1980

The Investment in Public Education and the Social Welfare of a City: Exploring Relationships

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THE INVESTMENT IN PUBLIC EDUCATION AND THE SOCIAL WELFARE OF A CITY: EXPLORING RELATIONSHIPS.

BY

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A THESIS PROJECT SUBMITTED IN PARTIAL FULFILLMENT

OF THE

REQUIREMENTS FOR THE DEGREE

OF

MASTER OF COMMUNITY PLANNING

UNIVERSITY OF RHODE ISLAND

1980

MASTER OF COMMUNITY PLANNING THESIS PROJECT

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UNIVERSITY OF RHODE ISLAND

1980

TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF ILLUSTRATIONS

INTRODUCTION

This study was undertaken with two, complimentary goals in mind. The first was to test the design and application of a set of planning analysis methods; the second was to emphasize the belief that public education is vital to any city's well-being.

Both of these goals can be achieved in this study. Specifically, a method was devised to test the impact of local government investment in public education on the social welfare of that city. Social indicator analysis was the methodology employed to measure both the investment in public education and the social welfare of the city. The normative beliefs that underlie much of the study are acknowledged and defined.

Data used in the indicator analysis was chosen for its perceived relevance as a measure of a system's impact. Information was gathered over a series of years and presented so that trends could be seen and comparisons made. The use of social indicator analysis involved subjective decision-making; numbers could show that increases, decreases, or percentage changes have occurred, but the relationship of these numbers to the impact being measured must be assigned a normative value.

Specific information was selected both because it

seemed to be closely related to important aspects of the social welfare and because it was immediately available. Similarly, a decision was made to focus on monetary inputs as measures of the public education process. While the investment in public education can take many forms, the most visible and easily measured form is money.

The purpose of gathering data from such disparate sources as the Providence Mental Health Center, the Providence Police Department or the Rhode Island Department of Economic Development was to gain a holistic picture of the city's social welfare. The social welfare of a city is a broad concept, it encompasses many areas of life and data sources. It is important to see the linkages among the many, specialized areas that are a part of the notion of the social welfare of the city. Of course, the indicators chosen represent a sampling of possibilities for indicators and functional areas of concern, and they present a diversity of factors.

The city of Providence was used as a case illustration for the testing of this methodology. Information was available both from the Providence School Department and a variety of agencies associated with the social welfare of the city. An additional, and important factor was that Providence is an older, urban city, undergoing significant demographic and economic changes. Many of these changes have impacted upon the educational system as well as the city as a whole.

The changing character of the city has created whole new sets of relationships and needs. Just as importantly, these changes have created an urgent need for pertinent information.

Limited city funds necessitate that choices are made among competing needs. In the place of outdated programs, new projects may be required to meet the changing needs of the city and its people. Conflicts over budget priorities have raised questions of efficiency and effectiveness for public expenditures; public education is an extremely visible one among them. Without baseline data on ways in which education impacts upon the city's social welfare, these shifts in demographic and economic character may not result in necessary programmatic changes. Research which can provide information upon this topic can aid policymakers, taxpayers and students.

The city of Providence's main support for education has been in the form of direct monetary resources, amounting to $43 million during the 1979 - 1980 school year and increasing to nearly $53 million in next year's budget. This type of information was readily available. Data such as crime rates or unemployment rates were also accessible. A far more difficult task was to discern the relationship between these two sets of information, educational inputs, and social welfare outputs.

The assumption has been made that the people of a city invest in public education because they see benefits

to the city as a whole from such investment. This assumption is based on some of the historic motivation for the provision of free education to all children and on an economic model of people as discerning consumers. First, by providing access to education, all children will become socialized, better able to provide for themselves, and be afforded opportunities for a better life. The second basis for this assumption was the belief that people spend money on things of value to them. Education, therefore, as a major portion of the Providence city budget, must be a high priority and concern.

The hypothesis is then that a relationship does exist between money expended on public education and the social welfare of the city. The social welfare of the city is extremely difficult to define, much less measure. It is also quite difficult to separate the impacts of public education on the social welfare from impacts provided by the economy, changing demographic characteristics in the city or other factors.

To date, the difficulties involved in testing this hypothesis have discouraged inquiry. Public officials, citizens and even educators rest their belief that the efficacy of the education process of the social welfare upon tradition, inertia or legislative mandate. Despite dissatisfaction with public education in recent years, school budgets still rank high among municipal priorities.

Yet, unsubstantiated belief in the benefits of edu-

cation, or inertia do not suffice as solid bases for decision-making. Both a non-discerning belief in education and the discontented "back to basics" movement base their measure of the successes of education upon students' academic achievement. This kind of testing may not reveal all the successes or benefits that the investment in public education provides.

This study is an effort to explore the degree, type, or even the existence of interrelationships between public education and social welfare which are often overlooked. The question "is there a relationship between the investment in public education and the social welfare?" is central to this inquiry. By looking at indicators on both sides of this equation, performing analysis and comparisons, some answers will be tested.

CHAPTER I

EXPLORING THE GOALS OF PUBLIC EDUCATION IN THE CITY OF PROVIDENCE

History

A major assumption of this study is that citizens as taxpayers must value education or they would not expend so much money, or so great a proportion of city funds to finance public elementary and secondary schools. Money is a scarce resource; its allocation among competing needs is one indication of priorities in a city. In Providence approximately 40 percent of a total city budget of $104,347,000 in 1978 was spent on public education.[1] Why do the taxpayers and elected officials of the city spend this amount on public schooling?

The motivation to provide free public education can, like most historical trends, be explained in a variety of ways. Traditionally, public schools "represented the finest achievement of democracy; open to all, free, avenues to social mobility, guarantors of political stability, and instruments of social harmony".[2] An alternate theory holds that the organization of public education was a reaction to increased urbanization and immigration, with their attendant threats to the established social order. Public schools "provided a vehicle for the efforts of one class to civilize

another and thereby insure that society would remain tolerable, orderly and safe".[3] Thus the broadest goals of public education have been in conflict since the inception of the idea of public education.

The provision of public education can be looked at in two, complimentary lights. The first is that the educational services provided are for the benefit of the individual student. Each student gains knowledge, skills to cope with the outside world and a social identity. In conjunction with this view, public education can be said to benefit the society as a whole as well as the individual. The larger society benefits from having citizens who are educated, who can succeed in the job market, contribute to the cultural life of the city, and participate in governmental functions in a democratic society. Both an increase in society's well being and the promotion of a stable order can result from this investment in public education.

In the city of Providence public schooling became institutionalized when the Rhode Island legislature passed a law establishing public schools throughout the state in 1800. Providence opened four schools open to children "without preference or partiality."[4] Today Providence operates 32 elementary and middle schools, 4 high schools and specialized services for approximately 18,000 students.

School Funding

People as individuals or as groups allocate their limited funds in a manner that indicates preferences. Pub-

lic schools are not inexpensive. Difficult and momentous decisions, therefore, must be made concerning city budgets. The school's share of city funds and priorities are critical decisions. Increases or decreases in amount or proportion of the city budget devoted to public schooling can signify either belief in, or disproval of, the public schooling function.

According to state law, the Providence School Department is fiscally dependent upon the city government. School Department funds come from city, state, and federal sources... City funds designated for the school department come entirely from the property tax.[5]

On a statewide or regional basis, the property tax does not allocate money equally to school children. Towns with much industry or expensive, single family homes reap far greater amounts in property taxes than towns with poorer populations who cannot afford homes or when industries pull out of an area. Providence has experienced both these phenomena. The state of Rhode Island attempts to ameliorate this somewhat by distributing money through a complicated "state aid formula". The most important factors included in the formula are: (1) the average daily number of children enrolled in the schools of the community, (2) transportation costs for the schools of the community, (3) the "equalized weighted assessed valuation" (a measure of property valuation for the community with adjustments to compensate for different rates of assessments in different com-

munities) and (4) the median family income of the community.[6]

Federal funds are used by the school department in basically two ways. The first is to provide extra services or support; the second is to aid in the implementation of Federally mandated programs. The majority of funding from the Federal Government comes from Title 1 of the Elementary and Secondary Education Act. Matching funds are not required although local spending levels must be maintained (comparability).[7] In addition, the Career/Vocational Education Office develops a Local Plan for Adult, Career, and Vocational Education in order to take advantage of various external funds from the state education agency and the federal government.[8]

Despite substantial aid from both the state and federal governments, the city of Providence provides approximately 75 percent of the revenues for the school budget. This amount is determined in the following manner: The budget is prepared by the business and operations manager of the school department, in conjunction with the superintendent, and then presented to the school committee. After approving it, the committee sends it to the city council and to the mayor, who has the power to veto any line item. Before the budget becomes effective, it must be approved by the mayor and passed by the city council.[9]

The necessity for the approval of the superintendent, school committee, mayor and city council highlights the possibility for conflicts that may emerge over school budget

priorities. In budget negotiations for the 1980-81 fiscal year the superintendent of the Providence School Department requested an overall figure of $55 million. He was ordered by the school committee to trim $3 million from his proposal for fiscal 1981. The school committee believed the $55 million figure was politically vulnerable. The superintendent criticized Mayor Vincent Cianci's administration for "unreasonable" pressure on the school department. In the end the school committee approved a $57.8 million budget which represents a 15.6 percent increase over the current year's school budget.[10]

Is this $52.8 million dollars an investment in teacher's salary, repairs to buildings, heating oil, or is it an investment in education? In heated arguments over high budgets, using highly aggregated figures, it is easy to lose sight of the initial motivation for spending such large amounts of money. What does the money spent by the city accomplish? In order to find this out, it is necessary to know the goals of the Providence School System.

Goals

Some of the stated goals and objectives of the Department can be found in the Providence Program for Basic Skills: Assessment and Achievement. It states that

> "a major purpose of education is to contribute to the development of a just and democratic society. Intellectual, social, aesthetic, physical, and emotional development are all considered functional elements of this purpose... to foster the development of children into adulthood, enabling them to be free and self-fulfilling human beings."[11]

The society would like all children to become free and self-fulfilling human beings for both altruistic and selfish reasons. Ideally, a hope exists for the highest potential of every person to be attained because of the normative belief that this is good. In addition, the city wishes for all citizens to become self-sufficient because those who do not, are,in some part, supported by city services, and thus become a drain on the city's resources. An investment in education is an investment in future, non-dependent citizens.

In his book, Investment in Human Capital, Theodore Schultz introduces the idea that it is not abhorrent, but morally neutral to treat education as an investment in man. It is felt by many to be degrading to man and morally wrong to look upon his education as a way of creating capital.

> Schultz says, "to those who hold this view... education is basically cultural and not economic in its purpose... My reply is that... an analysis that treats education as one of the activities that may add to the stock of human capital in no way denies the validity of the cultural position... What is implied is that, in addition to achieving these cultural goals, some kinds of education may improve the capabilities of a people as they work and manage their affairs and that these improvements may increase the national income."[12]

The city funds which are invested in public education are spent with a purpose in mind. The broad goals are articulated by the Providence School Department in their quest for "free and self-fulling human beings". More specific objectives, which relate to both social and economic independence are also contained in the Providence Program for

Basic Skills: Assessment and Achievement. These include:

1. All persons must be able to read, write, and calculate.
2. All persons must possess skills that will enable them to secure and maintain a job suited to their capabilities and interests.
3. All persons must be able to learn independently with a flexibility to respond to unpredictable changes.
4. All persons must be able to become involved in creative and healthy leisure time activities.
5. All persons must understand the responsibilities of family and interpersonal relationships.
6. All persons must possess adequate skills and knowledge to participate in the electoral process.
7. All persons must have an understanding of the legislative and judicial process.
8. All persons must be informed and discriminating consumers.
9. All persons must have adequate skills of personal finance.
10. All persons must possess adequate decision-making skills to reason and solve problems intelligently.
11. All persons must be able to be successful in some activity.

These specific and varied objectives relate to many necessary functions in society. How well has the public school system succeeded in attaining these goals for its students? Traditionally, student achievement has been measured on a more limited scale than these eleven objectives. These wide-ranging objectives relate to a student's ability

to cope and succeed after she/he leaves the public school system, but these are more difficult to measure. How do the taxpayers, citizens, elected officials, school authorities know if they have succeeded in developing these life skills in students? It would be difficult to measure many of the objectives on an individual basis. There might also be some resistance to the personal questions necessary to get a precise measure.

Importance of Information for Decision Making

But as a public policy matter, information regarding the effectiveness of programs is crucial. Information is a vital part of the decision-making process. The establishment of goals and objectives is part of the process of quality control, but unless the testing component of the evaluation is carried out, the development of ideals to be reached is a mere exercise, a useless formality. If it could be shown that the public monies spent on education were having positive effects on the city's general well-being, perhaps there would be less resistance to increased budgets. On the other hand, if it were shown that all the funds spent over the years had accomplished little or nothing of their intended purpose, alternatives could be explored, those responsible brought to task.

The lack of any measurement of the public benefit of funds invested in public education is a detriment to public policymaking. There is no one, easy measure of the improvement to the social welfare of the city that can be

attributed to the investment in public education. The factors which contribute to the social welfare are numerous and interrelated; however, for the most part, causal relationships have not been established.

But if the city of Providence is to spend 52.8 million dollars in fiscal 1981 to provide public education for an estimated 18,000 school children, some accountability should be introduced. All of the expressed goals of the Providence school department are related to students' future roles as taxpayers, consumers, residents, employees of the city of Providence or some other locality. Functional areas such as employment, health, welfare, and public safety will be impacted by the job the schools perform.

This chapter has set the framework for the study to follow. Here, the role of public education has been viewed from a policy perspective. Decisions concerning funding, programs, and priorities must relate to an overall understanding of the purposes of public education. The chapter to follow will outline a method designed to measure how well public education has achieved its goals through the social welfare of the city.

Footnotes to Chapter 1

1. Rhode Island Department of Community Affairs, Annual State Report on Local Finances and Tax Equilization (Providence, Rhode Island: 1970-1978), pp. 74-75.

2. Michael B. Katz, ed., Education in American History: Readings on the Social Issues (New York:Praeger Publishers, c. 1973) p. 36.

3. Michael B. Katz, ed., "From Voluntarism to Bureaucracy in American Education," in Education in American History, p.39.

4. League of Women Voters of Providence, Know Your Schools, (Providence, Rhode Island: c.|979) p. 1.

5. Ibid., pp. 51-52.

6. Ibid., p. 51.

7. Department of Public Schools, Providence, Rhode Island, Annual Report (Providence, Rhode Island: 1977-1978) p.34.

8. Ibid., pp. 41-42.

9. League of Women Voters of Providence, Know Your City (Providence, Rhode Island: 1974) p.15.

10. Providence (Rhode Island) Journal Bulletin, 31 March, 3 April and 4 April|980, Section B, p.1.

11. Department of Public Schools, Providence, Rhode Island, Providence Program for Basic Skills: Assessment and Achievement, (Providence, Rhode Island: 1979) p. 5.

12. Theodore W. Schultz, Investment in Human Capital: The Role of Education and Research (New York: The Free Press, c. 1971) p. 81.

13. Department of Public Schools, Providence, Rhode Island, Providence Program for Basic Skills, pp. 7-8.

CHAPTER II

DEFINING THE METHODOLOGY OF ASSESSMENT

Assumptions

The assumption is made that there is some relationship between the investment in public education and the general social welfare of a city, or of Providence specifically. This assumption is supported by two, related factors. The first is that the city invests a substantial proportion of its budget in public education. This money is not free; it is collected from the taxpayers of the city. Such an investment by city officials on behalf of all the citizens is certainly not for frivolous purposes. Rather, people generally expect that money collected in taxes will be used to benefit the city as a whole, if not themselves, personally.

The second rationale which supports the concept that there exists a relationship between public education and the social welfare of the city is found in the stated goals and objectives of the Providence School Department. These goals and objectives are not solely related to students' achievements as students of academic disciplines. On the contrary, they are much more heavily weighted towards the skills that students will need as members of the society once they are no longer students. These skills and attitudes are those the society needs in all its members in order to function

adequately. It could be assumed that the better the schools succeed at inculcating the life skills prized by the society the more smoothly the society will function.

The school department pursues a set of goals and objectives which relate to the norms of the majority in society. Success in attaining these goals results in a society which is stable and does not alter the existing power relationships within the social order. An implicit assumption of this study is that the goals and objectives of public education are acceptable.

It is possible to see the outward manifestations of this relationship between public education and the social welfare in the city. Bureaucratic mechanisms are set up to insure that the two institutions are accountable to each other.

The school committee, which has the final responsibility for the management and control of public schools, is appointed by the mayor, with the approval of the city council.[1] The school department is not autonomous; there is a chain of command in which the final authority rests in the voters who elect the mayor and the city council. Another way in which the schools and the city have an institutionalized relationship is the actual funding, the budget. In 1977-1978 the property tax rate was $56.18 per $1,000 of assessed valuation. Of this amount, $24.26 was designated for schools.[2]

The foregoing visible relationships relate to inputs

into the public education system. Money is required to power the school machinery, but what is the output of this operation? The delineation of authority sets the bounds for the institution of public education. Its goals and objectives must be acceptable to those in power. But are these goals and objectives ever met? To what degree? Are measurements taken?

Students have long been subjected to achievement tests, grades, interviews which measure their attainment of educational goals as students. But very little has been done to measure students attainment of the broader skills useful to survival and success in the outside world. The reason for this is not malevolence or neglect, rather it is the difficulty of the task.

The social welfare of a city is a very broad concept. It may mean one thing to one person or group and have a radically different meaning to another. Therefore, any attempt to measure social welfare involves normative judgements.

The social welfare of a city or nation is also quite complex. Numerous variables, interwoven in unknown ways play a part in producing the relative "health" of any particular geographic or socioeconomic group.

> "Not only have people become aware of the complexity of relationships which determine the degree to which resource use does or does not result in improved welfare, they are also increasingly aware of the significant roles played by a wide variety of institutional structures and networks in this process."[3]

The sources of our individual welfare as well as the specific contributions of individual inputs are difficult to sort out.

Defining Social Indicator Analysis

Nevertheless, an attempt can be made to measure the changes in social welfare in the aggregate over a period of time with social indicator analysis. Social indicators evolve from data which is displayed and assigned a normative value. Measurable aspects of life are often not directly related to individual or group well-being; instead what is measurable must be interpreted as an indicator of what we would wish to measure directly, were it economically, socially, or technologically feasible.

