
MASTER PLAN FOR PUBLIC RECREATION AND CONSERVATION

CITY PLAN COMMISSION • PROVIDENCE, RHODE ISLAND



The opening of green spaces and the development of adequate recreational areas for various age groups is difficult and costly in the built-up city. Maximum utilization of combined federal, state and local resources will be required to provide the **Kenyon Street Elementary School** (center of photo) with the recommended playground.

IN CITY COUNCIL

JUL 6 1967

READ:

WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.

Vincent Vespe
CLERK

The preparation of this report was financed in part through an urban planning grant from the Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended, in cooperation with the City of Providence, City Plan Commission, City Hall, Providence, R. I. 02903.

Library of Congress Catalog Number 66-28612
Printed in U.S.A.

Universal Press Inc.
December 1966

MASTER PLAN FOR PUBLIC RECREATION AND CONSERVATION

THE CITY PLAN COMMISSION

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Photographs by Earl H. Goodison, City Photographer

Letter of Transmittal

January 31, 1966

Mayor and City Council
City Hall
Providence, Rhode Island

Gentlemen:

Transmitted herewith is a *Master Plan for Recreation and Conservation*. Approved by the City Plan Commission on October 28, 1965, it supplants the *Master Plan for Playgrounds and Playfields* completed in 1951 and published thirteen years ago.

In the rapidly changing urban environment it becomes necessary, periodically, to up-date the various master plan elements to meet new or different situations or conditions. The new *Master Plan for Recreation and Conservation* is intended for this purpose.

Further, it extends the concept of recreation development into a full range of proposals including passive as well as active recreation. It proposes a variety of facilities suitable for various age groups from pre-kindergarten to the elderly. It recognizes the conservation of open space and of natural, unimproved areas as a function of recreation development.

The *Master Plan for Recreation and Conservation* is related to and coordinated with other master plan elements including master plans for land use, circulation and public schools. Based upon National Recreation Association standards adapted to fit the special requirements of Providence, it is comprehensive in approach and conclusions. It includes both an inventory of existing facilities and a description of the area, use, and development of proposed facilities. It contains likewise a priority scheduling of recommendations for an early phase (to 1970) and a later phase (1970-80).

The Commission wishes to express its particular gratitude to others whose assistance and cooperation were extremely valuable including Mr. John P. Cronin, Recreation Director, Mr. Ralph J. Hartman, Superintendent of Parks, Dr. Charles A. O'Connor, Jr., Superintendent of Schools, and members of their respective staffs.

Very truly yours,



EDWARD WINSOR

CHAIRMAN

City Plan Commission

DEPT. OF CITY CLERK
PROVIDENCE, R.I.
JUN 23 3 33 PM '67

FILED

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1-INTRODUCTION

Public recreation service in Providence has been improving since 1950.

During the last decade and a half, Providence has made notable progress in the field of public recreation. Today, there are a total of sixty-one public recreational sites (not including parks, traffic separators, small triangles or the Point Judith Camp Site) for active play as compared to fifty-two in 1951 resulting in an increase approximately of sixty-three acres from 154 in 1951 to 217 in 1965. Practically all this has been accomplished since the publication of an earlier public recreation facilities plan — *A Master Plan for Playgrounds and Playfields*, published by Providence City Plan Commission in 1953. Also, during this same period, five new outdoor swimming pools have been added to the two existing in 1951. Moreover, the Recreation Department now conducts a much more elaborate program of diversified recreational activities ranging from organized and unorganized play, games, sports, and athletics, to arts and crafts, homemaking, and some social activities. Many of these activities are conducted indoors in several public school buildings and the city's four older recreation centers as well as four new ones contained in the elementary school buildings built since 1951. Today, there are a total of seventeen indoor recreation centers, while in 1951 there were only eleven.

Yet, there remain several areas of major concern in Providence's recreation picture.

In spite of this impressive record much remains to be accomplished in Providence's public recreation program both in terms of the present and the future as identified hereunder:

Existing facilities are underused; many lack adequate equipment, desired landscaping and maintenance.

With the exception of outdoor swimming pools and some neighborhood recreation centers which are often over-crowded, most existing facilities are not used to potential capacity. This is so either because the facilities lack the desirable equipment, or they are poorly situated in regard to the area they serve, or they are poorly maintained, and hence, are unattractive to numerous prospective users. Simple lack of shade trees on many of the city's existing playgrounds has kept many a child away from these facilities on hot summer days.

Some age groups remain inadequately served.

Certain age groups, namely, the pre-school age children, teenagers, active adults and the proportionately growing numbers of retired elderly persons in the city, remain in need of more adequate service. A majority of the existing facilities seem to attract and serve mostly children: predominantly boys, between the ages of eight and twelve. During the summer, which is the most highly programmed season of public recreational activities in Providence, on an average, only about forty-seven percent of the city's total child population in this age group makes use of city's recreational facilities daily.

Some areas in the city need additional playgrounds and better playfield service.

Neighborhoods like Federal Hill, Elmwood, Washington Park, and Hope, lack adequate playground service. Elmhurst, Federal Hill and East Side neighborhoods need improved playfield service. In this report, several new playgrounds have been proposed in areas of need, and appropriate proposals have been made for improvement of playfield service in areas now inadequately served. In addition to the above mentioned general findings and recommendations regarding active recreational facilities and play areas, the plan also proposes sixteen new small parks for passive recreational use. The city has only fifteen such areas at the present time. These latter are particularly important facilities in view of the growing proportion of population over age sixty-five.

Adequately designed recreation areas properly divided may serve more than a single age group.

It should be noted here that the different facility types — playlots, playgrounds, playfields and parks, suggested above, are not necessarily mutually exclusive. Many of the junior playgrounds and playgrounds, some selected playfields and even parks are proposed to incorporate playlots. A few playfields are also proposed to serve as playgrounds. Although playfields are primarily intended to serve teenagers and active adults, in some cases they are also proposed to be equipped for use by younger age-groups. Similarly, playgrounds and junior playgrounds, which are primarily intended to serve eight to fourteen and eight to eleven year olds respectively, in many cases, should be equipped with playlot apparatus for use by those between the ages of one and seven.

Insufficient consideration has been devoted to conservation.

In any area of urban concentration maximum advantage for recreational purposes should be taken of all available open space. This includes not only "active" open space, but also the preservation of any marginal lands, water front or other property which can be utilized for recreation and for "breathing" space in built-up areas.

There is need for expanded programs of recreational activities during evening hours.

Not enough public recreational and social opportunities are available to Providence residents today. The recreation center program offered in various neighborhood facilities serves the interests and needs of only a small proportion of the total city population. Only nine percent of the total child population between the ages of eight and fourteen, and thirteen percent of the total teenage population between the ages of fifteen and eighteen made use of these facilities in 1963. The scope of the program needs to be diversified with increased emphasis on social and productive leisure-time activities coordinated with various community action programs.

Selected outdoor recreational facilities are proposed to be artificially lighted for use after dark for the purpose of further extending recreation opportunities into the evening hours.

Few recreational opportunities are offered during non-summer months.

Because of the high costs of conducting recreation programs, Providence offers only a summer program of playground activities. This is generally a ten week program, between June and August when children are away from school. During these weeks, almost every playground has a staff of two or more qualified recreational personnel who conduct a variety of recreational activities desired and suited to the needs of different participants. There is need not only for improvement and further expansion of existing recreational service during the summer months, there is need for development of an expanded year-round recreation program, and construction on such areas of special facilities for use during the fall, winter and spring months. Recommendations, contained in this report, for this purpose include construction of artificial ice hockey rinks, indoor swimming pools, development of Neutaconkanut Hill and Davis Park for winter sports, and a number of new neighborhood centers for year-round use.

General specifications for a master plan for public recreation and conservation.

To meet the varied demands of the anticipated future population to be served, and at the same time possess sufficient flexibility to accommodate itself to the rapidly changing urban environment requires a program with the following characteristics:

- (1) It should include proposals for action over a ten to fifteen year period into the future — a period *short* enough to project existing and relevant trends with some degree of validity, and at the same time a period *long* enough to finance and develop the necessary facilities.
- (2) It should serve a total population of 150,000 to 190,000 persons. It should give particular recognition to the growing youth segment expected to increase at least proportionally to the total population for the next ten to fifteen years. It should also provide special facilities for the larger number of elderly — a number which will increase as life expectancy is further extended.
- (3) It should be both a prudent program which recognizes the usefulness of existing facilities, *including the potential values of existing under-developed facilities*, and a bold program as well which will move directly to restore or create anew the amenities necessary for viable neighborhoods.
- (4) It should provide a long overdue emphasis upon conservation of open space in terms of both neighborhood values and in terms also of the preservation of the few natural areas remaining unimproved.
- (5) It should afford increased opportunity to the growing role of "social planning" in the emerging Great Society. For the urban area particularly this means the gradual and carefully planned development of multi-use centers which will accommodate components of the Community Action Program as well as other activities which may be dictated by the nation's growing social conscience.

- (6) It should provide as a plan a range of facilities which can be readily coordinated geographically, and financially, with Urban Renewal, School Construction, Open Space, Green Acres, Conservation and other federal and state programs presently available, or likely to become available, to assist the municipality in the capital cost of upgrading the urban area.

2-THE PRESENT SYSTEM

A. Inventory of Existing Public Recreation Facilities

The present inventory (July 1965) of public recreation sites in Providence consists of eighty-nine parcels of property. Included in this inventory are: eighty-two city owned and/or operated and maintained sites, plus five sites (located in public housing projects) which are operated and maintained by the Providence Housing Authority, and two state-owned and operated sites. One of the state-owned sites is partly located in Providence and partly in the Town of Johnston. All of these properties are graphically located on Map 2 and information regarding their primary use, acreage, recreation equipment and apparatus is presented in *Appendix A*. An additional facility, not so shown, is a boys' camp site of thirty-three acres located some thirty miles south of Providence at Point Judith. It is owned and operated by the City of Providence.

TABLE I
Outdoor Recreation Areas
July 1965

<i>Type of Facility</i>	<i>Number of Facilities</i>	<i>Acreage</i>	<i>Percent of Total Acreage</i>
Playlots.....	1	.10	—
Junior Playgrounds.....	21	17.34	1.78
Playgrounds ¹	25	62.47	6.42
Playfields ²	15	131.51	13.52
Neighborhood Parks.....	15	31.32	3.21
Large Parks ³	5	703.81	72.29
Parkways, etc. ⁴	8	27.05	2.78
	90	973.60	100.00

¹Includes Benefit Street, Plain Street, Knight Street, Prairie Avenue, and Joslin Street primarily classified as neighborhood centers.

²Merino Park and Merino Playfield counted here as two facilities are listed in the Appendices as one property.

³Includes Roger Williams, Blackstone, Neutaconkanut and King, Wanskuck and Triggs Memorial Parks.

⁴Includes Blackstone Blvd., Capt. J. Carleton Davis Memorial Blvd., Rochambeau Avenue, Fenner Park, Columbus Park, Pleasant Valley Parkway, Abbott Park and Kennedy Plaza.

As may be seen in Table I, large parks account for some 704 acres, or seventy-two percent of all recreation acreage. Active areas — playlots, junior playgrounds, playgrounds, and playfields occupy a total of 211 acres. Included on Table I in the park category are eight parkways, traffic separators and the like which total twenty-seven acres. While these do not have great recreation value, they do contribute to the city in an aesthetic way. Small (neighborhood) parks are fifteen in number and take up approximately thirty-one acres.

B. Planning Criteria and Recreation Standards

In order to prepare a plan for recreation facilities for any city, certain planning criteria or standards must be employed to measure the adequacy of existing facilities as well as determining what types of recreational facilities are needed, how large they should be, and where they should be located. In a heavily built-up city like Providence, which already has numerous public recreational sites, the function of measuring the adequacies and inadequacies of existing sites is as important as the establishment of need and selection of suitable locations for new sites.

As in any other city in the United States, increased mobility has affected the recreational needs of people in Providence. Certain age groups — children below driving age as well as proportionately increasing numbers of retired elderly persons in Providence need now and will always need recreational facilities within *easy walking* distance from their homes. Such facilities are likely to be used more on week-days than on week-ends, and on holidays when some of the people in these age-groups might accompany others to distant facilities in automobiles. In and around Providence, there will always be need for both kinds of facilities — facilities to which one walks and facilities to which one drives. But the primary concern of the Plan is with “within-the-city” public recreational facilities to which most users will walk. Exceptions to this are some of the existing large parks and some selected outdoor facilities which might be lighted for evening use by adults, who might come to them by car.

In the criteria presented in this chapter the factors of radius and maximum walking distance have been considered together. For example, in case of playgrounds in high or medium density residential areas, the criteria recommend a service radius of one-fourth of a mile with a maximum walking distance of not more than three-eighths of a mile. Playgrounds are intended for children between the ages of eight and fourteen for whom three-eighths of a mile is considered to be the maximum desirable walking distance in high and medium density residential areas. The 1953 Plan used one-half mile radius for playgrounds. This radius suggests a walking distance of up to three-quarters of a mile, which has been observed to be longer than most children are willing to walk to recreational facilities.

Appraisal of existing recreational facilities and service suggests the need for a variety of recreational facility types: playlots, playgrounds, playfields, swimming pools, artificial ice skating rinks, recreation centers and parks.



A combined facility at **Merino Park** provides a neighborhood park, playfield and playlot. The playlot with the playfield in the background are shown here.

But for reasons of economy, the recommended minimum dimensions for outdoor play areas and parks are lower than those suggested by the NRA Standards. Instead, the new criteria place emphasis on intensive development of sites and extended recreation programs to obtain increased use of existing sites. On the other hand, for the purpose of having greater variety of play spaces on each facility, the new recommended minimum desirable areas for playgrounds and playfields are larger than those required by the 1953 CPC standards. Reasons for including in the plan a range of facilities of various types are described individually in the following paragraphs. Standards for these facilities are shown in Table II.

Playlots

Playlots are being introduced in answer to a need for safe off-street play areas, primarily for pre-school age children in high and medium population density residential areas where generally the traditional play space, the back yards, are virtually nonexistent. Where desirable, a playlot may be included within a playground or playfield, or even a park. The playlots do not have to be large. An area as small as two thousand square feet if designed imaginatively can be developed into a usable playlot. Playlot apparatus or sculpture in a park can be placed in an area not larger than six hundred square feet.



A junior playground at **Regent Avenue** will be enlarged to become a playground in conjunction with the proposed New Regent Avenue Elementary School.

Junior Playgrounds

Junior playgrounds are facilities which are so classified either because of their size, or because they serve a limited recreational use. For example, the tennis courts at Nathanael Greene Junior High School are listed as a junior playground. Intended primarily for the eight to eleven age group, junior playgrounds must also serve in some instances as playgrounds where sites of minimum required playground size are not feasible for acquisition.

Playgrounds

Playgrounds are the chief outdoor play areas for court and field games, and free play in a neighborhood. They are designed to serve children between the ages of eight and fourteen. Several existing playgrounds, and some of those proposed, serve more than one neighborhood. Most existing playgrounds are recommended to be retained. New playgrounds are proposed for areas presently not covered, concentrating in locations where new elementary schools are proposed to be built under the Master Plan for Public Schools.

Playfields

Playfields are large play areas serving several neighborhoods. These facilities may serve all age groups, but primarily they are intended for the



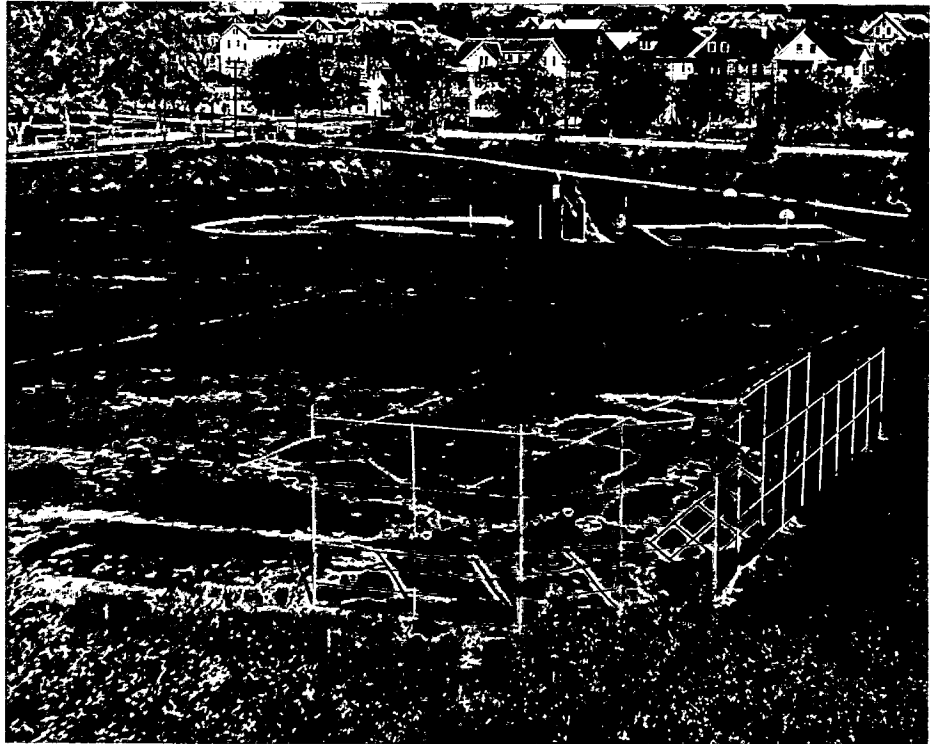
Newer playgrounds such as **Ardoene Street** combine a variety of active recreational features with attractive landscaping.

fifteen and over age group. The existing coverage of playfields using one-half mile in high and medium density residential areas and three-fourths of a mile in low density residential areas also appears to be adequate for most of the city. Actually, many of these facilities are under-used and should be intensively developed to provide for an increased variety of play areas in order to attract larger numbers of users. Addition of swimming pools, artificial ice skating rinks, and artificial lighting on selected playfields for evening use by adults and teenagers are proposed to obtain increased use from these (playfield) facilities.

Parks and Parkways

Included within the parks and parkways category is a wide variety of recreational areas, ranging from large parks and neighborhood parks — primarily for passive pursuits to highway center strips and traffic separators which, adequately landscaped, fulfill an aesthetic function.

Public parks are not luxury items in a recreation plan for a city. These facilities provide the so-called “lung space” or “open space” in a city. There is a growing awareness today of the importance of open space in urban areas. Passage of several recent bills at federal and state levels designed to encourage and even financially help local governments to acquire sites for park and other open space uses is indicative of this.

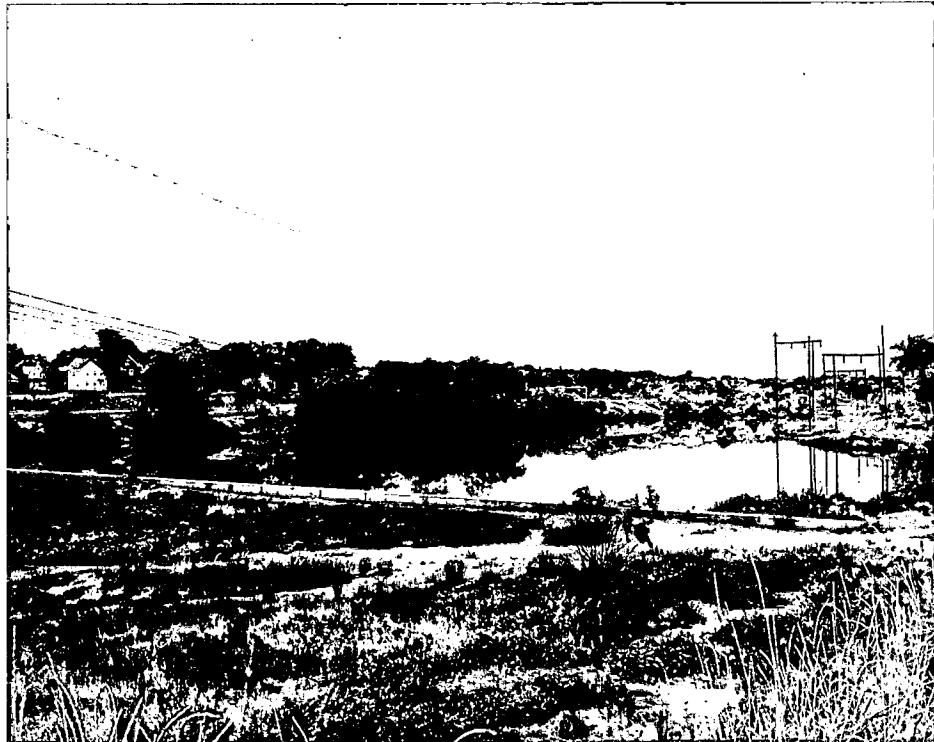


Playfields as at **Davis Park** are activity areas usually larger than playgrounds and designed for older youth and young adults.

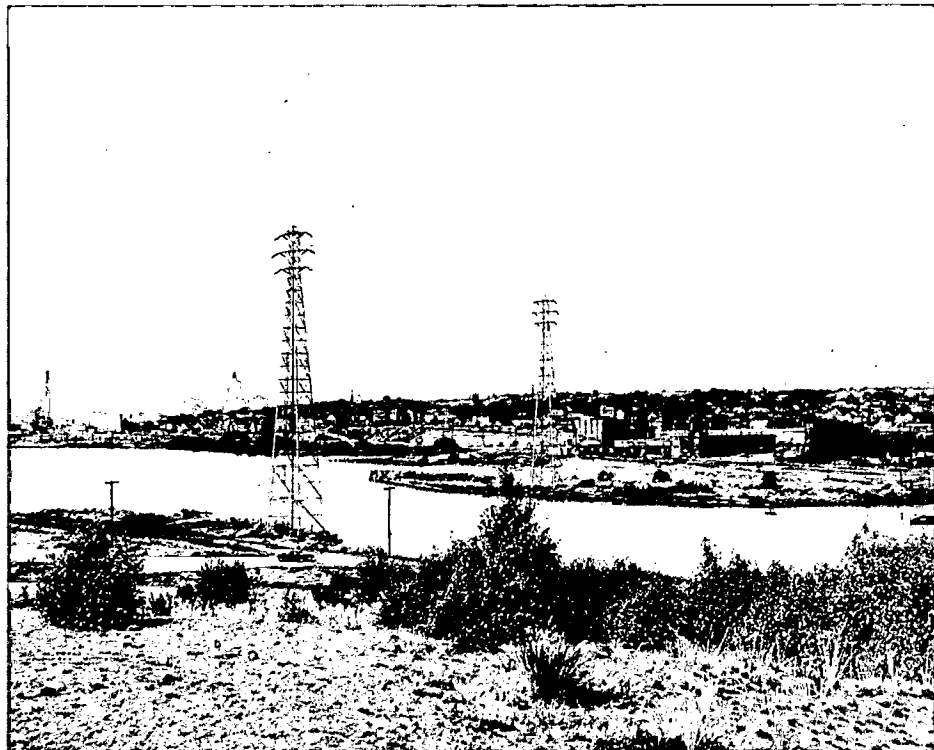
Providence has some fine large parks. But except for the East Side, most other residential neighborhoods do not have park areas within easy walking distance of residents. Neighborhood parks do not necessarily have to be very large. Even though the desirable minimum size recommended for local parks is one acre, parks of even smaller size are better to have than no parks at all. These parks are likely to be used most by the proportionately growing population of retired elderly persons in Providence.

At the present time, the need for small parks in Providence is more pressing than for new large parks, considering that the existing large parks, such as Roger Williams, Blackstone, and Neutaconkanut and King Parks, are not fully developed. However, it would be certainly desirable to acquire sites like Fox Point and the unimproved open space around Canada Pond off Route 146 for development into additional large parks. Each one of these sites is approximately twenty-five acres in size and has tremendous potential for excellent park development. Fox Point-India Point site, once the Providence River has been cleaned, could make a marvelous waterfront park with boating and fishing facilities. Such a park would attract and serve not only Providence residents but several communities in the State. Perhaps the State of Rhode Island should acquire this site and develop it into a park.

The City of Providence must initially use its limited resources on meeting the needs of the neighborhoods rather than embarking on larger projects like Fox Point-India Point and Canada Pond parks. The general level of



Acquisition and conservation of approximately twenty-five acres of undeveloped land is recommended for establishment of a **Canada Pond Park**.



Recommended in the plan is acquisition and conservation of portions of **Fox-India Point**, shore line property which can be developed for water-oriented activities.



Small neighborhood parks such as **Constance Witherby** provide desirable open space and refreshing opportunities for passive recreation.

total public recreation service can be much improved, comparatively, at a much lesser total expense if the city concentrates on relatively less ambitious proposals: development of a winter sports and games park, including reactivation of ski slopes at Neutaconkanut Hill; further development of Roger Williams Park comprising of addition of an outdoor trail, and provision for picnicking and day camping facilities. Several other proposals which deserve priority consideration are listed in *Appendix B*.

Parkways such as Pleasant Valley Parkway, Blackstone Boulevard and to a lesser extent the Capt. J. Carleton Davis Memorial Boulevard provide, not only an increased margin of traffic safety, but also permanent green space and interesting opportunities for planting to enhance the beauty and living qualities of the urban environment. The same function is apparent in several small memorial parks such as Rochambeau Avenue and Fenner Park. A total of eight such areas presently exist and should be retained.

Neighborhood Centers

Beginning in the early 1950's with the construction of the Fox Point Elementary School, the city has moved consistently in the direction of developing dual-use facilities for school and recreation programs. This has proved to be a desirable and economical relationship, since it means the added creative use of structures and areas already in public ownership — at a capital cost to the taxpayer of far less than would be involved in wholly

duplicated facilities. The Recreation Department currently conducts indoor center activities in seventeen facilities, of which twelve are school-owned structures, used for school purposes until mid-afternoon of each school day and thereafter in part for the Recreation Department program.

Proposed in the present plan is a complete re-thinking of the dual-use approach by advancing into a multi-use concept for such centers. These centers appear to be logical locations for health clinics, employment counseling, and other pending Community Action Programs. Already housing pre-kindergarten programs (Giant Step) and extending influence throughout the entire family and age spectrum (Community School Program), such centers offer themselves as potentially extremely valuable possibilities in further unifying, stabilizing, and upgrading residential neighborhoods.

Special Facilities

Providence has seven outdoor public swimming pools. Additional swimming pools are needed to serve Hope, Camp, East Side, Washington Park, Lower South Providence, Mount Pleasant, Elmhurst and Wanskuck neighborhoods. Five existing pools are each 40' wide and 100' long, the other two are full olympic size pools measuring 55' x 165'. The plan proposes four new outdoor pools; three 42' x 105' instead of the usual 40' x 100' and one standard olympic size. The 42' x 105' pool is more desirable than the 40' x 100' pool, because the former can be adapted for training for olympics and standard water sports.

In addition to the four new outdoor pools, three indoor pools are also proposed for year-round use. At present, residents have access to Boys' Club or YMCA pools if they are members of these organizations. However, these pools are very small in size; the city can easily use the three indoor pools proposed in the plan. Two 42' x 105' pools are proposed to be located on Hope High and Mt. Pleasant High School grounds. The 55' x 165' pool is proposed to be located within or adjacent to Central-Classical High Schools complex. These pools are intended to provide increased recreational opportunities during non-summer months.

For the last several years, the Recreation Department has been following the practice of flooding basketball courts during winter months on days when temperatures have fallen below freezing point. The Recreation Department has been doing so to meet the recreational needs of children and teenagers, most of whom need opportunities for active recreation during winter months. The ponds in Roger Williams Park and Blackstone Park, when frozen, provide a reasonable large and good skating surface; however, the places are invariably crowded. The frozen basketball courts somehow do not work unless the temperatures remain well below freezing point. The sun falling on ice penetrates through it to the dark asphalt surface of basketball courts below and melts the ice. With this arrangement, children get not more than fifteen to twenty days of total skating during winter. To provide for more dependable skating surfaces throughout winter, artificial ice skating rinks are needed; at least ten of these can be used in Providence. These facilities are indeed expensive to install, operate, supervise and maintain,

but provide for at least six months of uninterrupted skating opportunity from the middle of November to the middle of April. This compares favorably with outdoor swimming pools, which are comparatively less expensive to build, if they are not larger than 42' x 105', but are more expensive to operate, supervise and maintain, and can be used for only two to three months in the year. Actually both these types of facilities are required and should be built to provide for a year-round program of recreational activities.

Night lighting of games areas is recommended as a ready means of extending the usefulness of certain active play areas into the evening hours. Lighting of playfields is particularly important as a method of making these facilities available for recreation to the young adult. Eight such areas will be recommended for night lighting in a subsequent section of this report.

TABLE II
Planning Standards for Recreational Facilities

	<i>Playlot</i>	<i>Junior Playground</i>	<i>Playground</i>
Range in size	2,000-12,000 sq. ft.	.2-2 acres	2-7 acres
Desirable min. area/size	3,000 sq. ft.	1.5 acres	3 acres
Primary and secondary age-group served	1-7	8-11	8-14
Service radius and maximum walking distance	$\frac{1}{8}$ to $\frac{3}{16}$ mile in high and medium density, and $\frac{3}{16}$ to $\frac{1}{4}$ mile in low density residential areas*	$\frac{1}{4}$ to $\frac{3}{8}$ mile in high and medium density, and $\frac{3}{8}$ to $\frac{1}{2}$ mile in low density residential areas	$\frac{1}{4}$ to $\frac{3}{8}$ mile in high and medium density, and $\frac{3}{8}$ mile in low density residential areas
Traffic barriers	No crossing of "collector" streets; minimum crossing of minor residential streets	No crossing of "arterial" streets; minimum crossing of "collectors"	Minimum crossing of "arterials"; no crossing of expressways
Desirable site location	Vacant houselot in a block, nursery school; center of area served	Elementary school; center of area served	Elementary or Junior High School; center of area served
FACILITY DESIGN			
Mandatory features (in addition to appropriate play apparatus, and sports and games areas, etc.)	Multi-use soft and hard surfaces, trees and grass. Fence on dangerous street sides, benches, tables and bubbler	Multi-use soft and hard surfaces. Shelter 1200-1500 sq. ft. or access to school bldg. Trees and grass. Fence on dangerous street sides, benches, tables and bubbler	Shelter 1500-2000 sq. ft. or access to school bldg. or recreation center. Trees and grass. Fence on dangerous street sides, benches, tables and bubblers

*Ideally a playlot should be located in each residential block.

TABLE II (Cont'd)

Planning Standards for Recreational Facilities

	<i>Playfield</i>	<i>Outdoor Swimming Pool</i>	<i>Indoor Swimming Pool</i>	<i>Artificial Ice Skating Rink</i>
Range in size	5-20 acres	40' x 100'– 55' x 165'	40' x 100'– 55' x 165'	
Desirable min. area/size	10 acres	42' x 105'	42' x 105'	85' x 200'
Primary and secondary age-group served	15+	8+ years	8+	All ages
Service radius and maximum walking distance	½ to ¾ mile in high and medium dens- ity, and ¾ to 1 mile in low density residential areas	½ to ¾ mile in high and medium dens- ity, and ¾ to 1 mile in low density residential areas		½ to ¾ mile in high and medium dens- ity, and ¾ to 1 mile in low density residential areas
Traffic barriers	No crossing of “expressways”	No crossing of “expressways”; <i>minimum</i> crossing of “arterials”		No crossing of “expressways”; <i>minimum</i> crossing of “arterials”
Desirable site location	Junior High or Senior High School; center of area served	Elementary or Junior High School; center of area served	High School	Center of area served
FACILITY DESIGN	Shelter 2000-3000 sq. ft. or access to school bldg. or recreation center. Trees and grass. Fence on dangerous st. sides, benches, tables and bubblers			

	<i>Neighborhood Center</i>	<i>Neighborhood Park</i>	<i>Large Park</i>
Range in size		.25-7 acres	20-500 acres
Desirable min. area/size		1 acre	40 acres
Primary and secondary age-group served	All ages depending upon program	All ages	All ages
Service radius and maximum walking distance	¾ to ½ mile in high and medium density, and ½ to ¾ mile in low dens- ity residential areas	¾ to ½ mile in high and medium density, and ½ to ¾ mile in low dens- ity residential areas	
Traffic barriers	No crossing of “express- ways”; <i>minimum</i> crossing of “arterials”	No crossing of “express- ways”; <i>minimum</i> crossing of “arterials”	
Desirable site location	Elementary school; center of area served	Center of area served	Within city
FACILITY DESIGN			
Mandatory features	Gymnasiums and multi-purpose rooms	Fence on dangerous street sides if playlot included; benches, tables and bubblers	

3—THE PROPOSED SYSTEM

A. City-wide Recommendations

An attempt has been made to meet most public recreational facility needs of all age-groups, particularly those under sixteen, and the retired elderly, so as to minimize the need to cross busy streets. For larger and special facilities such as Roger Williams Park and Triggs Memorial Golf Course, and the proposed winter sports park at Neutaconkanut Hill, access is assumed to be by automobile from most parts of the city or metropolitan area. For recreational activities such as picnicking, camping, fishing, boating, hunting and skiing, Providence residents will depend mainly on facilities outside the city or even the state.

There is a scarcity of undeveloped land in Providence, where needed, which can be acquired for development of new recreational facilities. Built-up land is extremely expensive to acquire. With this in mind, the plan emphasizes improvement and further development of many existing sites even though some of them are not ideally located in regard to the areas they serve. By so doing, the number of new sites to be acquired can be kept to a minimum.

OVERALL PROPOSALS¹

Playlots

More than half of the proposed new recreation facilities are exclusively in the playlot category — a total of forty-one. In addition, fifty-two other and larger recreational facilities are recommended to include a specifically designed and equipped playlot, making a grand total of ninety-three playlot facilities.² Sites have been selected with a view to concentrating playlot facilities in areas of high residential density where needs are greatest, and where the cost and family relocation requirements of larger facilities would be prohibitive.

Junior Playgrounds

The existing system contains twenty-one junior playgrounds of which three, because of poor geographical relationship to present residential areas, are recommended for abandonment; two are proposed as neighborhood parks, and two are recommended for expansion as playgrounds. The plan proposes three new junior playgrounds — all school-connected and in built-up areas of high residential density.

Playgrounds

At the present time the recreation system includes twenty playgrounds exclusive of sites occupied by neighborhood centers. Two are recommended for abandonment as a result of changes in land use adjacent to these facili-

¹Appendix A contains an inventory of the existing 89 recreational facilities of various types (excluding the Junior Police Camp in Narragansett). Appendix B contains detailed proposals for the improvement of a majority of the existing areas and detailed proposals also for the net 61 new recreational facilities recommended by the plan.

²These are identified in Appendix B by an asterisk in the "Primary Use" column.

ties. One is recommended for conversion to a playlot. A total of sixteen new playgrounds is proposed, twelve of which are school-connected.

The relationship of recreational to school facilities is a matter of primary importance to both the recreation and school master plans. In this instance the present master plans recognize, approve and extend the concept of a functional relationship between these facilities. This relationship is of vital importance in conserving scarce land, and in concentrating for economy and convenience, programs serving similar segments of the population. By redefining centers of activity, such dual use serves also to provide a core operation to sustain a neighborhood identity and awareness. This can be a major factor contributing to the stable neighborhood of the future.

Playfields³

The present recreation system includes fifteen playfields of which one in a relatively isolated area of the city is recommended for summer use only.⁴ Included in this plan is an earlier proposal for two new playfields, both school-connected, to be located in the James L. Hanley Education Center, plus the proposed conversion of one playground to playfield use, making a master plan total of seventeen playfields.

Parks and Parkways

The present recreation system numbers twenty-eight such areas of which eight are in the traffic separator category, five are large parks and fifteen are neighborhood parks. This plan proposes sixteen new parks.

Fourteen — including the Roger Williams National Memorial and two downtown parks in the Weybosset Hill Project — are neighborhood parks intended to serve primarily the increasing number of elderly in our population by providing readily accessible passive recreation. By preserving open space, and creating attractive and useful neighborhood facilities, such areas will further serve to stabilize residential development. Eleven of the proposed fourteen neighborhood parks will require no land acquisition or relocation since nine will be located over the plan execution period on elementary school sites abandoned, or recommended for abandonment for school purposes, and two will be converted junior playgrounds.

The other two parks recommended by the present master plan are facilities of a largely regional nature. These include Canada Pond Park, a marshy, natural area adjacent to Canada Pond, and India-Fox Point Park, a waterfront area intended for development of water-oriented sports and activities.

Neighborhood Centers

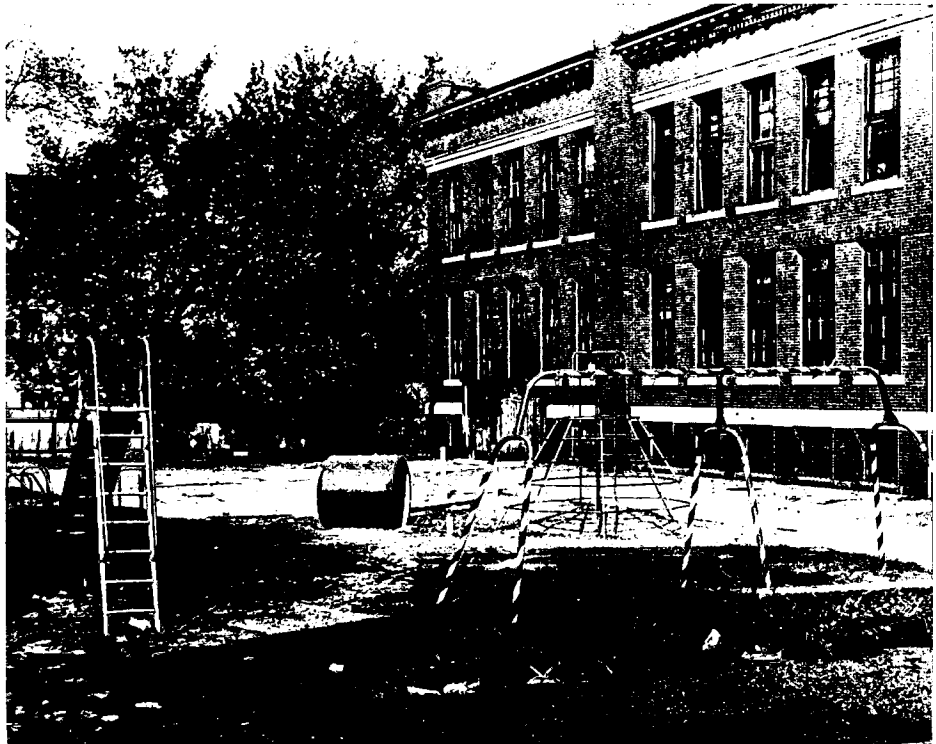
Pending further cooperative study among the several agencies involved, the present plan recommends the ultimate development of thirty-four neighborhood centers. Included for recommended use for the purposes outlined

³In addition to serving the general population, playfields as well as playgrounds are periodically scheduled for use by the Recreation Department for various civic groups, Little League, industrial softball leagues, and other organizations.

⁴Obediah Brown.



Roger Williams Spring and the adjacent **Bernon Memorial Park** are slated to become a part of the Roger Williams National Memorial Site.



Jenkins Street is one of nine sites for which the master plan proposes a neighborhood park to replace an older elementary school abandoned or recommended for abandonment.

are three present recreation centers, ten schools in which dual-use programs are currently conducted, eight existing schools not now so used, the future use of one school now under construction, and twelve new elementary schools recommended for construction in the School Master Plan. A relatively small capital expenditure is recommended for adaptation of interiors and for equipment in each of the existing schools intended to accommodate multi-use center activities.

