varian
Associates, Palo Alto

Institute on Police Planning and Research

May 13, 14, and 15, 1964

An Analysis of the Present Status of Police Planning Across the Nation

Assistant Director John E. Ingersoll, Field Services Division,
International Association of Chiefs of Police, Washington, D.C.

The Role of the University in Police Planning

Dean Joseph D. Lohman, School of Criminology

Police Planning - What and Why

Chief of Police Leigh M. Brilliant, Walnut Creek Police Department

Planning for Internal Control

Chief of Police Thomas J. Rogers, San Leandro Police Department

Limitations on the Scope and Variety of Police Services

Deputy Chief of Police Robert J. Preston, Oakland Police Department

Automated Statewide Integrated Police Information Systems

Deputy Director John P. Kenney, California Department of Justice,
Sacramento

The Patrol Special Detail

Sergeant Claude D. Glenn, Berkeley Police Department

Panel on Development of Regional Information Sharing

Director Edward V. Comber, San Francisco Police Department

Planning Necessary to Prepare for Unusual Occurrences

Chief of Police Robert V. Murray, Metropolitan Police Department,
Washington, D.C.

Business Practices in Developing Management Skills

Mr. Carlos A. Efferson, Manager of Organization and Regional Planning
Kaiser Aluminum and Chemical Corporation, Oakland

Planning for Reorganization in a Small Department

Chief of Police John Fabbri, South San Francisco Police Department

Planning that a City Manager might Expect from a Police Department

City Manager Wayne E. Thompson, Oakland

Planning as an Extension of the Chief's Function

Mr. Richard E. McDonell, Industry Operations Analyst for Law Enforcement,
International Business Machines, Oakland

Police Research and Development Institute

April 21 and 22, 1965

Police Research and Development Institute, 1965

Lecturer, John D. Holstrom, School of Criminology, University of
California, Berkeley, California

Center for Law Enforcement Research Information of I.A.C.P.

R. Dean Smith, Director, Research and Development, I.A.C.P.

Research and Development Projects

Project I - Territorial Decentralization
Lieutenant Wayne D. Rugh, Columbus, Ohio

Project II - Offense and Arrest Reporting
Lieutenant G. R. Fuller, Seattle, Washington

Project III - Police Participation in Disaster Control
Captain Henry H. Bertch, Jr., Los Angeles, California

Project IV - Guide to Staff Reporting
Captain O. V. Mendes, California Highway Patrol

Appropriate Relationship of Law Enforcement in Legislative Matters

Herbert Ellingwood, Legislative Advocate, Peace Officers' Association
of California and District Attorneys' Association of California

Role of the Police in Some Quasi-Enforcement Tasks

James B. Conlisk, Deputy Superintendent of Police, Chicago, Illinois

Selling Proposals to Add or Eliminate Services

Thomas E. Bastis, Manager of Development Engineering, Kaiser Aluminum
and Chemical Sales, Oakland, California

The Expeditious Use of Consultants

Perry L. Stauffer, Assistant to the Director, California Department
of Motor Vehicles

