

LOWER ROXBURY
REDEVELOPMENT

by

Arthur John Mudry and Flemming Steen Seiersen

Submitted in Partial Fulfillment
of Requirements for the
Degree of Master in Architecture
at the
Massachusetts Institute of Technology
August 20, 1956

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LOWER ROXBURY REDEVELOPMENT
 MASTER IN ARCHITECTURE THESIS

by

Arthur J. Mudry and Flemming Steen Seiersen

The urgency of clearing blighted urban areas is generally accepted as necessary for the preservation of the life of the city. Boston, as well as many other American cities is in a new period of rehabilitation and redevelopment, in an attempt to eradicate the evils and burdens of blighted urban areas within the city. The replanning of such areas requires the fundamental principle of high human values in the design for a living urban environment. The objective of this thesis is to provide a living environment of high human values for a presently blighted urban population of 10,000 human persons.

Submitted for the degree of Master in Architecture at the
 Massachusetts Institute of Technology on August 20, 1956.

Respectfully,

.....
 Arthur John Mudry

.....
 Flemming Steen Seiersen

Thesis Supervisor:

Lawrence B. Anderson, Head, School of Architecture

August 20, 1956

Pietro Belluschi, Dean
School of Architecture and Planning
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Dean Belluschi:

In partial fulfillment of the requirements for the degree,
Master in Architecture, we herewith respectfully submit a
collaborative thesis entitled "Lower Roxbury Redevelopment".

Respectfully,

.....
Arthur John Mudry

.....
Flemming Steen Seiersen

A C K N O W L E D G E M E N T

We are indebted to the many organizations and individuals who have given the benefit of their knowledge and advice during the course of this study. We wish particularly to express our appreciation for the cooperation of all the members and staff of the School of Architecture and Planning, Massachusetts Institute of Technology, and visiting critics who have given so kindly of their counsel.

TO OUR HARD WORKING WIVES

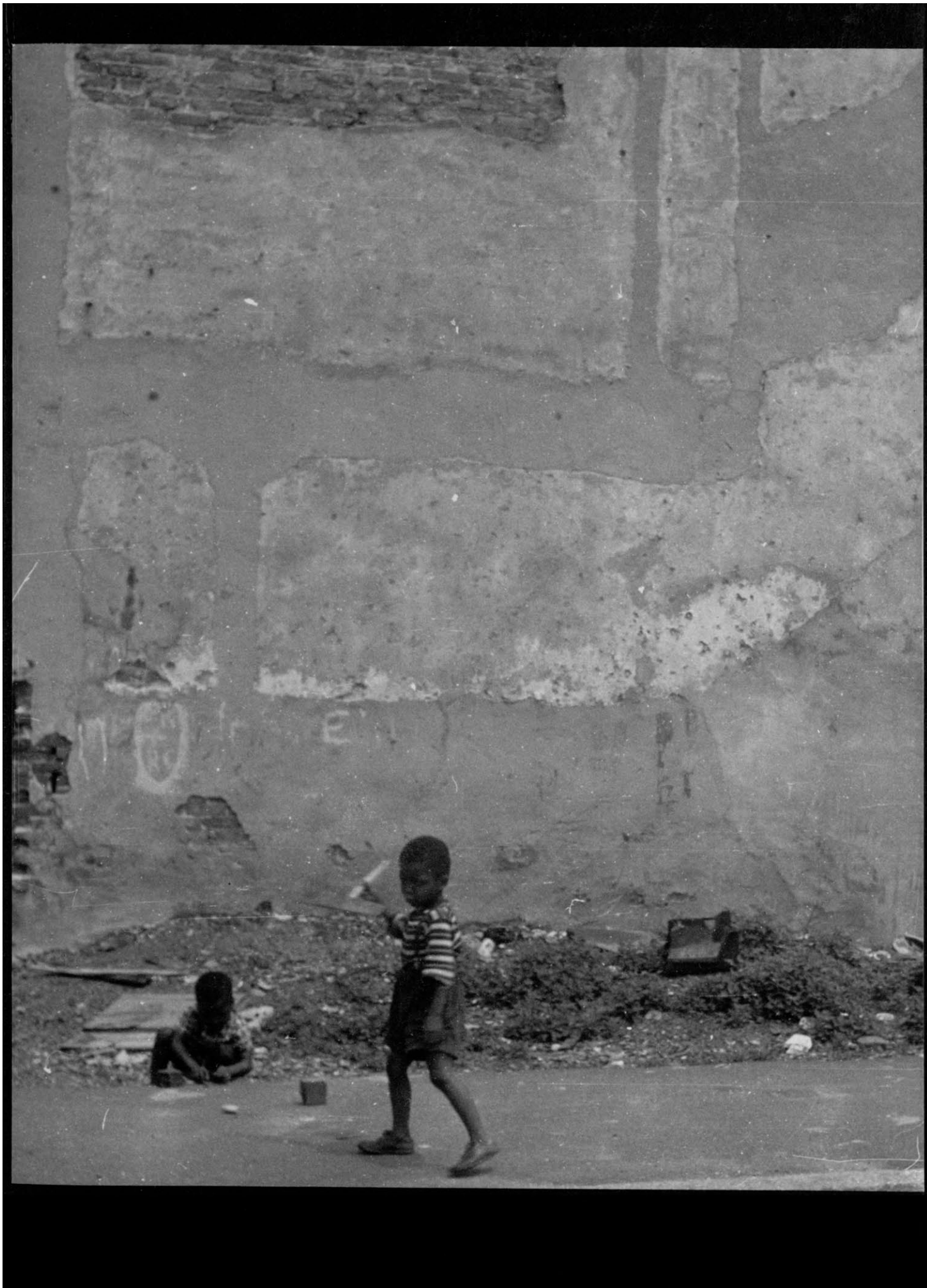


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I N T R O D U C T I O N

Foreword

Purpose and Scope

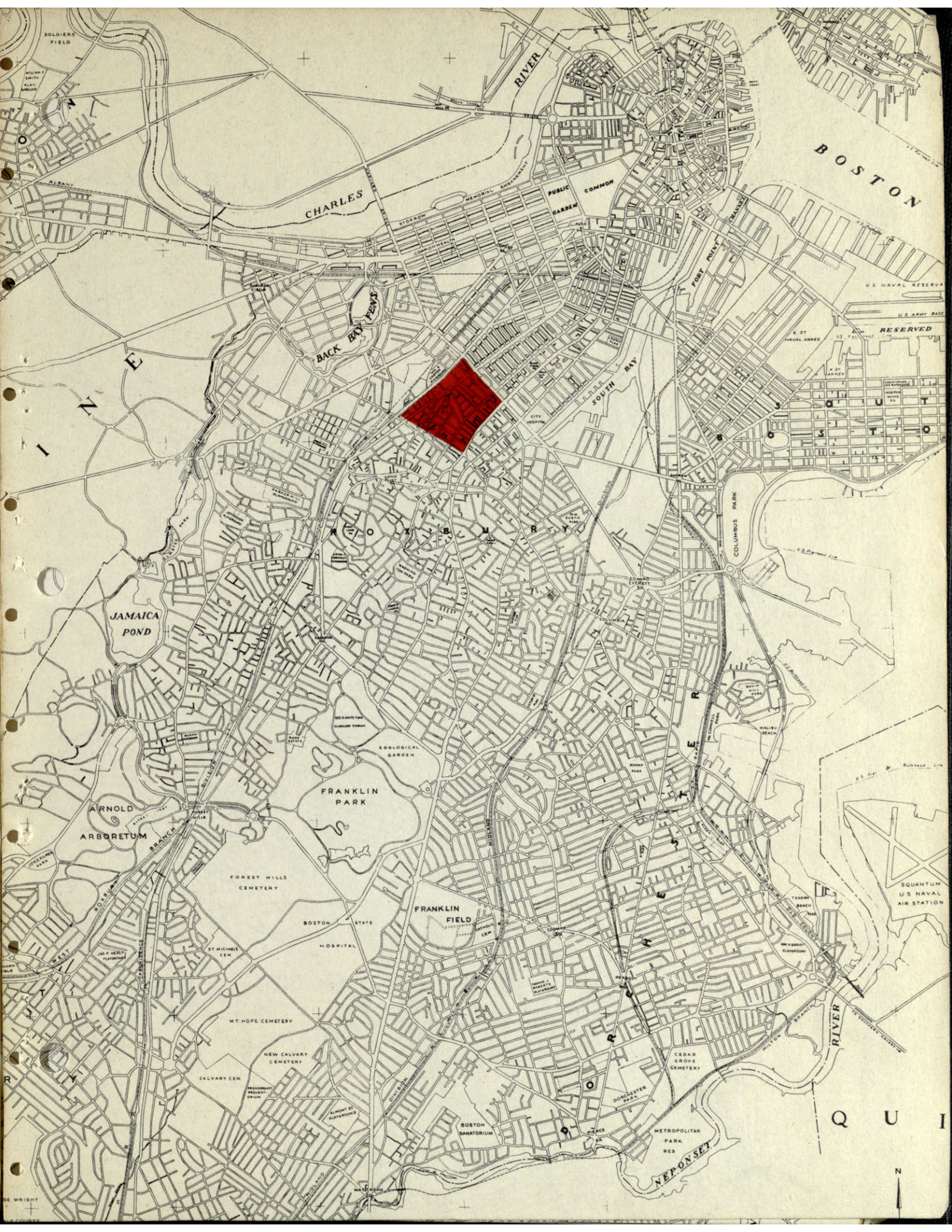
FOREWORD

The urgency of clearing the city's slums is generally accepted. They are areas that are a liability to the community in every sense. Statistical studies in Boston, as in other cities, reveal them to be breeders of juvenile delinquency and crime, centers of social and family disruption. In large measure substandard housing and neighborhood environment, along with poverty, have proven to be major causes for these social evils. High rates of disease and death can also be traced to slum conditions. Such costs as those for excessive fire protection and other public services, directly due to bad physical conditions are a severe burden to the entire city. The costs of these factors, in many cases, cannot be measured in dollars, but they are, nevertheless, a real menace to the social and economic structure of the entire city.

Boston, as well as many other American cities, is in a new period of rehabilitation and redevelopment in an attempt to eradicate the evils and burdens of blighted areas within the city. The replanning of such areas requires not only sound economic planning, but also the very fundamental basis of the human neighborhood element of planning. This basis implies physical fitness of the urban environment for the welfare and benefit of the individual citizen within the neighborhood community, and thus for the "community of the city" in general.

PURPOSE AND SCOPE OF THIS THESIS

The purpose of this thesis is to propose an architectural solution to the social problems of a blighted urban area of Boston, in Lower Roxbury, by means of a large scale redevelopment study. The scope of the problem, due to the amount of time concerned, can only be in the form of a preliminary proposal; but it is based on definite concepts of neighborhood structure, and desired relationships of individuals and families to each other, to the community, and to the metropolitan region of which it forms a part. The area under study is bounded physically by Massachusetts Avenue, Columbus Avenue, Washington Avenue, and the proposed Crosstown Belt route highway which is planned to eventually encircle the entire inner metropolitan area of Boston and surround.



CHARLES RIVER

BOSTON



BACK BAY

SOUTH BAY

JAMAICA POND

FRANKLIN PARK

ARNOLD ARBORETUM

FRANKLIN FIELD

FOREST HILLS CEMETERY

BOSTON STATE HOSPITAL

MT HOPE CEMETERY

NEW CALVARY CEMETERY

BOSTON SANATORIUM

NEPONSET

QUINCY



I. HISTORICAL BACKGROUND OF
THE AREA

HISTORICAL BACKGROUND OF THE AREA

Roxbury was one of the original towns of the Massachusetts Bay Colony, settled in 1630. The town was named for the rocky hills which formed an attractive location amid the surrounding lowlands of Boston Harbour and the Charles River.

The position of Roxbury, at the base of the narrow peninsula leading northeastward to the town of Boston, made it the nearest settlement, by land, to the center of trade. It gradually grew in importance because of its favorable location on a major thoroughfare. Small industries located in the vicinity, and the construction of the Boston and Providence Railroad in 1834 gave added impetus to the industrial development bordering the railroad property.

In 1867 the town of Roxbury was annexed to the city of Boston.

Shortly after the Civil War, (1861-1865), speculative builders commenced operations in the region, and private greed was permitted to carry through its deprivations until almost all of the natural beauties of the location disappeared. Many areas of the district were developed in rows of three-decker apartments, most of which were obsolete and unsuitable for proper living conditions. Speculative builders crowded their buildings on the land to a high density in order to satisfy the ever growing demand for cheap homes by foreign immigrants

who were settling into the area.

In 1930, about 24 percent of the population was made up of native-born white families, 66 percent of families of foreign origin, and 9.5 percent of negro families. Between 1930 and 1950, the area slowly attracted groups of low income negro families who gradually took over the area until the negro portion of the population is now approximately 80 percent. This fact points to a social problem of segregation which seriously unbalances a desirable social structure of the democratic community.

Three centuries have passed since the early settlement of Roxbury, and striking changes have taken place. Marshes have been drained, and population changes have occurred. Today, the Roxbury District lies near the center of a large metropolitan area made up of Boston and surrounding towns and cities. The value of the location of Roxbury as a related urban area of the city cannot be overlooked. The development of a successful physical plan for Lower Roxbury can revitalize the area into its own proper socio-urban environment, and restore it to a desirable relationship with the surrounding urban areas and the city as a whole.

A very brief record below presents a summary of important events in the growth of Roxbury:

1630. Settlement as one of the original towns of the Massachusetts Bay Colony.
1761. Roxbury consisted of 213 dwelling houses and a population of two thousand.
1818. Irish laborers were first imported into this country, thus beginning the growth of the Irish population in Boston.
- 1820 - 1830 . The period of transition from the old settlement town to the new, with physical development.
1824. The first Roxbury street was paved.
1828. Streets were first lighted by lamps, which were later replaced in 1850 by gas lights.
1832. Tremont Street was opened to relieve congestion on Washington Street.
1834. Boston and Providence Railroad was built.
1846. Roxbury became a city.
1855. Washington Street was widened, and speculative building began.
1867. Roxbury was annexed as a part of the City of Boston.
- 1880 - 1910 . Roxbury grew rapidly, being nearly completely built up by 1897 with the characteristic three-decker dwellings constructed by speculative builders to house foreign laborers.
1901. The Elevated Railway was extended to Forest Hills.
1950. The proposed General Plan for Boston designated Lower Roxbury as one of the worst blighted areas of Boston most in need of redevelopment.