Special Facilities

In addition to the usual facilities developed as a part of active playareas, this plan proposes two types of special facilities: pools and ice rinks. To the seven existing outdoor pools, it is proposed to add four more outdoor pools, and three indoor pools as adjuncts to existing high schools. Although the present system includes no artificial skating rinks, ten are proposed for various locations. Eight sites are proposed for artificial lighting for use after dark.

B. Recommendations by Planning Districts

For planning purposes, the City of Providence has been divided into ten planning districts.⁵ Because in an older, built-up city, the population does not reside solely in the so-called "residential" districts, and because the planning of both schools and recreation involves planning for people wherever they may be located, the four industrial planning districts have been included within the five residential planning districts and a sixth — the Downtown Planning District — is shown separately.⁶

East District Proposals

The East Planning District includes all of Providence east of the Providence and Moshassuck Rivers. It consists primarily of the Fox Point, College Hill, Wayland Square, Camp Street and Hope Street neighborhoods. It includes approximately one-fifth of the city's population. Settlement of Providence began in this district, and parcel and street patterns established more than three hundred years ago are still determining factors in its physical development.⁷ Mainly residential in character, it contains a wide range of housing from the most elite to perhaps the city's worst in the Randall Square Area.⁸ East District recreation proposals include:⁹

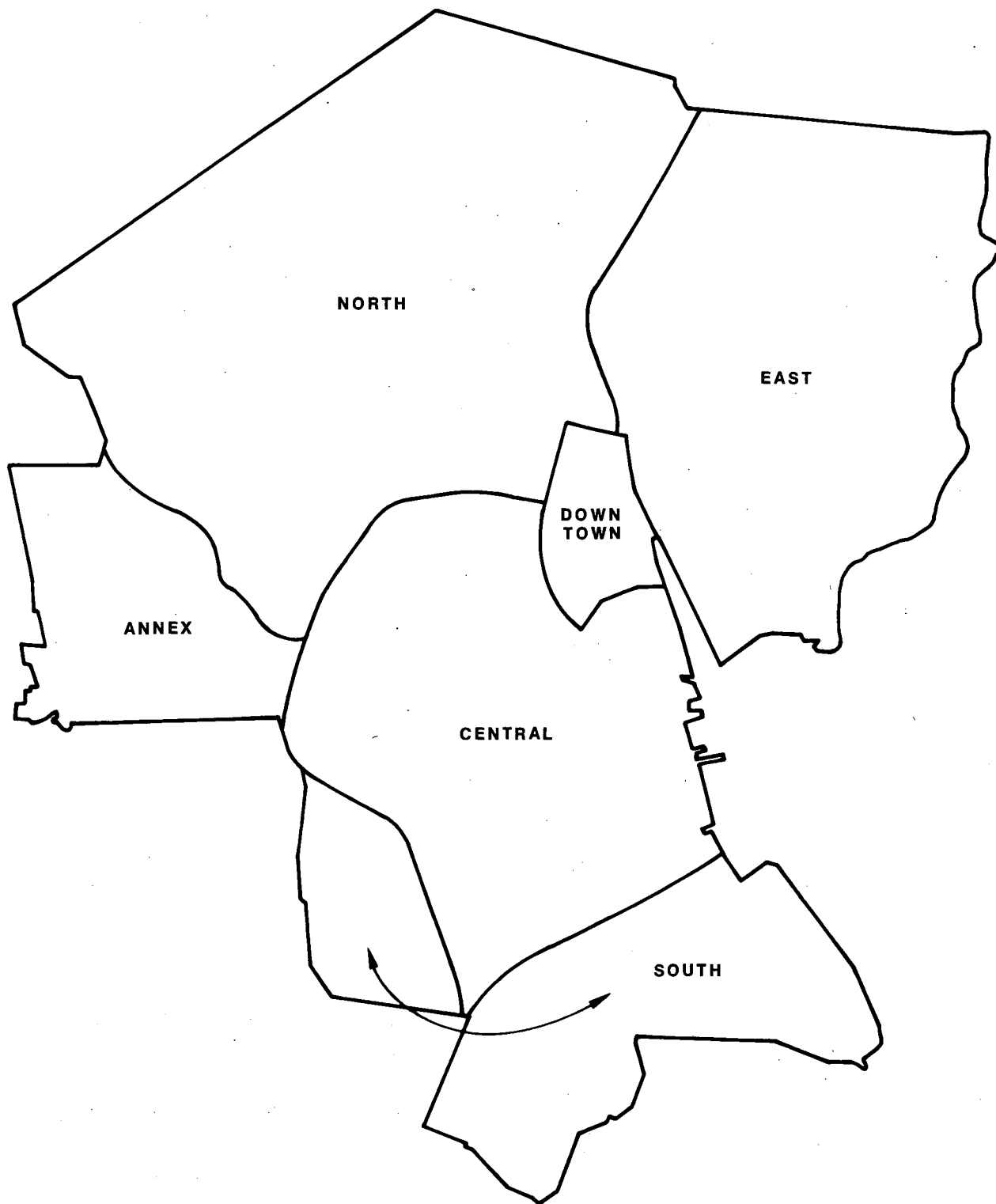
⁵See *Community Renewal Program*, December, 1964, pp. 92-93.

⁶See *Planning Districts* map (Map I). Not shown thereon are: the Moshassuck Industrial Planning District included principally in the East Residential Planning District; the Woonasquatucket Industrial Planning District included in the North Residential Planning District; the Mashapaug Pond Industrial Planning District split between the Central Residential Planning District and the South Residential Planning District; and the Waterfront Industrial Planning District similarly divided.

⁷College Hill was the subject of a Demonstration Grant Study in 1956-57 which gained national prominence. The basic purpose of the study was to define the role of urban renewal in effecting historic preservation.

⁸An East Side Urban Renewal Project comprised of this and other districts was recently submitted to H.U.D.

⁹In the following text numbers refer to facilities similarly identified in the Appendices and on the graphic *Master Plan for Public Recreation and Conservation* included herein. Facility names italicized indicate early phase priority for acquisition or development or both.



MAP 1 PLANNING DISTRICTS

TABLE III
Outdoor Recreation Areas
Proposed 1980

<i>Type of Facility</i>	<i>Number of Facilities</i>	<i>Acreage</i>	<i>Percent of Total</i>
Playlots	41	4.47	.42
Junior Playgrounds	17	15.22	1.42
Playgrounds ¹	36	94.35	8.78
Playfields ²	17	144.17	13.42
Neighborhood Parks	25	41.24	3.84
Large Parks	7	747.81	69.60
Parkways and Traffic Separators	8	27.05	2.52
Total	151	1,074.31	100.00

TABLE IV
Net Change in Outdoor Recreation Areas
1965-1980 Proposed

<i>Type of Facility</i>	<i>Number of Facilities</i>	<i>Acreage</i>
Playlots	+40	+ 4.37
Junior Playgrounds	- 4	- 2.12
Playgrounds	+11	+31.88
Playfields	+ 2	+12.66
Neighborhood Parks	+10	+ 9.92
Large Parks	+ 2	+44.00
Parkways and Traffic Separators	No change	No change
Net Total	+61	+101.71

NOTE: The "net" increase in various facilities is a significant figure. For example, fourteen new neighborhood parks are recommended in the present plan; however, because of proposed conversion of certain existing neighborhood parks to other recreational uses, the net is ten as shown above. The same applies in greater or lesser measure to other types of recreational facilities.

¹Includes Knight Street, Prairie Avenue and Joslin Street primarily classified as neighborhood centers.

²Merino Park and Playfield counted here as two facilities are listed in the Appendices as one property.

Five playlots: *Eleventh Street* (P-1), *Grandview Street* (P-3), *Lancaster Street* (P-4), *Prospect Street* (P-6), *Ives Street* (P-7), plus playlot development on eight larger areas. *Jenkins Street* (9), including the present school site is recommended for conversion to a neighborhood park.

Five junior playgrounds including improvement of *Summit Avenue* (3), *Nathan Bishop Junior High* (7), *Paterson Street* (20), expansion of *Arnold Street* (26) and the addition of a new area at *John Howland* (P-5).

Six playgrounds including improvement of *Collyer Park* (1), *Sessions Street* (6), expansion of *Cypress Street* (8), *Lippitt Hill* to be converted from a junior playground (12), *Fox Point* (27), and addition of a new area at *Highland Avenue* (P-2); *Quaid Street* (10) is recommended for abandonment.

Two playfields including improvement of the area at *Hope High School* (13) and the expansion of *Gano Street* (25).

Seven neighborhood parks including: three neighborhood parks to be retained: *Courthouse Park* (19), *Constance Witherby* (21), and *Gladys Potter Garden* (18); one neighborhood park to be improved: *Roger Williams Square* (24); one neighborhood park to be expanded: *Prospect Terrace* (17); two neighborhood parks: *Jenkins Street* (9) and the *Roger Williams National Memorial Site* to include among other land the present *Bernon Memorial* (15) and *Roger Williams Spring* (16).

Two large parks including improvement of *Blackstone Park* (19); and a new large park, the *Fox-India Point Park* (P-8) which will include the present *Washington Square* (28).

Two parkways to be retained: *Blackstone Boulevard* (5) and the *Captain J. Carleton Davis Memorial Boulevard* (11).

Two traffic separators to be retained: *Rochambeau Avenue* (4) and *Fenner Park* (23).

Six neighborhood centers including *Summit Avenue* (3), *Nathan Bishop Junior High* (7), *Lippitt Hill* (12), *Hope High School* (13), *Fox Point* (27), *John Howland* (P-5); abandonment of *Benefit Street* (14) is recommended.

Five special facilities including the existing outdoor pool at *Fox Point* (27), a new outdoor pool at *Cypress Street* (8), and an indoor pool at *Hope High School* (13); artificial ice rinks to be added to *Cypress* and *Fox Point*. Night lighting for games areas is recommended at *Collyer Park* and *Gano Street*.

Central District Proposals

The Central Planning District is defined by the freeway loop of Routes I-95 on the east and south, the New Haven Shoreline Division in the west, and the New Haven Railroad in the north. It consists primarily of five neighborhoods: *Federal Hill*, *West End*, *Elmwood*, and *Upper and Lower South Providence*. It includes one-third of the city's population as well as

a considerable concentration of the community's physical and social problems.¹⁰ Central District recreation proposals include:

Eighteen playlots: *Grant Street* (P-13), *Pallas Street* (P-14), *Dodge Street* (P-18), *Dudley Street* (P-21), *Dartmouth Avenue* (P-22), *Bellevue Avenue* (P-24), *Althea Street* (P-25), *Waldo Street* (P-26), *Ninigret Avenue* (P-27), *Grand Street* (P-28), *Moore Street* (P-30), *Marlborough Avenue* (P-31), *Public Street* (P-32), *Baxter Street* (P-34), *Houston Street* (P-37), *Sumter Street* (P-39), *Lennox Avenue* (P-40), and *Early Street* (P-41), plus playlot development on twenty larger areas.

Four junior playgrounds including the improvement of *Codding Court* (34), expansion of *Ridge Street* (32), plus the addition of two new areas at *Almy Street* (P-11) and *Bridgham Junior High* (P-12); *Garibaldi* (29), *Warren Avenue* (37), and *Willard Avenue* (40) are recommended for abandonment.

Ten playgrounds including improvements at *Mary Fogarty* (43), *Richardson Park* (45), and *Sackett Street* (46), the replacement of *Chaffee Park* adjacent to the *John Hope Center* (15), expansion of *Messer Street* (39) and conversion to a playground in connection with the *New West End School*, the addition of five new playgrounds related to four proposed new schools and one existing school — *New Upper South Providence* (P-19), *New Elmwood* (P-23), *New Lexington* (P-35), *New Lower South Providence* (P-38), and *Kenyon Street* (P-9).

Five playfields including improvements at *Edmund Flynn* (41), *Bucklin Street* (42), *Dexter Training Ground* (33), addition of new playfields at *Central High School* (P-16) and *Classical High School* (P-17).

Seven neighborhood parks including *Franklin Park* (30) to be improved, *Ellery Street* to be converted from a junior playground, and five new neighborhood parks to be developed on existing sites of schools recommended for abandonment: *Grove Street* (P-10), *Beacon Avenue* (P-20), *Vineyard Street* (P-29), *Temple Street* (P-33) and *Lexington Avenue* (P-36).

One traffic separator, *Columbus Park* (44), is recommended to be retained.

Thirteen neighborhood centers including expansion of *Knight Street* (31), improvement of *Prairie Avenue* (36), *Edmund Flynn* (41), *Gilbert Stuart Junior High* (42), *Roger Williams Junior High* (45), *Kenyon Street* (P-9), *Central High School* (P-16), plus six new centers to be located at the proposed schools: *New West End* (39), *New Almy* (P-11), *New Upper South Providence* (P-19), *New Lexington* (P-35), *New Elmwood* (P-23), and *New Lower South Providence* (P-38); *Plain Street* (35) is recommended for abandonment.

Seven special facilities including existing outdoor swimming pools at *Bucklin Street* (42), *Knight Street* (31), and *Prairie Avenue* (36), a new olympic-size indoor pool to be added to the *James L. Hanley Education*

¹⁰A recently submitted G.N.R.P. application proposes the investment of approximately \$55,000,000 in local, state and federal funds for the Central Planning District. The Central District also contains the Classical-Central Renewal Project now in execution.

Center at Central High School (P-16), three artificial skating rinks to be added to Knight Street, Prairie Avenue, and Bucklin Street. Night lighting for games areas is recommended for Edmund Flynn and Bucklin Street.

South District Proposals

The South Planning District consists primarily of three disconnected neighborhoods including Washington Park, Lower Elmwood and Mashapaug Pond. It contains approximately five percent of the city's population. Primarily residential in character, its housing is predominantly single family, similar in character to the adjacent residential area of Cranston which bounds the district on the south and west. On the north and east the district is bounded by industrial areas and Interstate 95 which effectively separate it from the South Providence neighborhood. The east and west residential portions are separated by Roger Williams Park. South District recreation proposals include:

Five playlots: *Algonquin Street* (P-42), *Cass Street* (P-43), *Vermont Avenue* (P-45), *Carr Street* (P-47), plus playlot development on three larger facilities; Joseph Williams Field (49) is recommended for conversion from a playground to a playlot.

One junior playground: the existing Columbia Park (52), recommended for improvement.

Four playgrounds including the retention of the J. T. Owens Memorial Field (47), improvement of Ardoene Street (48) plus the addition of two new areas at *Shipyards* (P-44) and Broad Street (P-46) in connection with the New Broad Street School.

One playfield: the existing Tim O'Neil Field (50) recommended for improvement.

One large park: the existing *Roger Williams Park* (51) recommended for improvement.

Two neighborhood centers including Ardoene Street in conjunction with the Reservoir Avenue School (48) and Broad Street (both old and new), (P-46).

Two special facilities including an outdoor swimming pool and artificial ice rink at Tim O'Neil (50). Night lighting for games areas is also recommended for this facility.

Annex District Proposals

The Annex Planning District is isolated from other residential areas of Providence by the New Haven Railroad which forms the north and east boundaries of the district. It includes the Webster Avenue, Hartford Avenue and Silver Lake neighborhoods containing somewhat less than ten percent of the city's population. Predominantly of two and three family houses, it closely resembles adjoining areas of Cranston to which it is related by the

street pattern which crosses the city line without interruption. The Town of Johnston to the west is sparsely developed, and is separated from the Annex by Neutaconkanut and King Parks.

Annex District recreation proposals include:

Seven playlots: *King Philip Street* (P-48), *Alverson Avenue* (P-50), *Whittier Avenue* (P-51), *Roosevelt Street* (P-54), *Priscilla Avenue* (P-55), *Hillhurst Avenue* (P-56), *Union Avenue* (P-57), plus playlot development on six larger facilities.

Two junior playgrounds: the existing *Oliver Hazard Perry Junior High* (54) and *Daniel Avenue* (58) both recommended for improvement.

Four playgrounds including the existing *Laurel Hill Avenue* (55) and *Wallace Street* (60) recommended for improvement, plus the addition of two new areas at the *New Merino School* (P-49) and the *New Annex School* (P-53).

Two playfields: the existing fields at *Merino Park* (53) and *Neutaconkanut Hill* (56) both recommended for improvement.

Three neighborhood parks including *Merino Park* (53) recommended for improvement, *Clarence Street* (59) to be converted from a junior playground, and one new neighborhood park at *Ralph Street* (P-52).

One large park to be improved: *Neutaconkanut and King Parks* (57).

Three neighborhood centers including *Oliver Hazard Perry Junior High* (54), *New Merino School* (P-49) and the *New Annex School* (P-33).

Two special facilities including the existing outdoor pool at *Neutaconkanut Hill* (56) plus an artificial ice rink at *Daniel Avenue* (58). Night lighting for games is recommended for the *Merino Playfield*.

North District Proposals

The North Planning District comprises all the area of Providence north of the *Woonasquatucket River* and west of the *Moshassuck River*. It is the largest in area of all the planning districts, and the second greatest in population, containing more than one-fourth of the city's population. The North District includes the *Smith Hill*, *Eagle Park*, *Wanskuck*, *Elmhurst*, *Mt. Pleasant*, *Manton* and *Olneyville* neighborhoods. The district presents outstanding contrasts in character. Portions of *Smith Hill* and *Olneyville* are urgently in need of renewal. Other areas to the north and northwest contain largely new housing, predominantly single-family. Unlike the rest of the city, these areas have experienced continued growth, and vacant land still remains in *Wanskuck*, *Elmhurst* and *Mt. Pleasant* for a number of new homes. North District recreation proposals include:

Six playlots: *Chapin Hospital* (P-61), *Westcott Avenue* (P-62), *Chaucer Street* (P-64), *Andem Street* (P-65), *Bath Street* (P-68), *Steuben Street* (P-69), plus playlot developments on fifteen larger facilities.

Five junior playgrounds including retention of Nathanael Greene Junior High (75), improvement of *Chad Brown West* (78), *Chad Brown East* (79), *Manton Complex* (84), expansion of *Windmill Street* (64), incorporation of Regent Avenue (82) in the New Regent Avenue School site to create a new playground; Chalkstone Avenue (72) is recommended for abandonment.

Nine playgrounds including retention of Valley View (62), improvement of *Ascham Street* (65), Danforth Street (77), expansion of *Smith Street* (68) and *Mt. Pleasant* (73), plus four new playgrounds, *Manton Avenue* (P-70), and three school-connected facilities at New Mt. Pleasant (P-63), the New Berkshire (P-59) and New Regent (P-66).

Seven playfields including retention of Woonasquatucket Reservation (83), conversion of Valley Street from a playground to a playfield (86), improvement of Metcalf Field (67), Mt. Pleasant High School (69), Davis Park (76) and *Hopkins Park* (80), expansion of Veazie Street (63); abandonment (except for retention for summer program) of Obediah Brown (71).

Four neighborhood parks including two neighborhood parks to be retained, Admiral Hopkins Square (66) and Candace Street (81); two new neighborhood parks at Berkshire Street (P-60) and Academy Avenue (P-67).

Three large parks including Triggs Memorial Park (70) and Wanskuck Park (61) to be retained, one new large park at Canada Pond (P-58).

One parkway to be retained: Pleasant Valley Parkway (74).

Ten neighborhood centers including *Veazie Street* (63), *Windmill Street* (64), *Esek Hopkins Junior High* (67), *Nelson Street* (68), *Mt. Pleasant High School* (69), *Danforth Street* (77), *Joslin Street* (85), New Berkshire (P-59), *New Mt. Pleasant* (P-63), and New Regent (P-66).

Eight special facilities including two existing outdoor swimming pools at Danforth Street (77) and Joslin Street (85), proposed outdoor swimming pools at Mt. Pleasant Playground (73) and Veazie Street (63), a proposed indoor pool at Mt. Pleasant High School (69), three artificial ice rinks at Veazie Street (63), Mt. Pleasant Playground (73), and Danforth Street (77). Night lighting for games areas is recommended for Metcalf Field and Valley Street.

Downtown District

The smallest of the defined planning districts is comprised of the city's commercial center and is the same area defined in the downtown master plan.¹¹ Bona-fide residents are few as the district's uses are concentrated in wholesale, retail, banking, commercial and office uses. Its recreational needs are therefore for park areas to provide open space and convenient places for rest and contemplation.¹²

¹¹See *Downtown Providence*, 1970, May 1961.

¹²The recently completed Westminster Pedestrian Mall, attractively planted and containing benches serves a park-like function, but cannot be so classified.

Downtown District recreation proposals include:

Three neighborhood parks: City Hall Park (87) to be retained, and two neighborhood parks including *LaSalle Park* (P-71) and *Empire Park* (P-72).

Two traffic separators are recommended for retention: Kennedy Plaza (88) and Abbott Park (89).

Fully as important as the proposed increases in total numbers of public recreational sites are recommendations for improvement and further development of most existing sites. Many of these recommendations are quite simple in nature and call for addition of items such as shade trees, landscaping, benches or repair of existing play areas. Some of the proposals call for construction of major items such as swimming pools, artificial ice skating rinks, ball-diamonds, court game areas, shelter houses, installation of play apparatus and sculpture, or provision of artificial lighting for night-time use of selected outdoor play areas. In the preparation of the plan presented in this report, the proposals regarding improvement of existing facilities and general recommendation for upgrading of recreational service by and large, have been based on actual observations made on each site. These proposals are also a product of numerous meetings with the Recreation Department staff, program directors and informed individuals connected with several private social and recreational organizations, such as, the YMCA, YWCA, Boys' Club of America, the Jewish Community Center, and also the findings of a special study conducted by the Providence Youth Progress Board.¹³

IV—FINANCING THE PLAN

A. Capital Cost

The capital cost of the overall program described is presently estimated at \$13,192,000. Except for facilities planned within the Weybosset Hill and East Side Urban Renewal Projects where re-use appraisals are currently available, all costs are gross costs exclusive of applicable federal assistance and state aid.¹⁴ Included within the \$13,192,000 is \$4,936,000 for acquisition and development of school-connected recreation facilities.¹⁵ This latter amount is incorporated by reference and made a part of the financing proposals of the School Master Plan. The present estimate of the capital cost of the Recreation Master Plan — less school-connected facilities — is therefore \$8,256,000. In conformity with the School Master Plan, expenditures are divided into an early phase (prior to 1970) and a later phase (1970-80). Upon the phased basis, school-connected recreation costs contained herein will require \$1,104,000 in the early phase, and \$3,832,000 in the later phase. The non-school connected recreation will require \$2,269,000 in the early phase and \$5,986,000 in the later phase. These are rounded estimates. More precise figures are shown on Table V following.

¹³Information concerning private recreation facilities for these and other agencies offering recreation services is on file in the office of the City Plan Commission.

¹⁴Applicable federal and state assistance must be calculated and applied for on a project-by-project basis.

¹⁵In *Appendix B* school-connected facilities may be identified by a small "z" following the Site No.

TABLE V
Recreation and Conservation Master Plan
Summary of Estimated Costs

Type of Facility ¹	Recreation Dept.		School Dept.**		TOTAL
	To 1970	1970-80	To 1970	1970-80	
Playlots	\$ 234,730	\$ 105,180	\$ —	\$ —	\$ 339,910
Jr. Playgrounds*	125,140	173,500	47,160	213,370	559,170
Playgrounds	469,770	254,710	611,650	857,200	2,193,330
Playfields	516,400	279,600	205,000	2,761,800	3,762,800
Parks and Parkways	851,200	5,173,250	—	—	6,024,450
Neighborhood Centers	72,200	—	240,000	—	312,200
TOTAL	\$2,269,440	\$5,986,240	\$1,103,810	\$3,832,370	\$13,191,860***

Share of Total Costs

Recreation Dept.	\$ 8,255,680
School Dept.	4,936,180
	<u>\$13,191,860</u>

¹The costs of Special Facilities are included in the development costs of the areas with which they are associated.

*Does not include \$12,400 on PHA recreation areas.

**Does not include approximately \$3,000,000 for acquisition of school-connected recreation sites provided for in the School Master Plan.

***Gross costs may be reduced by sale of recreation areas to be abandoned, proceeds of which are estimated at \$95,000.

Cost estimates for each facility within the aggregate include monies for professionally designed landscaping of all areas which will benefit from such treatment, including both existing areas to be improved and new areas to be added. In certain cases where facilities have been scheduled for development in the later phase, early acquisition has been recommended to take advantage of the large savings inherent in the purchase of vacant land prior to development.

The entire matter of financing the development of individual facilities and carrying out the plan requires a *separate and continuing* study to determine how the proposals can be carried out at minimum cost to the city including the question of how to maximize urban renewal benefits and non-cash credits.

In addition to the already committed funds for construction of recreation facilities to be built as part of the projected Central-Classical High Schools complex and Lippitt Hill Elementary School (the latter currently under

construction), and the already planned Danforth Street Elementary School Playground and Shipyard Playground, the city has two million dollars to spend in the next five years for development of new recreational facilities and improvement of existing ones. (A two million dollar bond issue was authorized by the voters for this purpose in July, 1965.)

How far these two million dollars will go in carrying out the plan proposals depends upon: (a) whether each proposed facility is completely financed out of the recreation bond money, or (b) whether some of the facilities such as playlots, small parks and playgrounds can be financed either wholly or partially by matching funds from federal or state sources, either through urban renewal, or Land and Water Conservation, Green Acres, and/or as community facilities under the new housing legislation, or (c) whether the school-connected *outdoor* recreational facilities are financed through a separate School Department bond issue. As regards the new school-connected *indoor* recreational facilities, the proposals presented in this report may be financed entirely out of School Department bonds. Also necessary physical changes required to improve and/or expand the existing *indoor* recreational facilities in public schools may be financed through the School Department.

B. Operating and Other Costs

Recreational facilities alone, no matter how well located, and no matter how well designed, cannot meet the recreation needs of a community. To meet these needs adequately, the community must be offered a diversified program of recreational and social activities under the guidance of qualified and experienced leadership. The importance of able leadership for the success and public acceptance of recreation programs cannot be over-emphasized. In addition, the recreational facilities need to be constantly maintained.

According to the 1961 RECREATION AND PARK YEARBOOK, sixty-eight reporting cities in the population class of 100,000-249,000 indicated expenditures in 1960 for over-all recreational purposes of an average \$4.11 per capita.¹⁶ On the same basis Providence budgeted \$4.90 per capita, somewhat above the average for cities of its size. Of the total cities reporting, seven spent approximately the same as Providence, thirty-nine spent less per capita than Providence, twenty-two cities spent more.

The trend in expenditures for recreational purposes, nation-wide, is upward. Increased population, more leisure time, and a broadening public interest in recreational activities, created an average increase of seventy-one percent in recreational expenditures in cities of Providence's population class between 1950 and 1960. Budgetary increases in Providence for the same period for recreational purposes amount to ninety-seven percent, indicating a better than average effort upon the part of Providence to improve its recreational program, particularly in provision of physical facilities.

While comparable figures for 1964-1965 are not available for other cities, Providence has continued, within the limitations of a restricted revenue

¹⁶See Recreation, February 1962, pp. 66-67.

system, to move toward meeting new and added recreational demands. Over-all expenditures for recreational purposes increased thirty-seven percent from 1960 to 1965, amounting to a total of \$7.17 per capita.¹⁷ Presumably the sixty-eight cities reporting 1960 expenditures have also increased funds available for total recreational costs. Nevertheless we can conclude that Providence by 1965 compared to earlier years was offering its residents a larger and better balanced recreation program than was the case previously.

TABLE VI

Over-All

Recreation and Park Expenditures

1949-50	Operating Budget	
	Parks	\$ 284,678
	Recreation	229,396
	Debt Service	—
	Total	\$ 514,074
1959-60	Operating Budget	
	Parks	\$ 495,186
	Recreation	434,452
	Debt Service	87,772
	Total	\$1,017,410
1964-65	Operating Budget	
	Parks	\$ 646,688
	Recreation	562,637
	Debt Service	190,139
	Total	\$1,399,464
Per Capita 1960	\$4.90 vs \$4.11	
Increase 1950-1960	97% vs 71%	
Per Capita 1965	\$7.17	
Increase 1960-1965	37%	

Source: Annual Budgets 1949-50, 1959-60, 1964-65
Annual Report of City Controller 1949-50

More, however, needs to be done in terms of increased leadership, and more and better maintenance of public recreational facilities if Providence residents are to be adequately served. It is anticipated that the combined annual budgets of the Park and Recreation Departments will have to be substantially increased to achieve the best available potential.

¹⁷A portion of the per capita increase is accounted for by the population decline over this period. Actual dollar increases are shown in Table VI.

APPENDIX A

EXISTING AREAS

Site No.	Facility Name/location	Primary Use	Size in Acres
EAST SIDE PLANNING DISTRICT			
1	Collyer Park	Playground	4.10
2	Lippitt Mem. Park	Park	5.99
3	Summit Ave.	Jr. Playground	.50
4	Rochambeau Park	Traffic separator	.04
5	Blackstone Blvd.	Parkway	19.30
6	Sessions St.	Playground	2.85
7	Bishop Jr. High	Jr. Playground	.80
8	Cypress St.	Playground	1.85
9	Jenkins St.	Playlot	.10
10	Quaid St.	Playground	.77
11	Capt. Davis Mem. Blvd.	Parkway	1.10
12	Lippitt Hill	Jr. Playground	.97
13	Hope High School	Playfield	12.32
14	Benefit St.	Neighborhood Center	.53
15	Bernon Mem. Park	Park	.19
16	Roger Williams Spring	Park	.17
17	Prospect Terrace	Park	2.03
18	Gladys Potter Garden	Park	1.23
19	Blackstone Park	Park	45.35
20	Paterson St.	Jr. Playground	1.70
21	Constance Hitherby	Park	1.67
22	Courthouse Park	Park	.35
23	Fenner Park	Traffic separator	.07
24	Roger Williams Square	Park	.92
25	Gano St.	Playfield	4.07
26	Arnold St.	Jr. Playground	.40
27	Fox Point	Playground	2.21
28	Washington Square	Park	.89
CENTRAL PLANNING DISTRICT			
29	Garibaldi	Jr. Playground	1.13
30	Franklin Park	Park	.53
31	Knight St.	Neighborhood Center	1.47
32	Ridge St.	Jr. Playground	.63
33	Dexter Training Ground ¹	Playfield	9.08
34	Codding Court	Jr. Playground	.23
35	Plain St.	Neighborhood Center	.28
36	Prairie Ave.	Neighborhood Center	1.91
37	Warren Ave.	Jr. Playground	.34
38	Ellery St.	Jr. Playground	.73
39	Messer St.	Park	1.98
40	Willard Ave.	Jr. Playground	.23
41	Edmund Flynn	Playfield	8.14
42	Bucklin St.	Playfield	7.09
43	Mary Fogarty	Playground	2.16
44	Columbus Park	Traffic separator	.21
45	Richardson Park	Playground	3.19
46	Sackett St.	Playground	2.16

Site No.	Facility Name/location	Primary Use	Size in Acres
SOUTH PLANNING DISTRICT			
47	J. T. Owens Mem. Field ²	Playground	5.00
48	Ardoene St.	Playground	4.48
49	Joseph Williams Field	Playground	5.30
50	Tim O'Neil	Playfield	10.00
51	Roger Williams Park	Park	415.12
52	Columbia Park	Jr. Playground	1.59
ANNEX PLANNING DISTRICT			
53	Merino Park	Park	11.15
		Playfield	7.40
54	Perry Jr. High	Jr. Playground	2.07
55	Laurel Hill Ave.	Playground	2.52
56	Neutaconkanut Hill	Playfield	12.00
57	Neutaconkanut and King Parks	Park	57.08
58	Daniel Ave.	Jr. Playground	1.17
59	Clarence St.	Jr. Playground	.91
60	Wallace St.	Playground	3.39
NORTH PLANNING DISTRICT			
61	Wanskuck Park	Park	24.87
62	Valley View ³	Playground	2.00
63	Veazie St.	Playfield	4.50
64	Windmill St.	Jr. Playground	1.75
65	Ascham St.	Playground	1.72
66	Admiral Hopkins Sq.	Park	1.10
67	Metcalf Field	Playfield	11.36
68	Smith St.	Playground	3.23
69	Mt. Pleasant High School	Playfield	14.63
70	Triggs Mem. Park	Park (Golf Course)	161.39
71	Obediah Brown	Playfield	9.43
72	Chalkstone Ave.	Playground	1.38
73	Mt. Pleasant Playground	Playground	3.60
74	Pleasant Valley Parkway	Parkway	5.40
75	Greene Jr. High	Jr. Playground	.30
76	Davis Park	Playfield	10.05
77	Danforth St.	Playground	4.72
78	Chad Brown West ³	Jr. Playground	.30
79	Chad Brown East ³	Jr. Playground	.50
80	Hopkins Park	Playfield	7.44
81	Candace St.	Park	.55
82	Regent Ave.	Jr. Playground	.89
83	Woonasquatucket Res. ²	Playfield	4.00
84	Manton Complex ³	Jr. Playground	.20
85	Joslin St.	Neighborhood Center	2.50
86	Valley St.	Playground	4.84
DOWNTOWN PLANNING DISTRICT			
87	City Hall Park	Park	2.57
88	Kennedy Plaza	Traffic separator	.75
89	Abbott Park	Traffic separator	.18

Site No.	Facility Name/location	Apparatus	Spray Pool	Volleyball Ct.	Tennis Court	Basketball Ct.	Boccie Ct.	Shuffle Board	Horseshoe Ct.	Handball Ct.	Little League Field	Softball Field	Baseball Field	Football Field	Soccer Field	1/4 Mile Track	Swimming Pool	Pond	Benches	Picnic Tables	Bubbler	Shelter House
EAST SIDE PLANNING DISTRICT																						
1	Collyer Park										1								X			
2	Lippitt Mem. Park			2															X			
3	Summit Ave.	1						2														
4	Rochambeau Park																					
5	Blackstone Blvd.																					
6	Sessions St.					2					1	1	1	1					X			
7	Bishop Jr. High			6																		
8	Cypress St.	3									1									X	X	
9	Jenkins St.	4																	X			
10	Quaid St.	1	1	1/2																	X	
11	Capt. Davis Mem. Blvd.																					
12	Lippitt Hill	5																				
13	Hope High School			8								2	1		1							
14	Benefit St.																					
15	Bernon Mem. Park																					
16	Roger Williams Spring																					
17	Prospect Terrace																		X			
18	Gladys Potter Garden																		X			
19	Blackstone Park																2		X			
20	Paterson St.	6		2		2													X	X	X	
21	Constance Witherby																		X			
22	Courthouse Park																					
23	Fenner Park																					
24	Roger Williams Square																		X			
25	Gano St.	3									1		1	1					X		X	
26	Arnold St.	2																				
27	Fox Point	2	1								1						1		X	X		
28	Washington Square																					
CENTRAL PLANNING DISTRICT																						
29	Garibaldi	3		1																		X
30	Franklin Park																		X	X		
31	Knight St.			1													1		X	X		
32	Ridge St.	3	1	1/2		2		2			1	1							X	X	X	
33	Dexter Training Ground ¹				2	2	2												X			
34	Coddling Court	5	1	2															X	X		
35	Plain St.			1																		
36	Prairie Ave.			1													1					
37	Warren Ave.	4																		X	X	
38	Ellery St.	2																	X			
39	Messer St.																		X			
40	Willard Ave.																					X
41	Edmund Flynn	5	1	1		1					1		1	1						X		
42	Bucklin St.	3		3								1	1	1			1		X	X	X	
43	Mary Fogarty	4		1							1								X	X	X	
44	Columbus Park																					
45	Richardson Park	4	1	1								1	1						X	X		
46	Sackett St.	4	1	1/2							1								X	X		
47	J. T. Owens Mem. Field ²	4	1								1			1					X	X	X	
48	Ardoene St.	5	1									1		1					X	X	X	

Site No.	Facility Name/location	Apparatus	Spray Pool	Volleyball Ct.	Tennis Court	Basketball Ct.	Boccie Ct.	Shuffle Board	Horseshoe Ct.	Handball Ct.	Little League Field	Softball Field	Baseball Field	Football Field	Soccer Field	¼ Mile Track	Swimming Pool	Pond	Benches	Picnic Tables	Bubbler	Shelter House
SOUTH PLANNING DISTRICT																						
49	Joseph Williams Field	2									1		1									
50	Tim O'Neil				11						2					1						
51	Roger Williams Park	3				1½													X	X	X	X
52	Columbia Park	5				1½													X		X	X
ANNEX PLANNING DISTRICT																						
53	Merino Park Playfield	5	1										2						X	X	X	X
54	Perry Jr. High															1						
55	Laurel Hill Ave.	5	1		1						1	1	1	1							X	X
56	Neutaconkanut Hill										1	2	1	1			1		X		X	
57	Neutaconkanut and King Parks	4	1																		X	X
58	Daniel Ave.	5		1																	X	X
59	Clarence St.	4				1															X	X
60	Wallace St.	2																				
NORTH PLANNING DISTRICT																						
61	Wanskuck Park																		X		X	
62	Valley View ³											1										
63	Veazie St.	2	1		1								1	1					X		X	
64	Windmill St.	1			½																X	
65	Ascham Street	4										1									X	X
66	Admiral Hopkins Sq.																		X			
67	Metcalf Field				2	2					1	1	1	1					X		X	
68	Smith St.	5	1		1						1									X	X	
69	Mt. Pleasant High School				8						2		2	2		1						
70	Triggs Mem. Park																					
71	Obediah Brown											3	1	1	1	1			X		X	
72	Chalkstone Ave.	3																				
73	Mt. Pleasant Playground	4	1		½								1	1					X		X	X
74	Pleasant Valley Parkway																					
75	Greene Jr. High				2																	
76	Davis Park	4	1	1	2	1		2			1		1	1					X		X	
77	Danforth St.																1					
78	Chad Brown West ³	10	1		2																	
79	Chad Brown East ³	10	1		4																	
80	Hopkins Park	5	1									1		1					X		X	X
81	Candace St.	6																				
82	Regent Ave.	1			1														X		X	
83	Woonasquatucket Res. ²													2								
84	Manton Complex ³				1½																	
85	Joslin St.	4									1						1					
86	Valley St.	5	1		1								1	1					X		X	
DOWNTOWN PLANNING DISTRICT																						
87	City Hall Park																		X			
88	Kennedy Plaza																					
89	Abbott Park																					

NOTE: 1. Owned by Dexter Donation Trust Fund
2. Owned and operated by State
3. Owned and operated by P. H. A.

NOTE: Listed as neighborhood centers are only those financed in whole or in part with recreation bond authorities.

