THE IMPROVEMENT OF OLD HOUSING:
A STUDY OF CHANGES IN BOSTON,
1950 - 1960

by

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ABSTRACT

This study developed from a desire to test prevalent assertations that old neighborhoods in our large cities are doomed to a process of gradual deterioration, and that efforts to change this pattern cannot be successful. The results suggest that the assertations are not valid for the whole "gray area", and that positive forces are working to improve housing conditions in some old neighborhoods.

The 1960 Housing Census revealed substantial decreases in the number of substandard dwellings and in the number of overcrowded units in metropolitan areas in general and the Boston area in particular. In the city of Boston this same pattern of improvement was noted.

A significant part in the improvement of housing condition was played by the upgrading of existing structures; an important aspect of this activity was the upgrading which resulted in a change of condition from substandard to standard.

Examination of changes in Boston, 1950-60, indicates that most of the work was done through private initiative. Improvement was found to be generally associated with specific population and housing characteristics, including population thinning-out, low population turnover, home ownership, and general rises in income.

The study also examines the characteristics of a neighborhood in Boston which experienced improvement in condition. These relate to the composition of the population, the level of community organization, and the character of the physical environment. The relationship of these characteristics to public policy for such neighborhoods is then discussed. Public policy, in order to supplement the work which has occurred through private initiative,

should be flexibly related to the specific needs of each neighborhood, and should concentrate on meeting the community-wide needs which are beyond the scope of individual actions.

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INTRODUCTION

> This city too, is being abandoned, but that in itself is nothing new. It has been abandoned two, three, and in some cases four times before, by the successive waves of imigrants who have come looking for the city only to be told that it was still a suburb or two ahead of them. Certainly, the city of the Gray Area, the Mice Country is being abandoned; but that is its function. For this is not really a city; it is a social process wrapped up in an appropriately shabby form. It is a process of transition and aspiration and self-improvement. ...The irony is that we are abandoning the process but preserving the form.
>
> - Paul Ylvisaker[1]

The dramatic movements of population from central city to suburb in recent years have led to some gloomy predictions for the future of the old residential areas abandoned in the process. With rising incomes freeing more and more families to move away, the older areas are seen facing a life of continued neglect and deterioration, housing mainly the segments of the population socially and economically constrained from free bargaining in the housing market.

According to this view the range of possibilities for old residential areas is limited: (1) redevelopment for luxury housing or non-residential use where favorable location and demand indicate that the acquisition costs can be justified, (2) maximum occupancy and minimum maintenance as long as low income families and minority groups have no alternative places to live, (3) a life of "shabby gentility", as rising incomes permit some improvement in housing for those who cannot move.[2]

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[1] "The Deserted City", Journal of the American Institute of Planners, Vol. XXV, No. 1 (1959), p.1.

[2] Raymond Vernon, "Some Reflections on Urban Decay", Confluence, Vol. VII, No. 2 (Summer, 1958), pp. 128-40.

While this view accurately describes the range of possibilities, there is strong reason to conclude that it understates the significance of the alternatives involving continued use of the existing stock. The 1960 Census of Housing has indicated that more positive forces are at work in some old neighborhoods to curtail or even reverse the process of declining housing quality. The central city's loss of population has eased pressure on the existing housing stock. Figures for both persons per dwelling unit and the number of families living in over-crowded units showed decreases between 1950 and 1960, for the largest metropolitan areas.[3]

The factors of rising income and thinning out of the population relative to the housing stock suggest more tolerable, if not actually better, conditions in existing housing. Perhaps more important is the consideration of actual improvements in physical condition which may have accompanied the factors. Here again the Census indicates positive forces at work: the number of substandard units decreased substantially between 1950 and 1960.[4]

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[3]The over-view of changes in condition was prepared from examination of six metropolitan areas: New York, Los Angeles, Chicago, Philadelphia, Detroit, and Boston. In terms of dwelling units in 1959, these were the six largest, with the exception of Boston, which ranked seventh behind San Francisco. "Over-crowded" units are those housing more than one person per room.

[4]Throughout this study, the definition of a substandard unit will include the 1960 Census classifications of dilapidated units, and standard units lacking other plumbing facilities. This is comparable to the 1950 classification of no private bath or dilapidated. "Other plumbing facilities" include running water, flush toilet for the exclusive use of the occupants of the unit, and/or a bath or shower for similar exclusive use. A unit lacking only hot water is not classified as substandard. In some statistics such units (i.e., those lacking only hot water) are not separately identified, and adjustments to the figures must be made to maintain comparability.

The decline in the number of occupied substandard units means a decline in the number of families housed below standard. This in itself represents an improvement in housing condition; but to the extent that the decline represents upgrading of units from substandard to standard condition rather than just demolition, the impact is even more significant.

The upgrading of old housing is the principal focus of this study. It is a process fundamentally related to the goal of "a decent home and suitable living environment for every American family"[5], for even with expanding volumes of new construction, more than half our existing housing stock is over twenty-five years old, and about one-quarter is more than fifty years old.[6]

In making this examination of changes in housing condition between 1950 and 1960, I have the following objectives in mind:

1. At the broadest scale, to examine changes in condition - with primary emphasis on upgrading - to specify the ways in which the changes occurred. In some instances it may be either helpful or necessary to examine net change rather than improvement alone; but the major concern will be with upgrading - that is, physical improvements to structures - as a facet of over-all improvements in housing condition.
2. To try to identify the factors associated with upgrading, in terms of location pattern within the city, and relevant population and housing characteristics.

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[5]Housing Act of 1949, as amended, Section 2.

[6]Bureau of the Census, 1960 U.S. Census of Housing, Vol. IV, Components of Inventory Change, Part 1A-1, Table 1.

3. To describe the kinds of work involved, and the related costs.

4. To examine the impact of upgrading activity on the condition of the total housing stock.

5. To draw conclusions from the above work and their implications for public policy.

I. BACKGROUND OF THE STUDY

Definitions

The term "upgrading" as it is used in this study needs careful definition at this point before any specific studies are discussed. In the most general sense the term refers to any repairs made to existing property, either to the structure itself or to its surroundings, i.e. fences, walks, and garages. Since upgrading denotes an improvement in condition, it can be distinguished from maintenance repairs which merely preserve the structure's present condition. This study, however, will not stress this differentiation too much, for two reasons: (1) without actual evidence of changes in value through sales or increased rents, it is often difficult to evaluate the significance of work performed in terms of its effect on the structure's condition; (2) even though some given improvements did not increase the value of the structure on the market, it is conceivable that the work could be of sufficient "value" to the owner, in terms of his use of the property, to be constituted upgrading. For example, a given repair, while of little importance in dollars, might be a factor in an owner's decision to remain in an old neighborhood. Thus the work would have value, in terms of preserving the stability of the area, and perhaps encouraging others to do the same.