Much has been written about social indicators since the idea emerged in the 1960's. The origins of this methodology are rooted in the nation's desire to know more about conditions which are not solely economic. "President Eisenhower appointed a commission to study national goals (1960). NASA commissioned a study of the impact of the space program on society, which results in a book which popularized the term "social indicators" (Bauer, 1966)."[4] More recently there has been increased pressure for greater accountability in public policy matters. Decisions are made, resources expended and the results are often unknown. The use of social indicators can fill in a part of this information gap.

What kind of information qualifies as a social indicator? Raw data alone does not suffice. "What is needed

is not just statistics, but indicators - statistics which reflect directly on matters of public concern."[5] In Meas-Work Quality for Social Reporting, Robert Dubin suggests four general criteria involved in the development and use of social indicators. These are:

> (1) that the purposes of social indicators be kept in mind, (2) that we acknowledge and understand the reality being measured, (3) that we specify the values that represent "good" and "bad" on the indicator, and (4) that we take into account the possibility that the social indicators employed will be our instrument for a "self-fulling" prophesy. The term social indicator is used here in a generic sense to include economic and other measures of the state or condition of the society.[6]

Each of these criteria suggests that the use of social indicators is associated with a variety of constraints and requirements. Recognition of limitations and careful definition can increase the validity of the social indicator analysis methodology.

Recognizing that some relationship exists between public education and social welfare of a city, it is imperative that information concerning the extent, direction, and trends of this relationship be provided. Social indicator analysis will be the methodology employed in this study to measure, in small part, the correlation between the investment on the city's part in education of children and the benefits reaped by the city in the improvement of its social welfare. The methodology, its constraints and definition will be outlined below.

The purpose of gathering statistics designed to measure the impact of public education on the social welfare is

to provide information to decision makers and advocates concerned with public schooling. Public education has come under attack in recent years for spending too much money with too few results. Is this the case? No one can know if this is true until the intended results of public education are known and measured against the outcomes of schooling. With an adequate information base, reasonable assessments of public education's successes and priorities can be made.

In times of increasing fiscal hardships very difficult decisions must be made. Public policy makers often look only at the input side of policies and programs - how much money do they require? The Providence budget negotiations illustrate this. On March 26, 1980 the Providence Journal reported that "the request that Jones (Superintendent of Schools) come up with a description of a $52 million budget was initiated by Committeeman Patrick O'Regan, who said that members of the City Council's Finance Committee will be working with basic percentage increases, and may not be interested in the intricacies of school department needs."[7]

The decision to focus budget priority decisions on purely input measures is a logical one, given lack of information, time, and resources to find or consider other types of information. However, if some indication of the output gained through the expenditure of public funds could be found, more rational decisions could be the result. Decisions made on the actual outcomes or benefits derived from programs could increase the efficiency and effectiveness

of public investment. With these purposes in mind, a social indicator analysis will be undertaken.

The Methodology

First, the limitations of a social indicator analysis of this type must be delineated. There are no simple equations which link the amount of money spent on any public service, education included, with a specific increase or decrease in the social welfare function. Even given that we know the specific areas of life we would like to affect by investing in education, these goals are quite broad; many institutions impact upon them. Some of these impacting variables are in the public domain. They are, therefore, subject to a certain degree of control by policymakers. Other variables are less amenable to public manipulation or influence.

It is also difficult to separate out the effects of one type of public investment from other, related inputs with similar goals. Given these constraints, it is not possible to establish direct causal relationships between increases, decreases, or shifts in priorities in the investment in public education and changes in the social welfare system. Instead, some indication of the correlation between these variables may be approximated. Trends in social welfare functions such as health, employment, or crime can be assigned a normative meaning. The direction of these trends over time can then be viewed as an indication of the success of public policies designed to influence the social

welfare.

Public education is one of these public policies which has its purpose in bettering the social welfare. For example, a lower crime rate, is the result of many inputs. A large number of public policies are designed to reduce crime. There is no simple method for dissaggregating the effects of the many inputs into such a trend.

Social indicators such as the unemployment rate, number of AFDC cases, or the death rate are really measuring a variety of inputs, not all known to us, and certainly so interrelated that their differentiation is difficult.

For the purposes of this study, however, the trends discerned through indicator analysis will be used as a surrogate for the effects of public education alone on the social welfare of the city. Due to the limitations of the method no attempt will be made to determine what specific areas or proportions of the social welfare are affected by the input of public education. Rather, it will suffice to say that we know public education is not the only input which affects the social welfare, but neither is it an unimportant one, given the amount of resources of time, money, and energy spent on it in all cities, states, and the nation.

An additional caveat in the use of social indicator analysis is due to the normative nature of the analysis. The numbers themselves are neutral, they become normative only through interpretation. Trends in health, crime or

commerce must be labeled either good or bad or there is no point in measurement. Numbers themselves do not tell a decisionmaker anything useful. It is only through a determination that a greater number of X or a decreasing percentage of Y is contrary to public policy and public policy expectations that information is usable.

But the decision to say that an increase in the number of Y is good - it contributes to the social welfare, involves a value judgement. The biases of the investigator or of the bureaucracy which collects the data will play a role in the interpretation of the data. Trends which may indicate positive change to one group in the society may indicate the opposite to groups with divergent values.

Denis F. Johnson of the Social Indicators staff of the U. S. Dept. of Commerce, Bureau of the Census explores the normative limitations of social indicators in an article entitled "What Do Social Indicators Really Indicate?" As an example of normative judgements, he states,

> "We say that the divorce rate is going up, and that is bad. Why can we be so confident about that? For one thing we know that getting a divorce is disruptive... But is divorce only bad? Some people argue that the divorce rate reflects the growing independence and the freedom of individuals, especially women, to correct perceived mistakes in their choice of partner and to seek other options. So one can say that the divorce rate is a typical flawed social indicator."[8]

For some indicators there is a greater consensus as to the ascribed meaning. An increase in the death rate, for example, would be generally agreed upon as a negative

trend. An increase in admissions to a mental health clinic, on the other hand, could be interpreted in either a positive or negative light. This is partially because we cannot be sure what exactly we are measuring with this particular indicator. Does an increase in admissions signify an increase in disturbed people? Or does it, on a more positive note, indicate that greater numbers of people with mental problems feel free to seek help and that the services are available to them?

In a heterogeneous society there will always be some conflict among values. Certainly, there is no universal agreement concerning public policies in the state or nation today. A corollary to this is that the social indicators used to measure the impacts of public policy are often open to interpretation.

In this study the normative nature of the social indicators utilized will be recognized and defined. The direction of trends will be labled according to my perception of generally agreed upon values.

The data which is used to create social indicators are from the following functional areas related to social welfare: employment and income, unemployment, health, crime, welfare in the form of AFDC cases, property taxes collected, and new commercial, manufacturing and residential, construction. These output measures of the social welfare will be compared to the following input variables related to expenditures on public education in the city of Providence: Local

tax expenditures, overall and for schools, federal and state expenditures for public schools, and a per pupil and per resident measure of spending on schools. Changes in population characteristics will be examined from both the standpoint of an input and an output measure. All of the above variables will be examined for the ten-year period 1970 - 1979, where possible. (See Table 1)

Comparing statistics over a ten-year period allows the investigator to see trends over time which may not be evident in a single year. Outside events may introduce distortions in local affairs over short time periods. Trend analysis can mitigate this somewhat by taking a longer view.

With these ends in view statistics were selected for use as indicators of the social welfare in the city of Providence by the following criteria: Data was available for each year during the time period 1970 - 1979; data was available for Providence alone, disaggregated from the state as a whole or the metropolitan area; data was accessible, i. e. public information was used and the information had been collected in some form by a bureaucratic organization; and the data chosen seemed to bear an important relationship to major areas of concern in the social welfare of a city.

After selection of useful and accessible indicators, it was necessary to decide how the trends discovered should be interpreted. For all of the input measures - local tax expenditures, state and federal aid to education, per pupil and per resident expenditures - an increase in money spent

TABLE 1

Social Indicator Matrix

Type of Indicator	Data	Measures
input	Local Expenditures	Funds available, priorities
	Local School Expend.	Investment trends, priorities
	Per Pupil Expend.	Comparison between years, districts
	Per Resident Expend.	Relative investment, ability to pay
	Federal and State Expenditures	Comparison of investment efforts, equity issues
output		
	Employment	Economic health, skills
	Wages	Income, relative status
	Death Statistics	Physical health
	Maternal and Infant Care	Health education, access
	Admissions to Mental Health Center	Increased opportunity, lessening of discrimination
	Crime Rate	Safety, security of property
	Taxes Collected/ Property Assessments	Municipal health, responsiveness of population
	Construction	Economic vitality, city's reputation
	Unemployment	Economic health, personal satisfaction
	AFDC cases	Economic health, survival skills

will be considered a positive trend. This judgement assumes two major hypotheses. The first is that education is a beneficial service and that the more of it we can get the better. The second assumption is that as more money is spent on education an increase in quantity or quality results. Neither of these assumptions is necessarily true, but as the simplest measure of increased concern and priority given to education monetary measures will be used.

Indicators and Their Normative Meaning

In the area of employment, data was available for all employees who work in the city at jobs covered by the Employment Security Act. Information is provided by nine broad job areas including the total number of firms, employees and total wages paid by each job area. The job categories are mining, agriculture, construction, manufacturing, transportations - communications-electric-gas-sanitary, wholesale, retail, finance - insurance-real estate, and services.

Having a satisfying job and making a decent income are generally perceived as two of the most important outputs accruing to individual or collective social welfare. Therefore, in all cases, it is assumed that an increase in the number of jobs or of the average salary paid is a positive trend. Increases in the proportion of workers employed by higher paying industries would also be perceived positively.

In the area of health, data was collected from two sources, the Providence Mental Health Center and the Rhode

Island Department of Health, Division of Vital Statistics. These two data sources reflect the two broad areas of health, mental health and physical well-being.

The statistic available from the Providence Mental Health Center was the number of admissions to the center for fiscal years 1972 - 1973 through 1978 - 1979. This is one indicator that is ambiguous in its interpretaion, as previously discussed. Does an increase in number of admissions indicate that more people are subject to great stress? Or does it indicate that more people who could benefit from mental health services are aware of them and are willing to avail themselves of the opportunity? There is no way to separate out these two, opposing explanations. However, as the admission records for the Providence Center show large and steady increases, it will be assumed that these increases are due to a greater awareness of care available and a reduction in a reluctance to seek mental health services. Both of these trends are seen as positive developments, bettering the social welfare of the city.

The Rhode Island Department of Health collects a large number of statistics. Data chosen as indicators for this study include: the birth, death, and marriage rates, low birth weight infants (under 2500 grams) and amount of prenatal care, and deaths by selected causes.

A decrease in the death rate is almost universally seen as a beneficial manifestation of improved social welfare. The birth and marriage rates are more ambiguous. In

this study they will be included for examination but interpretation of trends will be left to the reader.

Increases in the proportion of mothers receiving pre-natal care as well as a decrease in low birth weight infants would certainly signify that better health care information and services are available to the population.

Deaths by such violent means as homicide, suicide or motor vehicle accident are examined for the ten-year period. An increase in the number of deaths from any of these causes is judged to be a negative trend relating to the social welfare of the city.

Another area of life examined through social indicator analysis is crime. Data is available from the Providence Police Department on the number of crimes in each year by type. The reporting of crimes is theoretically standardized by use of the FBI uniform police report. Part 1, or serious crimes, are categorized as follows: murder, rape, robbery, aggravated assault, burglary, larceny, and auto theft. An increase in crimes in any of these categories would be an indication of a deterioration in the social welfare. Although some crimes are more serious than others, no attempt to weight the relative seriousness will be made. Instead an increase in crimes against persons (murder, rape, robbery, and aggravated assault) will be judged more detrimental to society's health than an increase in crimes against property (burglary, larceny, and auto theft).

The amount of property taxes collected and the as-

sessed valuation of property in Providence comprise another set of information that is used as a social indicator. These two, related pieces of information point out the relative prosperity of residents, commercial ventures and industries in the city.

Assessed valuation will increase as improvements or new construction are done. Trends in this direction are signs of a healthy economy. It would also show that Providence is attractive to investors. An increase in taxes collected is both a reflection of an increase in the assessed valuation of property and an increased success in tax collection efforts coinciding with a decrease in delinquent tax payers. Therefore increases in both these variables would signify a positive development in the city's welfare.

An economic indicator which has definite repercussions for both general and individual social welfare, is the unemployment rate. This statistic is available from the Department of Employment Security of the State of Rhode Island. An unemployment rate for Providence alone is available only after 1974. Prior to this, the rate for the state as a whole is used with adjustments according to the known relationship between the two rates in later years.

Most people need a job in order to survive; therefore, it is assumed that a higher unemployment rate reflects a downturn in the social welfare.

Another type of information utilized is the number of cases of Aid to Families with Dependent Children (AFDC).

This data was available from the State Department of Social and Rehabilitative Services. The number of cases in each year can be examined for trends up or down. An increase in the number of cases over time would seem to indicate that more people are not able to succeed, as the majority defines it, in our society. This trend would reflect negatively on a society which should provide every person with the means and skills to provide for themselves and their children in a manner conducive to self-respect.

Aid to Families with Dependent Children is a program designed to enable poor families to remain intact. Generally support goes to a mother who has been widowed, divorced, separated, deserted, or who is an unwed mother.[9] Funds are provided so that children may be helped out of poverty and remain at home at the same time. As such, an increase in cases of AFDC represents an increase in the incidences of poverty, unemployment, and family breakdown.

A final data source used as an indicator of the relative improvement or decline in the social welfare of the city of Providence is the number of square feet of new construction in each year. This information is available from the State Department of Economic Development.

This indicator is closely related to the assessed valuation indicator in the function it is designed to measure. An increase in new construction would signify both the vitality of the economy and the economic community's belief in the viability of Providence as a liveable city,

one whose social welfare is an asset to residents, employers, and investors.

Each of the preceeding indicators represents a means of approximating knowledge about our society. No single one of the indicators used will provide information that says "we are doing better", or "we are succeeding in inculcating the values and skills desirable to us". Taken together, however, information from a diversity of areas within social welfare can present a more accurate description of trends in the city.

The preceeding indicators are intended to measure the output, the end product of public education. The resultant trends are a reflection of our success in attaining an improved social welfare.

In addition to these output measures some statistics must be found to represent the input side of the equation - the investment in public education. Three types of information are used: local tax expenditures for all purposes and for schools, federal and state expenditures, and an index of per pupil and per resident expenditures.

Each of these indicators used to measure public investment in public education is monetary in nature. They have many of the same constraints and limitations discussed for the output measures. Money spent is not the only input into public education, nor is an increase in money spent necessarily an indication of greater quality obtained.

However, the normative judgement is made that more

money spent is an indication of greater concern and interest. It also bears some relationship to the attainment of the goals of the public education. The attainment of these goals is, in some part, represented by an improvement in the social welfare.

Therefore the hypothesis is presented that as more money is spent on education, it will be better able to function in its role. This role is both to provide students with skills and knowledge and to provide society with citizens able to succeed.

Each of the indicators used is related, in either a broad or specific sense, to the goals of public education in the city as articulated by the Providence School Department. The most general and lofty goal is stated,

> "a major purpose of education is to contribute to the fullest possible extent to the development of a just and democratic society. Intellectual, social, aesthetic, physical, and emotional development are all considered functional elements of this purpose... to foster the development of children into adulthood, enabling them to be free and self-fulling human beings." [10]

Each of the indicators chosen will be examined for trends and changes. Each represents only a small piece of the total social welfare and of the well-being of individuals. Individually, health, employment or crime trends may not impact on the society or individuals in large measure. But the sum of these functional areas and their interaction create the milieu in which we live. It is the impact of the investment in public education upon this milieu, the social welfare of our city, that will be examined.

The Model

Using the social indicators previously discussed, the impact of public education upon the social welfare of the city will be examined. The indicators are separated into those which measure the input of investment in public education and those which measure the output, the existing social welfare of the city. The normative direction that the indicators will represent has been defined according to commonly accepted relationships, although the bias of the investigator is certainly present.

Although public education and social welfare probably interact with each other, only the impact of public education on social welfare will be examined. Two major assumptions are that the indicators chosen represent the input and output variables of investment in public education and the social welfare of the city, and that the trends and analysis of the information chosen are valid indicators of an improving social welfare.[11]

Many of the input measures examined are based on money. As a way of facilitating comparison over the ten-year period, 1970 - 1979, an inflation factor was introduced. The Consumer Price Index developed by the U. S. Bureau of Labor Statistics is the basis of this inflation factor. For each year the average price index for the 1967 base period (100.0) is divided by the price index for that year and the result is expressed in dollars and cents.[12] The resulting figures for the years 1970 to 1979 are as follows:

1970	$.860
1971	.824
1972	.798
1973	.752
1974	.678
1975	.621
1976	.587
1977	.551
1978	.512
1979	.467

Based on these assumptions and defined limits, the hypothesis of the model is that an increase in the inputs to public education should have an effect on the output of social welfare. Both public education and social welfare are complex functions; their measure and definition will be limited to the social indicators used. Because one of the major purposes of public education is to improve the welfare of individuals and of the entire society, an increase in funding to public education should bring a concomitant betterment in the social welfare of the city. "By investing in themselves, people can enlarge the range of choice available to them. It is one way free men can enhance their welfare."[13]

Each of the social indicators used will be examined individually and compared to related indicators. Changes in number will be documented and percentage increases or decreases calculated. Information will be presented in written form, graphically and in charts.

Changes in population characteristics are seen as relating to both the input and the output variables. Change in number, especially, will be factored into many social indicator trends. Population characteristics such as ethni-

city, race, poverty, and age will be documented. It is known that each of these characteristics impacts upon the social welfare. They also impact on both the need for and the ability to pay for public education.

Finally, it must be remembered that this model and the hypothesis on which it is based is experimental in nature. It represents an initial effort to measure some of the public benefits of money spent on public schools in Providence. This study is based on the premise that an increased information base is a useful tool for policy makers in the decision-making process. "Without knowing how to produce more effective services or how people will respond to changes in social policy, analysts cannot contribute much to decision making for social action."[14]

Footnotes to Chapter 2

1. League of Women Voters of Providence, Know Your City, p. 11.

2. League of Women Voters of Providence, Know Your Schools, p. 51.

3. Harvey A. Garn et. al., Models for Indicator Development: A Framework for Policy Analysis (Washington D.C.: The Urban Institute, 1976) p. 2.

4. Judith Innes DeNeufville, Social Indicators and Public Policy: Interactive Processes of Design and Application (Amsterdam: Elsevier Scientific Publishing Company, 1975) p. 42.