II. RELATION TO THE GENERAL PLAN
OF BOSTON

- A. Proposed Land Use Plan
- B. Communication Patterns
- C. Housing
- D. Schools
- E. Green Open Areas
- F. Shopping Facilities

PROPOSED LAND USE PLAN FOR BOSTON

LEGEND:

-  Low Medium Density Residential (11-21 families per net acre)
-  High Medium Density Residential (21-40 families per net acre)
-  High Density Residential (over 40 families per net acre)
-  Occupied Public Spaces
-  Public Open Spaces
-  Local Business -- Retail
-  General Light Manufacturing & Wholesale
-  Industrial
-  Transportation, Railroads, Shipping, M.T.A.

-  Rapid Transit
-  Expressways
-  Express Parkways
-  Major Streets

CAMBRIDGE

CHARLES

PUBLIC COMMON

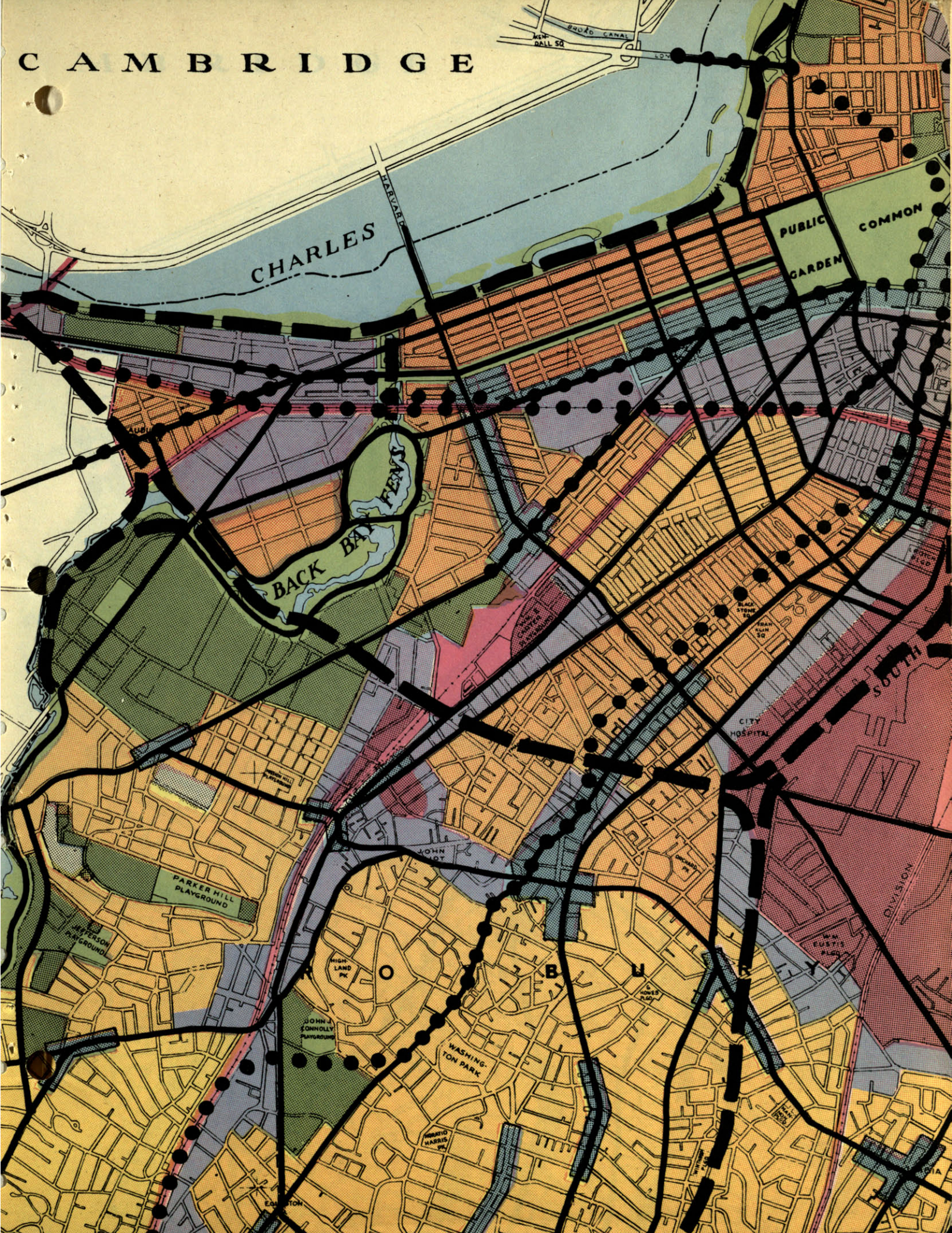
BACK BAY

REDEVELOPMENT SITE

PARKS AND PLANNING

WATERGATE PARK

C A M B R I D G E



CHARLES

BACK BAY

PUBLIC GARDEN COMMON

PARKER HILL PLAYGROUND

JEFFERSON PLAYGROUND

JOHN J. CONNELLY PLAYGROUND

WASHINGTON PARK

CITY HOSPITAL

SOUTH

DIVISION

B U

OTIA

A. PROPOSED LAND USE PLAN

The Proposed General Land Use Plan for Boston, prepared by the City Planning Board in December, 1950, indicates a projected plan for the general coordination of land use systems within the city.

The area of Lower Roxbury, with which this thesis is concerned, is zoned almost entirely for future residential use of a high urban density nature (40 families or more per net acre).

This urban area enjoys a very convenient location in relation to the Central Business District, and proper redevelopment from its present blighted condition could re-establish a high land value to the area.

Washington Street, which borders the site on the southeast side, is planned to continue its present function as a major shopping strip which serves most of the Roxbury District. A sound comprehensive plan for Boston would benefit by the revitalization of such an established shopping center concentration.

To the northwest of the study area lies the New York - New Haven - and Hartford Railroad and yards. The value of railroad frontage has influenced its present and proposed use for warehouse, storage, and light manufacturing facilities.

In general, the proposed land use for the study area is very similar to the existing use, being largely residential, with a concentrated strip of major shopping on Washington Street, and some light manufacturing and warehouse uses along the railroad yards to the Northwest. Traffic connections relate the area well to the rest of the city.

The Central Urban Areas of Boston are gradually deteriorating and losing their inhabitants to the attractive suburbs. Such a migration is a serious detriment to the central city. Proper redevelopment of such urban areas would help to revitalize the values of urban land.

B. COMMUNICATION PATTERNS

In Boston, as in many other growing American cities, the continuing changes in size, speed, characteristics and use of different types of circulation systems demand constant change in the transportation facilities which in turn require continuous forethought and replanning of the city. Such continuously changing forces reshape the form of the city considerably.

1. Streets and Highways

Streets serve to move people - on foot or in vehicle, from home to school, store, work or bus stop. They serve to move people for short distances and long within the city and through it. They also serve to move goods in trucks to and from homes, stores, factories, warehouse and transportation terminals, etc...

Much of the traffic dangers and congestion in the city is caused by trying to make the street do too many jobs at once, without proper zoning and control of varied traffic carriers. This is particularly true where the overall street system is composed of a series of grids, and all traffic is free to travel on any street regardless of its intended use or privacy.

The problem of planning circulation patterns within the city is concerned with the rearrangement of existing street patterns, and the establishment of any necessary additional parts so as to serve rather than conflict with the desirable land-use arrangements. Such a replanning of street systems could eliminate a large number of through streets, and channel traffic into certain specialized zones of higher speeds.

The Major Streets bordering the site are Massachusetts Avenue, Washington Street, and Columbus Avenue. These main thoroughfares are connected to each other in the manner described above by a large number of streets travelling through the residential zones, and causing traffic hazards, noise, and violation of neighborhood privacy.

The additional maintenance and upkeep of such a large number of residential streets for heavy through traffic constitutes an added financial burden and nuisance to the city.

The Master Highway Plan of 1948, prepared by the Metropolitan District Commission and the State Planning Board, suggested a number of proposals for the circulation of cars, tracks, and buses, into and out of downtown Boston. This included the Central Artery, presently under construction, an Inner City Belt Route, and a series of expressway radials sweeping out to the metropolitan rim.

The most important of the proposals to affect the Lower Roxbury area is the Inner Belt Route, encircling the inner urban areas of Cambridge and Boston, and providing swift, convenient traffic movement into or away from the central urban areas of the city.

2. Parking

Equally essential to an improved movement of traffic is an adequate system of off-street parking facilities. There is an urgent need to prepare an efficient off-street parking system in conjunction with and related to the express highway plans.

The solution to the parking problem is not only confined to the downtown area for, in fact, one of the most effective ways to relieve auto congestion may well be the development of parking areas at outlying rapid transit terminals. One such terminal affecting the Lower Roxbury study area might be at the intersection of the Washington Street Elevated Railway, and the Proposed Belt Route. This might quite logically become a major parking area for rapid transit commuters to the center of the city.

3. Rapid Transit Facilities

Today, more people in Boston use mass transit facilities than private cars to travel from one place to another.

The solution of traffic congestion on the streets will, therefore, depend partly on those great numbers of commuters who use the rapid transit facilities.

Unfortunately, the Rapid Transit does not yet adequately serve many outlying towns and districts; therefore, plans for such areas are of highest priority. The Lower Roxbury area presently enjoys convenient proximity to the Washington Street Elevated Railway which is the major transit route connecting the Southwest and Forest Hills districts with the centre of Boston.

The Elevated structure, built around 1901, is planned to be removed in the future and to be replaced by a subway route running roughly under Shawmut Avenue. However, other planned extensions of the Rapid Transit service have higher priority, and it is expected that the existing elevated railway on Washington Street will serve for some years.

C. HOUSING

Prediction of population changes for Boston by 1975, based on the 1940 and 1950 Census Reports indicates that the long term local and national trend of population is toward smaller families. This means that housing needs for Boston in 1975 will be quite different from the facilities housing the population today. More small apartments for older people and young childless couples, and fewer large dwellings will be needed. This does not mean, however, that Boston should have more apartment areas than it has today; for at present, the supply of housing is not at all in balance with the real needs of people. Many large families with young children are forced to live in high density tenement areas under conditions wholly unsuited to their real requirements.

A study of the effects of migration into and out of Boston in the past few decades suggests strongly that the lower density conditions, prevailing in the suburbs, offer a competitive attraction for the large growing family, which the urban area is presently unable to accommodate in sufficient quantity.

In general, it is necessary to plan for different kinds of varied family size and activity. It is quite obvious that single people and couples are likely to live in more densely built-up sections; but there should also be a certain proportion

of proper urban housing facilities for families with children.

Future urban housing for varied family sizes and activities, is based on the program of rehabilitation of existing areas, and redevelopment of other more blighted areas. The area with which this thesis study is concerned is clearly a city "slum", badly in need of redevelopment.

The urgency of clearing the city's slums is generally accepted; and in the 1950, "General Plan for Boston", the City Planning Board clearly designated those sections of the city that require large scale demolition in order to wipe out extremes of blight that seriously affect Boston. The factors that were used to determine such blighted sections were based on the following:

1. The condition of residential buildings based on number of dwellings needing major repairs, and without private bath.
2. The age of the building.
3. The standards of low rent which are closely related to substandard housing conditions lacking sanitary facilities and central heat.

The above investigation resulted in the designation of areas so clearly substandard in building conditions and spacing that sweeping clearance of buildings was recommended as the only way to restore social and economic health. The Lower Roxbury study area of this thesis is such an area, classed as a high-priority redevelopment area.

D. SCHOOLS

The existing school distribution serves the area well, with four elementary schools which provide facilities up to and including Grade 8. High School facilities are shared with other districts at such schools as the English High School, Roxbury Girls' School, and Roxbury Boys' School. The proposed redevelopment area almost constitutes a complete community served by the four elementary schools, within the school network of the city. As such, there would be no disruption in the city school system as long as the area proposed could be served by its own system of schools for elementary grades.

E. GREEN OPEN AREAS

Through the foresight of earlier Planners, Boston has today a major park system which is generally in keeping with adequate space standards. However, there are serious deficiencies as regards children's playgrounds and playfields for active adult recreation.

At present, Boston has 43 acres available for functioning as playfields, but many are poorly located and away from desirable neighborhood accessibility. If the goal of accessible playfields is to be reached, heavy reliance must be placed on redevelopment programs and improvement of existing facilities.