One further clarification can be made now, one which has already been suggested. In a sense improvement in housing condition is not limited to physical repairs. Thinning-out of the population

and improved community facilities and public services may also have positive effects on housing condition. These factors will be given some consideration during this study, but the major emphasis will be on physical improvements, including repairs to the structure itself, and repair or replacement of mechanical equipment (plumbing, heating, kitchen fixtures).

Eventually, upgrading will be discussed in terms of levels of work and related costs, but the study can begin with this definition: the term "upgrading" as used in this study refers to repairs or improvements to residential properties which result in an improvement in housing condition as measured by evaluation by persons trained in this area, or by the value of the property on the market. The first category refers to changes from substandard to standard as contained in the Census of Housing; the second refers to repairs which may improve already standard units, or substandard units without resulting in change to standard condition. The Census of Housing provides specific information on the first type of upgrading, although it is subject to limitations which will be discussed later. Improvements in the second category cannot be identified separately, but description in terms of type of work and related cost overlaps both. The research will be concerned with both upgrading in general and that which results in a change from substandard to standard condition. The latter is of special importance because of its relationship to the so-called housing problem, which should also be defined before the study and its results are discussed.

The Housing Problem

The investigation of upgrading would not be so important, were

it not for the unique aspects of housing as a consumer commodity, and as a major social concern. The role of housing as a commodity has been described by Leo Grebler:

> It has often been observed that a basic problem in urban land use is the slowness with which the quantity and quality of housing and other improvements respond to changes in living standards, technology, location of urban activities, transportation facilities and the host of other dynamic factors that influence land use. In a nutshell, the problem is that of fixed real estate inventories versus moving people and establishments who use these inventories.[1]

Despite expanding levels of new construction, it is clear that old housing will remain an important resource in the housing market for many more years. As of 1959, sixty percent of the housing stock in the United States was constructed prior to 1940; thirty-five percent existed prior to 1920.[2]

Beyond this necessary reliance on old housing simply because it is there, there has evolved an increasing awareneness of the social function it serves. Urban renewal projects have removed large numbers of old structures from the housing inventory, and the related relocation programs have revealed the heart of the so-called housing problem. The problem involves questions of production techniques, and inflexibility in terms of location, but basically it is a problem of poverty: several sources have documented this problem, revealing a persistent condition little eased by general rises in income.[3] Beyond the basic

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[1]Leo Grebler, Housing Market Behavior in a Declining Area (New York: Columbia University Press, 1957), p. 14.

[2]Bureau of the Census, 1960 U.S. Census of Housing, Vol. IV, Components of Inventory Change, Part 1A-1, Table 1.

[3]see Michael Harrington, The Other America: Poverty in the United States (New York: MacMillan Co., 1962); also Dwight MacDonald, "Our Invisible Poor", The New Yorker (January 19, 1962), p. 132.

economic issue of low income, there are more specific aspects of the problem - the aged, the unemployed and the unemployable, and minority groups, whose problem is not simply a lack of money, but also discrimination which keeps them from participating freely in the market even when they are financially able.

The importance of old housing, then, stems from the simple fact that there are many such structures, and the fact that they perform an important social function in meeting the needs of particular elements of the population. The well publicized movements of population from central city to suburb tend to obscure the continuing importance of the old areas for persons who either want to or have to live there, to suggest a premature death for these "gray areas".

It is obvious that the solution to the housing problem involves more than improvements in physical condition. However, since old housing constitutes an important resource for families unable or unwilling to purchase new housing, improvements which increase the utility of the older stock can make a signigicant contribution to the solution to the over-all housing problem.

To document specifically the process of upgrading indicated by the Census figures, attempts should be made to answer several important questions, in some cases through specific research, and in some cases through discussion of the conclusions derived from the research.

Specific investigation of Census material and building permit data is directed at answering the following questions:

1. How much improvement took place between 1950 and 1960?
2. What impact on the total housing stock can be expected

from upgrading activities? More specifically, how does the volume of upgrading activity for the 1950-60 decade relate to the amount of substandard housing remaining in 1960?

3. What kinds of work are involved, what is the pattern of the activity (i.e. house by house or by neighborhood areas), and what are the related costs?
4. What population and housing characteristics are most significantly associated with upgrading?

Discussion of the conclusions resulting from the above investigations includes, in part, attempts to answer these questions:

1. How much improvement can be required to supplement the upgrading activities of individuals, and how should appropriate standards be derived?
2. What should be the components of a comprehensive public program designed to rehabilitate entire neighborhoods, and what neighborhood characteristics are the best keys to the probably success of such a program?

Obtaining answers to the first set of questions will require both macro and micro-analysis - examination of figures for the United States and major metropolitan areas, for a particular city (Boston), and for a specific area of that city. The emphasis of course will be on upgrading, but it will be helpful also to discuss briefly net changes in condition as a background for the more specific parts of the research.

II. THE FRAMEWORK OF THE STUDY

The investigation of upgrading begins with the consideration of changes revealed by the 1960 Census for the period 1950 - 60: (1) The decline in the number of substandard units[1], and (2) changes in population characteristics in central cities of the large metropolitan areas. The second point refers primarily to the "thinning-out" process, but also includes such factors as population turnover, income levels, and ownership (the specific factors and the reasons for chosing them will be discussed later).

To relate the Census information to the question of upgrading, it would be helpful to determine: (1) what part in the decline in the number of substandard units was played by upgrading, (2) what kinds of improvements were made, and (3) what, if any, is the relationship between the improvement in condition and changes in population and housing characteristics. These issues seem particularly important in the light of the emphasis being given to public programs intended to develop effective plans for the future use of old neighborhoods. I am referring here to the urban renewal program in general and rehabilitation in particular.

The research undertaken for this study was structured to test three major hypotheses related to the above questions:

1. The activities associated with upgrading are underemphasized

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[1]Recall the relationship between upgrading in general and upgrading involving change in condition, described in Chapter 1.

because of the frequently modest scope of the work, less dramatic and less evident than the major over-haul which is often associated with the term "rehabilitation".