5. Ibid., p. 7.

6. Robert Dubin, "Indicators of the Responsiveness of Employment Systems to Workers' Needs and Values," in Measuring Work Quality for Social Reporting, Albert D. Biderman and Thomas F. Drury, eds., (Beverly Hills, Calif.: Sage Publications, c. 1976) pp. 241-242.

7. Providence Journal Bulletin, 26 March 1980, Section B, p. 1.

8. Denis F. Johnson, "What Do Social Indicators Really Indicate?" in The Center Magazine (July/August 1979) p. 10.

9. Lela B. Costin, Child Welfare: Policies and Practice (New York: McGraw Hill Book Company, c.1972) p. 43.

10. Department of Public Schools, Providence, Rhode Island, Providence Program for Basic Skills, p. 5.

11. No claim is made that the indicators chosen are the only usable data which could reflect the social welfare. It is possible that many other variables, perhaps unmeasureable, may have a greater impact on individual lives than those chosen as indicators. Nevertheless, indicators used were accessible and they seemed to measure areas of concern.

12. U.S. Bureau of Labor, "Consumer Price Index," in Statistical Abstract of the United States (1979) p. 402.

13. Theodore W. Schultz, Investment in Human Capital, p. 26.

14. Alice M. Rivlin, Systematic Thinking for Social Action (Washington D.C.: Brookings Institute, c. 1971) p.64.

CHAPTER III

THE SOCIAL INDICATOR ANALYSIS

As discussed in Chapter 2, each indicator of the investment in public education and of the social welfare will be examined over the ten-year period 1970 to 1979. This chapter will include an individual inspection of each variable for trends in a positive or negative direction. Problems of data availability or interpretation will be discussed as they pertain to individual indicators. In addition, some discussion of the normative nature of particular trends will be done. It will be left to the final chapter to analyze the relationships among indicators and the correlation between the investment in public education and the social welfare of the city of Providence.

The following output indicators will be investigated: employment by type, number and wage, health, both physical and mental, crime, taxes collected and property assessments, new construction and residential building permits, the unemployment rate, and the number of Aid to Families with Dependent Children cases.

These input indicators will be discussed: local tax expenditures for all categories and for public schools, federal and state expenditures for schools, and per pupil

and per resident expenditures on public schooling. (See Table 2)

Employment

The Department of Employment Security (DES) compiles data quarterly on the number of employees, firms and total wages paid in the state of Rhode Island. This is further broken down by city and town. This data is again separated by job categories which include: construction, manufacturing, transportation-communications-electric-gas, sanitary, wholesale, retail, finance-insurance-real estate, and service.

Using this information of the first quarter of each year from 1970 to 1979 several relationships can be discerned. For all types of work, an average monthly wage can be obtained in each year by dividing the total wages by the number of employees. This average wage can then be indexed for inflation by applying the consumer price index deflator. It is then evident that the average monthly wage of all covered employees has, in fact, declined slightly over the past ten years, from an average $461 per month in 1970 to an average $445 in 1979.

In addition, data on total wages and number of employees is available by job category. Comparisons among the wage rates paid by job category can be made. A large variation exists in the average monthly wage paid by the different job types as defined by DES. In 1979 the average transportation-communications-electric

TABLE 2

Data Used as Social Indicators

Input Measures	Source
Local Expenditures	R.I. Dept. of Community Affairs
School Expenditures	R.I. Dept. of Education and Providence School Department
Per Pupil Expenditures	Providence School Department
Per Resident Expenditures	R.I. Statewide Planning Program and Providence School Dept.
Federal and State Expenditures	R.I. Dept. of Education
Output Measures	
Wages and Employment	R.I. Dept. of Employment Security
Physical Health	R.I. Dept. of Health
Mental Health	Providence Mental Health Center
Crime	Providence Police Dept.
Property Taxes and Assessed Value of Property	R.I. Dept. of Community Affairs
Unemployment	R.I. Dept. of Employment Security
AFDC cases	R.I. Dept. of Social and Rehabilitative Services
Construction	R.I. Dept. of Economic Development
Population Characteristics	R.I. Statewide Planning Program, U.S. Census of the Population and Providence School Department

worker made $1374 per month while the average retail employee make an average $638 per month, less than half the amount earned by the highest paid category of employee.

The type of work which employs the highest percentage of people is manufacturing, ranging from 43-37 percent of the work force over the ten years examined. Workers in this field made an average of $948 in 1979, very close to the mean monthly salary of $942.

Retail employees, who have made the lowest pay over the entire ten-year period, comprise 10 percent of the total work force counted by DES. (Prior to 1974 wholesale and retail employees were counted together, making comparisons difficult; however the retail share of the work force and wages seem relatively stable over time - $526 in 1975; $638 in 1979.)

Service workers, who are the next lowest paid group, averaging $883/month in 1979, up from $463 in 1970, have been increasing as a percentage of the work force, from 24.5 percent in 1972 to 30.3 percent in 1979.

Manufacturing employees, with a decreasing share of total employment, average the third lowest monthly wage, ranging from $519 in 1970 to $948 in 1979. In 1970 people involved in manufacturing made up 42.9 percent of the work force. In 1979 they made up only 35.7 percent.

Finance-insurance-real estate is the fourth lowest paying occupational group in the city of Providence.

These workers, who have made up a steady 11-12 percent of the labor force over the years, now average $1038 per month. In 1970 the monthly average was $589.

During the years 1975 - 1979, jobs in the wholesale business, transportation-communications-electric, and jobs in the construction trade have alternated rank positions for first, second, and third highest average monthly pay. Prior to 1975 wholesale information is aggregated with retail data, which skews analysis. In 1979 wholesalers made an average $1280 per month; construction workers $1299; and transportation-communications-electric earned an average $1374 monthly. In 1978 construction workers made $1261; transportation workers $1344; and wholesale workers $1368, in this year only the highest paid job category. In 1975 and 1976 construction employees were the highest paid in the city with transportation and wholesale occupations alternating for second and third highest paying.

Construction workers make up a declining percentage of the work force, down from 2.4 percent in 1970 to 1.4 percent in 1979. During the years 1975 - 1979 wholesale employees comprised about 6 percent of the labor force. Transportation-communications-electric have also been declining as a proportion of the work force, from 9.1 percent in 1970 to 4.9 percent today.

The highest paying occupations in the city of Providence employ only a small percentage of the labor force

under DES' jurisdiction. Together the construction, transportation, and wholesale categories comprise only 12.3 percent of the employees in 1979. The average wage of all other types of jobs range from $1038 to $638 per month in 1979. These monthly wages indicate annual earnings of from $12,456 to $7,656.

Secure and satisfying employment and an adequate income derived from such employment are probably among the most important variables in an individual's assessmentof well-being. The proportion of the work force in various job categories has not changed markedly over the ten-year period 1970 - 1979. The absolute number of jobs in all occupations has fluctuated from one year to the next. The 1979 total of 110,492 employees represents an increase of 12,716 workers over the 1970 figure of 97,776. However, the 1979 employment totals also represent a decline of approximately 3000 workers both from the 1978 high of 113,719 and the 1973 work force of 113,417.

All of the preceding data on wages and employment apply to people who work in the city of Providence, who are not necessarily the same people who live in the city. This information is useful as an indication of job opportunities, number, kind and quality in the city. Clearly, no upward trend towards great gains in either the number of people employed or incomes derived from work in the city can be seen from these figures. More positively, average monthly wages, indexed for inflation, seem to be

fairly stable. Declining income would certainly portend very badly for the city's ability to provide a basic need of its citizens.

TABLE 3

First Quarter Employment in Providence

	Total Employees	# Firms	Total Wages	Average Monthly Wage	Average Monthly Wage (Adjusted)
1970	97,776	6560	$157,148,692	$536	$461
1971	94,278	6416	160,568,779	568	468
1972	110,070	6331	197,969,777	599	478
1973	113,417	6373	213,184,722	627	472
1974	112,768	6238	226,442,456	669	454
1975	104,894	6147	229,899,748	731	454
1976	109,331	6119	247,226,719	754	443
1977	104,977	6127	254,004.064	807	445
1978	113,719	6132	324,770,714	952	487
1979	110,492	6105	315,501,736	952	445

Source: Rhode Island Department of Employment Security

Basic Data

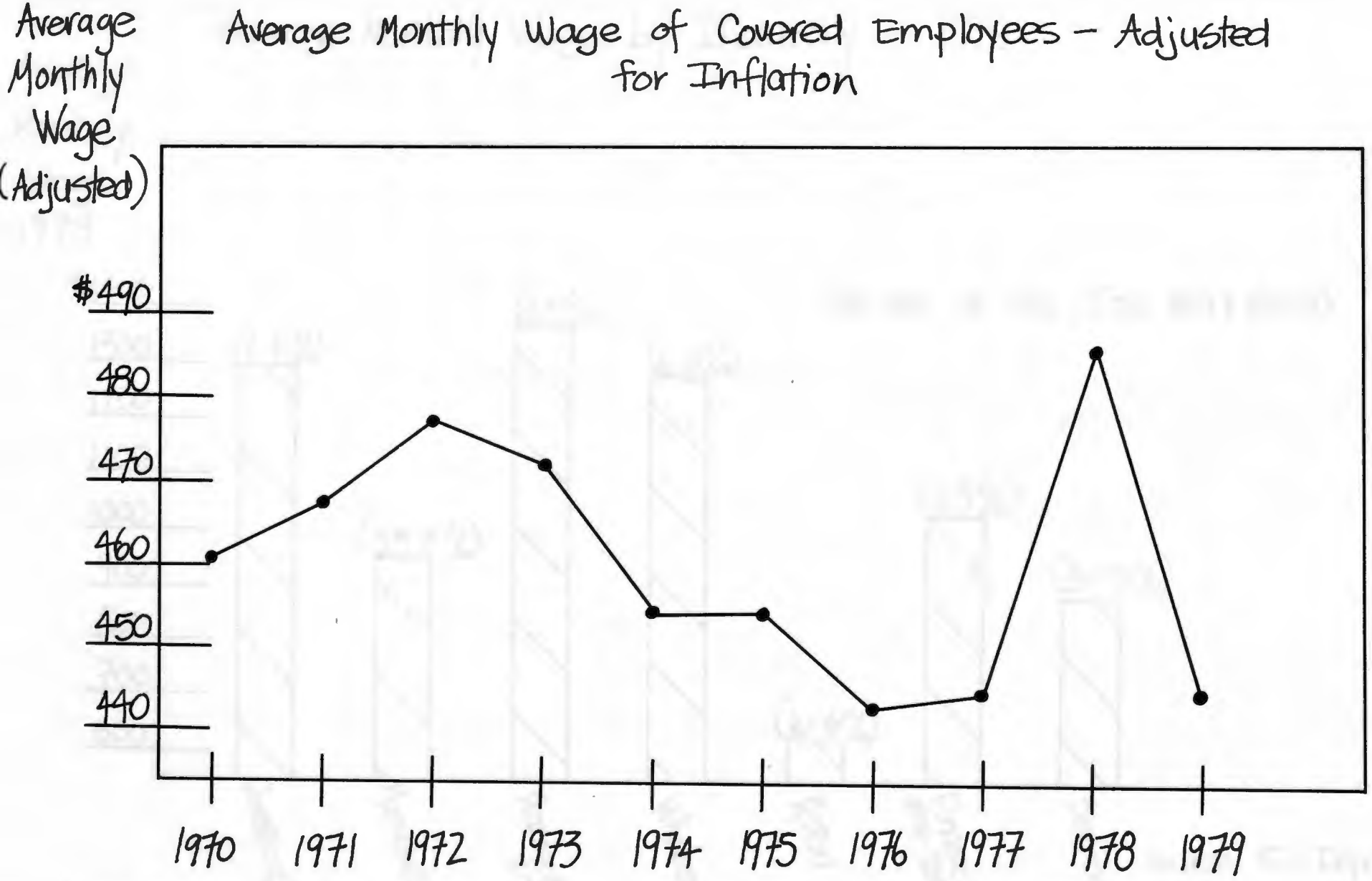
TABLE 4

Average Monthly Wage by Industry

	Construc-tion	Manufac-turing	Transp./ Utilities	Wholesale/ Retail	Finance/ Insurance Real Estate	Services
1970	$805	$519	$645	$502	$589	$463
1971	908	561	640	525	611	487
1972	1007	601	766	548	642	530
1973	986	622	829	577	672	557
1974	1094	659	895	643	693	599
1975	1159	735	942	952 526	764	652
1976	1204	727	1085	1013 549	826	674
1977	1044	783	1156	1083 572	854	757
1978	1261	952	1344	1368 623	1030	875
1979	1299	948	1374	1280 638	1038	883

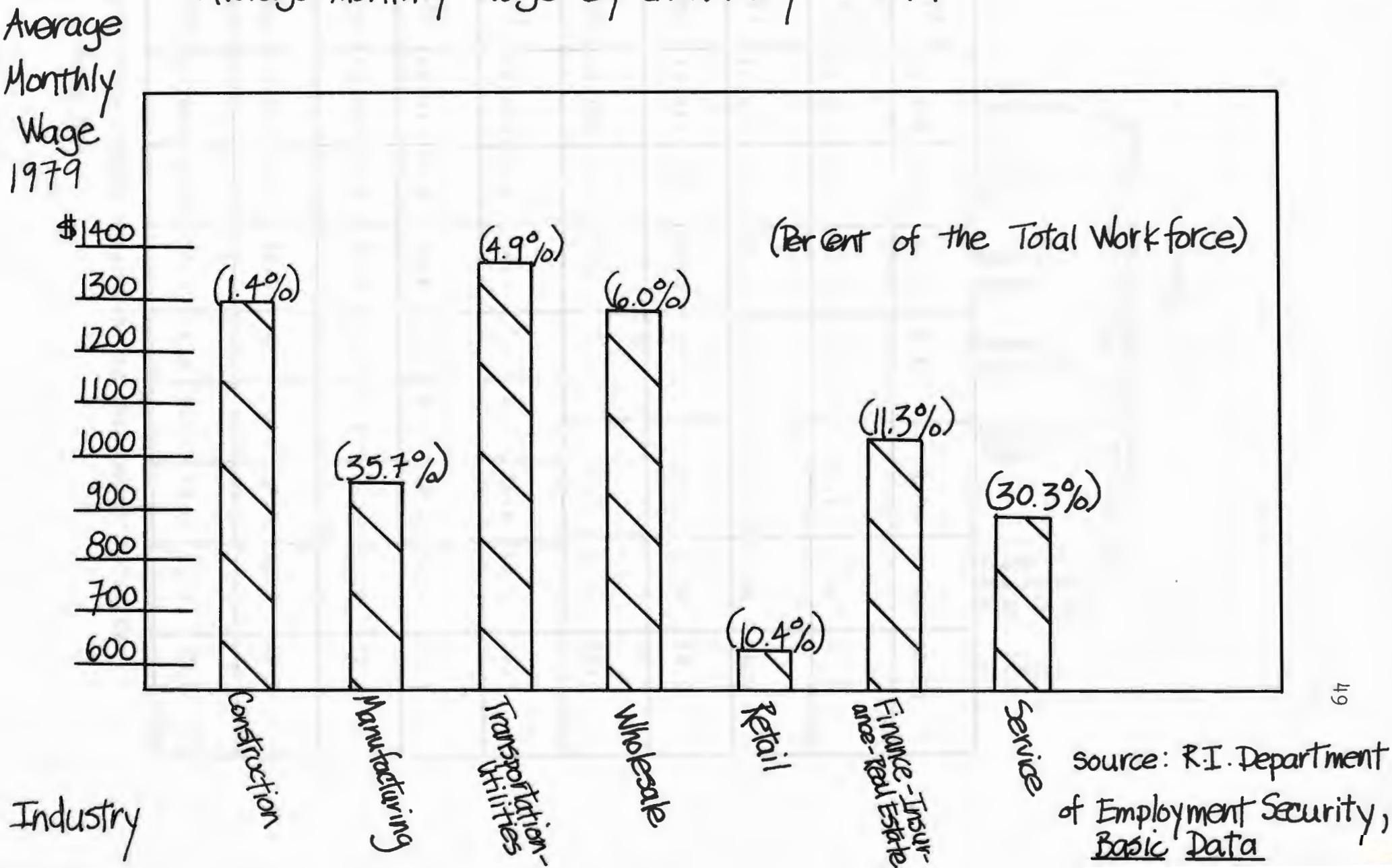
Source: Rhode Island Department of Employment Security, Basic Data

Average Monthly Wage of Covered Employees – Adjusted for Inflation



source: R.I. Department of Employment Security, Basic Data, 1970-1979

Average Monthly Wage by Industry - 1979



source: R.I. Department of Employment Security, Basic Data

TABLE 5

Number of Employees by Industry
as a Percent of the Total Workforce

	Total Employees	Construction	Manufacturing	Trans./ Utilities		Wholesale/ Retail	Finance/ Insurance/ Real Estate	Services
1970	97,776	2.4%	42.9%	9.1%		21.9%	12.4%	11.3%
1971	94,278	2.7	41.9	9.5		21.6	12.8	11.5
1972	110,070	1.9	35.8	7.9		18.2	11.6	24.5
1973	113,417	1.9	36.4	7.7		17.5	11.6	24.9
1974	112,768	1.6	37.1	7.2		16.3	12.2	25.5
1975	104,894	1.6	34.4	7.5	6.2	10.4	13.1	26.7
1976	109,331	1.3	36.4	7.0	6.5	10.6	11.5	27.1
1977	104,997	1.5	37.6	5.1	6.6	9.6	11.8	27.7
1978	113,719	1.7	36.9	4.8	5.9	10.6	11.0	29.1
1979	110,492	1.4	35.7	4.9	6.0	10.4	11.3	30.3

Source: Rhode Island Department of Employment Security
Basic Data

Health

There are many components that make up a healthy population. Physical health, both at home and on the job, and mental health are important aspects of well-being.

Admissions to the Providence Mental Health Center are examined for the years 1972 through 1979. As the mental health clinic increases in visibility and services offered and the general public becomes more open to mental health services, a higher proportion of Providence residents who could benefit from such services will seek it out. An increase in admissions then can be seen as a positive trend - more people feeling free to seek needed help and finding it.

The data from 1972 to 1979 show an increase in admissions from 906 cases in 1972, the first year records were kept, increasing steadily each year. In 1979 a total of 2277 people were aided. This represents a growth in the utilization of this health service of 15 percent over this seven-year period.

