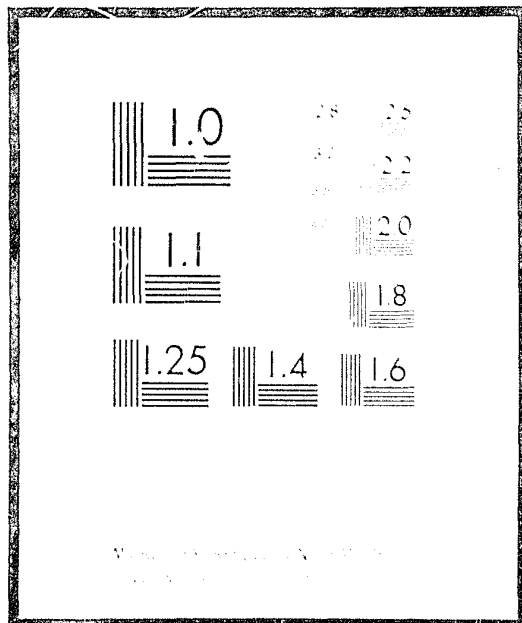


NCJRS

This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U.S. Department of Justice.

U.S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
NATIONAL CRIMINAL JUSTICE REFERENCE SERVICE
WASHINGTON, D.C. 20531

11 17 76
Date filmed.

JULY 1975

TR-16-75

EXPENDITURE AND EMPLOYMENT TRENDS IN LARGE CITY POLICE DEPARTMENTS: 1959-1973

BY

AMEDEO R. ODONI

TECHNICAL REPORT

NOVATIVE RESOURCE PLANNING IN URBAN PUBLIC SAFETY SYSTEMS"

NATIONAL SCIENCE FOUNDATION GRANT G138004
RESEARCH APPLIED TO NATIONAL NEEDS
DIVISION OF ADVANCED PRODUCTIVITY, RESEARCH, AND TECHNOLOGY

LABORATORY OF ARCHITECTURE AND PLANNING
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE, MASSACHUSETTS 02139



32755

July 1975

TR-16-75

EXPENDITURE AND EMPLOYMENT TRENDS IN LARGE CITY
POLICE DEPARTMENTS: 1959-1973

by

AMEDEO R. ODONI

Technical Report No. 16-75

"Innovative Resource Planning In Urban Public Safety Systems"

National Science Foundation Grant GI38004
Research Applied to National Needs
Division of Advanced Productivity, Research, and Technology

Laboratory of Architecture and Planning
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

NCJRS

MAR 29 1978

ACQUISITIONS

FOREWORD

The research project, "Innovative Resource Planning in Urban Public Safety Systems," is a multidisciplinary activity, supported by the National Science Foundation, and involving faculty and students from the M.I.T. Schools of Engineering, Architecture and Urban Planning, and Management. The administrative home for the project has become the M.I.T. Laboratory of Architecture and Planning. The research focuses on three areas: 1) evaluation criteria, 2) analytical tools, and 3) impacts upon traditional methods, standards, roles, and operating procedures. The work reported in this document is associated primarily with category 1, in which current methodologies for measuring the performance of public safety systems are reviewed and new approaches explored.

The work reported herein was supported by the National Science Foundation (RANN) und Grant GI38004.

Richard C. Larson
Principal Investigator

ACKNOWLEDGEMENTS

I am grateful to my colleague Professor Richard C. Larson, Principal Investigator of the IRP Project at M.I.T., for his support and encouragement of this research, for his many valuable suggestions during its earlier stages and for his helpful comments on an earlier draft of this report.

I would also like to thank several individuals who graciously offered their assistance in the preparation of my manuscript: Dr. Eleni Mahaira-Odoni (also my wife) for spending several hours reviewing and editing it; Professor Arnold Barnett and Mr. Mark McKnew for reading and commenting on it; and Ms. Debbie Brooks for diligent and efficient typing. Earlier, Ms. Suzanne Young had helped greatly in locating and collecting the numerous tables of data with which I have had to struggle.

Professor Roy W. Bahl of Syracuse University, Dr. William H. Beck and Chief Joseph D. McNamara of the Kansas City Police Department, Professor E.S. Savas of Columbia University and Mr. Dean E. Watkins of the Cincinnati Department of Safety must also be acknowledged for correspondence or tips that helped me identify the various sources of information which were pertinent to my subject.

Naturally, I bear full responsibility for any errors still contained in this report.

Amedeo R. Odoni
July 1975

ABSTRACT

This report is concerned with a review of trends in employment and expenditures at major city police departments in the United States for the years 1959 through 1973. The 13 largest police departments, in terms of the number of employees, are grouped together (Group A) and considered in parallel with a group of 20 police departments in medium-size (population 300,000-750,000) cities (Group B).

The report examines in detail a number of points related to police employment and expenditures, including: the size of the growth in city expenditures for the police on an absolute basis and in relation to expenditures for the provision of other services; changes in expenditures for salaries and wages and for the various types of fringe benefits; salary and wage increases for sworn police employees and for supervisory personnel in inflated and in constant prices; and, changes in the size and composition of police workforces.

Several long-term trends become readily apparent as a result of this examination: Over the years of interest, police protection costs have increased at a rate far exceeding the rate of cost increases in most other sectors of private or public activity. On the other hand, the growth rate of police expenditures is not far out of line with the growth rate of expenditures for many other municipal services. Salaries and wages as well as fringe benefits for all categories of police employees have improved dramatically over the years (and especially so during the 1966-73 time period). Typical present worth costs for the hiring of a new policeman by a large- or medium-size city in 1973 are close to \$300,000 (in 1973 prices). Although per capita costs of police protection in Group A cities were considerably larger than in Group B cities, growth trends (as evidence by the rates of changes in police employment and expenditures) exhibited minimal differences. The composition of police forces has also been changing to some extent, with increased proportions of supervisory personnel and of civilian employees evident at most police departments.

The extent to which all the aforementioned trends will continue at a similar level of intensity is a matter for speculation at this time, due to the major crisis that local government finances seem to be going through.

TABLE OF CONTENTS

	<u>Page</u>
Foreword	ii
Acknowledgements	ii
Abstract	iii
List of Tables	v
CHAPTER I - INTRODUCTION	1
CHAPTER II - BACKGROUND	4
CHAPTER III - TRENDS	11
CHAPTER IV - DISCUSSION	75
References	82

LIST OF TABLES

<u>Table</u>		<u>Page</u>
I	Annual Police Expenditures and Percentage Changes in Group A Cities	12
II	Annual Police Expenditures and Percentage Changes in Group B Cities	13
III	Populations, Per Capita Police Expenditures, and Percentage Changes in Per Capita Police Expenditures for Group A Cities	14
IV	Populations, Per Capita Police Expenditures, and Percentage Changes in Per Capita Police Expenditures for Group B Cities	15
V	Percentage of Police Department Expenditures Allocated to Salaries and Wages for Group A Cities	18
VI	Percentage of Police Department Expenditures Allocated to Salaries and Wages for Group B Cities	19
VII	Number of Police Department Employees for Group A Cities	21
VIII	Number of Police Department Employees for Group B Cities	22
IX	Police Department Employees and Police Department Uniformed Employees Per 1,000 Residents and Percentage Changes in this Ratio for Group A Cities	23
X	Police Department Employees and Police Department Uniformed Employees Per 1,000 Residents and Percentage Changes in this Ratio for Group B Cities	24
XI	Starting and Maximum Salaries and Percentage Changes for Uniformed Personnel Without Rank for Group A Cities	26
XII	Starting and Maximum Salaries and Percentage Changes for Uniformed Personnel Without Rank for Group B Cities	27
XIII	Analysis and Comparison of Salary Increases in Police Departments	29
XIV	Salaries for Selected Supervisory Positions at Selected Cities	31
XV	Average Salaries and Growth for Selected Supervisory Positions	32

<u>Table</u>		<u>Page</u>
XVI	Number of Paid Holidays (in Days) for Eight Group A Cities	35
XVII	Number of Paid Holidays Per Year (in Days) for Group B Cities	36
XVIII	Number of Annual Paid Vacation Days for Eight Group A Cities	37
XIX	Number of Annual Paid Vacation Days for Group B Cities	38
XX	Provisions for Compensation for Overtime Duty in Eight Group A Cities	39
XXI	Provisions for Compensation for Overtime Duty in Group B Cities	40
XXII	Compensation for Court Time for Eight Group A Cities	43
XXIII	Compensation for Court Time in Group B Cities	44
XXIV	Percent of Group Health Insurance Costs Contributed by Employer (Eight Group A Cities)	47
XXV	Percent of Group Health Insurance Costs Contributed by Employer (Group B Cities)	48
XXVI	City Contributions to Police Pension Plans as a Percentage of Employee's Annual Salary	50
XXVII	Annual Employer Expenditure for Retirement Benefits as a Percentage of Police Department Payroll	51
XXVIII	Minimum Retirement Provisions - Group A Cities	53
XXIX	Minimum Retirement Provisions - Group B Cities	54
XXX	Supervisory Personnel (Captains, Lieutenants, and Sergeants) vs. Uniformed Personnel Without Rank for Seven Group A Cities	60
XXXI	Supervisory Personnel (Captains, Lieutenants, and Sergeants) vs. Uniformed Personnel Without Rank for Group B Cities	61
XXXII	Uniformed Employees Without Rank Per Supervisory Employee for Seven Group A Cities	62
XXXIII	Uniformed Employees Without Rank Per Supervisory Employee for Group B Cities	63

<u>Table</u>		<u>Page</u>
XXXIV	Ratio of Uniformed (=Sworn) Employees to Civilian Employees and Percentage Changes for Group A Cities	64
XXXV	Ratio of Uniformed (=Sworn) Employees to Civilian Employees and Percentage Changes for Group B Cities	65
XXXVI	Percentage of Total Annual City Expenditures Allocated for Police Protection for Group A Cities	67
XXXVII	Percentage of Total Annual City Expenditures Allocated for Police Protection for Group B Cities	68
XXXVIII	Total Expenditures and Percentage Changes for Selected Items for Group A Cities, Group A Cities Excluding New York City, and Group B Cities	70

CHAPTER I - INTRODUCTION

This report is concerned with a review of trends in employment and expenditures of major city police departments in the United States for the years 1959 through 1973. This was a period of time during which crime, in its many forms, rose by leaps and bounds in the United States and became one of the foci of public concern. In turn, this concern was reflected in increased attention toward the Criminal Justice System, in general, and the police, in particular. As a result, expenditures for support of the various types of police activities at all levels of government grew at a rate which may be unprecedented, at least in the history of the United States.

Unfortunately, very little has been done to document systematically and on a nationwide basis this increase in police protection costs. Even less material is available in the area of analyzing these cost increases and identifying their component parts and the contribution of each of these parts to the total growth. This is in obvious contrast to the detailed recording of reported crime in annually published tabulations [9] and to the numerous attempts to verify or to analyze statistically these crime data and correlate them to a number of demographic, geographical and other factors (see, for instance, references [16] and [20]). Consequently, the public at large, while very much aware of growth in the incidence of crime, remains mostly unaware of the increasingly large resources expanded in combating and preventing it. One motive for this study is, therefore, the need to begin bridging the information vacuum that exists in the area of public expenditures for police protection.

It is also very possible that we may be fast approaching the limit of the ability of local governments to pay for additional and for new forms of police protection. Evidence of this is the current desperate state of city government finances as well as the increasingly turbulent nature of the relations between

the various local administrations and the unions of police (and, in general, of municipal employees. In a period of tight budgetary constraints, it is imperative that there exist a clear understanding of the contribution of the various expenditure items to the overall growth incurred by city government budgets during the recent past.

A third motivation for the study was provided by the considerable degree of confusion that seems to prevail with respect to the answers to a number of highly interesting questions regarding aspects of city expenditures for the police. For instance, to what extent have salaries and benefits for police employees risen, in real terms, during the period of interest? How much better (or worse) did these employees fare, in this respect, by comparison to other large categories of wage earners? Did the character and the rate of growth in expenditures for the police differ for different groups of cities? Have major cities been allocating ever larger fractions of their budgets to the support of police activities, thus indicating a shift in priorities with more emphasis on protection against crime? Answers to these and several other questions have been sought here with some degree of success.

Finally, it is hoped that this and other studies of a similar nature may eventually facilitate a more rational analysis of the whole area of public policy toward the police and police protection. Police services are a public good which can be provided in inadequate, satisfactory, or excessive amounts. As with most other government services, the mechanisms through which demand for police services is manifested are highly imperfect consisting mostly of pressures that citizens, the media, and special interest groups exercise on the political leadership. At least during the recent past, the prevailing approach of public officials in response to demands for new, improved, or simply additional police services has been to expand almost indiscriminately the areas

of police activity, seemingly with little concern for the costs (monetary and otherwise) or the potential effectiveness of such activities vis-a-vis the targets sought. Perhaps a better understanding of the cost (or "supply") side of the equation will help shape a somewhat different attitude among the public and in the ranks of elected or appointed government officials.

In reviewing the various trends and developments in police employment and expenditures during the period of interest, we have not used any sophisticated statistical analyses. In most instances, percentage changes from one year to another turned out to be sufficiently large and uniform to offer a clear and unambiguous picture of movement toward a given direction. In any event, it was felt that, in view of the lack of much previous work in this area, a broad, rather sweeping review would be preferable to a detailed analysis of any one given aspect of the police expenditure or employment picture.

The remainder of this report is organized as follows: Chapter II presents background information for the review of trends and emphasizes some of the limitations of this study, especially with reference to the inadequacy of some of the data sources. Chapter III is the main chapter of the report and contains numerous tables and a rather extensive discussion of some of the issues that were examined. The last section of Chapter III summarizes the main conclusions that can be drawn from the material presented earlier. Finally Chapter IV speculates on the possible meaning for police expenditures and employment of the financial crisis that many city governments now face.

CHAPTER II - BACKGROUND

Earlier Work

It has been noted already that a search for existing work on city police department expenditures and employment turned up surprisingly little recent material. This will be reviewed briefly here.

Perhaps the most interesting recent work, from the point of view of this study, is the in-depth analysis of expenditure and revenue patterns in New York City published by Bahl, Campbell, and Greytak [2]. As part of this analysis, the authors have examined in some detail the costs of the New York City Police Department and, through a simple mathematical model have attributed cost increases to the factors of increased employment in the police department, inflation, and real wage gains. They have also performed some comparisons between per capita police protection costs in New York City and similar costs in nine other major cities.

Kakalik and Wildhorn [11] in another interesting earlier investigation collected a considerable amount of information on cost breakdowns, manpower, manpower allocation, mechanization, etc. for a few large police departments and, by using simple calculations and regression analysis, arrived at several conclusions and conjectures regarding resource allocation in police work.