2. Upgrading has occurred largely through individual actions in the market, without the impetus of public intervention. However, rather than being a general occurrence throughout the city, upgrading can be associated with a particular location pattern and type of neighborhood. That is, the phenomenon is not distributed randomly throughout the city, but occurs in areas whose environmental and population characteristics are generally different from other parts of the city. Under environmental characteristics of old neighborhoods I include such factors as adequate community facilities, access to open space, structurally sound buildings with some architectural character, a relatively high degree of community organization and interest in improving the area. (Rigorous testing of this hypothesis is difficult; my investigation will be confined to a discussion of the evident importance of these factors in an area of Boston in which substantial improvement was noted between 1950 and 1960.)

3. The population and housing characteristics positively associated with upgrading in such areas can be identified as follows: (1) owner occupancy, (2) a stable population relative to the city as a whole, as measured by change in total population, population turnover, and racial composition, (3) rises in income,(4) thinning-out of the population

relative to the housing stock, as measured by persons per dwelling unit, and the number of units housing more than one person per room.

Investigations

With the major questions and hypotheses of this study formulated, it is now appropriate to turn to the research itself. The net change in the number of substandard units will be examined first to present an over-all picture, and then upgrading will be considered separately. The over-all picture will be presented for the United States and the largest metropolitan areas as a background for the more detailed study of upgrading in Boston. Boston was selected primarily because of access to needed information, but also because it provides a good example of the thinning-out process, and because of the importance of existing housing due to the small amount of new construction between 1950 and 1960 [2].

Over-all Changes in the United States and the Largest Metropolitan Areas

The 1956 National Housing Inventory was the first large-scale survey to provide information on changes in the housing inventory over a period of several years. The techniques developed in that survey form the basis for refined operations carried out as a part of the 1960 Census of Housing, and incorporated in Volume IV : Components of

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[2] From 1950 to 1960 total population dropped by 13.2%, the median number of persons per dwelling unit went from 3.1 to 2.4, and the number of units with more than 1.01 persons per room dropped from 28,200 to 17,929. The vacancy rate for all vacant units moved from 3.2% to 4.5%. Source: Bureau of the Census, 1950 U.S. Census of Housing, Series P.D. 1, Census Tracts, Tables land 3. Bureau of the Census, 1960 U.S. Census of Housing, Series PHC(1)-18, Census Tracts, Boston, Table H-1.

Inventory Change. This is the principal source of data for the findings presented in this section.

Mention should be made of two problems related to the evaluation of changes in condition on the basis of the Census data: (1) information on condition was not reported for all units in 1950. In the following tables, the condition of the unreported units is distributed in proportion to the reported information, (2) evaluation of condition involves the problem of subjective bias and enumerator reliability. Disagreement in evaluation of physical condition is inevitable, even among experts[3]. While this factor must not be ignored, it is perhaps less active at the scale of metropolitan areas, where differences in judgment tend to cancel each other.

Since the information on components of change was taken for the period 1950-59, the definitional problem created by the switch from dwelling unit to housing unit 1960 has no bearing on these findings. This issue will be considered in greater detail in the examination of changes in Boston.

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[3]As a part of the 1956 National Housing Inventory, a follow-up survey of a sample of units was re-evaluated by a completely different team of enumerators. While there was general agreement in the identification of standard units, there was considerable disagreement over dilapidated units. The results:

Quality by Census Enumeration	Post Enumeration Survey		
	Standard	Substandard	
		Lack. Plumbing	Dilap.
Standard	96%	3%	1%
Substandard			
Lacking Plumbing Facilities	8%	80%	12%
Dilapidated	25%	43%	32%

For example, 96% of the units judged standard in the first check were also judged standard in the post enumeration survey; but only 32% of the units judged dilapidated in the first survey were also identified as dilapidated in the follow-up, and 25% were judged to be standard in the re-survey. source: Beverly Duncan and Philip M. Hauser, Housing A Metropolis: Chicago, (Glencoe: The Free Press, 1960), p.69.

The components of change covered in Volume IV include new construction, conversions and mergers, demolition and all other additions and losses[4] Also reported are changes in condition for units unaffected by any of the above factors. All of the components play a role in the picture of gross changes in the housing stock. However, in terms of an examination of improvements in the condition of existing housing, only three of these factors are important:

1. Demolition. It was pointed out earlier that demolition of occupied substandard structures represents improvement if it means a reduction in the number of families housed below standard.
2. Conversions and Mergers. Changes in occupancy may or may not involve changes in physical condition, but can contribute to improvement at least to the extent that changes in occupancy represent less intensive use of given space.
3. Changes in same units. Specific information on upgrading is provided here, in terms of units whose condition changed from substandard to standard.

The statistical material on changes in condition in general and upgrading in particular is presented in full in Appendix A. The conclusions from this data which are relevant to my study are summarized below:

1. The number of substandard units in the United States

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[4]The categories "other additions" and "other losses" include units gained from or lost to non-resident space, units moved between 1950 and 1959, units condemned but not demolished, and units involved in definition changes concerning "non-dwelling" units and quasi-units. None of this activity involved any changes in physical condition.

decreased from 15.5 million to 10.5 million between 1950 and 1959[5]. Of the 10.5 million substandard units existing in 1959, 3 million (29.2%) were located in standard metropolitan statistical areas, and 1.6 million (15.3%) were located in the central cities of the metropolitan areas. While it is clear from these figures that much of the substandard housing stock is located in rural areas, the number in the large urbanized areas is still large and is closely related to the social aspects of the housing problem, which were discussed in Chapter 1.

2. Demolitions removed 1.3 million units from the housing stock, while conversions and mergers produced a net reduction of .5 million units. Thus the bulk of the improvement -3.2 million units - occurred through physical improvements to existing properties.

3. Approximately 4.8 million units in the United States were upgraded from substandard to standard, 1.1 million of these in the central cities of SMSA's. Another .8 million units in the United States, and .1 million units in central cities were upgraded but remained substandard due to lack of plumbing facilities. These figures do not reflect improvements involving no evaluated change in condition. That figure

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[5]A study made in 1959 projected the number of substandard units in the United States through 1970. This report estimated 11.5 million substandard units in 1960, and 6.9 million in 1970. The results of the 1960 Census indicate a more rapid pace of improvement. The report also points out that the pace of improvement was greater in metropolitan areas than in the non-urbanized parts of the country. source: Reinhold P. Wolff and David K. Gillogly, The War on Substandard Housing, Bureau of Business and Economic Research, University of Miami (Coral Gables: University of Miami), pp. 11 and 18.

is obviously much higher, but the given figures do suggest that upgrading played a significant part in the decline in the number of substandard units.