A variety of indicators of the physical health of Providence residents are available from the State Department of Health, Division of Vital Statistics. For the years 1970 - 1978, the number and rate of births, deaths, and marriages were examined. Changing trends in the ratio of low birth weight and percentages of mothers receiving no prenatal care were also selected as indications of health care availability and awareness in the population. In addition, the number of deaths from selected causes of death, motor vehicle

accidents, suicides and homicides, were examined for the ten-year period.

The death rate for both the city of Providence and for the state of Rhode Island show similar trends. Both areas have experienced a decreasing death rate, although Providence begins and ends with a higher rate. A steady decline is seen from 1970 to 1975, small increases occur in 1976 and 1977 with a decline again in 1978 (a far sharper decline in Providence than in the state). Despite parallel trends, the death rate is far higher in the city of Providence than the state over the entire time period - averaging three deaths per 1000 greater than the state average.

The birth rate of residents of Providence has fluctuated over the period 1970 - 1978. It was highest in 1970 at 17.6 births per 1000, declined steadily until a low of 12.5 births per 1000 was reached in 1975 and 1976 but then climb ed again to 14.0 in 1977 and 13.6 in 1978. Although the birth rate for the state as a whole shows a similar trend during these same years - the rate in Providence is higher than the state rate in nearly every year.

A ratio of babies born of low birth weight (under 2500 grams) is calculated by the health department. This ratio dropped steadily during the years 1970 - 1976. In 1977 it began to rise again reaching 91.6 in 1977 and 93.2 in 1978. Babies who are born with low birth weight indicate health problems both in the mother and in the child. Another indicator of health status related to childbirth is prenatal

care. The health department keeps records of the number of mothers who received no prenatal care. As a percentage of total births, this number decreased from a high of 1.7 percentage in 1970 to .3 percent in 1974, rose to .4 percent in 1975 and 1976, .8 percent in 1977 and then declined to .5 percent in 1978. Lack of prenatal care is a reflection of a lack of health care education and availability.

Analysis of deaths from motor vehicle accidents is unenlightening; no trend towards vehicle safety is seen, but neither does it seem that increase negligence is occurring.

Luckily, there are so few suicides and homicides reported in any given year to the Health Department that it is difficult to discern any trends. It may be that suicides are increasing, up from 14 in 1970, 21 in 1974, 30 in 1977 and 22 in 1978. This would certainly be an indication of something very detrimental to individual well-being. Analysis of homicides does not show any descriptive trend; the number remaining fairly stable in numbers over the years.

In an overall sense, the birth rate in the city seems to be on an upward trend again after many years of decline. Maternal care, which is reflected in the health of infants born seems to be improving as judged by a declining ratio of low birth weight infants and decreasing percentage of mothers who receive no prenatal care. The death rate in the city is declining as well, from 13.8 deaths per 1000 in 1970 to 11.4 in 1978, averaging around 12.5 for the years

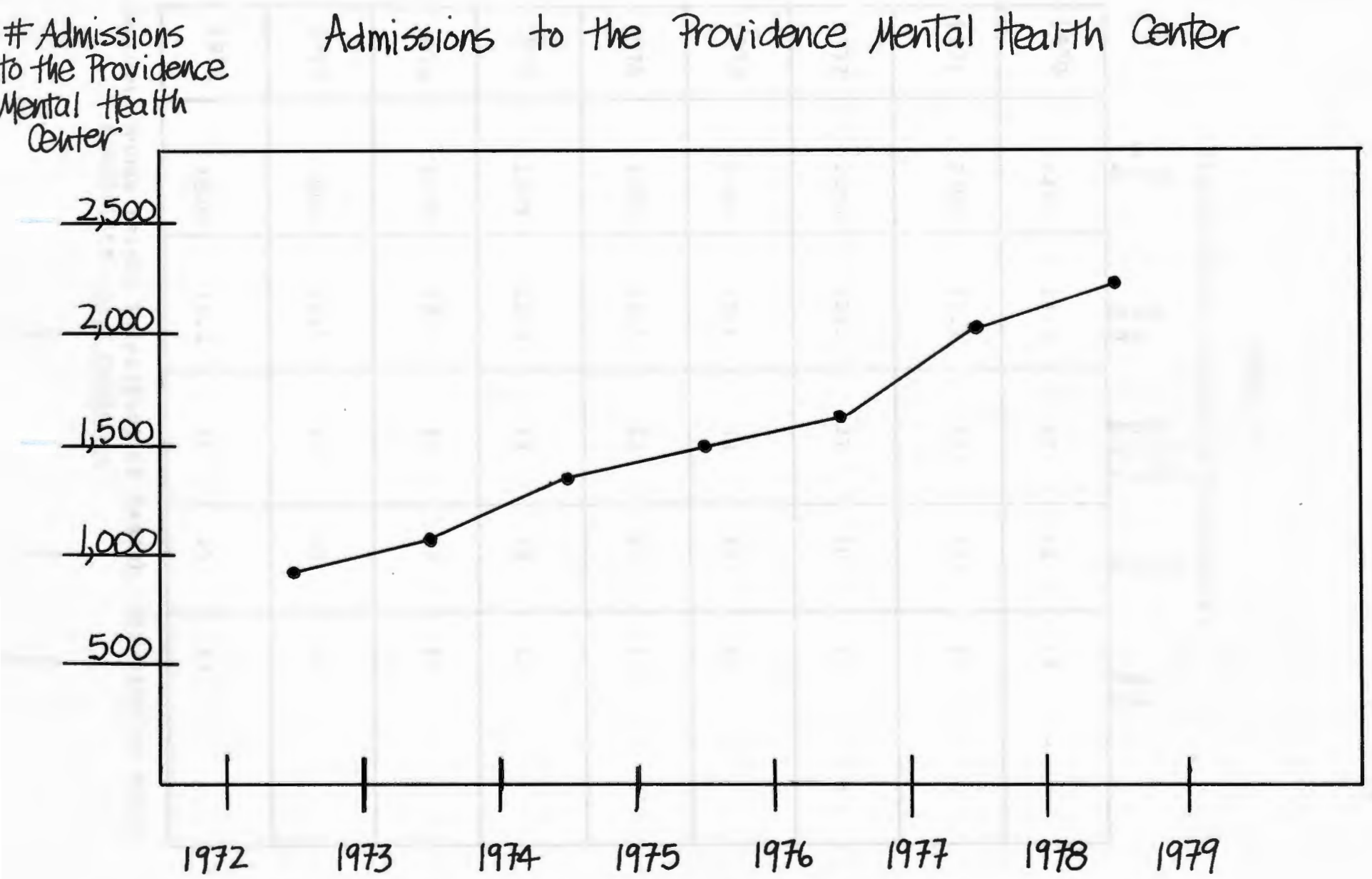
studied. The rate in the city is however consistently higher than the state as a whole, perhaps reflective of the higher proportion of older residents who reside in Providence.

TABLE 6

Admissions to the Providence Mental Health Center

	# Admissions
1972-1973	908
1973-1974	1087
1974-1975	1400
1975-1976	1505
1976-1977	1646
1977-1978	2088
1978-1979	2277

Source: Providence Mental Health Center Annual Reports



Admissions to the Providence Mental Health Center

source: Providence Mental Health Center, Annual Report, 1978-1979

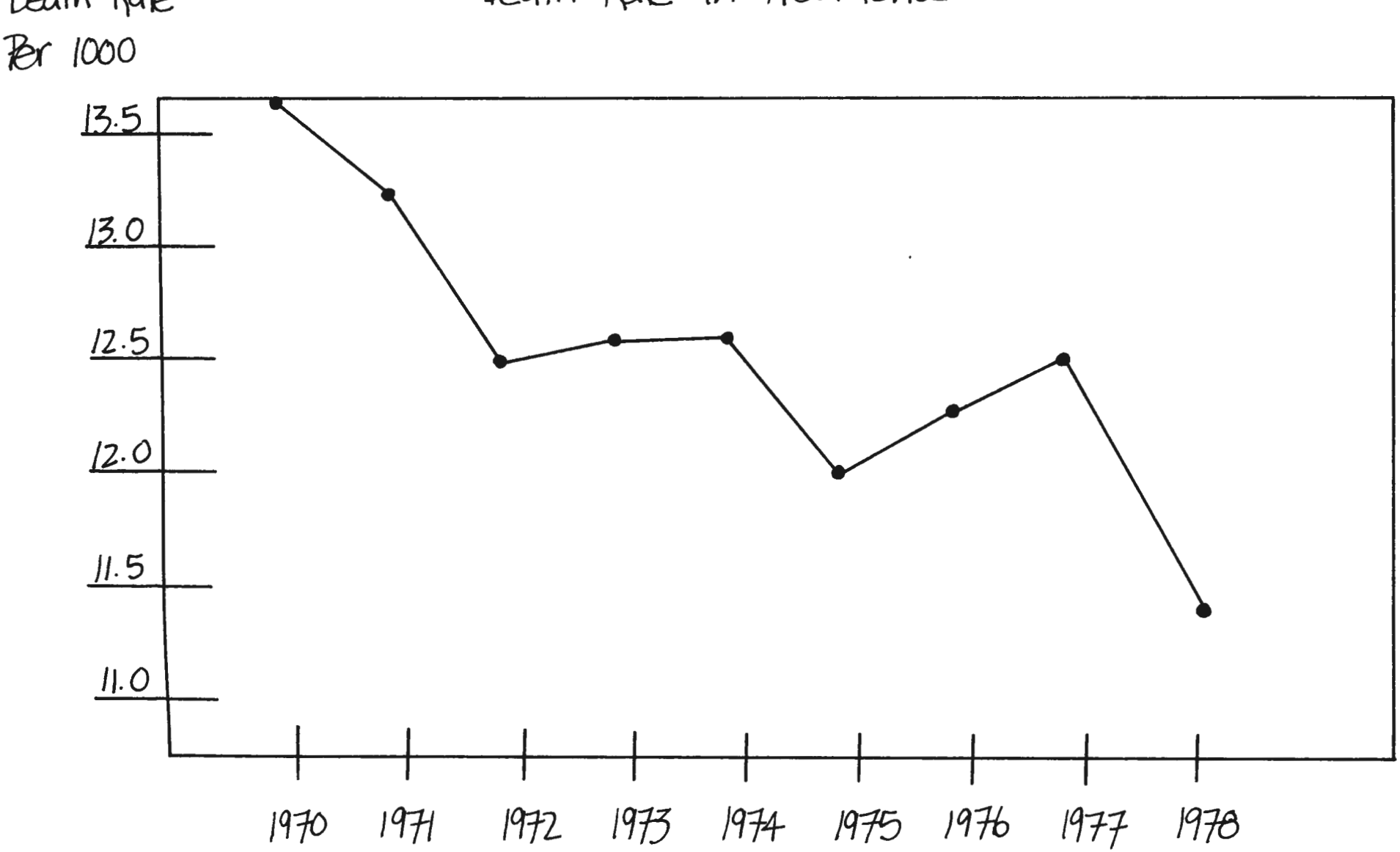
TABLE 7

Statistics on Deaths in Providence

	# Deaths	Death Rate	Motor Vehicle Accident	Suicide	Homi-cide
1970	2457	13.7	32	14	19
1971	2398	13.2	23	13	13
1972	2290	12.5	27	10	13
1973	2268	12.6	38	14	12
1974	2136	12.6	23	21	13
1975	1979	12.0	19	19	11
1976	2038	12.3	35	17	18
1977	2008	12.5	29	30	22
1978	1829	11.4	15	22	13

Source: Rhode Island Department of Health, Division of Vital Statistics, Vital Statistics

Death Rate in Providence



source: R.I. Department of Health, Division of Vital Statistics, Vital Statistics, 1970-1978,

TABLE 8

Comparison of Death Rates
in Providence and Rhode Island

	Providence	Rhode Island
1970	13.7	10.0
1971	13.2	9.8
1972	12.5	9.8
1973	12.6	9.8
1974	12.6	9.7
1975	12.0	9.6
1976	12.3	9.9
1977	12.5	9.7
1978	11.4	9.5

Source: Rhode Island Department of Health, Division of Vital Statistics, Vital Statistics

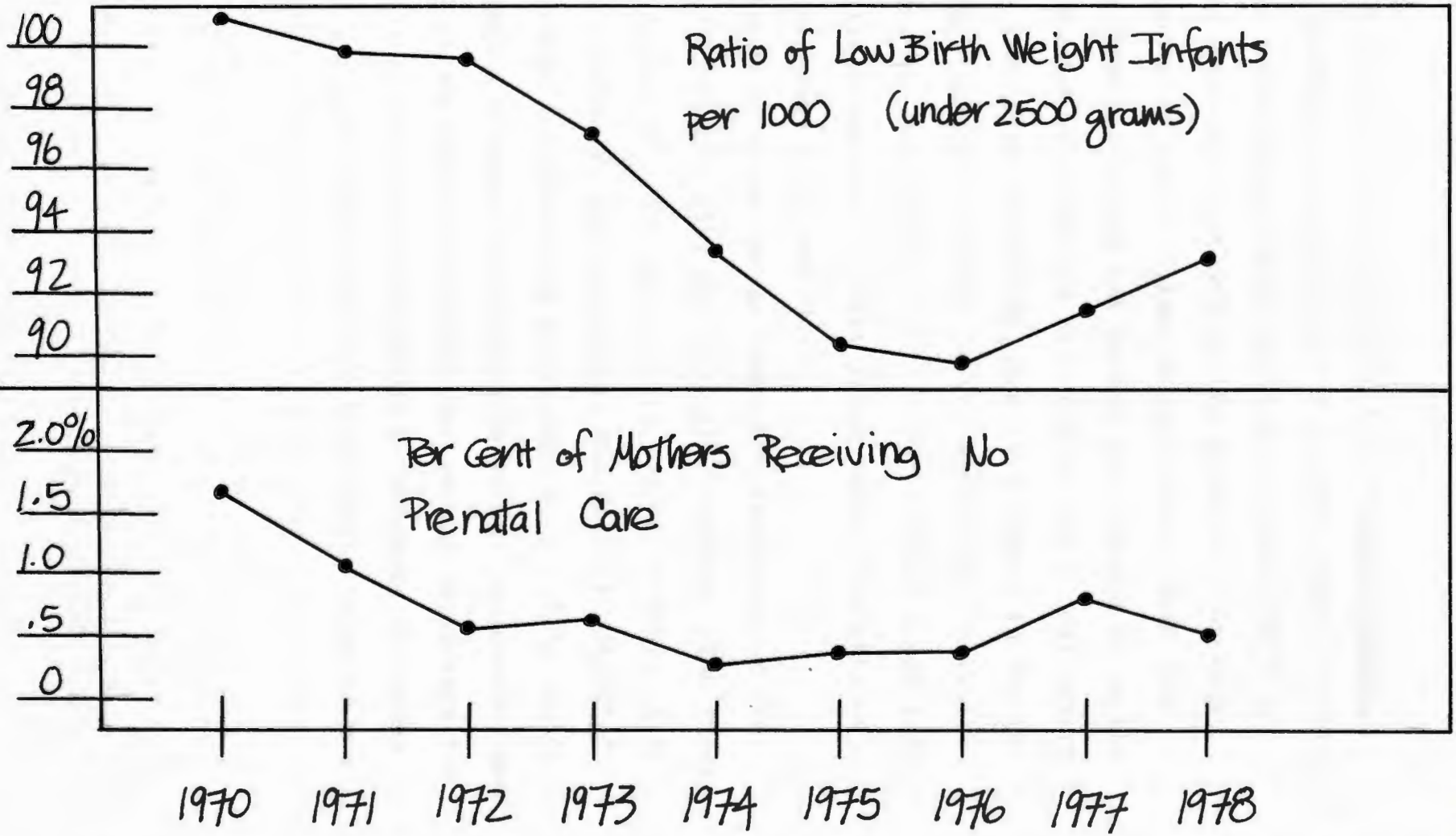
TABLE 9

Statistics on Marriage and Births in Providence

	# Mar-riages	Mar-riage Rate	# Births	Birth Rate	Ratio Low Birth Wt.	% No Prenatal Care
1970	1683	9.4	3160	17.6	101.1	1.7%
1971	1585	8.8	2897	16.0	99.8	1.1
1972	1602	8.8	2509	13.7	99.5	.6
1973	1554	8.6	2375	13.2	97.4	.7
1974	1500	8.9	2124	12.6	93.5	.3
1975	1357	8.2	2061	12.5	90.4	.4
1976	1375	8.3	2064	12.5	89.8	.4
1977	1410	8.8	2249	14.0	91.6	.8
1978	1427	8.9	2183	13.6	93.2	.5

Source: Rhode Island Department of Health, Division of Vital Statistics, Vital Statistics

Prenatal Health Care



source: R.I. Department of Health, Division of Vital Statistics, Vital Statistics, 1970-1978

Crime

As shown in the Providence Police Annual Report, 1979, the absolute number of Part 1 (murder, rape, robbery, aggravated assault, burglary, larceny and auto theft) offenses has declined from 1970 to the present. Because the population of the city has declined over these same years, an index of crimes per person was created using the absolute number of crimes as reported in the Annual Report (with the exception of larceny, due to a change in the reporting requirements) divided by the estimated population of the city in each year. This index also shows a slight decline in crime rates, with fluctuations over the ten-year time period.

Rates of crime are an important indicator of the quality of life in a city for two major reasons. The first is that victims of crime suffer real losses of money, life and limb. Secondly, the perception and fear of potential crimes creates an atmosphere pernicious to a city's health. Crimes against property discourage location, investment, and residence in an area. Crimes against people encourages the more mobile parts of the population to relocate to places perceived as safer, and traps the less mobile in their homes, prisoners of fear.

