

RESIDENTIAL REDEVELOPMENT OF THE WEST END OF BOSTON

Submitted in partial fulfillment  
of the requirements for the degree  
of Bachelor of Architecture at The  
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Dear Dean Belluschi:

In partial fulfillment of the requirements for the degree of Bachelor of Architecture, I submit the following thesis entitled "Residential Redevelopment of the West End of Boston."

Sincerely yours,

William D. Warner

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- This thesis is concerned with the redevelopment of the West End of Boston for a population of 3,000 families on a site of 48 acres.
- The plan is to provide for the proper quantity, quality, and disposition of facilities for the housing, recreation, education, religion, social activities, shopping, service, parking, and circulation requirements of the community.
- The solution is concerned with the total environment of the community as a place for maximum fulfillment of urban living rather than with the purely statistical aspects of the housing problem.

.....CHARACTERISTICS OF THE SITE

## ● HISTORICAL SKETCH

## ● THE LAND

From the earliest times until the first part of the 19th century the West End was a peninsula separated from the North End by the Mill Pond with its busy trading and manufacturing area. Three peaks dominated the land, and water reached into its coves.

(Tremont Street derived its name from these hills.)

During the 19th century and particularly in the first three decades fill was obtained from these hills in such great amounts as to fill in Mill Pond, expand the land area of the West End considerably, and fill in much of the Back Bay area.<sup>1</sup>

## ● THE PEOPLE

A social line has always existed which has separated the south slope of Beacon Hill from the rest of the West End. In about 1800 a syndicate known as the Mount Vernon Proprietors, comprising of Jonathan Mason, Harrison Gray Otis, and Charles Bulfinch, bought up the land on Beacon Hill and built a residential development in which the streets were laid out to minimize north-south movement. This was done in an effort to "ensure the upper class character of the southern slope of Beacon Hill".<sup>2</sup> This is partly

responsible for there being three distinct neighborhoods in the West End: Beacon Hill with its street definition, the rest of the area which is divided by Cambridge Street into Back Beacon Hill, and the West End Proper which is the site of the proposed redevelopment.<sup>3</sup>

The West End together with the North End has served as the immigration adjusting area in Boston for successive waves of Irish, Russian Jews, Polish, and Italians during the years from 1846, the year of the Irish potato famine, until just before World War I. During this time the population reached its peak of over 22,000<sup>4</sup> and housing was seriously overcrowded.

#### ● THE INSTITUTIONS

A rash of new welfare societies occurred at the turn of the century in answer to the social problems of the West End. Still active after 50 years of busy service are the Elizabeth Peabody House, West End House, and The Heath Christian Center.

- The Peabody House has been the most active of the organizations with a nursery school, adult education program, an active drama program with appropriate facilities including a small theater,

a gymnasium, and other recreational facilities.

● The West End House has a primarily athletic program for boys ten years and older. The only regulation-size gymnasium in the West End is located here.

● The Heath Christian Center is a religious-social center principally for young people and children.

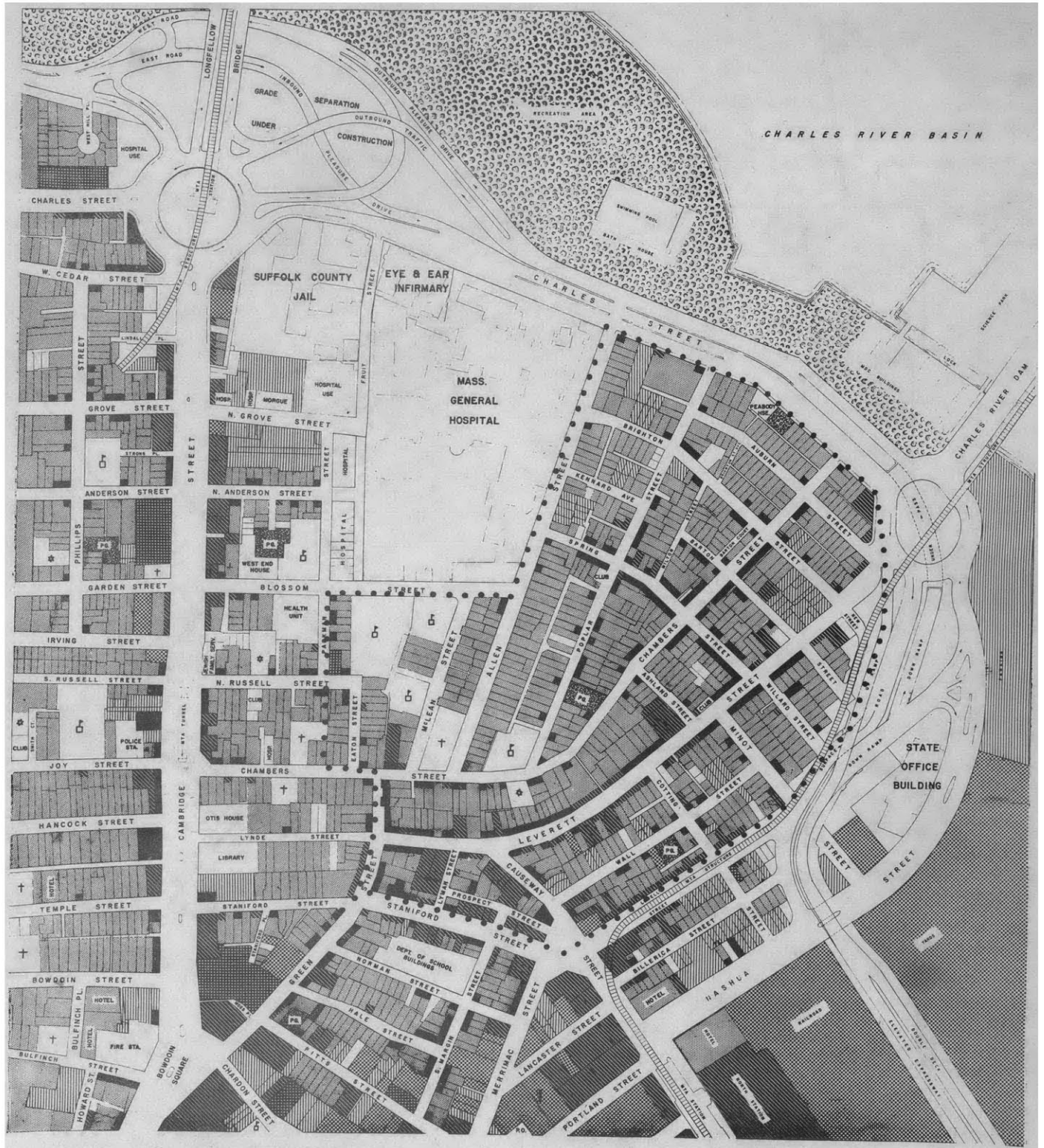
● PRESENT CHARACTERISTICS

● LAND USE 5.

Item	# acres	% of area
streets	14.0	29.0
community facilities	2.5	5.2
commerce & industry	4.5	9.3
residential	25.0	52.2
schools	2.0	4.3
<hr/>		
TOTAL	48.0	100

● POPULATION

Extrapolating the population (it has been declining since 1910) from 1950 to 1956 results in an existing figure of 11,000 people coming from approximately 3,500 families.

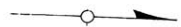


## EXISTING LAND USE

- |  |                        |  |                     |
|--|------------------------|--|---------------------|
|  | RESIDENTIAL USE        |  | PUBLIC, SEMI-PUBLIC |
|  | HOTEL USE              |  | SCHOOL              |
|  | LOCAL BUSINESS         |  | CHURCH              |
|  | GENERAL BUSINESS       |  | RECREATION          |
|  | PARKING GARAGE         |  | PLAYLOTS            |
|  | INDUSTRY & WAREHOUSING |  | VACANT LAND         |
|  | OPEN PARKING           |  |                     |