APPENDIX B

DETAILED PROPOSALS

Site No.	Name of Facility	Primary Use ⁽¹⁾	Proposal	Size	
				Existing	Proposed
EAST SIDE PLANNING DISTRICT					
1	Collyer Park	Playground	Improve	4.10	4.10
2	Lippitt Mem. Park	Park*	Improve	5.99	5.99
3z	Summit Ave.	Jr. Playground and Neighborhood Center	Improve	.50	.50
4	Rochambeau Park	Traffic Separator	Retain	.04	.04
5	Blackstone Blvd.	Parkway	Retain	19.30	19.30
6	Sessions St.	Playground	Improve	2.85	2.85
7z	Bishop Jr. High School	Jr. Playground and Neighborhood Center	Improve	.80	.80
8	Cypress St.	Playground*, Pool and Ice Rink	Improve and expand	1.85	2.01
9	Jenkins St.#	Park*	Expand	.10	.50
10	Quaid St.	Playground	Abandon	.77	—
11	Capt. Davis Mem. Blvd.	Parkway	Retain	1.10	1.10
12z	Lippitt Hill	Playground and Neighborhood Center	Expand	.97	1.95
13z	Hope High School	Playfield, Pool, Neighborhood Center	Improve	12.32	12.32
14	Benefit St. Rec. Center	Neighborhood Center	Abandon	.53	—
15	Bernon Mem. Park	Park }	Expand	.19 }	4.00
16	Roger Williams Spring	Park }		.17 }	
17	Prospect Terrace	Park*	Improve	2.03	2.03
18	Gladys Potter Garden	Park	Retain	1.23	1.23
19	Blackstone Park	Park	Improve	45.35	45.35
20	Patterson St.	Jr. Playground*	Improve	1.70	1.70
21	Constance Witherby Park	Park	Retain	1.67	1.67
22	Courthouse Park	Park	Retain	.35	.35
23	Fenner Park	Traffic Separator	Retain	.07	.07
24	Roger Williams Square	Park	Improve	.92	.92
25	Gano Street	Playfield	Expand	4.07	5.34
26	Arnold St.	Jr. Playground*	Expand	.40	1.10
27z	Fox Point	Playground*, Neighborhood Center, Pool, Ice Rink	Expand	2.21	3.61
28	Washington Sq.	Park	Convert	.89	—
P-1	Eleventh St.	Playlot	Proposed	—	.10
P-2	Highland Ave.	Playground	Proposed	—	2.82
P-3	Grandview St.	Playlot	Proposed	—	.15
P-4	Lancaster St.	Playlot	Proposed	—	.11
P-5z	John Howland	Jr. Playground* Neighborhood Center	Proposed	—	.50
P-6	Prospect St.	Playlot	Proposed	—	.09
P-7	Ives St.	Playlot	Proposed	—	.25
P-8	Fox-India Point	Park	Proposed	—	25.00
CENTRAL PLANNING DISTRICT					
29	Garibaldi	Jr. Playground	Abandon	1.13	—
30	Franklin Park	Park*	Improve	.53	.53
31	Knight St.	Neighborhood Center* Pool, Ice Rink	Expand	1.47	1.80
32	Ridge St.	Jr. Playground*	Expand	.63	.77
33	Dexter Training Ground	Playfield*	Improve	9.08	9.08
34zz	Codding Court	Jr. Playground	Retain	.23	.23

Site No.	Name of Facility	Primary (1) Use	Proposal	Size	
				Existing	Proposed
35	Plain St.	Neighborhood Center	Abandon	.28	—
36	Prairie Ave.	Neighborhood Center Pool, Ice Rink	Improve	1.91	1.91
37	Warren Ave.	Jr. Playground	Abandon	.34	—
38	Ellery St.	Park*	Improve	.73	.73
39z	Messer St. (New West End School)	Playground* Neighborhood Center	Expand	1.98	2.50
40	Willard Ave.	Jr. Playground	Abandon	.23	—
41z	Edmund Flynn	Playfield* Neighborhood Center	Improve	8.14	8.14
42z	Bucklin St. (Stuart Jr. High)	Playfield*, Pool, Ice Rink Neighborhood Center	Improve	7.09	7.09
43z	Mary Fogarty (Harriet St.)	Playground*	Improve	2.16	2.16
44	Columbus Park	Traffic Separator	Retain	.21	.21
45z	Richardson Park (Williams Jr. High)	Playground* Neighborhood Center	Improve	3.19	3.19
46z	Sackett St.	Playground*	Improve	2.16	2.16
P-9z	Kenyon St. (Kenyon St. School)	Playground* Neighborhood Center	Proposed	—	3.40
P-10	Grove St.#	Park*	Proposed	—	.37
P-11z	Almy St. (New Almy School)	Jr. Playground* Neighborhood Center	Proposed	—	.38
P-12z	Bridgham Jr. High	Jr. Playground	Proposed	—	1.36
P-13	Grant St.	Playlot	Proposed	—	.09
P-14	Pallas St.	Playlot	Proposed	—	.07
P-15	Chaffee Park	Playground	Proposed	—	1.00
P-16z	Central High School (J. L. Hanley Educational Center)	Playfield, Pool Neighborhood Center	Proposed	—	9.43
P-17z	Classical High School (J. L. Hanley Educational Center)	Playfield	Proposed	—	4.05
P-18	Dodge St.	Playlot	Proposed	—	.23
P-19z	Upper So. Prov. (New Upper So. Prov. School)	Playground* Neighborhood Center	Proposed	—	2.70
P-20	Beacon Ave.#	Park	Proposed	—	.50
P-21	Dudley St.	Playlot	Proposed	—	.11
P-22	Dartmouth Ave.	Playlot	Proposed	—	.08
P-23z	New Elmwood Playground (New Elmwood School)	Playground* Neighborhood Center	Proposed	—	2.75
P-24	Bellevue Ave.	Playlot	Proposed	—	.19
P-25	Althea St.	Playlot	Proposed	—	.09
P-26	Waldo St.	Playlot	Proposed	—	.11
P-27	Ninigret Ave.	Playlot	Proposed	—	.07
P-28	Grand St.	Playlot	Proposed	—	.07
P-29	Vinyard St.#	Park*	Proposed	—	.78
P-30	Moore St.	Playlot	Proposed	—	.10
P-31	Marlborough Ave.	Playlot	Proposed	—	.10
P-32	Public St.	Playlot	Proposed	—	.10
P-33	Temple St.#	Park*	Proposed	—	.70
P-34	Baxter St.	Playlot	Proposed	—	.07
P-35z	Melrose St. (New Lexington St. School)	Playground Neighborhood Center	Proposed	—	2.00
P-36	Lexington Ave.#	Park*	Proposed	—	.55
P-37	Houston St.	Playlot	Proposed	—	.13

Site No.	Name of Facility	Primary (1) Use	Proposal	Size	
				Existing	Proposed
P-38 z	Thurbers Ave. (New Lower So. Prov. School)	Playground* Neighborhood Center	Proposed	—	1.70
P-39	Sumter St.	Playlot	Proposed	—	.11
P-40	Lennox Ave.	Playlot	Proposed	—	.11
P-41	Early St.	Playlot	Proposed	—	.09

SOUTH PLANNING DISTRICT

47	J. T. Owens Mem. Field	Playground	Retain	5.00	5.00
48 z	Ardoene (Reservoir Ave. School)	Playground* Neighborhood Center	Improve	4.48	4.48
49	Joseph Williams Field	Playlot	Reduce to Playlot	5.30	.25
50	Tim O'Neil Field	Playfield, Pool, Ice Rink	Improve	10.00	10.00
51	Roger Williams Park	Park	Improve	415.12	415.12
52	Columbia Park	Jr. Playground*	Improve	1.59	1.59
P-42	Algonquin St.	Playlot	Proposed	—	.07
P-43	Cass St.	Playlot	Proposed	—	.09
P-44	Shipyards	Playground	Improve	2.75	2.75
P-45	Vermont Ave.	Playlot	Proposed	—	.07
P-46 z	Broad St. (New Broad St. School)	Playground* Neighborhood Center	Proposed	—	2.00
P-47	Carr St.	Playlot	Proposed	—	.09

ANNEX PLANNING DISTRICT

53	Merino Park	Park* Playfield	Improve Improve	11.15 7.40	11.15 7.40
54 z	Perry Jr. High	Jr. Playground Neighborhood Center	Improve	2.07	2.07
55 z	Laurel Hill Ave.	Playground*	Improve	2.52	2.52
56	Neutaconkanut Hill	Playfield Pool	Improve	12.00	12.00
57	Neutaconkanut and King Parks	Park	Improve	57.08	57.08
58	Daniel Ave.	Jr. Playground*, Ice Rink	Improve	1.17	1.17
59	Clarence St.	Park	Improve	.91	.91
60	Wallace St.	Playground	Improve	3.39	3.39
P-48	King Phillip St.	Playlot	Proposed	—	.11
P-49 z	New Merino (New Merino School)	Playground* Neighborhood Center	Proposed	—	3.00
P-50	Alverson Ave.	Playlot	Proposed	—	.11
P-51	Whittier St.	Playlot	Proposed	—	.11
P-52	Ralph St. #	Park*	Proposed	—	.46
P-53 z	New Annex (New Annex School)	Playground* Neighborhood Center	Proposed	—	2.20
P-54	Roosevelt St.	Playlot	Proposed	—	.11
P-55	Priscilla Ave.	Playlot	Proposed	—	.08
P-56	Hillhurst Ave.	Playlot	Proposed	—	.10
P-57	Union Ave.	Playlot	Proposed	—	.08

NORTH PLANNING DISTRICT

61	Wanskuck Park	Park	Retain	24.87	24.87
62 z	Valley View	Playground	Retain	2.00	2.00
63 z	Veazie St. (Veazie St. School)	Playfield, Pool, Ice Rink Neighborhood Center	Expand	4.50	7.00
64 z	Windmill St. (Windmill St. School)	Jr. Playground* Neighborhood Center	Improve	1.75	1.75

Site No.	Name of Facility	Primary (1) Use	Proposal	Size	
				Existing	Proposed
65	Ascham St.	Playground*	Improve	1.72	1.72
66	Admiral Hopkins Sq.	Park	Retain	1.10	1.10
67 z	Metcalf Field (Hopkins Jr. High)	Playfield Neighborhood Center	Improve	11.36	11.36
68 z	Smith St. (Nelson St. School)	Playground* Neighborhood Center	Expand	3.23	3.65
69 z	Mt. Pleasant High School	Playfield, Pool Neighborhood Center	Improve	14.63	14.63
70	Triggs Mem. Park	Park (Golf Course)	Retain	161.39	158.39
71	Obediah Brown	Playfield	Lease	9.43	9.43
72	Chalkstone Ave.	Playground	Abandon	1.38	—
73 z	Mt. Pleasant Playground (West Jr. High)	Playground*, Pool, Ice Rink	Expand	3.60	4.02
74	Pleasant Valley Parkway	Parkway	Retain	5.40	5.40
75 z	Greene Jr. High	Jr. Playground	Retain	.30	.30
76	Davis Park	Playfield	Improve	10.05	10.05
77 z	Danforth St. (Camden Ave. School)	Playground* Neighborhood Center Pool, Ice Rink	Improve	4.72	4.72
78 zz	Chad Brown West	Jr. Playground*	Improve	.30	.30
79 zz	Chad Brown East	Jr. Playground*	Improve	.50	.50
80	Hopkins Park	Playfield	Improve	7.44	7.44
81	Candace St.	Park*	Improve	.55	.55
82	Regent Ave.	Jr. Playground	Convert	.89	—
83	Woonasquatucket Res.	Playfield	Retain	4.00	4.00
84 zz	Manton Complex	Jr. Playground*	Improve	.20	.20
85 z	Joslin St. (Joslin St. School)	Pool Neighborhood Center	Improve	2.50	2.50
86	Valley St.	Playfield	Retain	4.84	4.84
P-58	Canada Pond Park	Park	Proposed	—	19.00
P-59 z	New Berkshire (New Berkshire School)	Playground* Neighborhood Center	Proposed	—	3.00
P-60	Berkshire St.#	Park*	Proposed	—	.55
P-61	Chapin Hospital	Playlot	Proposed	—	.10
P-62	Westcott Ave.	Playlot	Proposed	—	.09
P-63 z	New Triggs (New Mt. Pleasant School)	Playground* Neighborhood Center	Proposed	—	3.00
P-64	Chaucer St.	Playlot	Proposed	—	.13
P-65	Andem St.	Playlot	Proposed	—	.07
P-66 z	New Regent (New Regent School)	Playground* Neighborhood Center	Proposed	—	3.00
P-67	Academy Ave.#	Park*	Proposed	—	.92
P-68	Bath St.	Playlot	Proposed	—	.12
P-69	Steuben St.	Playlot	Proposed	—	.07
P-70	Manton Ave.	Playground*	Proposed	—	3.00

DOWNTOWN PLANNING DISTRICT

87	City Hall Park	Park	Retain	2.57	2.57
88	Kennedy Plaza	Traffic Separator	Retain	.75	.75
89	Abbott Park	Traffic Separator	Retain	.18	.18
P-71	La Salle Park	Park	Proposed	—	1.22
P-72	Empire Park	Park	Proposed	—	.96

* Includes a playlot

School site abandoned or recommended for abandonment

(1) Listed as neighborhood centers are those financed from school bond issues as well as recreation bond authorities

z School Department

zz Housing Authority

DETAILED PROPOSALS

Site No.	Name of Facility	Primary (1) Use	Comments
EAST SIDE PLANNING DISTRICT			
1	Collyer Park	Playground	Add play apparatus, basketball court, night lighting
2	Lippitt Mem. Park	Park*	Add play sculpture and repair tennis courts
3z	Summit Ave.	Jr. Playground and Neighborhood Center	Add basketball area, apparatus, benches; adapt interior space for neighborhood use
4	Rochambeau Park	Traffic Separator	Small memorial
5	Blackstone Blvd.	Parkway	Highway divider
6	Sessions St.	Playground	Add benches, spray pool
7z	Bishop Jr. High School	Jr. Playground and Neighborhood Center	Repair fences and surfacing; convert one tennis court into a basketball court; adapt interior space for neighborhood use
8	Cypress St.	Playground*, Pool and Ice Rink	Add basketball court, volleyball court, picnic tables, benches, swimming pool, ice rink, and apparatus
9	Jenkins St.#	Park*	Install two bocce courts, apparatus, picnic tables, bubbler
10	Quaid St.	Playground	
11	Capt. Davis Mem. Blvd.	Parkway	Highway divider
12z	Lippitt Hill	Playground and Neighborhood Center	Site acquired and being developed
13z	Hope High School	Playfield, Pool, Neighborhood Center	Add indoor pool; adapt interior space for neighborhood use
14	Benefit St. Rec. Center	Neighborhood Center	
15	Bernon Mem. Park	Park }	Work to be undertaken by National Park Service
16	Roger Williams Spring	Park }	
17	Prospect Terrace	Park*	Add apparatus, benches, bubbler
18	Gladys Potter Garden	Park	
19	Blackstone Park	Park	Spot development for day camping, nature trails, etc.
20	Patterson St.	Jr. Playground*	Add an open shelter
21	Constance Witherby Park	Park	
22	Courthouse Park	Park	Half state-owned, half city-owned
23	Fenner Park	Traffic Separator	Small memorial
24	Roger Williams Square	Park	Add benches
25	Gano Street	Playfield	Add two tennis courts, basketball court, night lighting, shelter house
26	Arnold St.	Jr. Playground*	Add apparatus, two tennis courts, basketball court, handball court, two shuffleboard courts, picnic tables, benches, bubbler
27z	Fox Point	Playground*, Neighborhood Center, Pool, Ice Rink	Add apparatus, three tennis courts, basketball court, handball court, ice rink, picnic tables, benches
28	Washington Sq.	Park	To be incorporated in Fox-India Point Park
P-1	Eleventh St.	Playlot	Install apparatus, picnic tables, benches
P-2	Highland Ave.	Playground	Install two tennis courts, basketball court, handball court, softball, picnic tables, benches, shelter house, and spray pool
P-3	Grandview St.	Playlot	Install apparatus, picnic tables, benches
P-4	Lancaster St.	Playlot	Install apparatus, picnic tables, benches
P-5z	John Howland	Jr. Playground* Neighborhood Center	Install apparatus, volleyball court, handball court, basketball; adapt interior for neighborhood use
P-6	Prospect St.	Playlot	Install apparatus, picnic tables, benches
P-7	Ives St.	Playlot	Install apparatus, shuffleboard court, picnic tables, benches
P-8	Fox-India Point	Park	To be waterfront park with marina, fishing facilities, etc; also picnic tables, benches, bubbler, shelter house

Site No.	Name of Facility	Primary (1) Use	Comments
CENTRAL PLANNING DISTRICT			
29	Garibaldi	Jr. Playground	
30	Franklin Park	Park*	Demolish bathhouse; install bocce court, picnic tables, benches, bubbler
31	Knight St.	Neighborhood Center* Pool	Add apparatus, two tennis courts, bocce court, ice rink, picnic tables and benches
32	Ridge St.	Jr. Playground*	Add apparatus, tennis court, 1/2 basketball court, picnic tables, benches, new shelter house
33	Dexter Training Ground	Playfield*	Owned by Dexter Donation Trust Fund; change one softball diamond to baseball; add apparatus, picnic tables, bubbler, shelter house
34 zz	Coddington Court	Jr. Playground	
35	Plain St.	Neighborhood Center	
36	Prairie Ave.	Neighborhood Center Pool, Ice Rink	Add two multi-purpose rooms, one storage room; develop unused portion of land as a park, and add ice rink
37	Warren Ave.	Jr. Playground	
38	Ellery St.	Park*	To be converted from jr. playground to park; add apparatus, spray pool, two bocce courts, picnic tables, benches
39 z	Messer St. (New West End School)	Playground* Neighborhood Center	Install apparatus, two tennis courts, basketball court, softball diamond, picnic tables, benches, bubbler, spray pool
40	Willard Ave.	Jr. Playground	
41 z	Edmund Flynn	Playfield* Neighborhood Center	Add apparatus, volleyball court, open shelter, night lighting, ice rink
42 z	Bucklin St. (Stuart Jr. High)	Playfield*, Pool, Ice Rink Neighborhood Center	Add three tennis courts, ice rink, night lighting, picnic tables, benches; adapt interior for neighborhood use
43 z	Mary Fogarty (Harriet St.)	Playground*	Add handball court, apparatus, picnic tables, benches, and spray pool
44	Columbus Park	Park	Small memorial
45 z	Richardson Park (Williams Jr. High)	Playground* Neighborhood Center	Add volleyball court, apparatus, picnic tables, shelter house; adapt interior for neighborhood use
46 z	Sackett St.	Playground*	Add apparatus, handball court, open shelter
P-9 z	Kenyon St. (Kenyon St. School)	Playground* Neighborhood Center	Install two tennis courts, basketball court, two handball courts, two bocce courts, little league field, apparatus; adapt interior for neighborhood use
P-10	Grove St. #	Park*	Install apparatus, two horseshoe courts, picnic tables, benches
P-11 z	Almy St. (New Almy School)	Jr. Playground* Neighborhood Center	Install spray pool, apparatus, picnic tables and benches
P-12 z	Bridgman Jr. High	Jr. Playground	Install tennis court, basketball court, handball court, softball diamond, benches, bubbler
P-13	Grant St.	Playlot	Install apparatus, picnic tables, benches
P-14	Pallas St.	Playlot	Install apparatus, picnic tables, benches
P-15	Chaffee Park	Playground	See Classical-Central Renewal Plan
P-16 z	Central High School (J. L. Hanley Educational Center)	Playfield, Pool Neighborhood Center	See Classical-Central Renewal Plan; indoor olympic pool recommended for later construction
P-17 z	Classical High School (J. L. Hanley Educational Center)	Playfield	See Classical-Central Renewal Plan
P-18	Dodge St.	Playlot	Add apparatus, picnic tables, benches
P-19 z	Upper So. Prov. (New Upper So. Prov. School)	Playground* Neighborhood Center	Install two tennis courts, basketball court, softball diamond, picnic tables, benches, bubbler
P-20	Beacon Ave. #	Park	Install two bocce courts, picnic tables, benches, bubbler
P-21	Dudley St.	Playlot	Install apparatus, picnic tables, benches
P-22	Dartmouth Ave.	Playlot	Install apparatus, picnic tables, benches

Site No.	Name of Facility	Primary (1) Use	Comments
P-23 z	New Elmwood Playground (New Elmwood School)	Playground* Neighborhood Center	Install softball diamond, basketball court, apparatus, picnic tables, benches, bubbler
P-24	Bellevue Ave.	Playlot	Install apparatus, picnic tables, benches
P-25	Althea St.	Playlot	Install apparatus, picnic tables, benches
P-26	Waldo St.	Playlot	Install apparatus, picnic tables, benches
P-27	Ninigret Ave.	Playlot	Install apparatus, picnic tables, benches
P-28	Grand St.	Playlot	Install apparatus, picnic tables, benches
P-29	Vinyard St.#	Park*	Install two horseshoe courts, apparatus, picnic tables, benches
P-30	Moore St.	Playlot	Install apparatus, picnic tables, benches
P-31	Marlborough Ave.	Playlot	Install apparatus, picnic tables, benches
P-32	Public St.	Playlot	Install apparatus, picnic tables, benches
P-33	Temple St.#	Park*	Install two shuffleboard courts, apparatus, picnic tables, benches
P-34	Baxter St.	Playlot	Install apparatus, picnic tables, benches
P-35 z	Melrose St. (New Lexington St. School)	Playground Neighborhood Center	Install two volleyball courts, basketball court, little league field, picnic tables, benches, bubbler
P-36	Lexington Ave.#	Park*	Install two shuffleboard courts, picnic tables, benches, bubbler
P-37	Houston St.	Playlot	Install apparatus, picnic tables, benches, bubbler
P-38 z	Thurbers Ave. (New Lower So. Prov. School)	Playground* Neighborhood Center	Install spray pool, apparatus, picnic tables, benches, bubbler
P-39	Sumter St.	Playlot	Install apparatus, picnic tables, benches
P-40	Lennox Ave.	Playlot	Install apparatus, picnic tables, benches
P-41	Early St.	Playlot	Install apparatus, picnic tables, benches

SOUTH PLANNING DISTRICT

47	J. T. Owens Mem. Field	Playground	State owned and operated
48 z	Ardoene (Reservoir Ave. School)	Playground* Neighborhood Center	Add basketball court, spray pool, apparatus, build porch on shelter house; adapt interior space for neighborhood use
49	Joseph Williams Field	Playlot	Install spray pool, apparatus, picnic tables, benches
50	Tim O'Neil Field	Playfield, Pool, Ice Rink	Add basketball court, night lighting, outdoor pool, ice rink, shelter house, picnic tables, benches, bubbler, parking
51	Roger Williams Park	Park	Develop picnic groves, nature trails, day camping, additional parking, shelter house tennis court area
52	Columbia Park	Jr. Playground*	Add volleyball court, tennis court, apparatus, picnic tables, benches
P-42	Algonquin St.	Playlot	Install apparatus, picnic tables, benches
P-43	Cass St.	Playlot	Install apparatus, picnic tables, benches
P-44	Shipyards	Playground	Install baseball diamond, football field, spray pool, two shuffleboard courts, benches, bubbler
P-45	Vermont Ave.	Playlot	Install apparatus, picnic tables, benches
P-46 z	Broad St. (New Broad St. School)	Playground* Neighborhood Center	Install softball diamond, two tennis courts, volleyball court, basketball court, spray pool, picnic tables, benches, bubbler
P-47	Carr St.	Playlot	Install apparatus, picnic tables, benches

ANNEX PLANNING DISTRICT

53	Merino Park	Park* Playfield	For park portion develop picnic groves, day camping areas, nature trails For playfield add basketball court, softball diamond, two tennis courts, night lighting, apparatus, benches
54 z	Perry Jr. High	Jr. Playground Neighborhood Center	Add football goal posts
55 z	Laurel Hill Ave.	Playground*	Add softball diamond, spray pool, handball court, apparatus, picnic tables, benches, shelter house, rebuild tennis courts

Site No.	Name of Facility	Primary (1) Use	Comments
56	Neutaconkanut Hill	Playfield Pool	Add picnic tables, benches, shelter house
57	Neutaconkanut and King Parks	Park	Develop into winter sports area with skiing and tobogganing; construct nature trails and an observation terrace at top of hill; add picnic tables, benches, shelter house
58	Daniel Ave.	Jr. Playground* Ice Rink	To be changed from jr. playground use; install two bocce courts, picnic tables, benches, bubbler
59	Clarence St.	Park	Add two tennis courts, handball court, ice rink, apparatus, picnic tables, benches
60	Wallace St.	Playground	Add two tennis courts, basketball court, spray pool, little league field, picnic tables, benches, bubbler, shelter house
P-48	King Phillip St.	Playlot	Install apparatus, picnic tables, benches
P-49z	New Merino (New Merino School)	Playground* Neighborhood Center	Install softball diamond, two tennis courts, handball court, spray pool, picnic tables, benches, bubbler
P-50	Alverson Ave.	Playlot	Install apparatus, picnic tables, benches
P-51	Whittier St.	Playlot	Install apparatus, picnic tables, benches
P-52	Ralph St.#	Park*	Install two horseshoe courts, apparatus, picnic tables, benches, bubbler
P-53z	New Annex (New Annex School)	Playground* Neighborhood Center	Install baseball and softball diamonds, basketball court, volleyball court, spray pool, apparatus, picnic table, benches, bubbler
P-54	Roosevelt St.	Playlot	Install apparatus, picnic tables, benches
P-55	Priscilla Ave.	Playlot	Install apparatus, picnic tables, benches
P-56	Hillhurst Ave.	Playlot	Install apparatus, picnic tables, benches
P-57	Union Ave.	Playlot	Install apparatus, picnic tables, benches

NORTH PLANNING DISTRICT

61	Wanskuck Park	Park	
62zz	Valley View	Playground	
63z	Veazie St. (Veazie St. School)	Playfield, Pool, Ice Rink Neighborhood Center	Add two tennis courts, two handball courts, basketball court, swimming pool, ice rink; adapt interior for neighborhood use
64z	Windmill St. (Windmill St. School)	Jr. Playground* Neighborhood Center	Add handball court, apparatus, picnic tables, benches, bubbler; adapt interior space for neighborhood use
65	Ascham St.	Playground*	Add spray pool, apparatus
66	Admiral Hopkins Sq.	Park	
67z	Metcalf Field (Hopkins Jr. High)	Playfield Neighborhood Center	Add night lighting and open shelter; adapt interior space for neighborhood use
68z	Smith St. (Nelson St. School)	Playground* Neighborhood Center	Add two tennis courts, apparatus, picnic tables, benches, shelter house; adapt interior space for neighborhood use
69z	Mt. Pleasant High School	Playfield, Pool Neighborhood Center	Add softball diamond, basketball court, indoor pool, picnic tables, benches, bubbler; adapt interior space for neighborhood use
70	Triggs Mem. Park	Park (Golf Course)	Area reduced to accommodate school-playground site (New Mt. Pleasant School)
71	Obediah Brown	Playfield	Transfer title to R.I.C.; retain use for summer program
72	Chalkstone Ave.	Playground	
73z	Mt. Pleasant Playground (West Jr. High)	Playground*, Pool, Ice Rink	Add basketball court, outdoor pool, ice rink, picnic tables, benches
74	Pleasant Valley Parkway	Parkway	
75z	Greene Jr. High	Jr. Playground	
76	Davis Park	Playfield	Add softball field, picnic tables
77z	Danforth St. (Camden Ave. School)	Playground* Neighborhood Center Pool, Ice Rink	Add baseball diamond, football field, basketball court, ice rink, spray pool, apparatus, picnic tables, benches, shelter house

Site No.	Name of Facility	Primary Use ⁽¹⁾	Comments
78 zz	Chad Brown West	Pool Jr. Playground*	Add handball court, apparatus, picnic tables, benches
79 zz	Chad Brown East	Jr. Playground*	Add apparatus
80	Hopkins Park	Playfield	Remove existing apparatus; add benches, bubbler, shelter house
81	Candace St.	Park*	Add picnic tables, benches
82	Regent Ave.	Jr. Playground	Incorporate in New Regent Ave. School Site
83	Woonasquatucket Res.	Playfield	State-owned and operated (Area shown is portion in Providence)
84 zz	Manton Complex	Jr. Playground*	Add apparatus
85 z	Joslin St. (Joslin St. School)	Pool Neighborhood Center	Add apparatus, spray pool, basketball, benches
86	Valley St.	Playfield	Add night lighting
P-58	Canada Pond Park	Park	Develop with nature trails, day camping, picnic tables, benches, bubbler, shelter house
P-59 z	New Berkshire (New Berkshire School)	Playground* Neighborhood Center	Install softball diamond, two tennis courts, handball court, basketball court, spray pool, apparatus, picnic tables, benches, bubbler
P-60	Berkshire St.#	Park*	Install two bocce courts, apparatus, picnic tables, benches, bubbler
P-61	Chapin Hospital	Playlot	Install apparatus, picnic tables, benches
P-62	Westcott Ave.	Playlot	Install apparatus, picnic tables, benches
P-63 z	New Triggs (New Mt. Pleasant School)	Playground* Neighborhood Center	Install softball diamond, two tennis courts, basketball court, handball court, spray pool, picnic tables, benches, bubbler
P-64	Chaucer St.	Playlot	Install apparatus, picnic tables, benches
P-65	Andem St.	Playlot	Install apparatus, picnic tables, benches
P-66 z	New Regent (New Regent School)	Playground* Neighborhood Center	Install little league field, football field, two tennis courts, spray pool, picnic tables, benches, bubbler
P-67	Academy Ave.#	Park*	Install two bocce courts, apparatus, picnic tables, benches, bubbler
P-68	Bath St.	Playlot	Install apparatus, picnic tables, benches
P-69	Steuben St.	Playlot	Install apparatus, picnic tables, benches
P-70	Manton Ave.	Playground*	Install baseball diamond, football field, basketball court, handball court, spray pool, apparatus, picnic tables, benches, shelter house

DOWNTOWN PLANNING DISTRICT

87	City Hall Park	Park	
88	Kennedy Plaza	Traffic Separator	
89	Abbott Park	Traffic Separator	
P-71	La Salle Park	Park	See Weybosset Hill Renewal Plan
P-72	Empire Park	Park	See Weybosset Hill Renewal Plan

* Includes a playlot

School site abandoned or recommended for abandonment

(1) Listed as neighborhood centers are those financed from school bond issues as well as recreation bond authorities

zz School Department

z Housing Authority



11-2-2

11-2-2



MASTER PLAN FOR PUBLIC SCHOOLS

CITY PLAN COMMISSION • PROVIDENCE, RHODE ISLAND

The preparation of this report was financed in part through an urban planning grant from the Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended, in cooperation with the City of Providence, City Plan Commission, City Hall, Providence, R. I. 02903.

Library of Congress Catalog Number 66-28611
Printed in U.S.A.

Cuddy Lithograph Company
November 1966

ERRATA

On Map 2 following page 48
the Valley View Kindergarten
should be shown with a single
black dot. Similarly on Map 3
following page 60 the same school
should be shown in the same
manner.

The red octagonal symbols on
Map 2 and Map 3 indicate schools
to be retained and enlarged.

**MASTER PLAN FOR
PUBLIC SCHOOLS**

IN CITY COUNCIL

JUL 6 1967

READ:

WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.

Vincent Vespa
CLERK

CITY PLAN COMMISSION

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Harry Pinkerson *Vice-Chairman*
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Letter of Transmittal

February 3, 1966

The Honorable Joseph A. Doorley, Jr.
Mayor of Providence
City Hall
Providence, Rhode Island

Dear Mayor Doorley:

The City Plan Commission in pursuance of its responsibilities as enumerated in Chapter 1155, Section 5 of the Revised Ordinances of 1957 including the charge to "make careful studies of the construction, resources, possibilities and needs of the city with reference to its future and progressive development" has completed and herewith transmits an up-dated School Master Plan Report.

Approved by the Commission on October 28, 1965, this Plan was prepared with the cooperation and assistance of the professional staff of the Providence School Department. It is coordinated with the *Master Plan for Recreation and Conservation* approved as of the above date. Based upon recent and detailed population studies, and in accord with the Master Plan for Land Use approved May 5, 1964, it presents a picture of present school needs and of projected needs for the next ten to fifteen years.

It is anticipated that this report will be especially helpful in providing plan specifics in carrying out the Community Renewal Program completed in December of 1964 and in detailing the recently applied for GNRP for the Central Planning District.

The Commission staff wishes to express its particular gratitude to Dr. Charles A. O'Connor, Jr., Superintendent of Schools, and the many members of his staff for their wholehearted cooperation. Acknowledgments for very valuable assistance are also due Mr. Stewart R. Essex, Supervisor of Quality Control of the State Department of Education, Monsignor Arthur T. Geohegan, Superintendent of Parochial Schools of the Roman Catholic Diocese of Providence, and Mr. R. Einar Soderback, Superintendent of Public Buildings for the City of Providence.

Very truly yours,



EDWARD WINSOR

CHAIRMAN

City Plan Commission

DEPT. OF CITY CLERK
PROVIDENCE, R.I.

JUN 23 3 32 PM '67

FILED

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1 – INTRODUCTION

Perhaps never before in the history of our nation and city have the demands on public education been so great nor the advances and opportunities in education so bright. These demands and advances have had their effect on the planning of public school facilities, creating an urgent need for a new look at school construction requirements. This report will outline for Providence a comprehensive plan for replacement and improvement of public facilities over the years as funds become available.

The City Plan Commission derives from city ordinance its responsibility to make a *General Plan* for the development and improvement of the city, including proposals for special improvements and projects which it deems desirable. It is also required to work with the Finance Director in the preparation and recommendation of a comprehensive six-year capital improvement program.

In fulfillment of the first of these responsibilities the Commission produced in 1950 a *Master Plan for Public School Sites*, as part of a series of master plan elements. The present document updates and supersedes the 1950 plan. It provides a long range guide to the Mayor and City Council and others involved in public facility planning over the next 15 to 20 years. The *Capital Improvement Program*, which the Commission prepares annually, incorporates in each succeeding year those proposals which come within its six year span. Therefore, subject to the concurrence of the School Department and within the city's financial limitations, the proposals of this plan are expected to form a basic ingredient of the capital program as it evolves. It is recognized that each proposal of this plan will be reviewed and perhaps revised at many stages before firm decisions are made. Recommendations for sites, capacity, grade organization, and priority will necessarily be affected by changing conditions of the city and requirements for new facilities. Periodic review of long range objectives, building policies, and population trends will obviously be advisable.

To provide perspective, a brief review of the history of school plant planning and construction over the past 40 years may be helpful.

History of the School Plant

The Providence public school facilities built during the latter 19th and early 20th centuries included a large number of small primary schools of 6 classrooms or less, distributed inequitably about the city — there was considerable overlapping in some areas and very poor coverage in others. Then, beginning about 1905 the city built a series of larger primary schools of from 10 to 20 classrooms. Grammar schools, housing grades 5-8, were larger and usually better equipped.

At the time of the Strayer survey of 1923 there were 74 primary schools, half of which were of four rooms or less — but some quite large, and 27 grammar schools. There were also three high schools and a trade school. About a third of these buildings were of frame construction, none had special fire protection, and all but a handful were on sites barely larger than the buildings. Strayer inspected all buildings and ranked them according to an overall quality scoring system which he had used in many cities. On this basis he found that two-thirds of the primary, half the grammar, and three of the four high schools should be replaced as soon as practicable.

Total enrollment at that time was half again as high as it is today, but high school (grades 10-12) enrollment was only half its present figure; this illustrates two simultaneous trends — the rather striking decline in child population and the equally striking increase in the number of those who complete high school. Enrollment rose a little during the 1930's above its 1923 level of 43,500, then declined sharply during the 1940's, and has remained remarkably stable at about 27,000 since 1950.

Strayer projected the general population of Providence with unjustified optimism to a 1950 estimate of 433,000. His plan therefore generated a crisis atmosphere by forecasting the need for a vast and immediate increase in classroom space, a forecast that proved to be erroneous. Strayer proposed an "ultimate development plan," to be achieved over a 15 to 20 year period, by retaining 11 of the best elementary and grammar schools then existing and constructing 9 new elementary facilities, properly spaced to cover the residential areas. The grade organization was to be changed from K-4-4-4 to K-6-3-3, which soon occurred. Four new junior high schools were to be built which, with the conversion of 5 grammar and one high school then existing, would provide 10 intermediate schools. One new senior high school was to be added to three existing. The remaining 85 elementary structures were to be abandoned when and as new space could be provided, beginning with those of the lowest score.¹

Although good progress has been made on this effort, by 1965 there were still 19 elementary schools and one high school in use that had been recommended for closing in 1923. The city succeeded in building the 4 junior high schools plus two senior high and four elementary facilities (not where prescribed in the plan) before the great depression placed a damper on further construction.

In 1940 a fire safety survey of all buildings was conducted by the Associated Factory Mutual Fire Insurance Company, Boston, which resulted in installation of automatic sprinkler systems in all non-fire-resistant structures, a fire alarm system tied directly to fire headquarters, and many other fireproofing measures.² Thirteen of the 67 buildings then in use were recommended for closing because the cost of adequate fireproofing would exceed their value. Three of these, having been fireproofed, were still in use in 1965.

By 1950, after a nearly 20-year void in construction due to depression and war, the city was again in a position to resume its school replacement program. At this significant juncture the City Plan Commission published its *Master Plan for Public School Sites*, which was to guide the planning of new facilities over the next 15 years of important new growth and change.

The plan was programmed for 1980 and proposed the construction of 14 new elementary schools, six of which were subsequently built, and the conversion of one junior high to elementary use. Some 40 elementary buildings were proposed for closing, 19 of which were subsequently closed; also the plan called for retention and modernization of 12 of the newer facilities, 11 of which had been modernized by 1965.³

¹*Report of the Survey of Certain Aspects of the Public Schools System of Providence*, R. I. Division of Field Studies, Teachers College, Columbia University, NYC; George D. Strayer, Director; 1923-24.

²*Fire Survey of Providence Public Schools, 1940*; sponsored by the Providence School Department and Manufacturers Mutual Fire Insurance Co. unpublished report available.

³See Table II, Comparative Data on School Buildings, for recommended closings of both the 1950 and 1923 plans.

The plan objective was not only to replace the old obsolete and inefficiently small schools with new facilities, but to accommodate an expected enrollment peak resulting from the post war "baby boom". This peak was so mitigated by the general out-migration of the 1950's that available capacity in most areas remained ample, even permitting closings to proceed faster than corresponding new construction. School construction followed generally the recommendations of the plan in location, priority, and timing. The 6 schools subsequently built and the other elementary improvements, with two exceptions, correspond approximately to proposals of the present plan.⁴ Between 1959 and 1965 a modernization program was actually carried out in 27 of the older schools, extending their useful life.

The plan proposed no new secondary schools. The expected overcrowding of the junior high schools never occurred; in fact, all but one are underutilized in grades 7-9 and have provided space for other functions. Of the senior high schools, no additions were deemed necessary to meet the peak enrollment of the early 1960's, but improvement of the environment around Central-Classical was proposed.

By 1965 the post-war enrollment peak had passed beyond the twelfth grade. With school age population expected to remain relatively stable, the objective now is to correct local overcrowding and replace the remaining obsolete buildings with modern facilities in the best possible locations.

The Present School System

The Providence school system, although much smaller than it has been in times past, is still the largest system in the state. It included in 1965 some 16,567 children in the elementary grades (587 of which are in pre-kindergarten), 5,242 in the three grades of junior high and 6,014 in the 3 senior high grades, aggregating 27,823 pupils. Certified personnel numbered 1,446.

Facilities consist of four senior high schools, one of which includes a vocational division and another a 4-year curriculum, eight junior high schools, 40 elementary schools, and several temporary locations for kindergarten and pre-kindergarten. Fifteen of the elementary schools are primary facilities, two are strictly for grades 3-6, and the remaining 23 are full K-6 facilities. Two junior high buildings provide space for elementary use.

Only 69 percent of the school age population of Providence is enrolled in the public system. Of the remainder some 24 percent attends parochial schools, 4 percent attends private schools, and 3 percent does not attend any day school.

Facts and figures pertaining to the city's 54 school facilities are shown on Table II and an analysis of their future serviceability is found in Section 3 of this report.

Toward a Comprehensive Approach

The present report is the result of a comprehensive approach to school facilities planning. This approach involves the analysis of population and enrollment trends derived from the excellent census which the School Department has conducted annually for many years. It is built upon

⁴The George J. West Junior High, which was not converted to elementary use, and a new school in the Mashapaug area made unnecessary by urban renewal there.

analyses of the existing school facilities — their present condition and life expectancy. It takes account of new or prospective changes in curriculum, grade organization, special programs, and standards for construction. It is designed to complement the Commission's *Master Plan for Recreation and Conservation*, produced concurrently. It recognizes the costs of these proposals and the city's capacity to encumber such costs over time.