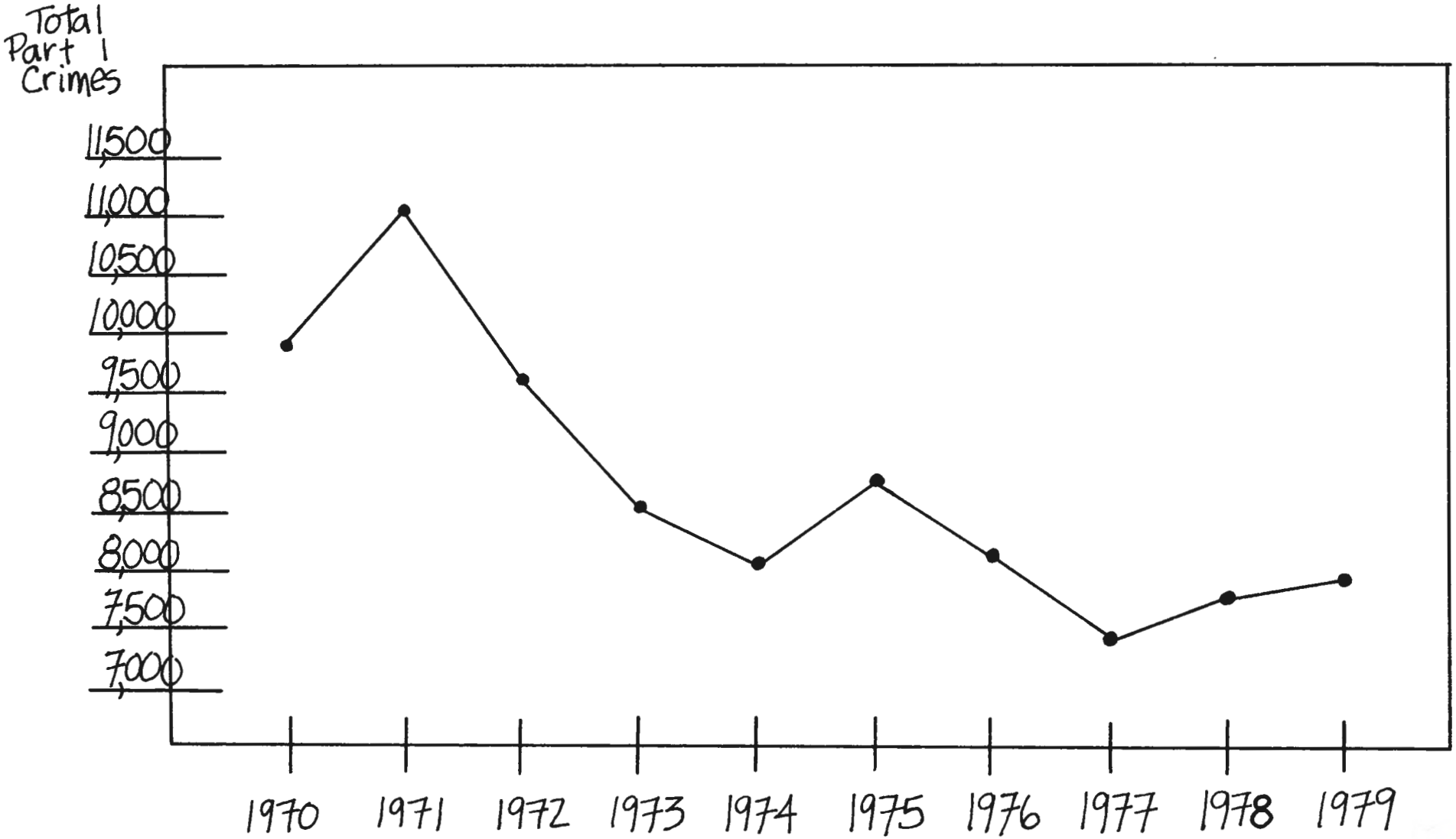
TABLE 10

Number of Part 1 Crimes

	Murder	Rape	Robbery	Aggrav. Assault	Burglary	Auto Theft	Total	Crimes Per Person
1970	15	13	524	416	3926	4940	9834	.055
1971	11	21	625	525	4176	5724	11082	.062
1972	9	22	534	443	3793	4800	9601	.054
1973	10	28	537	441	3261	4269	8546	.049
1974	15	9	457	402	2943	4200	8026	.047
1975	12	22	504	335	3555	4353	8781	.052
1976	14	28	478	373	3535	3774	8202	.050
1977	26	29	449	410	3515	2976	7405	.046
1978	13	46	488	438	3531	3248	7764	.049
1979	15	53	614	552	3647	2980	7861	.050

Source: Providence Police Department Annual Report 1979

Incidence of Serious Crime in Providence



source: Providence Police Department, Annual Report, 1979

Welfare

The number of clients receiving welfare payments in the form of Aid to Families with Dependent Children in the city of Providence has increased by 18 percent in the ten-year time span from 1970 to 1979. In addition, the proportion of Providence residents receiving AFDC payments has increased from 2.8 percent of the population in 1970 to 3.8 percent in the year 1979. This is due both to the absolute increase in number of recipients and to the declining population in the city as a whole.

The number of December cases has shown a steady increase over the ten-year period. In 1971 a large (550) increase was followed by a slight decline in the year 1972 (125). A decrease in the number of cases also occurred in 1978 (-70), but the overall trend is an increase in AFDC recipients.

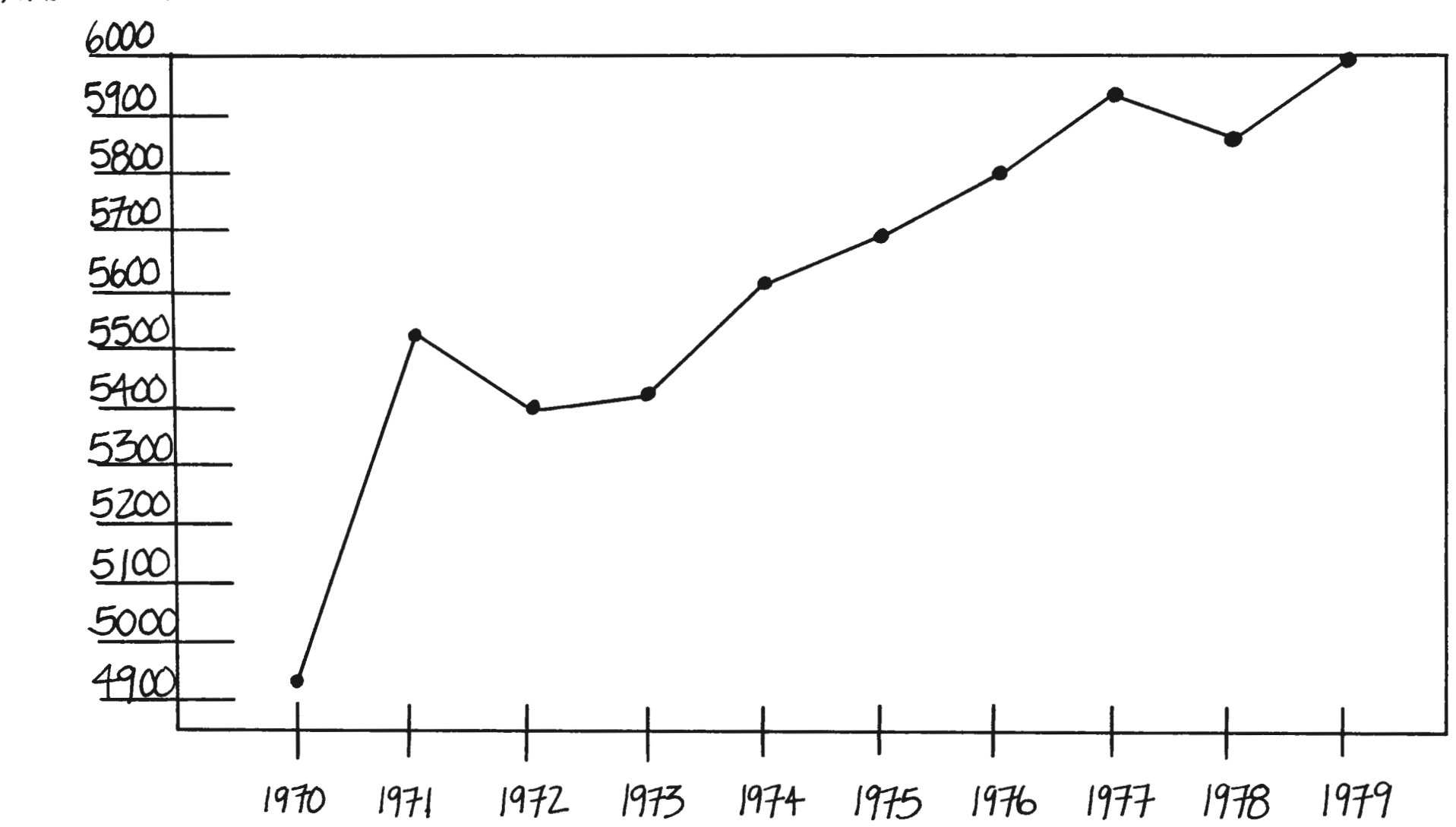
TABLE 11

Cases of Aid to Families with Dependent Children

	# December AFDC cases	Population of Providence (Estimated)	# of AFDC cases as a percent of the population
1970	4940	179,100	2.8%
1971	5533	178,500	3.1%
1972	5408	177,800	3.0%
1973	5437	173,100	3.1%
1974	5620	170,700	3.3%
1975	5707	168,500	3.4%
1976	5816	164,300	3.5%
1977	5954	161,100	3.7%
1978	5871	159,00	3.7%
1979	6013	156,800	3.8%

Source: State Department of Social and Rehabilitative Services Case Reports

Cases of Aid to Families with Dependent Children



source: R.I. Department of Social and Rehabilitative Services, Case Reports 1970-1979

Unemployment

The unemployment rate for the city of Providence exclusively has only been calculated by the Department of Employment Security since 1974. Prior to this an unemployment rate for the state of Rhode Island as a whole is used. Since the high unemployment year of 1975, the rate in Providence has consistently been one percentage point higher than the state unemployment rate.

It is obvious that as an indicator of social welfare a high unemployment rate signifies a downturn in the quality of life. Lack of employment creates a whole set of service needs related both to financial and social factors. Adequate employment serves both economic functions and social functions in satisfying the basic needs of individuals.

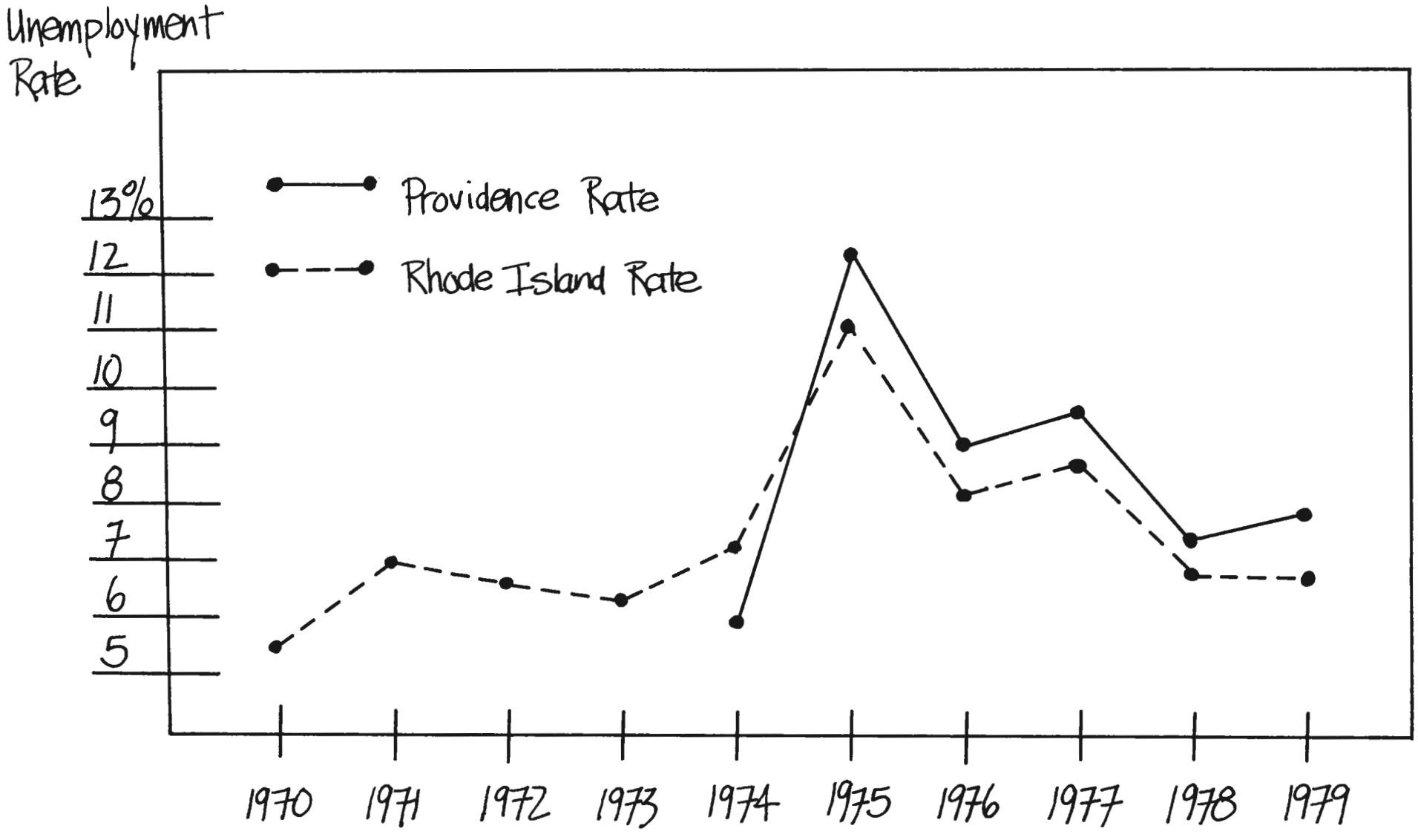
TABLE 12

Unemployment Rate

	Rhode Island	Providence
1970	5.6%	
1971	7.1	
1972	6.7	
1973	6.3	
1974	7.3	6.0
1975	11.1	12.4
1976	8.1	9.0
1977	8.6	9.6
1978	6.7	7.4
1979	6.7	7.9

Source: Rhode Island Department of Employment Security
Basic Data

Unemployment



source: R.I. Department of Employment Security, Basic Data, 1979

Construction

Between 1970 and 1978 2,826,000 square feet of new commercial space was constructed in the city of Providence. Nearly half this amount (1,022,000 sq. feet) is accounted for in 1970 when the Providence Civic Center was built. Another year where much commercial construction was occurring was in 1973 with 500,000 square feet. The lowest point was reached in the year 1975 where only 33,000 square feet of commercial space was constructed.

New construction for manufacturers totaled 877,000 square feet during the same period 1970 - 1979. Manufacturing construction makes up 24 percent of the total 3,703,000 square feet of non-residential construction during this time.

The greatest number of square feet built by manufacturers occurred in 1974 with 160,000; 1977, 1971, and 1972 follow with 114,000, 113,000, and 112,000 respectively. Low points were reached in 1976, 1973, and 1978 with only 34,000, 41,000, and 55,000 square feet of manufacturing space built in those years respectively.

New permits for housing units show a steadily increasing trend since a low in 1975. The total for 1970 - 1974 is 2684, an average of 537 per year. The year 1975 saw only 176 permits given, but by 1978 631 permits for dwelling units were provided.

Construction of any type has both direct and indirect benefits; first it provides the construction and ancillary

trades with work and second, it is an indication of faith in the future. Builders, investors, factory owners, and residents do not build when or where the future looks uncertain. An increase in square feet constructed or new permits for housing represents both economic vitality and a perception of Providence that is positive.

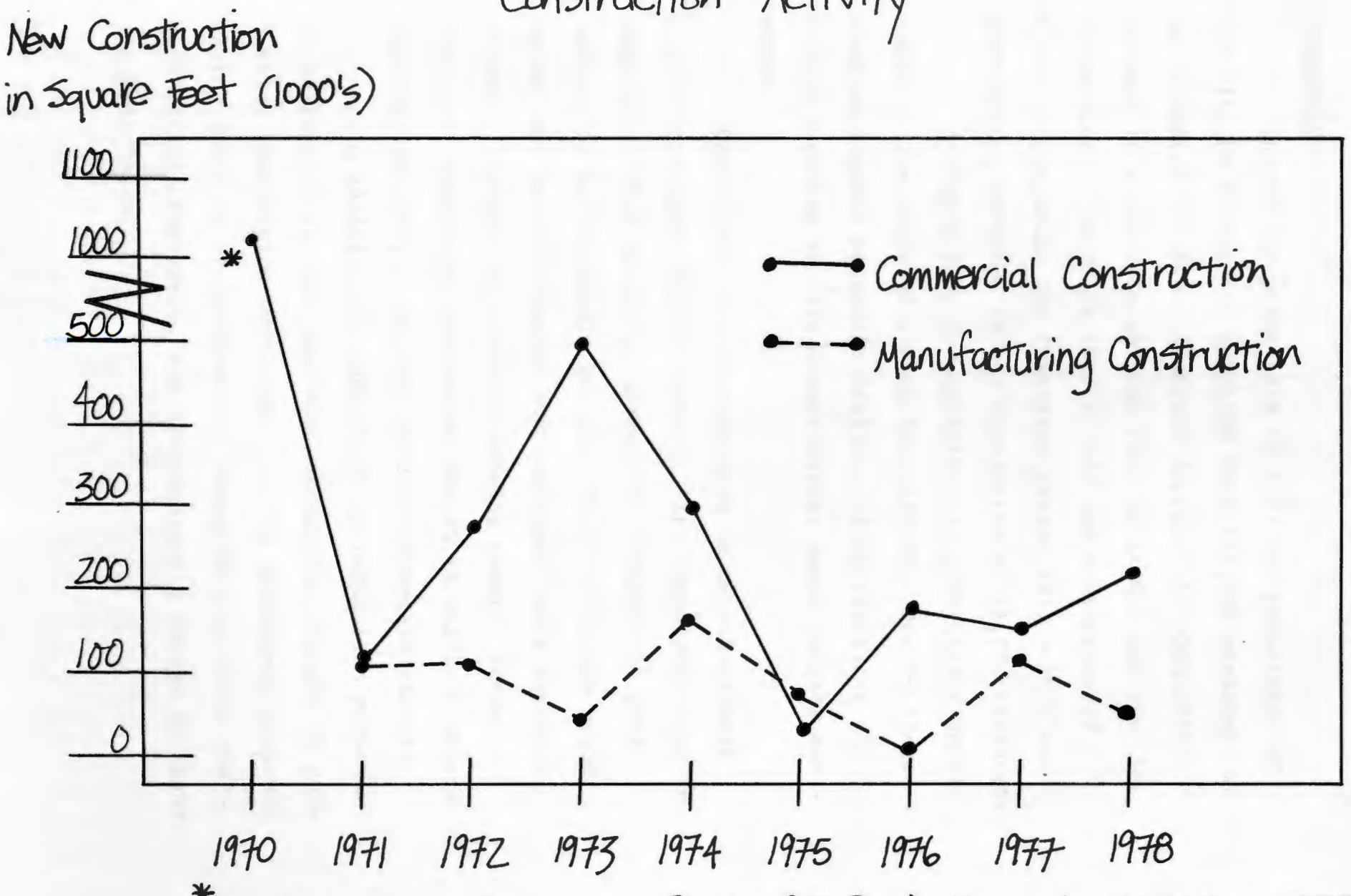
TABLE 13

New Commercial and Manufacturing
Construction in Square Feet

	Manufacturing	Commercial
1970	NA	1,022,000
1971	113,000	120,000
1972	112,000	280,000
1973	41,000	500,000
1974	160,000	296,000
1975	63,000	33,000
1976	34,000	189,000
1977	114,000	163,000
1978	55,000	223,000

Source: Rhode Island Department of Economic Development
R.I. Basic Economic Statistics

Construction Activity



*Providence Civic Center

Source: R.I. Basic Economic Statistics, 1979
R.I. Department of Economic Development

Population

During the years 1970 to 1979 the population of the city of Providence declined from 179,000 residents to an estimated 156,800. A steady decrease in population is seen in every year and the rate of exodus may even be increasing. The years 1970 - 1974 saw a decrease of 8,400 people, while the five-year period 1975 - 1979 experienced a decrease in the population of 11,700 residents.