SOURCE: FIELD STUDY - AUGUST 1952

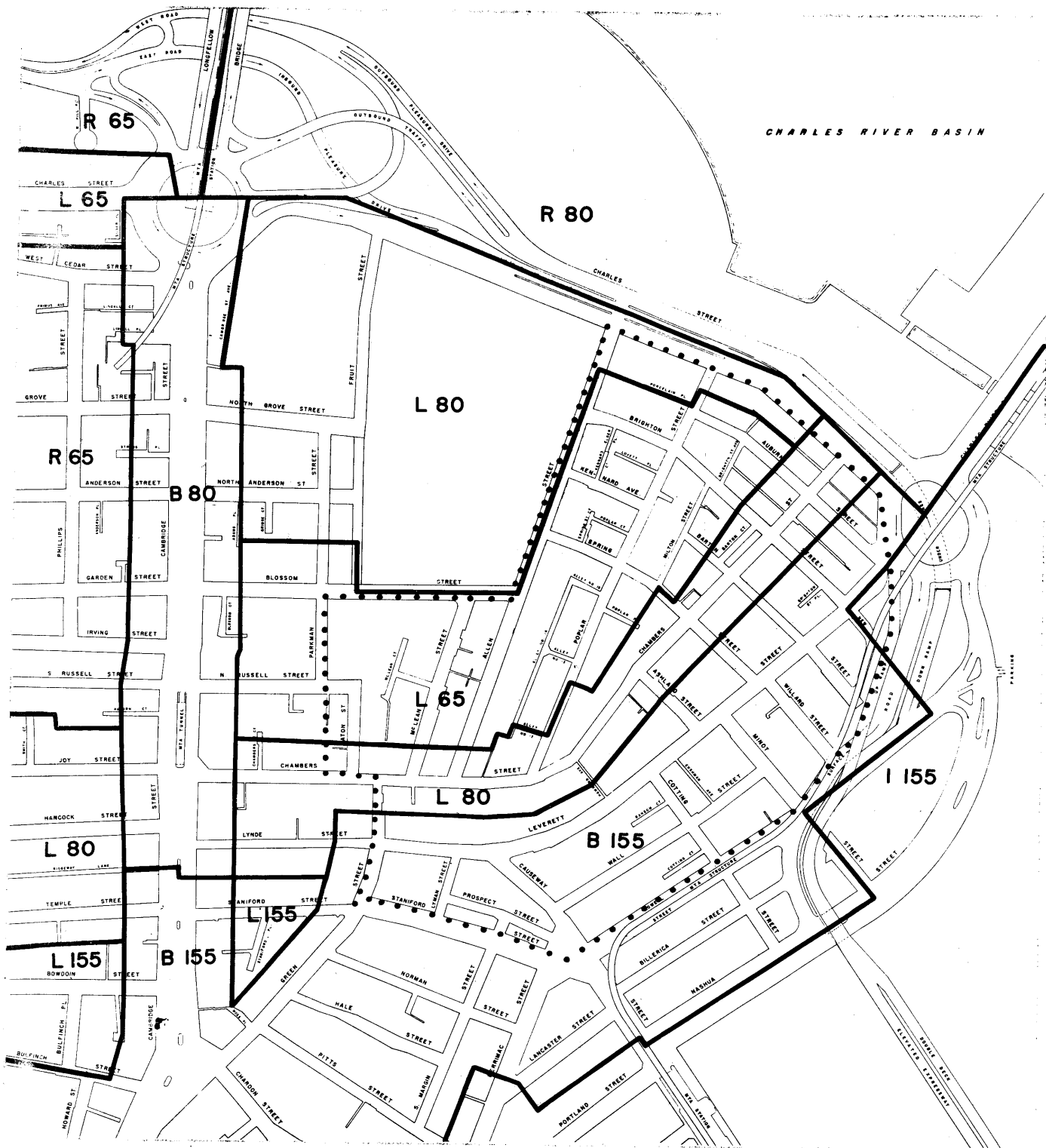
• • • PROJECT AREA BOUNDARY



SCALE IN FEET  
0 50 100 150

WEST END - STUDY AREA "B"  
URBAN REDEVELOPMENT STUDY  
BOSTON HOUSING AUTHORITY  
URBAN REDEVELOPMENT DIVISION





## EXISTING ZONING

### DISTRICT PROVISIONS

USE DESIGNATION	GENERAL RESIDENCE	LOCAL BUSINESS	GENERAL BUSINESS	INDUSTRY
TYPICAL PERMITTED USES	APARTMENTS, ROOMING HOUSES, HOTELS	RETAIL, THEATRES, OFFICES	LIGHT INDUSTRY, WAREHOUSES	RESTRICTED INDUSTRIAL USES
HEIGHT LIMITS	65'	L 65	B 80	
	80'	R 80	L 80	
	155'		L 155	B 155, I 155

• • • PROJECT AREA BOUNDARY

SCALE IN FEET  
0 50 100 150

WEST END-STUDY AREA "B"  
URBAN REDEVELOPMENT STUDY  
BOSTON HOUSING AUTHORITY  
URBAN REDEVELOPMENT DIVISION

## ● COMMUNITY FACILITIES

● Schools....The number of public schools has steadily decreased to the present level of three which are operating at only 70% capacity. There is also one parochial school associated with Saint Joseph's Roman Catholic Church.

● Churches....There are seven churches in the West End and their histories reflect the movement of the various national groups. Saint Joseph's parish which once comprised of Irish is now primarily Italian-American. The actual edifice was constructed in 1824 as the Twelfth Congregational Church and was rededicated in 1862 as Saint Joseph's.

● Shopping....There are two principal shopping areas. Both are located in the north-east portion of the site; one at the intersection of Leverett and Green Streets and the other along Cambridge Street.

## ● Other....

- West End Branch Library
- Otis House Museum
- Municipal Health Center
- Retina Eye and Ear Clinic
- West End House - Boys athletics

- Heath Christian Center - religious - social center
- Peabody House

- USES OF LAND BORDERING THE SITE

- NORTH - ramps to elevated highways, elevated M.T.A. trolley line, State Department of Public Works (a 14-16 story office building), Hotel Manger, and North Station with its rail yards.
- EAST - Staniford Street lined with 4 to 6 storied buildings of mixed retail and residential use.
- SOUTH - Cambridge Street is primarily a shopping street. However, the volume of traffic is very heavy and the street is very wide. These factors have a tendency to discourage pedestrian crossing.
- WEST - One half of this side is fronted by the sprawling Massachusetts General Hospital. The other half looks on to the embankment highway, a strip of the Charlesbank Recreation Area, and finally the Charles River Basin. Science Park is located along the shore of the basin in the vicinity of the north-west corner of the site.

- NEED FOR REDEVELOPMENT

- CONDITIONS OF THE DWELLINGS

A few summary statistics from the Census give a

6.

rather good idea of status of most of the dwellings. All but ten of the 3,555 dwelling units in the West End were built before 1919. 63% of the dwelling units have no central heat including 13% with no heat at all. A 1953 survey by the Housing Authority<sup>7</sup> showed 80% of all dwelling units as substandard or only marginally standard.

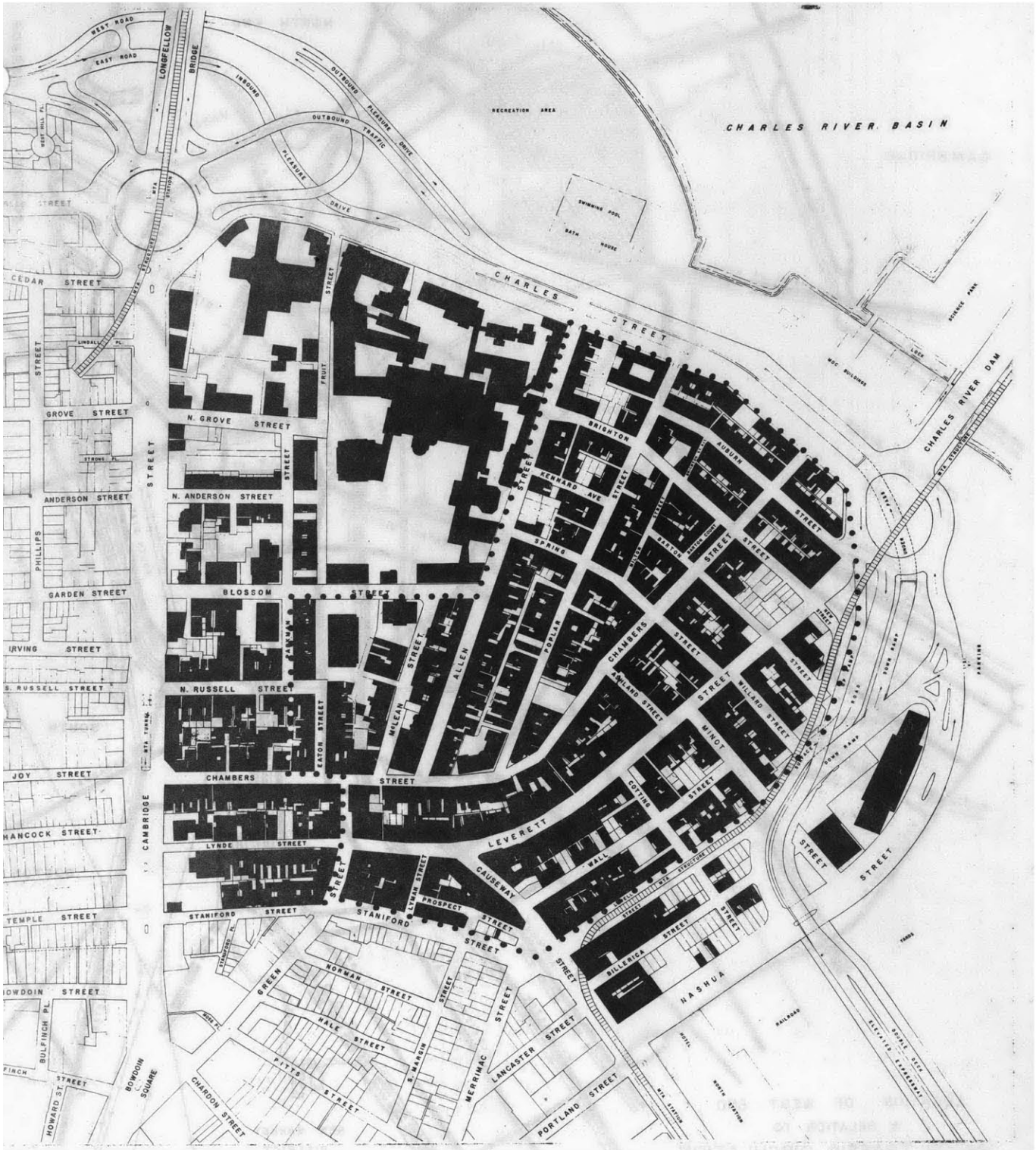
● LAND COVERAGE AND DENSITY

The land is intensively developed as a result of speculative building to accomodate as many families as the land would bear during the period when there was great pressure from the immigrants to live there. The following table compares the West End with American Public Health Association<sup>8</sup> standards for an estimated average building height of 4.3 stories.