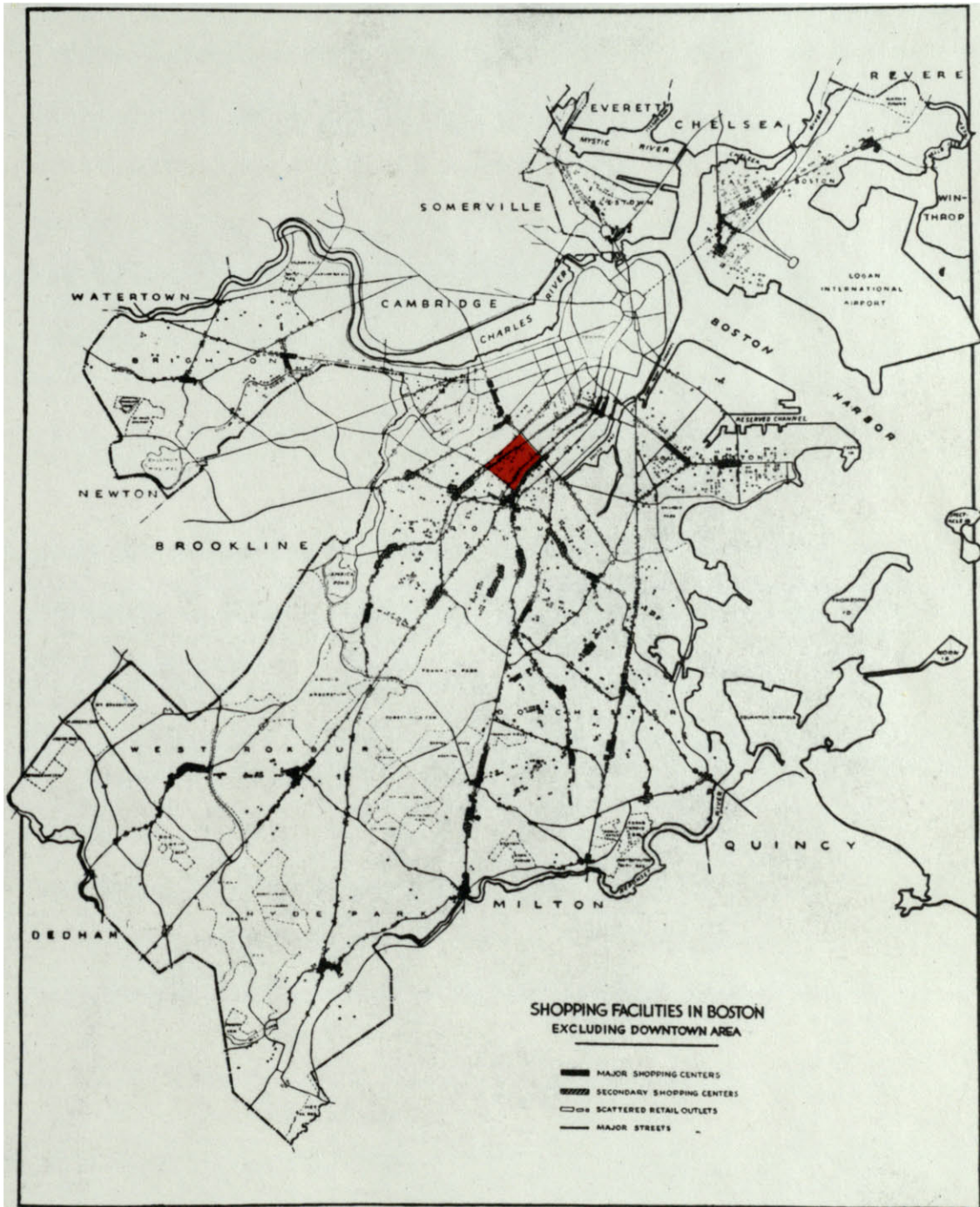
Proposed plans for the General Plan of Boston specify the provision in the Lower Roxbury study area of two additional Junior Playground areas, one additional Elementary school, and one additional Senior Playground.

Specific objectives in relating the Lower Roxbury study area to the surrounding districts should include the following:

- a. A Pedestrian Greenway connection to the Back Bay Fens Park, and various cultural facilities.
- b. Landscaped pedestrian ramps and connections of a generous size, connecting the study area across the

Belt Route expressway to the area on the Southwest of the site.

- c. The possibility of closing Tremont Street to traffic and diverting its traffic load to Columbus Avenue, which could easily handle the load, since both streets parallel each other so closely. Tremont Street could then be converted into a generous pedestrian greenway which could extend to Warren Street; thus providing comfortable walking conditions toward Copley Square and downtown Boston. This would become a considerable advantage to the areas Northeast of the site, bordering on Tremont Street.



F. SHOPPING AND BUSINESS AREAS

Shopping facilities, distributed throughout the city, have a far reaching effect upon neighborhood developments and the daily lives of a great majority of citizens. In the past, distribution of shopping conveniences has been largely the result of individual initiative. The diffusion of stores has often resulted in the hastening of residential blight, and has led to frequent business failures.

Planning the future locations of shopping facilities must be based on a recognition of the need of adequate distribution of individual stores as well as groups of stores called "centers." The problem is one of balancing the advantages of both types.

Analysis of population distribution in relationship to shopping facilities within the city, indicates that, on the average, 20,000 people generate sufficient business to justify a major concentration of stores. The Washington Street shopping centre of Lower Roxbury is just such a concentration.

The inherent advantages of a major retail center are fairly obvious and well known. For the merchant, the center affords greater patronage, the economy of large scale operation and an advertising advantage. For the customer, there is greater opportunity for selection of goods, and usually

a more definite "shopping" atmosphere.

The objectives of a good plan for shopping services in Lower Roxbury, which serves a good portion of all Roxbury should include the following:

1. Concurrence with the established trend toward consolidation of shopping facilities by strengthening the existing center of the area which would become useful to the fulfillment of a sound comprehensive plan.
2. Improved traffic design, service, and off-street parking incorporated within the urban redevelopment scheme.
3. Public encouragement and freedom to the development of new local subcenters (confectioneries, delicatassens etc...) where they may be needed within local areas of the residential neighborhoods, on a more personal scale with the inhabitants.

G. CIVIC VALUE

The Redevelopment of the Lower Roxbury area becomes more necessary with each passing year, for the economic burden of the area constitutes a severe drain on municipal funds. The severe blight is also a threat to surrounding districts, and has already demonstrated its devaluating influence on land values surrounding the area. Proper redevelopment could

regain the inherent values of this urban area and increase the land value of surrounding districts. It would also encourage further rehabilitation and redevelopment of surrounding areas, much to the benefit of the community of Roxbury and the city of Boston in general.

III. ANALYSES OF THE AREA

A. General Physical Characteristics

B. General Social Characteristics

C. Population Makeup

D. Existing Land Use

E. Circulation Patterns

F. Topography and Physical Features

G. Schools and Churches

H. Green Open Areas and Parks

I. Shopping Facilities



A. GENERAL PHYSICAL CHARACTERISTICS OF THE AREA

The Lower Roxbury area presents a characteristic picture of the result of the planless, haphazard expansion of the typical overcrowded American city. The resulting conditions are as follows:

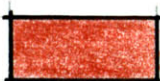
- a high density of lower income groups.
- poor living conditions and low standards of health.
- inadequate educational and recreational facilities.
- almost no public open areas other than narrow, busy streets.
- high fire hazards.
- high rates of juvenile delinquency and crime.

Almost all of the Lower Roxbury area is devoted to residential use, except along the noisy, main traffic thoroughfares of Columbus Avenue, Tremont Avenue, and Washington Street. Washington Street is devoted to a heavy concentration of mixed retail and commercial use.

The Washington Street Elevated Railway is particularly recognized as an undesirable physical feature which casts a perpetual shadow and din upon the main retail street.

The New York - New Haven and Hartford Railway line, west of Columbus Avenue, serves a narrow industrial fringe of varied light industrial activities and general warehouse storage

TYPE OF STRUCTURE



Brick Building



Frame Building



Concrete or -Block Building



AVE.

WEST SPRINGFIELD

ST.

WATSON ST.

DILLWORTH ST.

CAMDEN

NORTHAMPTON

ST.

LENOX

ST.

HAMMOND

WOODBURY ST.

ARNOLD ST.

SUSSEX ST.

GREEN ST.

BALL ST.

ST.

ST.

WINDSOR

STERLING

MADISON ST.

AVE.

CABOT ST.

WILLIAMS

MARBLE ST.

RUGGLES

WARWICK ST.

WESTMINSTER

WHITTIER

ST.

ST.

SHAWMUT AVE.

ST.

SHAWMUT

ST.

WASHINGTON

facilities. This zone forms an insuperable physical and social barrier between South Boston and Back Bay.

The location of Lower Roxbury also has many advantages for residential purposes, being easily accessible to the downtown business district of Boston, and within 15 minutes walk to the Back Bay Fens, one of the major elements in the city park system. Also within short walking distance are such cultural facilities as Symphony Hall, Jordan Hall, the Opera House, Northeastern University, a large Y.M.C.A., and the very popular Fenway Park Baseball stadium. Such convenient proximity to cultural and physical facilities is of great value to any urban residential area.

The Residential area is almost entirely composed of speculatively built row house tenements, three and four stories high, of brick and wood frame construction, most of which were built between 1860 and 1890. The direct contiguity of every building with adjoining buildings prevents side ventilation and proper natural sun-light penetration into the dwellings. The majority of these dwellings have long ago reached poor and unsafe structural conditions and many of them have been condemned.

A large portion of the buildings have become dilapidated and vacant, having been condemned and long awaiting demolition. Frequent reports are heard of vacant buildings

collapsing and caving in during rain storms and heavy winds; thus causing a constant safety hazard to neighboring residents.

The tree-less streets of the area act as convenient by-passes for heavy trucks and motor transports cutting between Tremont Street and Washington Street. Broken glass and trash litter the streets, causing hazards for both traffic and pedestrians.

Open spaces such as occur in back lanes, side yards, and cleared sites are characterized by accumulations of dump piles, garbage and debris to such an extent that the spaces are unusable for any activities. However, the back lanes in the area are particularly abundant in lush green growth, bushes, and shady trees growing above the layers of debris and trash that litter the ground. Some of the most pleasant spaces of the area occur in such lost alleys and back-yards. Thoughtful replanning and redevelopment could well take advantage of such wonderful strips of existing green lanes.

Perhaps the physical feature most worthy of mention is the Madison Park Common within the area. This one block square Park is a contrasting relief to the surrounding blight. It contains many large trees which afford pleasant shade and natural greenery to the otherwise bleak surroundings of the slum.



B. GENERAL SOCIAL CHARACTERISTICS OF THE AREA

The most significant social characteristic of the area is the high proportion of lower income negro population, accounting for approximately 80 per cent of the total population of the area. Such a high concentration of one ethnic race characterizing social segregation is highly undesirable for a well balanced and socially healthy community. The only white persons remaining in the area are those who are very poor or unable to move away.

The general residential environment is such that the inhabitants can take no pride in their blighted property or surroundings. Accordingly, the interiors of domestic quarters reflect the same abandon and lack of proper living facilities, to such an extent that most of the inhabitants seem to spend as little time as possible indoors, and seemingly live "on the streets". They are usually seen sitting on front entrance steps and in their cars, where they perhaps gain their most frequent social contact with others. A popular activity at any time at day is the polishing and washing of automobiles. This appears to be their object of most pride and ownership.

The streets are usually noisy with the blare of radios, voices, and the babble of children playing in the streets.

As a result, there is considerable lack of privacy, since the back lanes are uninhabitable, and the streets so noisy.

The area is generally characterized by the following conditions:

- overcrowding
- low standards of living
- lack of privacy
- high rates of delinquency, crime, illness, and disease
- high rates of mortality.

This densely built area has experienced a gradual decline in actual economic and social stability. The resultant loss of neighborhood and community identity poses one of the most serious problems of the area at the present time: the need for the restoration of human neighborhood values to the district. This problem can be solved, to a great extent, by the organization of the neighborhood to fulfill the physical, social, and economic requirements of a stable community. With proper planning, such a community as Lower Roxbury may be stabilized, and become a very livable and attractive urban residential area.

C. POPULATION MAKE UP

The total population of the study area according to the latest 1950 Census Reports was 9,904, of which 8,362 are of negro origin. This fact is the strongest social characteristic and problem of the area. An investigation of the area reveals that the total population of the area as well as the percentage of white inhabitants have declined in the past few decades; whereas the percentage of negro inhabitants has increased. This trend has already established an almost solid bloc of one racial origin, and constitutes an unhealthy social condition of segregation. This is perhaps one of the strongest influences on the continuous spread of blight.

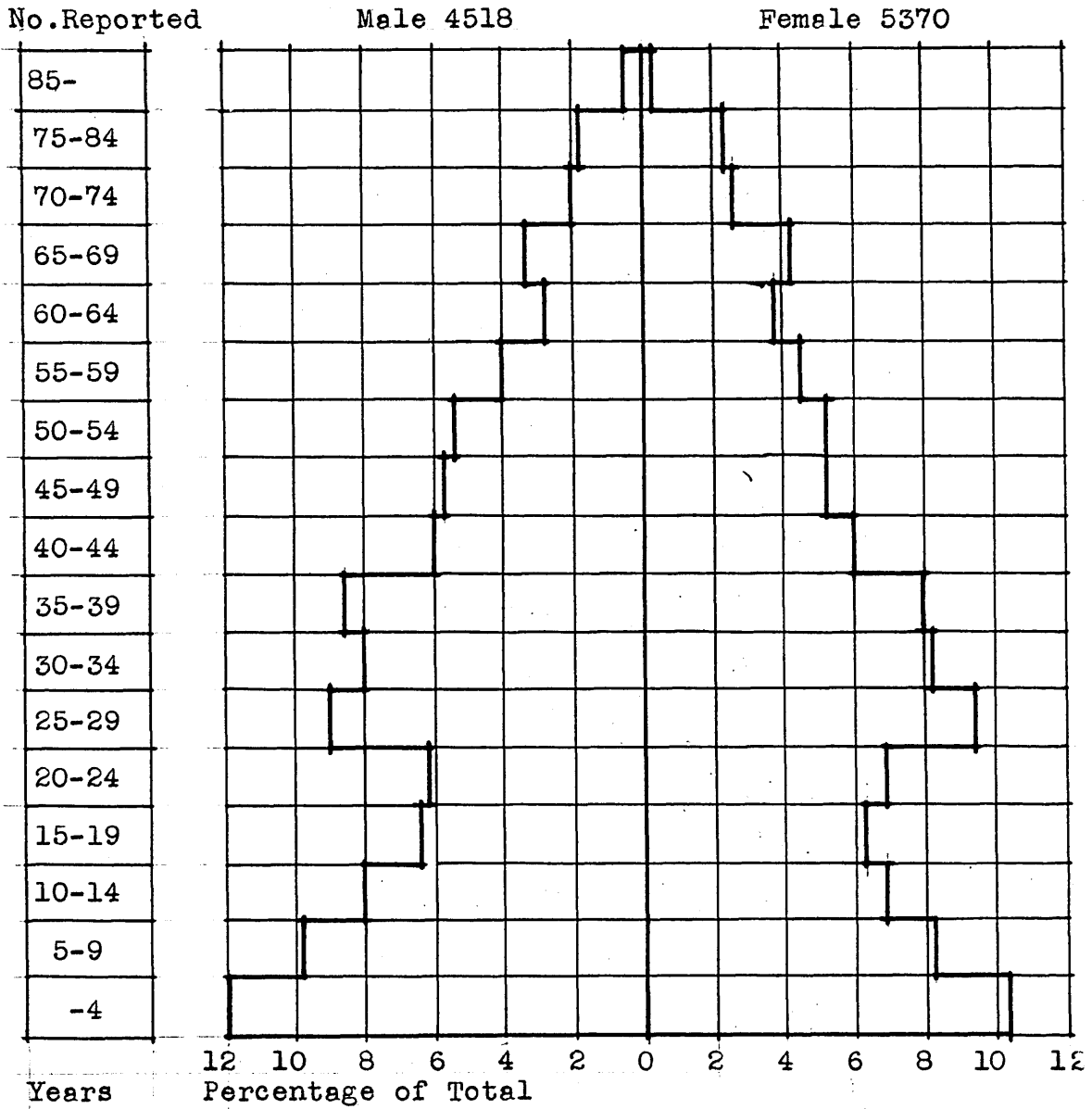
The average population per household in the area is 3.06 persons as compared with the national average of 3.6 (from 1950 Census). This is accounted for by the fact that 65% of the population is over 21 years of age; and of this age category, there is a large proportion of single, unrelated individuals, bachelors, widows, old folks, etc. Also, 13% of the population is composed of individuals of a transient nature moving into and out of the area continuously.