Costs of school construction and site acquisition have risen enormously in recent years, but this has been compensated for to some extent by the prospect of new sources of capital funds. Besides the usual source of municipal bond issue, there is now state reimbursement provided under *Chapter 26 of the Public Laws of Rhode Island* and federal grants available under the new *Elementary and Secondary Education Act* and the *Housing and Urban Development Act of 1965*. These opportunities for financial assistance will be discussed further in Section 6.

The time scale of this plan depends primarily on the rate at which the city can afford new bonded indebtedness, after deduction of all federal and state aid. As will be brought out in the final section, if capital expenditure for school construction continues at the rate of the past 13 years, the plan will take in the order of 22 years to execute. If plan execution is to be achieved in a more reasonable period, a stepping up of the rate of capital outlays will be necessary. There are indications that the city can afford to increase this rate beyond that of the recent past; therefore the time necessary to execute the plan has been estimated at between 15 and 20 years. Since 15 years is about the limit of reliable population projection, the 15-20-year time scale seems a desirable and attainable goal.

2 — POPULATION AND ENROLLMENT PROJECTIONS

An essential element of any plan for school facilities is an estimate of the number and distribution of children who will be demanding a public school education in the foreseeable future. The general approach followed was to project the general population of Providence to 1980 by a combination of methods, then derive the school age population and school enrollment, and finally adjust the results in terms of school enrollment trends applicable to future school districts. Pupil distribution was taken from actual enrollment data and from the school census.

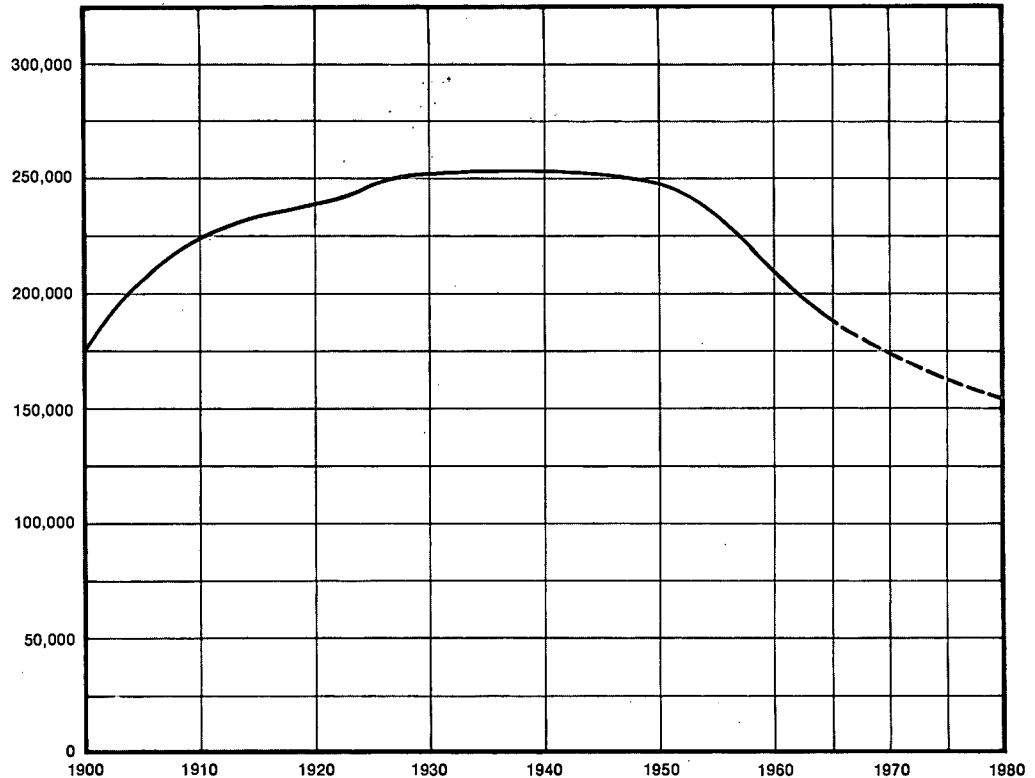
General Population Trends

The general population of Providence, which reached a peak of 253,000 in 1940, declined moderately to 248,600 in 1950, then plunged to 207,500 in 1960. Figure 1 shows this trend and a projection to 1980.⁵ The resulting net drop of 41,200 during the 1950's obscures the natural increase of births over deaths of 21,900 during the decade.⁶ Therefore, net out-migration was 63,100, or an average of 17 persons per day. Since many persons doubtless moved into the city, *gross* out-migration for the decade must have been considerably greater than that amount.

⁵Post census estimate made by Myron K. Nalbandian, Ph.D. and Leonard J. Ferro for the City Plan Commission, March 1965. Explanation of the methods used in this estimate and other projections of this report, plus supporting population and enrollment data, may be found in a supplementary appendix available in mimeographed form from the City Plan Commission, City Hall, Providence.

⁶Data from Registrar of Vital Statistics, Providence.

**FIGURE 1 — TOTAL POPULATION OF PROVIDENCE,
1900 TO 1965 AND PROJECTED TO 1980**



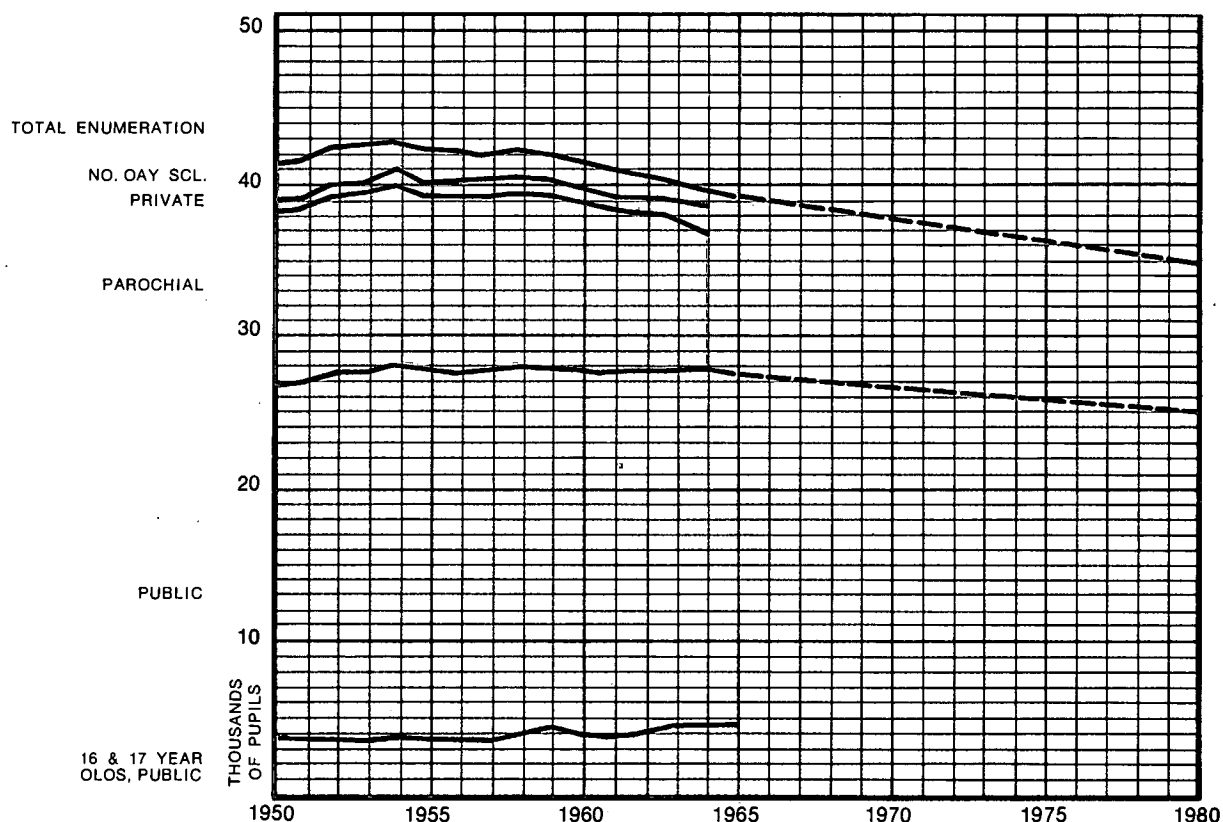
Population since 1960 has continued to decline at nearly as fast a rate as in the 1950's, due to further net out-migration and a falling off of the birth rate. According to the special census of 1965 the city's population stood at 187,000, which, when natural increase is also considered, represents an average net out-migration of 13.6 persons per day.⁷

Significant Trends

It may strike the reader as a curious fact that between 1950 and 1965, when the city's general population declined by 61,600 persons or 25 percent of its 1950 level, public school enrollment *increased* by 1433 students (from 26,390 in 1950 to 27,823 in 1965). This happened, furthermore, during a decade when the population was aging — persons over 65 increased during the 1950's from 24,050 to 27,333 and the median age went from 32.5 to 34.3 years.

This anomaly can be partially accounted for by several counter-acting trends which, if studied independently over the past 15 years and projected, may shed light on the trend of future school enrollment.

**FIGURE 2 — SCHOOL ENROLLMENT AGES 5-17 INCL.
1950 - 1965 PROJECTED TO 1980**



Birth Rate Trends

Despite the sharp population decline of the 1950's, the birth rate actually increased from 36.3 per 1,000 women in 1950 to 40.7 in 1960. As a result resident births for Providence dropped off only 5.3 percent during the decade compared to the 16.6 percent loss of the general population. By 1963, however, this rate was down to 32.9 per 1,000 women, indicating that Providence has followed the national trend of a declining birth rate after 1960. The resulting 20 percent decline in resident births since 1960 should somewhat reduce the numbers entering kindergarten by 1966 unless other factors offset this decline. If Providence continues to reflect national trends, the birth rate will remain low until after 1970, when it will gradually increase again.⁸

⁷Preliminary release of data from the State Census of October 1, 1965. At the present time, however, it does not appear that this figure will substantially affect projected enrollment estimates.

⁸*Projection of the Population of the United States, by Age and Sex: 1964 to 1985; Series P-25, No. 286; U. S. Department of Commerce, Bureau of the Census; July 1964; p. 23.*

Parochial School Enrollment

Enrollment in the city's 29 parochial schools, which traditionally have absorbed nearly 30 percent of the school-age population, has declined moderately in recent years. Enrollment went from 28.3 percent of the total 5-17 age group in 1950 to 25.4 percent in 1964, as shown in Figure 2. Compared to 27,666 for the public schools, parochial enrollment was 12,122 in 1964, of which about 10 percent was from outside the city. According to recent estimates no new parochial school facilities are to be built in the immediate future beyond two elementary structures under construction and one conversion to a girls' high school.⁹ On the basis of present trends in enrollment and migration it has been estimated that parochial school attendance will continue in a slight decline both absolutely and as a percentage of school-age population, over the next 15 years.

High School Dropouts

Following the national trend, the number of students going on beyond the compulsory school age of 16 to complete high school has increased substantially in recent years. Between 1950 and 1964 the 17-year-olds enrolled in public school increased from 48 percent to 62 percent while those not enrolled in any school declined from 32 percent to 17 percent. The result has been a steady absolute gain in senior high school enrollment of some 34 percent over the past 15 years. In view of present emphasis on high school completion as well as higher education, this trend will undoubtedly continue until, by 1980, the number who will fail to complete high school will have become negligible. This trend in 16 and 17-year-olds is also shown in Figure 2.

Net Migration

There is no reliable method of forecasting the migration trends of today's mobile population, particularly for so small a unit as Providence. In view of the striking out-migration rate of the past 15 years it seems unrealistic to project anything but continued net out-migration. However, there are indications that the rate of decline may fall off in the future. The school census shows net migration of families down 60 percent since 1957.¹⁰ Prospective out-migration resulting from clearance should be less than in the recent past, due to the approaching completion of the freeway system and the new emphasis on rehabilitation of housing. Also the improvement of housing conditions and the construction of large amounts of new housing envisioned through both public and private effort should not only reduce further movement out, but attract people back into the city.

Summary

It is apparent that public school enrollment remained virtually stable over the 1950-65 period in the face of a vast decline in the general population because of the simultaneous effect of a rising birth rate, a declining parochial enrollment, and a falling off of the rate of high school dropout.

⁹From information obtained from the Department of Parochial Schools, Roman Catholic Diocese of Providence.

¹⁰*Annual School Censuses, 1957-1964*, Providence School Department, p. 11.

However, these trends cannot simply be projected at the same rate over the next 15 years. The forecasting of these plus net migration is indeed speculative.

Resident births have been projected on the basis of the estimated female population, resulting in a substantial reduction in the absolute number of the school-age population in the future. But the percentage of that group attending public schools will continue to increase due to diminishing high school dropouts and parochial school enrollment. This percentage, which stood at 69.5 percent in 1965, is estimated to become 71.2 percent by 1970, 72.3 percent by 1975, and 73.0 percent by 1980. Application of these rates to the 5-17 age group will result in a projected public school enrollment indicated by the dashed line in Figure 2.

Method of Projection

The projection of general population by census tracts and planning districts (see Map 1) was based on extrapolation to 1980 of the trends in natural increase and net migration of the 1960 to 1963 period, following procedures used in the post census estimate.¹¹ Projections obviously become more questionable the farther one projects beyond the base year. Because of both the shortness of the base and the hazards of prediction for so small and variable a unit as Providence, the reader is cautioned against placing undue reliance on this or any forecast beyond ten years.

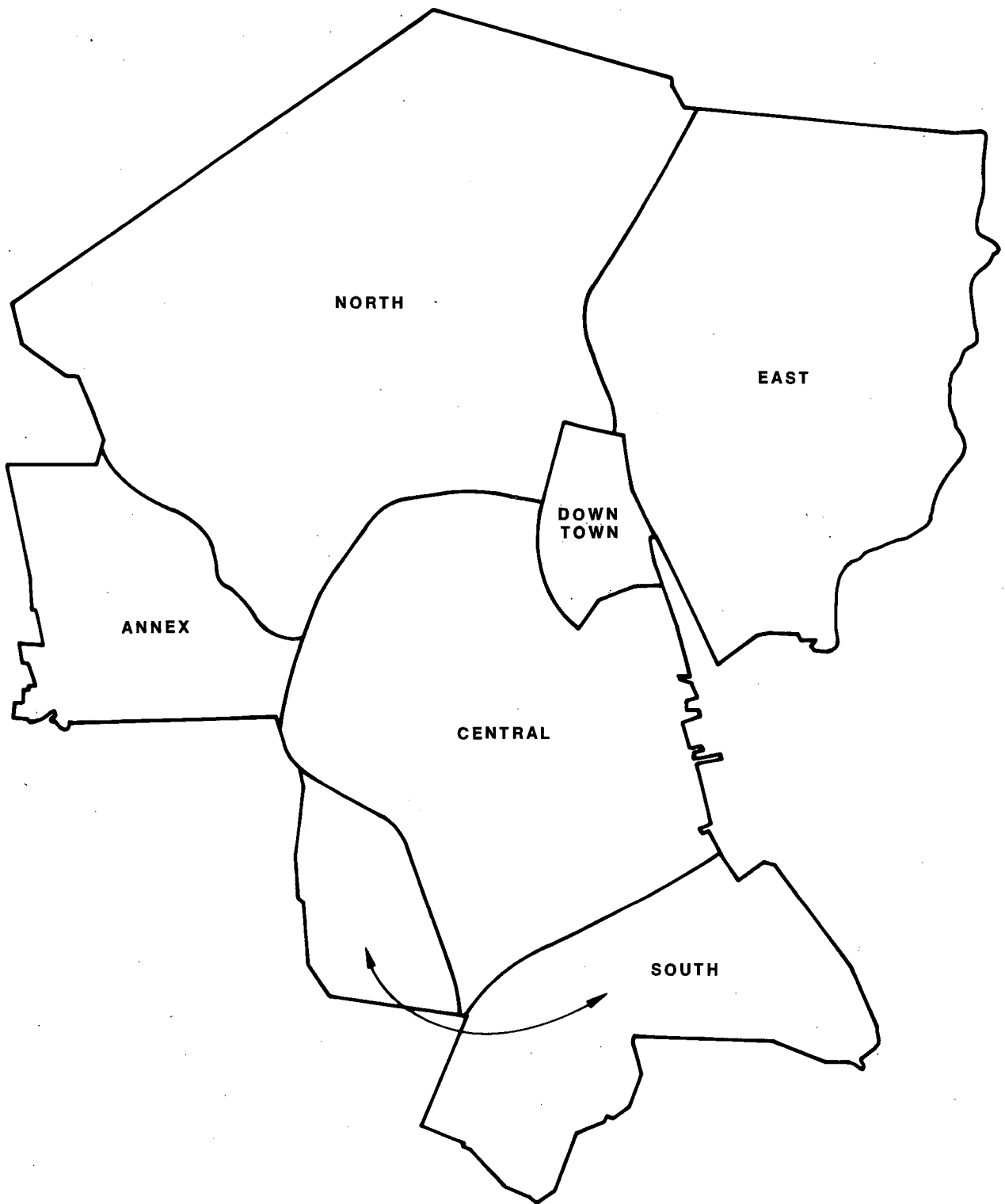
From intra-city migration data obtained from the school census, the city population estimate of July 1, 1963 was distributed by census tract. Similarly for 1970, 1975, and 1980 the city-wide projection shown on Figure 1 was allocated among the 37 census tracts on the basis of in-out migration trends of each tract during the 1960 to 1963 period.

At this point the estimates based purely on demographic factors were adjusted to reflect population changes due to known or prospective new construction or demolition resulting from urban renewal, highways, or private development in each tract, including also estimates of vacant land potential for new growth and land takings for new public facilities.

From the resulting adjusted projection of general population of each tract for 1970, 75, and 80, estimates were made for the total 5-15 age group on the basis of that group's relationship to the general population in 1960. From the 5-15 age group, the potential public school enrollment through age 15 was derived on the basis of relationships recorded in the school census of 1963. Enrollment potential by tract was then adjusted on the basis of trends in parochial enrollment and high school attendance discussed earlier. The resulting estimates by census tract were then distributed among the three age groups corresponding to grades K-6, 7-9, and 10 plus that portion of grade 9 attending *Classical High School*. Grades 10-12 were extrapolated from grade 10. These estimates, representing the projected pupil load over the next fifteen years are plotted in Figure 3.

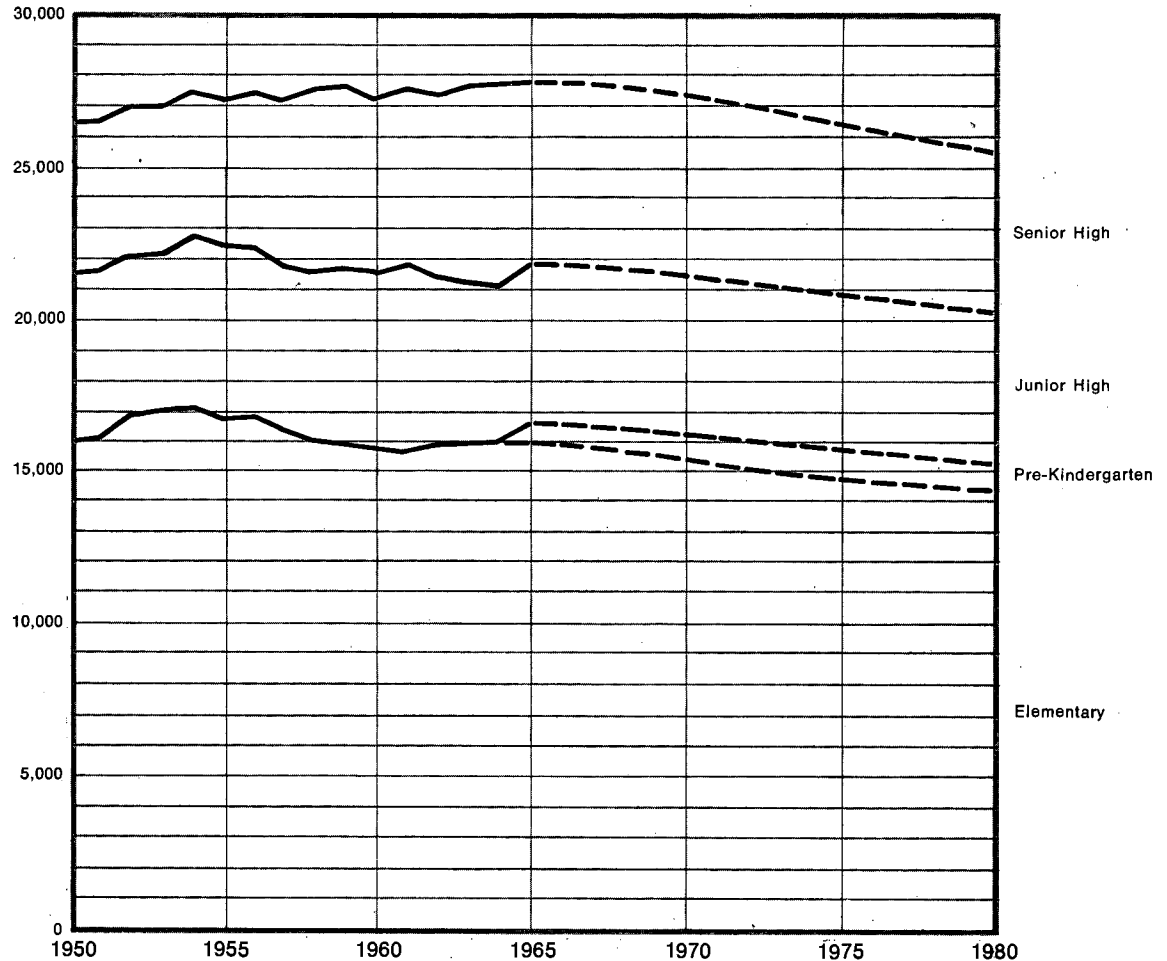
As a check of the above method, a cohort survival projection was worked

¹¹ Planning districts are basically those proposed in the *Community Renewal Program*, Providence, R. I. 1965-1971. That program divided the city for planning purposes into ten districts; five of them predominantly residential, four industrial, and the downtown. Since school planning is concerned only with residential areas, this plan is structured in terms of the five residential districts and their respective census tracts. Families residing in the other five districts have been assigned to adjacent residential districts in such a way that component census tracts are not split.



MAP 1 PLANNING DISTRICTS

**FIGURE 3 — PUBLIC SCHOOL ENROLLMENT IN PROVIDENCE
1950 – 1965, PROJECTED TO 1980**



out to 1980 for the ages 0 to 17. The results are lower than those obtained above, due to the large and irregular factor of net migration which could not be accounted for in this method. However, the method does supply a breakdown into the customary grade levels for future years.

Distribution of Students

As an aid in the initial planning of proposed schools and school districts, the location of residence of all pupils enrolled in elementary schools in 1962 was plotted on a city map. After allowance was made for recent and prospective land use changes, the figures were totaled according to many alternative schemes of districting. From these figures of 1962 enrollment the most workable districting scheme was derived, and on that basis projected enrollments were tabulated.

The above described enrollment projections for 1970, 1975, and 1980 are listed in Table 1 by census tract and planning district for the four grade classifications. For comparative purposes the 1965 enrollment is listed in a parallel column.

TABLE I**Public School Enrollments**

FOR 1965 AND PROJECTION TO 1970, 75, AND 80
BY PLANNING DISTRICT AND CENSUS TRACT GROUP*

<i>Elementary Grades K-6</i>		1965*	1970#	1975#	1980#
<i>DISTRICT</i>	<i>TRACTS</i>				
Central	2, 3, 12	1567	1389	1330	1317
	4, 5, 6, 7	2563	2306	2164	1994
	8, 9, 10, 11	955	813	747	694
	13, 14	1164	1053	1019	1005
	Subtotal	6249	5561	5260	5010
South	1	619	589	578	557
	15	169	176	176	184
	Subtotal	788	765	754	741
Annex North	16, 17, 18	1636	1720	1698	1663
	19, 20, 21	1350	1410	1376	1361
	22, 23, 24	1100	1269	1286	1306
	25, 26, 27	1375	1186	1109	1003
	28	508	512	521	541
	29	816	633	635	638
	Subtotal	5149	5010	4927	4849
East	30-37	2151	2310	2226	2189
Total Grades K-6		15973	15366	14865	14452
<i>Pre-kindergarten</i>		587	880	880	865
Total Elementary		16560	16246	15745	15317
<i>Junior High Grades 7-9</i>					
Central & South		1981	2165	2064	1969
Annex		629	589	579	569
North		1851	1718	1687	1663
East		773	791	762	749
Total Junior High		5234	5263	5092	4950
<i>Senior High Grades 10-12</i>		6008	5880	5570	5260
Grand Total		27802	27389	26407	25527

*See Map 1 for definition of planning districts

*Providence Public School Department, School Enrollment Report, Sept. 1965. Estimated by census tract group on pro-rata basis.

#For method of projection see mimeographed appendix available separately.



Fifteen of the city's 40 elementary schools were built in the 19th century. **Hammond**, the oldest, dates from the 1840's and still remains in use for the primary grades.

3 – EVALUATION OF EXISTING SCHOOL BUILDINGS

The purpose of this section is to report upon an evaluation of existing school buildings and to recommend: (1) those facilities that should be closed and replaced with new facilities within the foreseeable future, and (2) the approximate life expectancy of those buildings and degree of urgency of their replacement. For others not recommended for replacement, certain major improvements or additions may be suggested in Section 5.

Table II itemizes the facts upon which this analysis is based for all 54 buildings in the system. In the study of these factors the following specific considerations have influenced the determination of replacement priority:

- (1) Whether the building was, or is being, modernized in the 1959-65 modernization program.
- (2) Age and obsolescence of original buildings.
- (3) Type of construction.
- (4) Location with respect to population and degree of under-utilization of space.
- (5) Size of building.

In addition the sharing of facilities by elementary and junior high grades was considered especially undesirable by school officials.

Modernization

The recent modernization program in 27 of the older elementary schools included the following major items:

- a. Fireproofing: enclosing of stairways, installation of automatic sprinklers, fireproofing of boiler rooms, providing classrooms with egress, improving fire escapes, and similar measures.
- b. Re-wiring and re-lighting with modern fluorescent fixtures.
- c. Modernization of heating plant.
- d. Modernization of toilet facilities and plumbing.
- e. Installation of asphalt or vinyl tile flooring.
- f. Replacement of blackboards and tackboards.
- g. Replacement of furniture.

Also included in some buildings were such improvements as new window sash, new roofs, minor room alterations, clothes lockers, bubblers, clocks, and numerous other necessities. Not a part of modernization, but work carried out in many buildings as a maintenance item was the painting of all interiors, and the pointing of exterior masonry. Much painting remains to be done in buildings that have received full modernization treatment.

The above modernization plus painting can be considered to have extended the useful life of a building up to twenty years. However, certain features inherent in the structures themselves such as obsolete layout, multi-storied construction, large rooms, high ceilings, toilets in basement, or lack of special facilities are not correctable by modernization. Just how serious a liability such inherent structural obsolescence may be to the teaching and learning processes is difficult to ascertain. Undoubtedly some of the older buildings have certain advantages over modern ones for those who prefer large rooms and high ceilings, and in any case most will have been raised to quite an acceptable level of comfort, safety, and attractiveness through this program.

The physical requirements for public instruction are advancing rapidly as more varied and sophisticated activities are worked into a curriculum and building. Probably one should regard this modernization as an interim measure — the buying of time necessary to construct new facilities on new sites, a process that will take a number of years at best.

Besides adding years of useful life to the older buildings, the modernization program has simplified the task of programming schoolhouse replacement by raising those 27 buildings to a more or less uniform level of quality and repair. Therefore, a meticulous evaluation of physical condition and state of disrepair, and a weighting of deficiencies in each building according to some rational system of penalty points can be largely avoided. With modernization the determination of life expectancy is now largely independent of such differences in physical condition, and can be based instead on more fundamental factors, such as the aforementioned inherent structural obsolescence, type of construction, capacity, and adaptability to prospective curricula and grade organization.

The progress of the modernization program as of mid-1965 is indicated on Table II. As of mid-1965, all but seven of the pre-1950 buildings had been, or were in the process of being, modernized. All things considered, the four million dollars and five years spent on the program appear to have



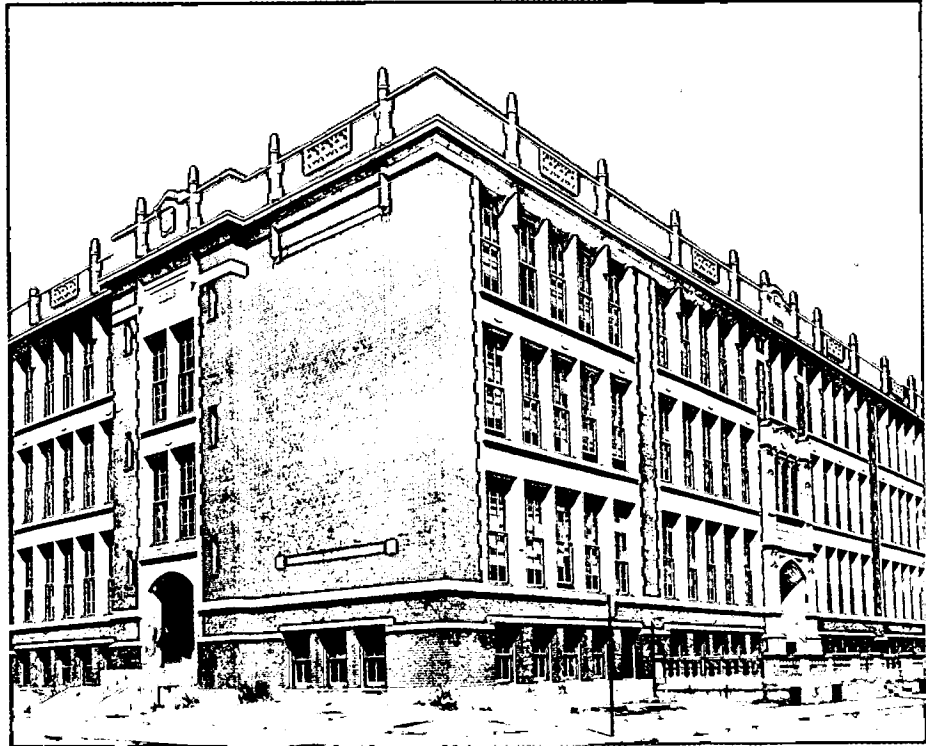
Temple is one of ten elementary schools dating from the decade 1900-1910. Despite their obvious obsolescence, these buildings have had their useful lives prolonged by partial modernization.

been a wise and timely investment, since the replacement of all 33 pre-1950 elementary buildings would have required many times that amount of money and number of years to accomplish.

Age and Obsolescence

The date of construction of the city's 54 school buildings covers a range of 117 years, from the *Hammond Street School* of about 1848 to the *Lippitt Hill School* currently being built. But the majority, 87 percent in terms of capacity, were built in the 50-year period between 1883 and 1933. At the present time 80 percent of aggregate elementary capacity is over 30 years old, 47 percent is over 50 years old, and 17 percent is over 70 years old. Of the 13 secondary school buildings, all but *Classical High* and *Central High Annex* are between 27 and 50 years old. Thus, when age is taken as a function of classrooms instead of numbers of buildings, most school capacity falls within the less-than-50-year-old group.

Age by itself (as stated earlier) is not an effective determinant of the order in which these recently modernized buildings should eventually be replaced. The structural characteristics, layouts, room sizes, location of toilets and entrances, and availability of specialized facilities of the pre-1916 schools are not greatly different from one another. All consist of rows of uniformly sized classrooms grouped on either side of a corridor and stacked in two stories. Most have game rooms in the basement, and the larger ones have an assembly hall of sorts on the top story. Toilet rooms are



Some fifty years ago school design began to take on a more modern character. **Laurel Hill** is one of nine elementary schools built during the 1910-50 period.

invariably in the basement, and the milling area are invariably tiny and paved with asphalt. Though painting and modernization have mitigated their most serious defects, these buildings still have a rigidity of layout, a forbidding character, and a lack of space adaptable to varieties of creative-type learning activities that renders them educationally obsolescent to an almost uniform degree.

Beginning some fifty years ago school design began to take on a more modern character. Classes became smaller, and space per pupil increased. The assembly hall was moved from the attic to the main floor, and the toilet rooms were moved up from the basement. Ceilings were lowered and buildings were scaled down in many of their dimensions to fit more closely their child occupants, but enlarged in capacity to make more efficient use of the greater array of educational facilities. Additional rooms were provided for special functions not suited to the standard classroom.

The most sweeping changes came after 1950, after a twenty year respite from school construction, when contemporary one-story design, large sites, and a variety of special rooms and supporting facilities characterized the most recent examples.

Type of Construction

Until the second decade of the twentieth century there were but two basic types of construction for schools, all frame, and frame with brick exterior walls. The latter predominated, but there were at one time dozens



Nineteenth century schools were of two basic types of construction, all frame and frame with brick exterior walls. Still in use is **Merino**, one of three surviving all frame school houses.

of tiny all wooden schoolhouses, three of which are still in use. Both types are now protected with automatic sprinklers, a central fire alarm system, and many other fireproofing measures. All thirty non-fire-resistant buildings have now been made as safe from hazards as modern techniques can provide, given the combustible nature of portions of those structures. However, the maintenance and repair of the older frame buildings probably exceeds that of the later fire resistant types.

The introduction of reinforced concrete fire resistant construction, which occurred in Providence about 1916 with the building of the *John Howland School*, ushered in a new era of building techniques with new standards of safety and durability. That change provides a convenient "break point" for distinguishing obsolete structural types from those that may be considered reasonably in keeping with contemporary construction standards. Because this construction breakthrough corresponded in time with some significant changes in layout and design, that date forms a convenient yardstick against which to project the time scale of this plan.

Location and Consolidation

A number of schools are not centrally located within their service areas, and a few in addition require the crossing of busy streets. Some school district boundaries are so drawn as to require walks in excess of $\frac{3}{4}$ of a mile. Such situations can be corrected in the siting of new facilities and sometimes for existing ones by the redrawing of district boundaries.



The new **Edmund W. Flynn**, one of six post war consolidated educational plants, combines the elementary grades with a community school and a recreational center.

The substantial population decline of some areas has resulted in the under-utilization of much classroom space, despite the fact that elsewhere in the system there is overcrowding. In the aggregate, optimum capacity exceeds enrollment by eleven percent for elementary facilities and 30 percent for junior high schools.¹² Some eight elementary schools are operating at substantially under optimum capacity. So are seven of the eight junior highs, although most of the resulting available space is now used for other functions. Two of the junior high and seven of the smaller elementary facilities were recently recommended for closing with the object of achieving an annual saving in the order of \$235,000 and an enrichment of curriculum offerings resulting from such a consolidation.¹³ Some overcrowding and excessive travel distances might result from some of the closings.

Consolidation into larger, more modern, and better equipped schools in order to make possible a more varied and sophisticated curriculum is a trend that has been going on over the past several decades in cities throughout the country, including Providence. Since 1930, when enrollment was near its peak, the city has closed 68 school buildings, only two of which contained more than 12 classrooms, and has built six new elementary

¹²Based on 1964 enrollments and optimum capacity estimates made by the Providence School Department. In assigning capacity, the portions of two junior high schools used for elementary grades were included in the elementary total to the extent of their enrollment.

¹³*Report of the Committee for the Study of Financial Support for the Providence Schools*, 1963; pp. 18-21. (Estimates are based on an average of 1958 thru 1961 operating expenditures.)

schools, the smallest of which contains 17 classrooms. The 101 primary and grammar schools existing at the time of the Strayer survey of 1923 have now been consolidated into 49 elementary and junior high buildings. Thus, substantial progress has been made over the years in consolidation.

That further consolidation is still feasible is indicated by the fact that 15 buildings remain in use having 8 classrooms or less, many of them also having under-utilized space. When and as new facilities are built there is ample historical precedent and sound educational justification for phasing out these smaller and older under-utilized schoolhouses.

Proposals for School Replacement

The foregoing discussion has described the criteria used to identify those facilities which, on the basis of objective evidence, should be considered for phasing out and replacement during the next 15 to 20 years. Those facilities are listed below in order of their recommended closing. Recommendations are grouped into five priority classifications, with no special order intended within groups and no attempt made at this point to relate priorities to specific dates in the future.

IMMEDIATE REPLACEMENT (new construction currently under way)

Thomas A. Doyle
Annex to Central High School
Classical High School

PRIORITY A

Elementary section of Gilbert Stuart
Hammond
Mt. Pleasant elementary
Merino

PRIORITY B

Elementary section of Oliver Hazard Perry
Manton

PRIORITY C (Beyond this point modernization ceases to be a factor, and location, size, site area, and basic inherent suitability must govern.)