Several studies in this area have also been performed in the past in connection with the annual and periodic surveys of the International City Management Association (ICMA)--often conducted in co-operation with other private or governmental organizations. Among the most recent, Lewin [14] has examined trends in salaries and manpower for several categories of cities, while Anderson [1] in 1973, analyzed the data obtained from a survey of fringe benefit provisions for municipal employees taken in late 1971.

Another set of writings has originated at the Bureau of Labor Statistics of the U.S. Labor Department. For instance, Davis [7, 8] has published summary reports on pay scales and salary trends for policemen and firemen. Data in these reports are aggregated by groups of cities and the percent distribution of pay scales is also provided.

The aforementioned ICMA- and BLS-related reports can be criticized primarily for providing a minimum amount of perspective. Medium and long term trends (i.e., covering a time span of five or more years) are very seldom provided. Similarly, police data are not compared with similar data for other services (except possibly for municipal fire departments which, almost by definition, exhibit similar characteristics) and with data from the private sectors of the economy. Yet, it is only in the long-run and by comparison to those other sectors of the economy that changes in police expenditures and employment in the United States can be appreciated and understood.

Several investigations have concentrated on areas which are related to our main area of interest: A lengthy study by Shoup and Mehay [16] has attempted to demonstrate the merits of the Program Budgeting system through application to the case of police services in the Los Angeles area. By inferring the costs of the various types of crimes and of police activities, they have advocated adoption of a cost/benefit (or cost/effectiveness) approach to the allocation of police resources. On the subject of cost/effectiveness, a most thoughtful short paper by Blumstein [5] also deserves special mention.

An extensive amount of work has been done on multi-variate regression analyses that attempt to identify statistical relationships among police inputs (mostly police costs per capita), crime statistics (or victimization rates) and a host of environmental variables (such as demographic data, street mileage, geographical location, etc.). These studies usually concentrate on

groups of cities within a given state or cities located within one or a few metropolitan areas. Among the most recent ones are the analyses of Beaton [4] (New Jersey cities), Walzer [23] (31 cities in Illinois), Hirsch [10] (64 St. Louis metropolitan area police departments), Shoup and Mehay [16] (52 cities in Southern California), and Sunley [17] (selected cities in the metropolitan areas of Detroit, Cleveland, Minneapolis-St. Paul and Pittsburgh). None of these works examines in any detail the composition of police costs.

Finally, an article by E.S. Savas [15], although of a non-technical nature, offers many stimulating ideas and is strongly recommended as background to this and other studies on the costs and nature of municipal services.

Cities Examined

The trend reviews in this chapter are done with reference to two groups of cities. One of the two groups, to be called, henceforth, "group A" consists of the following 13 cities:

- | | |
|-----------------------|----------------------------------|
| Baltimore, Maryland | Los Angeles, California |
| Boston, Massachusetts | New York, New York |
| Chicago, Illinois | Philadelphia, Pennsylvania |
| Cleveland, Ohio | St. Louis, Missouri |
| Dallas, Texas | San Francisco, California |
| Detroit, Michigan | Washington, District of Columbia |
| Houston, Texas. | |

The criterion for the choice of this particular grouping is that the 13 cities above were the only ones which in 1973 had police departments with 2,000 or more employees (uniformed or civilian). These police departments will be referred to as "large" in the sequel.

The second group to be examined is composed of 20 medium size cities with populations ranging from 300,000 to 750,000 in the 1970 census. The criteria for the selection of this group were: (i) availability of data for each of these cities for the entire period of interest (1959-1973); and (ii) representation of almost every major population region of the United States in the group. The number of police department employees in these cities ranges from 650 to 1800, approximately. This second group, "group B," consists of the following 20 cities:

- | | |
|------------------------|--------------------------|
| Atlanta, Georgia | Newark, New Jersey |
| Birmingham, Alabama | New Orleans, Louisiana |
| Buffalo, New York | Oakland, California |
| Cincinnati, Ohio | Pittsburgh, Pennsylvania |
| Columbus, Ohio | Portland, Oregon |
| Denver, Colorado | St. Paul, Minnesota |
| Indianapolis, Indiana | San Antonio, Texas |
| Kansas City, Missouri | San Diego, California |
| Memphis, Tennessee | Seattle, Washington |
| Minneapolis, Minnesota | Toledo, Ohio. |

The combined population of the 33 cities in the two groups was about 34 million in 1970 (this figure includes only inner city residents).

A problem of size is created by New York City when computing averages and other statistical quantities. For instance, the budget of the New York City Police Department in 1973 was equal to more than half of the total budget of the other 12 "large" police departments and was considerably higher than the total budget of the 20 medium-size departments. Consequently, trends which may exist in New York City alone, may appear, erroneously, to exist on a nation-wide scale as well, if New York City data are indiscriminately combined with data from other localities. For this reason, separate statistics, including and not including New York City, are computed in several instances in the material that follows, especially whenever figures for New York City may have a distorting effect on the aggregate figures for one or both groups.*

It is also appropriate to warn at this early point against too literal a use of the figures to be presented here for the purpose of inter-city comparisons. In particular, figures concerning total and per capita expenditures for police

*New York City presents additional problems, due to a variety of other reasons, when comparing it with other cities. For instance, the police force of the Transit Authority there currently employs about 3,600 men, while the Housing Authority Police numbers about 1,800. These additional public security forces are of themselves, larger in size than the "primary" police departments of most cities. However, expenditures for these forces are not included in the appropriations for the New York City Police Department. Thus, the per capita expenditure data for police and similar measures that will be computed here, probably understate the real costs of police protection for New York City.

protection should be viewed only as approximate estimates. This is necessitated, on the one hand, by significant variations from city to city with regard to the statutory responsibilities of the police and, on the other, by differences in accounting procedures on such items as pension benefits and capital expenditures.

Data Sources

The sole Federal Government publication which is specifically oriented toward the compilation and presentation of data on expenditures and employment in the Criminal Justice System (CJS) is the annual volume on Expenditure and Employment Data for the Criminal Justice System [21], issued jointly by the Law Enforcement Assistance Administration (LEAA, National Criminal Justice Information and Statistics Service) and the Bureau of the Census (Social and Economics Administration). This survey covers all facets of the CJS (police, protection, judicial system, legal and other services, and corrections). Data are itemized along the federal-state-local lines of authority as well as by county and by standard metropolitan statistical area (SMSA). Unfortunately, however, this information suffers from excessive aggregation: the details of the allocation of resources within each of the CJS subsystems are not dealt with. Consequently, the value of this survey for an in-depth analysis of underlying causes in the change of total police expenditures and employment is very limited.

A comprehensive volume containing a broad spectrum of criminal justice data and entitled Sourcebook of Criminal Justice Statistics has also been published for the first time recently by the LEAA [22]. Information in this volume pertaining to employment and expenditures in police departments derives from the Expenditure and Employment Data for the CJS volume and thus offers no additional help.

The Bureau of Labor Statistics (BLS) through its Division of Trends in Employee Compensation, also compiles statistics similar to those of the International City Management Association (see below).

The most recent of these compilations [7] was in fact based on data obtained through the ICMA survey.

In the absence of appropriate federally-sponsored surveys, it was then necessary to turn to other sources of information. The two annual surveys which were used primarily were the ones conducted by the International City Managers Association (ICMA) and published in The Municipal Year Book and by the Kansas City Police Department and published as the Survey of Municipal Police Departments [12].

Neither survey was entirely satisfactory for the purposes of this study. The ICMA data contain gaps whenever major cities have failed to respond to questionnaires on selected years. Moreover, the collected information as published yearly in The Municipal Year Book covers only a limited number of items that are of interest here.*

The Kansas City survey covers only those cities with a population of between 300,000 and 1,000,000 at the last census before the year when the survey was taken (43 cities are covered by the surveys taken during the 1970's). Thus, the set of cities surveyed changes from one decade to the next. The survey also suffers from occasional imprecise wording of the questionnaire used to collect information. A few of the questions have obviously been interpreted in different ways by respondents in different cities and, consequently, data on the corresponding items are inconsistent and useless for purposes of inter-city comparisons.

*It is true, however, that the scope of the ICMA surveys has tended to expand over the years. For instance, in 1971, the ICMA conducted what seems to be the most extensive survey ever of fringe benefit packages for municipal employees. Similarly, the ICMA has been recently conducting surveys concerning usage of computers by municipal police departments.

Despite these problems, the ICMA and, especially, the Kansas City surveys are uniquely valuable sources of data, unduplicated elsewhere. One would hope that the Federal Government will in the future undertake responsibility for collection and wide dissemination of information similar to that contained in these two surveys.* This type of activity seems particularly appropriate for the Law Enforcement Assistance Administration. With a depth similar to that of the Kansas City survey and an expanded breadth, an annual survey conducted by the LEAA would provide much impetus for needed future work regarding the amount of national resources allocated to police and, in general, Criminal Justice System activities.

*It has been learned that the Kansas City Police Department's survey will be discontinued beginning in 1975, due to the considerable effort and resources that it requires.

CHAPTER III - TRENDS

Total Police Department Expenditures

The police department expenditures of the cities in groups A and B are indicated on Tables I and II, respectively, for the years 1959, 1966 and 1973. These Tables also indicate growth on a percentage basis for the indicated periods of time (columns (4), (5), and (6)). The equivalent annual growth rates have also been computed (columns (7), (8), and (9)). The expenditure figures include both capital outlays and appropriations for current operations.*

Although large variations in expenditure growth rates for individual cities are evident, growth rates are remarkably similar for the two groups, as a whole. Average expenditures more than tripled during the 14-year period and equivalent annual growth rates were about twice as high in the 1966-1973 period as in 1959-1966.

Per capita expenditures for police protection for groups A and B are shown on Tables III and IV. The 1960 and 1970 census figures for population were used for computing per capita expenditures in 1959 and 1973, while the average of the two census figures has been employed as a proxy for 1965 population estimates, which, in turn, were utilized to compute 1966 per capita expenditures. Despite the three year difference, the 1970 population figures are believed to be quite adequate for estimating per capita expenditures in 1973. City populations have been generally reported as remaining approximately constant during the early 1970's.

The total population of group A cities increased by only 0.6% between 1960 and 1970. The equivalent number for group B is 3.7%. The growth characteristics

*However, as will be noted later in the chapter, capital outlays constitute but a small fraction of police department expenditures.

Table I

Annual Police Expenditures and Percentage Changes in Group A Cities

	(1) 1959 (In \$000)	(2) 1966 (In \$000)	(3) 1973 (In \$000)	(4) 59-66 %Change	(5) 66-73 %Change	(6) 59-73 %Change	(7) 59-66 Annual%	(8) 66-73 Annual%	(9) 59-73 Annual%
Baltimore	19,834	25,940	56,638	31	118	186	3.9	11.8	7.8
Boston	19,143	22,126	51,039	16	131	167	2.1	12.7	7.3
Chicago	70,781	93,107	215,630	32	132	205	4.0	12.7	8.3
Cleveland	14,972	17,632	40,718	18	131	172	2.4	12.7	7.4
Dallas	7,290	11,515	31,284	58	172	329	6.7	15.3	11.0
Detroit	30,583	40,990	100,210	34	144	228	4.3	13.6	8.8
Houston	9,197	12,533	32,279	36	158	251	4.5	14.5	9.4
Los Angeles	42,598	70,604	161,960	66	129	280	7.5	12.6	10.0
New York	159,846	292,116	536,132	83	84	235	9.0	9.1	9.0
Philadelphia	32,865	47,721	133,050	45	179	305	5.5	15.8	10.5
St. Louis	14,858	22,518	35,832	52	59	141	6.1	6.9	6.5
San Francisco	13,618	20,347	41,425	49	104	204	5.9	10.7	8.3
Washington	20,330	30,826	89,685	52	191	341	6.1	16.5	11.2
Total	455,915	707,975	1,525,882	55	116	235	6.5	11.6	9.0
Average				44	133	234	5.2	12.7	8.9

-12-

Source: U.S. Bureau of the Census, City Government Finances, 1959, 1965-66 and 1972-73. (Nos.: G-CF59-No. 2, GF No. 12 and GF73 No. 4, respectively.)

Table II

Annual Police Expenditures and Percentage Changes in Group B Cities

	(1) 1959 (In \$000)	(2) 1966 (In \$000)	(3) 1973 (In \$000)	(4) 59-66 %Change	(5) 66-73 %Change	(6) 59-73 %Change	(7) 59-66 Annual% Change	(8) 66-73 Annual% Change	(9) 59-73 Annual% Change
Atlanta, Ga.	5,092	7,110	18,643	40	162	266	4.9	14.8	9.7
Birmingham, Ala.	2,921	3,972	8,693	36	119	198	4.5	11.8	8.1
Buffalo, N.Y.	8,183	11,997	21,762	47	81	166	5.6	8.9	7.2
Cincinnati, Ohio	6,702	8,343	18,910	24	127	182	3.2	12.4	7.7
Columbus, Ohio	4,417	7,057	18,454	60	161	318	6.9	14.7	10.8
Denver, Colo.	6,048	8,230	20,115	36	144	233	4.5	13.6	9.0
Indianapolis, Ind.	4,865	7,424	19,707	53	165	305	6.2	15.0	10.5
Kansas City, Mis.	5,715	9,661	24,826	69	157	334	7.8	14.4	11.1
Memphis, Tenn.	3,443	7,053	18,120	104	157	426	10.8	14.4	12.6
Minneapolis, Minn.	4,563	6,275	12,306	38	96	170	4.7	10.1	7.3
Newark, N.J.	10,828	16,100	29,455	49	83	172	5.8	9.0	7.4
New Orleans, La.	6,082	9,874	18,974	62	92	212	7.2	9.8	8.5
Oakland, Cal.	6,492	8,699	15,705	34	81	142	4.3	8.8	6.5
Pittsburgh, Pa.	9,677	11,865	20,855	23	76	116	3.0	8.4	5.6
Portland, Ore.	5,676	7,795	14,623	37	88	158	4.6	9.4	7.0
St. Paul, Minn.	3,139	4,065	8,556	29	110	173	3.8	11.2	7.4
San Antonio, Tex.	3,772	5,491	13,780	46	151	265	5.5	14.0	9.7
San Diego, Cal.	5,555	9,122	18,709	64	105	237	7.3	10.8	9.1
Seattle, Wash.	6,509	9,982	25,937	53	160	298	6.3	14.6	10.4
Toledo, Ohio	3,523	4,462	12,331	27	176	250	3.4	15.6	9.4
Total	113,202	164,577	360,461	45	119	218	5.5	11.9	8.6
Average				47	125	231	5.5	12.1	8.8

-13-

Source: U.S. Bureau of the Census, City Government Finances, 1959, 1965-66, and 1972-73 (Nos. G-CF59-No. 2, GF No. 12, and GF73 No. 4, respectively).