The employment status and major occupation groups reveal that roughly 80% of the present population is employed in the labor force. The median income for the area is

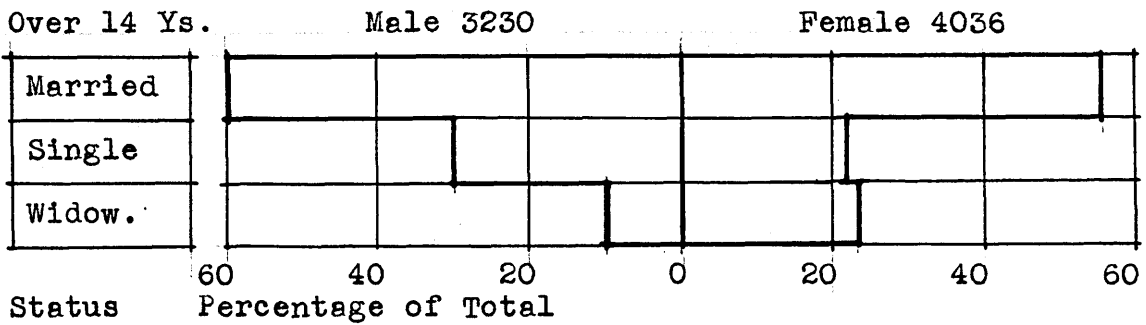
\$1,508 per year per individual or family earning unit.

Roxbury can, by use of proper planning, hold its present population; but it will probably suffer decreases in population unless the trend of physical deterioration is soon checked, and steps taken to restore the amenities of the neighborhood.

AGE DISTRIBUTION IN 1950



MARITAL STATUS IN 1950



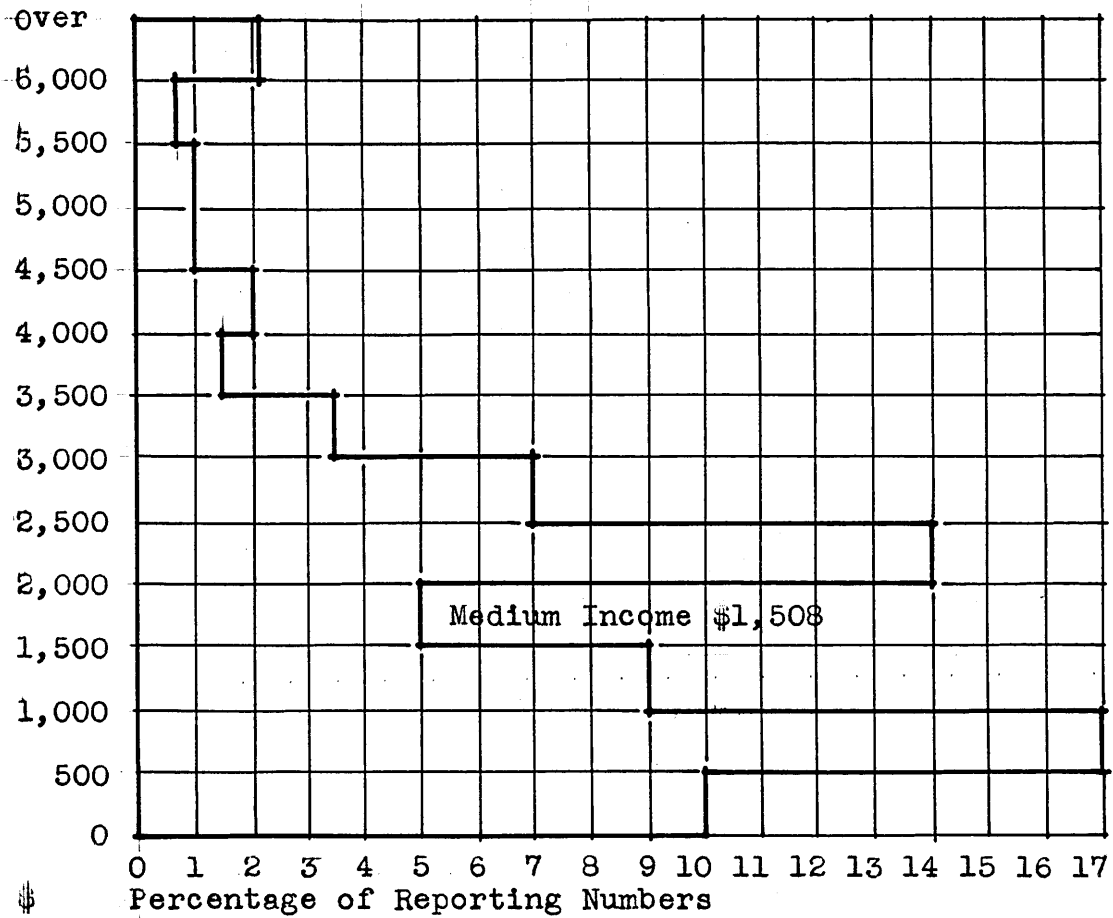
YEARS OF SCHOOL COMPLETED FOR
THE AREA

FROM 1950 CENSUS REPORTS

School years completed	Persons
No school years	135
Elementary: 1 - 4 yrs	540
5 - 6 yrs	705
7 yrs	512
8 yrs	1062
High School: 1 - 3 yrs	1255
4 yrs	942
College: 1 - 3 yrs	157
4 yrs & over	90
Median school years completed	8.7 yrs.

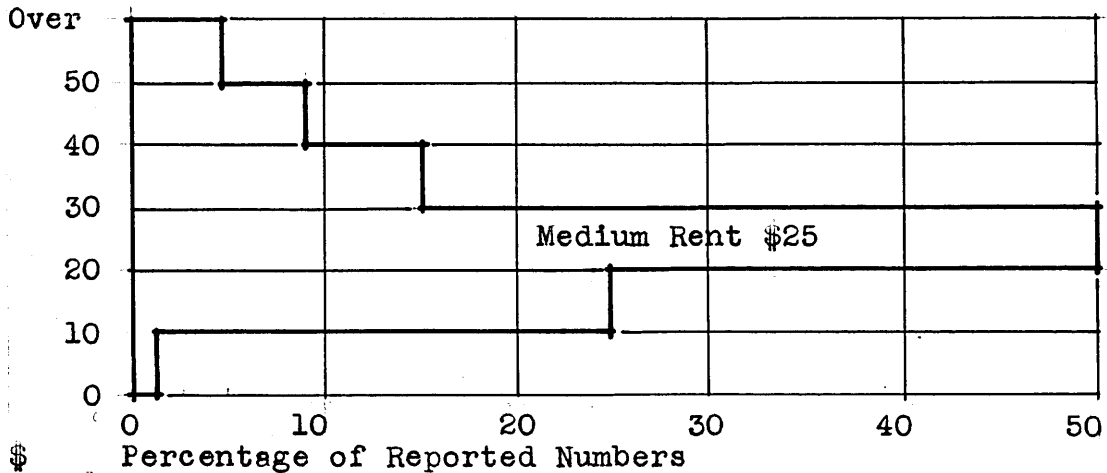
INCOME IN 1949

Number Reporting 3638 (Fam. & Indv.)



MONTHLY RENT PER UNIT





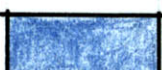
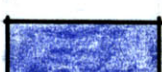
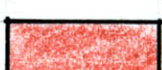



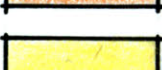
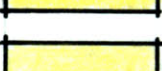
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EMPLOYMENT STATUS AND MAJOR OCCUPATIONS

Persons 14 years old and over	Male	Female
Labor Force	3,230	4,046
Employed	2,339	1,447
Unemployed	2,099	1,348
Not in Labor Force	891	2,589
Employed	2,099	1,348
Professional, technical	47	41
Managers, Officials	66	19
Sales Workers	33	35
Clerical	92	108
Craftsmen, Foremen	257	10
Operatives	421	479
Private Household Workers	44	384
Service Workers	539	235
Laborers	567	30

EXISTING LAND USE

-  Parking Lots
-  Public Open Space
-  Institutions and Semi Public Use
-  Wholesale Trade and Storage Warehouses
-  Storage Garages
-  Manufacturing
-  Retail Trade
-  Lodging Houses and Dormitories
-  3-Family Semi-Detached, 5-Family and over
3-Family Attached
-  Single or 2-Family Attached
-  Single or 2-Family Detached
-  Single Family Detached



D. EXISTING LAND USE

The predominating land use function of the area is for residential purposes. Heavy concentrations of shopping use appear along both sides of Washington Street, and to a lesser degree along Tremont Street. Scattered storage warehouses, garages, and light manufacturing uses occur in the narrow strip of land between Tremont Street and Columbus Avenue. These would probably be more conveniently placed and served by being located adjacent to the New York-New Haven- and Hartford Railroad facilities and yards across Columbus Avenue. This would also afford a more definite and desirable separation between the residential areas and the industry-warehouse-railroad development.

Adequate playground space and green open areas are generally lacking.

The predominant residential use is in the nature of 3-family semi-detached and 3-family attached dwelling units housing five families and over. This is convincing evidence of overcrowding in the inhabited dwellings, while condemned buildings stand vacant and half demolished nearby.

Schools are well distributed throughout the area but are lacking adequate playground facilities and are very old structures that should be condemned.

CIRCULATION PATTERNS



Future Proposed Subway Transit



Existing Elevated Railway



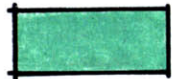
Planned Route - Inner Belt Route



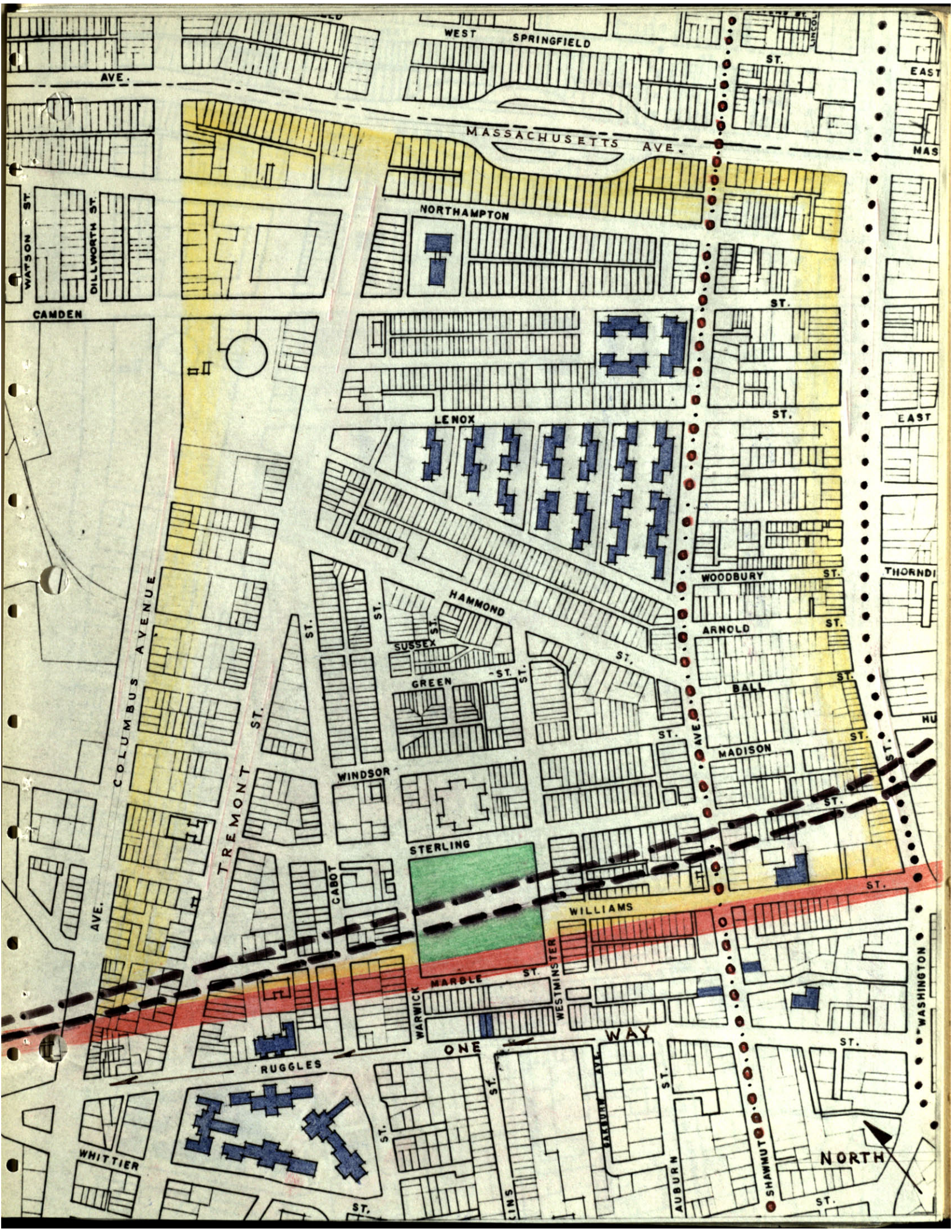
Proposed Belt Route To Save Madison Park



Buildings To Be Retained - Important



Madison Common Park



AVE.

WEST SPRINGFIELD

MASSACHUSETTS AVE.