Academy
Sisson
Almy
Grove

PRIORITY D

Althea
Asa Messer
Beacon
Berkshire
Ralph
Smith
Willow

TABLE II

The Public Schools of Providence: Comparative Data on School Buildings

The Public Schools of Providence: Comparative Data on School Buildings																	MODERNIZATION															
Name		Grades Taught	Optimum Capacity *	Enrollment Sept. '64 *	Percent Utilized	Total Clsrms. *	Clsrms. in use Sept. '64 *	Year Built #	Type of Construction @	No. of Floors #	Site Acreage **	Add'l. Playg'd. Acreage **	SPECIAL FACILITIES						1963 Bldg. Valuations (\$000)**	fireproofing	lighting	heating	plumbing	flooring	classrooms	furniture	painting	Recommendations of Past Reports				
Elementary Schools	Neighborhood or District												No. of Gyms. p	Auditorium cap.	Cafeteria	Library	Health Suite	1923										1950	1963	No.		
1 Academy	Mt. Pleasant	K-6 ^a	362	268	72	10 ⁱ	9	1890	3B	3	.86	—	—	500 ^q	—	—	—	100	+	s	+	s	s	s	s	s	+	X	X		1	
2 Almy	Federal Hill	K-2	140	53	38	4	2	1893 ^{est.}	4	2	.38	—	—	—	—	—	—	14	+	+	+	+	+	+	+	+	+	X	X	X	2	
3 Althea	West End	K-2	280	292	104	8	8	1896,1912	3B	2	.43	—	—	—	—	—	—	57	+	+	+	+	+	+	+	+	+	X			3	
4 Asa Messer	West End	3-6 ^{ab}	332	405	122	12	12	1893	3B	3	.45	—	—	500 ^q	—	—	—	78	+	+	+	+	+	+	+	+	+	X			4	
5 Beacon	So. Prov.	K-3 ^{ab}	172	248	144	7	7	1891	3B	2	.35	—	—	—	—	—	—	36	+	+	+	+	+	+	+	+	+	X	X		5	
6 Berkshire	Eagle Pk.	K-3	280	242	86	8	8	1901	3B	2	.55	—	—	300 ^q	—	—	—	45	+	+	+	+	+	+	+	+	+	X	X		6	
7 Branch	Wanskuck	K-4	320	168	52	10	5	1910	3B	2	.57	1.72 ^o	—	—	—	—	—	88	+	+	+	+	+	+	+	+	R	X	X		7	
8 Broad	Wash. Pk.	K-6	660	646	98	21	19	1897,1930	3B	3	1.29	—	2	470	yes	yes	yes	400	+	+	+	+	+	+	+	+	+	R			8	
9 Camden	Smith Hill	K-6 ^{abcd}	876	906	103	30	30	1962	2A	2,3	2.03	6.06	1	800	yes	yes	yes	1529	—	—	—	new	—	—	—	—	—	—	—	—	9	
10 Edmund Flynn	So. Prov.	K-6 ^{bh}	788	833	106	28	28	1958	2A	2	4.17	8.10	1	415	yes	yes	yes	1200	—	—	—	new	—	—	—	—	—	—	—	—	10	
11 Fox Point	Fox Point	K-6 ^{abh}	530	595	112	21	20	1954	2A	2	3.22	2.21	1	350	—	yes ^r	yes	1250	—	—	—	new	—	—	—	—	—	—	—	—	11	
12 Gilbert Stuart	Elmwood	K-6 ^{ba}	indef.	430	102	indef.	14	(shared with jr. high see below)					— ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	—	C		12		
13 Grove	Federal Hill	K-3	200	99	49	6	5	1901	3B	2	.37	—	—	—	—	—	—	31	+	+	+	+	+	+	+	+	—	X	X	X	13	
14 Hammond	West End	K-3	200	143	71	6	5	1848 ^{est.}	3B	3	.35	—	—	—	—	—	—	14	+	+	—	—	—	—	—	—	—	X	X	X	14	
15 Jenkins	Camp	K-3 ^{abe}	292	173	59	11	11	1909	3B	2	.49	—	—	—	—	yes	yes	69	+	+	+	+	+	+	+	+	+	R	R		15	
16 John Howland	East Side	K-6 ^b	540	611	113	18	18	1916	2A	3	1.12	—	2	500 ^q	—	yes	—	273	+	+	+	+	+	+	+	+	+	R	R		16	
17 Joslin	Olneyville	K-6 ^b	502	681	135	20	20	1959	3A	2,1	2.90	2.19	1	320	yes	yes	yes	1000	—	—	—	new	—	—	—	—	—	—	—	—	17	
18 Kenyon	Federal Hill	K-6 ^{ab}	1590	765	49	59	37	1921,1926	3B,2A	3,2	1.55	—	2	430	—	yes	yes	990	+	+	+	+	+	+	+	+	R	R			18	
19 Laurel Hill	Annex	3-6 ^{ab}	500	528	96	17	17	1916	2B	3	.74	2.53 ^{mo}	2	500	—	—	—	224	+	+	+	+	+	+	+	+	R	R			19	
20 Laurel Hill Annex	Annex	2-3 ^b	indef.	105	95	indef.	5	(shared with jr. high see below)					— ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	C			20		
21 Lexington	Elmwood	K-6 ^b	450	480	106	17	16	1905	3B	3	.55	—	—	300 ^q	—	—	—	109	+	+	+	+	+	+	+	+	R	X			21	
22 Manton	Manton	K-6	220	193	88	6	5	1899	3B	2	.50	—	—	yes	—	—	—	45	+	—	—	—	—	—	—	—	—	X	X		22	
23 Mary Fogarty	So. Prov.	K-6 ^b	700	815	116	23	23	1962	2A	2,1	2.34	2.16	1	450	yes	yes	—	653	—	—	—	new	—	—	—	—	—	—	—	—	23	
24 Merino	Annex	1-2	120	128	106	4	4	1898	4	2	.41	—	—	—	—	—	—	15	—	—	—	—	—	—	—	—	X	X			24	
25 Mt. Pleasant	Mt. Pleasant	K-3	220	200	91	6	6	1898	3B	2	.42	3.59 ^m	—	—	—	—	—	28	—	—	—	—	—	—	—	—	—	X			25	
26 Nelson	Elmhurst	K-6 ^b	470	582	124	16	19 ⁱ	1921,1930	3B,2A	2	1.61	2.88 ^o	—	—	—	—	—	167	+	+	—	—	+	s	s	+	R	R			26	
27 Ralph	Annex	K-2	280	323	115	8	8	1902	3B	2	.46	—	—	—	—	—	—	42	+	+	+	+	+	+	+	+	—	X			27	
28 Regent	Mt. Pleasant	K-6	340	348	102	10	10	1905	3B	3	.73	—	—	300 ^q	—	—	—	71	+	+	s	s	s	s	s	+	—	R			28	
29 Reservoir	West Elmwood	K-6	260	174	67	8	5	1924	2A	2	.83	4.48 ^o	—	—	—	—	—	125	+	+	—	—	—	—	—	—	—	R	X		29	
30 Sackett	Elmwood	K-6 ^b	540	494	91	17	16	1922	2A	3	1.60	2.15 ^o	2	600 ^p	—	yes	—	300	+	+	+	+	+	+	+	+	R	R			30	
31 Sisson	Manton	K-2	140	146	104	4	4	1894	4	2	.37	—	—	—	—	—	—	20	+	+	—	+	+	+	+	+	X	X			31	
32 Smith	Smith Hill	K-2	235	149	63	8	6	1885	3B	2	.48	—	—	—	—	yes	—	45	+	+	+	+	+	+	+	+	X	X	X		32	
33 Summit	Hope	K-6 ^b	540	583	108	19	19	1924	2A	3	1.15	.31	—	600 ^q	—	—	—	325	+	+	+	+	+	+	+	+	R	R			33	
34 Temple	So. Prov.	K-6 ^{ab}	544	450	83	19	19	1908	3B	3	.70	—	—	300 ^q	—	yes	—	114	+	s	+	+	s	s	s	+	R	X			34	
35 Thomas Doyle	Camp	K-6 ^{be}	470	268	57	16	11	1896,1894	3B	3	.87	.95 ^o	—	400 ^q	—	—	—	89	—	—	—	—	—	—	—	—	X	X			35	
36 Valley View	Wanskuck	K	50	64	128	1	1	1949	4	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		36	
37 Veazie	Wanskuck	K-6 ^b	730	744	102	24 ^k	24 ^k	1908,1927	3B,2A	3,2	4.29	4.49	2	400	yes	yes ^r	yes	540	+	+	+	+	+	+	+	+	+	R	R			37
38 Vineyard	Elmwood	K-6 ^{ab}	582	413	71	20	16	1883,1913	3B	3	.83	—	—	470 ^q	yes	—	—	193	+	+	+	s	s	s	s	+	X	X			38	
39 Webster	Annex	K-6 ^b	510	449	88	16	16	1905	3B	3	.92	.92 ^o	—	300	—	—	—	109	+	s	s	s	s	s	s	+	R	X			39	
40 Willow	West End	K-4 ^b	250	244	97	8	7	1874	3B	2	.42	—	—	—	—	—	—	25	+	+	+	+	+	+	+	+	X	X			40	
41 Windmill	Wanskuck	K-4 ^{bf}	734	618	84	28	27	1932	2A	2	4.30	1.30	2	750	yes	yes	yes	550	+	+	+	+	+	+	+	+	—	R			41	
Total			16,949	16,056		574	542														10,											

PRIORITY E

Branch
Broad
Jenkins
Lexington
Regent¹⁴
Temple
Vineyard
Webster

The planning and programming of new school construction over the years ahead should strive as closely as possible to replace the older facilities according to the priority recommendations listed above. However, other factors external to the existing plant — such as location in relation to population, availability of sites, changes in grade organization, or effect of urban renewal or other Federal aid programs may raise or lower the priority of a particular building in the final recommendation.

Section 5 will translate the above findings into a system of new school proposals designed to meet these varied requirements.

4 – SCHOOL MASTER PLAN: TRENDS, POLICIES, AND STANDARDS

A – Educational Trends in Providence

Although this report is limited to the planning of school facilities, a review of some of the current concepts and trends in public education in Providence is useful for a proper understanding of future physical needs.

GRADE ORGANIZATION

The Providence system now operates on a K-6-3-3 grade organization with the exception of one four-year high school and an ungraded and educable program at all levels. This, according to best available information, will continue to be the dominant system for the foreseeable future. The introduction of a middle school for grades 5 through 8 and a resulting K-4-4-4 organization on a limited basis is a possibility under consideration. If adopted, the latter system, dimensions of which cannot now be determined, would supplement, but not supersede, the present organization. The present system also includes a pre-kindergarten level, currently being greatly expanded throughout the inner city area.

DEPARTMENTALIZATION

Because of the continual advance of human knowledge and the growing demands placed on public education, it is becoming increasingly difficult for an elementary grade teacher to keep abreast of all of the subject matter required in a full curriculum. Departmentalization, which now begins in the seventh grade is being introduced in many cities in the upper elementary grades as a means of enriching and broadening the scope of instruction and

¹⁴This building has not yet been modernized, though it is scheduled for full modernization treatment during the current year and funds are on hand for the purpose. One must assume that this work plus painting and pointing will be undertaken very shortly, otherwise the building should be reclassified in Priority A for immediate replacement.

reducing the demand on teacher versatility. Proponents of this method would have teachers, starting at the fourth grade, specialize in one or several subjects for the instruction of several classes. Such a program in grades 4-6 would feed into the departmentalized junior high or, if operating in a grade 5-8 middle school, a 4-year high school. In this way a greater depth and scope of instruction could be provided. However, the traditional method, in which one teacher instructs all major subjects and thus is responsible for the whole child, still has wide acceptance. This report, while taking no position, recognizes the need to design new facilities with the necessary flexibility to accommodate either system.

NON-GRADED INSTRUCTION

An educational practice designed to cope with the disparity in skills and learning ability among students of diverse background is non-graded grouping. In this grouping students of several grades are re-grouped by subject according to their various shortcomings or abilities, where specialist teachers can provide the kind of concentration necessary to overcome specific learning problems. Such grouping is especially applicable to culturally deprived children. True non-graded grouping, in which students may advance as fast as their abilities will take them, should not be confused with *ungraded* classes, which have been operating at all school levels for some years. Non-graded grouping may now be used in the elementary grades. Where this occurs it will require flexibility in the use of space, suggesting rooms of various sizes and perhaps rooms made adjustable by temporary partitions.

HOMOGENEOUS GROUPING

A recent trend in education is the assignment of students to classes on the basis of their learning ability. Thus each grade level would be divided into classes whose students are relatively homogeneous in IQ. In the more traditional or heterogeneous grouping, each class includes the full range of IQ found in its respective grade. Educators differ over the desirability of one system over the other and at this point it is not clear which will predominate in Providence in the long run. The homogeneous grouping requires schools of sufficient capacity to produce two or more classes per grade. To provide for this possibility as well as for other reasons, future schools should be fairly large in size.

THE PRIMARY SCHOOL

A traditional practice in Providence and one with strong current support among educators is the division of the elementary grades into upper and lower sections. Both the academic and recreational needs of the sixth grader are vastly different from those of the kindergarten child; also discipline problems and transportation are simplified by such a split. Providence formerly grouped the elementary grades into a four-year primary and four-year grammar school and more recently into various combinations of grades (K-3 and 4-6, K-2 and 3-6, or K-4 and 5-6) depending on the space available. But the grouping most widely used and the one most compatible with the curriculum is the K-3 and 4-6 combination. This will be especially desirable if the upper three grades are partially departmentalized and the lower grades reorganized on a non-graded plan.

In physical terms this will require a system of facilities for the lower grades of perhaps 350 to 500 students, each having a small enough service area to be within the walking capabilities of small children. Only in the more densely populated parts of the city can such schools be justified. Elsewhere lower grades must be operated in regular K-6 facilities but preferably in separate wings or sections where some physical separation from grades 4-6 can be achieved. Ideally in such consolidated facilities separately enclosed play space should also be provided for the lower grades where small child play apparatus can be installed.

The present plan, following local practice, has been structured on the basis of physical separation of grades K-3 wherever feasible. However, if portions of the system are converted to a K-4-4-4 grade organization, the primary schools would run through the fourth grade. If a combination of K-6-3-3 and K-4-4-4 or perhaps some other grade combination is in a given school district, then a flexible grouping of classroom space would obviously be required.

PRE-KINDERGARTEN

A great new educational advance taken in 1965 under funds provided in the *Economic Opportunity Act* is the inception of a pre-kindergarten program for children from low income areas. The purpose is to give economically disadvantaged youngsters at a very early age a taste of the opportunities that can be theirs through education. Some 600 four-year-olds from the low income areas of the inner city are enrolled in 44 classes of *Giant Step* for the first full year of this program. All indications are that the program will be permanent and will involve many more than the present number of children, probably reaching for 880 in the near future.

There is a desperate shortage of space in the right locations for these classes, which for the present must be housed in make-shift accommodations. New construction is needed immediately to alleviate the most unsatisfactory conditions of overcrowding and transporting of students and also to allow for expansion of the program. It is proposed to build as soon as possible pre-kindergarten additions to four of the recently-built elementary schools, which fortunately are located where this need is most urgent. Pre-kindergarten rooms should also be included in most of the new elementary schools to be built subsequently. Should *Giant Step* for unforeseen reasons be discontinued, these rooms can be adapted to regular kindergarten use.

COMMUNITY SCHOOLS

Another outstanding development in public education initiated this year and also financed under provisions of the *Economic Opportunity Act* is the Community School Program. This program is operating in nine community school centers, four located in junior highs, four in newer elementary buildings, and one in the Doyle School — all in the low income areas of the inner city. The purpose is primarily remedial — to overcome educational shortcomings, fill in learning gaps, develop new skills or hobbies, enjoy learning experiences, and (most important) generate positive attitudes towards school through experiences designed for alienated students and the under-achievers, to make them see themselves as able to learn. In scope the program includes all ages. Elementary children attend after-

noon sessions organized into small tutorial groups with strong emphasis on recreation and fun. Secondary age students and adults follow in the late afternoon and evening with instruction tailored to their needs. The program is strongly oriented toward community involvement, and a more positive parent-teacher-student relationship is expected to emerge.

Although just beginning and obviously still in an experimental stage, this program shows every indication of being permanent and of expanding in the future. Although it is difficult to specify how the physical requirements might differ from those of the day school, it is already apparent that a more elaborate provision of special facilities is needed than merely a collection of standard classrooms. Specific innovations might include the following features:

1. Conference room for adult meetings
2. Rooms quickly convertible to adult use with adult furniture
3. Hobby rooms and shops where projects can remain undisturbed during day school
4. Additional storage space
5. Adequate library and study space
6. Gymnasium of adult size
7. Seminar rooms for small group instruction
8. Additional office space
9. Air conditioning for summer use

Probably separate structures for the exclusive housing of community schools cannot be justified, but undoubtedly some of the new consolidated elementary facilities proposed herein should be designed as community school centers. The atmosphere of such buildings should avoid the spartan and indestructible features of the past and reflect the dignity and responsibility accorded adults.

RECREATION CENTERS

An element of public school facilities which is also an intimate part of the city's recreation program is the system of recreation centers. In recent years the Recreation Department has operated a community recreation program on school playgrounds and in school buildings in the late afternoon and evening and during the summer. It currently conducts recreation center programs at seventeen different locations, most of which are in school buildings. Programs are intended primarily for children and teenagers. Emphasis is on gymnasium oriented activities, although a certain amount of other indoor games, arts and crafts, and social activities are offered. Existing facilities serve only a small portion of the city's children.

The *Master Plan for Recreation and Conservation* calls for establishment of a dozen new centers, plus the expansion of certain existing facilities, eventually covering the city with a network of 34 such centers. Equally — or perhaps more important — the recreation master plan, recognizing the expanding concept of "social renewal" as a complement to "physical renewal," recommends the development of the traditional dual use (school-recreation) center into a multi-use center. This would house not only schools and recreation, but such varied programs as health clinics, employment counseling, and other community action components.

Although facilities contained in centers would vary, they might include

rooms for arts and crafts, woodworking shops, kitchen, music studio, theatre, reading room, game rooms, social lounge, and full gymnasium. The plan would adapt existing schools to these uses where possible. New elementary schools are proposed to contain such centers, sufficiently separated from academic functions to operate independently.

LIBRARIES

In compliance with the newly adopted *Standards for School Libraries in the State of Rhode Island*, all schools to be built hereafter must be equipped with libraries of specified size and quality. All of the city's existing secondary and seven of its elementary schools are so equipped. Several more elementary school libraries are being created from surplus classrooms. Federal funds are available under the *Elementary and Secondary Education Act* for the stocking of libraries. Libraries are envisioned in all proposed new schools and school additions.

CAFETERIAS

Cafeterias and adjoining kitchens have been installed as standard equipment in all of the newer elementary schools and all secondary schools. Their value, besides assuring adequate lunches for children who might not otherwise be properly fed, is to avoid the necessity for the noontime walk home. Thus the total amount of walking is cut in half and more extensive service areas can be justified. Cafeterias, as with libraries, are also proposed in all new schools.

B – Standards Affecting School Buildings

OPTIMUM CAPACITY

The following are desirable upper and lower limits to the optimum capacity of school buildings:¹⁵

- a. primary: 350-500 pupils
- b. elementary: 500-800
- c. junior high: 800-1200
- d. senior high: over 1000

For a number of years there has been a trend towards larger schools both for the sake of economy and for a richer academic environment. However, size is necessarily limited by the student population living within a reasonable walking distance, unless bus transportation is used.

OPTIMUM NUMBER OF PUPILS PER CLASSROOM¹⁶

Pre-kindergarten	20 (in each of two shifts)
kindergarten	20 (in each of two shifts)
elementary	30
junior high	30
senior high	varies
ungraded	20
educable	12

These are the class size standards currently observed in Providence schools. However, the trend for some years has been toward fewer pupils

¹⁵Standards arrived at in consultation with local school authorities.

¹⁶Standards recommended by local school authorities.



There is a trend toward humanizing the character of school building to make them attractive and comfortable. Joslin seen from inner courtyard.

per teacher. In the future this ratio may decline further or may vary with respect to subject or curriculum as well as grade.

FLOOR SPACE PER PUPIL

Minimum for classrooms: 30 square feet per pupil.

TYPE CONSTRUCTION¹⁷

Type 1 (fireproof), or

Type 2A (fire resistant with metal joists protected)

LAYOUT AND DESIGN

Theories and standards of design of school buildings are changing so rapidly at the present time that any definitive suggestions made in this report might be obsolete tomorrow. If any rule applies it is that the rules and assumptions of the past can be "thrown out the window." Several observations might be made, however, not as proposals, but as a consideration for those who may play a role in future school planning.

Judging from the array of choices that lie on the horizon in the future use of schools, the utmost flexibility will be required in the layout and design of instructional areas. Space must be made to adjust to the size and type of activity of various groups, in contrast to the standard 30-pupil classroom. A way of creating varieties of space is through the use of movable partitions, provided the problem of soundproofing can be overcome.

¹⁷*Building Ordinance of the City of Providence*, adopted 1956, pp. 54-58

There is a need to counteract the anonymity of large schools through the subtle clustering of space to create schools within schools. Also there is a trend toward humanizing or de-institutionalizing the character of buildings to make them attractive and comfortable. Schools are no longer pompous, monumental, nor strictly utilitarian in character. Instead they tend to be informal, rambling, and inviting.

Due to the scarcity of land in Providence, schools probably must continue to be two stories in height as far as instructional areas are concerned, but the era of the three story schoolhouse is ended. Shortage of land suggests innovations such as use of basements for parking and roofs for outdoor recreation.

C – Site and Location

MINIMUM AREA OF SITE

A number of authorities have published standards for school sites, of which the following is about average:¹⁸

Primary: 3 acres	} plus 1 additional acre per 100 pupils
Elementary: 5 acres	
Junior high: 10 acres	
Senior high: 20 acres	

Needless to say no Providence school comes close to meeting these standards. Unfortunately most new sites for Providence can be obtained only through acquisition and clearance of existing development and the displacement of families, an extremely costly undertaking. Because of the costliness of urban land assembly it will be necessary to design sites for the most efficient use of land and for two story structures. A more careful analysis of the space requirements of the various school plant functions resulted in the following minimum site areas for four prototype facilities:

TABLE III

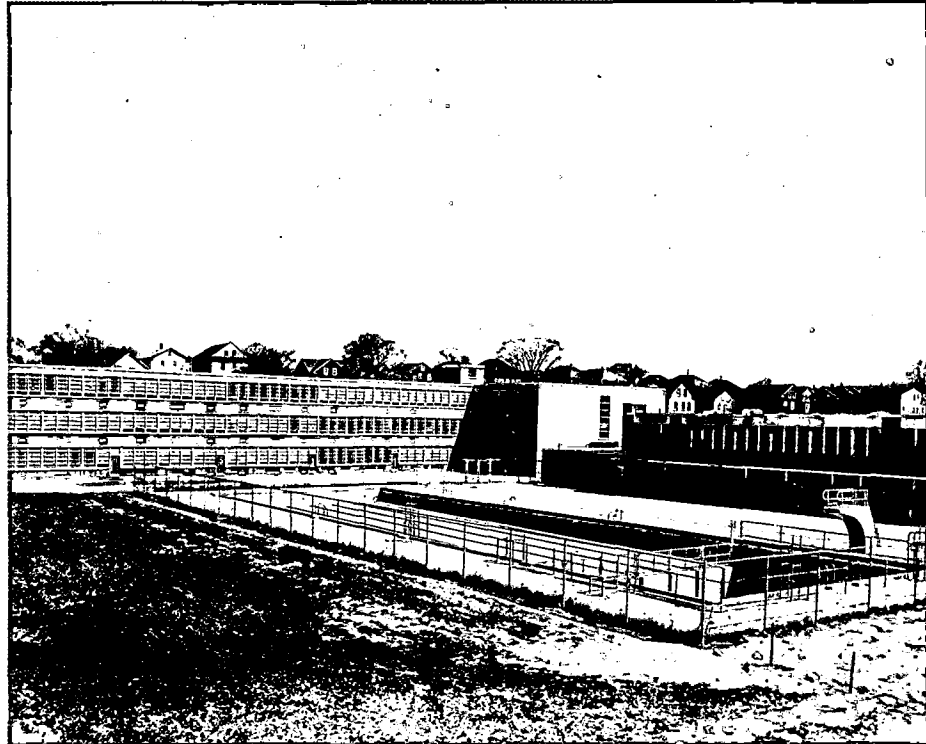
Recommended Minimum School Site¹⁹

Function	Elementary facility		Primary facility	
	700-pupil	600-pupil	500-pupil	400-pupil
Building, gross area	87,500	75,000	55,000	44,000
20-foot setback about bldg.	25,300	23,500	20,300	18,400
Parking	9,000	7,800	6,600	5,700
Circulation & service	7,300	6,900	6,100	5,600
Play space, gross	109,200	96,000	62,000	52,000
Total square feet	238,300	209,200	150,000	125,700
Total acres	5.5	4.8	3.4	2.9

Recreation space should not be reduced below the amounts suggested above if full programs of multi-use activities of both departments are to be

¹⁸From Sumption & Landes, *Planning Functional School Buildings*, Harper & Bros., 1957, p. 171. For other site standards see American Society of Planning Officials, Planning Advisory Service Report No. 175, "Site Selection for Schools", 1961.

¹⁹Derived from analysis used in *Boston Schools — 1962, A Report on the Schools of Boston*; Harvard University; pp. I-48-52.



Ideally educational and recreational facilities for a given age group are combined on a single site as at **Camden**.

accommodated. Where a site does not afford sufficient play space, a possible though not ideal solution may be to utilize a nearby existing playground for field sports. However, the primary goal should be consolidation of all educational and recreational activities for a given age group on one contiguous site.

MAXIMUM WALKING DISTANCES

The *National Council on Schoolhouse Construction* recommends the following maximum service area radii:²⁰

- Elementary: $\frac{3}{4}$ miles
- Junior high: $1\frac{1}{2}$ miles
- Senior high: 2 miles

Beyond these distances bus transportation is proposed.

OTHER LOCATIONAL FACTORS

- a. Centrality and accessibility within the school's service area
- b. Reasonably level topography
- c. Soil conditions favorable for construction
- d. Relative freedom from heavy traffic, offensive land uses, and environmental nuisances
- e. Proximity to existing public open space
- f. Economy in site acquisition and preparation, not only in dollars but in families to be relocated

²⁰National Council on Schoolhouse Construction, *Guide for Planning School Plants*, 1948.

Besides the above there are secondary considerations, such as the availability of vacant land, the desirability of clearing a blighted area or removing an incompatible non-conforming use, and the need to make a substantial capital investment in a declining area to reassure landowners that the area has a future.

The foregoing standards and policies have guided the formulation of specific school proposals in the following section.

5 – PROPOSALS FOR NEW SCHOOL CONSTRUCTION

The purpose of this section is to propose a specific plan and development program for a new system of school facilities for Providence, one designed to meet the critical demands of the present as well as the less keenly perceived needs of the future.

The Elementary School Plan

Because of the number, age, and condition of elementary schools, this plan is primarily concerned with that level of facility.

The plan is based on the replacement priorities indicated in the analysis of the existing school plant (Section 3), the magnitude and distribution of future school population (Section 2), and the changing pattern of land uses and circulation routes that determine the physical setting. With these factors as the basic determinants, and with the newer elementary schools — those whose replacement lies beyond the time span of this plan — as givens, a pattern of elementary districts and sub-districts has been delineated on the map of Providence.

The plan calls for a gradual replacement of the older, smaller, and more obsolete buildings with new, consolidated facilities of two distinct types, lower grade or primary schools, and full scale K-6 schools. The physical separation envisioned between the lower three grades plus kindergarten and the upper elementary grades is intended to facilitate new practices in elementary education as discussed in the previous section.

Existing district and sub-district lines have been re-drawn so that a consolidated K-6 facility lies near the center of each district. Where districts are populous enough to warrant sub-division, one of the two resulting sub-districts will be served by the primary section of the consolidated school and the other sub-district, by a new primary school to be built on a separate site located near the sub-district center. The plan continues the present K-6-3-3 grade organization, except for one 4-year high school and possibly one or two middle schools for grades 5-8, depending on the results of demonstrations. But obviously the changing educational practices which may occur during the life span of these proposals suggest a high degree of flexibility in the grouping and utility of the space provided.

All school sites will follow the current practice of including a playground for programs of after-school recreation for the general population of the neighborhood as well as for school athletics. Where feasible, the existing schools to be retained should be provided with adjoining playgrounds, if not now so equipped. New school buildings will be designed to accommodate recreational, social, and cultural activities for the whole population.

Thus these schools, with their playgrounds, will be the true centers of community life, not only for children but also for adults.

The sites recommended below are the result of examining many possible alternatives in terms of a multiplicity of site requirements, not the least of which was economy of acquisition. Although these sites appear to be the best choices at the moment, there will obviously have to be a re-examination of the available alternatives each time a new school is authorized, due to inevitable changing conditions and requirements.

The special facilities assumed for cost estimating purposes in new K-6 buildings include a cafeteria, gymnasium with lockers, auditorium with stage, health and dental clinic, library, audio-visual room, possible rooms for arts and crafts or music, teacher's lounges, and a principal's office. For primary schools some of these facilities may not be necessary; also space needs per pupil, both on the playground and in classrooms, may be less than those of K-6 facilities. Thus some economies can be realized in the construction of schools exclusively for the lower grades.

The school proposals described below are grouped according to the five planning districts of the city and, within these, by approximate priority of need. Suggested priority of construction on a city-wide basis is listed in *Table VI, Summary of Recommended School Construction Priorities* at the conclusion of this section.

I – The East Planning District

The East Side includes all of Providence east of the Providence and Moshassuck Rivers. Although quite diversified in the type, density, and condition of its housing, and the characteristics of its population, this area is a geographically and socially distinct section. A sparse public school enrollment is produced over most of the East Side because of the low density of development, predominantly non-child nature of the population, and popularity of private schools for many of the area's children. Higher concentrations of public school children occur in the Fox Point neighborhood in the south and the Camp Street area midway along the western side.

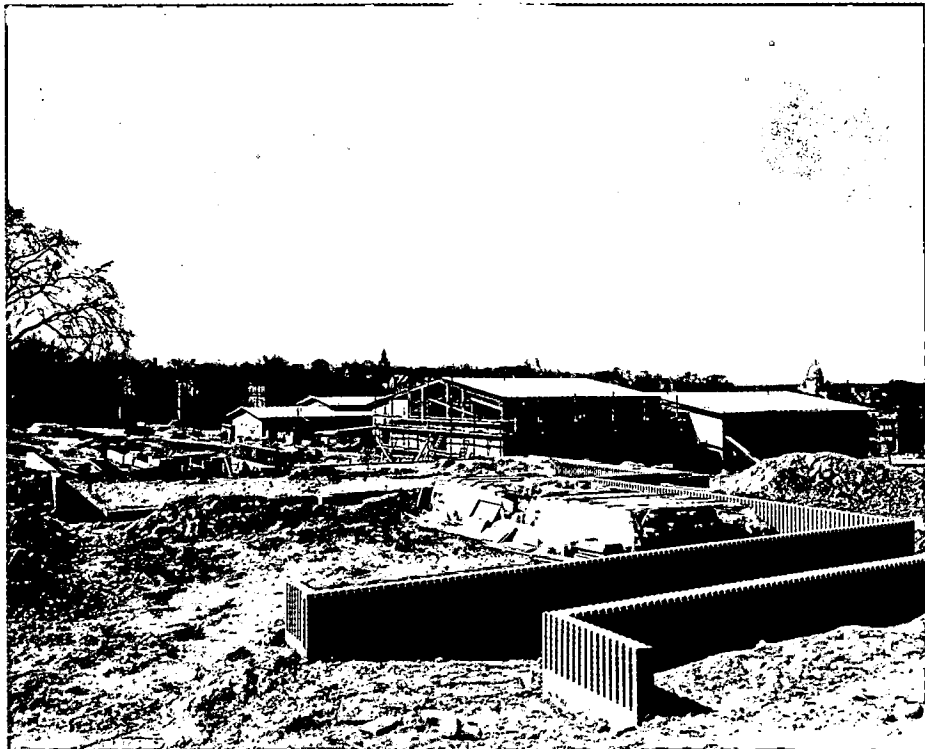
Public elementary enrollment has declined some 20 percent during the past decade, due partly to the Lippitt Hill redevelopment project. However the new University Heights apartment complex now going up in its place, will add about 200 children. Present and projected K-6 enrollments show the following trend:

1965 –	2151
1970 –	2310
1975 –	2226
1980 –	2189

With the completion of the new *Lippitt Hill* school, the area will be served by four K-6 facilities, two of them new and two middle-aged but modernized. Proposed improvements, all of which are in the later phase of the program, are summarized as follows:

1 — SUMMIT

This 41-year-old building lacks a cafeteria with kitchen and a library. Whether these could be incorporated within the present structure or would require an addition can be determined only by a close examination of the



Now under construction, **Lippitt Hill** pioneers a new design concept in flexibility of classroom space.

situation. Also additional play space is needed for this school and its neighborhood. A small site is proposed nearby.

2 — *JOHN HOWLAND*

This 49-year-old school also lacks a cafeteria and kitchen. As with *Summit* these may possibly be incorporated within the present structure. Some additional play space should be provided by expansion of the present site or acquisition of nearby land.

3 — *FOX POINT*

This unusually well equipped 10-year-old building needs no additional facilities nor classroom space. Its playground has been proposed for expansion to the east to compensate for the taking of a strip along the southerly edge of its site for state highway purposes.

4 — *LIPPITT HILL*

This 700-capacity school is now under construction on a five acre site at the corner of Camp Street and Carrington Avenue. It will replace the *Thomas Doyle* and the *Jenkins* schools; the latter, being a modernized building, may be a possible location for some specialized use. The new *Lippitt Hill* district will be extended to Morris Avenue in the east and Evergreen Street in the north, thus relieving pressure and reducing walking distances with respect to the *John Howland* and *Summit Avenue* schools. The new school will have an unusual, campus-style layout, incorporating rooms four times normal classroom size — rooms which can be subdivided

in various ways to accommodate various sized groups. It will also incorporate a recreation center for the neighborhood. The physical layout has grown out of the unusual academic program already started at *Doyle and Jenkins*, one especially adapted to the needs of the racially and academically diverse group from the expanded district. The results will be closely studied. The *Lippitt Hill* design may set a pattern for all future elementary schools of Providence.

II – The Central Planning District

This district is defined by the freeway loop of Route I-95 in the east and south, the New Haven Railroad Shoreline Division in the west, and the New Haven main line in the north. It consists of five neighborhoods: Federal Hill, the West End, Elmwood, and Upper and Lower South Providence. It includes one-third of the city's population, much of its social and physical problems, and 39 percent of its elementary school enrollment.

Enrollment within the overall district since 1957 has been remarkably stable, resulting from a considerable loss in the northern portion balanced by a gain in the southern. Enrollment for grades K-6 for 1965 and projected to 1980 by the method of natural increase and net migration described in Section 2 yields the following estimates:

1965 – 6249	1975 – 5260
1970 – 5561	1980 – 5010

The above-indicated moderate decline in enrollment is likely to be the result of continued deterioration, abandonment, and demolition of housing; continued shifts to non-residential uses; and probable lower densities in whatever new housing is constructed. Such trends are apparent in Federal Hill and will probably become increasingly true in Upper Elmwood and the West End. Therefore, with the expectation of further losses but the possibility of a leveling off, school capacities for the completed system were designed to accommodate somewhat in excess of the 1970 estimate for this district, or 6000 pupils. The plan consists of the following proposals:

Early Phase Proposals

1 — EDMUND W. FLYNN

Build as soon as possible a pre-kindergarten addition to the *Flynn* school containing two kindergarten size classrooms for some 40 pupils in each of two shifts, plus necessary supporting facilities — toilet rooms, storage space, separate entrance, and play yard equipped with play apparatus to be shared with the kindergarten. The present site will easily accommodate such an addition, which could be attached to the main building at a point where it will relate closely to the present kindergarten and set off an adjoining separate play lot. A new library is also needed in this otherwise well equipped building and could be added at the same time.

2 — MARY E. FOGARTY

Concurrently with the *Flynn* addition, build additions to the *Fogarty* school containing two pre-kindergarten rooms, two elementary classrooms, a gymnasium, and a library. *Fogarty* is one of the most overcrowded situations in the city and one which leaves little prospect for an easing of

pressure. Two additional classrooms should reduce overcrowding temporarily until another elementary facility can be built in the vicinity. This addition will give *Fogarty* 26 classrooms, which is a size approaching the maximum desirable for elementary use. The present "all purpose" room, which serves as cafeteria, gymnasium, and auditorium, is a source of great inconvenience in its attempt to combine three functions. A well equipped gymnasium is the new element most needed. A library should also be added at the same time. The complexity of these elements will make the design problem difficult, but there is probably sufficient space on the 4½-acre site for such an addition.

3 — NEW ELMWOOD

As soon as a suitable site can be acquired, build a 700-pupil K-6 school in Upper Elmwood to replace the elementary section of *Gilbert Stuart* and the ancient *Hammond* School and serve also children from the new *Wiggins Fund* housing being built north of Bridgham Street. This will release 14 classrooms in *Gilbert Stuart* for junior high or other functions. The new district will extend from Westminster Street to Potters Avenue and will be divided into two sub-districts at Daboll Street. Attending the new school will be grades 4-6 from the northern sub-district. The suggested layout for the new school is to group classrooms for the lower grades and kindergarten in a separate wing from the upper grades. Two pre-kindergarten rooms will be included in the primary wing. Also separate play areas should adjoin each wing if the site permits. A centrally located five-acre site in the vicinity of Westfield, Sprague, and Cromwell Streets between Dexter and Elmwood Avenue is recommended. Use of this site will serve the secondary purpose of removing several obsolete industrial buildings which do not relate well to their residential surroundings. Land acquisition here may be facilitated if done as part of an urban renewal project, through which the cost of the present buildings could be written off.

4 — NEW LOWER SOUTH PROVIDENCE

At an early date in the future acquire a site near the Roger Williams housing project and build a 500-capacity school for the lower grades to relieve pressure on *Fogarty*, *Sackett*, and *Lexington*, and permit the phasing out of *Temple*. This new school will serve grades K-3 in a sub-district comprising the southern half of an enlarged *Fogarty* district, boundaries for which will be extended north to Public Street and west to Broad Street. *Fogarty* will then serve grades 4-6 for the enlarged district and grades K-3 for the northerly of the two sub-districts. The present *Temple* district can thus be divided about equally between the *Fogarty* and *Flynn* districts. A possible site includes a city-owned block where the *Thurbers Avenue* school once stood plus part of an adjacent block, aggregating about three acres. A pre-kindergarten room and play lot should be included.

Later Phase Proposals

The above proposals will have corrected the serious overcrowding and replaced the unmodernized and shared facilities. Beyond this point the program will be one of replacing buildings that have been modernized and can still render a few more years of service if necessary.

5 — NEW UPPER SOUTH PROVIDENCE

Soon after construction of the above proposals, or perhaps concurrently with it, build a 400-capacity lower grade school in Upper South Providence to replace *Beacon* and *Temple* and relieve pressure on *Flynn*. This will be another K-3 facility with one pre-kindergarten room. It will serve a sub-district in the northern half of an enlarged *Flynn* district and include also new housing in Weybosset Hill. *Flynn*, whose district will now extend southward to the new *Fogarty* line at Public Street, will serve grade 4-6 pupils from the entire district and K-3 pupils from the southern sub-district, and will absorb the remaining students from *Temple*. A site of some three acres is recommended in two blocks between Friendship and Providence Streets north of Lockwood Street. Acquisition should be timed to take advantage of the land writedown under a possible urban renewal project in Upper South Providence.

6 — NEW WEST END

Replace the *Asa Messer*, *Althea*, and half of the *Vineyard School* with a new 750-capacity K-6 facility to be built at the present Conlon Park, a one block city park in the heart of the West End. An adjacent block should be acquired to produce a site aggregating 5 acres, about half of which would be developed as the school's playground. This will compensate the neighborhood for the loss of its park. The present fire station in one corner of the park may prove an obstacle to achieving an adequate layout. The new school, as with *New Elmwood*, should be built with a physical separation between lower and upper grade classrooms in the ratio of about 55 to 45 percent respectively. The *New West End* district will run from Westminster Street in the north to Huntington Avenue in the south and from the freeway east to Dexter Street. Lower grade pupils in the northerly portion of this area will attend the existing *Willow School* until a new primary facility can be built north of Westminster Street. The new K-6 school should contain a full complement of special facilities and two pre-kindergarten rooms. This building might warrant a higher priority if present facilities should become inadequate or if urban renewal should proceed in the West End.

7 — NEW ALMY

Following or concurrently with construction of the *West End* school, build a 450-capacity facility for the lower grades in the vicinity of the present *Almy* school to replace *Almy*, *Grove*, and *Willow*. The new school will serve grades K-3 in an area combining the northerly sub-district of the *West End* and a similar sub-district in the western part of Federal Hill. Grade 4-6 students for those sub-districts will attend the *New West End* and *Kenyon* schools respectively. A suggested location for a site of about three acres is at Almy and Meader Streets, where the present *Almy* site can be included.

8 — KENYON

The existing *Kenyon* school, built in 1921, enlarged in 1926, and recently modernized, will continue to be the principal K-6 facility serving Federal Hill. It is well adapted to the housing of lower and upper grades in separate wings. But since it is twice as large as an elementary school ought to be

or its service area requires, there is much space in the upper stories available for other functions. This space might be converted to certain specialized facilities, as yet undetermined. Also because the building stands at the geographic center of the city, it is a good location for city-wide school-connected functions that do not require a separate structure. Because of acute lack of play space and parking, either the block immediately to the east or the one immediately to the north of the building should be acquired, cleared and developed for those purposes and the intervening street discontinued.²¹ This acquisition should be keyed to a possible urban renewal project in Federal Hill.