Table III

Populations, Per Capita Police Expenditures, and Percentage Changes in Per Capita Police Expenditures for Group A Cities

	(1) Pop'n(000) 1960	(2) Pop'n(000) 1965(est.)	(3) Pop'n(000) 1970.	Per capita police expenditures			%Change(Total-Annual)		
				(4) 1959	(5) 1966	(6) 1973	(7) 59-66	(8) 66-73	(9) 59-73
Baltimore	939	922	906	\$21	\$28	\$63	33-4.2	125-12.3	200- 8.2
Boston	697	669	641	28	33	80	18-2.4	142-13.5	186- 7.8
Chicago	3,550	3,459	3,369	20	27	64	35-4.4	137-13.1	220- 8.7
Cleveland	876	813	751	17	22	54	29-3.8	145-13.7	218- 8.6
Dallas	680	762	844	11	15	37	36-4.5	147-13.8	236- 9.1
Detroit	1,670	1,592	1,514	18	26	66	44-5.4	154-14.2	267- 9.7
Houston	938	1,086	1,233	10	12	26	20-2.6	117-11.7	160- 7.1
Los Angeles	2,479	2,645	2,810	17	27	58	59-6.8	115-11.5	241- 9.2
New York	7,782	7,839	7,896	21	37	68	76-8.4	84- 9.1	224- 8.8
Philadelphia	2,003	1,976	1,950	16	24	68	50-6.0	183-16.0	325-10.9
St. Louis	750	686	622	20	33	58	65-7.4	76- 8.4	190- 7.9
San Francisco	740	728	716	18	28	58	56-6.5	107-11.0	222- 8.7
Washington, D.C.	764	760	757	27	41	119	52-6.1	190-16.4	341-11.2
Total	23,868	23,937	24,009	19	30	64	58-6.7	113-11.4	237- 9.1
Average				19	27	63	42-5.1	133-12.9	232- 8.9

Source: Table I and City Government Finances, 1959, 1965-66, and 1972-73.

Table IV

Populations, Per Capita Police Expenditures, and Percentage Changes in Per Capita Police Expenditures for Group B Cities

	(1) Pop'n(000) 1960	(2) Pop'n(000) 1965(est.)	(3) Pop'n(000) 1970	Per capita police expenditures			%Change(Total-Annual)		
				(4) 1959	(5) 1966	(6) 1973	(7) 59-66	(8) 66-73	(9) 59-73
Atlanta	487	492	497	\$10	\$14	\$37	40-4.9	164-14.9	270- 9.8
Birmingham	341	321	301	9	12	29	33-4.2	142-13.4	222- 8.7
Buffalo	533	498	463	15	24	47	60-6.9	95-10.1	213- 8.5
Cincinnati	503	478	453	13	17	42	31-3.9	147-13.8	223- 8.7
Columbus	471	506	540	9	14	34	56-6.5	143-13.5	278-10.0
Denver	494	505	515	12	16	39	33-4.2	144-13.6	225- 8.8
Indianapolis	476	611	745	10	12	26	20-2.6	117-11.7	160- 7.1
Kansas City	476	491	507	12	20	49	67-7.6	145-13.7	308-10.6
Memphis	498	561	624	7	13	29	86-9.2	123-12.1	314-10.7
Minneapolis	483	459	434	9	14	28	56-6.5	100-10.4	211- 8.4
Newark	405	366	328	27	44	77	63-7.2	75- 8.3	185- 7.8
New Orleans	628	610	593	10	16	32	60-6.9	100-10.4	220- 8.7
Oakland	368	365	362	18	24	43	33-4.2	79- 8.7	139- 6.4
Pittsburgh	604	562	520	16	21	40	31-4.0	90- 9.6	150- 6.8
Portland	373	377	381	15	21	38	40-4.9	81- 8.8	153- 6.9
St. Paul	313	311	310	10	13	28	30-3.8	115-11.6	180- 7.6
San Antonio	583	619	654	6	9	21	50-6.0	133-12.9	250- 9.4
San Diego	573	635	697	10	14	27	40-4.9	93- 9.8	170- 7.4
Seattle	557	544	531	12	18	49	50-6.0	172-15.4	308-10.6
Toledo	318	351	384	11	13	32	18-2.4	146-13.7	191- 7.9
Total	9,484	9,662	9,839	12	17	37	42-5.1	118-11.8	208- 8.4
Average				12	17	37	42-5.1	120-11.9	208- 8.4

Source: Table II and City Government Finances, 1959, 1965-66, and 1972-73.

of per capita expenditure figures (columns (7), (8), and (9)) are, then, almost identical to those in the Tables for the total expenditures: tripling of expenditures in 14 years and an annual equivalent growth rate of roughly 8.7% on the average for both groups.

At the same time, the per capita expenditure figures provide a better basis for inter-city and inter-group comparisons--keeping in mind our earlier warnings with regard to statutory and reporting variations among cities. It is clear from Tables III and IV, for instance, that the per capita costs of police protection are substantially higher in group A than in group B cities. On the average, these costs were 58% higher in 1959, 59% in 1966, and 70% in 1973. Only one group B city (Newark) had a per capita cost higher than the average for group A cities in 1973. Similarly only one group A city (Houston) had a per capita cost lower than the average for group B cities during the same year. The reader is cautioned, however, not to interpret this as an indication of "diseconomies of scale" in police operations, i.e., that, as police departments become larger, their operating costs increase disproportionately to their size. Tables III and IV do not contain sufficient information to support such a statement. All that can be said at this point is that cities with large police departments (in terms of personnel) are also paying more for police protection on a per capita basis.

To gain some perspective on the growth of per capita police expenditures, it is useful to compare the annual growth rates of Tables III and IV with the average annual growth rate of the gross national product (GNP) per capita during the same periods. We have*:

*Source: Economic Report of the President, United States Government Printing Office (Washington: 1974).

<u>Year</u>	<u>1959</u>	<u>1966</u>	<u>1973</u>
GNP per capita:	\$2,720	\$3,815	\$6,122
<u>Period</u>	<u>1959-66</u>	<u>1966-73</u>	<u>1959-73</u>
Equivalent annual growth rate in GNP per capita:	5%	7%	6%

Thus the 8.9% and 8.4% annual growth rates for groups A and B, respectively, during 1959-73 are at least 40% higher than the 6% rate for GNP per capita. Moreover, while per capita police expenditures for the cities of our two groups roughly kept pace with GNP per capita growth rates during 1959-66 (5.1% and 5.1% vs. 5.0%) they took on explosive dimensions during 1966-73 (12.9% and 11.9% vs. 7.0%).

In the following sections, we shall undertake to examine some of the component parts of the rapid rise in police expenditures that we have just documented.

Labor Costs as a Component of Police Expenditures

It is well-known that police services are strongly labor intensive. This fact is illustrated vividly by Tables V and VI which list the percentage of police budgets expended on salaries and wages in 1959, 1966, and 1973. The salary and wage figure and the total budget figure used to estimate these percentages do not include expenditures for pensions and health benefits. Were these latter expenditures included, the budget percentages allocated to labor expenses would be even higher than those indicated in the two Tables. It can thus be safely concluded that labor expenses represent, on the average, at least 90% of major city police department budgets. Our analysis of the composition of police department expenditures will, therefore, primarily concentrate on labor-related costs.

Table V

Percentage of Police Department Expenditures Allocated to Salaries and Wages for Group A Cities

	1959	1966	1973
Baltimore	n.a.	91	86
Boston	94	94	94
Chicago	95	92	98
Cleveland	90	93	86
Dallas	84	87	n.a.
Detroit	97	96	86
Houston	91	87	89
Los Angeles	94	94	95
New York	72	96	88
Philadelphia	94	96	n.a.
St. Louis	92	85	n.a.
San Francisco	93	96	n.a.
Washington	95	94	n.a.
Average	91	92	90

Source: International City Management Association (ICMA), The Municipal Year Book.

Table VI

Percentage of Police Department Expenditures Allocated to Salaries and Wages for Group B Cities

	1959	1966	1973
Atlanta	83	83	84
Birmingham	87	88	88
Buffalo	90	94	99
Cincinnati	92	92	86
Columbus	89	90	88
Denver	78	79	91
Indianapolis	90	90	71
Kansas City	82	87	85
Memphis	89	90	n.a.
Minneapolis	94	90	86
Newark	93	85	n.a.
New Orleans	91	88	87
Oakland	84	88	88
Pittsburgh	94	95	88
Portland	89	80	93
St. Paul	91	93	n.a.
San Antonio	81	83	87
San Diego	86	91	n.a.
Seattle	91	84	72
Toledo	90	90	91
Average	88%	88%	87%

Source: ICMA, The Municipal Year Book.

A second fact that emerges from Tables V and VI is that, overall, the percentage of police budgets consumed for labor expenses has remained remarkably stable over the years. This is true despite the introduction during the late 60's and early 70's of sophisticated (and expensive) computer and communications equipment (as documented extensively by Colton [6]) which must have greatly increased capital, operations, and maintenance expenditures for the departments.

We now turn to an examination of employment and compensation trends for police in the cities of interest, having already established the importance of these areas as major determinants of total police expenditures.

Changes in Police Employment

Police employment in the 33 cities under consideration has increased on an absolute and a per capita basis during 1959-73. Tables VII and VIII show total police department employment for groups A and B, respectively, for the years 1959, 1966, and 1973. The employment figures are also broken down into the categories of "uniformed" (or "sworn") and "civilian" personnel. In absolute numbers, total personnel in group A increased by 40% between 1959 and 1973, by 15% between 1959 and 1966 and by 21% between 1966 and 1973. The corresponding increases for uniformed personnel are 35%, 12%, and 20%. For group B cities the increases are 49%, 14% and 31% for total employees and 45%, 13%, and 28% for uniformed employees.

Tables IX and X present police department employment figures on a per capita basis for 1959, 1966, and 1973, as well as percentage changes for the 1959-73 and the 1966-73 periods. The basic unit used for these Tables is the number of police department employees (and of uniformed personnel) per 1,000 city residents, a measure commonly used in the literature on police activity statistics. Some noteworthy items emerge from our figures. There exist, for one, remarkable variations among different cities. In 1973, for instance, there

Table VII
Number of Police Department Employees for Group A Cities
Uniformed (= Sworn) Employees
Include Police Officers Employed in Detective Ranks

	1959			1966			1973		
	Total	Uniformed	Civilian	Total	Uniformed	Civilian	Total	Uniformed	Civilian
Baltimore	3,074	2,816	258	3,207	2,898	309	4,082	3,524	558
Boston	3,057	2,821	236	2,704	2,514	190	3,036	2,687	349
Chicago	11,170	10,712	458	12,593	11,113	1,480	14,391	13,125	1,266
Cleveland	2,189	1,921	268	2,279	2,011	268	2,461	2,299	162
Dallas	1,133	956	177	1,563	1,353	210	2,498	1,875	623
Detroit	4,792	4,345	447	4,698	4,286	412	6,148	5,555	593
Houston	1,194	1,025	169	1,590	1,337	253	2,389	2,077	312
Los Angeles	5,755	4,524	1,231	6,675	5,192	1,483	9,458	7,083	2,375
New York	24,486	23,383	1,103	29,193	27,418	1,775	32,812	30,828	1,984
Philadelphia	5,821	5,294	527	7,887	7,234	653	9,121	8,183	938
St. Louis	2,608	2,007	601	2,647	2,035	612	2,900	2,228	672
San Francisco	1,818	1,714	104	2,078	1,795	283	2,462	1,921	541
Washington	2,660	2,482	178	3,088	2,802	286	5,572	4,951	621
Total	69,757	64,000	5,757	80,202	71,988	8,214	97,330	86,336	10,994

Source: FBI, Uniform Crime Reports

Table VIII

Number of Police Department Employees for Group B Cities
 Uniformed (= Sworn) Employees
 Include Police Officers Employed in Detective Ranks

	1959			1966			1973		
	1 Total	2 Uniformed	3 Civilian	1 Total	2 Uniformed	3 Civilian	1 Total	2 Uniformed	3 Civilian
Atlanta	702	620	82	850	739	111	1,675	1,455	220
Birmingham	476	420	56	524	462	62	827	682	145
Buffalo	1,707	1,354	353	1,533	1,349	184	1,515	1,368	147
Cincinnati	976	882	94	957	847	110	1,418	1,139	279
Columbus	637	521	116	829	692	137	1,337	1,112	225
Denver	845	725	120	975	816	159	1,601	1,305	296
Indianapolis	879	788	91	1,039	906	133	1,318	1,120	198
Kansas City	918	721	197	1,182	910	272	1,677	1,307	370
Memphis	670	556	114	1,038	816	222	1,333	1,073	260
Minneapolis	644	586	58	773	704	69	957	863	94
Newark	1,433	1,334	99	1,671	1,396	275	1,745	1,566	179
New Orleans	1,125	1,031	94	1,212	1,080	132	1,697	1,339	358
Oakland	794	672	122	859	656	203	950	699	251
Pittsburgh	1,536	1,472	64	1,675	1,600	75	1,587	1,557	30
Portland	782	641	141	828	691	137	914	709	205
St. Paul	458	408	50	458	402	56	638	553	85
San Antonio	628	520	108	803	701	102	1,180	999	181
San Diego	717	601	116	876	731	145	1,319	1,071	248
Seattle	922	768	154	1,057	907	150	1,399	1,119	280
Toledo	490	450	40	643	603	40	837	765	72
Total	17,339	15,070	2,269	19,782	17,008	2,774	25,874	21,801	4,073

Source: Kansas City Police Department, Survey of Municipal Police Departments

Table IX
 Police Department Employees and Police Department Uniformed Employees Per 1,000
 Residents and Percentage Changes in this Ratio for Group A Cities. Numbers in
 Parentheses Refer to Uniformed Employees

	Ratio				% Change	
	1959	1966	1973	59-73	66-73	
Baltimore	3.27(3.0)	3.48(3.14)	4.51(3.89)	38(30)	30(24)	
Boston	4.39(4.05)	4.04(3.76)	4.74(4.19)	8(3)	17(11)	
Chicago	3.15(3.02)	3.64(3.21)	4.27(3.90)	36(29)	17(21)	
Cleveland	2.50(2.19)	2.80(2.47)	3.28(3.06)	31(40)	17(24)	
Dallas	1.67(1.41)	2.05(1.78)	2.96(2.22)	77(57)	44(25)	
Detroit	2.87(2.60)	2.95(2.69)	4.06(3.67)	41(41)	38(36)	
Houston	1.27(1.09)	1.46(1.23)	1.94(1.69)	53(54)	33(37)	
Los Angeles	2.32(1.82)	2.52(1.96)	3.37(2.52)	45(38)	34(29)	
New York	3.15(3.0)	3.72(3.50)	4.16(3.90)	32(30)	12(11)	
Philadelphia	2.91(2.64)	3.94(3.61)	4.68(4.20)	61(59)	19(16)	
St. Louis	3.48(2.68)	3.86(2.97)	4.66(3.58)	34(34)	21(21)	
San Francisco	2.46(2.32)	2.85(2.47)	3.44(2.68)	40(16)	21(9)	
Washington	3.48(3.25)	4.06(3.69)	7.36(6.54)	111(101)	81(77)	
Total	2.92(2.68)	3.35(3.01)	4.05(3.60)	39(34)	21(20)	
Average	2.84(2.54)	3.18(2.81)	4.11(3.54)	45(39)	29(26)	

Sources: Tables III and V.