	Bldg. coverage	families/net acre
West End	72%	140
A.P.H.A. standard	28%	58

● FALLING POPULATION

The population has been continually falling off from a 1910 high of more than 22,000 to its present low of just under 11,000. The Housing Authority gives sev-

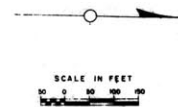


## BUILDING COVERAGE

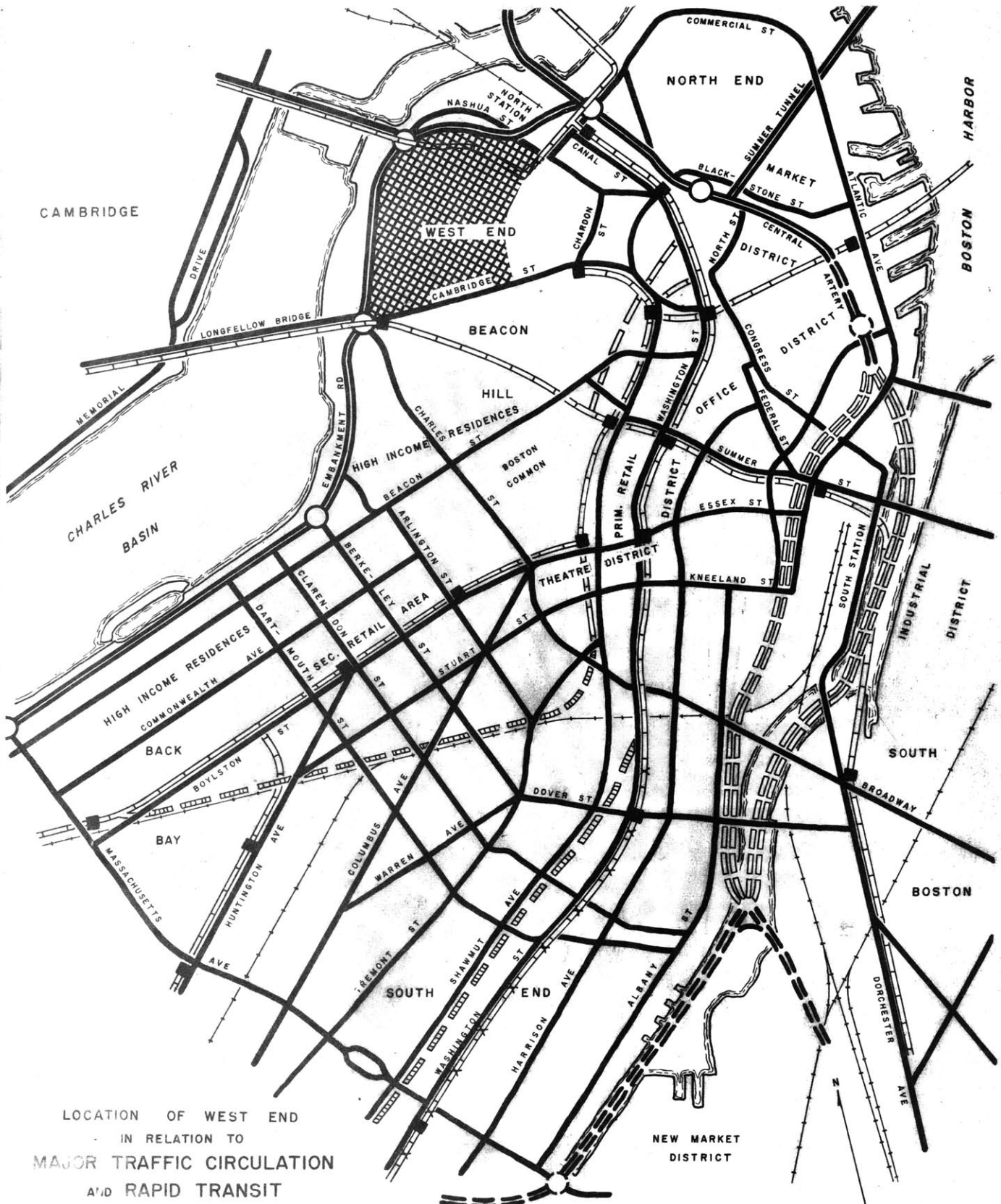
■ BUILDINGS IN STUDY AREA

--- PROJECT BOUNDARY

SOURCE: Sanborn Atlas, corrected to 1952



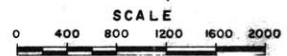
WEST END - STUDY AREA "B"  
 URBAN REDEVELOPMENT STUDY  
 BOSTON HOUSING AUTHORITY  
 URBAN REDEVELOPMENT DIVISION



LOCATION OF WEST END  
IN RELATION TO  
MAJOR TRAFFIC CIRCULATION  
AND RAPID TRANSIT

- EX PRESSWAYS
  - EXISTING OR UNDER CONSTRUCTION
  - PROPOSED (DEFINITE LOCATION)
  - PROPOSED (UNCERTAIN LOCATION)
- EXPRESSWAY INTERCHANGES
  - EXISTING OR UNDER CONSTRUCTION
  - PROPOSED
- MAJOR STREETS
  - MAJOR STREETS

- RAPID TRANSIT
  - EXISTING
  - SCHEDULED FOR ABANDONMENT
  - PROPOSED
- RAPID TRANSIT STATIONS
  - RAPID TRANSIT STATIONS
- RAILROAD
  - RAILROAD



**WEST END - STUDY AREA "B"**

**URBAN REDEVELOPMENT STUL**  
**BOSTON HOUSING AUTHORITY**  
**URBAN REDEVELOPMENT DIVISION**

9.  
eral reasons for this decline:

- The gradual expansion of Massachusetts General Hospital.
- The reduction of family size from 4.5 to 3.35 persons per family.
- A general deterioration of housing in relation to Boston.
- To these reasons I would add another; namely the general increase in the standard of living which has enabled families to obtain a better environment elsewhere.
- This trend does not conclusively indicate that the residents do not enjoy the area. On the contrary, a survey by the Massachusetts Council of Churches<sup>10</sup> shows that were it not for:
  - poor housing
  - poor environment for children
  - crowding in homes

most of them would prefer to remain in the West End because of:

- desirable neighborhood

- convenient location
- desirable dwelling unit
- proximity to employment
- attachment to the people and neighborhood

● SHORTCOMINGS OF COMMUNITY FACILITIES

- The schools, though not used to full capacity, are badly outdated, all but one having been built during the late 1800's. The area devoted to schools consists of but two acres instead of the nineteen <sup>11</sup> recommended by The Boston City Planning Board for comparable range of schools.
- There are no parks, lawn areas or playgrounds within the area except for small paved school yards and three small tot-lots.
- Parking facilities are practically non-existent except where provided by a few vacant lots. Consequently the already too-narrow streets are jammed with parked vehicles.




## ● VALUE TO BE RETAINED

- When an area is marked as a slum for clearance and urban redevelopment, it is done so only after being subjected to an analysis in respect to standards of tax return, crime, health, dwelling condition, playground space, and population density. Then a completely new environment is planned, often with very disappointing and sterile results. The area has been condemned on the basis of hygiene and then is designed according to requirements of hygiene.
- In this process a very important thing is overlooked; namely that as well as there being glaring deficiencies in the area, there exist physical aspects of form, texture, color and scale and social aspects of institution, service and community which have much that is valuable. Prior to actual design these aspects should be examined and the people consulted, particularly in an area where some of the population will remain. From such an analysis it can be determined which buildings, trees, courts, etc. are worth saving. This analysis could also in part set the character of the new development and thus provide some degree of continuity with that part of tradition which is meaningful.
- On the following pages are photographs taken in the West End of Boston showing the character of the spaces, materials, scale, and details. It is significant to note here some of the comments of residents which were made while I was photographing. In most cases people were initially resentful and suspected that the pictures were going to be shown to the public as exhibits

of slums in order to gain support for clearance. When I told them that this was not the case they became more friendly and talked freely of various aspects of the West End. These people are proud and are smarting from the insult of having their homes called slums. After having seen all of these details I would not be able to raise a wrecking bar against these structures, but the planning decisions amount to exactly this.