4. Both owner and renter occupied units were upgraded in substantial number. Upgrading in owner occupied units was predominant for the country as a whole, but for the SMSA's the relationship varied with the local housing market. In central cities alone, 57% of the upgraded units were renter-occupied. (see Appendix, Table A-V).

5. Each of the six largest metropolitan areas experienced a decline in the number of substandard units. However, in four of the six areas, the net decrease was the result of substantial improvement through addition of plumbing facilities, which offset an increase in the number of dilapidated units - units which possibly, but not necessarily, also lacked plumbing facilities.

6. In each of the six largest metropolitan areas except New York, conversions and mergers produced a net decrease in the number of substandard units.

7. The number of units upgraded from substandard to standard in the six metropolitan areas ranged from 33.8 thousand in Los Angeles to 174.7 thousand in New York.

8. The impact of upgrading on substandard housing is shown below:

TABLE-I.--Relationship between upgrading and number of substandard units, 1950-59, for the United States and selected SMSA's[a] (in thousands of units)

	Dwelling Units 1950		All Units Upgraded[b]	% of 1950 Substan Units	Units Upgraded Substan to Stan Only	% of 1950 Substan Units
	Total	Substandard				
United States	46,137.1	15,510.6	5,636.1	36.2	4,802.2	31.0
Boston	687.8	70.9	38.7	54.6	36.0	50.8
Chicago	1,682.6	303.5	127.8	42.2	116.7	38.6
Detroit	858.0	99.9	46.0	46.1	44.6	44.7
Los Angeles	1,521.8	131.4	34.4	26.2	33.8	25.7
New York	3,953.9	384.4	192.9	50.1	174.7	45.5
Philadelphia	1,052.5	136.5	56.3	41.2	53.0	38.8

[a]Calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing; Vol. IV; Components of Inventory Change; Final Report HC(4); Part 1A; No's 1, 3,4,6,7,8 & 9; Table 5.

[b]This column includes units no longer dilidated but still lacking plumbing facilities.

It must be remembered that there were concurrent downward shifts in condition at the same time. However, considering the impact of demolitions, and conversions and mergers, if sufficient maintenance repairs to forestall any downgrading were made, the record of upgrading during the period 1950-59 suggests that the substandard housing in each of the six largest metropolitan areas could be eliminated within two or three more comparable decades.

9. In the Boston SMSA, the number of substandard units declined by 19,600, representing an increase of 800 dilapidated units and a decrease of 20,400 units lacking plumbing facilities. 36,000 units were upgraded from substandard to standard, and an additional 2700 were upgraded but were still substandard due to missing plumbing facilities. Utilizing the figures for upgrading in central cities as a percentage of upgrading in SMSA's (Appendix A, Table IV), I estimate that approximately 21,500 units were upgraded in the city of Boston; 11,400 through the addition of plumbing facilities only, 8400 through structural repairs which could include plumbing repairs, and 1700 which were upgraded but remained substandard through lack of plumbing facilities.

Changes in Condition for the City of Boston

The preceding section established the magnitude of a measurable part of the upgrading process on a large scale. While this provides a helpful background, most of the testing of the hypotheses must utilize more specific information. For this purpose, I now deal

with the city of Boston.

The data on components of change for the Boston SMSA showed a net decrease in the number of substandard units, representing an improvement through addition of plumbing facilities, offset partially by an increase in dilapidation. The picture for the city alone is exactly the reverse, and an easy explanation is difficult. In part, it may be that parts of the SMSA not heavily urbanized experienced little in the way of public actions to eliminate or upgrade structures, while more extensive activity occurred in the city. In part it simply represents the problem of reconciling data from two different sources. Table II presents the changes in condition for the city and compares them with the data for SMSA.

Another explanation for the difference between SMSA and City is that problems of comparability were created by the change in definition from dwelling unit to housing unit, adding to the 1960 inventory many units likely to be deficient in plumbing facilities, which existed but were not counted in 1950.[6] Before going any further, this "definitional increment" must be isolated. The purpose is to determine how many units existed but were not counted in 1950, due to ambiguities in the definition of the dwelling unit as applied to one-room units. One-room units would be the only ones affected.

The increment was estimated in two ways; utilizing census figures for the number of one-room units constructed between 1950 and 1959, and

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[6]The change in definition affects primarily single-room quarters. In 1960, separate one room quarters with direct access but no cooking facilities were counted, regardless of location (apartment house, rooming house or house converted to apartment). Such units were counted in 1950 only when a unit constituted the only living quarters in the structure.

records of the Boston Department of Building Inspection covering permits for new construction issued between 1950 and 1960. These figures were then compared with the total increase in the number of one-room units shown in the census. The difference between the census figures and the documented additions constitutes an estimate of the "definitional increment". Through this procedure I estimated the increment to be 9300 units.[7]

A definitional increment of 9300 one-room units is reasonable and must be accounted for in considering changes in condition. Since these units generally would not have separate bathrooms, a large number of them would be evaluated as substandard. Assuming 80% of the units substandard on this basis[8], some 7,440 of the 1960 substandard units stem from the definition problem and should be added to the 1950 figure. These changes are incorporated in the third column of Table II. On the basis of these corrections, the number of substandard units declined by 6,502.

In the preceding section I indicated three factors related to improvements in condition: (1) demolition, (2) conversions and mergers, and (3) upgrading. Records from the Boston Department of Building Inspection indicate that between 1950 and 1960, 11,268 units were demolished and 4,513 were added through conversions and mergers. Assuming that the proportion of substandard units in these categories is the same for the SMSA and the city, then 4,140 substandard units were demolished and 1,080 were lost through conversions

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[7]see Appendix B for a more detailed description of the methodology.

[8]In 1960 in the city of Boston, 79% of the occupied one-room units were substandard. source: Bureau of the Census, 1960 U.S. Census of Housing, Final Report HC(2)-31, Metropolitan Housing, Boston, Table B-5.