Managing the Paper Work Problem

Charles Schultz, Management Analyst, National Archives and Records
Service, U.S. General Services Administration, San Francisco, California
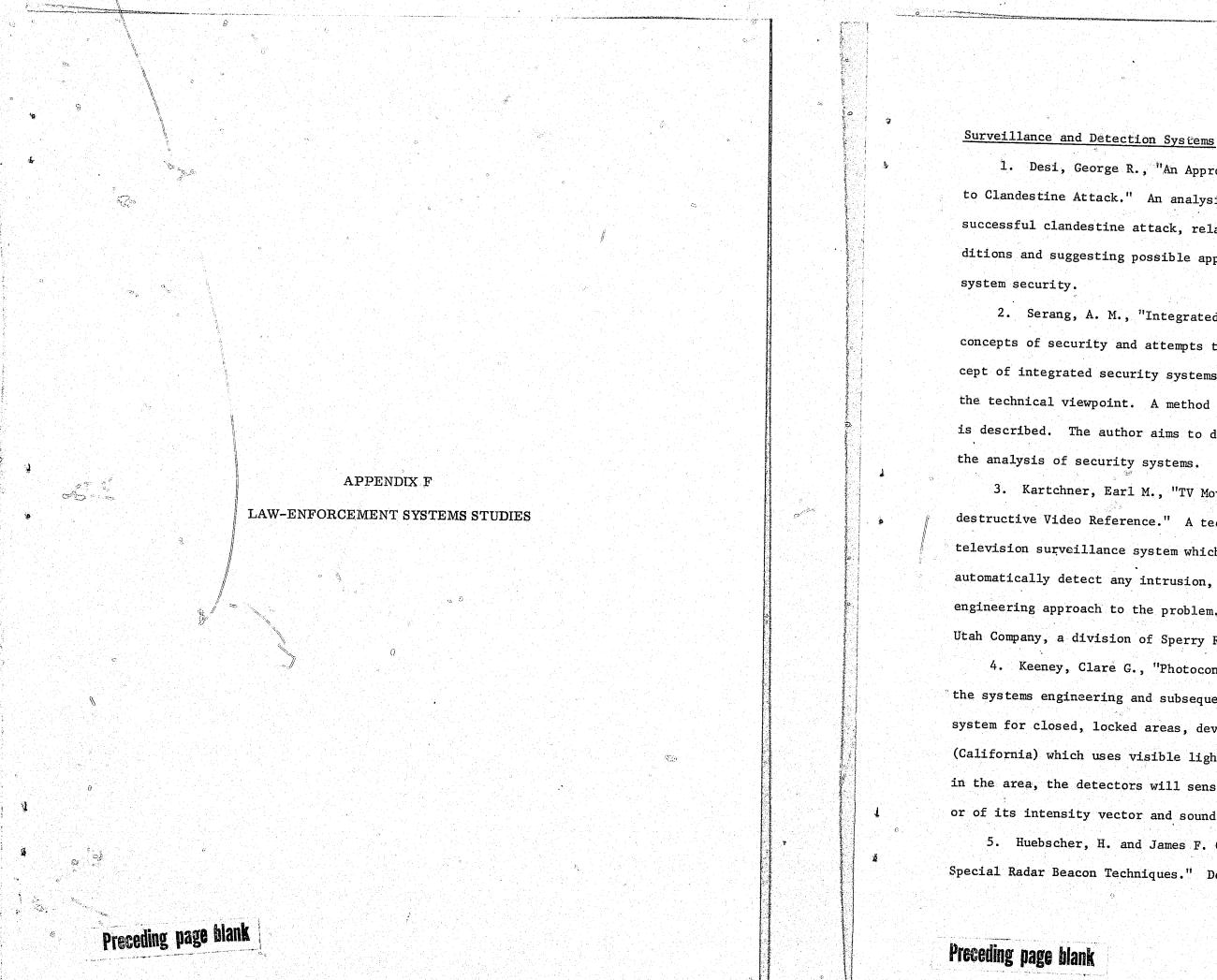
Bad Checks - Civil or Criminal

Panel Discussion

Chief Assistant Attorney General Arlo Smith, State of California
Vice President Chester A. Welch, Tele-Credit, Los Angeles, California
Chief of Police Edward M. Toothman, Oakland, California
Counsel Theodore Sachsman, Bank of America, San Francisco, California

APPENDIX F

LAW-ENFORCEMENT SYSTEMS STUDIES

Surveillance and Detection Systems

1. Desi, George R., "An Approach to the Analysis of System Vulnerability to Clandestine Attack." An analysis of some of the conditions required for a successful clandestine attack, relating types of countermeasures to these conditions and suggesting possible approaches for the quantitative evaluation of system security.

2. Serang, A. M., "Integrated Security Systems." A discussion of the concepts of security and attempts to develop a widely applicable general concept of integrated security systems from the operational viewpoint and from the technical viewpoint. A method of designing an integrated security system is described. The author aims to develop a widely useful analytical tool for the analysis of security systems.

3. Kartchner, Earl M., "TV Moving Object Detection System Using Non-destructive Video Reference." A technical paper describing a closed circuit television surveillance system which can, without the aid of observer personnel, automatically detect any intrusion, and which was developed through a systems engineering approach to the problem. The system is manufactured by the Sperry Utah Company, a division of Sperry Rand Corporation.

4. Keeney, Clare G., "Photoconductive Intrusion Detector." Describes the systems engineering and subsequent development involved in an anti-intrusion system for closed, locked areas, developed by Sylvania Electronic Systems (California) which uses visible light and detectors. If an intrusion occurs in the area, the detectors will sense the change in the reflection of the light or of its intensity vector and sound an alarm.

5. Huebscher, H. and James F. O'Connor, "Automatic Car Location by Special Radar Beacon Techniques." Describes a system approach for automatic

location and tracking of police cars using radar beam techniques. The system is operational and has been tested with success.

6. Ruda, E. V. and R. J. Wohlers, "A Sniper Detection System." The authors present a system concept in which a radar (doppler) detects bullets in flight and displays information on the sniper's location. The system is intended for use in a mobile tactical control unit equipped with a radio link to direct counter fire by law enforcement personnel against the sniper. Experimental results that indicate feasibility of such a system are presented.