9 — NEW LEXINGTON

Later in the program build a 350-capacity primary school in the vicinity of Potters Avenue and Melrose Street to replace *Lexington* and the remaining portion of *Vineyard*. This facility will serve grades K-3 in the northern portion of an enlarged *Sackett* district extending north to Potters Avenue and the southern portion of the new Elmwood district. The present Lexington district would thus be eliminated. Acquisition of a one-block site at the above named intersection will provide 2.8 acres in a central location and allow space for a playlot to serve the neighborhood.

10 — SACKETT

No additions are proposed for this 43-year-old building, which was recently modernized and has adequate play space one block away on the opposite side of Sackett Street. However, construction of *New Lower South Providence* and *New Lexington* school will permit expansion of the Sackett district boundaries northward to Potters Avenue and contraction on the east to Broad Street. *Sackett* will continue to serve grades K-6, but primary students residing north of Adelaide will attend the *New Lexington* school.

The Central Planning District in the finished plan will be served by six completely new elementary schools on new sites and four existing schools, two of which will have new additions and one, a new playground. There will be six consolidated K-6 facilities and four separate lower grade schools in place of the present fifteen.

III — The South Planning District

The south district consists of the disconnected neighborhoods of Washington Park, Lower Elmwood, and Mashapaug, and should be planned for school purposes in close relationship to the central district to its north.

These areas are in sound, healthy condition; Washington Park is stable while the other two are still experiencing new growth. Grade K-6 present and future enrollments are estimated as follows:

1965 — 788	1975 — 754
1970 — 765	1980 — 741

²¹Use of the block to the east of the school, bounded by Federal and Kenyon Sts. and DePasquale Ave., for a playground was proposed in *The Federal Hill Area, Providence, R. I.*; DeLeuw, Cather & Co., Consulting Engrs.; May 1964. However surveys revealed that the block north of the school relates better to athletic functions of the building.

The several parts of this district are probably too isolated from Central district schools or from each other to allow a dual system of facilities as proposed above. This area is served by three K-6 schools: *Broad*, covering Washington Park; *Reservoir*, covering Mashapaug; and *Sackett*, covering Lower Elmwood. The plan proposes slight changes in districting and the following improvements to buildings, both for later phase programming.

1 — *RESERVOIR*

This small 40-year-old building should be retained as a K-6 facility to serve the somewhat isolated Mashapaug area and perhaps also Lower Elmwood south of the freeway. The latter area, which might be detached from the Sackett district, is too small to support its own school and lies a little closer to *Reservoir* than to *Sackett*. This building should be thoroughly modernized and repainted. A new addition is proposed containing such special facilities as a gym-auditorium, cafeteria, health suite, and library to bring the school up to contemporary standards. The school is served by a playground of 4.5 acres at the opposite end of the block.

2 — *BROAD*

The older section of the *Broad Street* school should be replaced with a new 650-capacity classroom building for grades K-6. The existing 35-year-old gymnasium-auditorium addition should be retained and the new building erected to its north on a site extending to Morton Street. The original structure can then be removed and its site converted to a playground. After construction of a new school in Lower South Providence the northerly boundary of the *Broad* district can be shifted from Pavilion Avenue to the freeway, a more logical division.

IV — The Annex Planning District

The Annex is an identifiable neighborhood of some 18,000 population in the western part of the city, set off by the Woonasquatucket valley and the Huntington expressway. During the past decade it lost population in its eastern part and gained substantially in its western, due mainly to construction of Hartford Park, the city's largest public housing project. A little vacant land remains for new development in the northwestern portion; also some deterioration and abandonment of housing may be expected in the older section. Enrollment in the area's public elementary schools has declined about 7 percent in the past decade. Current and projected elementary enrollment is estimated as follows:

1965 — 1636	1975 — 1698
1970 — 1720	1980 — 1663

The Annex is currently divided into two elementary districts, *Laurel Hill* and *Webster*. The *Laurel Hill* district is served by the *Laurel Hill* school for its three upper grades and by *Ralph*, *Merino*, and *Laurel Hill Annex* for its lower grades. The plan calls for abandonment of present lines and division of the area into three districts of approximately equal population, each to be served by a K-6 facility. The existing *Laurel Hill* school will then serve the middle district, and two new schools are proposed for the others.

Early Phase

1 — NEW MERINO

As soon as possible build a new 600-capacity K-6 facility to replace present *Merino* and *Laurel Hill Annex* (housed in the *Oliver Hazard Perry* junior high). The new school will serve a newly formed district to the north of Hartford Avenue including also the area west of Eliza Street. A level, partially vacant site of about 4.6 acres is recommended between Dresser Street and the river at Ponaganset Avenue. Located on a bluff overlooking the Woonasquatucket valley, it can easily be joined by a footpath to the 5-acre Merino park in the valley bottom and is close to the housing project. The vacant portion of this site should be secured as soon as possible to forestall its development. If built to greater capacity this school could accommodate the lower grade children from the Manton Heights project immediately across the river and accessible by a pedestrian footbridge to be built over the freeway and river at Sheridan Street. However, should a concentration of project children (nearly 500) in a single building be undesirable; the alternative is to let Manton project children walk the half mile to *Joslin*.

Later Phase

2 — LAUREL HILL

This 49-year-old, recently modernized school should be retained beyond the time span of this plan. Though no additions are proposed, the school's function is proposed to be changed from an upper grade facility to a full K-6 elementary. The building needs a library, cafeteria, and health suite, facilities that can probably be created through alteration of existing space after the school has been relieved of some of its pupils through construction of a new school to the north. The school shares a 2.5-acre playground one block away with the junior high school.

3 — NEW ANNEX

In the later phase of the program, build a new 650-capacity K-6 facility in the vicinity of Sterling Avenue and Laurel Hill Avenue to replace *Webster* and *Ralph*. The new district should be extended from Plainfield Street south to the Cranston line, thus reducing the *Laurel Hill* district. Though an adequate site is not easily attainable, the old *Roosevelt* school is in a good central location and represents a nucleus upon which an adequate site can be assembled at the appropriate time.

V — The North Planning District

This name applies to all of Providence north of the Woonasquatucket river and west of the Moshassuck river. It is the largest in area and second greatest in population (65,000 persons) of the city's five planning districts. The North District includes the neighborhoods of Smith Hill, Eagle Park, Wanskuck, Elmhurst, Mt. Pleasant, Manton, and Olneyville. The condition of housing, density level, and stability of the population runs from one extreme to the other, but most of the area is sound and stable. The northwesterly portion has experienced continual growth, unlike most of the rest of the city, and there is still vacant land in Wanskuck, Elmhurst, and

Mt. Pleasant for hundreds of new homes. By contrast parts of Smith Hill and Olneyville are severely blighted and encroached upon by industry and are likely to experience a dwindling housing supply and population in the near future.

Public elementary enrollment for the district overall has risen steadily at the rate of 1.5 percent per year for the past decade. Projections to 1980 show a decline slower than that of the total city. Present and projected elementary enrollment is as follows:

1965 - 5149	1975 - 4927
1970 - 5010	1980 - 4849

The present growth can be expected to level off because of a decline in the birth rate, a dwindling supply of vacant land for new development, and out-migration from the more deteriorated areas. However, schools should be planned to accommodate a moderate increase over present enrollment in the outlying parts due to possible development of vacant arrested areas, and of former institutional property. The district is now served by a kindergarten and 13 elementary buildings of various sizes, 9 of which are over 60 years old, and two of which, *Mt. Pleasant* and *Manton*, have not been modernized. The plan calls for the eventual closing of 8 of the older buildings and construction of three new consolidated K-6 facilities and three additions to existing buildings, one of which is already under way.

Early Phase Proposals

1 — NELSON

A new addition to this overcrowded, 44-year-old building is now under construction. It will contain four classrooms, a cafeteria, and a gymnasium-auditorium. Construction will be accompanied by modernization of the existing structure. The existing Smith Street playground in the adjacent block is of adequate size. If *Nelson's* enlarged capacity is again exceeded as a result of prospective new growth, its oversized district can be cut back following the construction of a new *Mt. Pleasant* and new *Regent* school, proposed below.

2 — JOSLIN

Build immediately an addition to 6-year-old *Joslin* school to contain two pre-kindergarten rooms, 6 regular classrooms, an audio-visual room, and a library. At present the pre-kindergarten children must be accommodated outside the district because of overcrowding at *Joslin*, already operating at 135-percent of capacity. Classroom space is also needed for some 180 additional elementary pupils. This will raise the school's optimum capacity to 680, a more suitable size to fit the service area population and justify a variety of specialized facilities. A library should be added at the same time to comply with the state standard. Encroachment upon the adjoining playground for this addition should be avoided since all of the present space is needed for the Recreation Department program as well as school athletics. Exactly how the addition could be placed so as to retain the playground is a design question that lies beyond the scope of this report. Boundaries of the *Joslin* district should be adjusted after construction of a new *Mt. Pleasant* school.

3 — CAMDEN

Concurrently with the *Joslin* addition, build a small addition to the 3-year-old *Camden Avenue* containing two pre-kindergarten rooms. Also, probably as a separate addition, add either a gymnasium or a cafeteria to the present west wing to correct the limitations imposed by the present "cafe-gym-torium" in attempting to meet the requirements of three conflicting functions for 900 students. The choice of which facility to build, cafeteria or gymnasium, will depend on a detailed study of the situation.

4 — NEW MT. PLEASANT

As soon as possible following construction of the above additions, build a new, consolidated 700-capacity K-6 facility at the southeasterly corner of Triggs Memorial Park to replace the existing *Mt. Pleasant, Academy, Manton*, and *Sisson* schools. A level site of perhaps 5 acres at the above location can be converted to school use with only a slight encroachment on the golf course. The new *Mt. Pleasant* district will include the entire area west of Academy Avenue, south of the LaSalle Academy, and generally north of Manton Avenue and Hendrick Street. A moderate increase in enrollment can be expected in this district as present vacant lands are developed. The construction of a replacement westward to the *Regent* school to the east at a later date in the program will offer an opportunity to shift the district line from Academy Avenue to Carleton and Kimball Streets and absorb some 120 pupils from *New Mt. Pleasant*, which may by then have become overcrowded. A new street has been proposed along the easterly edge of the park to give better access to the new school.

Later Phase Proposals

5 — NEW REGENT

At a later date, after priority situations have been dealt with, build a 600-capacity K-6 facility to replace *Regent*, a 60-year-old K-6 school currently being modernized. The new *Regent* district will be extended north to Mooreland Avenue to relieve *Nelson* from possible future overcrowding, and west to Carleton and Kimball Streets similarly to relieve new *Mt. Pleasant*. Two alternative sites are suggested. One, combining the three blocks which include the present *Regent* site and its playground, would be less costly, but also less central. A better location consists of a two block built-up area on the south side of Chalkstone Avenue at Berlin Street. The choice will depend on overall site costs and pupil distribution at the time the decision has to be made. The possible addition of several hundred children to the new district as a result of a new apartment complex proposed on the Elmhurst Academy site will affect the design capacity of *New Regent*.

6 — NEW BERKSHIRE

Either following or preceding construction of *New Regent*, build a 600-capacity K-6 facility off Admiral Street to replace *Berkshire* and permit the closing of *Smith*. The proposed *New Berkshire* district will lie between freeway Route 146 and Chapin Hospital and extend north to Virginia Street and south to Chad Brown Street, thus including the Chad Brown housing project. An alternative proposal for this school would be to make it strictly a primary facility without changing its location. In that case it would serve

grade K-3 children in the northerly part of the *Camden* district and southerly part of the *Veazie* district. The boundary between the *Veazie* and *Camden* districts for the grade 4-6 children should then be placed about at Mowry, Newcomb, and Longmont Streets at the midpoint of the new school's district. For either alternative, a good site of nearly 5 acres of mostly vacant land is available near the intersection of Admiral and Hawkins Streets. Steps should be taken to secure this site in the early phase of the program.

The remaining schools in the North District, *Veazie* and *Windmill*, have been modernized and are well supplied with supporting special facilities and adjoining recreation space. No additions are recommended for them. No change is proposed for the *Valley View* kindergarten building.

With the construction of the three new buildings and three additions proposed above, this district will have 8 consolidated K-6 facilities, properly located for most efficient coverage of the residential area.

Summary

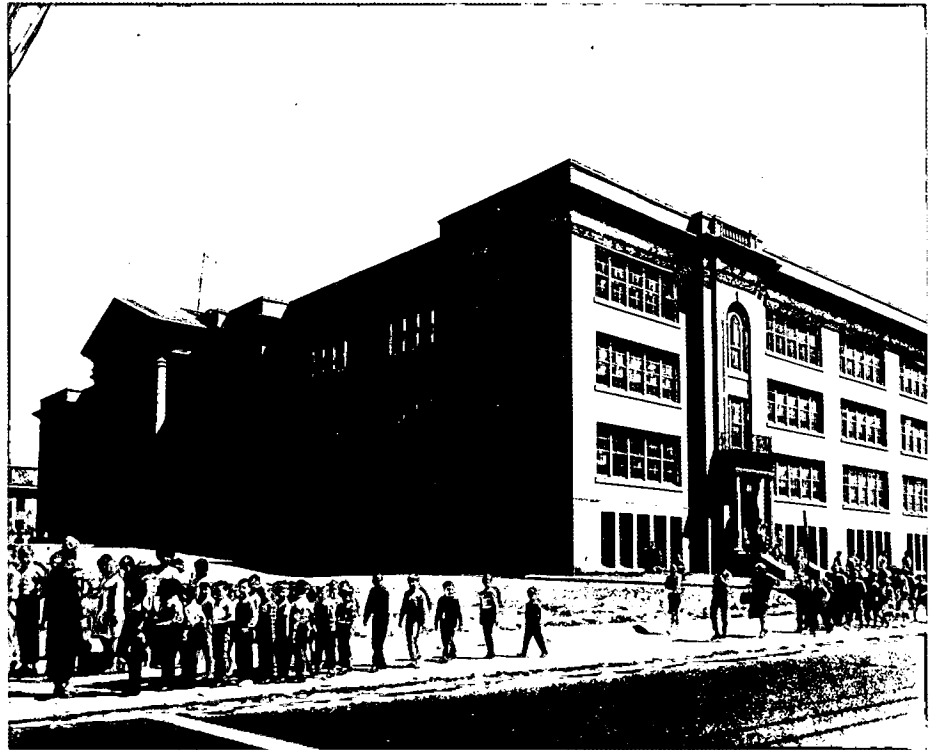
The foregoing proposals for elementary facilities call for construction throughout the city of twelve new structures and five additions to present buildings, and a corresponding realignment of district boundaries. This will make possible the phasing out of 25 of the older buildings, some of whose sites can then be developed as play lots or parks; these are described in the *Master Plan for Recreation and Conservation*. The final system will consist of 27 elementary facilities, 4 or 5 of which will be primary schools and the remainder, full elementary.

Construction proposals, their design capacities, and the schools which they are recommended to replace, are listed in the Table VI previously referred to and titled *Summary of Recommended School Construction Priorities*.

Junior High School Proposals

The city's eight junior high buildings were built between 1916 and 1932. Three were originally grade 5-8 grammar schools and five were built as grade 7-9 junior high schools. All are of fire resistant construction and equipped with special facilities, laboratories, libraries, and such special features as contemporary junior high curricula require. These 8 schools are fairly well located about the city so that walking distances are minimized. However, all except the *George J. West* have grade 7-9 enrollments substantially below optimum capacity. The *Gilbert Stuart* and *Oliver Hazard Perry* share space with elementary classes, an expedient recommended for discontinuance. The *Samuel Bridgham* has for several years been proposed for conversion to another use. Four of the schools supply space for the new Community School program. Other programs of an educational nature make use of available space in several of the buildings.

A middle school for grades 5 through 8 is a possibility in the near future in two of the junior high buildings where space is available. There a new grade 5-8 curriculum may be operated on a trial basis simultaneously with the regular grade 7-9 program. If successful similar programs may be established in other junior high buildings, but it is not yet known to what extent they might eventually be conducted. If middle schools prove to be



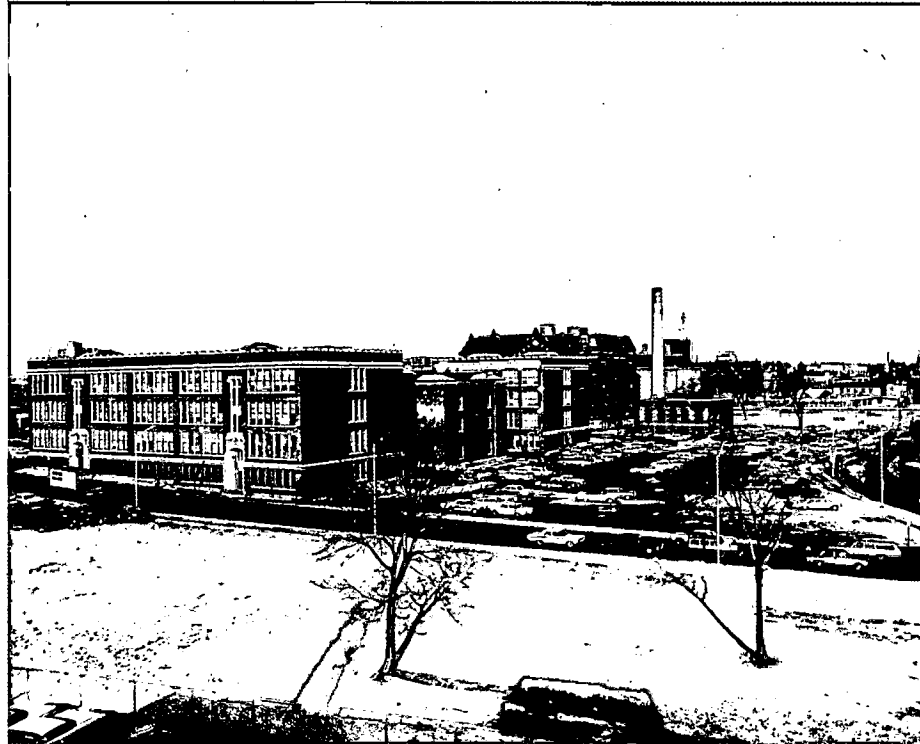
The city's eight junior high schools, all built between 1915 and 1932, are fairly well located. *Gilbert Stuart* is one of two that combine junior high with elementary grades.

popular and involve a large percentage of the grade 5-8 enrollment, they should perhaps operate in all 8 junior high buildings concurrently with the grade 7-9 curriculum. An alternative scheme would be to utilize 3 or 4 of the junior high buildings exclusively for grades 5-8 and the remainder for grades 7-9.

In either case inclusion of a grade 5-8 curriculum in some of the junior high buildings will reduce the elementary enrollment by the number of grade 5 and grade 6 pupils in the program. If half the pupils in grades 5-8 ultimately elect middle school, the elementary grades 5 and 6 will obviously be cut in half and total elementary enrollment reduced about 11 percent. If such a plan is realized on a permanent basis, the design capacities of the eight K-6 elementary schools proposed in this plan should each be reduced in the order of 11 percent.

All of the junior high buildings have reasonably adequate sites for athletics and parking except the *Samuel Bridgham*, which is grossly undersupplied with parking and must depend for athletic space on the Dexter Training Ground some three blocks away. It is proposed to acquire the block to the north of the school, close Pierce Street, and develop the resulting 1.4-acre site for those two functions. This is suggested for the later phase of the program.

Modernization of the eight junior high buildings has been proposed by the School Department in order to put them in top condition and meet current academic requirements.



Under construction, the **James L. Hanley Educational Center** will provide two complete high school plants on a single 17-acre campus assembled through urban renewal.

Senior High School Proposals

The city has four senior high schools accommodating some 6500 students. Two of them, *Classical* and *Central* are clustered together in the Central-Classical complex at the population center of the city. The other two, *Hope* and *Mt. Pleasant*, serve the east and north districts respectively. The latter are large educational plants of around 1800 students each. Both date from 1938 and are relatively modern and well equipped, with full complements of the special facilities needed for today's secondary education. Both are badly in need of modernization, painting, and decorating. A modernization program similar to that proposed for the eight junior highs is contemplated by the School Department for *Hope* and *Mt. Pleasant* senior highs.

The main improvement in high school facilities, however, will be construction of the ten-million dollar *James L. Hanley Educational Center*. This will include a new *Classical High* building, a cafeteria-gymnasium-auditorium building for *Classical*, a similar service building for *Central*, a new power plant, renovation of the 40-year-old *Central High* building, and athletic facilities for both schools. A new *Central* vocational building has recently been added to the plan. Besides complete facilities for 2500 students, the center will house the School Department office in *Central High*. A 17-acre site has been assembled through urban renewal, and plans are in preparation for the new complex.

With the completion of the *Hanley Educational Center*, Providence will

have adequate capacity in its four modern senior high facilities for the probable number of grade 9-12 students of future years. If, however, the four year high school curriculum is expanded, additional capacity may be required, either in existing facilities or through conversion.

D – School-Connected Recreation

The *Master Plan for Public Recreation and Conservation* includes a comprehensive program for city-wide recreation development. These include thirty-nine areas which are existing or proposed sites for school-connected recreation, twelve of which are the new elementary school sites recommended by this report. Tables IV and V specifically describe these thirty-nine areas.

Also proposed is the adaptation of twelve existing schools to facilitate their employment as multi-use centers. Said adaptation would include minor structural changes to permit separability of rooms so used from the remainder of the building, as well as equipping selected rooms for maximum usefulness. These are proposed for early phase development depending upon further development of Community Action Programs and the manner and extent to which they may expand in the future.

6 – COSTS AND FINANCING

The time has long passed when a general plan for school facilities could suffice with the proposals themselves without relating them to cost and overall feasibility. This section has as its purpose to provide the reader with preliminary cost estimates of the proposals and to suggest some of the financial alternatives that appear applicable to a school construction program. Although these estimates are based on a series of assumptions, it is nevertheless important to tie the proposals as closely as present knowledge will allow to the highly complex and dynamic realities of municipal capital programming in Providence.

Method of Cost Estimating

In discussing the cost of school facilities it was convenient to treat building construction separately from land acquisition. The numerous variables involved in building cost estimating have been grouped into three categories of variables to produce the final figures listed in Table VII. These may be summarized as (1) the quality level, (2) the array of space, and (3) the capacity.

QUALITY LEVEL

Buildings vary greatly in unit cost depending on their materials, equipment, structural characteristics, etc. — factors governed in part by the climate and by local building codes. They also vary with the price of labor in the locality and at the time of construction. In order to avoid disparities resulting from geography, a recently built Providence school, the *Edmund Flynn*, was selected as a model. This building is of relatively high quality construction and compares favorably with the best modern elementary schools in the region. Its gross cost, including full equipment and furniture, came to \$23.45 per square foot in 1958. This figure, when updated to 1965 by means of the *Engineering News Record* building cost

index, gives \$26.90 per square foot. A similar unit cost using the smaller *Joslin* school as a model for new primary facilities, updated to 1965, gives \$30.00 per square foot.²²

ARRAY OF SPACE

The cost of a school depends on the varieties and amounts of space provided. It was assumed that future consolidated elementary schools will contain a full complement of specialized facilities. The model selected to represent the array of space provided per child was the *Fox Point School*.²³ Gross floor space at *Fox Point* comes to 96 square feet per pupil at optimum capacity the highest space-per-child standard of any Providence elementary school and one well above the national average. For the smaller primary schools, where fewer specialized facilities are needed, the *Joslin* school, with a space-per-pupil factor of 75 square feet, was again chosen.²⁴

On the basis of the above models, the cost per pupil space of a consolidated elementary and a primary facility were then computed at \$2,584 and \$2,250 respectively.

CAPACITY

The cost of a school building is obviously a function of its size or capacity. The final cost estimate in each case was computed from the design capacity and per pupil cost. Since for each of the two building types there was little variation in size among the proposals of this plan, possible economies of scale were not considered an important variable. In computing capacity the number of pupils in kindergarten and pre-kindergarten were halved, since those grades ordinarily meet in two shifts. Resulting building cost estimates of buildings, including equipment and furniture, are listed in Table VII.

Site Costs

Table VIII also lists site costs for the 14 sites tentatively selected. Acquisition was estimated on the basis of twice assessed valuations. Demolition costs were a function of type and size of structures to be removed. Relocation costs were not considered. Estimates include both the school site itself and the adjoining playground. However the cost of site improvement of the recreation portion of each site was computed within the *Master Plan for Recreation and Conservation*.²⁵

If it is decided to finance the recreation portion of a multi-use site separately from the school site, possibly through the state and federal programs for open space acquisition, such cost should be deducted from the site acquisition cost listed in Table VII.

A study of the city's *Community Renewal Program* revealed that ten of the sites lie in areas thought to be eligible for federal aid urban renewal. For those, the acquisition cost of cleared sites was assumed to be written

²²Derived from *Annual Financial Reports*, City of Providence, Schedule E-16. Figure includes all cost items except those connected with land acquisition.

²³Specialized facilities assumed for this model include: auditorium, gymnasium, cafeteria, kitchen, health suite, school library, teacher lounge, audio-visual room, and office.

²⁴Specialized facilities assumed for the primary school model include a playroom, lunchroom, health suite, library, audio visual room, teacher lounge, and office.

²⁵These and additional school-connected recreation sites are described generally in Section 5 and the estimated costs involved are included in Table VIII.

down to a uniform figure of 50 cents per square foot.²⁶ Table VII lists full cost estimates for the proposed sites and also estimates of site cost through maximum use of the land writedown benefit under urban renewal.

Cost Estimate Summary

As indicated in Table VII the total program proposed in this report is estimated at a gross cost of \$28,053,000, assuming 1965 prices and no site writedown. With the three ongoing projects included, the total gross estimate comes to \$39,204,000. These figures are before the state reimbursement available under *Chapter 26 of the Public Laws*, which will return 30-percent of total non-federal cost of each project over a twenty year period. They also include urban renewal writedown for site acquisition.

In making the above estimates, the proposed buildings were assumed to be of high quality construction, equipped with a full complement of specialized facilities, and designed according to the space standards suggested in Section 4. Economies can obviously be made in any of these categories if it is necessary to do so.

Financial Considerations of the School Building Program

FINANCING OF CAPITAL COSTS

Financing may be provided (or extended) in three ways: direct sources, indirect sources, and economies — discussed here in reversed order.

A — ECONOMIES

Of the obviously innumerable ways of saving money in school construction only two will be mentioned:²⁷

(1) Acquisition of, or obtaining option on, sites in advance of their need for new construction. Vast sums can often be saved and superior sites secured by a policy of immediate action — as soon as future need has been fairly definitely established and before land use changes make acquisition infeasible. This was a recommendation of the school plan of 1950 and is reaffirmed here. However, for those sites in urban renewal areas, acquisition should be timed to occur with project execution, as discussed below.

(2) Periodic review and possible revision of the city's building codes with a view to achieving economies in school construction without sacrificing basic objectives of the code. If provisions of the code make school construction in Providence unnecessarily costly and therefore non-competitive with the suburbs, consideration might be given to possible revision aimed at removing unnecessarily restrictive requirements.

B — INDIRECT SOURCES — URBAN RENEWAL

The principal indirect source of capital funds is the federal aid available under provisions of the *Housing and Urban Development Act of 1965*. Two types of federal grants are available in connection with new schools built in, or servicing portions of, urban renewal project areas: the land writedown of sites and the non-cash credit provided by the facilities.

The act provides federal grants covering up to three-fourths of the cost

²⁶Based on unit writedown cost of the *Edmund Flynn School* site.

²⁷Much published material is available on this subject. Especially recommended is *The Cost of a Schoolhouse*; Educational Facilities Laboratories, Inc., 477 Madison Avenue, New York 22, N. Y.; 1960.

of writing down property in substandard areas to a figure representing the appraised fair market re-use value of the land alone, excluding cost of acquisition, relocation, and clearance. Acquisition cost of the cleared site plus the remaining one-fourth of the cost of writing it down must then be born by non-federal resources. However, this non-federal quarter share may be paid for in local contributions in the form of supporting public facilities or land donations, rather than cash.

The so-called non-cash credit is the federal grant earned on a 3-to-1 matching basis by the above-mentioned local non-cash contributions to projects. A new school, to the extent that it serves a project area, may itself become a local non-cash contribution and earn up to three times its cost in Federal grants, amounts which may be spent on execution of the project or other projects. Another source of non-cash credit may be the contributions of the land occupied by the old schools being replaced.

Benefits from this federal program are potentially enormous. Ten of the proposals of this plan (excluding *Lippitt Hill*) are located in areas deemed eligible for urban renewal.²⁸ If the opportunities for site acquisition through urban renewal are taken advantage of in all ten instances, the saving in land writedown alone is estimated in the order of three-million dollars.²⁹ As for the federal grants obtainable through building those ten proposals as local non-cash contributions toward the local one-fourth share of project cost, these could amount to many millions of dollars. However, to qualify for non-cash credit, such construction must be timed rather strictly with renewal execution. This timing ties the school construction program to the rate at which the city is able to undertake renewal projects.

The above program is an indirect source since the federal grant is not school construction aid as such, but a benefit earned by the local capital outlay — a benefit that applies only in urban renewal areas at the time of project execution. The *Housing Act* does not provide directly for school construction, which must still depend largely on local resources.

C — DIRECT SOURCES — STATE REIMBURSEMENT

Under *Chapter 26 of the Public Laws* the state of Rhode Island guarantees to pay cities and towns thirty percent of the non-federal share of the capital cost of new schools or school improvements. The payment is amortized over a twenty-year period and thus cannot be used to discount in advance the amount of a bond issue. To qualify, the proposed construction or improvement must meet the approval of the State Commissioner of Education.

Federal Aid to Education

Under Title I of the *Elementary and Secondary Education Act of 1965* federal grants are available to municipalities to be spent on education in poverty areas. A portion of the grant may be spent for the construction of facilities serving those areas. Such facilities are especially applicable to the pre-kindergarten or the community schools, programs operating under

²⁸*Community Renewal Program, Providence, Rhode Island*; Blair Associates Inc., Planners, 1964, see esp. p 122.

²⁹See Table VII for identification of these proposals and estimates of possible saving through site writedown.

provisions of the *Economic Opportunity Act*, which provides no funds for facilities. Grants authorized under the present act run for two years. Continuance of the program after the second year will depend on new Congressional authorization.

Federal grants are also available under Title III of the *National Defense Education Act* on a 50-50 matching basis for the teaching of science, mathematics, and languages. Their application to physical facilities is limited to the provision of laboratories in secondary schools for instruction in the sciences.

Municipal Bond Issues

The principal method for financing school construction is still by means of long term municipal obligations backed by the faith and credit of the city. These are retired out of local general revenues, received principally from the property tax. The floating of long term bond issues over \$50,000 is dependent on voter approval in a referendum. There are obviously stringent limitations to the city's capacity to encumber additional long term debt, limitations which control the rate of execution of this or any other capital program.

Rate of Capital Expenditures for Schools

Although Providence has made good progress in school construction and modernization in the post-war years, with five new elementary schools built, one under construction, and 27 older facilities modernized, it is evident that this effort needs to be stepped up.

Allocation of capital resources among the city's competing requirements is a highly complex matter which involves an objective assessment of the overall needs and overall fiscal position, obviously beyond the scope of this report.³⁰ In the capital program in recent years school expenditures have been the largest single item in Providence as in most other cities.

Analysis of the record of capital expenditures for schools during the period 1952-65, years representing the post-war revival of school construction, is revealing. Total expenditures for new construction, modernization, fire damage, and school connected recreation aggregated \$12,513,700 over this 13-year period, or an average of just under one million dollars per year.³¹ If, for purposes of illustration, one were to take the figure of \$1-million as a measure of the projected rate of capital outlay for schools, it would require in the order of 34 years to build all of the proposals of this plan. With full use of the 30-percent state reimbursement as well as assistance available for open space and green acre development, and maximum site writedown benefits under urban renewal, the period could be cut down to around 22 years.

But this estimate, based purely on past trends and today's level of costs and resources, is by no means a reliable measure of future ability or determination to encumber the cost of a new school plant. The rate could be much greater or much less than a million dollars per year depending on policies governing the allocation of capital resources. However, it seems

³⁰See the *Capital Improvement Program* for Providence, R. I., an annual publication of the City Plan Commission.

³¹From office of the City Controller.

apparent that the city's educational as well as its urban renewal needs require an increase in the rate of expenditure for school construction if the program outlined above is to be accomplished in a reasonable period.

With today's intensified emphasis on education as the key to a higher standard of living and a better life for everyone, there is an urgent and immediate need to provide adequate facilities for this essential function. With current migration trends running strongly in Providence's disfavor, the city faces the prospect of losing more and more of those families who care the most about education unless its school facilities are made to equal or excel the best that the suburbs can offer. Also with deterioration spreading through the older neighborhoods, and the need for broad scale urban renewal becoming an accepted public policy, there is strong justification for taking advantage of the vast federal aid toward renewal projects that can be earned through new school construction, provided the renewal priorities can be successfully coordinated with the school priorities.

For all of these reasons it appears to be to the city's advantage to step up its current efforts to rebuild its school plant. Therefore it is recommended that the proposals of this plan be programmed for accomplishment within fifteen or twenty years.

Obviously few plans can remain vital and relevant for very many years in the future, given the dynamics of our society. Probably well before 1985 the time will have arrived to take a fresh look at the school facilities and the populations they serve and to extend the plan into the years beyond that date in fulfillment of the needs that cannot yet be foreseen.

TABLE IV
School-Connected Recreation Development Proposals#
For Elementary Schools

<i>Name</i>	<i>Recreation M.P. No.</i>	<i>Facility</i>	<i>Planning District</i>
<u>Summit Avenue</u>	3	Junior Playground Neighborhood Center	East
<u>Lippitt Hill</u>	12	Playground Neighborhood Center	"
John Howland	P-5	Junior Playground* Neighborhood Center	"
<u>Fox Point</u>	27	Playground* Neighborhood Center Skating Rink	"
<u>Kenyon</u>	P-9	Playground* Neighborhood Center	Central
New Almy	P-11	Junior Playground* Neighborhood Center	"
New West End	39	Playground* Neighborhood Center	"
<u>New Elmwood</u>	P-23	Playground* Neighborhood Center	"

TABLE IV (CONT.)
School-Connected Recreation Development Proposals#
For Elementary Schools

<i>Name</i>	<i>Recreation M.P. No.</i>	<i>Facility</i>	<i>Planning District</i>
<u>New Upper South Providence</u>	P-19	Playground* Neighborhood Center	Central
<u>Edmund Flynn</u>	41	Playfield* Neighborhood Center	"
<u>New Lexington</u>	P-35	Playground Neighborhood Center	"
<u>Mary Fogarty</u>	43	Playground*	"
<u>New Lower South Providence</u>	P-38	Playground* Neighborhood Center	"
<u>Sackett</u>	46	Playground*	South
<u>Reservoir (Ardoene Street)</u>	48	Playground* Neighborhood Center	"
<u>New Broad</u>	P-46	Playground* Neighborhood Center	"
<u>New Annex</u>	P-53	Playground* Neighborhood Center	Annex
<u>Laurel Hill</u>	55	Playground*	"
<u>New Merino</u>	P-49	Playground* Neighborhood Center	"
<u>Joslin</u>	85	Neighborhood Center Pool	North
<u>New Regent</u>	P-66	Playground* Neighborhood Center	"
<u>New Mt. Pleasant</u>	P-63	Playground* Neighborhood Center	"
<u>Camden (Danforth Street)</u>	77	Playground* Neighborhood Center Pool Skating Rink	"
<u>New Berkshire</u>	P-59	Playground* Neighborhood Center	"
<u>Smith Street (Nelson Street School)</u>	68	Playground* Neighborhood Center	"
<u>Veazie</u>	63	Playfield Neighborhood Center Pool Skating Rink	"
<u>Windmill</u>	64	Junior Playground* Neighborhood Center	"

#Development costs are not included in site acquisition estimates, but are added thereto in Table VI. Specific estimates for individual facilities are contained in an unpublished appendix to this report.

*These facilities include a portion to be developed for a playlot for pre-kindergarten and kindergarten ages.

NOTE: Detailed proposals for improvement of school-connected recreation areas are described in Appendix B of the *Master Plan for Public Recreation and Conservation*. Underlining indicates early phase project.

TABLE V
School-Connected Recreation Development Proposals#
For Secondary Schools

<i>Name</i>	<i>Recreation M.P. No.</i>	<i>Facility</i>	<i>Planning District</i>
<u>Nathan Bishop Junior High</u>	7	Junior Playground Neighborhood Center	East
<u>Bridgham Junior High</u>	P-12	Junior Playground	Central
<u>Gilbert Stuart Junior High (Bucklin St.)</u>	42	Playfield* Neighborhood Center Skating Rink	"
<u>Roger Williams Junior High (Richardson Park)</u>	45	Playground* Neighborhood Center	"
<u>Oliver Hazard Perry Junior High</u>	54	Junior Playground Neighborhood Center	Annex
<u>George J. West Junior High</u>	73	Playground* Pool Skating Rink	North
<u>Nathaniel Greene Junior High</u>	75	Junior Playground	"
<u>Esek Hopkins Junior High (Metcalf Field)</u>	67	Playfield Neighborhood Center	"
<u>Hope High School</u>	13	Playfield Neighborhood Center Pool	East
<u>Central High School</u>	P-16	Playfield Neighborhood Center Pool	Central
<u>Classical High School</u>	P-17	Playfield	"
<u>Mt. Pleasant High School</u>	69	Playfield Neighborhood Center Pool	North

#Development costs are not included in site acquisition estimates, but are added thereto in Table VII. Specific estimates for individual facilities are contained in an unpublished appendix to this report.

*These facilities include a portion to be developed as a playlot for pre-kindergarten and kindergarten ages.

NOTE: Detailed proposals for improvement of school-connected recreation areas are described in Appendix B of the *Master Plan for Public Recreation and Conservation*. Underlying indicates early phase project.