TABLE II.--Changes in condition for the city of Boston, 1950-60[a]

		1950[c]	1960	1950[d]
All Units[b]		222,079	238,547	
Substandard	No	34,256	35,194	41,696
	%	15.4	14.8	18.8
No. Dilapidated	No	13,206	9,306	13,702[e]
	%	5.9	3.9	
Lacking Other Plumbing Facilities	No	21,050	25,888	27,994
	%	9.5	10.9	

	Uncorrected	Corrected
Change in Total Substandard Units		
SMSA[f]	-19,600	
City	+938	-6,502
Change in Dilapidated Units		
SMSA	+800	
City	-3900	-4,396
Change in Units Lacking other Plumbing Facilities		
SMSA	-20,400	
City	+4,838	-2,106

[a]Calculated from: U.S. Department of Commerce, Bureau of the Census, 1950 U.S. Census of Housing, VolI, General Characteristics, Mass., Table 18.

_____, 1960 U.S. Census of Housing, Series PHC(1)-18, Census Tracts Boston, Table H-1.

[b]Dwelling units in 1950, housing units in 1960.

[c]Condition of unreported units distribution in proportion to reported units.

[d]Totals corrected for "definitional increment"

[e]In 1960, 6% of the substandard one-room units in Boston were dilapidated; 94% were substandard only through lack of plumbing facilities. These percentages were applied to the definitional increment of substandard units. source: Bureau of the Census, 1960 U.S. Census of Housing, Final Report HC(2)-31, Metropolitan Housing, Boston, Table B-5.

[f]The SMSA data is for the period 1950-59.

and merger in the city. With a total estimated decrease of 6500 units, this means that upgrading resulted in a net decrease of 1,320 substandard units.

In the preceding section, an estimate of 19,800 units upgraded from substandard to standard condition was derived for the city. When this figure is compared with the net decrease of 1,320, a discrepancy is evident. For the six largest SMSA's, a comparison between upgrading and net change indicates that there were about 2.5 units upgraded for every one that declined in condition. The Boston figures suggest a ratio closer to one to one. There is no clear explanation for the Boston figures, but two answers can be suggested: (1) It may be that out-lying urban centers are more extensive in the Boston SMSA than in the others, and that therefore the central city played a smaller part in upgrading activities than was the case in other metropolitan areas. By this reasoning the figure of 19,800 units would be high. (2) Housing deterioration may be in fact more pervasive in Boston than in the other cities; the benefit of upgrading is therefore greatly nullified by continuing deterioration. It seems reasonable to conclude that each of these answers is partially true. If the estimate of upgrading is reduced to reflect the character of the Boston SMSA, somewhat less than the estimated 19,800 units would have been upgraded from substandard to standard. Boston had 35,194 substandard units in 1960. At the rate of 19,800 upgradings per decade, assuming 4,100 demolitions per decade, only 15 years would be needed to eliminate all substandard structures. At the rate of 12,000 upgradings per decade (reflecting the adjustment for the character of the Boston SMSA), 22 years would be needed. These figures of course ignore the effect of deterioration,

but this merely emphasizes the importance of upgrading which more closely approximates maintenance as a factor in eliminating substandard housing.

Recapitulation: The Impact of Upgrading on Housing Conditions

The review of changes in condition between 1950 and 1959 indicates that the amount of upgrading which took place was indeed significant. In the United States as a whole, 5.6 million units were upgraded, 4.8 million from substandard to standard condition. These figures of course reflect only a portion of the total volume of upgrading, since many improvements were probably made to already standard units, or to substandard units without producing a change to standard condition. In the six largest metropolitan areas the amount of upgrading resulting in a condition change from substandard to standard ranged from 33,800 units in the Los Angeles area to 174,700 in the New York area; the upgraded units represented from 25% to 50% of the total number of substandard units. If this volume of upgrading continues, and allowance is made for removal of substandard units through demolition, all of the substandard units could be eliminated within a period of twenty to forty years.

These figures ignore the downgrading of units, but this merely sharpens the importance of other aspects of the upgrading process as I defined it. If in addition to the improvements which actually reduced the number of substandard units there also occurred sufficient work to prevent the deterioration of already standard units, then the problem of substandard housing could be solved much more quickly.

Comparison of figures for the total United States, and for SMSA's only, shows that substandard housing in the large urbanized

areas accounts for only 30% of the total number (Appendix A, Table I).

It is incorrect to consider the problem of substandard housing only in terms of the major urban areas, but certainly the shifts of population currently underway give added emphasis to the problem in those areas. In the Boston SMSA some 38,700 units were upgraded, and there was a net decrease of 19,600 in the number of substandard units. This suggests that for every two units whose condition was improved one unit deteriorated from standard to substandard. The importance of the full range of upgrading activities as discussed in this study is underscored by these figures.

Mention should also be made of the role of public programs in these changes. Improvements would occur in two areas - through urban renewal projects and through code enforcement programs. The record of urban renewal between 1950 and 1960, in terms of positive contribution to the solution of the housing problem as I have defined, it, is not an enviable one.[9] Substandard units were demolished, but the relocation program did not result in improved housing for many families, and the social effects of neighborhood clearance were damaging. Code enforcement activities have been successful in some cities[10]; but in Boston, Building Department officials said that code enforcement had not been a factor in the improvement of the area I studied. The public housing program, which accounted for half of Boston's new construction in the decade, did provide standard

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[9]for an examination of the minor contributions of urban renewal on the national scale see, Martin C. Anderson, The Federal Urban Renewal Program: A Financial and Economic Analysis, unpublished PhD dissertation (MIT, 1962).

[10]See William Nash, Residential Rehabilitation - Private Profits and Public Purposes, (New York: McGraw-Hill, 1959), pp. 108-128.

units for some families formerly housed below standard. However, very few substandard units were actually demolished in this program[11]. Improvement through public action, then, seems to be confined largely to demolition of substandard structures, with little evidence of upgrading through urban renewal or code enforcement in the United States as a whole.

The research thus far has answered my questions concerning the amount of upgrading which took place between 1950 and 1960, the impact of this activity on the total housing stock, and the relative significance of private actions and public programs. Next I turn to consideration of the specific kind of work which took place, and the relationship of the changes in condition to population and housing characteristics.