WATSON ST.
DILLWORTH ST.

CAMDEN

NORTHAMPTON

COLUMBUS AVENUE

TREMONT ST.

LENOX

HAMMOND

SUSSEX ST.

GREEN ST.

WINDSOR

STERLING

CABOT ST.

WILLIAMS

WARWICK

MARBLE ST.

WAY

RUGGLES

ONE

WHITTIER

NORTH

EAST
MAS

EAST

THORNDI

HU

WASHINGTON

ST.

E. CIRCULATION PATTERNS

1. Streets and Highways

The area of Lower Roxbury under study has always commanded a very convenient and valuable urban location in relation to the City of Boston street system. It is the nearest to Boston, of many towns surrounding the city, being only 1 3/4 miles from the centre of the city, by way of Tremont Street and Washington Street. These are the two main traffic arteries from the city to the south west outlying districts.

Cambridge is also roughly 1 3/4 miles distant from Lower Roxbury by Massachusetts Avenue, which is the main connection at present between Cambridge and South Boston.

Much of the traffic from outlying towns to the south and south west must pass through or near Lower Roxbury in order to enter the city proper.

As a result of being located within such a heavily travelled area, many parts of Lower Roxbury are now deeply penetrated by through traffic, not only on the main streets but also on such residential streets as Northampton Street, Camden Street, Lenox Street, and Hammond Street, which act as relief routes and short cuts between Washington Street and

Tremont Street. Reestablishment of tolerable safety conditions requires the elimination of such through traffic from the residential area by means of a new system of private neighborhood roads.

Another problem of the study area is the rather illogical traffic pattern on the north west boundary of the site, where Tremont Street and Columbus Avenue closely parallel each other and gradually merge at Roxbury Crossing. Tremont Street is quite heavily travelled, but Columbus Avenue, running very nearby is sparsely used. It is quite obvious that only one of these two streets is necessary, and the other street could easily be eliminated.

2. Proposed Belt Route

The future location of the area under study will assume a great deal of importance when the proposed Belt Route is built, for the area is planned to fall within the inner sector of the route, encircling the inner ring of Cambridge and Boston. Such a Belt Route will afford speedy and convenient connection between the Lower Roxbury area and other urban areas as well as outlying towns.

3. Parking

Equally important as the problem of transportation is the problem of adequate parking facilities. The area under

study has very little or no off-street parking, and that which does exist is located in very few empty lots littered with trash and debris.

It is increasingly clear that there must be even less rather than more curb parking permitted, and more adequate means for a system of public and private off street parking. Such adequate parking must be provided both in the residential area and also near the secondary shopping strip of Washington Street.

4. Rapid Transit

The main rapid transit line to the south west districts of the city passes along the elevated railway on Washington Avenue, near the study area. Future plans indicate the removal of the elevated railway to be replaced by underground transit facilities running roughly under Shawmut Avenue. However, the rapid transit service does not yet adequately serve many other outlying cities and towns, and it is quite logical to assume that they would receive first priority in any immediate transit plans. Therefore, the elevated structure can probably be assumed to be replaced in about 10 or 15 years.

5. Pedestrian Ways

As in many other parts of the city, pedestrian patterns and

relationships within the study area and to surrounding districts are restricted to narrow sidewalks crowded between the busy street and the walls of the buildings. Many hazardous intersections and street crossings are necessary, and subjugate the pedestrian to a minor role, forcing his circulation patterns along the walls of buildings, and creating undesirable walking conditions. Only in such places as the location of garages and service stations does the pedestrian find the opportunity to stand in groups and feel a little more space around him. These become the natural congregating areas for the pedestrian and serve as the only available space for market wagons and small outdoor market stands for fruits and vegetables. This is especially typical along Washington Street which is a heavily travelled shopping strip.

It is quite obvious that the Lower Roxbury area is in dire need of an organized and classified circulation system that would separate the pedestrian from traffic hazards and noise, and similarly separate different types of traffic speeds and functions. It is also obvious that any major plans for such classified circulation must always be planned in relationship to the overall pattern for Boston.

E. TOPOGRAPHY AND PHYSICAL FEATURES

Lower Roxbury is composed of a relatively flat urban site. At an early time in the history of Boston, a great portion of what is now called Lower Roxbury was under the marshy waters of the Back Bay Fens that once spread over the area; and only a small portion of the present area was connected to Boston town by a narrow peninsula leading northeastward. As the city of Boston grew, the water areas between Boston and Lower Roxbury were gradually filled in and reclaimed; and today the area is a continuous filled flat land mass -- very similar to the condition of much of Back Bay.

At the present time, two strong physical features border Lower Roxbury area, to the North, and to the South. To the North, running parallel to Columbus Avenue, exists the New York - New Haven & Hartford Railroad with a ribbon development of light industry and storage yards. This zone forms a definite physical barrier between the Back Bay and South Boston. To the South, on Washington Avenue, the Elevated Railway forms the strongest physical feature bounding the area. It is responsible for the most depreciating physical influence of the area, causing noise, shadows, and a constant din on the street below.

The only other physical features that give a distinct reference

to the area are the main traffic streets: Massachusetts Avenue, Washington Street, Columbus Avenue, and Tremont Street.



F. HOUSING CONDITIONS

1. General Conditions of Housing

The physical setting of the residential area may be described as one of the worst blighted areas in the city of Boston, most in need of redevelopment. The major characteristic of the area is the large percentage of dilapidated and vacant buildings.

The inhabited buildings are characterized by overcrowding of population. A large part of the congestion is due to lack of adequate living facilities; and also due to landowners' efforts to maximize their slender incomes by additional income from rent. In most of the inhabited buildings every room is let out to tenants. The typical $3\frac{1}{2}$ story row house is occupied by 3 to 5 families. The quarters are tight, meagerly furnished and usually unheated. The only bathroom in the house is usually on the second floor, shared by all tenants. The direct contiguity of every building with adjoining buildings prevents side ventilation and adequate light.

Frequent examples exist where a family is occupying one small part of a dilapidated, and otherwise vacant and condemned building. This constitutes a constant source of hazard, as the dilapidated and vacant buildings are frequently collapsing and falling in.

The general conditions and inadequacies of housing facilities include the following:

- inadequate living space within dwellings
 - lack of light and sunshine
 - lack of fresh air and ventilation
 - lack of privacy and isolation
- inadequate space outside dwellings
 - lack of play areas
 - lack of plants and trees
 - inadequate yard space
 - undue proximity of traffic
- inadequate health facilities
 - poor heating
 - poor plumbing
 - poor toilet facilities
 - insanitation
 - hazards from fire and building collapse
 - lack of proper repairs
 - unsightliness

The median number of persons per dwelling unit is 2.6, and the median contract monthly rent is \$23.99 per dwelling unit.

NUMBER OF PERSONS/DWELLING UNIT*

	R_1	$\frac{1}{2}R_3$	$R_1 + \frac{1}{2}R_3$	%
All occupied dwelling units	2557	632	3189	
1 person/dwelling unit	521	127	648	15
2 "	711	179	890	30
3 "	514	167	681	20
4 "	352	86	438	15
5-6 "	342	86	432	15
7 or more "	113	37	150	5
Average			2.6	

Excluded from the dwelling unit count are:

living quarters with 5 or more lodgers,
institutions,
dormitories,
transient hotels,
tourist courts.

* From the 1950 Census Reports

2. Structural Condition of Existing Buildings

Except for the 1940 Lenox Street Public Housing Project, 98.5% of the buildings were built prior to 1910; and 48.6% are in a state of dilapidation or vacancy. The majority of buildings are $3\frac{1}{2}$ or 4 story brick buildings, containing some of the worst sub-standard housing conditions existent in the city. Interior framing, floors, and stairways are constructed of wood which has long started to deteriorate.

The following list indicates the approximate years in which the buildings were built:

Year Built	Number
Number reporting	3,195
1940 - later (Lenox Street Project)	380
1930 - 1939	0
1920 - 1929	47
1919 - earlier	2,767

The 1940 Lenox Street Housing Project containing some 380 dwelling units is in very sound condition, being 3 stories in height with partial basements, and is constructed of load bearing concrete block walls and reinforced concrete floor slabs. Heating consists of a central low-pressure steam plant, oil burning, with exposed risers, and direct cast iron radiation. Built in 1939, this project is one of sound buildings in good structural condition and maintenance. The life

expectancy of the buildings in this project is 60 years of useful service, with additional use possible if properly maintained. This will occur in the year 2,000.

3. Service Facilities and Physical Conditions

The conditions of physical facilities of the majority of buildings are well below adequate health standards. 48.6% of the dwellings have no private bath and are dilapidated; and 44.6% of the dwellings have no running water at all. 76.6% of the inhabited dwellings have no central heating facilities, leaving each apartment to find its own source of heat supply; and 4% of the inhabited dwellings, housing approximately 300 persons, are without any heat of any kind. Only 52% of the dwelling units have adequate mechanical refrigeration equipment for the storage of food.

In addition to sub-standard health facilities, there exist numerous other hazards that endanger human life such as poorly wired electrical facilities which are responsible for a number of fires each year in the area. Improper land drainage and storm drainage have undermined many building foundations, exposing hazards of collapse.

Inadequate street maintenance and garbage disposal constitute unhealthy pollution of the environment and the air. Garbage is left to accumulate in lanes, sideyards, and vacant lots, without any apparent garbage collection serv-

ice from the city.

In general, the lack of adequate physical and health facilities matches the state of physical dilapidation of the buildings.

CONDITION OF SERVICE FACILITIES IN DWELLINGS
(from 1950 Census Reports)

Condition of Plumbing

No private bath, and dilapidated	48.6%
No running water, and dilapidated	44.6%

Heating Conditions

Central heating	20%
Individual apartment heating (not specified)	76%
No heat	4%

Refrigeration Facilities

Mechanical refrigeration	38%
Ice	61%
None	1%

4. Existing Structures To Be Retained

The only existing structures worthy of retaining or rehabilitating are the Lenox Street Housing Units, built in 1940; and the Everett School. Otherwise, the remainder of the buildings are recommended to be gradually cleared to make way for gradual redevelopment on a complete scale.

The Lenox Street Housing Project was constructed in 1939-1940 at a cost of \$1,073,000.00. The buildings are structurally sound, and adequate for decent living conditions. The three story highstructures comprise a density of 55 families per net acre in a very comfortable manner with adequate open space, green courts, play yards, and service yards. A table of apartment distribution is attached.

LENOX STREET HOUSING PROJECT - 1940

APARTMENT DISTRIBUTION

Size	Apt's	Bedrooms	Rooms
3 room	144	144	432
4 room	39	78	156
4½ room	81	162	364½
5½ room	42	126	231
	<hr/>	<hr/>	<hr/>
Total	306	510	1,183½

Room Ratio - 3.87 rooms per apartment

Group consists of 13 buildings.

3 room apartments have 1 bedroom

4 and 4½ room apartments have 2 bedrooms

5½ room apartments have 3 bedrooms.

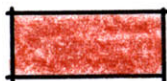
Construction Area:

Project area 250,609 sq.ft.

Construction area 70,874 sq.ft.

Per cent building coverage 28.3 %

INSTITUTIONS



Churches and Mission



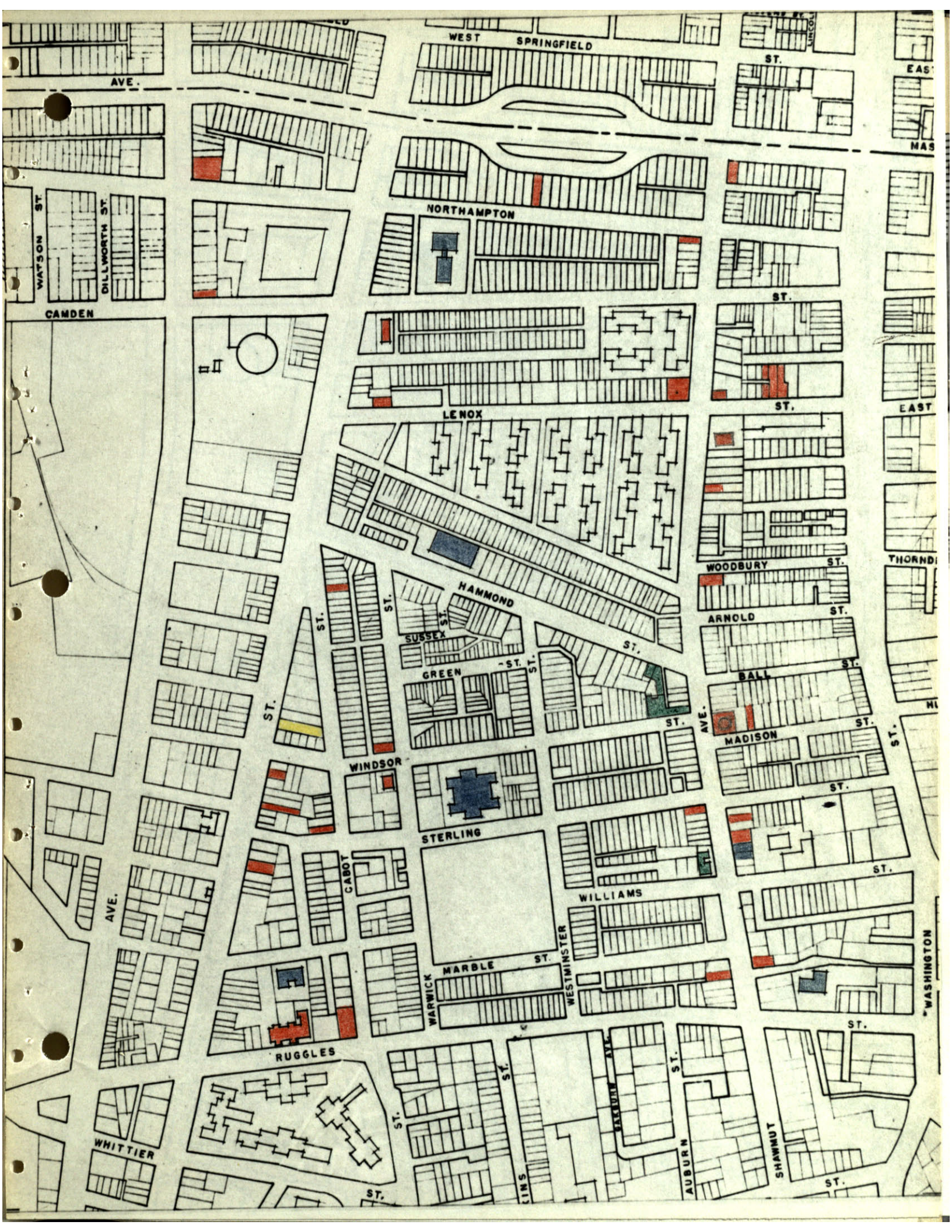
Schools



Community Houses and Settlements



Fire and Police Stations





G. SCHOOLS, CHURCHES, AND COMMUNITY FACILITIES

The study area includes within its boundaries the following public buildings:

- 4 public elementary schools (for grades 1 - 8)
- 1 private elementary school
- 2 social welfare community houses
- 29 church and mission houses
- 1 fire station.