Table X

Police Department Employees and Police Department Uniformed Employees Per 1,000 Residents and Percentage Changes in this Ratio for Group B Cities. Numbers in Parentheses Refer to Uniformed Employees.

	RATIO			% CHANGE	
	1959	1966	1973	59-73	66-73
Atlanta	1.44(1.27)	1.73(1.50)	3.37(2.92)	134(130)	95(95)
Birmingham	1.40(1.23)	1.63(1.44)	2.74(2.26)	96(84)	68(57)
Buffalo	3.21(2.54)	3.08(2.71)	3.27(2.95)	2(16)	6(9)
Cincinnati	1.94(1.75)	2.00(1.77)	3.13(2.51)	61(43)	57(42)
Columbus	1.35(1.11)	1.64(1.37)	2.47(2.06)	83(86)	51(50)
Denver	1.71(1.47)	1.93(1.62)	3.11(2.53)	82(72)	61(56)
Indianapolis	1.85(1.66)	1.70(1.48)	1.77(1.50)	-4(-10)	4(1)
Kansas City	1.93(1.52)	2.41(1.85)	3.30(2.57)	71(69)	37(39)
Memphis	1.35(1.12)	1.85(1.45)	2.13(1.72)	58(54)	15(19)
Minneapolis	1.33(1.21)	1.68(1.53)	2.20(1.98)	65(64)	31(29)
Newark	3.53(3.29)	4.57(3.82)	4.57(4.10)	29(25)	0(7)
New Orleans	1.79(1.64)	1.99(1.77)	2.85(2.25)	59(37)	43(27)
Oakland	2.16(1.83)	2.35(1.80)	2.62(1.93)	21(5)	11(7)
Pittsburgh	2.54(2.44)	2.98(2.85)	3.05(2.99)	20(23)	2(5)
Portland	2.10(1.72)	2.20(1.83)	2.38(1.85)	13(8)	8(1)
St. Paul	1.46(1.30)	1.47(1.29)	2.05(1.78)	40(37)	39(38)
San Antonio	1.08(0.89)	1.30(1.13)	1.80(1.52)	67(71)	38(35)
San Diego	1.25(1.05)	1.38(1.15)	1.89(1.53)	51(46)	37(33)
Seattle	1.66(1.33)	1.94(1.66)	2.63(2.10)	58(58)	36(27)
Toledo	1.54(1.41)	1.83(1.72)	2.18(1.99)	42(41)	19(16)
Total	1.83(1.58)	2.05(1.76)	2.63(2.22)	44(41)	28(26)
Average	1.83(1.59)	2.08(1.80)	2.67(2.25)	46(42)	28(25)

Source: Tables IV and VI.

were 1.68 sworn police officers for every 1,000 residents in Houston, while the equivalent figure for Washington, D.C. was almost four times as high (6.54). Secondly, group A cities, on the average, employ considerably more police personnel than group B cities on a per capita basis. Both the total personnel and the uniformed personnel per capita figures for group A cities have remained at least 50% higher than those for group B cities through the time period of interest. Finally, we note that the average growth rates for the two groups of cities have been very similar, with a total growth of roughly 45% and 40% in total and uniformed employment, respectively, between 1959 and 1973. Better than two-thirds of this growth has occurred during the second half of this time period.

Salary Increases

A second obvious potential source of expenditure increases is the change that has taken place during the time period under study in the salaries and wages paid to police department personnel. Tables XI and XII document these changes for the years 1959, 1966, and 1973. Indicated for each year are the basic starting and maximum salaries at each city for uniformed officers with no supervisory rank. No assessment of the value of fringe benefits and no payments for overtime are included in the figures--these are items that will be considered in later sections. However maximum salary figures include, when applicable, bonuses awarded for long service ("longevity" payments) which several cities initiate after employment for a specified period (ranging from 5 to 15 years). The ICMA surveys on which Tables XI and XII are based were conducted during the first months of the years indicated or during the last months of the preceding years.

Clearly, salaries for non-supervisory police personnel have better than doubled during the 1959-73 period with the high end of the spectrum (maximum-salaries)

Starting and Maximum¹ Salaries and Percentage Changes for Uniformed Personnel Without Rank for Group A Cities. First Number Refers to Starting Salaries

Table XI

	1959	1966	1973	% Change	%Change
	Starting-Max	Starting Max.	Starting Max.		
Baltimore	\$4,400-5,000	\$5,300-6,500	\$ 8,500-11,000	93-120	60- 69
Boston	4,100-5,000	5,300-5,900	9,300-12,300	127-146	75-108
Chicago	4,800-5,600	6,200-7,500	10,500-14,700	119-163	69- 96
Cleveland	4,500-5,800	5,600-7,000	10,700-12,600	138-117	91- 80
Dallas ¹	3,800-4,700	5,600-6,200	8,800-12,700*	132-170	57-105
Detroit	4,900-5,700	6,400-7,300	10,100-14,100	106-147	58- 93
Houston	4,300-4,900	5,600-6,200	9,000-11,500	109-135	61- 85
Los Angeles	6,500-6,500	7,500-8,800	11,000-15,200	69-134	47- 73
New York	4,500-5,900	7,000-8,500	11,200-14,700	149-149	60- 73
Philadelphia	3,900-4,900	6,100-6,600	n.a.	-	-
St. Louis ¹	4,600-5,200	6,100-8,100	8,700-11,500*	89-121	43- 42
San Francisco	5,600-6,200	8,200-8,800	13,400-14,000	139-126	63- 59
Washington ¹	4,800-6,000	6,000-7,600	10,000-17,300*	108-188	67-128
Average	4,700-5,500	6,200-7,300	10,100-13,500	115-145	63- 85

1. "Longevity" pay is included in maximum salary when applicable.

Source: ICMA, The Municipal Year Book. Entries with * from Kansas City Police Department, Survey of Municipal Police Departments.

Table XII

Starting and Maximum* Salaries and Percentage Changes for Uniformed Personnel Without Rank for Group B Cities. First Number Refers to Starting Salaries.

	1959	1966	1973	59-73	66-73
	Starting-Maximum	Starting-Maximum	Starting-Maximum	%Change	*Change
Atlanta	3,500-4,300	4,800-6,000	8,700-11,600	149-170	81-93
Birmingham	4,000-4,800	5,200-6,300	7,700-11,400	93-138	48-81
Buffalo	4,800-4,800	5,200-6,500	8,500-11,700	77-144	63-80
Cincinnati	5,500-5,500	6,000-6,900	10,200-11,600	85-111	70-68
Columbus	4,400-5,200	6,000-7,400	9,000-12,000	105-131	50-62
Denver	4,700-5,600	5,700-7,100	8,400-12,200	79-118	47-72
Indianapolis	4,500-4,500	5,500-5,500	7,700-10,900	71-142	40-98
Kansas City	4,500-5,200	5,200-5,800	8,600-12,600	91-142	65-117
Memphis	3,800-4,700	5,400-6,700	7,200-14,300	89-204	33-113
Minneapolis	5,000-5,700	6,400-7,200	10,200-13,900	104-144	59-93
Newark	4,500-5,400	6,000-7,000	10,200-12,400	127-130	70-77
New Orleans	3,600-4,500	4,100-5,900	6,700- 9,900	86-120	63-68
Oakland	5,800-6,200	8,000-8,500	12,700-14,000	119-126	59-65
Pittsburgh	4,400-5,500	5,700-6,600	9,600-10,500	118- 91	68-59
Portland	4,600-5,400	6,500-7,200	9,500-12,700	107-135	46-76
St. Paul	4,800-5,600	6,300-7,400	10,200-12,700	113-127	62-72
San Antonio	3,900-4,300	4,600-5,500	8,200- 9,500	110-121	78-73
San Diego	5,100-6,100	7,200-8,600	11,800-12,900	131-111	64-50
Seattle	5,000-5,600	6,600-7,400	9,800-11,900	96-113	48-61
Toledo	5,000-5,500	5,800-6,800	10,300-12,200	106-122	78-79
Average	4,600-5,200	5,800-6,800	9,300-12,000	102-131	60-76

Source: ICMA, The Municipal Year Book.

*Longevity pay is included in maximum salary when applicable.

rising faster than the low end (starting salaries). Table XIII presents a break-down of the average figures of Tables XI and XII into a "real" wage gain component and a component which can be attributed to price inflation.* With total nationwide price inflation amounting to 51% for the 1959-73 period, roughly one-half of the salary gains for police personnel can be attributed to inflationary pressures and the other half to real wage gains. Since inflation was much more severe during 1966-73 than during 1959-66, the differences in total percentage increased during the two periods are less pronounced in the case of real wage gains than in the case of inflated gains.

It is instructive to compare the real wage gains achieved by non-supervisory uniformed police personnel to the gains of the average production or non-supervisory worker employed in private non-agricultural industries. Using as a rough indication of average real wage gains by the former group the average of the four figures for the total increases in starting and maximum salaries (e.g. $(42 + 34 + 62 + 53)/4$ for the 1959-73 period) we obtain a 48% wage gain during 1959-73, 17% for 1959-66, and 27% for 1966-73. Thus, for the period 1959-73, real wage gains by police officers were better than twice as high as those for the average non-government worker on a percentage basis. It is also particularly noteworthy that most of this gain was achieved during a period (1966-73) when wage gains for private, non-agricultural workers were minimal (7% total for the 7 years). Intense nation-wide concern about crime, the "law and order" issue, and increasingly militant police unionism were all characteristic of this period of time and are obvious candidates as factors contributing to the extraordinary increases in police salaries.

*A small error is introduced by the use of a single national average rather than location-specific figures for inflation.

Table XIII .

Analysis and Comparison of Salary Increases in Police Departments

	1959-73	1959-66	1966-73
Total Increase in Average Starting Salaries			
Group A:	115%	32%	63%
Group B:	102%	26%	60%
Total Increase in Average Maximum Salaries			
Group A:	145%	32%	85%
Group B:	131%	31%	76%
Total Nationwide Price Inflation	51%	12%	35%
Total Increase in <u>Real</u> Average Starting Salaries			
Group A:	42%	18%	21%
Group B:	34%	13%	19%
Total Increase in <u>Real</u> Average Maximum Salaries			
Group A:	62%	18%	37%
Group B:	53%	17%	30%
Total Increase in <u>Real</u> Average Gross Weekly Earnings For Production or Nonsupervisory Workers in Total Private Nonagricultural Industries:	20%	13%	7%

Sources: Tables IX and X and Economic Report of the President, 1974, Table C-31.

It is interesting to compare salary gains by non-supervisory uniformed personnel to those made by the supervisory ranks. Table XIV presents typical salary figures for the years 1959, 1966, and 1973 for police chief, captains and sergeants for selected cities. The sample has been chosen to include cities with both relatively low and relatively high pay scales for these positions. Table XV presents estimated average salaries for the three ranks of Table XIV for 28 of the 33 cities of interest. Data were unavailable for five of the largest police departments (Chicago, Detroit, Los Angeles, New York, and Philadelphia). The average salary estimates for Group A is, therefore, believed to be biased toward the low side.

The salary gains for the three ranks* considered display growth patterns remarkably similar to each other and to those of the salaries of unranked sworn employees (Table XIII). The supervisory ranks appear to have achieved salary gains which, on a percentage increase basis, are at least as high as those achieved at the patrolman level. Furthermore, the acceleration of wage increases during the 1966-73 period is just as clear in the supervisory ranks. While it is very probably true that strong unionism movements among uniformed patrolmen have led to extra-ordinary salary gains for their memberships during the last decade or so, it would appear that supervisory personnel were anything but left behind in the process.

Fringe Benefits and Other Terms of Employment

We now turn to trends in areas involving other terms of employment in major city police departments. Only items of major interest--such as provisions for overtime pay, paid holiday and vacation schedules, health benefits, and the

*A brief review revealed a similar growth pattern for the remaining ranks of lieutenant colonel, major, lieutenant, and corporal. Many police departments do not use the lieutenant colonel rank and most do not use the corporal rank.

Table XIV
Salaries* for Selected Supervisory Positions at Selected Cities

		1959	1966	1973
Baltimore	chief	\$12,500	\$25,000	\$30,000
	captain	7,500	12,100	17,200
	sergeant	5,600	9,000	12,900
Birmingham	ch.	10,800	14,500	23,300
	cpt.	7,300	9,800	14,300
	sgt.	6,000	7,700	11,200
Boston	ch.	11,900	16,000	35,000
	cpt.	8,000	9,400	18,500
	sgt.	6,300	7,300	14,000
Kansas City	ch.	15,000	17,300	29,000
	cpt.	7,000	9,700	16,100
	sgt.	5,600	7,600	14,600
Portland	ch.	12,000	15,600	26,900
	cpt.	7,900	10,900	18,700
	sgt.	6,500	8,900	14,800
San Antonio	ch.	9,000	13,600	26,500
	cpt.	6,400	8,200	14,200
	sgt.	5,200	6,700	11,800
Toledo	ch.	10,000	14,300	24,600
	cpt.	7,000	10,000	17,000
	sgt.	5,800	7,600	13,200
Washington, D.C.	ch.	16,100	22,200	39,000
	cpt.	9,100	13,200	21,900
	sgt.	7,300	9,100	16,600

* For captains and sergeants the salaries listed are the average of the maximum and minimum salaries for this position at the city in question.

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XV
Average Salaries and Growth for Selected Supervisory Positions²

	1959	1966	1973	% Change 1959-73	% Change 1959-66	% Change 1966-73
<u>Group A (8 cities)¹</u>						
Chief of Police	13,900	19,900	33,000	137	66	43
Captains	8,000	11,200	17,900	124	60	40
Sergeants	6,300	8,400	14,800	135	76	33
<u>Group B (20 cities)</u>						
Chief of Police	12,100	16,000	26,400	118	65	32
Captains	7,200	9,900	16,500	129	67	38
Sergeants	6,000	8,000	13,100	118	64	33
<u>All Cities (28 cities)</u>						
Chief of Police	12,600	17,100	28,300	125	65	36
Captains	7,400	10,300	16,900	128	64	39
Sergeants	6,100	8,100	13,600	123	68	33

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Notes 1. Does not include: Chicago, Detroit, Los Angeles, New York, Philadelphia

2. Salaries for each city computed as in Table XIV.

major elements of retirement packages--will be reviewed. The emphasis will be on indicating what would seem to be the general direction of developments in these areas, during the 1959-1973 time period. However, a truly detailed investigation of this subject involves a scale of effort which would be clearly beyond the scope and limitations of this study.