Correction Procedures

1. Baker, James D., "On the Criminal Justice System." Illustrates the application of systems analysis techniques by describing the development and application of a simple feedback model to existing criminal data to: 1) estimate the reduction in crime by upgrading various areas of the criminal justice system; 2) determine the effect of queues and waiting time for trial on crime; and 3) determine current trends in crime.

2. Sheeder, Newman and Case, "Systems Analysis of an Information System for a County Jail." The authors investigate the feasibility of applying electronic data processing techniques to a county jail and describe actual applications to automatic maintenance of inmate biographical records and financial accounts as well as automatic generation of required reports.

Weapons Identification and Systems

1. Scott, Bernard E., "Design for a Computer-Based Weapons Identification System." Describes the BALID (Ballistics Identification System) developed by Computer Technology, Inc., which is based on analysis and profiling, by means of a mechanical surface analyzer, of the bullet's land impressions. The file for the system is organized by profile segments of the land impression and

ordered by the index value for that profile segment. This was developed through the use of systems engineering techniques.

2. Coates, Joseph F., "Nonlethal Weapons for Domestic Law Enforcement Officers." An analysis of the present state-of-the-art in nonlethal weaponry and an indication of directions for the development of nonlethal weapons, devices and techniques. The need for a systematic program of research and development, including problem analysis, determination of objectives, test and evaluation, and reporting and training is emphasized.

Fingerprint Classification, Storage and Retrieval

1. Kingston, Charles R., "Problems in Semi-Automated Fingerprint Classification." The author defines a semi-automated fingerprint classification process as one in which a person and a machine perform functions essential to the actual classification. He discusses the overall systems problems and some of the specific device problems relevant to the choice of method.

2. Van Emden, Bernard M., "Advanced Computer Based Fingerprint Automatic Classification Technique (FACT)." A presentation of some of the results of a series of experiments and studies in the field of automatic fingerprint processing carried out by Litton Industries' Advanced Data Systems Division. Some of the systems work used into developing the FACT system is described, especially that which uses the location of all minutiae with ridge endings and ridge branches.

3. Schwartz, Richard E., "System Considerations in Automated Fingerprint Classification." A discussion of general features of how a fingerprint identification system might be organized as well as various problems in terms of that system image.

Communications, Command and Control

1. Rath, Gustave J. and William Braun, "Systems Analysis of a Police Communications System." A systems analysis of a police communications system

which develops objectives, criteria and resources as well as a model of the
system. Computer simulation as means of evaluating alternative procedures
and policies and the possible effects of different alternatives on system
performance is discussed.

2. Soldan, Elmer, "Innovation in Communications--Personal Radio Equipped
Police." Describes the background, design, implementation, operation and use
of the Detroit Police Department's PREP (Personal Radio Equipped Police) system
in which patrolmen are equipped with a radio transceiver especially designed for
the department.

3. Klein, Albert and Bernard Grabois, "Secure Communications for Police
Radio." Discusses some ways in which security can be achieved electronically,
either by addition of new equipment or modification of existing equipment.

Information Systems and Data Processing

1. Smith, Charles P. and LeRoy B. McCabe, "System Analysis in Criminal
Justice Information Systems." The authors discuss systems analysis in the
context of design and development of a criminal justice information system.
The role of analysis in the system development process, criteria for a success-
ful system analysis and development, other system development processes,
functional analysis, information analysis, configuration analysis, and re-
quirements analysis are covered.

2. Comber, Edward V., "Activation of the California Criminal Justice
Information Systems Design Study." Describes the systems analysis design and
development of an information system based upon user need. The preparation
of an implementation schedule that is practical in terms of information avail-
ability with respect to time and content is also included.

3. Systems Development Corporation (SDC) - Series of technical reports
on a System Design Study for Phase I of the Los Angeles Police Department
Information System. These are summarized in a technical memorandum by L. Farr
of SDC entitled "Los Angeles Police Department System Design Study Summary."
The major product of the systems design study, conducted from June 30 to
December 30, 1965, was the documentation of a concept for the design and
operation of an automatic information system. It summarizes the results of
the analysis and design activities and gives reference to more detailed
documentation. This set of reports by SDC illustrates the system analysis
approach in design and development, in the police context, to a greater degree
of usefulness than most other reports in this area.

4. Lockheed Missiles & Space Co., "California Statewide Information
System Study." Describes a concept of a statewide information system that
will permit one-time collection of information and make it available to any
authorized governmental organization in the form and at the place required.
The systems analysis design approach is used and system values and costs are
also covered as is a summary of the system development plan.

APPENDIX G

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