Three of the existing elementary schools have been condemned and are scheduled to be demolished and replaced.

According to the 1950 Census reports for the area, educational characteristics reveal that the median number of school years completed is relatively low, being 8.7 years of school completed.

1. Condition of Existing School Sites

The four public elementary schools in the area were all built prior to 1890, and only one of them conforms to suitable safety conditions of present standards.

The school sites are particularly tight and squeezed between residential apartment blocks, with very little playground facilities for either during school hours or off-

hours. The cramped play areas that do exist are fenced in by foreboding wire fences and brick walls; and the ground areas are surfaced with hard black pavement, littered with broken glass and trash. The average school playground space is 37 sq.ft. per pupil, with no adequate facilities for any types of organized outdoor games such as baseball or soccer. As a result, the children are forced to play on hazardous streets as their demands for needed play space increase.



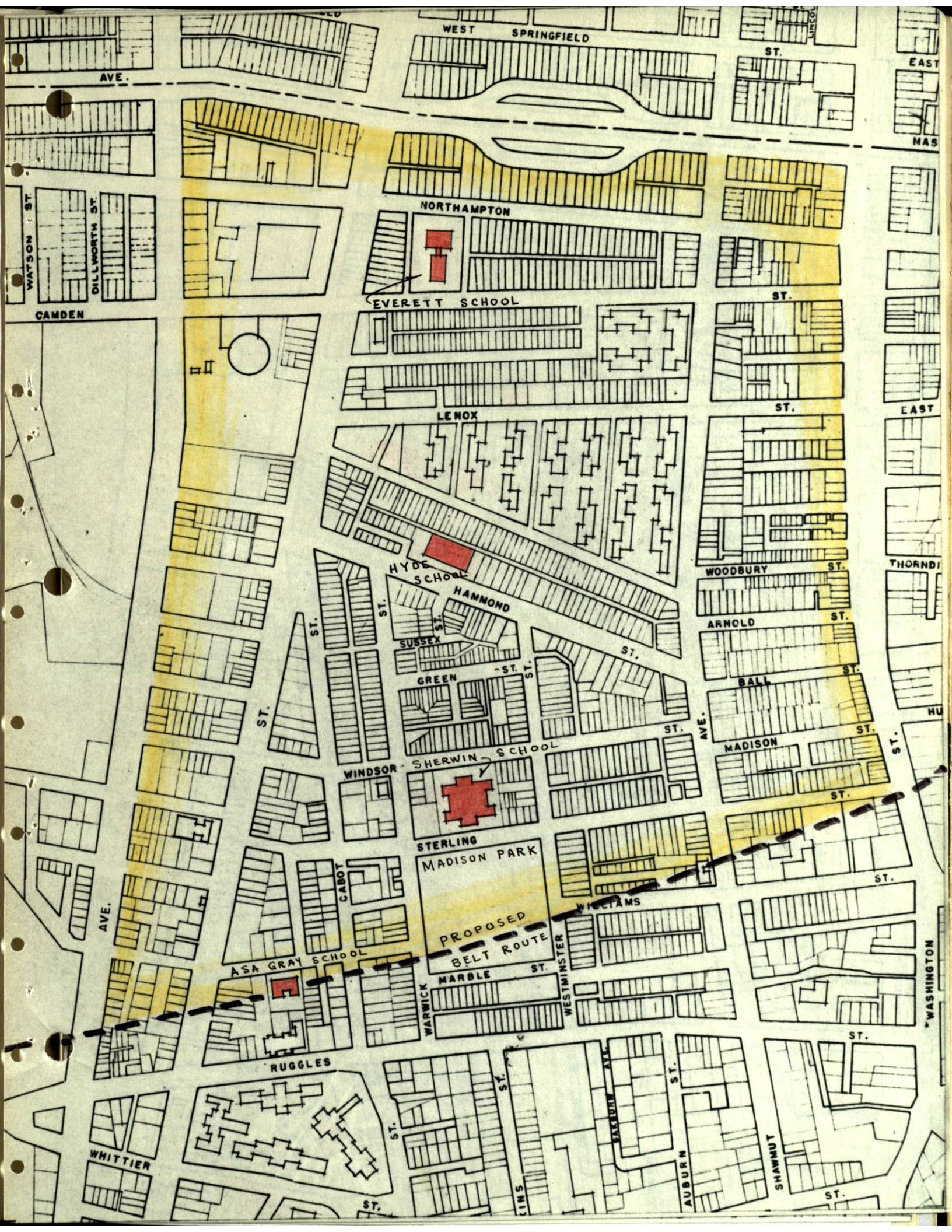
2. Condition of Existing School Buildings

The conditions of the existing educational facilities were investigated and reported for the Boston School Committee in 1950 by the Center for Field Studies of the Harvard Graduate School of Education. The report revealed the following conditions of the four public schools:

a. The Everett School is a $4\frac{1}{2}$ story brick structure, part of which was constructed in 1868, with a new wing added in 1916. The structure is in fairly sound condition, and with proper renovation it could very easily be retained for further use. However, it would be desirable to appropriate more surrounding land area for playground purposes. The assessed valuation of the site and building is \$73,000.

b. The Hyde School is a $3\frac{1}{2}$ story brick structure built prior to 1884, and its continued use as a school plant is not recommended. The building has a wooden interior, open stairwells, buckling floors, and a roof in poor condition. The lack of adequate exit from the small brick-enclosed site presents a constant hazard. The building has been recommended to be condemned and replaced.

c. The Sherwin School is a $3\frac{1}{2}$ story brick structure built in 1870, and it is also recommended for removal. Built in 1870, the outside walls show deterioration, interior walls are cracked, floors are badly worn and



DISTRIBUTION OF EXISTING SCHOOL PLAYGROUND SPACE



EVERETT SCHOOL

Grades 2 - 6

Pupils 420

Play space 24,800 sq. ft.

59 sq. ft. per pupil



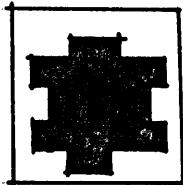
HYDE SCHOOL

Grades K - 2 ; 6 - 8

Pupils 420

Play space 8,850 sq. ft.

21 sq. ft. per pupil



SHERWIN SCHOOL

Grades 3 - 8

Pupils 420

Play space 16,060 sq. ft.

38.2 sq. ft. per pupil



ASA GRAY SCHOOL

Grades K - 3

Pupils 240

Play space 7,500 sq. ft.

31.2 sq. ft. per pupil

buckling, obsolete sanitary facilities are located in the basement, and the foundation shows evidence of settling.

d. The Asa Gray School likewise has a wooden interior and is an unattractive environment for young children. The outside walls are chipping, the floors are cracked, windows are high from the floors, and obsolete plumbing is found in the basement. Built in 1877, it is located on a small site approximately one-third of an acre in size. This school is also recommended to be condemned. The present location is on the proposed route of the Inner Belt Route Expressway.

FACILITIES OF SCHOOL BUILDINGS IN THE AREA

	Everett	Hyde	Sherwin	Asa Gray
Grades	2-6	K-2; 6-8	3-8	K-3
Classrooms	14	14	14	8
Health	1	1	1	1
Library	0	1	0	0
Auditorium	1	1	1	0
Gymnasium	0	0	0	0
Play Area	0	0	0	0
Cafeteria	0	0	0	0
Teachers' Room	2	1	2	1
Built in	1868	1884	1870	1877
Addition in	1916			
No. of Floors	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$
Capacity	420	420	420	240
Recommendation	Retain	Replace	Replace	Replace

3. Recommendations for Future School Facilities

The following recommendations were suggested by the Harvard Graduate School of Education after their investigation of the area:

a. Everett School should be renovated and retained for further use with the plan for attaining additional land for playgrounds.

b. Two new twenty-one room school buildings should be constructed to replace the three obsolete schools. The new structures should be located in and serve the same general areas.

4. ESTIMATED PUBLIC SCHOOL ENROLLMENT
FOR THE AREA

From a report for the Boston School Board by the Harvard
Graduate Center for Field Studies in Education:

Grade Group	1950	1955	1960
K-5	1126	1340	1292
K-6	1277	1665	1551
6-8	391	651	728
6-9	509	800	896
7-8	245	320	419
7-9	358	478	587
9-12	423	429	556
10-12	310	270	362

5. High School Facilities

The nearest secondary school facilities are outside the redevelopment study area roughly within fifteen minutes' walk. There is an English High School, a Girls' High School, and a Trade High School with this walking distance.

The estimated future enrollment of secondary students (grades 7-9) from the area is approximately 590-600; the estimated future enrollment of high school students (grades 9-12) from area is approximately 550-600.

For the present and immediate future it is assumed that these students will be served by high schools outside of the redevelopment area. However, in the event that future plans provide allowances for a high school for the area, it can well be located on the existing Carter's Playground near Columbus Avenue and Camden Street. The site is composed of approximately 8 acres, and could conveniently accommodate a combined elementary school and high school development on a campus-type plan.

6. Typical Churches and Mission Houses

The distribution and types of communal facilities within a neighborhood can often reflect existing social conditions and attitudes of an area. They can express social balance

and harmony, or they can express some hint of a social malady that is being helplessly treated by some feeble and isolated attempts of charity and good will.

The study area is a community which is characterized by a generous distribution of a certain type of facility - the religious mission house, or the church. The area includes 29 churches or mission houses operated by charity groups, various church organizations, and social workers. The function of such a number of charitable institutions often serves as congregating areas for young children and mothers - a haven that has at least a sense of cleanliness, goodwill, and organization. Many of the youth clubs, meetings, and organized community activities are directed by such church centers, which attempt to instill a sense of community and neighborliness.



H. GREEN OPEN AREAS AND PARKS

Usable green park space in the area is just as rare as is suitable school playground space. The only compensating factor in this case, however, is the fact that all the park space is concentrated in one "common", thereby constituting an appreciable contrast to the surrounding neighborhood. This is the only park area in the neighborhood, and although it constitutes only 12 sq.ft. of park area per person in the neighborhood, it is large enough to be enjoyed by the many that do share it.

Madison Common is a square park approximately 1 3/4 acres in area, and containing an abundance of beautiful large maple shade trees between 40 and 50 feet tall. At present, it also serves as much needed play space for the crowded and condemned Hyde School on the opposite side of Sterling Street.

Additional recreation playground space is provided outside the area, across Columbus Avenue, on Carter's Playground. This area comprises approximately 8 acres, and is the only local area available on which organized sports such as baseball can be played. As a result, it is highly organized and frequently used by local baseball teams.

Much more additional open space for playgrounds and park

space could be reclaimed from vacant lots and former sites of demolished buildings if they could be properly cleared and maintained. Such areas are presently characterized by dump piles of trash and uncollected garbage; dangerous breeding places for diseases, rats, and pollution of the air.

Particularly notable are the back lanes of the area, which are only used at present for piles of garbage and automobile parking space. These lanes possess an abundance of lush greenery in the form of shrubs, bushes, and trees, growing up from the garbage littered land. They could probably provide for much usable land area and playground space for children and adults if properly incorporated in any redevelopment scheme.

Future plans by the Massachusetts District Highway Commission propose to construct the Inner Belt Route expressway on such a route as to pass directly through the present site of Madison Common. The reason, of course, is the cheapness of availability of the land; but it fails to recognize the human values of the existing park to the neighborhood. The future route of the Belt Route could very easily be directed to cut through only one edge of the park, on Marble Street, and thereby save most of it. The basic limiting factor to be remembered are the indicated buildings that must be retained;

and they can very easily be saved with the proposed change that this thesis recommends.



I. SHOPPING FACILITIES

The two major types of shopping facilities serving the existing area are:

- the Washington Street heavy shopping strip
- and scattered retail outlets and conveniences along Columbus Avenue, Tremont Street, and throughout the area.

Washington Street is presently one of the most intensely used major shopping centers outside the downtown area. It serves a large portion of greater Roxbury and South Boston, catering primarily to the lower income bracket of shoppers. The number of retail shops, eating places, bars, and entertainment facilities is varied, and fulfills the shoppers' every needs.

A distinctive difference in use is set up between the opposite sides of the street. On the north side of Washington Street lie most of the daily used retail stores and shops, frequented mostly women and children. On the south side of the street are the many night activities such as bars, restaurants, and entertainment facilities which largely accommodate the male population. The difference between the two sides of the street is quite apparent and very striking.

In addition to the heavy, concentrated shopping services of Washington Street, the area is also served by a number of widely scattered convenience shops throughout various neighborhood areas. Slightly heavier sub-centers are scattered along Shawmut Avenue, Tremont Street, and Columbus Avenue, close to the fairly busy secondary traffic streets. In general, the shopping facilities are adequate and well distributed; but lack some semblance of zoning control.

It is important to recognize that both types of shopping facilities are necessary to serve the area: the heavy, concentrated retail activities on Washington Street, and the widely scattered local convenience shops.

A sound comprehensive plan for the shopping facility distribution should be based upon consolidation and improvement of existing major facilities; and proper distribution of convenience shops balanced throughout the area.

IV. R E Q U I R E M E N T S S T U D Y

A. Land use -- Site Planning

B. Circulation Patterns

C. Housing

D. Schools

E. Green Open Areas and Parks

F. Shopping Facilities

G. The Community Centre

A. LAND USE - - SITE PLANNING

A zoning plan sorts out land areas into zones of different functions. As such, it logically requires an organic system of separation and integration of the many mixed facilities necessary to the contained residential development. In such a system, communication elements such as neighborhood service roads, pedestrian walks, and parks should be kept free of other non-conforming functions having no purpose in them; and distributed so as to give an adequate connection between parts of the community, thereby giving a distinct form to individual neighborhood units.