The meagerness and lack of organization of the existing data in this area, and especially with regard to fringe benefit packages, should also be remarked upon. Apparently, the very large number of data items that must be considered for each city and the variations in the details of these employment terms from city to city, makes it difficult to catalogue and present such information in a systematic manner. For this section, we have had to rely almost exclusively on the data presented in the annual Kansas City surveys and on the 1971 (fiscal year 1972) survey of fringe benefit packages which was conducted by the ICMA.

Regular Work Hours, Vacations and Holidays: Increases in basic salaries paid to police employees appear even steeper if computed on the basis of the minimum required number of hours (or days) of work during a year.

The basic work-week for police employees almost uniformly consisted of 40 hours in 1973 for the 33 cities under consideration (Washington, D.C. listed a work-week of 42.5 hours in the Kansas City survey). This represents a slight reduction from an average of 41 hours per week for group A cities and of 42.5 hours per week for group B cities in 1959. At that time, several police departments, mostly in the South and Midwest, were still using 48-, 46-, or 44-hour work-weeks. Since the early 1960's, however, the 40-hour week has been adopted by large police departments throughout the United States.

The number of paid holidays, on the other hand, has increased considerably between 1959 and 1973. As shown on Tables XVI and XVII, in 1973, there were, on the average, 4.4 and 3.8 more paid holidays respectively, for group A (8 cities only) and group B cities.

The average number of annual paid vacation days has also increased in two ways. First, as shown on Tables XVIII and XIX, vacation plans have become more liberal at the high end of the spectrum (i.e., for those plans that are available to police employees with the required number of years of seniority). The average maximum number of paid vacation days has increased from 17 to 20 and from 17 to 23 for group A and group B cities, respectively, between 1959 and 1973. Second, several cities have reduced the number of accumulated years of service required in order that an employee become eligible for a higher number of vacation days. Thus, more police employees now qualify for 15 or 20 or more days of paid vacations per year.

On the basis of the above, and without considering possible changes in the area of sick days off, one may conclude that the minimum number of required hours of work has decreased, on the average, by about 6%, from an average of about 1,990 hours per year in 1959 to 1,864 hours in 1973. These numbers are derived by using a 41.5-hour week, 6 paid holidays and 15 days of paid vacations for 1959 and a 40-hour week, 10 days of paid holidays and 17 days of paid vacations for 1973. No allowance has been made here for possible further reductions due to liberalized overtime compensation rules which will be discussed next. Thus the above estimate is probably a conservative one.

Compensation for Overtime: Compensation for overtime duty by police officers increased considerably between 1959 and 1973. Of 27 cities covered in Tables XX and XXI for 1959, 2 had no provisions for overtime compensation, 18 provided equal time off as compensation for overtime, 3 offered equivalent

Table XVI

Number of Paid Holidays (in Days) for Eight Group A Cities

	1959	1966	1973
Baltimore	0	0	13
Boston	10	10	12
Cleveland	6	9	10
Dallas	6	6	8
Houston	7.5	8	n.a.
St. Louis	0	0	10
San Francisco	11	11	11
Washington, D.C.	8	8	9
Average	6.0	6.5	10.4

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XVII

Number of Paid Holidays Per Year (in Days) for Group B Cities

	1959	1966	1973
Atlanta	0	0	8
Birmingham	6	6	7
Buffalo	10	11	12
Cincinnati	9	9	9
Columbus	10	11	11
Denver	6	0	8.5
Indianapolis	0	0	7
Kansas City	0	8	8
Memphis	0	7	8
Minneapolis	11	11	11
Newark	0	0	9
New Orleans	0	10	10
Oakland	11	11	11
Pittsburgh	8	13	13
Portland	8	8	10
St. Paul	11	10	10
San Antonio	8	7	10
San Diego	8	9	9
Seattle	n.a.	8	11
Toledo	n.a.	12	12
Average	5.9	7.5	9.7

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XVIII

Number of Annual Paid Vacation Days* for Eight Group A Cities

	1959	1966	1973
Baltimore	14	12	10,15,18,20
Boston	10,15,20	10,15,20	10,15,20
Cleveland	10,15,20	10,15,20	10,15,20,25
Dallas	12	12,15	12
Houston	15	15,20,25	n.a.
St. Louis	14	14	15-20
San Francisco	10,15	10,15	10,15,20
Washington	13,20,26	13,20,26	13,20,26
Average	12 - 17	12 - 18	11 - 20

Source: Kansas City Police Department, Survey of Municipal Police Departments.

*Multiple entries indicate that the number of vacation days varies with length of service.

Table XIX
Number of Annual Paid Vacation Days* for Group B Cities

	1959	1966	1973
Atlanta	20	20	10,15,20
Birmingham	12,18	10,15,20	12,18,24
Buffalo	20	10,15,20	14,23,30,35
Cincinnati	10	10,15	10,20
Columbus	12,17	12,18	10,15,20,25
Denver	15	15	15
Indianapolis	14,21	14,21	21,28,35
Kansas City	12	12-30	12,16,20
Memphis	10	10,15	10,15,20,25
Minneapolis	11,15	11,15,20	11,15,20,25
Newark	20	21,28	20
New Orleans	21	21	21
Oakland	15	15	15,18,20
Pittsburgh	14,21	14,21	14
Portland	10,15	10,15	10,15,20,25
St. Paul	15	10,15,20	10,15,20
San Antonio	15	15	15
San Diego	10,15,20	10,15,20	10,15,20
Seattle	n.a.	12-25	12,14,16,20,25
Toledo	n.a.	10,15	10,15,20,25
Average	14 - 17	13 - 19	13 - 23

Source: Kansas City Police Department, Survey of Municipal Police Departments.

*Multiple entries indicate that the number of vacation days varies with length of service.

Table XX

Provisions for Compensation for Overtime Duty in Eight Group A Cities (a "-" indicates "no compensation")

	1959		1966		1973	
	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation
Baltimore	-	-	-	Equal paid*	-	1.5 paid
Boston	-	Equal paid	-	Equal paid	-	1.5 paid
Cleveland	Equal off	-	Equal off	-	Equal off	-
Dallas	Equal off	-	-	1.5 paid	1.5 off	-
Houston	Equal off	-	Equal off	-	n.a.	n.a.
St. Louis	Equal off	-	Equal off	-	Equal off	-
San Francisco	Equal off	or Equal paid	Equal off	or Equal paid	Equal off	or Equal paid
Washington	Equal off	-	Equal off	or Equal paid	Equal off	or Equal paid

Source: Kansas City Police Department, Survey of Municipal Police Departments.

* = Estimated compensation

Table XXI

Provisions for Compensation for Overtime Duty in Group B Cities (a "-" indicates "no compensation")

	1959		1966		1973	
	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation
Atlanta	-	-	-	-	Equal off	-
Birmingham	Equal off	-	Equal off	-	Equal off	-
Buffalo	Equal off	-	Equal off	-	1.5 off	-
Cincinnati	Equal off	-	Equal off	-	-	1.5 paid
Columbus	Equal off	<u>or</u> 1.5 paid	-	1.5 paid	-	1.5 paid after 40 hours
Denver	Equal off	-	Equal off	-	Equal off	<u>or</u> Equal paid
Indianapolis	Equal off	-	Equal off	-	-	Equal paid
Kansas City	Equal off	-	-	Equal paid	Equal off	-
Memphis	Equal off	<u>or</u> Equal paid	Equal off	<u>or</u> Equal paid	Equal off	<u>or</u> Equal paid
Minneapolis	Equal off	-	Equal off	-	Equal off	-
Newark	Equal off	-	Equal off	-	-	1.5 paid
New Orleans	-	Equal paid*	-	Equal paid	-	1.5 paid
Oakland	Equal off	-	Equal off	-	1.5 off	<u>or</u> 1.5 paid
Pittsburgh	Equal off	-	Equal off	-	1.5 off	<u>or</u> 1.5 paid

Table XXI (cont.)

Provisions for Compensation for Overtime Duty in Group B Cities (a "-" indicates "no compensation")

	1959		1966		1973	
	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation
Portland	-	1.5 paid	1.5 off	-	-	1.5 paid
St. Paul	Equal off	-	Equal off	-	1.5 off	-
San Antonio	-	Equal paid over 3 days	-	1.5 paid	-	1.5 paid
San Diego	Equal off	-	Equal off	-	Equal off	<u>or</u> Equal paid
Seattle	n.a.	n.a.	Equal off	<u>or</u> Equal paid	1.5 off	<u>or</u> 1.5 paid
Toledo	Equal off	-	-	1.5 paid	-	1.5 paid

Source: Kansas City Police Department, Survey of Municipal Police Departments.

* = Estimated compensation

regular time salary payments, 2 offered a choice between equal time off or payment for equal regular time, and only 2 attached premium value to overtime by providing payment at 1.5 times the corresponding salary for equal regular time on the job. By contrast, of 27 cities covered for 1973, a full 16 compensated overtime at a rate of 1.5 times regular time or regular salary (or offered a choice between the two), 3 offered a choice between equal time off or payment at an equal rate with regular time and the remaining 6 cities provided compensation in the form of equal time off or payment at an equal rate with regular time. Improvements in overtime compensation have taken place at a more or less steady rate. This is illustrated by overtime compensation terms for 1966, which fall somewhere between those for 1959 and for 1973 (Tables XX and XXI).

Separate provisions are also made for compensation for time spent on court duty (arraignment of suspects, waiting to testify, appearing as a witness, etc.). Compensation improvements in this area have also been significant between 1959 and 1973. Evidence to this effect is offered by Tables XXII and XXIII. It is noteworthy that several cities have established minimum compensation limits for court appearances. For instance, in 1973 a police officer on court duty in Boston received credit for a minimum of 3 hours of regular time.

With overtime and court time compensated, by 1973, at a rate equal to or greater than that for regular time, it is clear that, during the period of interest, the cost of an overtime hour or a court duty hour has increased at a growth rate equal to or higher than the growth rate of basic salaries. Moreover, it has often been alleged in recent years that, as compensation for overtime and for court duty increased over the years, so did the instances of their abuse as convenient means for achieving higher incomes or obtaining

Table XXII
 Compensation for Court Time for Eight Group A Cities (a "-" indicates "no compensation")

	1959		1966		1973	
	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation
Baltimore	-	-	-	\$5-3/appearance	-	\$6/traffic \$10/criminal
Boston	-	-	-	Equal paid	-	1.5 paid, 3hrs.minimum
Cleveland	Equal off	-	Equal off	-	Equal off	-
Dallas	-	-	-	1.5 paid	1.5 off	-
Houston	-	\$4/day	-	\$4/subpoena	n.a.	n.a.
St. Louis	Equal off	-	Equal off	-	Equal off	-
San Francisco	Equal off	or Equal paid	Equal off	or Equal paid	Equal off	or Equal paid
Washington	Equal off	-	Equal off 1st 1.5 off 2nd	-	Equal off 1st 1.5 off 2nd	-

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XXIII

Compensation for Court Time in Group B Cities (a "-" indicates "no compensation")

	1959		1966		1973	
	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation
Atlanta	-	-	-	-	-	\$8/day
Birmingham	-	-	-	-	Equal off	-
Buffalo	Equal off	-	Equal off	-	4 hrs. minimum off	-
Cincinnati	2 hrs off per appearance or	1.5 hrs paid per appearance	Equal off	-	Equal off	or Equal paid
Columbus	1.5 off	-	1.5 off	-	-	1.5 paid after 40 hours
Denver	2 hrs off per appearance	-	2 hrs off per appearance	-	-	Equal paid for 2 hours
Indianapolis	Equal off	-	Equal off	-	-	Equal paid
Kansas City	Equal off	-	-	Equal paid 3 hrs per appearance	Equal off	Equal paid, 3 hrs minimum
Memphis	Equal off	-	2 hrs off per appearance	-	Equal off	-
Minneapolis	Equal off	-	Equal off	-	Equal off	-
Newark	-	-	Equal off	-	Equal off	3 hrs. paid
New Orleans	-	\$1.20/hr.	-	\$2.50/hr.	-	1.5 paid
Oakland	Equal off	-	Equal off	-	1.5 off	or 1.5 paid
Pittsburgh	Equal off	-	-	-	-	\$10/appearance

-44-

Table XXIII (cont.)

Compensation for Court Time in Group B Cities (a "-" indicates "no compensation")

	1959		1966		1973	
	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation	Time Compensation	Salary Compensation
Portland	1.5 off	-	1.5 off	-	-	1.5 paid
St. Paul	Equal off	-	Equal off	-	1.5 off	-
San Antonio	Equal off	or Equal paid	-	1 or 2 hrs paid per appearance	-	1-2 hrs. paid per appearance
San Diego	Equal off	-	-	Equal paid	Equal off	or Equal paid
Seattle	n.a.	n.a.	Equal off	or Equal paid	-	Equal paid
Toledo	Equal off	-	-	1.5 paid	-	1.5 paid, 2 hrs. minimum

-45-

Source: Kansas City Police Department, Survey of Municipal Police Departments.

more leisure time. Finally, there exist cases in which overtime service (with its attendant benefits) has become "institutionalized" (i.e., a more or less scheduled part of a police employee's set of activities). Perhaps the best known example occurs in New York City. There, since 1973, police officers participate in a half hour training session prior to their regular eight hour tours of duty. As compensation for this routinely scheduled overtime service, the officers receive eighteen additional days off annually.

Health Benefits: Benefits for sworn police department personnel in the area of health care are substantial. The time period under examination characterized by significant improvements in this respect as well.

By 1959, virtually every police department in Groups A and B provided 100% of the costs of hospitalization, medical care, and surgery for all injury or illness occurring in the line of duty. This state of affairs naturally continued to exist in 1973.

Whereas, however, in 1959 almost no police department covered the costs of care for injury or illness not related to the line of duty, by 1973, 13 of the 25 police departments for which the pertinent data were available through the Kansas City Survey, provided complete or almost complete (more than 80%) coverage for all components of these costs.

Substantial changes have also taken place in the amount of group health insurance costs which are contributed by the cities on behalf of sworn employees. Tables XXIV and XXV present the percentage of group health insurance cost contributions by cities for the years 1959, 1966 and 1973. In many instances, such insurance covers not only the sworn officers but their dependents as well.