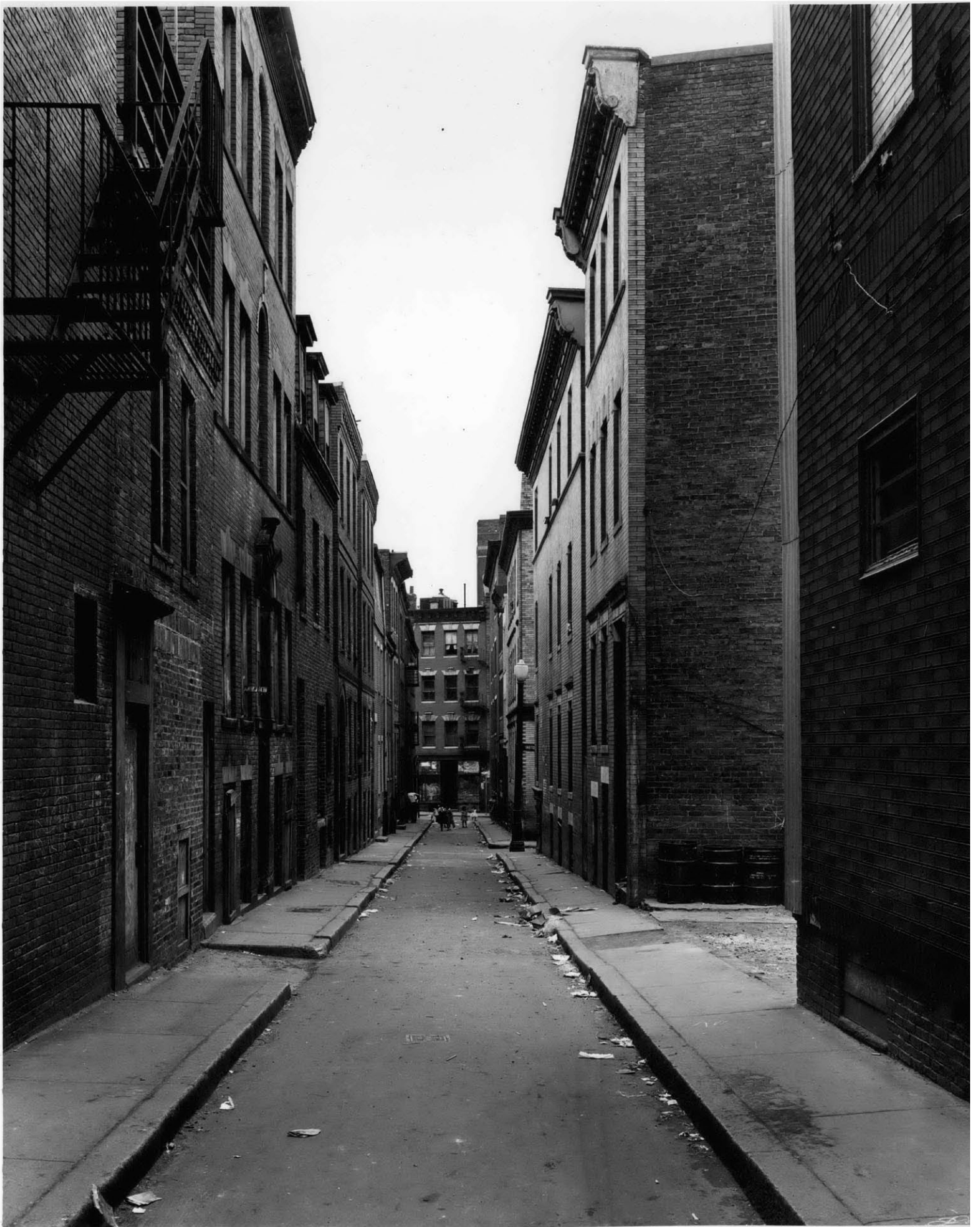
although hygiene standards suggest that spaces between buildings be twice their height .....this street is a very pleasant place to be in, and yet the ratio is less than 1 to 1.

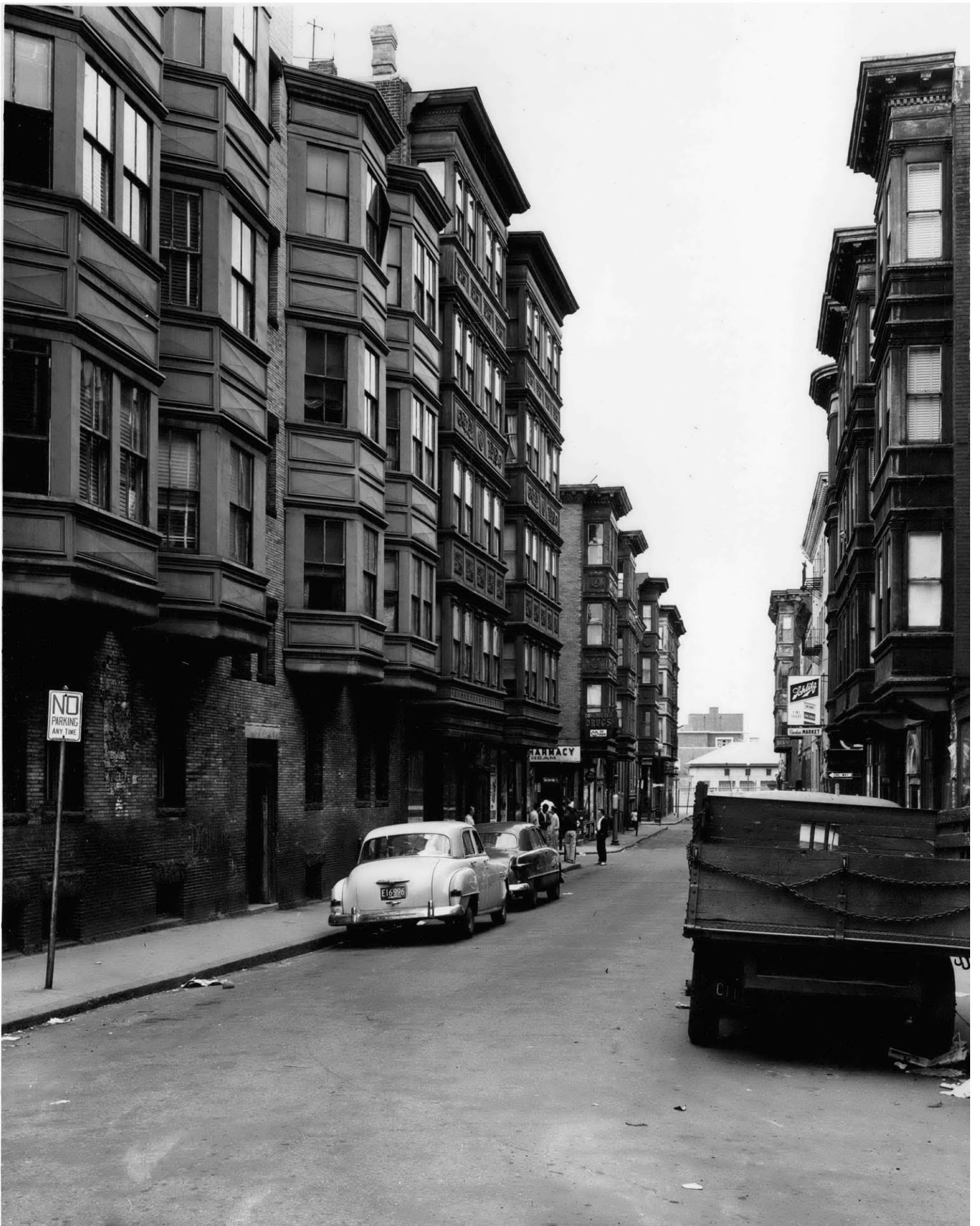




many housing projects have tended to be so repetitive that it impossible to find one's way except by the use of numbers. a way must be found for large scale developments to be rich with variety so that people may feel a sense of identity with a place









this metal clad facade is about 50 years old  
it has rhythm...light and shadow....it is good to look at  
perhaps with modern panel technology...we can again have texture







although the stonecutters have left.....proving to be too costly,  
concrete and other plastic materials can provide us with grace





FURNISHED  
ROOMS  
BY  
DAY OR WEEK

Co.

K

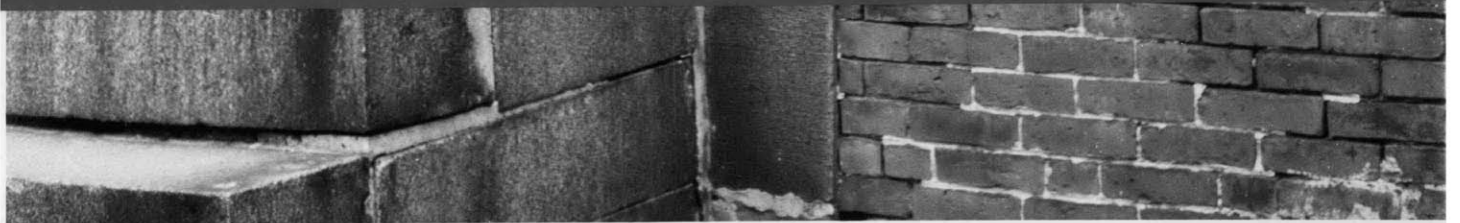
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105





the details of materials have real meaning for the pedestrian







● GENERAL GOALS

● To enlarge the opportunity for choice of housing and environment. A variety of housing types within an area would allow people to remain in a community as they change dwellings to suit the expansions and contractions of family growth and income.