1. PHYSICAL FACTORS AFFECTING SITE PLANNING

The planning of residential facilities must be related to the overall neighborhood plan, street and circulation layout, school locations, parks, and other communal facilities. Proper site planning should provide for the following physical factors:

- a. Adequate light and ventilation in buildings, and groups of buildings.
- b. Adequate privacy.
- c. Protection against undesirable noise and fumes.
- d. Outdoor space for daily needs and enjoyment.
- e. Safety from traffic hazards; and adequate parking
- f. Convenient proximity to such facilities as local

stores, school, community centre, playground etc...

2. Sociological Factors Affecting Site Planning

In addition to the physical factors governing site-planning, sociological objectives also play an important influence on the design and the desired affect on the community.

Proper physical planning should provide convenient opportunities for an atmosphere of communal living and neighborliness, the objective being to instill a sense of "community."

However, this sense of "community" should not be an imposed one; for the individual should feel free to choose either an intimate relationship with the neighborhood, or to live apart from its communal ties. A proper mixture of dwelling types and activities would give a sense of variety and interest to the inhabitant, as well as to the visitor.

3. Specific Recommendations

- a. Develop the 106 acres site into a superblock system with its own contained organic road system and communications patterns. This superblock should be free of traffic having no function other than serving the area.
- b. Retain the highly dense Washington Street Shopping Strip as the major shopping centre for South Boston

and Roxbury. This function would also act as a "buffer" strip between the residential development and busy Washington Street.

- c. Develop a mixed residential development for a population of 10,000 persons:
 - gross density 94.3 persons per gross acre
 - net residential density 135 persons per net acre;
 - or 45 families per net residential acre.
- d. Distribute schools, community facilities, and parks within the development so as to provide natural open "breathing" spaces.
- e. Retain the existing Carter's Playground, across Columbus Avenue, for a senior playfield of approximately eight acres; and a future possible site for a high school.

B. CIRCULATION PATTERNS

The circulation system of the development should be based upon the basic principle of the superblock. There should be no major traffic streets within the neighborhood, and the streets should be so laid out as to prevent through traffic. Residences should be served by roads whose layout allows only the traffic serving the dwelling group. This may be accomplished by loop or dead-end streets. Pedestrian circulation should be free, direct, and pleasant, with no need to be limited only along traffic streets.

The circulation pattern should coordinate with the entire area in order to achieve certain objectives regarding the community layout. The major neighborhood feeder streets might well be forced to pass the community centre when entering or leaving the community. This would provide the community centre as the focal point of the development, and give it a sense of activity.

1. Design of Streets

The streets and circulation elements will generally comprise from 15 percent to 25 percent of the total land area. The basic consideration governing pavement width is that there be one free and clear traffic lane at all times, even with occasional curb parking on streets not permitted for parking.

One way residential service streets with one side of curb parking should be 20 feet in order to insure one free lane of moving traffic. The neighborhood two-way feeder street should be at least 40 feet in order to ensure at least one traffic lane in each direction with occasional "live" parking on both sides.

2. Pedestrian Circulation

The circulation system should be laid out as to minimize accidents to pedestrians, especially children. Walks from all dwellings should provide convenient and safe access to elementary schools, shops, playgrounds, and other chief pedestrian objectives. In addition, paved walks are used by children for roller skating, riding bicycles, etc...

C. HOUSING

1. Social Objectives

The eventual objective of housing the population of 10,000 persons would be a well integrated community of mixed social and racial inhabitants. However, this cannot be accomplished by the physical design of the area, for the most immediate problem is that of providing necessary rehousing for the inhabitants of the blighted buildings. It is hoped that through a period of years and through the transiency of a portion of the population, controlled limitations can be practised in order to admit such a percentage of varied income and racial inhabitants as to give a well balanced and mixed development.

A proper distribution of mixed income and social classes can only be successful, in the end, by a citywide coordination towards solving this problem which is affecting many residential districts of the city as well as Lower Roxbury.

A successful operation of the proposed Community Health Centre should also offer some means towards establishing a social integration within the community.

2. Site Planning

The planning of residential facilities is closely related to

all other elements of the neighborhood plan such as street layout and location of schools and community facilities and shopping centres. The site planning should provide for the following:

- light and air in the buildings
- protection against noise
- outdoor space for family needs
- safety from accidents and fire

3. Residential Density

The total population which must be rehoused is 10,000 persons, within a community of 106 acres. It would be undesirable to raise the density in this urban area, as many of Boston's urban residential areas are rapidly losing residents to the suburbs. The objective should be to maintain the same population as the present, and to create a living human environment with all the necessary amenities for happy and healthy urban living.

The objective net density of the residential development is forty-five families per net acre.

4. Dwelling Unit Distribution

At a density of 45 families per net acre, the dwelling units should comprise of a mixed development of three story walk-ups, and multi story slabs and towers. All the families with

children should preferably be kept to the three storey walk-ups, or the lower three storeys of the multi storey buildings; with the higher floors of one bedroom and efficiency apartments for young married or childless couples, and single persons.

The scale of tall buildings must be matched by the scale of open space around them so as to provide sufficient open space and green area between tall buildings and lower ones. These large open spaces around the multi-storey apartment buildings may double in function as neighborhood park area, playgrounds school sites, etc...

The scale of the lower three storey walk-up apartments may be more intimate and private, providing green outdoor space for family activities and children. Groups of various dwelling units should then be connected with each other by a sequence of these open areas.

In addition to the housing layout, the residential area requires the necessary local conveniences and social amenities that go to make up the character of a neighborhood. These would include close proximity of nursery schools, schools, playgrounds, local shopping conveniences, etc...

D. SCHOOLS

The school system for the redevelopment area must provide adequate educational facilities for the elementary grades one to six, as well as nursery schools and kindergartens. Junior high school and high school facilities are presently available outside the area, and offer a close proximity within eight minutes walking distance from the redevelopment area. However, in the event that a new combined high school should be available for the area, it can be sited very conveniently on the present location of Carter's Playgrounds, on an eight acre site across Columbus Avenue from the redevelopment area.

1. School Distribution

The school distribution layout is intended to be distributed within the community so as to provide convenient proximity for the residential dwellings to safe and adequate playgrounds for children, and open areas between groups of dwelling complexes.

The proposed plan for schools should be in keeping with the future program proposed by the City of Boston School Board.

The program includes:

- the condemnation and demolition of three existing schools (Sherwin, Hyde, and Gray Schools)
- the retention of the existing Everett School

- and the addition of two new elementary schools for the area to replace the three condemned schools.

2. School System

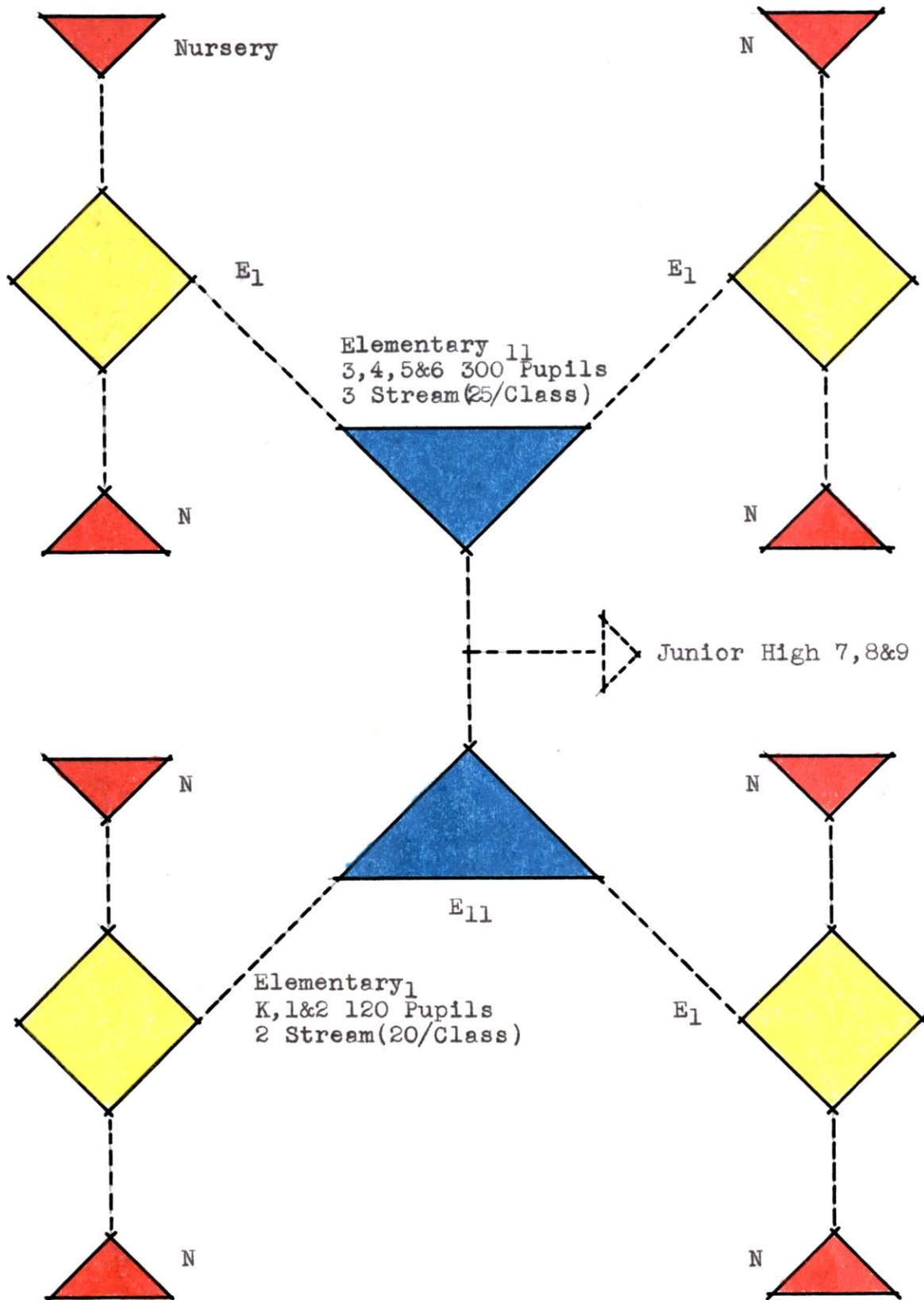
The school system proposed by this thesis is in keeping with the future School Board plans for the area; but in place of building two new elementary schools, this thesis proposes the building of one new elementary school for grades three to six, and distributing four different groups of "Kindergarten, Grades one and two" schools within the area, in direct relation to the main residential groupings.

Such a distribution would be desirable, as it would offer small children from kindergarten age to grade two, closer proximity to the homes, with a domestic scale of environment.

In addition there should be nurseries scattered throughout the area, possibly on the ground floor of the multi-storey apartment buildings. There would be approximately thirty children of nursery school age per 1,000 persons of population; and one supervisor or attendant should not have more than fifteen or twenty young children under care.

The main elementary schools providing for classes from grades three to six may be of a larger scale with more adequate large open playfields and spaces for organized sports and games. Two such elementary schools would serve the area adequately.

PROPOSED SCHOOL SYSTEM



E. GREEN OPEN AREAS AND PARKS

1. Park Connections with Surrounding Districts

An efficient park system should help to relate the redevelopment area to the surrounding districts, and to the rest of the city in general. This can be attained by the consideration of the following specific proposals:

- a. preservation of Madison Common and Massachusetts Avenue oval
- b. pedestrian connections to link the redevelopment area with -
 - the Back Bay Fens Park
 - the downtown park area
 - the south side of Washington Street
 - West Roxbury.

2. Neighborhood Playgrounds

The most important among areas for active recreation is the playground, primarily conceived for children from six to fifteen years of age, but also considered for general use.

The distribution of playgrounds in a neighborhood should be based on:

- walking distance of two to three minutes
- adequacy of existing play space

- location of schools
- distribution of child population
- traffic or other hazards

Playgrounds should be distributed and located such that they can share facilities with elementary school sites or primary school areas.

Every playground must provide for a variety of activities. For juniors, there should be provisions for unorganized and varied play space, sand boxes, and a wading pool. There should also be provisions for the following:

- field for games such as soccer and baseball
- surfaced areas for court games such as tennis, volleyball, badminton, paddle tennis, and basketball
- shelter buildings with toilets and wash bowls
- drinking fountains
- bicycle racks

Proper surfacing for the playgrounds is important for the protection of children. Surfaces of general play courts should be resilient, dust free, and quick drying, such as cork-aggregate asphalt.

The individual playground area may be as little as $\frac{1}{2}$ acre or 120 square feet per child using it; or 159 square feet per family in the neighborhood.

Specific recommendations -- use general site location of Everett School for one major playground development -- also consider existing Madison Common Park as a second major playground development and a possible school location.

3. Tot Lots

In higher density neighborhoods, it is necessary to provide safe play space for small children under six years of age. In general, no large city can logically afford the cost involved in establishing specific play-lots. Such play areas should therefore be incorporated as a part of the design of the individual neighborhood unit, or group of dwellings. These tot-lots or play areas should derive from the domestic environment, and can be any appreciable size within the unit.

4. Senior Playfields

The development of independent community interests within a large city such as Boston makes the recognition of well-defined districts a factor in planning a system of playfields and parks. Because of the size and adaptability to location factors, playfields can often be used advantageously as buffers between residential sections and other land uses such as industry or heavy traffic. Such a playfield should not be near the centre of a community but rather to one side or edge of it.

Large areas primarily for active play and a variety of organized

sports such as softball, football, and soccer may be as little as three acres or 750 square feet for every participant; but more preferably around seven acres or one acre per 1,000 people within the community.

Specific Recommendations -- use eight acre site of Carter's Playground for playfields, and future possible site for High School.

5. Neighborhood Parks

In addition to space for active recreation, there is also need for open space near homes for the general purpose of physical and psychological health. The neighborhood park system should be a varied one, with interesting walks for pedestrian enjoyment leading through a sequence of various green spaces, and uses, connecting various community facilities such as schools, community centre, churches, etc...