TABLE VI

Summary of Recommended School Construction Priorities

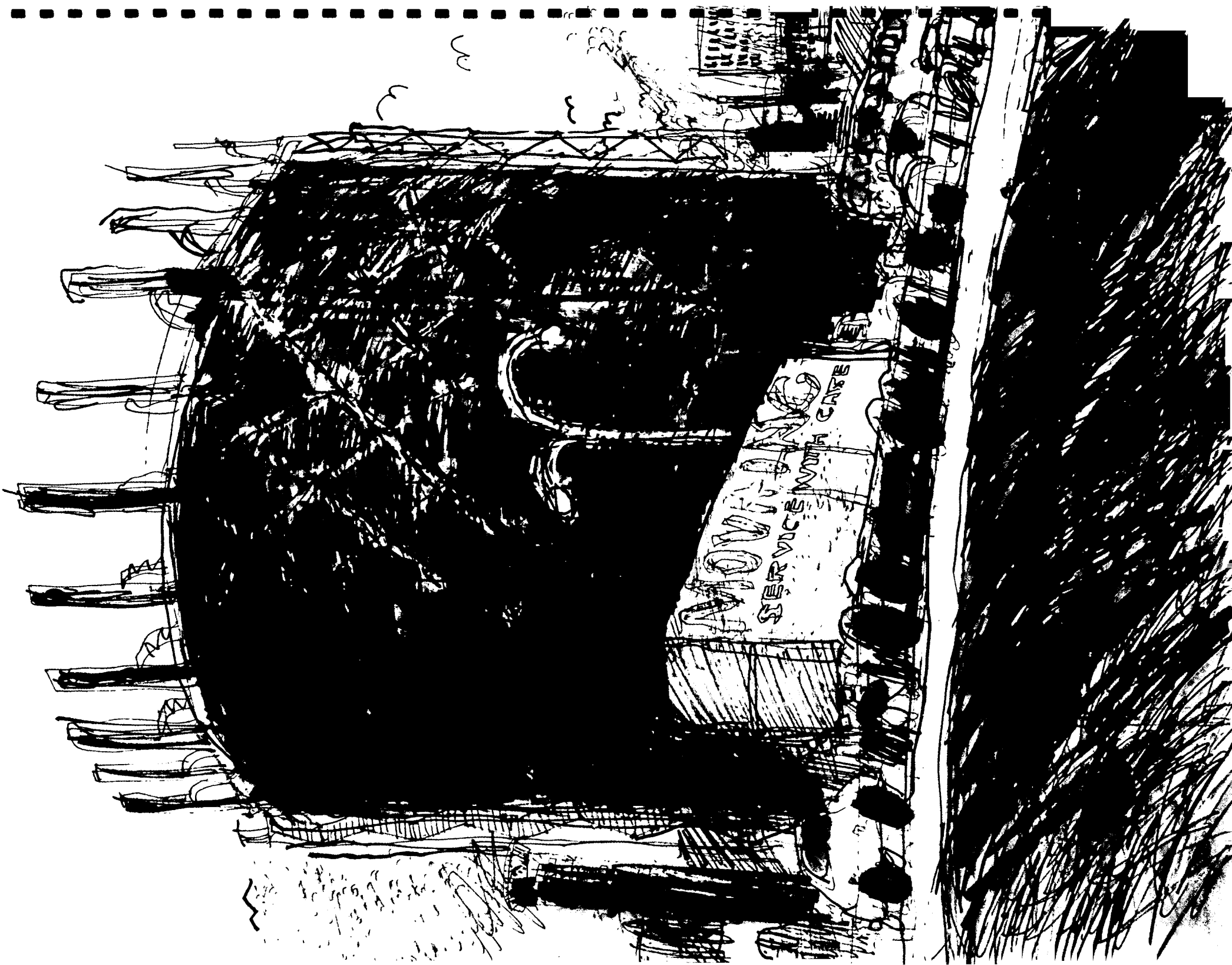
<i>Proposed Facility</i>	<i>Planning District</i>	<i>New Capacity to be Added</i>	<i>Schools to be Replaced</i>	<i>1964 K-6 Enroll.</i>
<i>Early Phase</i>				
1. Flynn addition	Central	40	.....	833
2. Fogarty addition	Central	100	.....	815
3. Joslin addition	North	220	.....	681
4. Camden addition	North	40	.....	906
5. New Elmwood	Central	700	Stuart elem.	430
			Hammond	143
6. New Mt. Pleasant	North	700	Academy	268
			Mt. Pleasant	200
			Manton	193
			Sisson	146
7. New Merino	Annex	600	Merino	128
			Perry elem.	105
8. New Lower So. Prov.	Central	500	.....	.....
9. Kenyon playground	Central	.....	.....	.....
<i>Later Phase</i>				
10. New Upper So. Prov.	Central	400	Beacon	144
			Temple	450
11. New West End	Central	750	Asa Messer	405
			Althea	292
			Vineyard	413
12. New Almy	Central	450	Almy	53
			Grove	99
			Willow	244
13. New Berkshire	North	600	Berkshire	242
			Smith	149
			Branch	168
14. New Regent	North	600	Regent	348
15. New Lexington	Central	350	Lexington	480
16. New Annex	Annex	650	Webster	449
			Ralph	323
17. Bridgham playground	Central	.....	.....	.....
18. Reservoir addition	South	.....	.....	174
19. New Broad	South	650	Broad	646

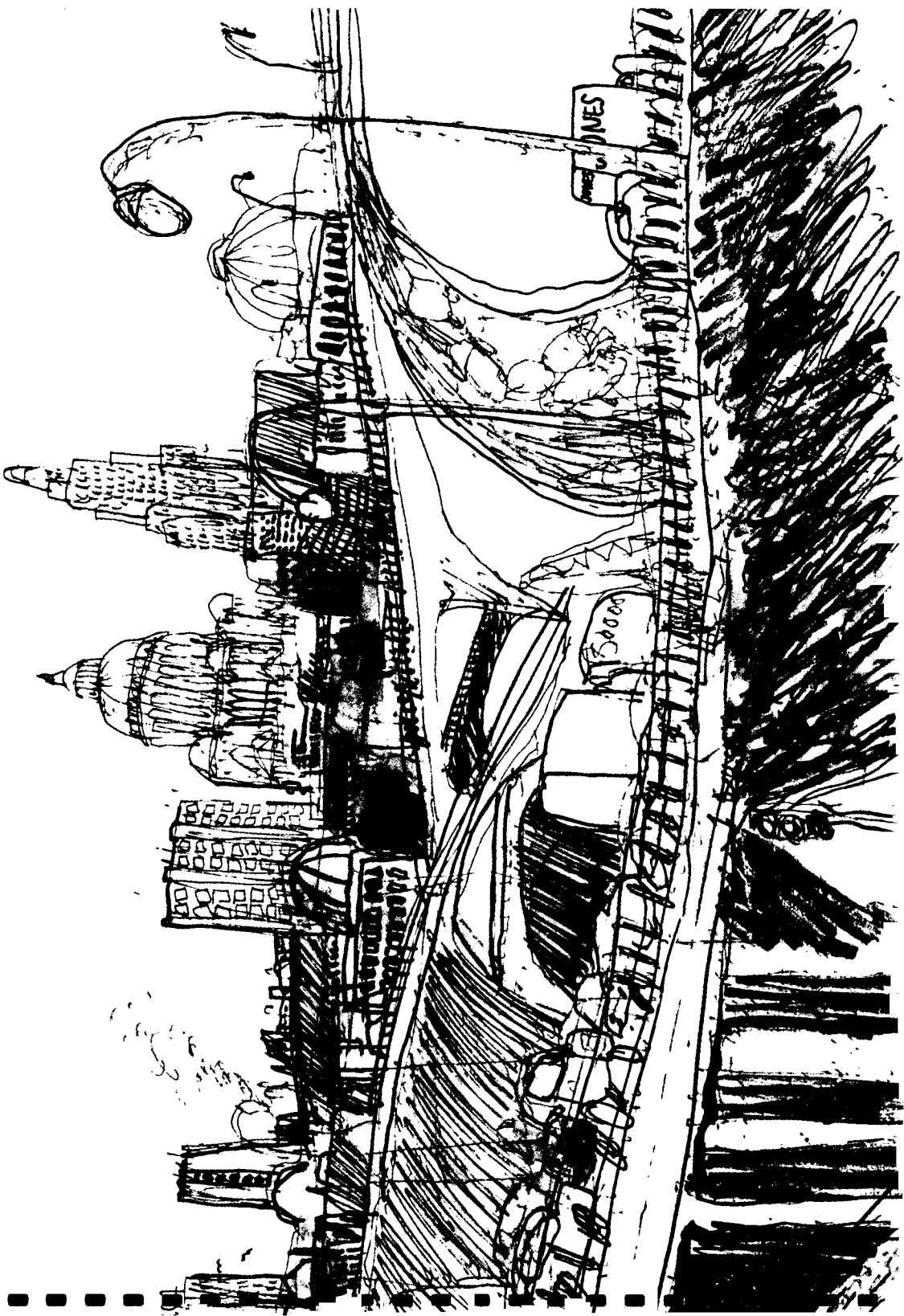
TABLE VII
Cost Estimates of School Program

<i>Proposed Facility</i>	<i>Site to be added</i>	<i>Acreage total site</i>	<i>Site Acquisition & Demolition (\$000)</i>	<i>Site Acquis.* under Urban Renewal (\$000)</i>	<i>Building and/or Devel. Cost (\$000)</i>	<i>Total Gross Cost (\$000)</i>
<i>Early Phase</i>						
Flynn addition	.....	.....	.....	.....	160	160
Fogarty addition	.....	.....	.....	.....	465	465
New Elmwood	4.75	4.75	815	104	1860	2675
New Lower So. Prov.	2.10	2.90	247	45	1050	1297
New Upper So. Prov.	3.40	3.40	418	74	945	1363
Joslin addition	.....	.....	.....	.....	345	345
Camden addition	.....	.....	.....	.....	190	190
New Mt. Pleasant	.....	5.00	.....	.....	1790	1790
New Merino	5.33	5.33	314	inelig.	1570	1884
Kenyon playground	3.40	3.40	358	74	.....	358
Other school-con. rec.	2.24	2.24	52	.....	1052	1104
Sub Total	21.22	27.02	2204	297	9427	11631
<i>Later Phase</i>						
New West End	2.55	4.93	466	56	1925	2391
New Almy	2.55	2.55	279	55	980	1259
New Lexington	2.81	2.81	417	61	745	1162
New Regent	2.47	4.77	317	54	1570	1887
New Berkshire	4.86	4.86	160	106	1570	1730
New Annex	3.34	4.26	399	inelig.	1700	2099
Reservoir addition	.....	.....	.....	.....	121	121
New Broad	2.64	4.23	567	inelig.	1170	1737
Bridgham playground	1.36	1.36	204	30	.....	204
Other school-con. rec.	1.40	1.40	152	.....	3680	3832
Sub Total	23.98	31.17	2961	362	13461	16422
TOTAL PROGRAM	45.20	58.19	5165	659	22888	28053
<i>Ongoing Projects</i>						
Lippitt Hill	.....	5.00	.....	51	1750	1801
Nelson addition	.....	.....	.....	.....	500	500
J. Hanley Ed. Ctr.	.....	21.00	.....	350	8500	8850
Sub Total	.....	26.00	.....	.....	10750	11151
GRAND TOTAL	45.20	84.19	5165	401	33638	39204

*Maximum estimated site writedown may be computed by deducting this column from preceding column.

MASTER PLAN FOR CIRCULATION





Cuddy Lithograph Company
October 1966



MASTER PLAN FOR CIRCULATION



IN CITY COUNCIL

JUL 6 1967

READ:

WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.

Vincent Vespa
CLERK

CITY PLAN COMMISSION

Edward Winsor	<i>Chairman</i>
Harry Pinkerson	<i>Vice Chairman</i>
Raymond J. Nottage	<i>Secretary</i>
Joseph A. Doorley, Jr.	<i>Mayor</i>
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Joyce A. Gianinni	<i>Clerk Stenographer</i>

Letter of Transmittal

June 21, 1966

The Honorable Joseph A. Doorley, Jr.
Mayor of Providence
City Hall
Providence, Rhode Island

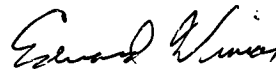
Dear Mayor Doorley:

The City Plan Commission in accordance with the provisions of Chapter 1155, Section 5 of the Revised Ordinances of 1957, including the directive "to make careful studies" of the "causes and prevention of congestion . . . of travel," presents herewith a *Master Plan for Circulation*, approved November 28, 1965.

This revises and up-dates the *Master Plan for Thorofares* published in July of 1946, a series of proposals which twenty years ago largely set the pattern for highway construction in and through the City of Providence, and which today is reflected in a substantially completed series of expressway and freeway routes undertaken by the Rhode Island Department of Public Works and the United States Bureau of Roads.

The present need is for an arterial system which will operate effectively, in conjunction with state and federal highways, for the purpose of relieving residential neighborhoods of traffic hazards, and at the same time expediting the movement of goods and people in order to facilitate the future growth and economic development of the City of Providence.

Very truly yours,



EDWARD WINSOR

CHAIRMAN

City Plan Commission

DEPT. OF CITY CLERK
PROVIDENCE, R.I.
JUN 23 3 33 PM '66

FILED

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INTRODUCTION

The use of the automobile as a means of transportation has become an integral part of the economic and social life of the United States. The replacement of other forms of transportation by the automobile has created many problems — chief among them has been critical congestion in urban areas. Providence, like other older eastern seaboard cities, is particularly afflicted with congestion. Streets that a few years ago were considered to be fairly efficient and free flowing are now often badly congested not only at peak hours but also during the middle of the day. The *Interstate-95* viaduct across the New Haven Railroad tracks, which didn't exist last year, is now carrying large volumes of traffic, while no substantial decrease has been observed in volumes using the *Pershing Square* traffic circle. Events such as this should make quite apparent the need for a program that is broad in scope and economically feasible.

Before this *Master Plan for Circulation* was drawn and as a step in its development, a thorough investigation of past similar efforts was made. The first comprehensive Circulation Plan was the 1925 Whitten Plan followed in 1946 by the *Master Plan for Thorofares* prepared by the staff of the City Plan Commission. It is significant to note that the freeway proposals in the 1946 Plan have been followed quite closely by the State Department of Public Works in locating its freeway system within the City's limits. The 1946 Plan has also proven to be an invaluable guide in developing the present proposed plan and many of its proposals are incorporated in the new system.

The development of the ultimate circulation plan that can adequately serve both local and through traffic and be contiguous with other master plan elements can only be achieved through the cooperation of all agencies involved. Therefore it is appropriate at this time to mention the cooperation, in the form of advice and comments, that have been received from the City's Traffic Engineering Department, the State Department of Public Works and the Rhode Island Statewide Comprehensive Transportation and Land Use Planning Program. The assistance given by these agencies has proven to be an invaluable contribution to the preparation of a *Master Plan for Circulation*. Appreciation should also be expressed to all other City departments that have contributed to the preparation of this *Master Plan for Circulation*.

SCOPE

This *Master Plan for Circulation* presents a complete arterial street system for the City of Providence that will be supplemented by the federal and state freeway systems within the City and surrounding areas. The expressway system was originally conceived and planned through close cooperation with the City Plan Commission, the Traffic Engineering Department and the State Department of Public Works, and is incorporated by the City as part of the Master Plan.

The recommended arterial system is supported by a thorough study of existing land use, employment, population and traffic patterns. Future growth and development were forecast through use of the "gravity model." Traffic forecasts and assignments to both the existing and proposed net-

works were made by electronic computer. The assignment method used was "all or nothing" minimum travel time path. Alternate proposals were tested and given thorough study. From all conditions studied, the computer figures indicate the arterial system proposed in the *Master Plan for Circulation* will best satisfy the future circulation needs of Providence.

RECOMMENDED PLAN

A detailed analysis of the traffic patterns that will cause the freeway system to become overloaded indicates the necessity for the following recommended proposals. Some of the proposals should be given immediate attention, others can be deferred to a later date but all should be given serious consideration. To help in evaluating the need for a proposed improvement a schedule of priorities and an estimate of the cost of the facility follows the recommendation.

FREEWAY PROPOSALS

River Drive and Railroad Tunnel

It is quite evident that a very serious condition will develop with respect to the east-west traffic attracted to *Interstate-195, (Cohan Blvd.)*. The only alternate choice proposed for vehicles moving in this east-west direction will be provided by the new *Red Bridge* which will directly funnel traffic to and from *Waterman, Angell and Pitman Streets*. These arteries will be unable to handle the forecasted overload because the capacity of these streets will have been already exceeded by the vehicles that normally would be using this East-West route. This inundation of traffic through the East Side neighborhood will be highly detrimental to this area which is one of the City's finest residential neighborhoods. It has been shown that congestion has a blighting influence on a neighborhood, and the East Side, although an older residential area, has remained stable and property values have thus far remained high. To subject this area to any blighting influence would not be wise.

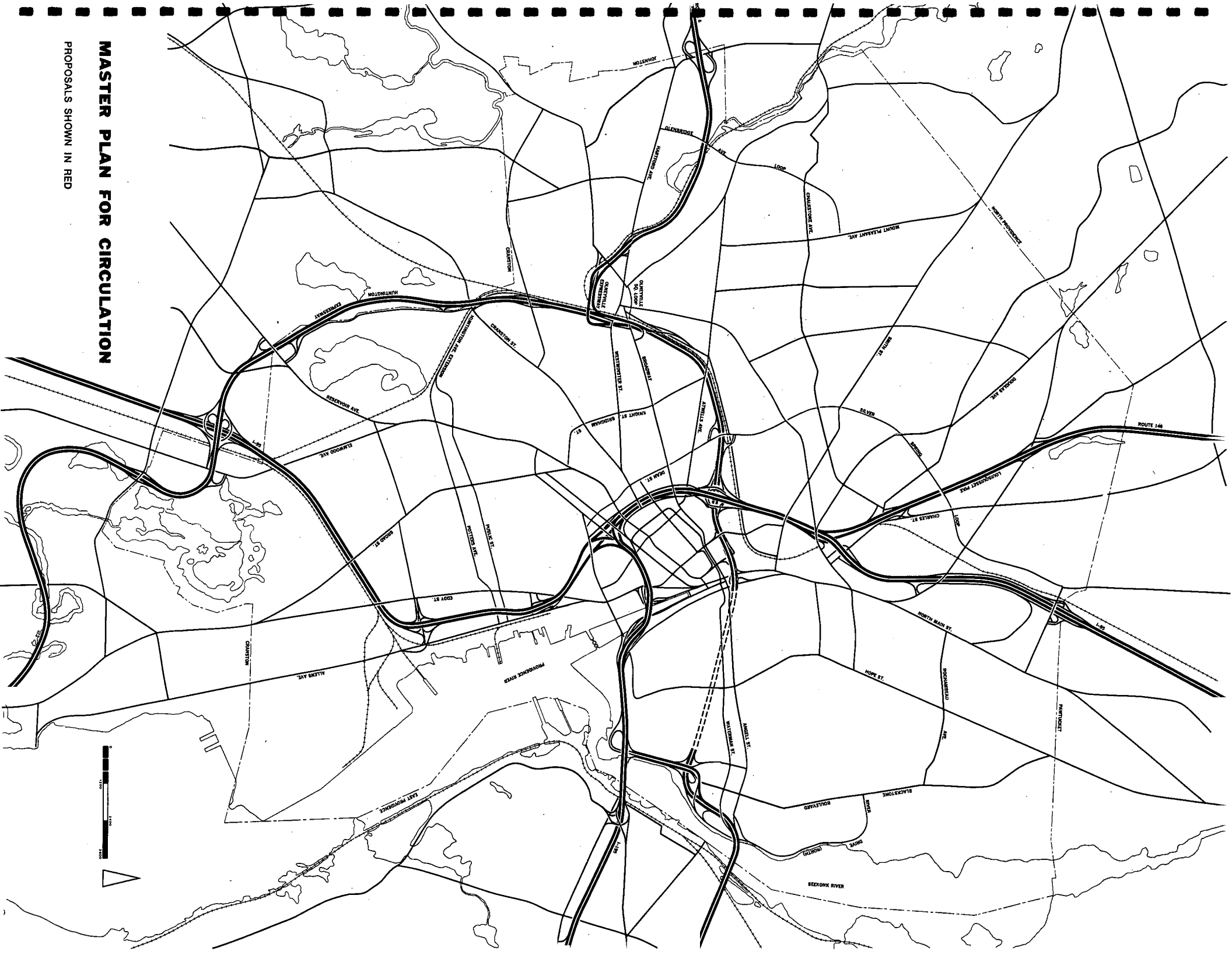
The proposed solution to this problem is the conversion of the two-lane, 30 foot wide railroad tunnel, under the East Side, to vehicular traffic. It was found that virtually all of the traffic that will be diverted to this facility will be bound to and from points west and north of the Central Business District. Thus the tunnel would greatly alleviate the traffic and eliminate congestion on the critical two-lane north and east connection between *I-95* and *I-195*, as well as help to eliminate the projected overload on the *Cohan Boulevard* section of *I-195*.

The capacity of the converted railroad tunnel is approximately 25,000 A.D.T. Besides providing relief to *I-195* this tunnel facility will also divert traffic from *Waterman and Angell Streets* that are carrying their capacity during peak hours.

The western approach to the tunnel will have to be connected to the *Civic Center Interchange* and the new *Route 6* immediately southwest of the State Capitol. Geometrics for this connector were studied in detail during the planning stage of the Railroad Relocation Redevelopment Project. It

MASTER PLAN FOR CIRCULATION

PROPOSALS SHOWN IN RED



was found that the best alignment for this connector would be along the line of the existing railroad tracks. Due to the rejection of this project by Federal officials, this alignment is no longer possible, but the necessity of the connection to the interchange remains. The strong desire to make this movement makes it necessary that an alternate scheme be devised immediately. It is strongly recommended that the future use of the railroad tunnel for vehicular traffic should be a prime consideration in any plan that is considered.

The eastern approach to the tunnel will require connections to the new *Red Bridge* as well as the new dual-span *Washington Bridge* on *Interstate-195*. *River Drive* is necessary in order to discharge cars from the new *Red Bridge*, feed the converted railroad tunnel and provide a by-pass through the tunnel during peak hours on the *Cohan Boulevard* section of *I-195*. The computer assigned 25,000 trips per day to this above proposed facility. It is strongly recommended that the construction of this connector be undertaken as soon as possible, because without this facility *Waterman*, *Angell* and *Pitman Streets* will be seriously overloaded. As previously mentioned, these streets are already carrying their capacity.

All of the above proposals would of necessity have to be built to freeway standards and since they would serve primarily through traffic it is believed they should qualify as State Highway Projects.

ARTERIAL STREET PROPOSALS

Dean Street Connector

Referring to Table 13 it is evident that trouble can be expected on the *I-195* segment west and north of the Downtown Area by 1975 unless relief is provided for. Due to this overcrowding of the freeway a substantial number of vehicles would be attracted to the alternate north-south artery between *Point Street* and *Smith Street* provided by the proposed *Dean Street* route.

A four-lane facility with twin left turning storage lanes on an 80 foot right-of-way between *Point Street* and *Smith Street* would attract between 15,000 to 20,000 vehicles A.D.T. by 1970. Such a facility, in addition to providing relief for the freeway, will relieve the otherwise overloaded downtown ramps and provide convenient access opportunities to the CBD and the Federal Hill area from the *Route 6 Connector*.

Furthermore, the section of this proposed artery, across and north of *Route 6*, will facilitate handling by 1970 of an expected 18,000 vehicles A.D.T. from the west-bound off-ramp and 16,000 vehicles A.D.T. going onto the east-bound on-ramp at the *Dean Street - Route 6* interchange that are bound to and from northwest Providence.

In order to provide for the four-lane facility, here called for, the following improvements have to be made. *Dean Street* must be widened between *Point Street* and *Atwells Avenue* to an 80 foot right-of-way. The new bridge across the railroad, to be constructed by the State as part of the construction of the *Route 6 Connector*, should be aligned so as to connect *Dean Street* (realigned north of *Atwells Avenue*) with *Pleasant Valley Parkway* and *Raymond Street*. These latter streets (*Raymond Street* being an extension of *Pleasant Valley Parkway*) will also have to be widened to an 80 foot right-of-way.

A substantial portion of the cost to the City for improving this artery can be written off as renewal projects are undertaken north and south of the Central-Classical Project. Also, State aid could be forthcoming as *Dean Street* will act as an alternate route to *I-95*.

Randall Square

The *Randall Square* area today contains some of the City's most heavily congested thoroughfares. When *I-95* is completed, this area will experience considerable relief. However, computer figures show that by 1975 traffic volumes in this area will again be approaching its present level. The East Side Renewal Redevelopment Project proposes light industry and commercial use for this area. A special computer analysis of the projected traffic volumes and the proposed street pattern has been made. The street pattern as proposed in the East Side Renewal Project was found to be adequate to handle the projected through traffic as well as all local traffic.

Secondary Proposals

In addition to the above recommended arterial improvements this study has also found the need for improvements on other city arterials. The following recommendations are based upon deficiencies in street capacities in relation to projected traffic volumes and upon indicated desires for improved routes between various sectors of the City.

Huntington Avenue Extension

It is recommended that *Huntington Avenue* be extended to *Public Street* and that this street and *Potters Avenue* be established as a one-way pair. This improvement will form a major crosstown route and will provide additional access to the Elmwood - South Providence Areas. It will also serve to feed *Interstate-95* and the *Huntington Expressway*. Alterations in the present street pattern are necessary only at the western connection to *Huntington Avenue* and possibly at the eastern connection to *Allens Avenue* and *I-95*.

Olneyville Square

In view of the traffic projections, which indicate that little relief for this area can be expected from the new freeways, it is recommended that a one-way loop system be established to alleviate existing and future traffic congestion in *Olneyville Square*. This loop system will utilize the present *Riverside Drive* and calls for widening of this street and also for regulatory traffic measures that will facilitate a smooth flow of traffic through this bottleneck. Additional detailed traffic engineering studies will be undertaken to study this proposal further.

Knight Street - Bridgham Street

This proposal calls for the joining of *Knight Street* and *Brigham Street* between *Brighton Street* and *Carpenter Street*.

While the projected traffic on this proposed artery is not particularly high (5,100 A.D.T.), the facility will materially improve the internal circulation

of the area affected and it will provide a convenient direct north-south route through the Federal Hill area.

Presently there is no such convenient connector between *Atwells Avenue* and the major arterials of *Cranston Street*, *Broad Street* and *Elmwood Avenue*. This proposal was also recommended in *The Federal Hill Report*, a planning study conducted by DeLeuw Cather, for the State Department of Public Works, to determine the effects of new highways on the area. If redevelopment is undertaken in this area, improvement costs can be included in the project cost. Approximately two-thirds of the cost would therefore be provided by Federal funds.

River Drive

In conjunction with the new *Red Bridge*, the proposed connector to the *Railroad Tunnel* and the *Washington Bridge* and in view of the traffic desires created by these facilities, *River Drive* should be improved north of *Red Bridge*.

This facility will alleviate an otherwise serious congestion at the Providence terminus of *Red Bridge* where *Butler Avenue* intersects *Angell* and *Waterman Streets*. The traffic projections of this Study show that already by 1970, this artery, if constructed, will attract approximately 14,000 trips A.D.T. The improvements called for are a widening of *River Drive* and an extension north of same — connecting with and terminating at *Blackstone Boulevard*.

Glenbridge Avenue Loop

It was found that traffic projections showed a strong desire for a through street between the Mount Pleasant area and the Annex section. *Glenbridge Avenue* presently connects these two sections but only between *Hartford Avenue* and *Manton Avenue*. Traffic projections show that by 1970 approximately 10,000 vehicle trips A.D.T. will move between the Mount Pleasant area, focused near Mount Pleasant High School, and *Hartford Avenue*. The existing street pattern will be hard put to meet this demand. It is therefore proposed that *Glenbridge Avenue* be extended north to join *Mount Pleasant Avenue* in the vicinity of the High School. The improvements called for are a widening of *Glenbridge Avenue* between *Hartford Avenue* and *Manton Avenue* and a new facility extending north in a ring and terminating in the vicinity of the high school at *Mount Pleasant Avenue*.

Silver Spring Street Loop

It is recommended that a route be constructed from *Smith Street* to the Pawtucket City Line to provide continuity in the arterial street system and afford the northern sections of Providence with access to the south and west not dependent upon the expressway system.

This facility will provide a continuation of the *Dean Street* improvement and in addition will provide lateral distribution for traffic to and from the I-95 freeway. Furthermore, this facility would also serve an extension of the City of Pawtucket's proposed *Moshassuck Industrial Highway*, it would provide a direct link between Providence's West River Industrial Park and Pawtucket's Moshassuck Valley Industrial Park. Such a link would reduce

congestion on local residential streets in both cities. By 1970, approximately 10,000 vehicle trips A.D.T. will be using this route if constructed.

Improvements called for in this proposal require widening of the northern end of *Silver Spring Street* and the construction of a bridge across *Louisquisset Pike* to connect with *Berkshire Street* and the joining of *Berkshire Street* with *Oakland Avenue*.

Cost Estimates

A summary of the proposals, estimated costs, priorities, and land requirements are shown below. As our freeways reach their capacities alternate routes for the movement of traffic will become a prime matter of concern for state and federal officials. It is hoped that a federal program will be undertaken to provide these alternate routes to the interstate system.

SUMMARY OF ARTERIAL PROPOSALS

<i>Project</i>	<i>Cost</i>	<i>Priority</i>	<i>Land Requirements</i>
Dean St. (Point St. to Smith St.)	\$ 1,907,000	1	9.8 Acres
Huntington Ave. Extension	729,000	2	4.2 Acres
Olneyville Sq. Loop	539,000	3	1.0 Acres
Knight St. - Bridgham St.	985,000	4	2.0 Acres
Glenbridge Ave. Loop	2,628,000	5	11.8 Acres
Silver Spring Loop	5,252,000	6	18.8 Acres
River Drive (North)	234,000	7	3.4 Acres
Totals	\$12,274,000		51.0 Acres

Parking and Transit

Two vital planning elements of any master plan for circulation are a detailed analysis of the transit system and a study of the parking facilities of the community.

During the Downtown Master Plan Project detailed studies of transit and parking were made. As a result of this study two new parking garages have been erected on sites proposed in the *Downtown Master Plan* and the City has bond authorization available for a third garage.

The United Transit Company, the largest public carrier in the State, has re-routed a substantial number of its lines within the core area to conform to the bus circulation pattern as proposed in the *Downtown Master Plan*. In December 1961 The Short Line Bus Company held ground breaking ceremonies for a new one million dollar interstate bus terminal to be built on a site proposed in the *Downtown Master Plan*. This was the first proposal set forth in the plan to be implemented.

At the present time, the Rhode Island Statewide Comprehensive Transportation and Land Use Planning Program is conducting a comprehensive study of parking and transit facilities for the entire State. The staffs of

both the City Plan Commission and the Traffic Engineering Department are working in close cooperation with the State staff in analyzing the situation in Providence. In order to avoid any duplication of effort it was decided to wait until the results of this study became available before any previous city studies are updated. It is felt that results and recommendations of the state study will be of invaluable assistance to our local staff in any revisions they may undertake.

UNRESOLVED PROBLEMS

In addition to the above recommended improvements, there are several problem areas indicated by the traffic forecasts which require detailed studies and solutions by others. Most of these problems involve freeway interchange capacities and design. At the time of this writing all of the problem areas are being studied by the Rhode Island Statewide Comprehensive Transportation and Land Use Planning Program and the State Department of Public Works. These problem areas are listed below.

I-95 – Thurbers Avenue Interchange

This facility is already built and in operation. Projected traffic counts indicate that unless adequate ramp service to the *Elmwood Avenue* area is provided congestion will develop on the south-bound off-ramp and the north-bound on-ramp.

Dean Street – Route 6 Interchange

The traffic projections indicate that unless the ramps for this facility are designed for heavy traffic volumes, congestion is certain to occur. It is projected that the 1970 traffic load would place 18,000 vehicle trips on the west-bound off-ramp and 16,000 vehicle trips on the east-bound on-ramp. No problems are expected with the two remaining ramps.

Olneyville By-pass (Roberts Expressway)

Projected 1970 traffic for this facility is approximately 25,000 vehicle trips A.D.T. in each direction. This is about maximum capacity for this facility and as future development occurs to the west of Providence, additional improvements in this corridor will be required.

CLOSING STATEMENT

It is intended that this *Master Plan for Circulation* will serve as a guide in the programming of street improvements and that it will provide a logical arterial street network to serve the circulation needs of the entire City. The magnitude of the Plan is such that portions of it will probably be deferred for several years; therefore, the Plan should be periodically re-evaluated and updated to confirm the need for the proposals. This *Master Plan for Circulation* is flexible enough to incorporate any modifications that may be necessary due to future changes that cannot be foretold at this time.

STUDY METHODS

In January of 1963 the City Plan Commission and its consultant Alan M. Voorhees and Associates undertook a study of the arterial street needs

FIGURE 1 — STUDY DESIGN FLOW CHART

PHASE 1
DATA
COLLECTION

EXISTING STREET
AND
HIGHWAY SYSTEM

EXISTING
TRAVEL DEMANDS

EXISTING LAND
USE AND
VEHICLE OWNERSHIP

HISTORICAL
LAND USE

PHASE 2
MODEL
DEVELOPMENT

EXISTING
COMPUTER
NETWORK

EXISTING
ZONE TO ZONE
TRAVEL

EXISTING
ZONE TO ZONE
TRAVEL TIMES

TRIP
DISTRIBUTION
MODEL

LAND USE
TRIP GENERATION

LAND USE
MODELS

PHASE 3
FORECASTING

PROPOSED
EXPRESSWAY
SYSTEM

FUTURE ZONE
TO ZONE
TRAVEL TIMES

FUTURE
TRAVEL
DEMANDS

FUTURE
ZONAL TRIP
GENERATION

FUTURE ZONAL
LAND USE

REGIONAL
GROWTH EST.
POP. EMPL.

COMPUTER
ASSIGNMENT

LAND USE PLANS
REDEVELOPMENT
PUBLIC WORKS

PHASE 4
PLAN
DEVELOPMENT

ANALYSIS OF
DEFICIENCIES

STREET
IMPROVEMENTS

ARTERIAL
STREET PLAN

present and future of the City of Providence. A study consisting of four major phases was developed. The overall study process and its major elements are shown schematically in Figure 1. Phase I consisted of compiling information of the existing travel demands, land use and street facilities. Phase II, Model Development, was the analysis of the existing information in order to develop procedures for forecasting future travel demands based upon observed relationship between land use, street systems and travel demands. Phase III, Forecasting, consisted of the application of the procedures developed in Phase II based upon proposed expressways, land use plans, redevelopment programs, as well as other Public Works Programs. Phase IV, the Plan Development phase, included the preparation and testing of alternate arterial street systems in light of the travel demands developed in Phase III.

PHASE 1 – DATA COLLECTION

Existing Travel Demands

A thorough knowledge of existing travel demands, their magnitude and geographical patterns is basic to the development of sound traffic forecasting procedures. Fortunately, as a result of a comprehensive origin-destination survey conducted in 1960 by the Rhode Island Department of Public Works in cooperation with the U. S. Bureau of Public Roads, a complete set of data on existing travel demands was available for use by the Providence study.

The results of the 1960 survey and subsequent analysis is to be presented in a report by the Department of Public Works. The specific information used in this study from the State origin-destination survey will be discussed in the analyses phase of this report. For summary purposes, Table 1 below indicates the auto trips made by the residents of the survey area.

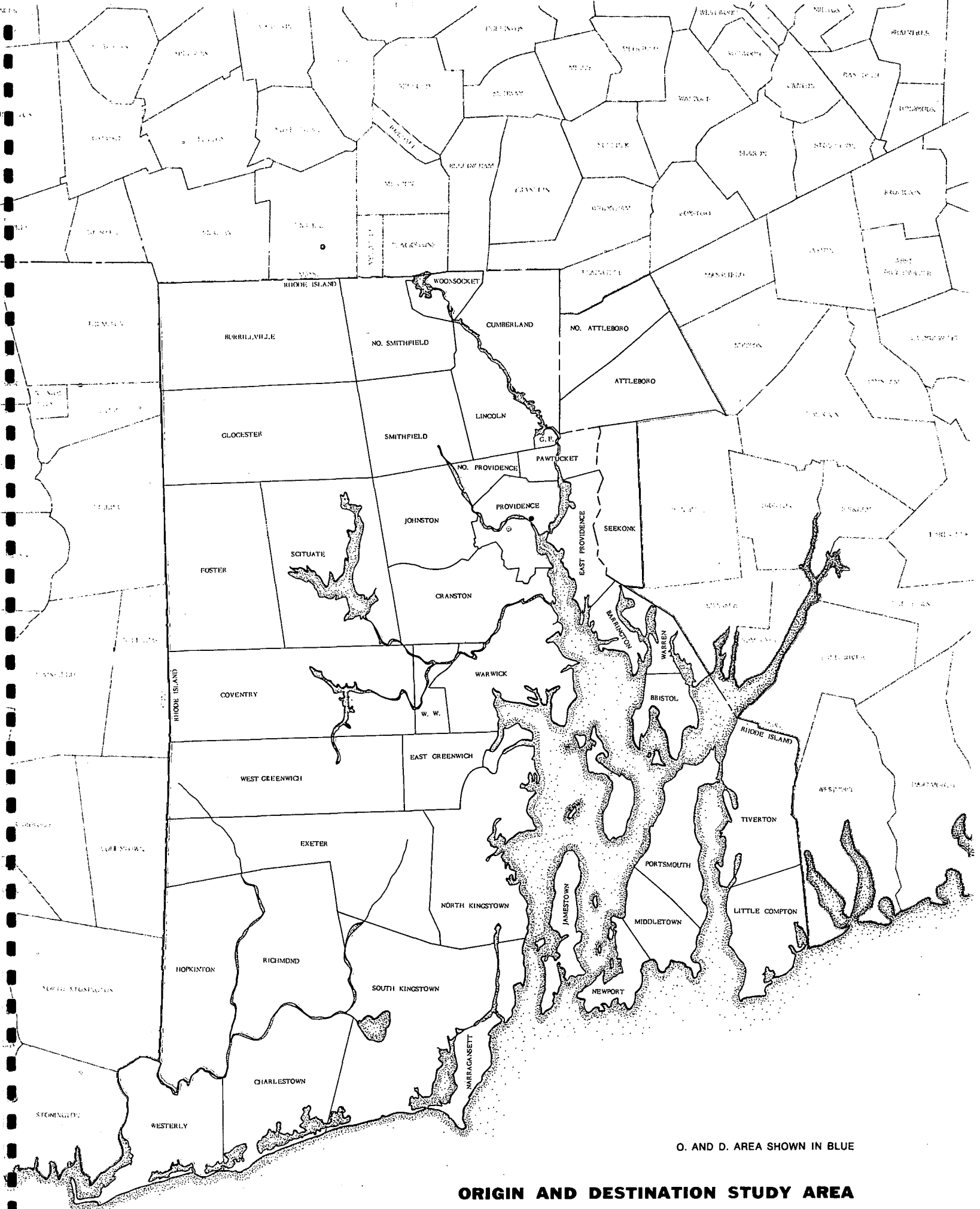
TABLE I

1960 Auto Driver Trips Made By the Residents of the Survey Area By Trip Purpose

<i>Area</i>	<i>Home-Based Work</i>	<i>Home-Based Shop</i>	<i>Home-Based Other</i>	<i>Non-Home Based</i>
Providence	70,000	22,300	53,600	N.A.
Pawtucket	33,050	10,000	21,400	N.A.
Remainder	<u>165,515</u>	<u>69,000</u>	<u>126,200</u>	<u>N.A.</u>
Total Survey Area	268,565	101,898	201,200	66,348

Existing Land Use and Car Ownership

A complete picture of existing land use patterns was basic to this study; first, to provide the information required to develop the necessary land use-



O. AND D. AREA SHOWN IN BLUE

ORIGIN AND DESTINATION STUDY AREA

trip generation relationships and, second, to provide a firm base for estimates of future land use.

Previous studies throughout the country have indicated that five factors are important in describing the trip generation of an area. These are population, labor force, total employment, retail employment and car ownership. The following paragraphs describe how each of the items was obtained.

Population and Labor Force

1960 population and labor force were obtained directly for each traffic zone from data collected by the 1960 census.

Employment

Although Department of Employment Security data were available by town they could not be used directly due to substantial under-reporting, primarily in the non-manufacturing categories. Therefore, town totals were established by determining the ratio between D.E.S. Manufacturing Employment and manufacturing work trip destinations reported by the O-D survey. This ratio was then used to expand "other" work trip data to employment estimates. These were then checked for reasonableness with work travel information collected by the 1960 census. Table 2 following, summarizes the results of this step.

TABLE II
1960 Employment Estimates

<i>Area</i>	<i>Retail Employment</i>	<i>Other Employment</i>	<i>Total Employment</i>
Providence	14,162	116,685	130,847
Pawtucket	4,300	29,542	33,842
Balance R. I.	17,482	128,874	146,356
Total R. I.	(35,944)	(275,101)	(311,045)
Massachusetts	2,250	16,450	18,700
Total Area Study	38,194	291,551	329,745

Existing Car Ownership

Existing car ownership data by census tract were available directly from both the O-D survey and the 1960 census for much of the study area. Comparison of these two sources indicated that within the limits of statistical error due to sampling these two sources were substantially the same. Inasmuch as the census covered a larger section of the study area this source was used.