● To design not just for the statistical family but for the needs of all families....thus assuring the right kinds of facilities for all age groups.

● To provide some of the amenities that people usually go to the suburbs for.

● facilities for such leisure pursuits as carpentry, photography, gardening.

● safety from traffic and other hazards.

● adequate play space for children.

● space to work on the automobile.

- DETAIL
- Cityscape should bear inspection from the air, from the fast motor vehicle and from close contact. For the pedestrian who is close to objects detail is very important.
- Possibly one of the reasons for the interesting character of the West End is the great variety of detail which at the same time is coherent in that heights of buildings are similar, materials are repeated, and buildings are attached. This variety of detail should be maintained in the new construction by using different materials and design techniques within the general form of buildings.
- Gibberd <sup>12</sup> defines details as those things which are in addition to forms, walls, and floors of space. He classifies them as distinct parts of the townscape as follows:
  - FUNCTIONAL OBJECTS - kiosks, mailboxes, street lights, benches.
  - SIGNS and SYMBOLS - street signs, advertisements, store signs.
  - BARRIERS - walls, fences.
  - PARTS OF LARGER OBJECTS - porches, balconies, canopies.
  - QUALITY of SURFACE - color, texture, and pattern of paving, landscape and walls.
  - PRIMARILY VISUAL - sculpture, murals.
- I don't think that these elements should be rigidly determined



but rather that the overall design should provide an opportunity for individuals to make their mark. Many housing projects are sterile for lack of material indications that a variety of people live within. Eastgate is interesting because the color and pattern of each family's tastes form a visible pattern on the facade. Market districts are interesting with their array of colorful lights and signs. They would be dull otherwise.

● SCALE

● The West End at present has a very nice scale. The buildings are low, the detail is rich and at eye level, the streets are narrow and curved.

● The actual criteria for scale is difficult to express. Hans Blumenfeld<sup>13.</sup> presents some interesting material in an article on scale:

● Social meaning of human scale is that in which every person knows each other. The size of this group would not exceed a few hundred people.

● The criteria for attaining human scale in visual form is that which would provide space relationships in which people are visible to one another. The distance necessary for recognition of personalities is about eighty feet.

- Vertical scale has a relation to the vertical angle of the vision of the eye which is close to 25 degrees or about 3 or 4 stories high for the average street. Objects higher than this can be seen only by tilting the head.
- The maximum length of a vista should be approximately 4,000 feet which is the limit at which a human being can be seen. The sites which make up the great Baroque vistas seldom exceed a mile.
- The elements of scale of the proposed scheme are as follows:
  - A central pedestrian way winds through the site. It is closely bordered by three and four storied buildings. Rhythm is provided by occasionally bridging the path with building and also by providing small squares at certain points.
  - Seven residential courts are located along the promenade. They serve to break down the total population into smaller units of 280 families.
  - The site is developed densely to keep the building heights down.
- CONTRASTS
  - One of the impressions of many large-scale urban residential developments is the lack of contrast. This is a danger of

blind adherence to demand of economy of producing repetitive units. Such a development should have contrasts of:

- Privacy ---- crowdedness
- central idea ----variety
- clarity ----surprise
- nature ----urbanity
- busyness ----calmness
- openness ----enclosure

.....POPULATION PROGRAMMING

**● SCOPE AND OBJECTIVES**

- The population characteristics of an area depends largely on the range of rentals and dwelling types, quality of environment, and community facilities. Therefore it is necessary to state what kind of community character is desirable for the given site; and from this determine those elements of design which would attract such a community.
- To arrive at some sort of answer for the West End I propose to proceed along the following lines:
  - Social Composition.....to determine the general population composition in regard to ranges of interests, incomes, and occupations.
  - Total Population and Density.....to arrive at a maximum density of population based on recommended standards by examining the specific elements of space requirement and by developing techniques to make multiple use of ground area by providing raised decks, covered parking, etc.
  - Family Characteristics.....to analyze census and other data for family size, family composition, and age distribution. This information will be necessary to determine dwelling unit sizes and distribution and building types.

## ● SOCIAL COMPOSITION

### ● CURRENT IDEAS

The literature is not very precise in offering definite criteria as to the degree of social heterogeneity which should be aimed at in the planning of urban redevelopment communities. This is largely on account of there having been few such communities actually built. Of these even fewer studies have been made. The Subcommittee on Environmental Standards for the American Public Health Association states that while in sympathy with proposals for neighborhoods free from racial, economic and occupational segregation it could not make specific recommendations as to "...what extent housing segregation or aggregation of differing population groups may create mental tensions..."<sup>14</sup>. Catherine Bauer feels that housing segregation at all levels is being intensified, and is creating problems which can be solved only by reversing the trend; however, she notes that although the idea of the intergrated neighborhood has been accepted by planners it has often been challenged by others.<sup>15</sup>

Lewis Mumford in a recent lecture at M.I.T. noted that not only were housing areas segregated with respect to income and education but also by age; so that entire areas such as Levittown were fast becoming "one generation" communities. In contrast to this he sited his own experience of having

lived in "Sunnyside" Queens, New York for several years. There he felt that the "face to face" contact with people from various occupations and backgrounds was a valuable and full part of his life.

● GREENBELT, MARYLAND 16.

Greenbelt, Maryland, a classic example of a community planned from the neighborhood idea, is one of the best developments to illustrate as a case history; since it was well planned, has been in existence for nearly twenty years and has been documented. The community was constructed in two stages: the first in 1937 with 885 units, and the second in 1941 with 1,000 dwelling units. Dwelling unit types were allocated according to family need. For example, families with small children were assured of getting ground floor accommodations. The population was initially programmed to such an extent that it actually comprised of a statistical cross-section of the population of near by Washington, D.C. as the following tables indicate:

Catholic.....30%

Jewish..... 7

Protestant.....63

---

100

% of Families by Religion

Government.....	70%
manual .....	30
professional	
<hr/>	
	100

% of Families by Occupation

● Though lacking a comprehensive survey as to the success of the community, much can be told by noting the character of some of the community's activities:

● Two-thirds of the families own stock in the consumer co-operative. It even sends a walk-in truck around during the week for the shopper who is low on food.

● The community facilities which include meeting places, swimming pools, and bowling alleys are used continuously by all ages.

● EXAMPLES OF MIXED INCOME

That families with differing incomes should live in the same vicinity is not necessarily new or startling; San Francisco's topography has been partly responsible for a close physical relationship between the low-income families occupying the valleys and the upper income people living on the crests. "Sunnyside" apartments in Queens, New York were successfully planned for mixed income groups. In Philadelphia high rental apartments were recently constructed around Rittenhouse Square located in the midst of sub-



standard housing. Chicago, Detroit, and Philadelphia all have redevelopment projects in the works which are based on mixed income population.

## ● EVALUATION

The previous review doesn't offer any standard answer to the problem of population heterogeneity; but possibly this should be expected. There are however fundamental ideas which are worth listing briefly:

- Not necessarily implying that all must throw cocktail parties for the cross-section of humanity who then would discuss Sir Thomas More.....a reasonable degree of variety of incomes does offer those with different salaries but with similar interests a chance to meet.
- Such communities must offer people a certain freedom to be friendly or reserved, politically active or anarchistically withdrawn,.....in short the principle of heterogeneity for an area is valid if the design of the area can solve its internal problems.
- A variety of rentals and apartment sizes

will reduce undesired relocation and neighborhood instability by allowing a family to change its dwelling within a community as its income or size changes.

● COMPOSITION FOR THE WEST END

Probably the most important question is who shall determine what the population will be. In situations where the planning board or housing authority alone made this all-important decision about population, the local residents and institutions usually have been unhappy about the whole affair. In Chicago the residents in the land acquired by the Michael Reese Hospital were not brought into the planning in any way even though a later survey of the relocated people indicated that 67% would rather be back in their original neighborhood. <sup>17.</sup>

In the West End neither the Massachusetts General Hospital nor the residents are happy about the Housing Authority's plan. Probably not one of the existing 3,500 families will be able to afford to live in the expensive apartments which are to cover the land; yet about 50% of these people would like to remain. <sup>18.</sup> In fact, when asked, one member of the Housing Authority replied that they had not asked the residents whether they wished to live there or not.

Therefore it seems to me that a successful redevelopment plan should begin with a "grass roots" organization which

would represent the interests of the Massachusetts General Hospital, local residents, local merchants and the City of Boston in regard to its growth, tax structure, and social progress.