A city's loss of population is generally acknowledged as one piece of a negative pattern. People leave when employment prospects decline, crime rises, or the entire spectrum of life opportunities seems greater elsewhere.

The quality of life embodied in any particular city is a rather elusive element. Its components vary in importance from person to person and between the great variety of socioeconomic groups. Nearly everyone would agree that the opportunity for employment with adequate income is crucial in a city's drawing power. Access to such life supporting systems as health facilities, decent housing, and social outlets are also important factors.

In addition to examination of population growth or decline, it is also important to analyze changes in population composition over time. A city government responds to the needs of its residents. Changing population characteristics, therefore, may neccessitate a change in spending priorities.

The vast majority of demographic information available for the city of Providence comes from the decennial census. It is unfortunate, therefore, that the most recent census information is from 1970. Some information collected by the Providence School Department for more recent years can be used as a surrogate indication of changes in the population as a whole.

In the year 1970 the median income of families in the city of Providence was $8,430. This compares unfavorably with the median of the entire SMSA, which was $9,767.[1] Families with a female head comprised 18 percent of total families in Providence, only 12 percent of the total in the SMSA. A large number of families had incomes less than the poverty level in that year, 6012 families in Providence, which equalled 13.3 percent of total families.

For both men and women the median years of school completed was 10.9. Females were counted as having 40.6 percent high school graduates; males also having 40.6 percent. In 1970 71.7 percent of students enrolled in grades one through twelve attended public schools; the remainder attended private and parochial institutions.

According to the 1970 census, blacks made up 8.9 percent of the total population in that year. Information obtained from the PSD shows that, of students enrolled in 1974, in grades one through eight, 22.4 percent were black. This figure increased to 23.6 percent in 1975, 26.3 percent in 1976, declined to 23 percent in 1977 when new categories

were introduced but climbed again to 25 percent in 1978 and 26.6 percent in 1979.[2]

Census data provides information on the occupations of city residents in the year 1970. Information available from the Department of Economic Development provides a breakdown of the occupation of people employed in the city of Providence. Although the two sets of data are not entirely compatible, they are quite close. Comparison of resident's jobs with jobs available in the city provides an indication of how well Providence residents rank in skill level, job status, and income potential.

	Providence Residents	People Employed in Providence
Construction	6 %	2.4%
Manufacturing	46.1%	42.9%
Transportation/ Utilities	7 %	9.1%
Wholesale/Retail	24 %	21.9%
Finance/Insurance/ Real Estate	6.1%	12.4%
Service	10.2%	11.3%

[3]

This table indicates that more Providence residents are employed as construction workers than are employed in the city. The same relationship holds true for manufacturing and wholesale/retail workers; only construction, making up the smallest percentage, is a highly paid occupation. More Providence residents are employed in a higher percentage of lower paying occupations of manufacturing and retail work than the

percentage of jobs available in the city.

All these socioeconomic statistics may indicate that Providence is a city with a needier population - lower income, more black, more female-headed households, and less skilled.

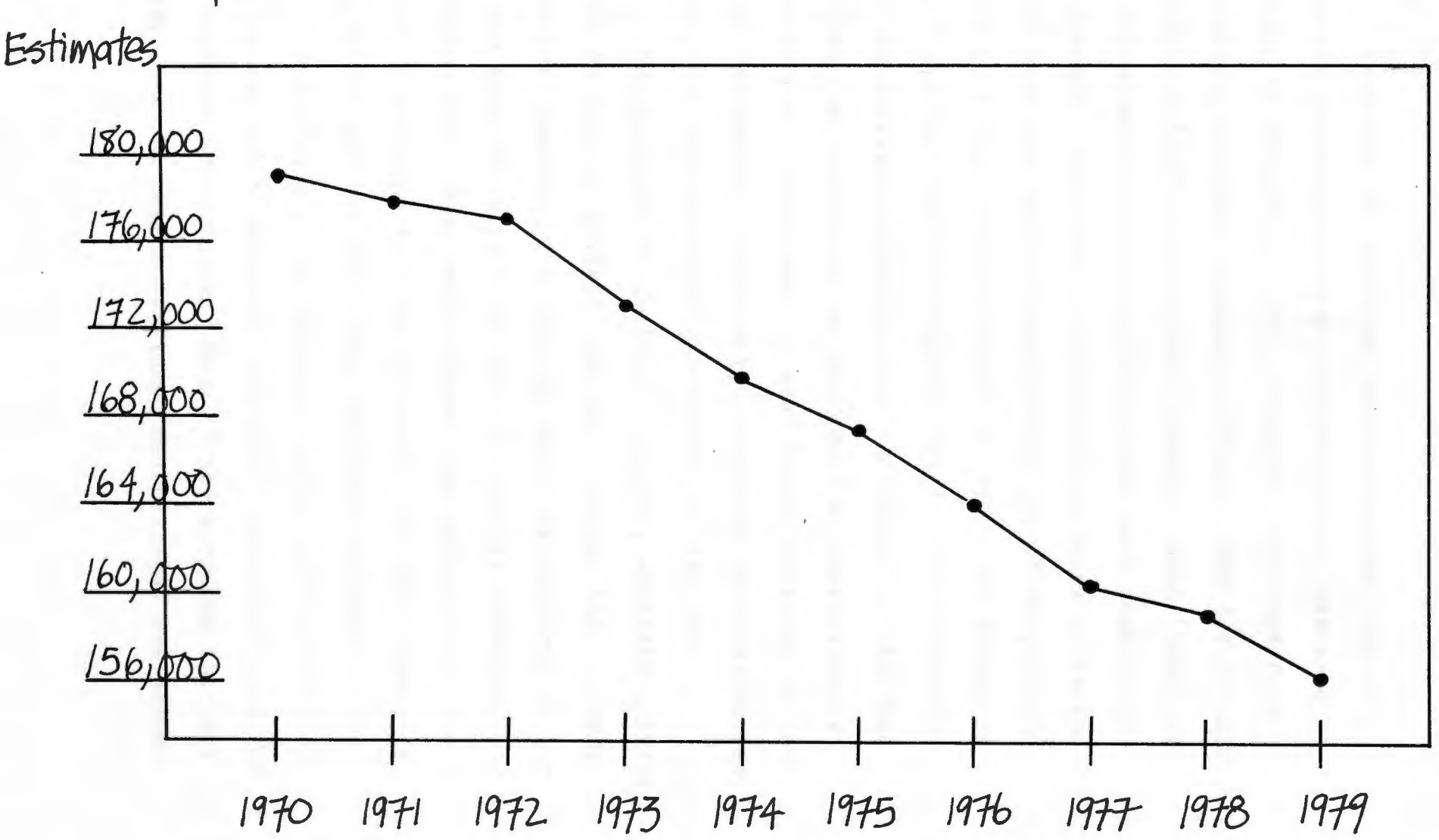
TABLE 14

Providence Population Estimates

	Estimated Population
1970	179,100
1971	178,500
1972	177,800
1973	173,100
1974	170,700
1975	168,500
1976	164,300
1977	161,100
1978	159,000
1979	156,800

Source: Rhode Island Statewide Planning Program
Population Estimates

Estimated Population of Providence 1970–1979



source: R.I. Statewide Planning Program, Population Estimates, 1979

Taxes

From 1970 to 1979 the tax rate in the city of Providence increased from $43.00 per 1000 of assessed valuation to $56.18 per 1000. Revenues collected from the property tax have steadily increased from $34,636,000 in 1970 to $64,047,000 in 1978. However, when these figures are adjusted for inflation, a much more stable picture emerges. Adjusted for inflation revenues collected for the nine-year period range from a low of $27,824,000 in 1975 to a high of $32,792,000 in 1978. The amount of money collected from the property tax for city expenditures has increased slightly over the years; at the same time that the population has decreased by approximately 22,000 people. The owners of real estate property in the city of Providence, industrial, commercial and residential, however, are not necessarily residents of the city.

The assessed valuation of property exhibits a trend similar to that of revenue from the property tax in terms of absolute numbers. In 1970 the worth of property in the city was equal to $1,047,320,000; in 1978 it equalled $1,269,963,000. When these figures are adjusted for inflation, a decrease in value is seen. The 1970 figure is $900,695,000 and the 1978 value declined to $650,221,000.

A decrease in the absolute number of residents in the city may not necessarily indicate a decreased need for city services and funding. Many of the services the city provides are not completely tied to individual residents.

Examples of such expenses would be general government, roads, snow removal, sewers or recreation. In many cases a changing population composition may indicate the need for increased services, despite the fewer overall residents. Increased proportions of poorer, older, non-English speaking, or minority groups in the population will increase the need for services in a city attuned to such needs.

TABLE 15

Property Tax Revenues

	Assessed Value of Prop.	Tax Rate	Property Tax Revenues
1970	$1,047,320,000	$43.00	$34,944,000
1971	823,899,000	43.00	35,778,000
1972	836,527,000	50.00	40,735,000
1973	852,366	53.00	44,090,000
1974	882,407,000	53.00	44,425,000
1975	886,593,000	53.00	44,805,000
1976	906,861,000	58.00	50,381,000
1977	1,340,625,000	47.50	57,416,000
1978	1,269,963,000	51.40	64,047,000

Source: Rhode Island Department of Community Affairs, Annual Report on Local Finances and Tax Equilization

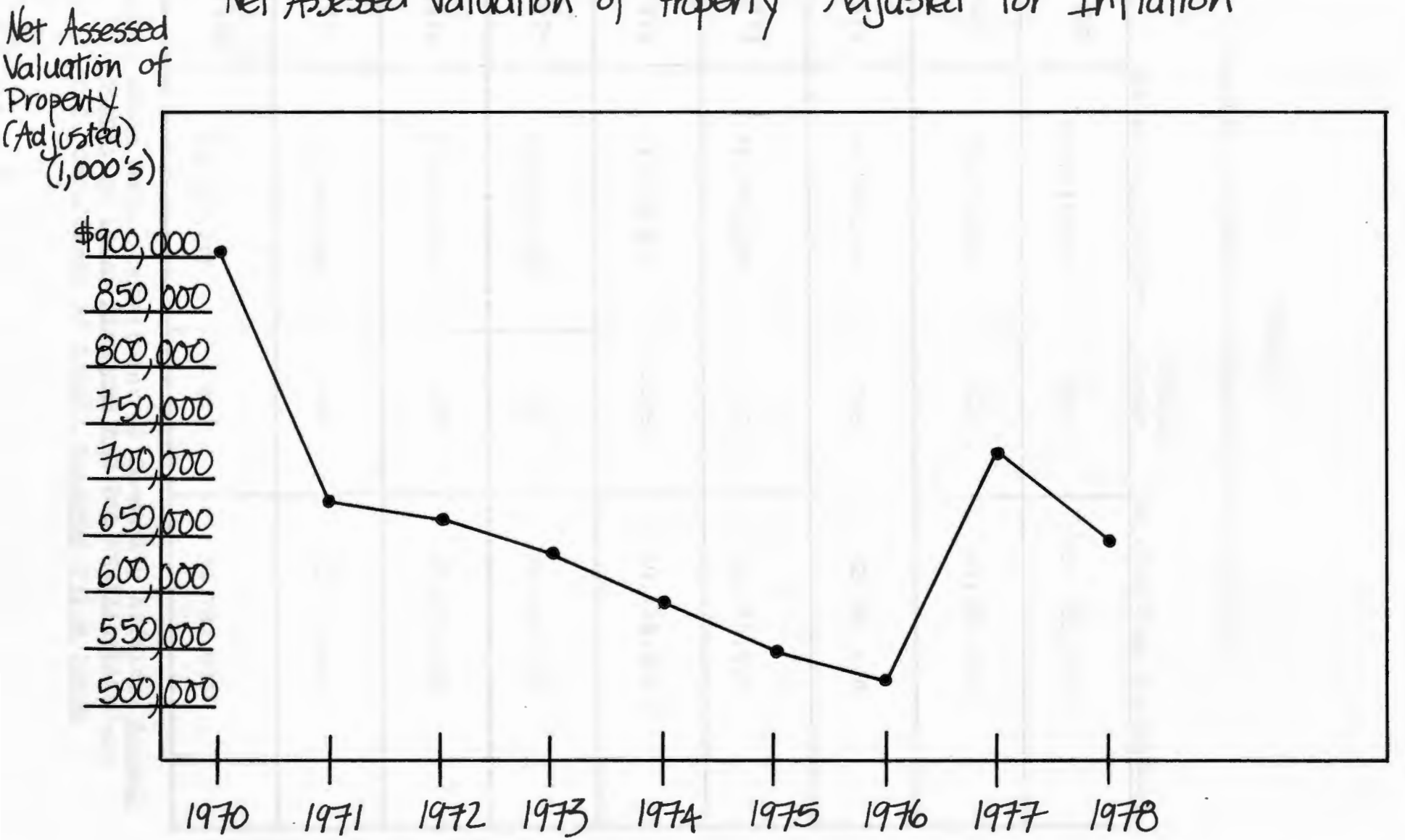
TABLE 16

Net Assessed Valuation of Property
Adjusted for Inflation

	Actual Prop. Assessment	Inflation Factor	Adjusted Prop. Assessment
1970	$1,047,320,000	.860	$900,695,000
1971	823,889,000	.824	678,885,000
1972	836,527,000	.798	667,549,000
1973	852,366,000	.752	640,979,000
1974	882,407,000	.678	598,272,000
1975	886,593,000	.621	550,574,000
1976	906,861,000	.621	532,327,000
1977	1,340,625,000	.587	738,684,000
1978	1,269,963,000	.512	650,221,000

Sources: Rhode Island Department of Community Affairs, Annual Report on Local Finances and Tax Equilization and U.S. Department of Labor, Consumer Price Index

Net Assessed Valuation of Property Adjusted for Inflation



source: R.I. Department of Community Affairs, Annual State Report on Local Government Finances and Tax Equilization, 1970-1979

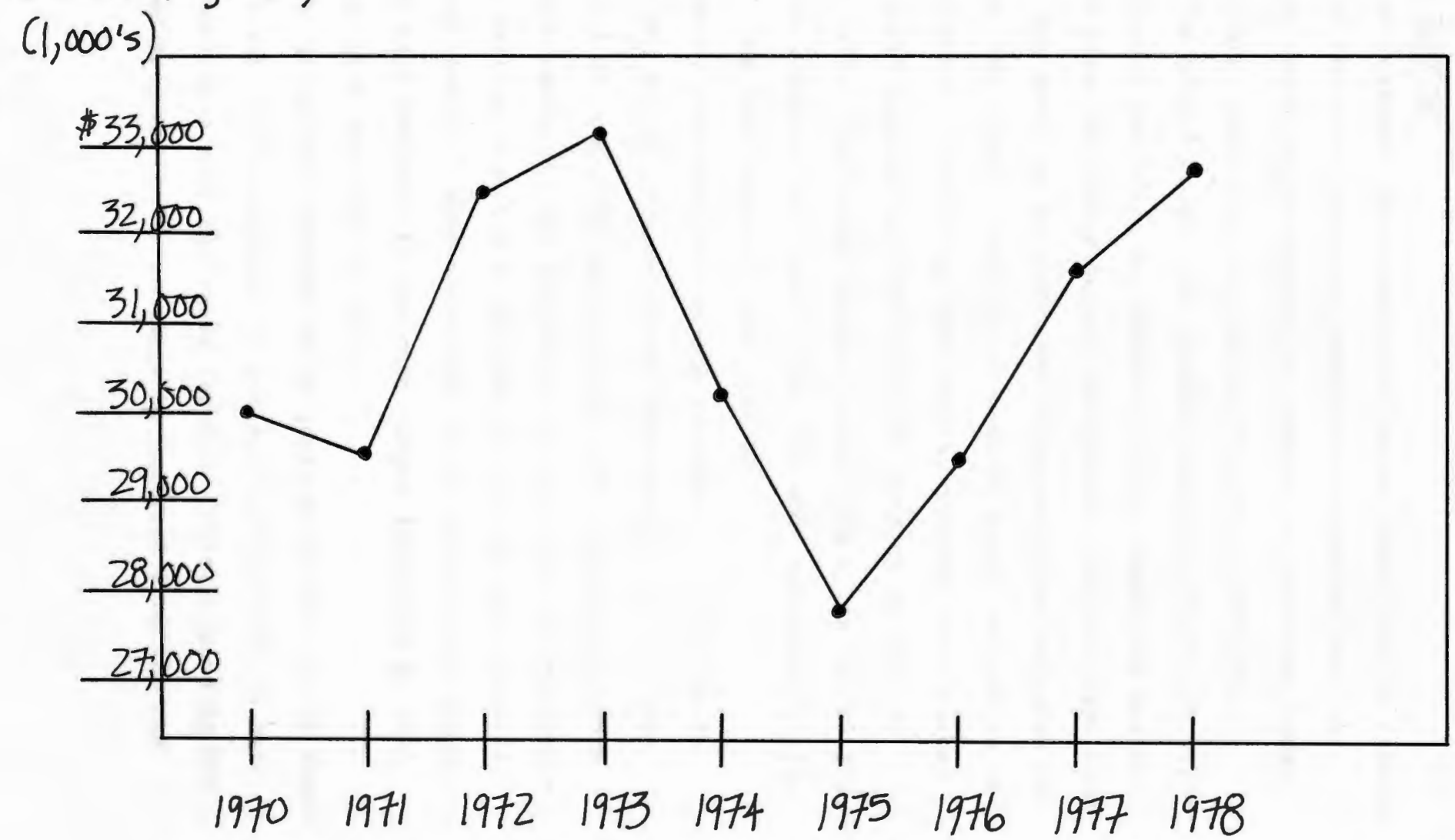
TABLE 17

Property Tax Revenues Adjusted for Inflation

	Actual Prop. Tax Reven.	Inflation Factor	Adjusted Prop. Tax Revenues
1970	$34,944,000	.860	$30,052,000
1971	35,778,000	.824	29,481,000
1972	40,735,000	.798	32,507,000
1973	44,090,000	.752	33,156,000
1974	44,425,000	.678	30,120,000
1975	44,805,000	.621	27,824,000
1976	50,381,000	.587	29,574,000
1977	57,416,000	.587	31,636,000
1978	64,047,000	.512	32,792,000

Source: Rhode Island Department of Community Affairs, Annual Report on Local Finances and Tax Equilization and U.S. Department of Labor, Consumer Price Index

Providence Property Tax Revenues Adjusted for Inflation



source: R.I. Department of Community Affairs, Annual State Report on Local Government Finances and Tax Equilization, 1970-1979

School Funding

As measured by proportion of money spent, public schools are one of the most important services provided by the city. Providence spends approximately 40 percent of the total budget on elementary, secondary and special education schooling.