Population and Housing Characteristics Related to Improvements in Condition

To test the hypothesis concerning the relationship between change in condition and population and housing characteristics, it is helpful to deal with a universe smaller than the whole city. For this purpose, information on changes at the census tract level is relevant. Use of this information, however, again raises the issues of unreliability of evaluation. At the tract level it is no longer defensible to assume that differences in judgment tend to cancel out. To adjust for this problem, and for the problems posed by changes in definition, several steps were taken in selecting tracts

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[11] of 15 projects constructed between 1950 and 1960, only three involved any demolition of structures. source: Cornelius Connors, Director of Research, Boston Housing Authority.

for study[12].

1. Since the "definitional increment" was related primarily to one-room units, I eliminated tracts with a large number of such units (more than 100).

2. Tracts in which there was known demolition through public action were eliminated, i.e. the West End Redevelopment project and public housing construction where demolition of residences was involved.

3. Tracts with a large number of public housing units (more than 50% of the total) were eliminated.

4. Tracts with a small base of substandard units (less than 100 in 1950 or 1960) were eliminated to avoid distortion of the percentage change in the number of substandard units.

The application of these criteria to the 146 census tracts in Boston leaves a total of 78 "qualified" tracts. This necessary elimination of 66 tracts means that any consideration of a location pattern of changes in condition for the city as a whole is not possible. However, one general comment can be drawn from the location of the qualified tracts, i.e. those tracts containing both numerous substandard units and few one-room units. Essentially the sample consists of a ring between the densely built-up core area and outlying areas of newer and less densely populated housing (see Map 1).

For the purpose of examining improvement in condition, however, the elimination of almost half of the tracts presents no problem. Table III shows that most of the decrease in the number of substandard

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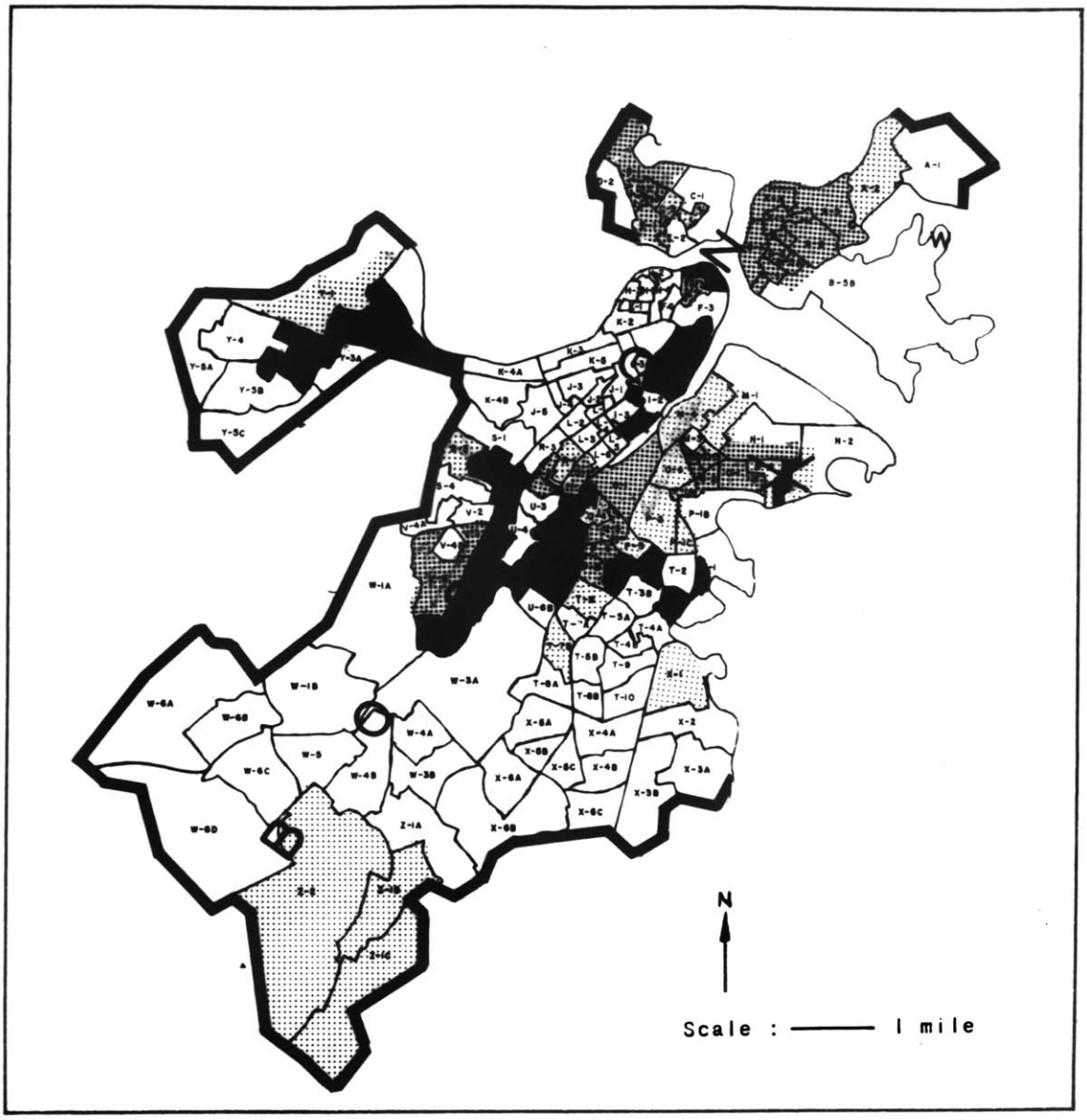
[12]Once again it should be emphasized that this test deals only with the portion of upgrading which resulted in a change of condition from substandard to standard.



PERCENTAGE CHANGE IN THE NUMBER OF SUBSTANDARD HOUSING UNITS, BOSTON, 1950-60, IN QUALIFIED TRACTS (see text, page 34, for definition)

LEGEND

Boundary, City of Boston

South Boston Study Area

Qualified Tracts

% decrease less than 10.6 (city figure), or actual increase

% decrease between 10.6% and 50%

% decrease greater than 50%

source: Bureau of the Census, 1960 U.S. Census of Housing, Final Report PHC (1)-18, Census Tracts, Boston
_____, 1950 U.S. Census of Housing, Bulletin PD-6, Census Tracts, Boston

Map 1

TABLE III.--Changes in condition in Boston, by "qualified" and "unqualified" census tracts, 1950-60[a]

	1950	1960	Net Change	Net Change[d]
Total Substandard Units	33,548[b]	35,194[c]	+1646	-5794
Increase in Substandard Units				
In Qualified Tracts			+1230	+1230
In Unqualified Tracts			+19,548	+3108
Decrease in Substandard Units				
In Qualified Tracts			-7736	-7736
In Unqualified Tracts			-2357	-2357
Net Change in Substandard Units				
In Qualified Tracts			-6506	-6506
In Unqualified Tracts			+8191	+751

[a]Calculated from: U.S. Department of Commerce, Bureau of the Census, 1950 U.S. Census of Housing, Bulletin P-D6, Census Tracts Boston. _____, _____, 1960 U.S. Census of Housing, Series PHC(1) -18, Census Tracts Boston.