● INCOME DISTRIBUTION

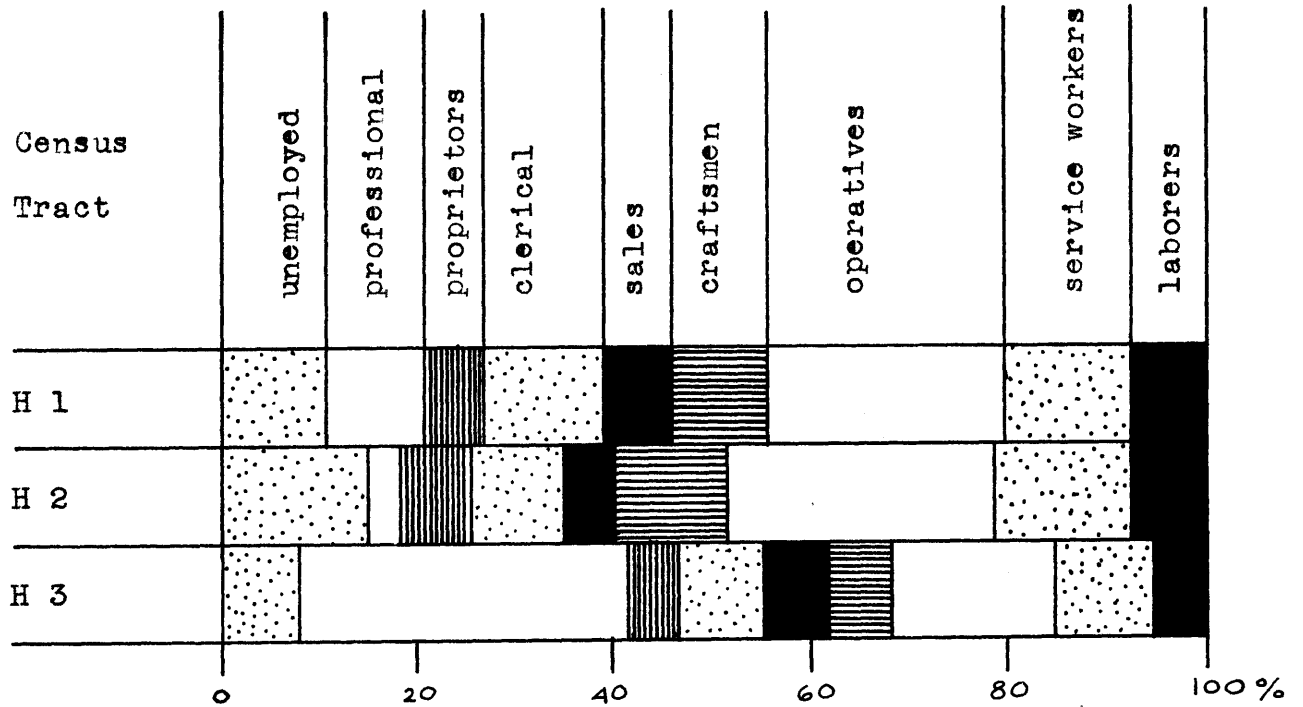
A population program originating from such a planning body would comprise of:

- Some low and middle income families from the existing population whose median income per wage earner was \$2100.<sup>19</sup>
- Some middle and upper income people who would be associated with the hospital.
- Middle and upper income families who would be attracted to the area because of its juxtaposition to downtown shopping, theaters, parks, and transportation facilities of all kinds.

● OCCUPATIONAL DISTRIBUTION

The diagram below shows a distribution of occupation for the West End. Not significantly different from the rest of Boston, it does however show a concentration of professional people associated with the hospital. This group of doctors may need special apartments enabling them to carry on certain

patient work in or near their homes.



DISTRIBUTION OF OCCUPATIONS IN THE

WEST END

census 1950

● TOTAL POPULATION AND DENSITY

- From a 1910 high of about 6,000 families the population of the West End proper has dwindled to a 1950 level of 3,500 families or 12,000 people at a density of 140 families/net acre in buildings covering 72% of the net area.<sup>20.</sup>
- The Housing Authority is proposing to redevelop the area for a population of 2,400 at a density of 88 families/net acre. This density reduction however has the effect of increasing rental costs to a level which none of the present population can afford. The Housing Authority plan as proposed relocates the entire population to make room for a high-rent-paying community.
- This to me seems wrong in light of the following:
  - Eminent domain is a power historically hard won for the purpose of improving the general good. However when its use adversely affects an entire community of 12,000 who have not been consulted in the planning of the area, it may well have been misused.
  - A survey conducted by the Massachusetts Council of Churches<sup>21.</sup> indicates that 40% of the residents did not wish to move. At the time there were not any prospects

of the area being improved.

- Despite a high degree of transiency the area has social coherence as evidenced by the existence of a strong program of community activity which has existed since the turn of the century.
- The area has fulfilled the necessary function, required by immigration cities like New York and Boston, of adjustment for successive waves of Irish, Russian Jews, Polish and Italians.
- The Massachusetts General Hospital depends on the area for inexpensive housing for its young personnel. For doctors in training the clinic patients come from the low income families in the West End.

● In this report those families (40%) of the existing population who wish to stay in the community will number 1,440. The balance of the population will be determined by applying the detailed land use standards as enumerated by the A.P.H.A. These are presented in the table following:

LAND AREA PER FAMILY IN SQUARE FEET <sup>22</sup>

# of stories	Bldg. coverage	outdoor living	setback, service	100% parking	total
2	435	415	455	240	1545
3	290	315	220	240	1065
6	145	215	50	240	650
9	105	215	35	240	595
13	75	215	35	240	565
20	50	200	30	240	520

FAMILIES PER NET ACRE <sup>1.</sup>

# of stories	APHA gross maximum <sup>2.</sup>	gross less parking <sup>3.</sup>	less 1/2 bldg.cov. <sup>4.</sup>	less 1/2 service <sup>5.</sup>
2	30	34	—	40
3	43	53	—	61
6	68	106	128	140
9	75	122	141	150
13	77	132	150	158
20	84	156	170	180

1. A net acre includes land devoted to residential buildings, informal open space, drives and service areas, private parking, and private gardens.
2. Gross maximum has here been adjusted to allow for 100% parking.
3. Parking areas are on the ground; but are to be covered by raised plazas for the elevator apartments.
4. One half the area under some buildings is to be used as sheltered outdoor space.
5. The service areas are included under the plaza areas.

Often the gross standards are used in arriving at a population for an area to be developed. However it is the intention in this design to use decks over garages for outdoor space and to provide as much open space as feasible up in building structures themselves. It is on this basis that a total population of 3,000 families is proposed as detailed below:

Area des-ignated	# of stories	# of families	ground area in acres	families per net acre
court areas (7)	2.5	336	6.4	52
	3	420	7.2	58
	6	504	4.0	126
	9	756	5.5	138
tower area	20	800	5.0	160
other areas	6	184	1.5	121
Total		<u>3,000</u>	<u>29.6</u>	<u>102</u>



## FAMILY CHARACTERISTICS

## ● FAMILY SIZE (projected from 1950 census)

# persons per family	1	2	3	4	5&6	7+
% of all families	17	28	23	18	11	3

## ● FAMILY COMPOSITION (based on the 1950 census and the APHA estimate)

% of all families	types of family
32.0	families with children
14.0	families with children & other
13.5	young couples without children
8.0	old couples without children
14.5	single adults
18.0	other households

- The above tables are combined below into a form which would be useful with respect to dwelling unit sizes and distribution, building types, number of dwellings to be provided with direct yard access, and other design problems related to family composition.

## ● DISTRIBUTION OF FAMILY SIZE WITHIN FAMILY TYPE

Family Type	Family Size						Total	
	1	2	3	4	5&6	7+	#	%
Fam. & child	—	—	475	240	155	90	960	32.0
Fam. & child & others	—	—	50	250	120	—	420	14.0
Young couples	—	405	—	—	—	—	405	13.5
Old couples	—	240	—	—	—	—	240	8.0
Single adults	435	—	—	—	—	—	435	14.5
Others	75	195	165	50	55	—	540	18.0
<b>Total #</b>	510	840	690	540	330	90	3000	
<b>%</b>	17	28	23	18	11	3		100

## ● AGE DISTRIBUTION

The age curve of the population is necessary to determine school population, community facilities, housing and facilities for the elderly, and playground requirements.

Age Group	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70+
% of population	18	13	18	17	11	10	9	4



- DESIGN PROGRAM
- LAND USE PROGRAM

An ideal way to arrive at a program of facilities for the community would be to hold several conferences attended by people from community agencies, parent teachers' association, church, clubs, political organizations and other local representatives. Not being able to affect such a meeting, I have used a method of analysis based on existing use, various planning standards, and the proposed Housing Authority's plan to arrive at the following land use distribution :

type of use	# acres	%
residential (net area)	29.0	60.2
streets (uncovered)	7.0	14.7
business	2.5	5.2
schools and playground	7.5	15.7
other community facilities	2.0	4.2
Total	48.0	100.0

- RESIDENTIAL PROGRAM

- DISTRIBUTION OF DWELLING UNITS BY THE NUMBER OF ROOMS AND FAMILY SIZE

The number of rooms a given family requires depends on several factors including the following:

- size of family
- degree of privacy desired within the family
- amount of entertaining
- variety of family activities

For the purpose of this thesis the program of dwelling units distribution tabulated below is determined by the requirements implied in the population data presented elsewhere in this paper.