Although, from available information, it is not possible to estimate in economic terms the costs of health care for city police employees, it is obvious that percentage increases between 1959 and 1973 must be high, especially

Table XXIV

Percent of Group Health Insurance Costs Contributed by Employer (Eight Group A Cities)

	1959	1966	1973
Baltimore	0	50	66
Boston	0	50	50
Cleveland	0	n.a.	30
Dallas	0	0	100
Houston	0	100	n.a.
St. Louis	0	0	100
San Francisco	67	50	75
Washington, D.C.	0	50	21
Average	8%	43%	63%

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XXV

Percent of Group Health Insurance Costs Contributed By Employer
(Group B Cities)

	1959	1966	1973
Atlanta	55	50	60
Birmingham	0	n.a.	64
Buffalo	100	100	100
Cincinnati	50	100	100
Columbus	0	0	100
Denver	100	0	n.a.
Indianapolis	0	0	100
Kansas City	0	0	100
Memphis	0	40	60
Minneapolis	25	100	72
Newark	0	100	100
New Orleans	0	100	100
Oakland	0	n.a.	100
Pittsburgh	0	0	100
Portland	0	n.a.	100
St. Paul	100	100	n.a.
San Antonio	0	0	100
San Diego	0	100	100
Seattle	n.a.	n.a.	n.a.
Toledo	0	50	100
Average	22%	53%	92%

Source: Kansas City Police Department, Survey of Municipal Police Departments.

in view of the rapid growth of health care costs in the United States during the period.

Retirement Benefits: This category of benefits is comprised of many elements including: minimum and maximum regular retirement provisions; provisions for pensions awarded as a result of disability due to illness or injury (which, in turn, may be service or non-service connected); and, finally, death benefits, i.e., pensions received by widows, surviving children and others after death of a retired or active employee (including benefits for death in the line of duty).

Perhaps the best indicator of the cost of pension benefits to city governments is the size of the city's annual contribution, per police department employee, to the appropriate retirement funds. Table XXVI presents this type of information for 11 cities* in the form of the size of the city's contribution as a percentage of a sworn employee's annual salary. Although only one third of the cities of interest appear on Table XXVI, it is clear that, at least for this sample, a trend exists toward sizably higher percentage contributions on salaries which, in the first place, have themselves increased considerably between 1959 and 1973.

A more extensive set of data exists for fiscal year 1972 due to a survey conducted by the ICMA. Table XXVII presents the results of this survey given in terms of "annual employer expenditures for retirement benefits as a percentage of the police department payroll." From this Table, it would appear that the burden of retirement benefits is appreciably higher in the case of Group A cities. However, the data are incomplete and, in addition, wide variations exist within the two groups.

*Data in this form for other cities were not available.

Table XXVI

City Contributions to Police Pension Plans as a Percentage of Employee's Annual Salary
(figures are percentages)

	1959	1966	1973
Baltimore	8.5	9.6-12.8	19
Birmingham	6	8.4	9.4
Buffalo	8.5	n.a.	21-40
Cincinnati	4	n.a.	12.5
Dallas	15	15	15
Kansas City	10	10	13
Memphis	16.7	9.3	14.2
Newark	n.a.	5-7	9.6
St. Louis	n.a.	15.7	20.4
San Francisco	6.2-10	6.2-10	33.3
Toledo	n.a.	6	12.9
Average	10%	10%	17%

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XXVII

Annual Employer Expenditure for Retirement Benefits as a Percentage of Police Department Payroll*

Group A		Group B	
Baltimore	20	Buffalo	22
Chicago	13	Cincinnati	13
Dallas	15	Columbus	13
Detroit	51	Kansas City	13
Houston	11	Minneapolis	38
Los Angeles	23	Newark	10
New York	20	New Orleans	14
Philadelphia	17	Oakland	18
San Francisco	30	Portland	21
Washington, D.C.	33	San Antonio	8
Average	23.3%	San Diego	9
		Seattle	6
		Toledo	13
		Average	15.2%

Source: Anderson, Fringe Benefits for Municipal Employees [1].

*For fiscal year 1972.

Whereas the annual employer contribution for pensions is the most meaningful measure of retirement system costs to the cities, the item of major interest to employees is the set of regulations and provisions pertaining to minimum requirements for retirement. These are summarized for the two groups of cities in Tables XXVIII and XXIX for the years 1959 and 1973. Three items of information are provided: the minimum number of years of service and the minimum age required to become eligible for regular retirement benefits; and the size of the pension received upon retirement. The latter requires some further discussion since considerable variations exist from city to city in the way in which pension is computed: a few cities provide a fixed monthly pension upon retirement (e.g., Atlanta, in 1959, offered a \$150 monthly pension for uniformed employees retiring under minimum pension requirements); many cities compute pensions as a fixed percentage (usually ranging from 40% to 55%) of the final salary (or of the average of the final 3 or 5 years' salary) of the retiring officer; finally, other cities compute retirement benefits by awarding a given percentage of final salary (or, again, of the average of the final 3 or 5 years' salary) for each year of regular service. To make inter-city comparisons more meaningful, we have chosen to use this last method of computing the size of minimum pensions throughout Tables XXVIII and XXIX. Errors may thus have been introduced by the conversion procedure. Also, some cities use total compensation (i.e., including overtime pay) as the basis on which to compute percentages, while others use only basic salaries. We have chosen to ignore this distinction.

After duly noting the possible inaccuracies in the "% of salary received for each year of service," it still seems fair to consider Tables XXVIII and XXIX as indicating a remarkable lack of change in minimum retirement provisions during the period 1959-73. The average number of years of service

Table XXVIII
Minimum Retirement Provisions - Group A Cities

	1959			1973		
	Min. no. of years service to receive pension	Minimum regular retirement age	% of salary received for each year of service	Min. no. of years service to receive pension	Minimum regular retirement age	% of salary received for each year of service
Baltimore	30	60	n.a.	25	50	2
Boston	20	55	2	20	55	2
Chicago	n.a.	n.a.	n.a.	25	55	2
Cleveland	25	52	2	25	52	2
Dallas	20	50	2.5	5	50	2.5
Detroit	n.a.	n.a.	n.a.	25	55	2
Houston	20	41	1.5	n.a.	n.a.	n.a.
Los Angeles	n.a.	n.a.	n.a.	20	n.a.	2
New York City	n.a.	n.a.	n.a.	20	41	2.5
Philadelphia	n.a.	n.a.	n.a.	10	50	2.5
St. Louis	20	60	1.43	20	None	1.82
San Francisco	25	55	2	25	50	2.2
Washington, D.C.	20	50	2	20	None	2.5
Average	23		1.92%	20-23		2.17%

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XXIX
Minimum Retirement Provisions - Group B Cities

	1959			1973		
	Min. no. of years service to pension	Minimum regular retirement age	% of salary received for each year of service	Min. no. of years service to pension	Minimum regular retirement age	% of salary received for each year of service
Atlanta	25	55	1.6*	25	55	2
Birmingham	30	60	1.75	25	46	2
Buffalo	25	None	2	20	40	2.5
Cincinnati	25	52	2	25	52	2
Columbus	25	52	2	25	52	2
Denver	25	None	2	25	None	2
Indianapolis	20	None	2.5	20	44	2.5
Kansas City	25	n.a.	2	25	None	2
Memphis	25	n.a.	1.66	25	None	2
Minneapolis	20	50	2	20	50	2
Newark	25	55	1.66	25	55	2
New Orleans	20	50	2.5	20	50	2.5
Oakland	20	55	2.5	25	55	2
Pittsburgh	20	50	2.5	20	50	2.5
Portland	20	55	2.5	20	50	2.5
St. Paul	20	50	2	20	50	2
San Antonio	20	None	2	20	None	2
San Diego	10	n.a.	1.66	20	50	2
Seattle	n.a.	n.a.	n.a.	5	50	n.a.
Toledo	25	52	2	25	52	2
Average	23		2.04%	23		2.11%

Source: Kansas City Police Department, Survey of Municipal Police Departments.

required to gain eligibility for retirement benefits has remained approximately constant at 23. Similarly, on the average, a year of regular service is worth about 2.1% of the final salary (or any other similar basis of pension computation). When years of service and the 2.1% figure* are combined it can be concluded that, on the average, the minimum retirement pay for uniformed police employees has been set at approximately 45% to 50% of final pay for the years 1959-1973, with perhaps a very slight trend upwards over the years. Thus, minimum pension benefits have increased by approximately the same percentage as the maximum (final) salaries for police personnel, during the 1959-73 period, or by approximately 140% in current prices and 60% in constant prices (from Table XIII).

Total Cost of Personnel Expenditures Other Than Those for Basic Salaries:

The information supplied above is not sufficiently detailed to allow computation in terms of dollars of personnel costs other than basic salaries and wages. However, enough evidence has been presented to provide support for the following general conclusion; the cost to cities of fringe benefit packages and other personnel-related outlays seems to have grown, between 1959 and 1973, by percentages which are, at the least, comparable with (and, most likely, higher than) the corresponding percentages for the growth in the total cost of basic salaries and wages.

Fortunately, some specific estimates of the extent of these costs are available for fiscal year 1972 through the ICMA survey of fringe benefit packages [1]. The estimates that the survey provides are of the cost of fringe benefits as a percentage of pay for hours worked. Since "hours worked"

*Table XXVIII seems to indicate a substantial change from 1.92% to 2.17% in the percentage of salary received for each year of service for group A cities between 1959 and 1973. However, the average for 1959 is based on very incomplete figures with data for six of the largest cities missing.

includes hours on overtime, these estimates are only an approximation to the "cost of personnel-related expenditures as a percentage of expenditures for basic salaries" (and, in fact, the ICMA percentage will always be lower than the latter percentage). It was concluded in the ICMA survey, that for cities with population over 500,000, fringe benefits represented 37.4% of pay for hours worked, and for cities with population between 100,000 and 500,000, 34.5%. However, in both samples (4 and 24 cities respectively) the Northeast region was under-represented and these estimates may, thus, be on the low side.

In the next section, in order to compute the present worth of the obligations that a city incurred in hiring a new policeman in 1973, we shall need an estimate of the cost of personnel expenditures other than for basic salaries. In light of the ICMA survey, we shall use a 38% figure to compute the average size of these expenditures as a percentage of basic salaries. It is felt that this is as good a figure to use as any, given the available information as just described.

Present Worth of the Life-Time Costs of Hiring a New Police Officer

At this point there exists sufficient information for an approximate computation of the typical life-time costs involved in the hiring of a new uniformed police employee by a major city police department. The baseline year that will be used is 1973 and, consequently, the life-time cost figures will be in terms of 1973 dollars. The following assumptions will be made:

1. A new uniformed police employee will spend 25 years in the force from day of entrance to day of retirement.
2. The pro-rated annual cost to the city of the employee (in 1973 dollars) during the 25 years of service is \$18,000. This figure is obtained as follows: After inspection of the starting and

maximum salary figures for uniformed personnel without rank (Tables IX and X) and of salary figures for supervisory personnel (Tables XII and XIII) an average figure of \$13,000 annually has been used as the pro-rated basic salary of a uniformed police employee for 25 years of service. To that amount, \$5,000 has been added (about 38% of \$13,000) for the annual cost of city contributions to pension plans, for overtime pay, and for the cost of the health, hospitalization and other benefits.

3. Employer and employee contributions to the pension plans during an employee's years of service is sufficient to cover the retirement and pension benefits eventually received by the employee. (This may be a rather optimistic assumption in view of recent predictions concerning future deficits in municipal employee pension systems, and the attendant need for supplementary funds for these systems).
4. A reasonable discount rate (i.e., opportunity cost of money) for local governments is 7% per year as evidenced by the current yields of local (tax-free) government bonds.

On the basis of the above assumptions the following calculations can be made:

- a) Assuming that future compensation (salaries plus benefits) of uniformed police employees only keep up with future price inflation (i.e., that there are no real wage and benefit gains for police employees in the future) we have:

$$\text{Present worth of life-time costs} = (\$18,000)(11.7) = \$211,000.$$

b) Assuming that compensation of uniformed police employees will in the future increase about 1% faster than the price index (i.e., that the real compensation gains for police employees will average to 1% annually) we have*:

$$\text{Present worth of life-time costs} = (\$18,000)(12.8) = \$230,000.$$

c) Assuming that real wage gains for police employees will continue at the same pace as during the 1959-73 period, i.e., at an average annual growth rate of about 3%, we have:

$$\text{Present worth of life-time costs} = (\$18,000)(15.6) = \$281,000.$$

In the above, the numbers 11.7, 12.8 and 15.6 are the appropriate discount factors for computing the present value of a 25 year annuity at a discount rate of 7%, 6% and 4%, respectively.

We can conclude then that the hiring by a city of a new uniformed police employee in 1973 implied that this city incurred a new obligation of between \$200,000 and \$300,000 in 1973 dollars--with the upper half of this range being the more probable one.

Compositional Changes in Police Employment

All available evidence suggests the existence of a sizable gap between the salaries of uniformed and civilian police department employees.** For instance, Bahl, Campbell and Greytak [2] indicate that the average wage for all categories of civilian employees of the New York City Police Department amounted to roughly 60% of the average wage for uniformed personnel in 1972

*Assumption B, in effect, hypothesizes that real wage gains for police employees on an annual growth rate basis will, in the future, be similar to what the average real wage gains for the average non-agricultural industry worker have been for the 1959-73 period, i.e., about 1% yearly.

**Unfortunately, none of the existing surveys contains, on a nationwide basis, wage data for civilian employees of city police departments.

[ref. 2, tables 3.A.2 and 3.A.4]. Similarly, salaries for sworn personnel with rank are, obviously, distinctly higher than those for police officers with rank.

In light of these differences, it is interesting to examine the relative changes, if any, that have taken place in the make-up of city police departments between 1959 and 1973 with reference to these three categories of employees (supervisory personnel, uniformed personnel and civilian employees). Tables XXX and XXI list the total number of police captains, lieutenants and sergeants (including those assigned to the detective ranks) and the total number of sworn personnel without rank (including those assigned to the detective ranks) and the total number of sworn personnel without rank (including detectives without rank) for each of 27 of the 33 cities of interest. Tables XXXII and XXXIII show the changes through the years in the "uniformed personnel without rank per supervisory officer" ratios.* There is a clear trend toward higher proportions of supervisory personnel resulting in an overall reduction of about 20% (from 6.6 to 5.5 for group A and from 6.0 to 4.4 for group B) between 1959 and 1973 in the number of sworn personnel without rank per supervisory officer. This trend appears to apply in all but a few of the cities examined--but it may be slowing, judging from the considerable number of cities where the trend was reversed between 1966 and 1973 is any indication.

Tables XXXIV and XXXV list the ratios of sworn to civilian employees for 1959, 1966 and 1973 as computed from Tables VII and VIII. It is clear that in this case too, the trend is toward a reduction in the ratio of sworn employees

*Lieutenant colonels and major (whose total number in each city is very small) have not been included in the number of supervisory personnel listed in the number of supervisory personnel listed on Tables XIV and XV. Consequently, the ratios of Tables XVI and XVII very slightly overestimate the actual figures.