[b]this figure is not corrected for unreported units, and is used here only only to agree with the figures for individual tracts, which were not corrected for unreported units because that number was not significant for any individual tract.

[c]Includes the "definitional increment".

[d]Corrected for "definitional increment".

units occurred in the "qualified" tracts. For the purposes of evaluating improvements in condition the sample is a suitable one.

Change in condition for each tract was measured by the percentage change in the number of substandard units. The range extended from a decrease of almost 80% to a few increases of over 100%. The relationship of change in condition to selected population and housing characteristics was examined through quadrant analysis (see Appendix C for description of methodology and detailed data). For this analysis the significance of a given percentage change in condition, or of one of the selected characteristics, was determined by its relationship to the city median for that figure (e.g. the number of substandard units in the whole city decreased by 10.6%; tracts which experienced a higher percentage decrease were considered "improved".) (Again see Appendix C for a fuller description).

The selected population and housing characteristics are listed below, together with the reasons for their selection and the results of the analysis. The "coefficient of association" for two factors ranges from +1.0, indicating perfect positive correlation, to -1.0 indicating perfect negative correlation.

1. Ownership (percentage of units owner-occupied, 1960). It is generally accepted that rehabilitation is more easily accomplished in owner-occupied units. While the figures on upgrading for the Boston SMSA indicated that only 37% of the improvement took place in owner-occupied units, the general view is that improvement at the neighborhood scale is likely to be more successful in situations of high owner-occupancy. The correlation of +.60 between improvement in condition and prevalence of owner-occupancy supports this view.

2. Change in Total Population (percentage change in total

population, 1950-60). In the Introduction to this study I suggested that the population shifts within the metropolitan area between 1950 and 1960 established a climate of easing pressure on existing housing which could encourage upgrading. If this is true, then there should be a strong positive relation between the indices of a thinning-out population and improvement in condition. In the case of total population, the conclusion is supported by a correlation of +.70.

3. Dwelling Unit Density (absolute change in median number of persons per dwelling unit, 1950-60). This is another index of thinning-out, which I stated should be positively related to improvement in condition. However, the correlation of -.25 indicates a different conclusion. Possibly part of this is due to the exclusion of numerous one-room units in 1950, making the absolute change between 1950 and 1960 seem larger than it actually was. To the extent that the correlation is meaningful, however, it suggests that population loss is accompanied by dwelling unit loss in areas of improving housing condition, resulting in little change in dwelling unit density for the area as a whole.

4. Over-crowding (percentage change in the number of units with more than one person per room, 1950-60). This is the third index of thinning-out, and the correlation of +.78 confirms the positive relation between a decrease in the number of over-crowded units and improvements in housing condition.

5. Number of Housing Units (percentage change in the total number of housing units, 1950-60). The results of the second test suggested that a decrease in the number of housing units should

be positively related to improvement in condition. While the decrease would be due primarily to demolition, it might also include mergers. The correlation of +.72 both confirms this conclusion and supports the validity of the finding on dwelling unit density.

6. Population Turnover (percentage of population five years old and over which moved to present location between 1955 and 1960). This factor was included to test the relationship between improvement in condition and a mobile urban population. Much public policy is concerned with maintaining population stability. If this is a justifiable objective, I should expect to find improvement in condition positively related to low population turnover. The correlation of -.36 between improvement in condition and high turnover supports the conclusion, but not emphatically. It may be that certain aspects of change can be conducive to improvement. The next two factors test this possibility.

7. Racial Change (change in non-white population as a percentage of total population, 1950-60), Much study has been devoted to the effect of non-white in-migration on housing condition. My assumption was that increase in non-white population does not automatically lead to deteriorating housing condition. The correlation of -.33 between improvement in condition and increase in non-white indicates that the assumption is not correct. However, other examination indicates that two kinds of change should be distinguished. Increased non-white population in an area already extensively non-white will probably intensify substandard conditions. But in cases where the non-white increase represents replacement of lower income white families by middle-income non-whites able to move from the segregated area, improvements in condition may occur. General

examination of census tracts in the Roxbury and Upper Dorchester areas of Boston supports these conclusions. Tracts which were already predominantly non-white in 1950 generally experienced little improvement; many of those which acquired a non-white population only after 1950 showed improvement in condition. In both types of tracts, however, "improved" tracts tended to be those which also experienced a rise in median income greater than the figure for the city.

8. Age (Median age, 1960). Another facet of the views on neighborhood stability is that an older population, less inclined to move, will be more willing to improve its housing. The correlation of -.34 between older population and improvement in condition suggests that this conclusion is not entirely true. Younger persons benefitting more from income increases, succeeding generations of ethnic populations anxious to stay in the old area (possibly true only very selectively, but it does appear to be the case in South Boston; this will be elaborated on in a subsequent section) - these people may well be more willing, and more able, to improve their housing than older persons.

9. Median Income (percentage change in median income, 1950-60). Increased spending power opens up many choices. If the consumer chooses to spend more on housing he may do it either by moving to a new location or by upgrading his present home. The positive correlation of +.34 between rising income and improvement in condition suggests that, while some of the benefit of increased spending power presently goes to upgrading, more is spent on housing through change in location.

10. Median Contract Rent (percentage change in median contract

rent 1950-60). Rent increases are a normal and justifiable result of many improvements to residential properties, and it was assumed that a positive relation exists between rent increases and improvements in condition. The correlation of -.18 neither affirms nor refutes this conclusion. It does suggest that improvements in condition do not always result in rent increases.

Recapitulation

The examination at the census tract level was conducted to test the hypothesis that improvements in condition are not randomly distributed, but can be associated with specific population and housing characteristics. The nature of the data and the size of the sample place limitations on the conclusions reached in the study (see Appendix C), but the results still suggest certain general conclusions. These are listed below:

1. Improvements in housing conditions are associated with the thinning-out process- a decline in total population and in the number of over-crowded units. The factor of declining dwelling unit density was offset by removal of units through demolition and possibly merger. Decrease in the total number of units was also associated with improvements in condition.