# persons per family	# of dwelling units						
	Eff.	1 BR	2 BR	3 BR	4 BR	5 BR	6 BR
1	250	240	220	—	—	—	—
2	230	405	130	75	—	—	—
3	—	140	390	160	—	—	—
4	—	—	320	160	60	—	—
5&6	—	—	90	145	95	—	—
7+	—	—	—	—	30	30	30
<b>Total</b>	<b>480</b>	<b>785</b>	<b>950</b>	<b>540</b>	<b>185</b>	<b>30</b>	<b>30</b>
<b>%</b>	<b>16</b>	<b>26</b>	<b>32</b>	<b>18</b>	<b>6</b>	<b>1</b>	<b>1</b>

#### DISTRIBUTION OF DWELLING UNITS BY SIZE & FAMILY SIZE

To provide a rough check, these values are compared with other known distributions; and it can be seen that they fall reasonably well in line.

Source	% of dwelling units						
	Eff.	1BR	2BR	3BR	4BR	5BR	6BR
Chicago 23. 1st report	22	31	26	18	3	0	2
Chicago 24 2nd report	7	31	41	16	4	1	0
A.P.H.A. 25 extrapolated	12	22	32	24	6	2	2
West End proposed	16	26	32	18	6	1	1

● AREAS OF DWELLING UNITS

For the purpose of preliminary planning average dwelling unit sizes are determined by comparing a variety of contemporary examples and criteria. These values of course would be later revised according to the actual limitations of design, costs, and rental market analysis. This data is presented in the following tables:

Source	Area						
	Eff	1BR	2BR	3BR	4BR	5BR	6BR
F.H.A. 26	—	460	560	700	815	915	—
Eastgate	340	700 660	1000	1280	—	—	—
Central 27 South Side, Chicago	400 550	700 800	900 920 1200	1200 1000	1500	—	—
Marine Terrace, Queens, N.Y.	—	520	630	730	—	—	—

Extrapolating the above table the following values are



obtained. These will be used for large scale planning purposes.

D.U. type	Eff.	1BR	2BR	3BR	4BR	5BR	6BR
Av. area	400	640	820	980	1160	1300	1420

● DISTRIBUTION OF DWELLING UNIT TYPES WITHIN BUILDING TYPES

This table shows the apportioning of families among building types according to their particular needs. For example, families with small children are provided with row houses or other first floor accommodations so that mothers can supervise their children at play.

# of rooms	# of dwelling units				
	20 story elevator	9 story elevator	6 story elevator	3 story walk-up	row house
Eff.	172	180	128	—	—
1BR	329	256	140	60	—
2BR	229	230	250	125	116
3BR	70	90	110	140	130
4BR	—	—	60	65	60
5BR	—	—	—	15	15
6BR	—	—	—	15	15
Total	800	756	688	420	336
%	27	25	23	14	11

DISTRIBUTION OF DWELLING UNITS BY SIZE & BUILDING TYPE

● COMMUNITY FACILITIES

- Schools....based on the recommendations of the Boston School Committee the following is suggested:
  - Blackstone Junior High School is to be retained.
  - A new elementary school is to replace two obsolete ones.
  - A new Parochial school is to replace the old one.
- All of these are to be located around a small community playground. Two nursery schools are to be provided at local points.
- Churches....Saint Joseph's, The West End Church, and a synagogue are to remain and two or three churches will be rebuilt: These new churches are located along the pedestrian way in the small courts at path intersections. The West End Church, now a library, will be reconverted to a church.
- Community Center....housing the functions of the various service organizations, will contain a gymnasium and auditorium in addition to club and game rooms.
- Municipal Health Building....to remain.
- Otis Historical House....to remain.
- New library

Childhood recreation

- Outdoor recreation....
  - Playfield and large park areas are located along the river across the highway. A pedestrian bridge will connect the neighborhood with these facilities.
  - Local playground for school and community use is provided adjacent to the schools.
  - Play areas for the very young are provided in each of the residential courts where they are easily supervised from the home.
  - Strolling and sitting areas are located along the pedestrian way.
- Indoor recreation....
  - Sheltered spaces where children may gather during unpleasant weather.
  - Woodworking, photography, and other facilities located in the ground floors of apartment buildings.
  - Pool, bowling amusements.
- Commercial....principal retail district is located in the south-east section of the site. Incidental

and purely local services such as delicatessen, variety, offices for dentists and doctors, barber shop, shoe repair, bar, baker, etc., are located along the pedestrian way.

- Circulation....pedestrian and vehicular circulation are segregated, but have good inter-accessibility. The pedestrian circulates along a raised central mall which connects with the residential courts along the way. The automobile and service feed into the various areas from a perimeter belt. This circulation is at altered grade levels and under a raised plaza.
- Parking....to provide 100% parking for this population requires an area of 16 acres, or 1/3 of the total site area. To accomodate this parking by conventional open-lot means would necessitate all apartment buildings being 30 stories high for the same population, or the population being reduced to 2100 families to keep the same character of the development. Feeling that the land should be used by the people and not dominated by the automobile, I have devised the following scheme: Square terraces approximately 360 by 400 feet step down gradually from the high point at the center

of the site. Row houses on grade border a green court in the center of each terrace, and they are encircled by parking at grade. Covering the parking is a raised plaza on which elevator apartments are situated. This solution allows one to enter his car at grade from a row house (this is helpful for those with children) and also permits those in apartments to have direct access to elevators.





## ● DEVELOPMENT FINANCING

The rental cost schedule and hence the financing program are dependent on anticipated family income. The rental schedule has not been computed in this report; but a preliminary financing plan is presented on the basis of the following assumptions:

- 1500 families (50%) would live in public housing. Most of these families are from those now living in the West End who wish to remain in the area after redevelopment.
- 750 families (25%) would be accommodated in cooperatively financed housing. These would be middle-income families who otherwise would be left out of any new urban housing. In a recent lecture given at M.I.T. William Zeckendorf acknowledged that investors did not wish to venture capital in middle-rent housing when a short increase in construction cost would draw very high rentals in most cities. He also indicated that construction costs are so high as not to permit middle-income rents to be feasible.
- The savings on cooperatives are appreciable since they consist of profit and income tax reduction.

The 1950 Senate Committee on Banking and Currency estimated that gross rent for a two bedroom \$8,000 F.H.A. financed unit could be reduced from \$90.32 to \$65.98 by Title III cooperative financing.<sup>28.</sup>

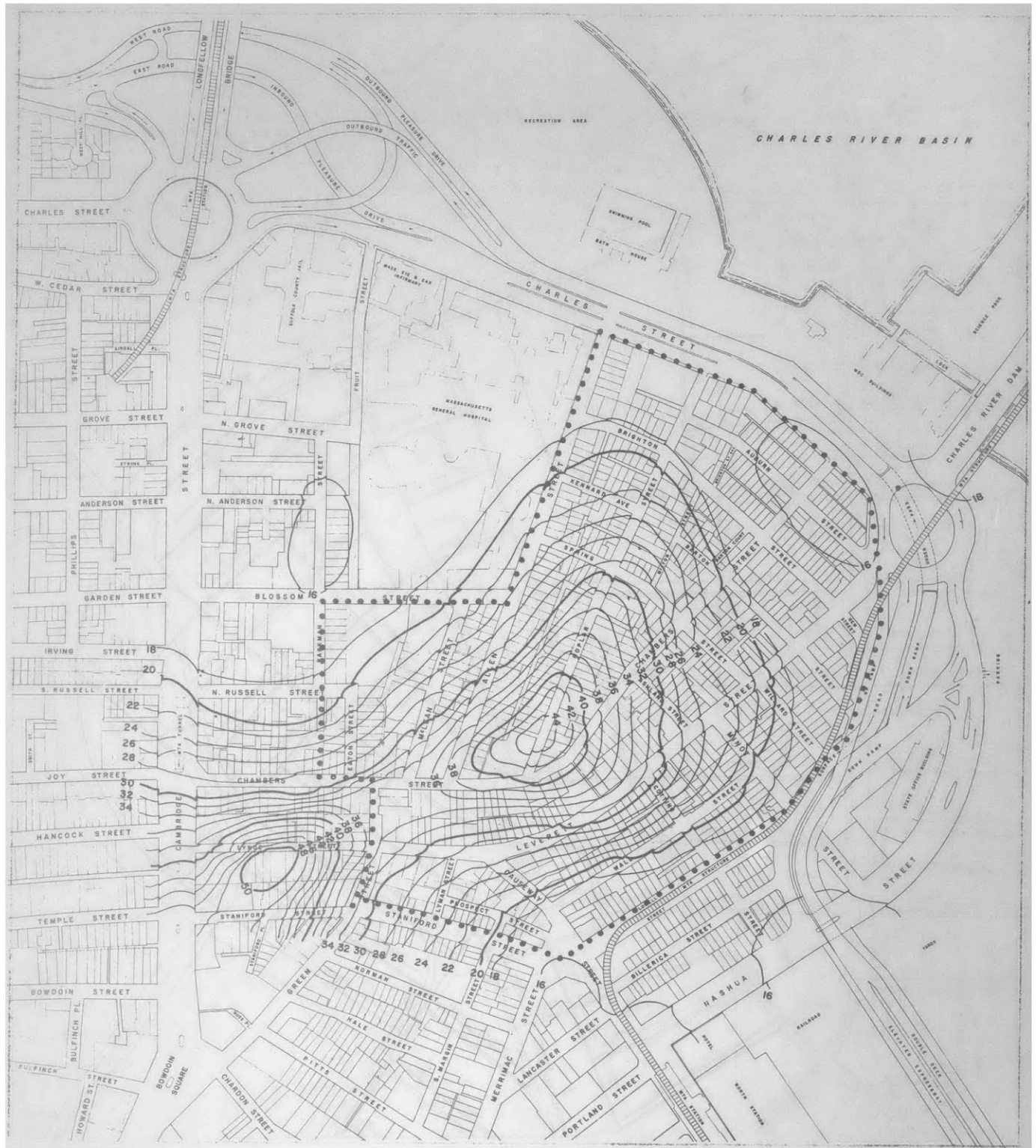
- 750 families (25%) would live in housing privately financed.