Table XXX

Supervisory Personnel (Captains, Lieutenants, and Sergeants) vs. Uniformed Personnel Without Rank for Seven Group A Cities. First Numbers Refer to Supervisory Personnel

	1959 Sup'y/	1966	1973
Baltimore	458/2,930	581/2,312	518/3,027
Boston	343/2,463	347/2,077	351/2,129
Cleveland	220/1,694	203/1,793	322/2,099
Dallas	130/813	217/1,147	336/1,344
St. Louis	262/1,732	295/1,693	289/1,914
San Francisco	268/1,402	292/1,463	322/1,576
Washington, D.C.	274/2,066	395/2,449	901/3,992
Total	1,955/12,560	2,330/12,934	3,039/16,081

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XXXI

Supervisory Personnel (Captains, Lieutenants, and Sergeants) vs. Uniformed Personnel Without Rank for Group B Cities. First Numbers Refer to Supervisory Personnel

	1959 Sup'y/Uniformed	1966 Sup'y/Uniformed	1973 Sup'y/Uniformed
Atlanta	70/540	107/624	228/1,209
Birmingham	44/375	51/406	186/491
Buffalo	162/1,039	270/1,003	297/1,030
Cincinnati	112/757	120/720	176/956
Columbus	84/433	96/591	176/900
Denver	86/577	127/684	152/1,105
Indianapolis	199/479	269/596	334/632
Kansas City	150/559	182/712	251/1,019
Memphis	123/394	192/568	436/605
Minneapolis	61/506	70/608	199/721
Newark	180/1,147	217/1,150	250/1,293
New Orleans	119/807	264/756	236/1,047
Oakland	91/577	130/515	165/532
Pittsburgh	115/1,297	123/1,434	186/1,348
Portland	89/546	98/450	113/525
St. Paul	48/353	70/315	143/405
San Antonio	93/422	114/579	137/823
San Diego	127/468	131/637	189/869
Seattle	105/593	125/736	194/900
Toledo	113/332	123/475	138/627
Total	2,171/12,041	2,879/13,340	4,186/16,570

Source: Kansas City Police Department, Survey of Municipal Police Departments.

Table XXXII

Uniformed Employees Without Rank Per Supervisory Employee for Seven Group A Cities

	1959	1966	1973
Baltimore	5.2	4.0	5.8
Boston	7.2	6.0	6.1
Cleveland	7.7	8.8	6.5
Dallas	6.3	5.3	4.0
St. Louis	6.6	5.7	6.6
San Francisco	5.2	5.0	4.9
Washington, D.C.	7.5	6.2	4.4
Total	6.4	5.6	5.3
Average	6.5	5.9	5.5

Source: Table XXX.

Table XXXIII

Uniformed Employees Without Rank Per Supervisory Employee for Group B Cities

	1959	1966	1973
Atlanta	7.7	5.8	5.3
Birmingham	8.5	8.0	2.6
Buffalo	6.4	3.7	3.5
Cincinnati	6.8	6.0	5.4
Columbus	5.2	6.2	5.1
Denver	6.7	5.4	7.3
Indianapolis	2.4	2.2	1.9
Kansas City	3.7	3.9	4.1
Memphis	3.2	3.0	1.4
Minneapolis	8.3	8.7	3.6
Newark	6.4	5.3	5.2
New Orleans	6.8	2.9	4.4
Oakland	6.3	4.0	3.2
Pittsburgh	11.3	11.7	7.2
Portland	6.1	4.6	4.6
St. Paul	7.4	4.5	2.8
San Antonio	4.5	5.1	6.0
San Diego	3.7	4.9	4.6
Seattle	5.6	5.9	4.6
Toledo	2.9	3.9	4.5
Total	5.5	4.6	4.0
Average	6.0	5.3	4.4

Source: Table XXXI

Table XXXIV

Ratio of Uniformed (=Sworn) Employees to Civilian Employees and Percentage Changes for Group A Cities

	Ratio		% Change		
	1959	1966	1973	59-73	66-73
Baltimore	10.9	9.4	6.3	-42	-33
Boston	12.0	13.2	7.7	-36	-42
Chicago	23.4	7.5	10.4	-56	+39
Cleveland	7.2	7.5	14.2	+97	+89
Dallas	5.4	6.4	3.0	-44	-53
Detroit	9.7	10.4	9.4	-3	-10
Houston	6.1	5.3	6.7	+10	+26
Los Angeles	3.7	3.5	3.0	-19	-14
New York	21.2	15.4	15.5	-27	+1
Philadelphia	10.0	11.1	8.7	-13	-22
St. Louis	3.3	3.3	3.3	0	0
San Francisco	16.5	6.3	3.6	-78	-43
Washington	13.9	9.8	8.0	-42	-18
Total	11.1	8.8	7.9	-29	-10
Average	11.0	8.4	7.7	-30	-8

Source: Table VII

Table XXXV

Ratio of Uniformed (=Sworn) Employees to Civilian Employees and Percentage Changes for Group B Cities

	Ratio		% Change		
	1959	1966	1973	59-73	66-73
Atlanta	7.6	6.7	6.6	-13	-2
Birmingham	7.5	7.5	4.7	-37	-37
Buffalo	3.8	7.3	9.3	+144	+27
Cincinnati	9.4	7.7	4.1	-57	-47
Columbus	4.5	5.1	5.0	+11	-2
Denver	6.0	5.1	4.4	-27	-14
Indianapolis	8.7	6.8	5.7	-35	-17
Kansas City	3.7	3.3	3.5	-6	+6
Memphis	4.9	3.7	4.1	-17	+10
Minneapolis	10.1	10.2	9.2	-9	-10
Newark	13.5	5.1	8.8	-35	+72
New Orleans	11.0	8.2	3.8	-66	-54
Oakland	5.5	3.2	7.7	+40	+140
Pittsburgh	23.0	21.3	52.0	+126	+144
Portland	4.5	5.0	3.5	-23	-30
St. Paul	8.2	7.2	6.5	-21	-10
San Antonio	4.8	6.9	5.5	+14	-21
San Diego	5.1	5.0	4.3	-16	-14
Seattle	5.0	6.0	4.0	-20	-34
Toledo	11.3	15.1	10.6	-7	-30
Total	6.6	6.1	5.5	-17	-10
Average	7.9	7.3	8.2		
Average*	7.1	6.6	5.9	-17	-11

*Does not include Pittsburgh

Source: Table VIII

to civilian employees. Although there are several striking exceptions to this trend (Buffalo, Pittsburgh, Cleveland) on the average, between 1959 and 1973, the overall ratio reduction seems to be of the order of 30% and 20% for groups A and B, respectively.

From the point of view of costs, the two sets of trends identified above, i.e., the increases in the proportions of supervisory personnel and of civilian employees within city police departments, work in opposite directions. The net effect of these changes can not be assessed without detailed information on the costs of employing civilians in police agencies.

Police Protection Costs Versus Total Expenditures

Additional perspective on the growth in police protection costs in major cities can be gained by considering the fraction of total city expenditures which historically has been allocated police services. Changes in this fraction presumably reflect changes in the urgency and importance that municipal policy-making bodies associate with police-related activities. With crime patently rising, during the late sixties and early seventies to a position at or near the top among the concerns of urban dwellers, one might reasonably expect a marked increase in the relative proportion of municipal resources allocated for police expenditures. The fact that per capita expenditures for police better than tripled between 1959 and 1973, as indicated earlier in this chapter, can only serve to strengthen this expectation. In this light, the trends (or, the lack thereof) indicated by Tables XXXVI and XXXVII might be considered surprising. There is, apparently, no major shift that places increased emphasis on police funding in city budgeting. If we were to draw some general conclusions from Tables XXXVI and XXXVII, it seems that, if any such shifts have indeed taken place, they appear to be isolated cases, i.e., they occur at specific

Table XXXVI

Percentage of Total Annual City Expenditures Allocated for Police Protection for Group A Cities

	1959	1966	1973
Baltimore	10.0	8.5	7.8
Boston	9.5	7.2	9.3
Chicago	19.4	22.2	23.9
Cleveland	18.3	16.7	23.2
Dallas	12.5	13.9	17.0
Detroit	14.5	15.7	18.5
Houston	13.6	11.4	16.2
Los Angeles	19.2	22.5	23.8
New York	7.6	7.9	5.5
Philadelphia	13.2	14.4	16.4
St. Louis	17.8	20.8	18.6
San Francisco	9.2	9.2	7.7
Washington	7.8	7.7	7.5
Total	10.7	10.6	9.3
Total - No. N.Y.C.	13.8	14.0	14.8

Source: U.S. Bureau of the Census, City Government Finances (1959, 1965-66, 1972-73).

Table XXXVII

Percentage of Total Annual City Expenditures Allocated for Police Protection
for Group B Cities

	1959	1966	1973
Atlanta	11.6	10.0	10.2
Birmingham	16.5	14.6	11.1
Buffalo	9.1	10.1	8.5
Cincinnati	8.6	6.4	6.6
Columbus	11.7	12.5	16.9
Denver	9.7	8.8	8.3
Indianapolis	13.7	16.9	9.5
Kansas City	13.8	14.2	15.6
Memphis	5.4	5.9	7.0
Minneapolis	10.6	11.3	10.6
Newark	12.9	13.4	11.1
New Orleans	9.8	12.2	13.3
Oakland	21.4	18.3	13.6
Pittsburgh	17.3	14.5	18.5
Portland	19.3	16.7	15.7
St. Paul	7.0	9.1	8.9
San Antonio	12.7	13.6	15.2
San Diego	13.3	14.7	13.5
Seattle	14.9	14.3	15.4
Toledo	13.6	10.0	14.9
Total	11.8	11.6	11.3

Source: U.S. Bureau of the Census, City Government Finances
(1959, 1965-66, 1972-73).

localities, and they are not a general phenomenon.

Tables XXXVI and XXXVII thus serve to underline the fact that public expenditures in large cities (and, as it turns out, at all local levels as well) have increased dramatically across the board and at a rate of growth comparable to the rate of growth for police protection expenditures alone.

A more detailed examination of some of the major expense items in city budgets largely confirms the above views while also providing some additional insights. Examination of Table XXXVIII leads to the conclusion that the growth rate in police expenditures during the 1959 to 1973 period (and especially during 1966-73) was only about average by comparison to growth rates for other items. It surpassed the rate of growth for highway expenditures and, to a lesser extent, for sanitation, fire protection, and parks and recreation but lagged behind the growth in expenditures for debt interest, education, and public welfare. This observation provides (partial) explanation for some of the trends that appear, for individual cities on Table XXXVI and XXXVII. For those cities which do not, through their statutes, bear primary responsibility for supporting the costs of educational and public welfare services for their residents (e.g., Chicago, Detroit) the percentage of the city budgets allocated to police expenditures has, historically, tended to increase. The opposite is true in cities, like New York City, which bear the cost of providing these services.

Table XXXVIII

Total Expenditures and Percentage Changes for Selected Items for Group A Cities, Group A Cities Excluding New York City, and Group B Cities

	<u>1959</u> (in \$000)	<u>1966</u> (in \$000)	<u>1973</u> (in \$000)	<u>% change</u> <u>'59-'66</u>	<u>% change</u> <u>'66-'73</u>	<u>% change</u> <u>'59-'73</u>
Police						
Group A	455,915	707,975	1,525,882	55	116	235
Group A - NYC	296,069	415,859	989,750	40	138	234
Group B	113,202	164,577	360,461	45	119	218
Fire						
Group A	237,121	351,109	660,637	43	88	179
Group A - NYC	157,760	215,334	412,064	36	92	161
Group B	89,572	124,801	235,060	39	88	161
Sanitation						
Group A	204,131	278,129	458,980	36	65	125
Group A - NYC	114,323	132,020	257,868	16	95	126
Group B	52,857	65,442	117,356	23	80	121
Parks						
Group A	172,026	227,514	376,315	32	66	119
Group A - NYC	125,045	150,227	256,460	20	71	105
Group B	66,806	119,869	214,970	79	79	221
Hospitals						
Group A	328,580	577,070	1,340,708	76	132	309
Group A - NYC	139,037	195,156	311,659	40	60	124
Group B	32,372	47,271	97,732	47	108	206

-70-

Table XXXVIII (cont.)

	<u>1959</u>	<u>1966</u>	<u>1973</u>	<u>% change</u> <u>'59-'66</u>	<u>% change</u> <u>'66-'73</u>	<u>% change</u> <u>'59-'73</u>
Highways						
Group A	402,088	402,986	548,250	0	36	36
Group A - NYC	265,893	271,977	387,059	3	42	46
Group B	118,159	131,987	207,623	12	58	76
Public Welfare						
Group A	414,325	811,663	3,044,018	96	275	635
Group A - NYC	145,810	253,217	558,443	74	121	285
Group B	32,792	41,649	107,620	27	157	227
Education						
Group A	702,534	1,280,863	3,030,332	82	137	331
Group A - NYC	157,635	257,409	696,138	63	171	341
Group B	129,554	208,873	481,003	61	130	270
Interest on General Debt						
Group A	166,267	247,921	701,360	49	183	322
Group A - NYC	76,760	113,485	264,582	47	135	244
Group B	32,813	55,572	159,128	70	184	382
Total Expenditures						
Group A	4,242,905	6,660,286	16,363,026	57	146	286
Group A - NYC	2,146,560	2,966,293	6,701,258	38	126	212
Group B	960,424	1,423,481	3,201,611	48	125	234

-71-

Source: U.S. Bureau of the Census, City Government Finances (1959, 1965-66, 1972-73).

Conclusions

Several conclusions can be drawn from the material presented thus far:

1) Police expenditures in major U.S. cities grew at a very rapid pace during the 1959-1973 time period and especially so during the second half of that interval. The rate of growth of these expenditures, resulting as it did in more than tripling the total police budgets, far exceeded the rate of growth of such aggregate indicators of economic well-being as the Gross National Bank per capita of the average salaries and wages of non-agricultural workers.

2) On the other hand, the growth pattern of total expenditures for the cities under consideration was remarkably similar to that for police expenditures alone. While police expenditures generally grew faster than expenditures for fire departments, sanitation and highways, they lagged behind the rate of growth of expenditures for education, public welfare, and debt service. As a result, the proportion of city budgets which is allocated to police expenditures has increased in some cities and decreased in others, with the overall average remaining relatively constant.

3) The three primary contributors to growth in police expenditures were increased police employment (roughly 45% growth between 1959 and 1973 in the total number of police employees in the 33 cities), price inflation (about 50% nation-wide) and real gains in salaries and wages for police (a representative figure of 50% can be used for such gains). These three factors account for, roughly, a 225% increase ($1.45 \times 1.5 \times 1.5 = 3.2625$) in the salary and wage component of police expenditures--assuming no major changes in the make-up of police forces in terms of the relative proportions of personnel in the various ranks.

4) Although it is impossible to compute exact dollar figures from the available data, it nonetheless seems clear that the costs of overtime pay and fringe benefit packages (i.e., the costs of personnel-related expenditures other than salaries and wages) increased at least as fast as salary costs between 1959 and 1973. Especially noticeable have been changes in provisions for overtime pay and in health benefit packages for police personnel. These changes were all favorable to the employees.