Existing Street System

The final element of the data collection phase of the study was a street inventory-capacity survey. This survey furnished the basic information required for many phases of the study, including coding of a computer

assignment network, the analysis of deficiencies and plan preparation. The survey had three major facets — street classification, travel time survey and capacity calculations.

Street Classification

In identifying Providence's street system, existing traffic volumes and field observations of traffic flow and land service functions were used.

After identifying the street system, it was necessary to determine functional classifications for the streets within the study area as one of the following: (1) freeway, (2) major arterial, (3) collector street, or (4) local street. Definitions for these classifications were taken from Procedure Manual 1A.

Travel Time Survey

The purpose of the travel time survey was to determine the average driving times obtainable on each section of the arterial street systems in the study area. Fortunately, there was a substantial amount of travel time data available from various sources at the initiation of the study.

The Traffic Engineering Department of Providence had made extensive speed and delay studies throughout the city. In addition, extensive radar speed measurements had been made in Pawtucket by their Public Works Department. These two sources supplemented by a limited field survey, resulted in a complete picture of existing levels of arterial street service in Providence and Pawtucket. In the remaining sections of the study area information was obtained from the State Department of Public Works, supplemented by estimates of speed based on speed limits and type of facility.

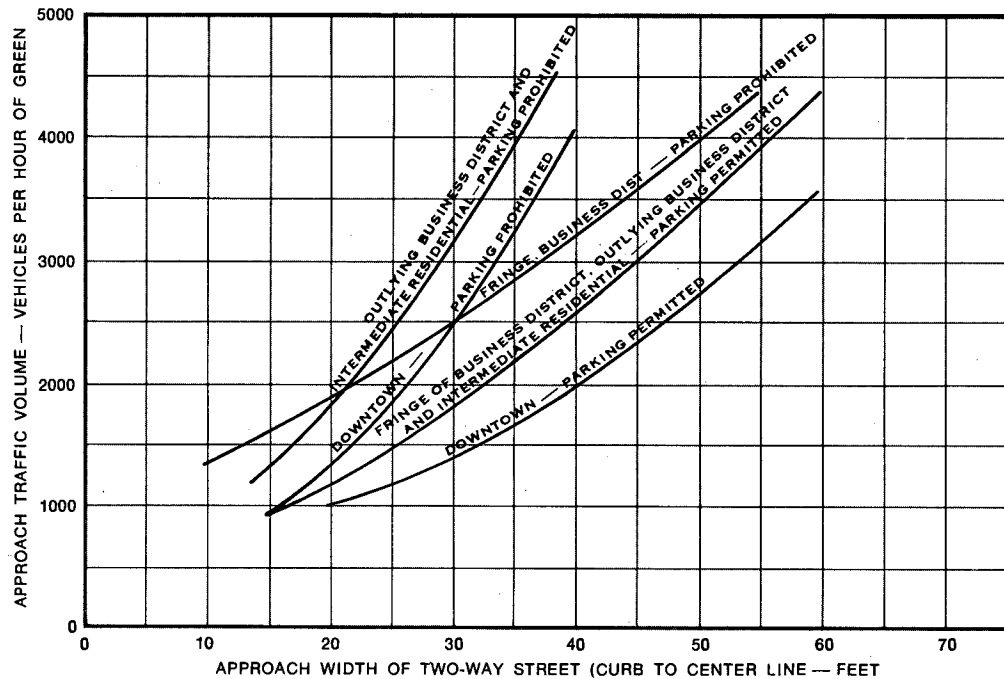
The above speed information, coupled with measurement of the individual sections of the major street system, allowed the assignment of a driving time to each section of the street system — the necessary input for computer traffic assignment procedures.

Practical Capacity Calculations

The purpose of the capacity study was to provide the information necessary to evaluate the ability of Providence's street system to handle adequately existing as well as projected future travel demands. Practical capacity in vehicles per hour is defined as the maximum number of vehicles that can pass a given point on a roadway or in a designated lane during one hour, without the traffic density being so great as to cause unreasonable delay, hazard or restriction to the driver's freedom to maneuver under the prevailing roadway or traffic conditions. Traffic flow at practical capacity allows a tolerable amount of congestion and provides a reasonable quality of service.

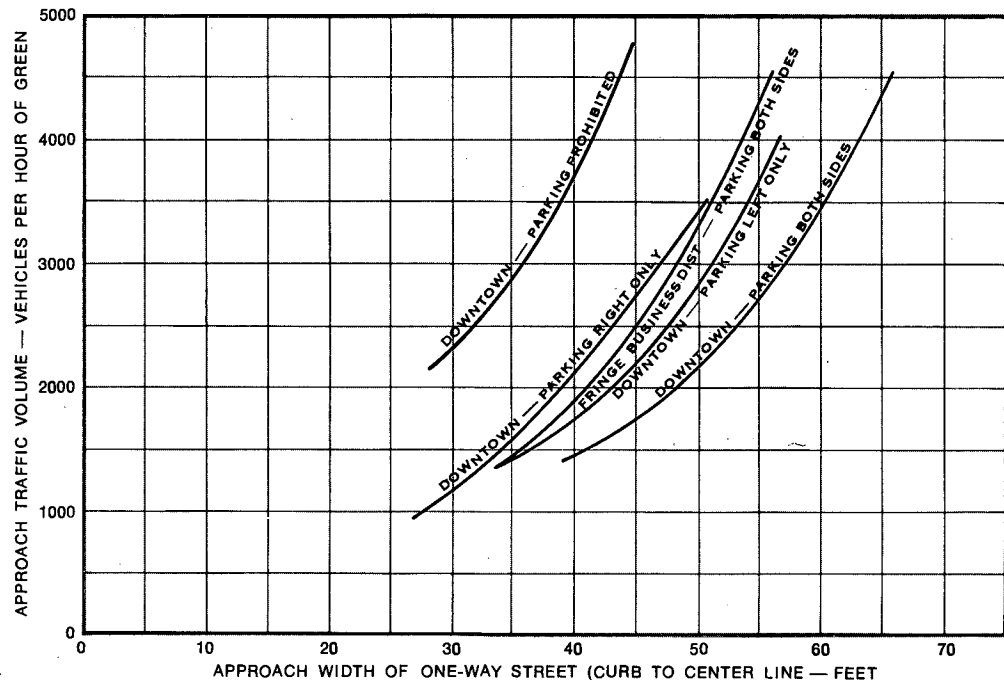
Previous research concerning the capacity of streets in an urban area indicates that the practical capacity of a particular urban street is a function of seven major factors. These are: width of street, signalization, parking, operation of street (1-way or 2-way), turning movements at intersections, amount of commercial vehicles in traffic streams and characteristics of the area through which the street passes. Based on exhaustive studies in

**FIGURE 2 — INTERSECTION CAPACITIES OF TWO-WAY STREETS
FIXED-TIME SIGNALS**



SOURCE: BUREAU OF PUBLIC ROADS 1958 — REVISED CURVES

**FIGURE 3 — INTERSECTION CAPACITIES OF ONE-WAY STREETS
FIXED-TIME SIGNALS**



urban areas throughout the country by the Bureau of Public Roads, the mathematical relationships between these factors and the practical capacity of an urban street have been determined and are summarized in the charts shown on Figures 2 and 3. These curves provided the basis for the capacity calculations.

PHASE 2 – MODEL DEVELOPMENT

Traffic Models

The gravity model concept of traffic analysis has been used and tested in various cities across the nation, in cities as small as 50,000 population to those as large as Los Angeles. The methodology utilized in this study profited from the research and experience gained in many other similar studies throughout the country.

Gravity model as the name implies adapts the gravitational concept, as advanced by Newton in 1686, to the problem of distributing traffic throughout an urban area. In essence the gravity model says that trip interchange between zones is dependent upon the relative attraction of each of the zones and upon some function of the spatial separation between zones. This function of spatial separation adjusts the relative attraction of each zone for the ability, desire, or necessity of the trip maker to overcome the spatial separation involved.

We know that expressways do in fact change trend patterns and the fact that the gravity model recognizes and quantitatively evaluates such changes sets it apart from many other methods of analysis. It is well to note also that the highway network is only one of many factors which can change with time. Rapid growth in presently undeveloped areas, or changes in land use through redevelopment, cannot be accounted for by extrapolation of existing travel patterns, except through the subjective manipulations of growth factors by the analyst. However, all these changes are subject to objective analysis by the use of the gravity model.

Since trips for different purposes show distinctly different characteristics with respect to both travel time and land use — trip generation relationships, it is necessary to develop separate models for each of several basic trip purpose categories.

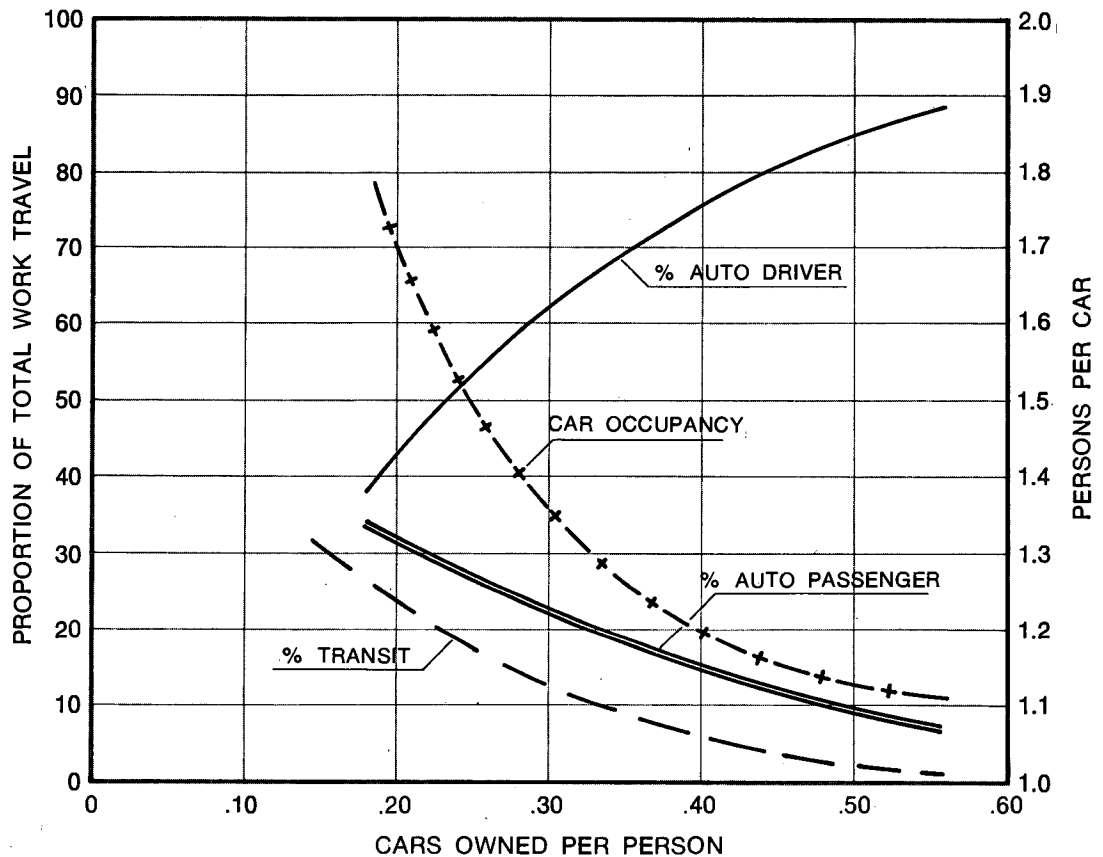
In Providence, four trip categories were used. These four groupings along with the number of trips and trip length characteristics for each one are shown below in totals for the State.

TABLE III
Trip Length Characteristics

<i>Trip Type</i>	<i>Trips</i>	<i>Average Trip Length (min.)</i>	<i>Median Trip Length (min.)</i>
Home Based Work	268,656	14.6	11.2
Home Based Shopping	101,898	9.3	6.2
Home Based Other	201,200	14.0	9.3
Non-Home Based	66,348	11.5	7.7
Total	638,002	12.8	—

Source: 1960 O-D survey — auto driver trips only.

FIGURE 4 — MODE OF TRAVEL TO WORK



While the basic gravity model has been used many times, the quantification of the various incorporated factors had to be carefully and systematically developed and validated on the basis of thorough information on existing travel patterns for the area. This calibration involved four stages of analysis: trip production, trip attraction, trip length, and social economic factors.

Trip Production

Previous studies have shown that auto driver trip production is directly related to car ownership. Therefore, the estimating procedures developed for these types of trips consisted simply of determining the present trip production rates in terms of auto driver trips per card owned. These are shown below.

TABLE IV
Auto Driver Trip Production Factors

Area	Trips per Cars Owned				Total
	Home-Based Work	Home-Based Shop	Home Based Other	Non-Home Based	
Providence	1.25	0.39	0.96	0.34	2.94
Pawtucket	1.34	0.39	0.88	0.44	3.05
Remainder	1.27	0.52	0.96	0.31	3.06
Total Study Area	1.28	0.49	0.96	0.32	3.05

Previous studies have also established a strong relationship between the per capita car ownership and transit usage and car occupancy. This forms a basis for determining the precise parameters for the study. Figure 3 shows the relationship between cars per person and (1) the percentage of persons going to work by transit, (2) the percent going to work by auto, and (3) the car occupancy rate for work trips. These curves are based upon the 1960 O-D survey and provide the necessary information to estimate the auto driver work trip production of an area. Utilizing the above developed trip production relationships it was possible to estimate the trip production of the residents of that portion of the study area lying outside of the cordon line established by the O-D survey. A summary of these estimates along with travel trips obtained by the O-D survey is shown below. As can be seen, the residents of the study area make approximately 850,000 auto trips a day.

TABLE V
Total Resident Trip Production

Area	Home Based Work	Home-Based Shop	Home Based Other	Non-Home Based
Providence	70,000	22,300	53,600	N.A.
Pawtucket	33,050	10,000	21,400	N.A.
Remainder	165,515	69,598	126,200	N.A.
Subtotal within 1960 Cordon	(268,565)	(101,898)	(201,200)	(66,348)
Remainder of Study Area	86,790	37,193	65,795	21,400
Totals	355,355	139,091	266,995	87,748

Trip Attraction

The gravity model formula requires a measure of trip attraction of each zone for each trip purpose used. This index must represent the "level of activity" of the zone in terms of trips. It is clear that for work trips the attraction index can be determined from the number of workers in the zone modified by the number arriving at the zone by means other than auto. Similarly, for commercial trips, a unique index exists based on the number of retail employees in the zone. However, "other" home based trips, non-home based trips are heterogeneous groupings of trips and therefore are not attracted by a single land use and no such single measure of "activity" can be used. Instead, a composite of land uses must be grouped into an index that will reflect the attraction characteristics of these trips.

The information needed to develop these attraction indices is obtained at the time of the home interview survey by recording the "land use" at the origin and destination of the trip. This information forms a basis for developing the attraction indices for these three types of trips. The calculation of the formulas for estimating non-home based and "other" home based trips is shown below.

TABLE VI
Land Use – Trip Attraction for
Non-Home Based, Other Home-Based Trips

Land Use	Trip Purpose			
	Non-Home Based Number	Percentage	Other Home Based Number	Percentage
Residential	25,925	39.0%	55,758	37.0%
Commercial	16,600	25.0%	12,142	8.0%
Employment Centers	23,823	36.0%	82,800	55.0%
Total	66,348	100.0%	150,700	100.0%
Total Population of Study Area			= 682,118	
Total Retail Employment of Study Area			= 30,440	
Total Employment of Study Area			= 264,981	

Based upon the above table the following trip attraction formulas were developed for these two categories of trips.

Non-Home Based Trip Attraction Formula:

$$\text{Non-Home Based} = 0.04 (\text{Population} \div 0.55 (\text{Retail Employment}) \div 0.09 (\text{Total Employment}))$$

Other Home-Based Trip Attraction Formula:

$$\text{Other Home-Based} = 0.08 (\text{Population}) \div 0.40 (\text{Retail Employment}) \div 0.30 (\text{Total Employment})$$

Trip Length Distribution

The third phase of the calibration process is the calculation of the exponent "b" or the friction factors associated with each trip purpose category.

The first step in this phase is to make a computer run of the traffic model using assumed travel time factor curves and to calculate the trip length distribution thus derived. The comparison between the trip lengths thus obtained and the actual trip lengths obtained from the home interview survey showed a very close comparison although it was noted that improvements could be made. Based upon this comparison, adjustments were made in the travel time factors and the model was rebuilt and rechecked until the desired accuracy in trip length distribution was obtained. The final trip length comparisons for work trips are shown in Figure 4. The results obtained for the other categories of trips are summarized in Table 7. The final set of friction factors are displayed in Figure 5.

FIGURE 5 — WORK TRIP LENGTH FREQUENCIES

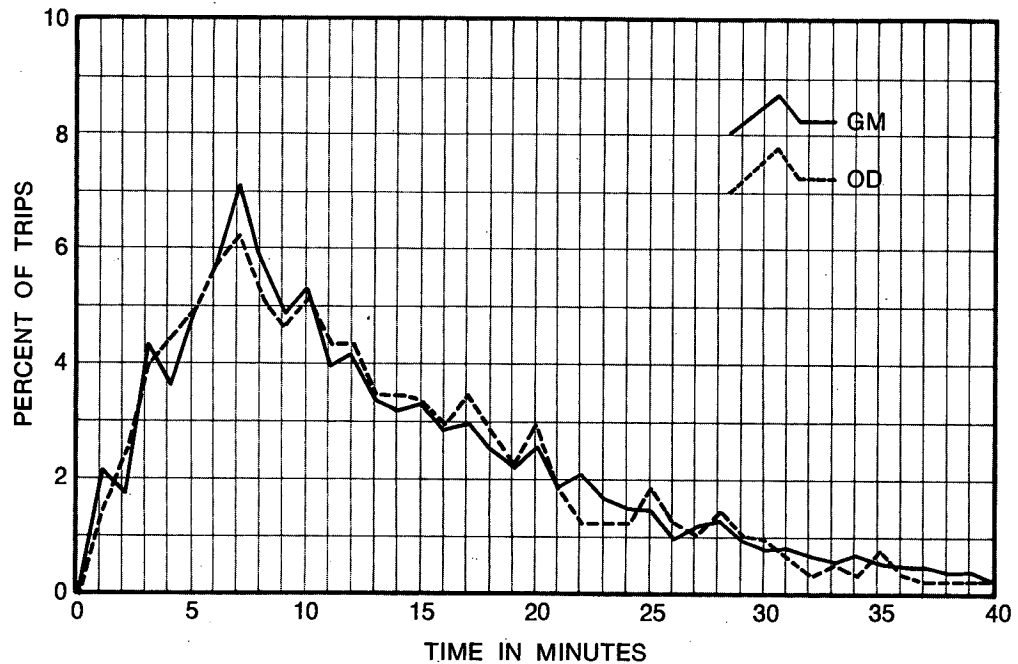


TABLE VII

O-D Survey, Gravity Model Trip Length Comparisons

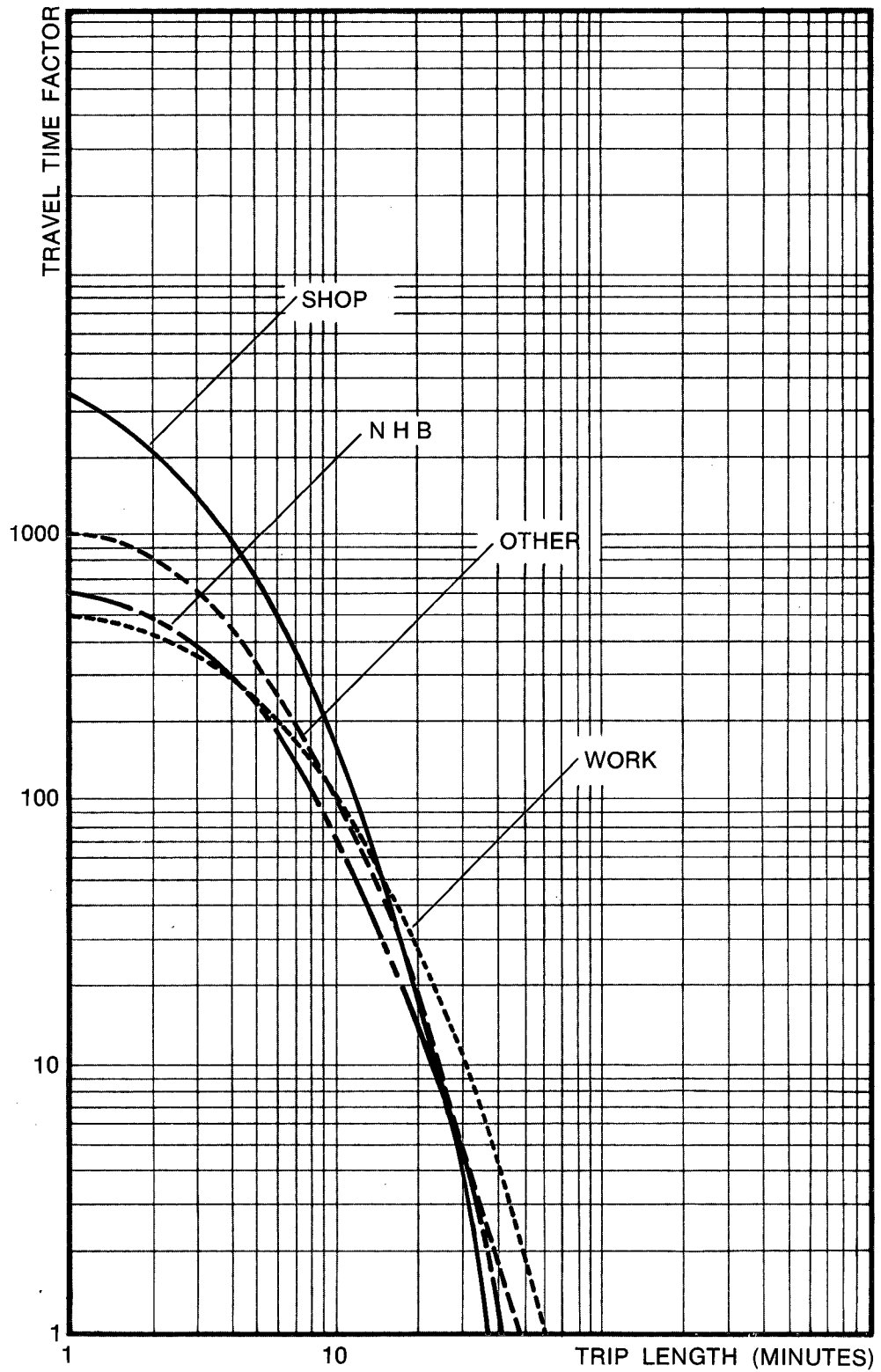
Trip Purpose	Average Trip Length (Min.)	
	O-D Survey	Gravity Model
Home Based Work	14.6	14.4
Home Based Shop	9.3	9.5
Home Based Other	14.0	13.8
Non-Home Based	11.5	11.7

Social-Economic Factors

With the model calibrated for trip production, trip attraction and trip length, the final phase of the model development was to check the model against O-D data to determine whether there were additional factors affecting significantly the travel patterns of Providence. This check was accomplished by making a computer assignment of both the O-D survey data and the gravity model estimates to the existing street system. The results of this assignment indicated that for work trips there were significant travel patterns not reproduced by the basic gravity model formulation.

In light of these findings, specific district-to-district adjustment factors were calculated and incorporated into the gravity model formulation.

FIGURE 6 — TRAVEL TIME FACTOR



As a final check the gravity model with the adjustment factors was rerun and the resulting estimates of zone-to-zone movement were again assigned to the existing highway network and compared to an assignment of the data obtained by the O-D Survey. This comparison indicated that the model accurately estimated the existing pattern and magnitude of travel demands within the study area and as a result provided the necessary framework for estimating future travel demands.

PHASE 3 – FORECASTING

The year 1970 was chosen as the target or planning year for the study. While this is a considerably shorter time period than is utilized by most studies it was compatible with the short term objectives of the study, primary of which was to determine the impact that the proposed expressways would have on the arterial street needs of the area.

Five factors were required as input into the traffic model. These were population, labor force, car ownership, retail employment, and total employment. These data were developed on a zonal basis for 1970 in two steps.

1. State-wide projections were developed based on historical trends.
2. 1960-1970 increases were allocated to zones and added to 1960 base data.

State-wide Projections

The projection of state-wide population, labor force and employment were not developed by the study, but rather previous work done by others was adopted. The following paragraphs and tables summarize briefly the projections used and the assumptions on which they are based.

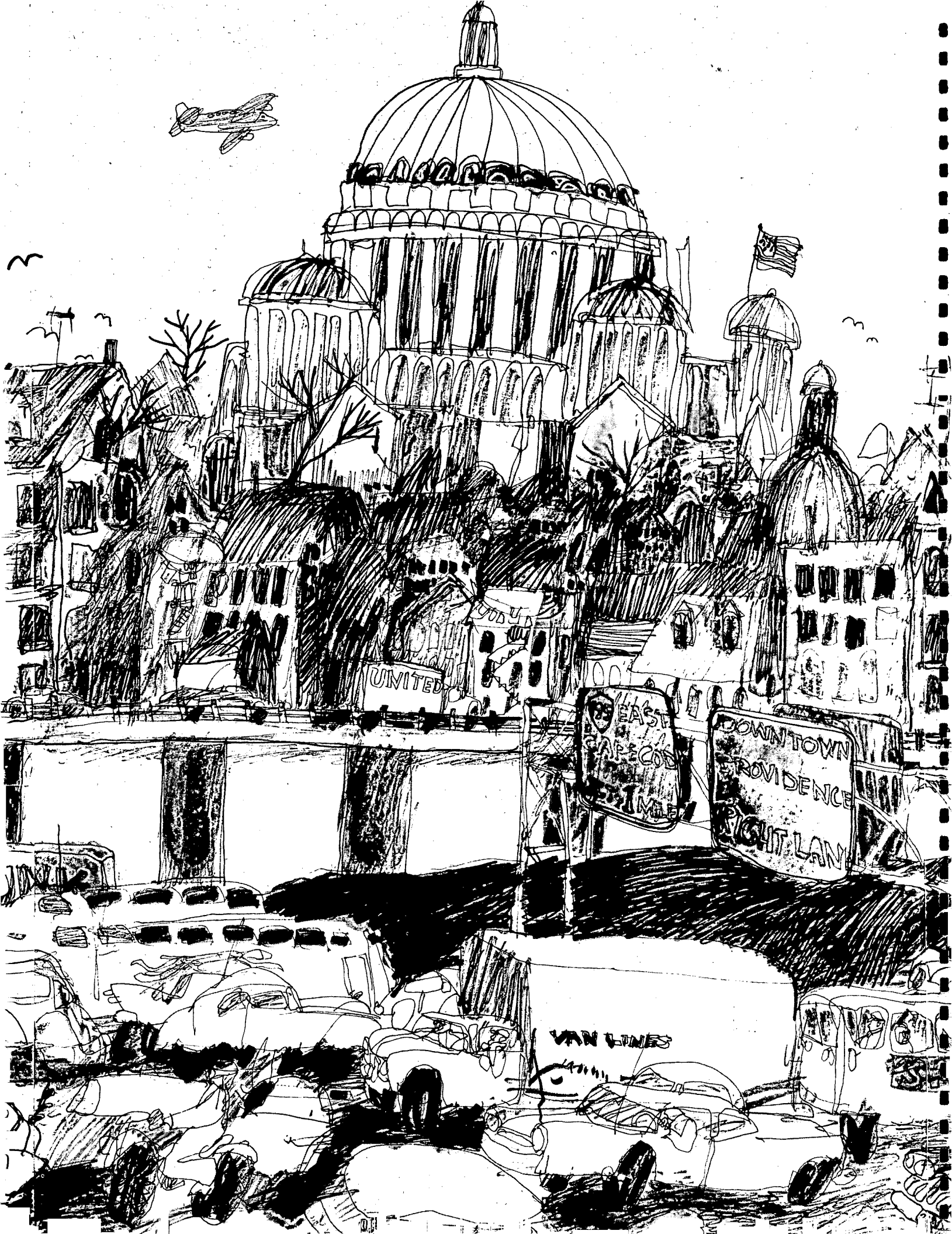
Population and Labor Force

Table 8 shows the population and labor force which were used in the study. They were prepared by the Research Division of the Rhode Island Development Council.

TABLE VIII
Projection of Rhode Island Population
and Labor Force, 1960-1970

	1960	1970
Total Population	859,488	944,000
Armed Forces	24,842	25,000
Civilian Population	834,646	919,000
Total Labor Force	359,911	386,000
Civilian Labor Force	335,069	361,000
Ratio of Labor Force to Civilian Population	1:2.49	1:2.55

As indicated in Table 8 it is anticipated that the State's population will expand to 944,000 or approximately 10 percent over its 1960 level.



Employment Projection

Employment forecasts for Rhode Island were adopted from an unpublished study by Brown University.

Manufacturing employment was predicted as follows:

- a. National growth rates were estimated for each two digit and some three digit SIC manufacturing category.
- b. A differential rate of growth for each industry group in Rhode Island and the nation was calculated using the Borts-Stein model.
- c. The rates in (a) and (b) were combined and applied to a 1958 base figure.

Retail and service employment was derived in the Brown Study from a projection of manufacturing wages. The projections were:

	1960	1970	Change
Manufacturing	114,000	124,000	10,000
Retail	39,500	43,500	4,000
Other	114,900	130,500	15,600
Total	268,400	298,000	29,600

The 1960 employment used above was interpolated from a 1958 base and a 1965 projection. The total increase was judged within a reasonable range but the 1960 base figure was low when compared with 317,300 reported by the Census in 1960. Starting from a low base produced a low 1970 projection. Therefore, the traffic study adopted a base consistent with the Census and an increase of 25,000. Table 9 below indicates the final control totals used.

TABLE IX

Employment Projection, Rhode Island

1960-1970

	<i>Retail Employment</i>	<i>Other Employment</i>	<i>Total Employment</i>
1960	35,944	275,101	311,045
1970	39,944	296,001	335,945
1960-1970	4,000	20,900	24,900

Land Use Distribution

The allocation of the projected overall study increase in employment and population was accomplished through a combination of land use models and traditional subjective land use planning techniques based upon examination of past growth patterns.

Population and Labor Force

A three-step procedure was utilized in developing zonal estimates of 1960-1970 population changes. First, specific adjustments due to known public programs were made. Second, based upon past trends declines were estimated for selected zones. Third, population growth was distributed to zones based upon a land use model.

The final population estimates by zone are available in the office of the Providence City Plan Commission. Table 10 below summarizes these forecasts for selected areas.

TABLE X
1960-1970 Population Forecasts

<i>Area</i>	<i>1960</i>	<i>1970</i>	<i>1960-1970 Change</i>
Providence	207,498	188,162	-19,336
Pawtucket	81,001	81,212	211
Balance R. I.	<u>570,989</u>	<u>674,626</u>	<u>103,637</u>
Rhode Island Total	(859,488)	(944,000)	(84,512)
Massachusetts	<u>50,294</u>	<u>53,000</u>	<u>2,706</u>
Total Study Area	909,782	997,000	87,218

Car Ownership

Car ownership for 1970 was estimated using the relationship between car ownership and median family income. Based upon previous studies of increases in real income for the United States, it was assumed that the study area income would increase at a rate of two percent per year. This increase was applied uniformly to the 1960 income of all zones and car ownership rates were then determined from the charts.

Employment

It was originally planned to develop and utilize a series of employment distribution models to allocate the increase of jobs to transportation zones. However, limitations in the quality of available historical employment changes along with the very limited growth which Rhode Island has experienced during the last decade made the formulation of reliable employment models impossible. As a result, the final allocations were made subjectively in light of information on past trends, availability of industrial land and proposed redevelopment programs. A summary of these allocations is shown below in Table 11.

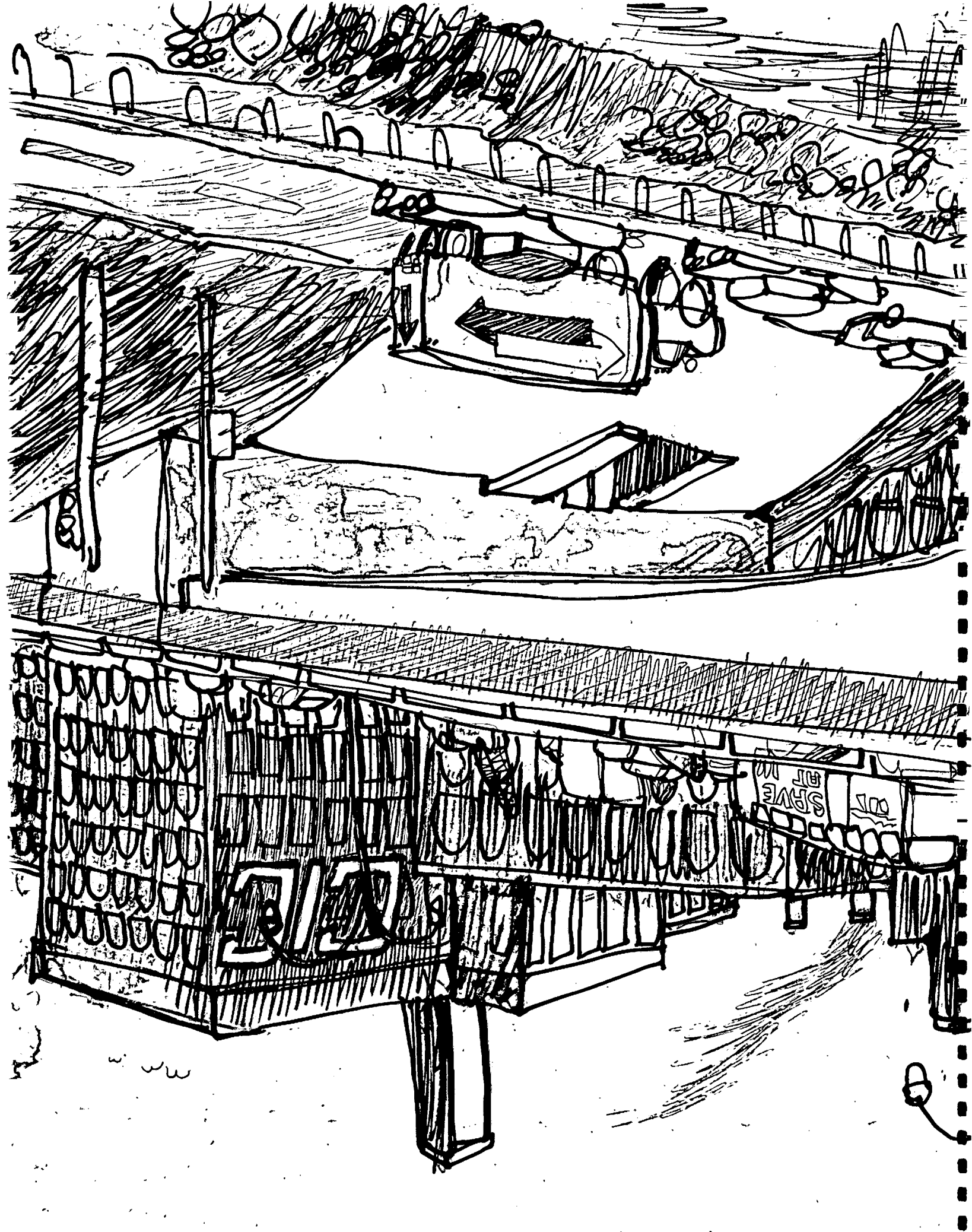


TABLE XI
Summary of Employment Forecasts
1960-1970

	<i>Retail Employment</i>			<i>Total Employment</i>		
	1960	1970	Change	1960	1970	Change
Providence	14,162	14,297	135	130,847	132,053	1,206
Pawtucket	4,300	4,840	540	33,842	37,519	3,677
Remainder R. I.	17,482	20,807	3,325	146,356	166,373	20,017
R. I. Total	(35,944)	(39,944)	(4,000)	(311,045)	(355,945)	(24,900)
Mass.	2,250	2,300	50	18,700	18,800	100
Total Study Area	38,194	42,244	4,050	329,745	354,745	25,000

Traffic Forecast

The projected 1970 land use — zonal population and employment was utilized in conjunction with the proposed 1970 highway network to project 1970 travel demands for the study to use with the calibrated gravity model.

Table 12 summarizes the resulting trip production which can be expected. As can be seen, the change in population when coupled with the increase in average car ownership will result in an average increase in trips of approximately 26 percent. As would be expected, the largest increases occur outside of Providence; although even with stable population Providence will register moderate increases in trip production.

The resulting trip forecasts were assigned to both the 1960 and 1970 highway networks by electronic computer. The assignment used was "all or nothing" minimum travel time path. This means that the entire movement between any pairs of zones was assigned or allocated to that path in the highway network which minimized driving time. No consideration was given to the capacity of the various parts of the network.

The computer figures from these two assignments dramatically point out the impact expressway construction will have on travel demands. While on an overall basis these new freeways will provide substantial relief to Providence's arterial system they also create points of high traffic demand and probable points of extreme congestion. Computer printout figures and base maps of the 1960 and 1970 highway networks are available in the files of the Providence City Plan Commission.

TABLE XII
Summary of Trip Production Forecasts
By Jurisdiction

Jurisdiction	Population	Cars Owned	Cars/100 Per.	Work	Trips Produced		
					Shop	Other Home Based	Non Home Based
Providence:							
1960	207,498	56,351	27.2	71,263	20,820	51,077	23,490
1970	188,162	58,210	31.0	68,424	23,519	56,253	25,452
% Change	-9%	+4%	+14%	-4%	+13%	+10%	+8%
Pawtucket:							
1960	81,001	24,532	30.3	33,150	9,910	21,490	9,420
1970	81,212	27,096	35.2	34,178	11,231	24,703	13,978
% Change	—	+10%	+16%	+3%	+13%	+15%	+48%
Remainder of State:							
1960	570,989	180,671	32.6	230,103	97,378	176,340	49,245
1970	674,626	237,507	36.4	315,411	128,742	232,726	66,654
% Change	+20%	+31%	+10%	+37%	+32%	+32%	+35%
Total State:							
1960	859,488	261,554	30.4	334,516	128,108	248,907	82,155
% Change	944,000	322,813	35.2	418,013	163,492	313,682	106,084
1970	+10%	+23%	+16%	+24%	+28%	+26%	+29%

PHASE 4 – PLAN DEVELOPMENT

The traffic forecasts and assignments developed and portrayed in Phase III along with several additional special traffic assignments were carefully analyzed in conjunction with the information on existing arterial and proposed freeway capacity to determine a program of arterial street improvements.

Several segments of the proposed freeway system in Providence will be approaching their capacity by 1970 if no improvements are made in the city street system. If traffic increases at a moderate 3 percent between 1970 and 1975 these freeway segments could become overloaded. Table 13 shows the 1975 projected traffic volumes for these segments.

TABLE XIII
Providence Freeway Capacity and
1970-1975 Traffic Assignment in A.D.T.

Freeway Segment	Lanes	Approx. Practical Capacity	Predicted 1970 Traffic	1975 Traffic	1975 Overload
I-95, Promenade to Chalkstone Avenue	8	120,000	110,000	126,000	6,000
I-95, Promenade to Broad Street	8	120,000	74,800	96,000	—
I-195, Washington Bridge to Providence River Bridge	8 & 6	120,000 90,000	101,000 88,000	117,000 101,000	— 11,000
I-195, West of Providence River Bridge	6	90,000	93,500	107,500	17,500
I-195 to northbound I-95	2	30,000	27,500	32,000	2,000



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