#### ● JUSTIFICATION OF PARKING SOLUTION

- The acquisition and clearing of this land will cost nearly \$300,000 per acre or \$6.50 per square foot.<sup>29.</sup> (This compares with \$3.00 per square foot for New York Life's South Chicago Development<sup>30.</sup> and \$1.50 per square foot for the Gratiot-Orleans Area of Detroit designed by Yamasaki.)<sup>31.</sup>
- Such high land costs would justify any reasonable attempt to increase land use capacity. By covering the parking the capacity of the land increases from 2100 to 3000 families, an increase of almost 50%.
- The construction costs for such a design are estimated to be low. Parking facilities should cost less than \$3 per square foot (\$720/car) comprising of \$1 for grading and \$2 for the

lift slab deck covering the area. This solution is considerably less expensive than ramp garage facilities which would cost approximately \$6. per square foot.<sup>32.</sup>





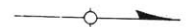
## TOPOGRAPHY

CONTOUR INTERVAL 2 ft.

ELEVATIONS REFER TO CITY BASE (0 ft.)

SOURCE: Street Elevations, BOSTON STREET LAYING-OUT DEPT.

● ● ● PROJECT AREA BOUNDARY



WEST END - STUDY AREA "B"  
 URBAN REDEVELOPMENT STUDY  
 BOSTON HOUSING AUTHORITY  
 URBAN REDEVELOPMENT DIVISION



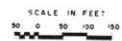
# WATER DISTRIBUTION SYSTEM

12" H.S. HIGH PRESSURE SERVICE - FOR SPRINKLERS AND COMMERCIAL USE

15" WATER MAINS (Numbers indicate size of line)

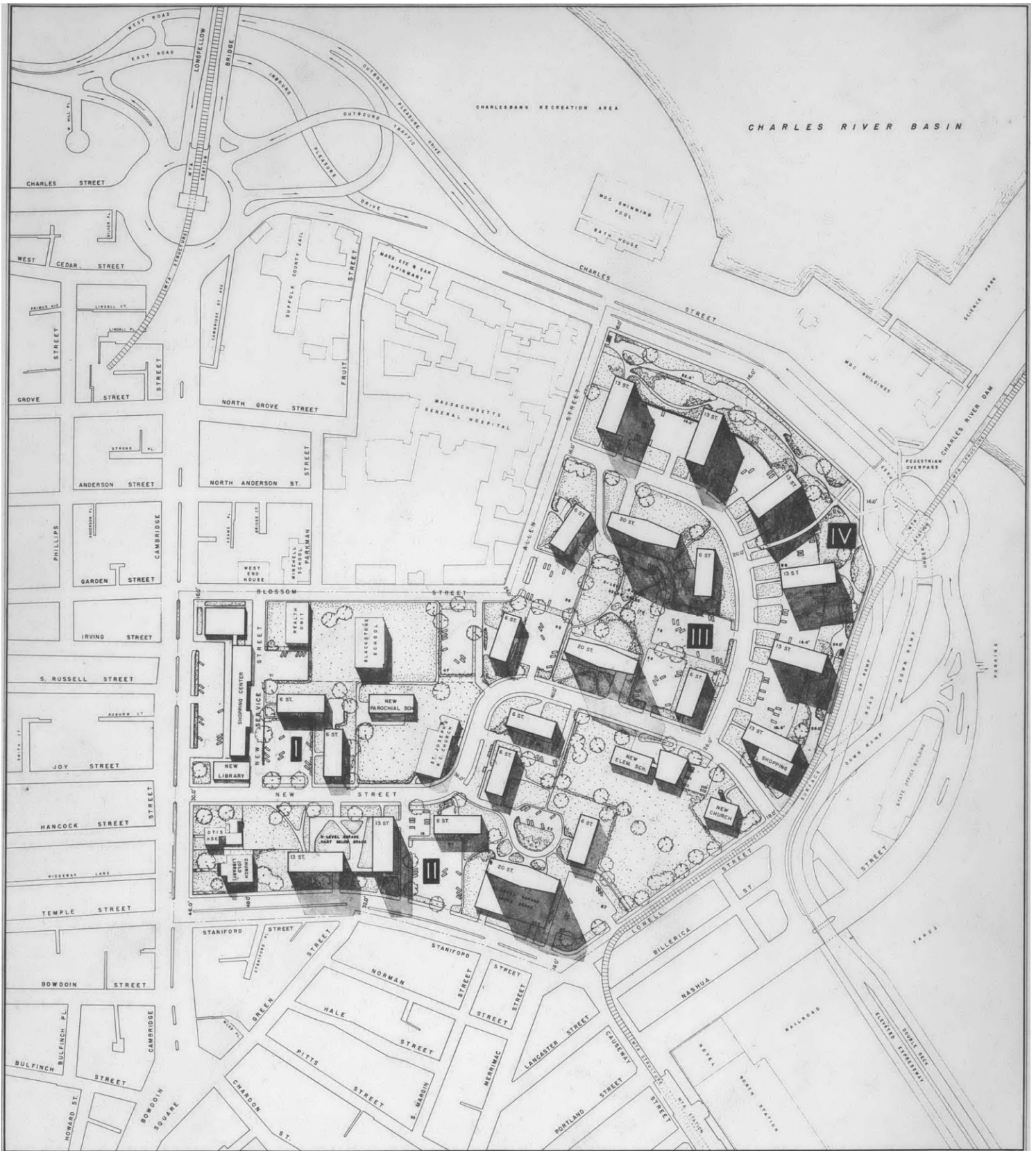
NOTE: ALL PIPES ARE APPROXIMATELY 5' BELOW STREET LEVEL.

SOURCE: BOSTON WATER DEPARTMENT -

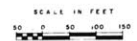


WEST END-STUDY AREA "B"  
 URBAN REDEVELOPMENT STUDY  
 BOSTON HOUSING AUTHORITY  
 URBAN REDEVELOPMENT DIVISION





TYPICAL DEVELOPMENT - SITE PLAN



WEST END PROJECT AREA	<b>B</b>
URBAN REDEVELOPMENT PROGRAM	
URBAN REDEVELOPMENT DIVISION	
BOSTON HOUSING AUTHORITY	
BOSTON MASSACHUSETTS	

## FOOTNOTES

1. "Boston's West End", Department of Research and Strategy, Massachusetts Council of Churches.
2. Walter Firey, "Land Use in Central Boston", (Boston), pp. 45-46.
3. "Community Studies", Greater Boston Community Council.
4. "West End Project Report", Boston Housing Authority, (1953), p. 18.
5. Ibid., pp. 27,55.
6. United States Census of Population and Housing, (1950).
7. "West End Project Report", op. cit., p. 14.
8. "Planning the Neighborhood", American Public Health Association.
9. "West End Project Report", op. cit., p. 19.
10. "Boston's West End", op. cit., pp. 39, 40.
11. "General Plan for Boston", Preliminary Report, (1950), pp. 47-48.
12. "Detail in Civic Design", Town Planning Institute Journal, (March, 1951), p. 104.
13. "Scale in Civic Design", Town Planning Review, (April 1953), pp.36,37.
14. "Planning the Neighborhood", op.cit.,
15. "Social Questions in Housing and Community Planning", Journal of Social Sciences, Vol. VII, 1&2, (1951).
16. Clarence S. Stein, "Toward New Towns For America".
17. P.K. Pendleton & H.V. Heller, "The Relocation of Families Displaced by an Urban Redevelopment Project", (University of Chicago).
18. "Boston's West End", op. cit.
19. U.S. Census..., op. cit.
20. "West End Project Report", op.cit.



FOOTNOTES (cont'd.)

21. "Boston's West End", op. cit.
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23. "An Opportunity for Private and Public Investment in Chicago", Chicago Housing Authority et. al., Chicago, (1947), p. 41.
24. "A Redevelopment Proposal for the Central South Side: Chicago", South Side Planning Board et. al., Chicago, p. 10.
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26. "Minimum Physical Standards for F.H.A. - Aided Housing", National Housing Agency, U.S. Government Printing Office, (November, 1945), p. 7.
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30. "Eight Chicago Apartment Projects", Architectural Forum, (November, 1955), p. 143.
31. "Redevelopment for Detroit", Architectural Forum, (March, 1955), pp. 116-125.
32. "Parking Survey and Program, Springfield, Mass., 1954", Ramp Buildings Corporation, Parking and Traffic Consultants, New York.

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7. Boston Housing Authority Bulletin, "Information Re. West End Redevelopment Project", (September 21, 1955).
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