Chief requirements are shade, walks, benches, and pleasant variety for passive enjoyment. A minimum of one and a half to two acres is recommended.

As the park or passive recreation area need not be all in one location it may include land surrounding the community centre buildings and other land set aside for separation between various parts of the neighborhood. An informal free-flowing

design of park space is desirable with finger parks connecting the various residential areas with community areas so that many families may enjoy close proximity to a park or may walk to it, or through it for various other activities. Park areas may be broken up into separate small units that are interconnected by pedestrian paths and landscaped strips.

6. Coordination of Open Spaces

Finally, it should be recognized that green open areas, playgrounds, and parks in a high density urban neighborhood should be coordinated and used in multi-purpose ways in order to economize and take full advantage of the open areas. Such examples are:

- school sites and neighborhood playgrounds sharing common locations, and being capable of use for all hours and seasons.
- open areas and playgrounds also doubling as required open space around full multi-storey apartments
- employing parks and open space as "buffer" zones

RECOMMENDED STANDARDS FOR PARKS
FOR MULTI FAMILY DEVELOPMENT

Neighborhood Playground Size for Community of 10,000 persons
(2,750 families)

Total Acres10 acres
Acres per 1,000 persons	1 acre
Square feet per family.	159 sq.ft.

Neighborhood Park Size for Community of 10,000 persons

Total Acres10 acres
Park Acres per 1,000 persons	1 acre
Square feet per family.	159 sq.ft.

F. SHOPPING FACILITIES

Two types of shopping facilities will be required in relation to the redevelopment:

- a heavily used shopping strip along Washington Street which is the major shopping centre (outside of downtown Boston) for residents of Roxbury and South Boston
- local neighborhood stores and facilities scattered throughout the community

1. Washington Street Shopping Strip

The redevelopment of major shopping facilities along Washington Street is both necessary (according to the proposed Boston Land Use Plan), and desirable, as the location is presently useful to a large population from Roxbury and South Boston; and it is very highly economically supported. Investment into such a centre would be very promising and profitable. Use would be unlimited in types and kinds of retail shops in this centre.

The chief planning consideration is to ensure enough control over the physical plan of the shopping area so as to preserve the design coordination in relation to the residential community development. Such a major shopping centre would benefit the residential development by its convenient proximity; but it would also serve as the major centre for many shoppers from

outside the area. Therefore, the planning of the shopping centre must include suitable separation and circulation so as not to conflict with the privacy of the residential area. Furthermore, it can effectively provide a buffer strip between the residential development and Washington Street. The design should also prevent conflict between the three types of circulation: pedestrian shoppers, shoppers in automobiles, and vehicles serving the stores.

WASHINGTON STREET MAJOR SHOPPING CENTRE - SPACE ALLOWANCES

Component Uses:

Ground area of buildings:	sq. ft.	50,000 sq. ft.
Customer and auto parking:	sq. ft.	100,000 sq. ft.
Gas service station:	sq. ft.	48,000 sq. ft.
Circulation, setback, and service:	sq.ft. .	50,000 sq. ft.

Total Uses:

Square feet	248,000 sq. ft.
Acres	6.0 acres
Acres per 1,000 persons	.6 acres
Square feet per family	90.0 sq. ft.

2. Local Shopping Facilities

In addition to the major shopping centre, for heavy retail use, it is most important to provide locations for possible small local shops run by individual shopkeepers for the convenience of the surrounding neighborhood. Such facilities are very essential for the social form of the neighborhoods. Exact requirements cannot be predicted but they would include the following facilities:

- local confectioners and grocery stores
- specialty food shops, bakeries, delicatessen
- drugstore, magazine shop
- barber shop, beauty parlor, laundry and dry cleaning service, shoe repair
- auto service and filling station
- dry goods store
- small restaurant and soda bar.

Such local shopping facilities should be well distributed for the convenience of the residents and welfare of the small shopkeeper. Control is certainly necessary, however, so that such shops cannot be harmfully located.

Specific recommendations - such local shops could well be located on the ground floor of the multi-storey apartment buildings - a certain group could be located in the community centre grouping.

G. THE COMMUNITY CENTRE

The Community Centre has a great possibility of giving the residential development a sense of social coherence and community spirit. It should be located as near as possible to the heart of the site, and reached easily by pedestrian malls and green walkways, from the dwelling groups. The main roads entering or leaving the redevelopment area might well be forced to pass by the community centre so that it becomes well apparent and familiar with all the residents; thereby encouraging their use of and participation in the centre.

The Community Centre group should include the following:

- a plaza
- a Community Health building
- a Community Branch Library
- a Workshop and Crafts building
- a small group of local convenience shopping facilities.

REQUIREMENTS FOR COMMUNITY CENTRE - approximately four acres.

1. The Community Health Building

This thesis recognizes that the problem of urban blight cannot be solved by the mere redevelopment of blighted living conditions.

The problem lies much deeper at the heart of human and social illness within the society. With this thought in mind, this thesis proposes a new social organism in the form of a special kind of community building.

A new kind of Social Community Health Centre is proposed to be integrated into the plan of the community. It may be described as an integrated - preventive - clinical - public health teaching - rehabilitational - recreational centre, administered by the coordinated efforts of the many medical and social service groups already operating independently in the area. At present, these welfare groups have provided the only sense of community activity within the blighted area. Such groups are the Harvard University Cooper House, the City Settlement House, and various other religious or social welfare groups. However, their divided efforts have been to very little avail to the total community. Together, they could organize a very active community centre not only for the recreational enjoyment, but also for the social well-being of the residents.

The proposed plan would be to integrate a small teaching hospital into the design of the community centre, (very similar to the Peckham Health Experiment in England.)

Such a Community Centre would act as a research unit and case study classroom for which many medical people and social

scientists are so avid. However, the main and primary objective of the Community Health Centre would be to foster good will and the spirit of a friendly integrated community, with activities for everyone.

REQUIREMENTS FOR THE COMMUNITY BUILDING --

(Approximately 12,000 sq.ft.)

- a. multi purpose indoor space for social events, recreation, indoor sports, assemblies, etc...
- b. several lounge areas with exhibits
- c. small game rooms for table tennis, chess, card games, meetings, parties, etc...
- d. classrooms and lecture rooms for adult education, vocations, etc...
- e. kitchen preparation area and snack lounge
- f. dressing rooms - boys and girls, with steam baths
- g. storage areas for chairs, games, and facilities
- h. minimum medical and office space for staff

2. Community Branch Library

The Community Branch Library would be built by the Public Library system and should be shared by adults and children, as well as the local neighborhood schools. As a part of the community buildings group it should occupy a quiet portion of the site and possibly have an outdoor reading court.

REQUIREMENTS FOR THE LIBRARY -- (Approximately 6,000 sq. ft.)

- a. main adult reading room
- b. main children's area
- c. stacks
- d. lounge and exhibits
- e. music rooms
- f. several lecture rooms
- g. reading court

3. Work Shop and Crafts

The work shop, crafts, and hobby facilities are an extension of the functions of the Community Building, and should serve as opportunities for children to develop creative activities; for fathers and boys to build household furnishings, etc...; for girls and mothers to learn food nutrition, cooking, and home economics. Other activities could include leather work, ceramics, painting and sculpture, metal work, sewing, weaving, etc... These activities could also aid in the psychological rehabilitation and treatment of persons requiring care and personal development, through the Community Health Centre.

REQUIREMENTS FOR THE COMMUNITY WORK SHOP --

(Approximately 6,000 sq. ft.)

4. Local Retail Shops

A small group of local retail shops could relate very well within the Community Centre area. It could possibly contain the following:

- a service and filling station
- a delicatessen
- a drug store
- a barber and hairdresser
- several confectioneries
- flower shop
- soda bar
- outdoor restaurant

V. THE PROGRAM

A. Land Use -- Site Planning

B. Circulation Patterns

C. Housing

D. Schools

E. Shopping Facilities

F. The Community Centre

A. PROPOSED LAND USE REQUIREMENTS -- SUPERBLOCK

Total Area of Site - Superblock	106	Acres
Washington Street Shopping Strip	6.6	Acres
Community Green Park Areas	8.4	Acres
School Sites, Community Centre and Playgrounds	21.0	Acres
Residential Land Area	74	Acres

Total Population -- 10,000 persons

Gross density -- 94.3 persons per gross acre

Net residential density -- 45 families per net residential
acre or 135 persons per net acre

B. CIRCULATION PATTERNS -- (Approximately 15% to 20% of total land area.)

OBJECTIVES:

1. Superblock system with no through traffic
2. Neighborhood feeder streets (40 feet wide) to focus on the Community Centre
3. One way service roads (20 feet wide) to groups of dwellings
4. Pedestrian malls and walkways to form a continuous pedestrian greenway and walkway connecting dwelling areas to other dwellings, play areas, schools, and the community centre

C. HOUSING PROGRAM

UNIT DISTRIBUTION

Bedrooms	High		Low		Total	%
	New	Exist.	New			
0	428				428	13
1	760	200			960	30
2	552	220			772	25
3	144	80	256		480	15
4		50	350		400	12
Over			160		160	5
Total	1,884	550	766		3,200	

Percentage in High: 60%

" " Low : 40%

UNIT DISTRIBUTION IN HIGH RISE

Bedrooms	Towers I	Towers II	Slabs	Total
0	108		320	428
1	324	180	256	760
2	108	180	192	552
3			144	144
	540	360	912	1,884

Tower I:

18 floors	9 fl.	2 two bedr.units	- 18	90 units
		2 one " "	- 18	
	9 fl.	4 one " "	- 36	
		2 efficiency " "	- 18	
6 Tower I		108 efficiency units		
		324 one bedroom "		540 units
		108 two " "		

Tower II:

18 fl.	2 one bedr.units	- 36	72 units
	2 two " "	- 36	
5 Tower II	180 one bedr. units		
	180 two " "		360 units

Slabs:

11 floors	3 fl.	6 3 bedr.units	- 18
		5 efficiency "	- 40
	8 fl.	4 one bedr. "	- 32
	3 two " "	- 24	102 units
8 Slabs		320 efficiency units	
		256 one bedr. "	
		192 two " "	
		144 3 " "	
			912 units

D. SCHOOL PROGRAM

1. Retain existing Everett School which has 14 classrooms for an elementary school for grades three to six

- three stream school for grades three, four, five, and six
- 300 pupils (25 pupils per classroom)
- additional three acres required for playground area.

2. New elementary school for grades three to six

- three stream school for grades three, four, five, and six
- 300 pupils (25 pupils per classroom)
- building coverage 25,000 sq. ft.
- service lawn, parking, 32,000 sq. ft.
- margin for expansion (20%) 11,400 sq. ft.
- playfields approximately three acres
- total area in acres 4.5 acres

3. "Kindergarten, Grades one and two" school -- four such groups will be required.

- two stream school for 120 children (20 per classroom)
 - 40 children for kindergarten
 - 40 children for Grade 1
 - 40 children for Grade 2
- Building coverage -- 14,000 sq. ft.
- total area in acres approximately 2.5 acres.

4. Nurseries distributed adequately throughout the area
- approximately 15 attendant units of 15 or 20 children per attendant.
 - possibly located on the ground floor of multi-storey buildings.

E. GREEN OPEN AREAS, PARKS, AND PLAYGROUNDS --

Approximately 25 acres

1. Preservation of Madison Park Common ($2\frac{1}{2}$ acres) by slightly re-routing proposed Belt route expressway.
2. Converting Tremont Street into a pedestrian greenway strip from Warren Avenue to Massachusetts Avenue.
3. Pedestrian walk to the Back Bay Fens, (10 minutes walk), by way of Camden Avenue.
4. Landscaped pedestrian overpasses across Belt Route and Ruggles Street to West Roxbury.
5. Preservation of Massachusetts Avenue oval.
6. Retention of Carter's Playground (8 acres) for Senior playground and future possible site for high school.
7. A "Common" Park area - 2.5 acres - between the residential area and the Washington Street shopping strip.
8. Site for Community Centre - 3 acres.
9. Two elementary school sites and combined playgrounds at four acres each (8 acres).

10. Four primary school sites and play areas at 2.5 acres each (10 acres).

11. Adequate pedestrian walks and connections between the above park system - approximate total 3.4 acres.

Total public open area and green space - 29.4 acres - 122.1 sq. ft. per person.

F. SHOPPING FACILITIES

1. Washington Street Shopping Strip -- 6.6 acres

- a. Building area 63,000 sq. ft.
- b. Customer and auto parking 100,000 sq. ft.
- c. Gas service station 48,000 sq. ft.
- d. Circulation, pedestrian areas,
and service 63,000 sq. ft.

2. Local Shopping Facilities

- a. Provide adequate local shopping and distributed facilities for:
 - confectioners
 - delicatessens
 - drugstores
 - barber shops
 - auto service station
 - etc...

These could very well be located on the ground floor of multi-storey apartment buildings.

3. Recommendations

- a. sufficient privacy between heavy shopping and residential area

- b. shopping strip to serve as a buffer between residential areas and Washington Street
- c. suitable distribution in controlled locations

G. THE COMMUNITY CENTRE -- SITE: Approximately four acres

1. Community Building -- approximately 13,000 sq. ft.

- multi purpose indoor space
- several lounge areas and exhibits
- game rooms
- classrooms, lecture rooms
- kitchen preparation and snack bar
- dressing rooms
- storage areas for chairs, games, etc...
- minimum medical and office space for staff

2. Community Branch Library -- approximately 6,000 sq. ft.

- main adult reading room
- children's area
- stacks
- lounge and exhibits
- music rooms
- several lecture rooms
- reading court

3. Work Shop and Crafts -- approximately 6,000 sq. ft.

- hobbies
- arts and crafts

- classrooms
- exhibition area
- central equipment and storage control
- occupational therapy aids
- mental therapy aids

4. Local Retail Shops -- undetermined area

- service filling station
- a delicatessen
- a drug store
- a barber
- flower shop
- outdoor restaurant

5. General Recommendations

- Community Centre as near as possible to heart of the site
- focus for the other community open green spaces and greenways
- focus of main roads entering the site, but little parking except for service
- pedestrian connection with entire community

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