The school budget has climbed from $22,466,000 in 1970 to $43,083,000 in 1979. An increase of this magnitude may seem excessive given declining school enrollments over the same time period. But when the expenditures for schools are adjusted for inflation, the city's contribution towards public education is fairly constant. Declining enrollments, however, have pushed the per pupil expenditure from $809 per student in 1970 to $1110 in 1979. The school budgets range from a low of $19,321,000 in 1970 to a high of $21,200,000 in 1972 when adjusted for inflation. The 1979 figure is $20,120,000.

Money expended for schools can also be looked at in terms of the amount of money spent per resident of the city. This method of comparing expenditures over the years shows a very stable pattern. The population of the city of Providence has been decling, but not as rapidly as the decline in public school enrollments. When corrected for inflation, the amount spent per each resident of the city ranges from $108 in 1970 to $129 in 1978 and $128 in 1979.

By using the Consumer Price Index deflators of the worth of the dollar, it is possible to compare expenditures in different years in a more equitable fashion. School spending has not jumped astronomically as might be inferred from the raw

data, rather, measured in constant dollars, school budgets show little increase over the past ten years. Due to declining enrollments, a calculation of the amount of money spent for each student has risen, from $806 to $1110, an increase of 38 percent.

Although public schooling in the United States has long been viewed as a local concern and responsibility, both individual state governments and the federal government provide some financial assistance to localities for public schooling. In the city of Providence federal monies represent approximately one percent of the total school budget. These funds generally go to provide services that otherwise would not be made available to students.

The state of Rhode Island provides aid in amounts averaging 23 percent of the total school budget in each year. State funding to individual cities and towns in Rhode Island is allocated in a manner calculated to balance out some of the inequities in the localities relative prosperity and ability to fund adequate education. From 1970 to 1979 the percentage of Providence's total school budget provided by state funds ranged from 24.2 percent in 1971 to 22.5 percent in 1978.

TABLE 18

Public School Expenditures

	Total City Expend.	Public School Expenditures	# Students Enrolled	Per Pupil Expenditure
1970	$50,010,000	$22,466,000	23,894	$940
1971	66,301,000	25,671,000	25,834	994
1972	69,823,000	26,567,000	23,343	1138
1973	75,308,000	27,958,000	22,272	1255
1974	79,353,000	28,973,000	21,289	1361
1975	86,523,000	31,621,000	20,567	1537
1976	93,187,000	34,026,000	20,101	1693
1977	99,730,000	36,598,000	19,515	1875
1978	104,347,000	39,637,000	18,848	2103
1979	NA	43,083,000	18,125	2377

Sources: Rhode Island Department of Education and Providence School Department, Statistical Tables

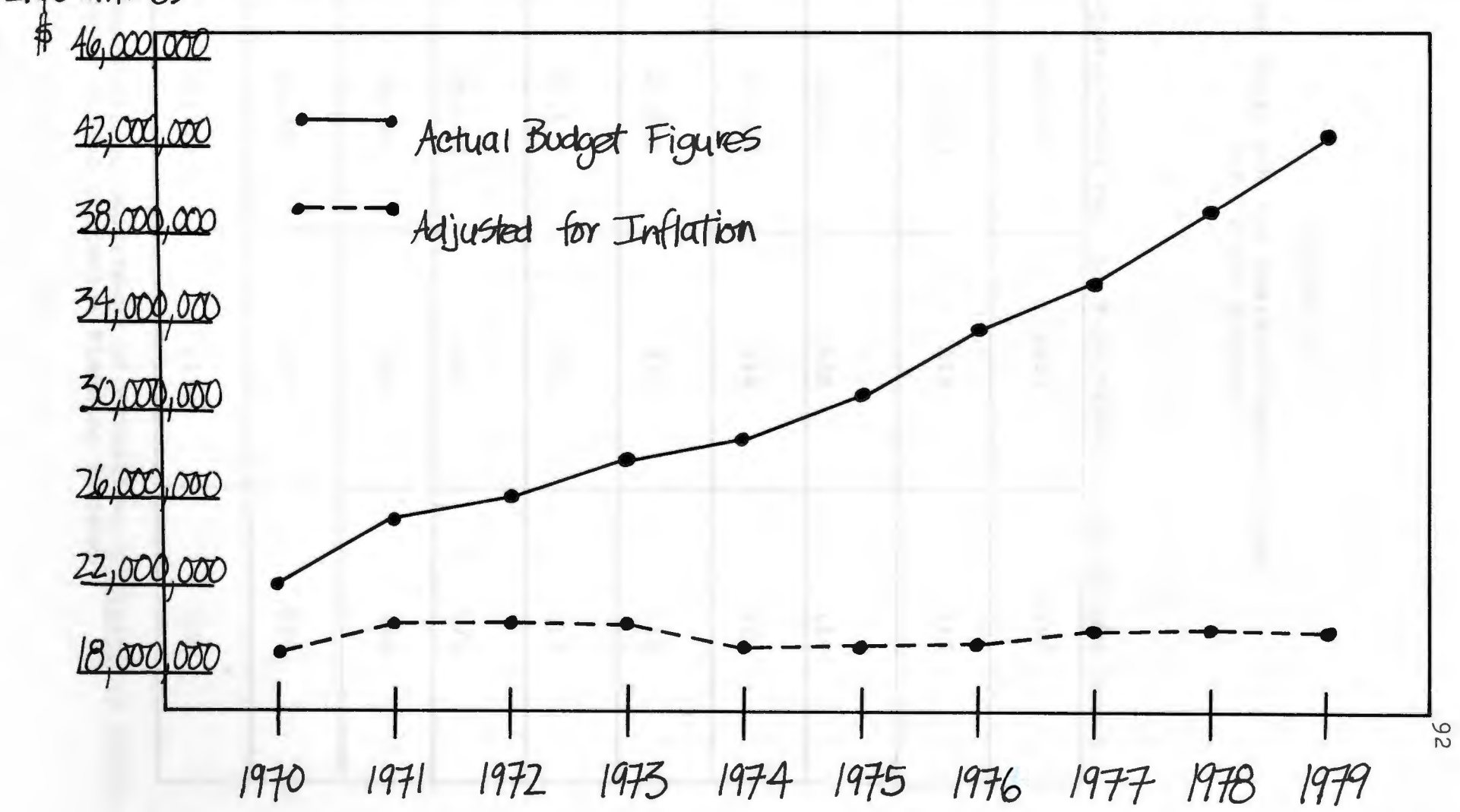
TABLE 19

Public School Expenditures Adjusted for Inflation

	Actual School Expen.	Inflation Factor	Adjusted School Expenditures
1970	$22,466,000	.860	$19,321,000
1971	25,671,000	.824	21,153,000
1972	26,567,000	.798	21,200,000
1973	27,958,000	.752	21,024,000
1974	28,973,000	.678	19,644,000
1975	31,621,000	.621	19,637,000
1976	34,026,000	.587	19,973,000
1977	36,598,000	.551	20,166,000
1978	39,637,000	.512	20.294,000
1979	43,083,000	.467	20,120,000

Sources: Providence School Department and U.S. Department of Labor, Consumer Price Index

Local School Expenditures Adjusted for Inflation



92

sources: Providence School Department and U.S. Department of Labor Statistics
R.I. Department of Education, Statistical Tables Consumer Price Index

TABLE 20

Per Pupil and Per Resident Expenditures
for Public Schools

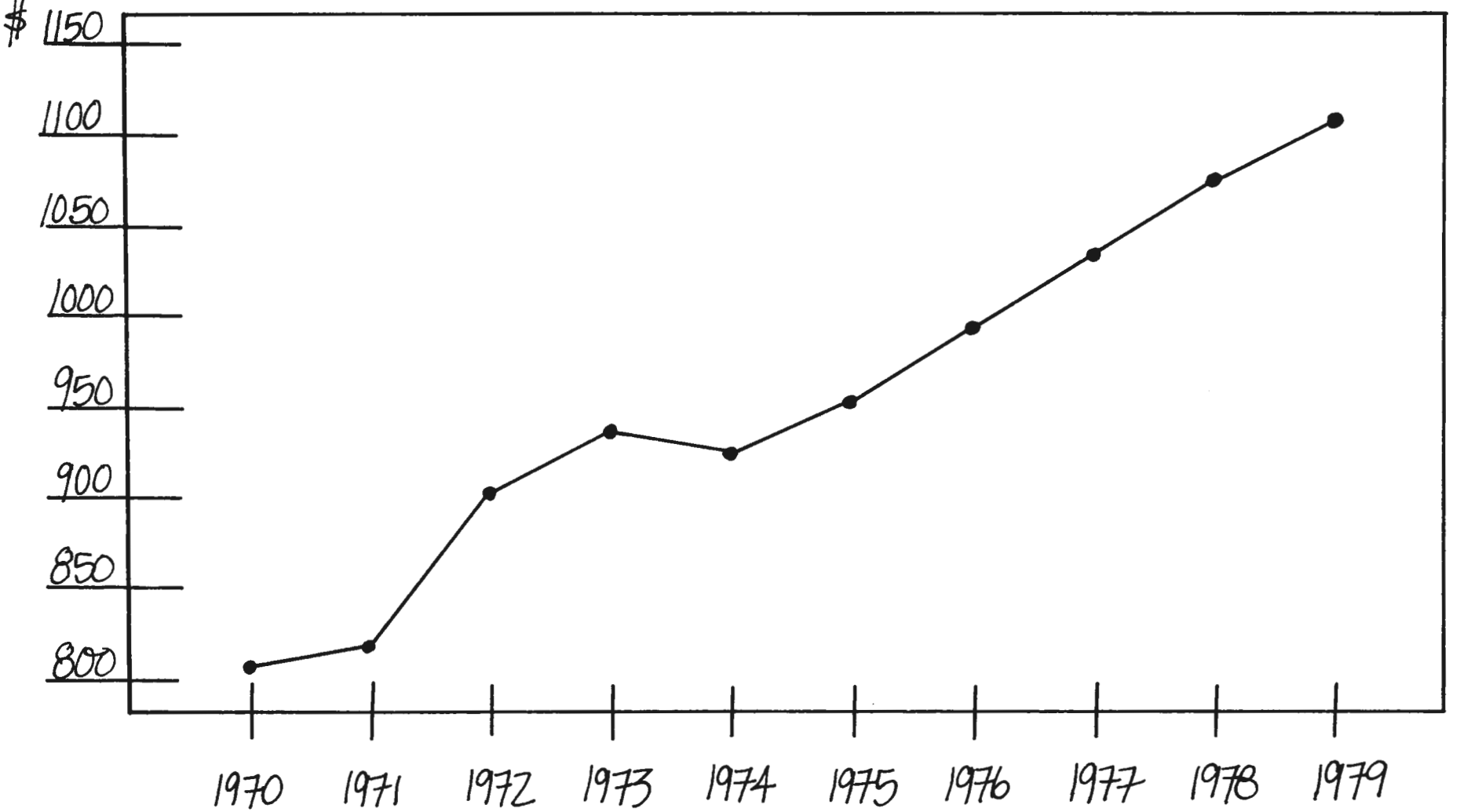
	Adjusted School Exp.	Per Pupil Expend.	Per Resident Expend.
1970	$19,321	$809	$108
1971	21,153	819	119
1972	21,200	908	119
1973	21,024	944	122
1974	19,644	923	115
1975	19,637	955	117
1976	19,973	994	122
1977	20,166	1033	125
1978	20,294	1077	129
1979	20,120	1110	128

Sources: Rhode Island Department of Education, Statistical Tables
Rhode Island Statewide Planning Program

Per Pupil Expenditures

Per Pupil Expenditures for Public Schools

using adjusted budget figures



sources: R.I. Department of Education and Providence School Department
Statistical Tables, 1970-1978 Superintendent's ~~Approved~~ Budget, 1979-80

TABLE 21

State and Federal School Aid

	State Aid	Federal Aid
1970	$6,822,000	$345,000
1971	8,303,000	388,000
1972	8,224,000	333,000
1973	8,572,000	379,000
1974	9,155,000	377,000
1975	9,697,000	185,000
1976	10,444,000	215,000
1977	10,876,000	271,000
1978	11,620,000	477,000

Source: Rhode Island Department of Education, Statistical Tables

TABLE 22

Local, Federal and State Expenditures
for Public Education Adjusted for Inflation
(in 1000's)

	Local	Fed.	State	Total	Federal %	State %
1970	$19,321	$297	$5,919	$25,537	1.2%	23.2%
1971	21,153	320	6,842	28,315	1.1	24.2
1972	21,200	266	6,563	28.029	.9	23.4
1973	21,024	285	6,446	27,755	1.0	23.2
1974	19,644	256	6,207	26,107	1.0	23.8
1975	19,637	115	6,022	25,774	.5	23.4
1976	19,973	127	6,131	26,231	.5	23.4
1977	20,166	149	5,993	26,308	.6	22.8
1978	20.294	244	5949	26,487	.9	22.5

Sources: Rhode Island Department of Education and U.S. Department of Labor, Consumer Price Index

Summary

Taken individually, each of these variables describes trends in a specific area of life. It is only by looking at these disparate areas of life as part of a unified whole that a clear picture emerges. Not only does each variable contribute an important piece of the whole that makes up the social welfare, but each is linked and interacts with each other. There can be no to true measure of the affects of one factor in isolation, such as health. Neither people nor society compartmentalizes lives in this way.

In Chapter 4 the broader viewpoint will be taken with respect to an integration of these functional areas of life. Comparisons among variables will be done; attempts to categorize variables to provide a conceptual framework will also be an important task.

The most important task of the final chapter will be to provide some explanation of the meaning of the methodology attempted here. Models are designed, data found, and numbers arrayed, but ultimately some answers must be provided. The analysis will attempt to draw together the explanatory, definitional, and empirical sections of this study.

Footnotes to Chapter 3

1. U.S. Department of Commerce, Bureau of the Census, "Census of the Population," (1970)

2. Department of Public Schools, Providence, Rhode Island, Student Enrollment, (1975-1979)

3. U.S. Department of Commerce, Bureau of the Census, 1970 Census and Rhode Island Department of Employment Security, Basic Data (1970)

CHAPTER IV

THE RELATIONSHIP BETWEEN THE INVESTMENT IN PUBLIC EDUCATION AND THE SOCIAL WELFARE OF PROVIDENCE

In the previous chapter a variety of statistics were examined over the ten-year period 1970 to 1979. It has been assumed that these numbers can, in some way, provide information about life in the city of Providence. By comparing absolute numbers, rates, or percentage changes, between years, a sense of direction, positive or negative, can be discerned. Once the sense of direction has been made clear, a normative judgement as to its bearing on the social welfare of the city can be made.

Likewise, a series of data has been presented which relates to the provision of public education. Information pertaining to amounts of money spent by the local, state and federal government is one form this data takes. The other type of fiscal information provided is a calculation of the amount of money spent on each student and the amount of money spent by each resident of the city for public education. These indices allow comparisons between years, and in future studies, could allow comparisons between cities or regions.

The purpose of this chapter is to relate these two areas of concern; how does the investment in public education impact on the social welfare of the city? A related

questions is how well do the social indicators chosen measure the impacts of concern in the study?

Some answers to these questions will be provided in this chapter in the following way: First, an overview of trends discerned through the social indicator analysis will be presented. Next, an effort will be made to classify these trends by their type of impact on the social welfare. The dimensions of the public investment in education will provide the cornerstone for comparison with the social welfare. The existence and nature of correlations between the investment in public education and the social welfare will then be explored. Finally, ways in which this model could be modified to provide a more complete analysis of correlations will be discussed.

Indicators of Social Welfare: An Assessment

The following areas were examined for their relation to the social welfare of the city: employment and wages, physicial and mental health, crime, tax collection and assessed valuation of property, new manufacturing and commercial construction and housing permits, unemployment, AFDC cases, and population. An analysis of each variable individually will be undertaken, then an overall perspective taken.

In the area of employment and wages, the city of Providence has not fared very well over the past ten years. While the number employed in the city has increased from 97,776 in 1970 to 110,492 in 1979; the 1979 figures rep-

resents a decline of 3,000 workers from peak years of 1978 and 1973. The number of firms employing in the city has also declined over the decade, from 6,560 in 1970 to 6,105 in 1979, a decrease of seven percent.

Just as important as the number of jobs available to a city's well-being are the average wages paid. When the average wage in all types of employment is deflated for inflation, a decline in monetary earnings is seen during the past ten years. Workers in 1970 made an average $461 per month. Earnings rose and fell regularly during this time span, finishing at $445 per month in the first quarter of 1979.

Another important component of social welfare in a city is health. During the years 1970 to 1979 Providence has seen a general upturn in health indicators. Admissions to the Providence Mental Health Clinic show steady increases, from 908 in 1972 - 1973 to 2,277 in 1978 - 1979. The death rate has declined from 13.7 per 1000 in 1970 to 11.4 in 1978. Percentages of low birth weight infants and mothers receiving no prenatal care have also decreased. Both the marriage and the birth rates show increases during the past few years after several years of decline.

Crime is an important factor in both the real and the perceived social welfare of an area. Personal safety and the security of property are integral to residents' desire to live in an area.

The city of Providence seems to be improving in

terms of the absolute numbers of crimes committed. Serious crimes have decreased from 9,834 in 1970 to 7,861 in 1979, a decrease of 20 percent, with 1977 the lowest crime year with 7,405 reported in that year. Autothefts, the category showing the largest number of violations, also experienced the largest decrease, from 4,940 in 1970 to 2,980 in 1979. Burglary, had a smaller decrease while the aggravated assault, robbery, and rape categories had slight increases over the years.