5) It was estimated that, in 1973, the hiring a new sworn officer by a city amounted to an equivalent commitment of between \$200,000 and \$300,000 (in 1973 prices) by the city. This was the computed present worth of the life-time costs of this new employee. The most likely cost estimate is at the high end of this range (close to \$300,000).

6) Police services have remained strongly labor-intensive. Throughout the period of interest, labor-related costs amounted to better than 90%, on the average, of total police expenditures. This percentage has stood practically unchanged over the years.

7) With total police expenditures for the 33 cities increasing by 230% between 1959 and 1973 and with personnel-related expenditures explaining a better than 225% growth in at least 90% of these expenditures, it follows that such trends as observed compositional changes in police employment, increased mechanization, and wider use of computers and of sophisticated communications equipment have played only a secondary role in terms of contributions to the growth in expenditures for police protection.

8) Two almost universally observable trends are toward (i) an increasing proportion of officers with rank among sworn police employees, and (ii) an increasing proportion of civilian employees in major police departments. In terms of total costs, these two trends work toward opposite directions, with the former exerting upward pressures.

9) when compared with the corresponding gains over the same period of time for the average, non-agricultural, privately-employed worker, real wage gains (and, one would infer, fringe benefit gains) by police personnel in all seven ranks appear very substantial. Especially after 1966, real wage gains by police personnel were about four times as large as those by the former, much larger group.

10) Practically no differences are observable between the direction and the magnitude of trends in police expenditures and employment in group A cities and the corresponding trends in group B cities, when these groups are considered as a whole. However, group A cities, on the average, have considerably higher per capita expenditures for police protection, as well as a higher number of police department employees for each city resident.

CHAPTER IV - DISCUSSION

The figures presented earlier portray a sector of local governmental activity in which growth of expenditures during the 1959-1973 period--and especially during its second half--can only be termed as "explosive." That this growth does not seem to be glaringly out of step with the growth of expenditures in several other sectors is further testimony to the fact that local governments have been caught in an expenditure spiral which cuts through practically the whole spectrum of the services they provide.

There are, no doubt, several valid justifications for the explosive growth in police expenditures. Naturally, the single most important one is the rise in the incidence of crime. For instance, reported serious crime as measured by five of the seven* offenses included in the Crime Index of the FBI's Uniform Crime Reports, more than tripled between 1959 and 1973 on a nationwide scale. Thus, the incidence of crime kept pace with the growth in city police expenditures, which, as noted earlier, also better than tripled during the same period. If, then, the frequency of incidents of serious crimes is used as a rough proxy for police workload, it is easy to understand, for example, the 45% increase in city police department employment for 1959-73. In fact, since the increase in employment lags far behind the growth in

*The five types of crime are: murder, rape, robbery, aggravated assault and burglary. The remaining two are larceny-theft and auto-theft.

reported serious crime, it can be argued that workloads for police force members have also increased rapidly over the years.* Therefore, the large gains in real salaries and benefits for police which were reported earlier can also be explained away as compensation for heavier workloads on individual employees.**

On a less macroscopic level, it has also been pointed out--especially by those who are closely associated with the finances of city governments--that the growth in police expenditures appears deceptively high when it is measured by per capita figures using the number of city residents as the population base. Whereas the inner city populations remained practically stable during the 1960's, the argument goes, populations in metropolitan areas generally grew appreciably. Since many, if not most, of the new suburban dwellers continued to earn their living at their places of employment in the cities or continued to use the various facilities and services that these cities provide, police protection has had to be offered to an expanded population base rather than the stable one used for the per capita figures of Table III and IV.

*Bahl, Campbell and Greytak [2] in a detailed but rather over-simplified analysis, concluded that average annual growth rates in workload for New York City police employees exceeded the corresponding growth rates in employment and in real wages by considerable margins for the 1960-70 period. The indices of workload that they used were: net crimes per employee, net serious crimes per employee, arrests and summonses on serious crimes per employee, and cases cleared on serious crimes per employee.

**A much deeper analysis of the question would be necessary, if one were to do justice to the issue of police workload. For instance, it is well-known that crime-related incidents account for only a minority of a patrolman's call-for-service workload. The workload due to the numerous other services that major city police departments provide may have been growing at an even faster rate than crime-related workload.

The number of cases processed may also be a very deceptive indicator of police workload in those instances where a branch of a police department may already be operating very close to its maximum capacity. Such is often the case with the detective section of many police departments. A better indicator in such instances may be the number of cases not processed due to unavailability of the required resources.

Finally, demographic factors--the ever-increasing presence of the poor and unemployed and of racial minorities in inner cities--have been prominently mentioned as reasons for the need to increase expenditures for police departments and, in general, for all city services.

However valid these reasons may be for the rapid growth in police expenditures, the fact is that there probably exists an ultimate limit beyond which the "ability to pay" of city governments cannot be extended. With better than tripled expenditures on the average in 14 years and with an approximate 120% total growth for the last seven of these years, it may not be far-fetched to guess that such a limit may be well within sight for many of the cities considered here. After all, the same demographic changes to which we referred earlier, have led to well-documented shrinkages in the tax base and to a dilution in the pool of resources from which city governments may potentially draw.

At the same time, there is little evidence that the rapid growth in the incidence of crime is on the verge of abating. Since more crime invariably brings forth demands for more police protection, the pressures to continue expanding police activities in major cities can be expected to persist in the foreseeable future. City administrators, with increased frequency, may face the need to finance more police services by drawing from an essentially constant (after accounting for price inflation) or, at best, slowly expanding pool of funds.

To accomplish such an objective three general lines of approach are available: other services provided by city governments may be curtailed in favor of expanding police activities; a more adversary (and more turbulent) management-labor relationship may be adopted vis-a-vis the various police unions (see also the report by Levi [13]); and, finally, renewed and

increased emphasis may be placed on improved efficiency in the operation of police departments with presently existing (or with a minimum of additional) resources.

The information presented earlier suggests several points for consideration along these three potential lines of approach. One is the sobering fact that expanding police services at the expense of other activities may not be something that can be readily accomplished. Ever since the mid-nineteen sixties, public opinion polls have clearly indicated that the problem of crime has consistently held a position near the top of the issues of public concern, right along with the war in Southeast Asia, the state of the economy, etc. Nevertheless, as Tables XXXVI and XXXVII show, police budgets, on the whole, absorbed practically identical shares of city budgets in 1966 and in 1973. While the reasons for this seeming inertia in re-allocating resources, are beyond the scope of this study, it is clear that the powerful political constituencies that most public programs develop over the years, the pressing needs in other areas in the domains of city governments, and the well-known "marginal-changes-to-last-year's-budget" approach are all very important in this respect and will continue to be so in the future.

A second point concerns the observation that increased police employment and real gains in police salaries and benefits were the two main controllable contributors to the growth in police expenditures for the years 1969 to 1973. It seems, then, that in a tightly budget-constrained future environment, a major underlying issue in labor-management negotiations in the public safety area is likely to be the implicit trade-off between increased (or, on occasion, stable) police employment, on the one hand, and improved compensation and benefits, on the other. A vivid example of this is currently (1975) taking place in New York City where a temporary salary and benefit "freeze"

has been suggested by numerous sources as an alternative to severe proposed manpower reductions in the uniformed police ranks. Interestingly, it appears that, in this particular case, the majority of the rank-and-file of the police union are opting for continued salary and benefit gains even in the face of such threatened cuts in employment. Should this attitude also prevail in disputes of a similar nature--which will probably arise with increasing frequency in other locations as well--a period of tense labor-management confrontations can be expected.* City administrators should perhaps be willing to sacrifice a certain measure of police protection, as represented by the level of employment in city police departments. Otherwise, they may find that the strength and militance of police unions provide an effective counter balance to the efforts, toward curbing the growth of police expenditures, which are motivated by the need to economize in city government spending.

With respect to utilizing available resources more efficiently, it was pointed out that two contradictory (in terms of their effect on expenditures) trends are evident: one, toward "civilianization" and the other toward an increased proportion of police officers with rank within police departments. The trend toward civilianization is likely to continue as more city and professional police administrators convince themselves that judicious use of civilian personnel for clerical and other tasks implies reduced costs with little sacrifice in terms of police effectiveness. Newspapers and other media as well as various citizen "watchdog" organizations on public finances seem to

*It appears that a primary contributor to the shaping of the attitudes of the rank-and-file in the New York City dispute is the fact that seniority would be used as the main criterion in determining employment reductions --with junior members of the force being the first to be dismissed. Thus, the great majority of police officers were secure in the knowledge that they would be unaffected, personally, by the cuts. Similar attitudes in favor of seniority and excluding other criteria of merit pervade municipal employment regulations and agreements throughout the United States.

be particularly keen on and strongly in favor of civilianization programs. On the other hand, as budgetary pressures increase, there is also evidence of increasing police union hostility toward these programs which are more and more seen as jeopardizing valuable jobs for those in the uniformed ranks.

Public awareness of the second trend, i.e., the increase in the relative proportion of ranking officers in police departments, is practically non-existent at this time. For this reason and because a higher fraction of those entering police service today possess qualifications, such as a college education, that naturally lead to progress through police hierarchy, it is believed here that it will be some time before this costly trend is arrested. In fact, as opportunities for advancement become more limited, this too is likely to become a serious issue in contract negotiations with police unions.

Still on the subject of operational efficiency, probably the major area of careful review in coming years will be that of existing manpower allocation and utilization strategies. The tasks to which police employees are assigned, the actual percentage of time they spend on these tasks, measurements of workload and "productivity," contract agreements concerning computation of overtime and overtime pay are all likely to come under increasing public scrutiny. This is an area in which this study has found an almost universal lack of publicly available data. Yet, from glimpses of information that appear from isolated cases in various cities, it would seem that this is by far the most promising area for achieving very significant savings in labor hours expended and in the costs of providing current levels of police protection.*

*The New York Times has quoted [18] New York City experts in the law enforcement and fiscal areas of the effect that the New York City Police Department could save about \$100 million annually (in 1975 dollars) through a program that would adopt the following six proposals: elimination of the half-hour pretour training session which gives 18 overtime days off to police sergeants and officers (estimated savings of \$45-\$50 million); civilianization of almost all clerical and desk jobs now held by uniformed personnel (savings of \$20 million); introduction of a "verification of complaint" system to cut overtime pay in court appearances for uniformed officers (savings of \$20 million); a 25% cut reduction through attrition in supervisory jobs, especially in the ranks of lieutenants and higher

Some of the changes which would lead to such improved efficiency fall entirely within the province of the prerogatives of police administrators while others may, once again, become major points of contention in future contract negotiations with police and municipal unions.

officers (savings of \$20 million); the use of one-man, instead of two-man patrol cars in low-crime areas during daylight hours (savings of \$5 million); and, finally, discontinuance of the practice of giving two days off annually to any police officer who donates blood (saving of \$3 million).

REFERENCES

1. Anderson, Eric, "Fringe Benefits for Municipal Employees," The Municipal Year Book: 1973, International City Management Association, Washington, D.C.
2. Bahl, Roy W., A. K. Campbell and David Greytak, Taxes, Expenditures, and the Economic Base: Case Study of New York City, Praeger Publishers (New York: 1974).
3. Barnett, Arnold, D. J. Kleitman, and R. C. Larson, "On Urban Homicide: A Statistical Analysis," Journal of Criminal Justice, 3 (1975) pp. 85-110.
4. Beaton, W. Patrick, "The Determinants of Police Protection Expenditures," National Tax Journal, XXVII, No. 2 (1974) pp. 335-349.
5. Blumstein, Alfred, "Cost-Effectiveness Analysis in the Allocation of Police Resources," chapter in Cost-Benefit Analysis, M. G. Kendall, editor, American Elsevier Publishing Company, Inc. (New York: 1971).
6. Colton, Kent, "Computers and the Police: Police Departments and the New Information Technology," The Municipal Year Book: 1975, International City Management Association, Washington, D.C. (1975) pp. 214-226.
7. Davis, William M., "Pay Scales of Police Patrolmen and Firefighters Rose More than 6 Percent in 1973," Current Wage Developments, February-March 1975, pp. 42-54.
8. Davis, William M., "Firemen's and Policemen's Salaries, 1965-1970," Current Wage Developments, December 1970.
9. Federal Bureau of Investigation, Crime in the United States: Uniform Crime Reports, U.S. Department of Justice, Washington, D.C. (U.S. Government Printing Office). Published annually.
10. Hirsch, Werner Z., The Economics of State and Local Governments, McGraw-Hill (New York: 1970).
11. Kakalik, James S. and S. Wildhorn, Aids to Decision Making in Police Patrol, Volumes I and II, Report R-593-HUD-RC, The RAND Corporation, Santa Monica, California (February 1971).
12. Kansas City Police Department, Survey of Municipal Police Departments (Cities of 300,000 to 1,000,000 Population), Kansas City, Missouri. Annual Publication.
13. Levi, Margaret A., Conflict and Collusion: Police Collective Bargaining, Report TR-07-74, M.I.T. Operations Research Center and IRP Project, Cambridge, Mass. (September 1974).

14. Lewin, David, "Expenditure, Compensation, and Employment Data in Police, Fire, and Refuse Collection and Disposal Departments," The Municipal Year Book: 1975, International City Managers Association, Washington, D.C. (January 1975).
15. Savas, E. S., "Municipal Monopoly," Harper's Magazine, December 1971, pp. 55-60.
16. Shoup, Donald C. and S. L. Mehay, Program Budgeting for Urban Police Services with Special Reference to Los Angeles, Praeger Publishers (New York: 1972).
17. Sunley, Emil M., Jr., "Some Determinants of Government Expenditures Within Metropolitan Areas," The American Journal of Economics and Sociology, October 1971, pp. 345-363.
18. The New York Times, June 13, 1975.
19. U.S. Bureau of the Census, City Government Finances, U.S. Government Printing Office. Annual publication.
20. U.S. Department of Justice, National Criminal Justice Information and Statistics Service, Law Enforcement Assistance Administration, Crime in the Nation's Five Largest Cities: National Crime Panel Surveys of Chicago, Detroit, Los Angeles, New York and Philadelphia, Washington, D.C. (April 1974).
21. U.S. Department of Justice, Law Enforcement Assistance Administration and U.S. Bureau of the Census, Expenditure and Employment Data for the Criminal Justice System, Washington, D.C. Annual publication.
22. U.S. Department of Justice, Law Enforcement Assistance Administration, Sourcebook of Criminal Justice Statistics: 1973, Washington D.C. (August 1973).
23. Walzer, Norman, "Economies of Scale and Municipal Police Services: The Illinois Experience," The Review of Economics and Statistics, LIV (November 1972) pp. 431-438.

END

7 miles from