These last three crime categories, aggravated assault, robbery and rape, which could be termed crimes against persons, are seen as being more serious than the other types of crimes, burglary, larceny, and autotheft, which are solely property crimes. Although the total crime rate has been reduced, some individual crimes show an increased rate. Only by examining each crime category can a realistic measure of the city's safety be made.

The only true decline in the crime rate is seen in the property crime categories. Specifically autothefts were reduced by forty percent and burglary by seven percent. Crimes against persons exhibit an increasing rate over the ten-year period. Aggravated assault increased by thirty-three percent; robbery by seventeen percent; and rape by thirty-seven percent, although this last figure is probably partially due to a reporting factor. Nevertheless, an increase in crimes against persons indicates that the social welfare of the city may be experiencing a decline.

An additional area of concern is the fiscal health of the city. Revenues collected from the property tax have steadily increased from $34,636,000 in 1970 to $64,047,000 in 1978. The assessed valuation of property shows a similar, albeit less extreme trend, from $1,047,320,000 in 1970 to $1,269,963,000 in 1978.

When both these variables are adjusted for inflation, a much less optimistic picture of city finances emerges. The property tax revenues show a slight increase over the years, from $30,052,000 in 1970 to $32,792,000 in 1978. But the net assessed valuation displays a steady downward trend, from $900,695,000 in 1970 to $650,221,000 in 1978. The tax rate has increased from $43.00 per 1000 to $56.18 during this period.

The assessed valuation of property has declined while at the same time the number of residents in the city has also declined. This places a heavier burden on those remaining to support city services through taxes collected. This has only been done by raising the tax rate $13.18 and effectively increasing property tax collections only slightly.

New construction activity in a city indicates commitment to that city's future. Providence seems to be experiencing a revitalization of this variable during the past three years, after a severe decline. New commercial construction shows increases in building activity; new manufacturing construction has not been constant over the years, but new permits for housing have increased steadily from 1975 to 1978.

The unemployment rate is closely tied to the employment and wages variable previously discussed. The rate was 7.9 in 1979, down from a high of 12.4 in 1975 but higher than the low of 5.6 in 1970. The unemployment rate for the city of Providence has been almost always higher than for the State of Rhode Island as a whole in years both were measured. The unemployment rate, although showing improvement since 1975, is still not low enough to warrant a sense optimism about Providence's economic welfare.

From 1970 to 1979 the number of cases of Aid to Families with Dependent Children (AFDC) has increased from 4,940 to 6,013, a 22 percent jump. The trend in this indicator has not been constant. Rather, large increases in one year are followed by smaller declines for several following years and then an increase in the number of cases is experienced again. Due to population decreases, however, the proportion of city residents receiving AFDC does show a steady increase, from 2.8% in 1970 to 3.8% in 1979. Increases in either of these measures, absolute number or percentage of the population would portend negatively for the city's social welfare.

The final indicator of social welfare examined is population. Population estimates indicate that the city has decreased from 179,100 residents in 1970 to 156,800 in 1979. This indicates a population reduction of 12.5 percent. These same estimates also indicate that the rate of exodus may be accelerating. From 1970 to 1974 the city

lost 8,400 people while from 1975 to 1979, it lost 11,700 This loss is certainly one visible manifestation of the negative impacts of the trends exhibited in employment, income, and taxes.

As a way of aiding analysis, all of the variables examined can be categorized in one of two ways, as either an indicator of a positive or of a negative nature. An indicator of a positive nature represents an improvement in the social welfare. An indicator that shows a negative trend demonstrates that the city's well-being may be deteriorating.

Positive Trends	Negative Trends
physical and mental health	unemployment
property crimes	wages and jobs
new construction	crimes against persons
	taxes collected/assessed value of property
	AFDC cases
	population

By listing the variables used as indicators in this way, it appears that there are more signs that the social welfare of the city has declined than the reverse. It is difficult to make a judgement such as, improved health is more important than a decrease in the AFDC caseload. But the fact that seven of the indicators examined show a decline in the social welfare while only three show improvements, seems to establish that the social welfare of the city has deteriorated.

Another manner of classifying the variables examined is to divide them into those which can be impacted by local

actions, and those which are more regional in scope, and therefore less amenable to local influence. Certain aspects of the economy such as unemployment, or inflation cannot be readily improved by local activity, and may not be subject to regional or nationwide policies or programs either. Several of the variables showing negative trends are closely related to the performance of the economy. Unemployment, income, and jobs are foremost in this list, while the number of AFDC cases and property assessments and taxes collected are tangentially linked to the state of the economy.

Variables which can be impacted by local actions are those which are more self-contained, less dependent on the multitude of actions and policies taken by other governmental or institutional units. Improvements in physical health, increased access to mental health services, decreases in property crimes and new construction activity are all variables that can be more easily affected by investments of money, time, education, or innovation. Local governments or individuals can make the policy decision to improve health, for example, and then create and implement programs to carry this out.

Although the investment in education certainly has an impact on an individual's economic well-being, a variety of intervening factors may conceal this impact. The impact of the investment in public education may more easily be seen in areas of life which are amenable to local influence.

After examination of the trends in the social welfare of the city it is also necessary to see how the investment in public education has fared over the years. Then, possible relationships between the two can be found and analyzed.

Analysis of Indicators of Investment in Public Education

Local expenditures on public education make up the bulk of the funding for public schooling in the city of Providence. The state of Rhode Island contributes close to 23 percent of the school budget and the federal government supplies funds amounting to 1 percent of the budget; the city is obligated for the remainder.

Local expenditures for education have climbed from $22,466,000 in 1970 to $43,083,000 in 1979, a 91 percent increase. Again, when these numbers are adjusted for the inflation experienced during this period, a different trend is seen. The adjusted figures show a quite stable pattern of expenditures for education in the city, from $19,321,000 in 1970 to $20,120,000 in 1979. These numbers parallel the total expenditures in the city which range from $43,009,000 in 1970 to $53,426,000 in 1978. Total city expenditures are close to $54,000,000 in every year except 1970.

The comparison between the total city spending and school expenditures over the years indicates that school expenses have not increased as a percentage of the total in this time period. Rather, a fairly stable proportion of the city budget has been spent on education over the years, averaging 37 percent in every year except 1970 where the

proportion was 45 percent.[1]

Although expenditures on schools and total city expenses have been fairly constant over the ten-year period both the total population and the school-age population have declined. The number of students enrolled in the Providence public school system has decreased from 23,894 in 1970 to 18,125 in 1979, which represents a 21 percent decrease. The population as a whole declined from 179,100 to 156,800 persons which is a 12.5 percent decrease.

The same effective amounts of money are being spent year after year on fewer residents and students. This has caused an increase in per pupil expenditures over the ten years, from $809 per pupil in 1970 to $1110 in 1979, when budgeted amounts are adjusted for inflation. Expenditures on schools for each resident of the city increased only slightly from $108 in 1970 to $128 in 1979.

Many of the expenses of running a city or a school system are not directly attributable to the number of people served. The costs of physical plant maintenance, administrative operation, or specialized kinds of resources may not be responsive to a decrease in clients. In fact, some of the economic deterioration previously documented for the city may increase the city's costs, despite population losses.

Providence's schools are quite old, with several built before the turn of the century. This situation can only increase maintenance costs, irrespective of the number

of pupils. The city's school system has also seen an increase in minority and ethnic children who may have greater needs for educational resources. In 1974, 16.8 percent of the school enrollment were black, 83.2 percent white in grades k-8. In 1977 (the first year statistics were collected in this way), 2 percent of the student population were Asian Pacific Islander, 6 percent Hispanic, .1 percent American-Indian, 4 percent Portuguese, 23 percent black and 62 percent white. By the 1979 - 1980 school year, these black and ethnic figures had increased to 2.1 percent Asian Pacific Islander, 7.9 percent Hispanic, .4 percent American-Indian, 7 percent Portuguese, 26.6 percent black, and the white proportion of the student population had decreased to 56 percent.[2]

At the same time that the city is experiencing increases in minority group enrollment in schools, it has seen the decline in the assessed property valuation, making it increasingly difficult to pay for added educational services. Neither the state or the federal share of the education budget has increased over the ten-year period, hovering around 23 percent and 1 percent respectively.

When corrected for inflation, neither the local, state or federal expenditures on public education in the city of Providence have increased in real terms over the ten years examined. As the number of students has decreased, per pupil expenditures do show an increase. The net benefits of this increase may be mitigated by increases in the pro-

portion of students with greater educational need. Over the years the city's investment in public education has been a constant proportion of its budget. Despite declines in total population, no decreases in the overall city budget are seen.

This documentation of the investment in public education serves as the final analysis of these variables independent of each other. The next step is to look at the two trends together, the city's spending on public schooling and the social welfare of the city.

Comparing the Investment in Public Education and the Social Welfare

The use of social indicator analysis yields trends for each variable examined. As previously discussed, these trends are assigned a normative value in relation to either the social welfare or the investment in public education. One method of comparing these two areas of concern is by looking for correlations among trends or paralled courses between variables.

The juxtaposition of the results of the indicator analysis produces the following conclusions:

The true dollar investment in public education in the city has not increased over the past ten years. A measure of expenditures per pupil does show increases of 32 percent. The more localized aspects of the social welfare, such as health, crime, and construction activity have been improving over the past ten years. Indicators that measure areas of life related to economic trends have shown declines

over the time period studied.

Do these trends in the city of Providence mean that there is a relationship between the investment in public education and the social welfare? As more has been spent for each student, those areas of welfare in the city which are amenable to local influence do seem to have improved. The investment effort does not seem to have been sufficient, however, to overcome economic influences which operate on a more regional and national level. While spending on individual students may have risen, the economic situation in the city has deteriorated.

The indicator analysis shows that some positive relationship does exist between the investment in public education and certain, localized aspects of the social welfare, although the magnitude is unknown. Would a greater investment have some influence on the economically-based areas of social welfare? It is quite possible that large enough increases in public education could have widespread repercussions for the city's economic health.

Given the constraints on municipal finances the city would certainly want more information before embarking on a program of increased funding to public education. Using the model designed for this study, modifications could be introduced to test the efficacy of increased investment in education on economic variables of a city's social welfare.

One modification could be a comparison among cities of similar demographic composition. Comparisons could be

made to determine if differing levels of investment in public education had any bearing on the economy. As more "extraneous impacts" are eliminated from consideration, a clearer picture of effects of the investment in public education can be seen.

By comparing cities with similar demographic characteristics, such factors as race, ethnicity, income, or age can be eliminated as causes of variation in the social welfare. By comparing cities in the nearby area, such effects as the sunbelt attraction or regional economic depression can be held constant.

Through concentration on indicators of social welfare that are non-economic in nature perhaps it would be easier to isolate some true effects of the investment in public education. Areas of life that may be directly influenced by city effort through investment in public education might include: consumer awareness, the use of recreation opportunities, participation in community affairs, or family and interpersonal relationships. These might be measured in part by such indicators as the number of calls the Better Business Bureau or Governor's Information Office receives, use of facilities operated by the Department of Environment Management, voting rates and counts of volunteer efforts, and divorce rates, numbers of people using counselling services, or calls to the police for domestic quarrels. Numerous facets of life which make up the social welfare can be singled out and indicators developed to measure their development.

Any number of variables and their indicators could be compared to the investment in public education. As we have seen, the goals of public education are quite broad, encompassing nearly all areas of life related to the social welfare. Only by testing can the best indicators of the relationship between these factors be examined.

The model tested in this study has indicated that certain, local variables can be correlated to the investment in public education. Although these do not represent direct causal relationships, the trends in public education and health, crime, and construction activity are analogous. The application of the model has also allowed a reconsideration of the use of variables whose effects are diffuse and unmanageable, such as the economic variables. In a later study, the use of a more rigorous evaluation mdoel might reveal causal relationships heretofore hidden by the interrelatedness of social inputs and outputs.

Summary

Despite the difficulties encountered in the design and application of this model, and the limitations still remaining, the concept and its importance remain intact. The provision of public education is a major expense; it should be expected to yield results which are visible and of benefit to the community. The costs of providing education are not likely to decrease overtime. It can therefore be expected that conflicts among spending priorities will remain a part of the city budget process.

Increased knowledge about the ways in which the investment in public education benefits the city as a whole can only be helpful to policy makers. The degree to which money spent resulted in desired goals provides a basis for comparison and decision making. Measurement itself increases clarity of goal statements and provides incentive to design accurate indicators of success.

In the case of the investment in public education, an expanded knowledge base could have wide-ranging impacts. First, as more beneficial effects of education are uncovered, the city may be inspired to invest more in its future social welfare through education. Second, as indicators are refined to show areas where education has had little impact, a reallocation of funds or efforts on the part of the school system can result. In either scenario, a more efficient and optimal use of scarce resources would benefit everyone involved. Both public education and social welfare can be enhanced through increased information about their mutual interaction.

The focus of this study has been on exploring relationships among existing programs and situations. Research and increased amounts of information could certainly provide more concrete answers to many of the questions raised here. But, perhaps it is more important to question the underlying rationale for existing programs and the effects envisioned in their design.

While the empirical knowledge of causes and effect -

the investment in public education and the social welfare - is important to the decision-making process, much more critical is the understanding of the deeper policy issues involved. It is the basic stance on policy issues which provides the framework for decisions on specific activities or programs. Without an understanding of the fundamental goals one is trying to attain, no program, well-funded, managed or implemented, will succeed.

An inquiry into the formulation and intentions of the policy assumptions which lead to specific activities, involves consideration of normative beliefs and values. Specific to this study would be questions such as, what should be the government's role in intervening to better the social welfare? In intervening to provide education for all children, what state of affairs do we hope to bring about?

These are questions which cannot be answered simply; nor is there consensus among the diversity of people and groups in this country. Nevertheless, the existence of conflicts and confusion does not negate the fact that specific programs and activities have, as their underlying foundation, some discernable policy direction. The basic policies must be understood in the first instance, in order that programs and activities may contribute to a consistent and coherent framework.

Central to this study is the acceptance of the role of government intervention in education. As we have

seen, the local, state and federal governments all contribute to and have funded, for many years, public schooling. What are the fundamental purposes of this intervention? Is it to insure a stable order or is it to provide opportunities to all - to make more equitable a society not necessarily just?

These questions return the inquiry to the beginning of this study. The diverse origins of public education reflect the conflict over these policy issues. Consensus did not seem to be present then, nor has the situation solidified today. If anything, the original purposes of public education have been obscured by the institutionalization of public education. Public education is funded because it is mandated, because it is an accepted program.

But it is quite important to realize that all types of intervention have, at their core, structural impacts as their goal. Whether preservation of the existing order, radical realignment, or something in between, the basic policy decision can be an instrument for action. Specific programs or activities are only instruments, and imperfect ones, for bringing about desired states of affairs.

Specific programs can be studied to determine the optimal methods of implementing desired policies. determination of desired policies is critical. If we accept that increased equity is one goal of the investment in public education, then entirely different kinds of programs and priorities result than if we only fund educa-

tion as a means of preserving the status quo. For lack of consensus, these answers to these questions are often left fuzzy, to the detriment of programs and clients. Until we are willing to definitively state policy beliefs, and design programs to insure their achievement, money will be spent haphazardly, to little purpose, and committments to change left unsupported.

The outcome of this study points out two types of research and definition which are necessary. The first area in need of study is the empirical knowledge of program effectiveness and linkages. The second is the increased awareness and understanding of the fundamental policies which form the groundwork for particular programs and activities. Programs such as public education constitute an active intervention in the lives of all people. As such, they should be studied and comprehended from a conceptual as well as an applied basis.

Footnotes to Chapter 4

1. Rhode Island Department of Community Affairs, Annual Report on Local Finances, pp. 74-75.

2. Department of Public Schools, Providence, Rhode Island, Student Enrollment.

SELECTED BIBLIOGRAPHY

Becker, Gary S., The Economics of Discrimination. Chicago: the University of Chicago Press, 1957.

Costin, Lela B., Child Welfare:Policies and Practice. New York: McGraw Hill Book Company, 1972.

DeNeufville, Judith Innes, Social Indicators and Public Policy: Interactive Processes of Design and Application. Amsterdam: Elsevier Scientific Publishing Company, 1975.

Department of Public Schools, Providence, Rhode Island, Annual Report. Providence,Rhode Island: 1977-1978 and 1978-1979.

Department of Public Schools, Providence, Rhode Island, Providence Program for Basic Skills: Assessment and Achievement. Providence, Rhode Island: 1979.

Department of Public Schools, Providence, Rhode Island, School Committee Budget. Providence, Rhode Island: 1979-1980.

Department of Public Schools, Providence, Rhode Island, Student Enrollment. Providence, Rhode Island: 1975-1979.

Dorfman, Robert, ed., Measuring Benefits of Government Investments. Washington D.C.: The Brookings Institute, 1963.

Dubin, Robert, "Indicators of the Responsiveness of Employment Systems to Workers' Needs and Values," in Measuring Work Quality for Social Reporting, Albert D. Biderman and Thomas F. Drury, eds., Beverly Hills, California: Sage Publications, 1976.

Federal Reserve Bank of Philadelphia, Which School Resources Help Learning Efficiency and Equity in Philadelphia Public Schools ? Philadelphia: 1975.

Feld, Marcia Marker,"A Report on the Feasibility of a Grade Level Reorganization for the Providence School System," Providence, Rhode Island: April 1979.

Garn, Harvey A., Flax, M.J., Springer, M., and Taylor, J.B., Models for Indicator Development: A Framework for Policy Analysis. Washington D.C.: The Urban Institute, 1976.

Hughes, James W., Urban Indicators, Metropolitan Evolution, and Public Policy, New Brunswick, N.J.: Center for Urban Policy Research, Rutgers University, 1973.

State of Rhode Island, Department of Education, Statistical Tables . Providence, Rhode Island: 1970-1978.

Strumpel, Burkhard, ed., Economic Means for Human Needs: Social Indicators of Well Being and Discontent. Ann Arbor, Michigan: Survey Research Center, Institute for Social Research, University of Michigan, 1976.

United States Department of Commerce, Bureau of the Census, Census of the Population. (1970).

United States Bureau of Labor,"Consumer Price Index," in The Statistical Abstract of the United States. Washington D.C.: U.S. Department of Commerce, Bureau of the Census, 1979.

World Bank Group, Education: Sector Working Paper. Washington, D.C.: World Band, 1974