2. The relationship of improvement in condition to indices of change in population composition is less clear. There is a tenuous association between improvement in condition and low population turnover, but certain aspects of a changing population do appear to influence upgrading, e.g. increases in the number of younger persons, or racial change which involves replacement of low-income white population by higher income non-whites.

3. Owner-occupancy is a positive factor in upgrading. The data on SMSA's indicated that upgrading had occurred in substantial number in both owner and renter-occupied units. In many areas upgrading in rental units actually were predominant. New York, with 78% of its upgrading in rental units, is the extreme example. The factor which was tested here is related more to the extent of ownership in a given area. The assumption is that the presence of a large number of owner-occupants in a given area, indicates a greater committment to that neighborhood, and hence a greater willingness to keep property in good condition.

4. Rising income is positively related to improvements in housing, but, probably more is spent on changing location than on upgrading properties for continued occupancy.

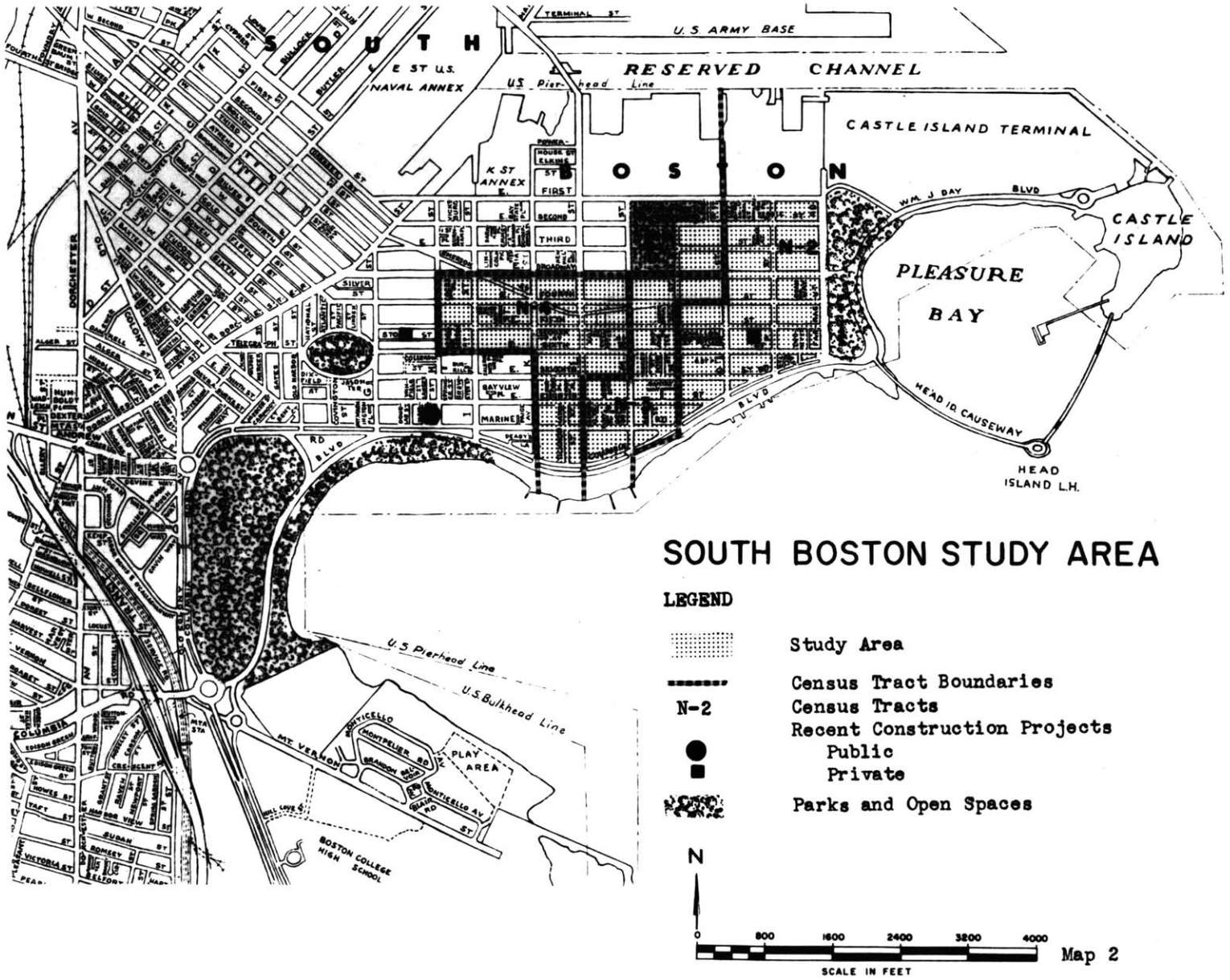
5. There appears to be no pattern of automatic rent increases resulting from home improvements.

Survey of Building Permit Data

Another of the hypotheses to be tested concerns the type of work and related costs involved in upgrading activity. I stated that the volume of work has gone unrecognized and uunderemphasized in large part because much of it involves only minor repair work rather than more costly - and more noticeable - major overhaul and structural renovation. At this point I return to the wider concern of all upgrading activities, rather than only those which produced a change in condition from sub-standard to standard. This is appropriate, since the intent is to describe a picture of all kinds of upgrading activity regardless of its relationship to change in condition.

The first technique selected for obtaining information on type and cost of improvements was an analysis of building permit information. The information was obtained for a section of the city in which upgrading, in the limited category of change in condition from substandard to standard, had been noted (see Map 2). Such a specific area was also selected to provide for testing of the third hypothesis related to neighborhood character as a factor influencing upgrading.

A detailed description of the area is contained in the next section. The area comprises three census tracts, containing 3,817 housing units in 1960, or 1.6% of the city's stock. In terms of structure type relative to the total city housing stock, the area is over-represented by lower density units. Table IV presents this information, which will be considered in greater detail in the following section.



SOUTH BOSTON STUDY AREA

LEGEND

- Study Area
- Census Tract Boundaries
- N-2 Census Tracts
- Recent Construction Projects
  - Public
  - Private
- Parks and Open Spaces

N

0 800 1600 2400 3200 4000

SCALE IN FEET

Map 2

TABLE IV.—Distribution of housing units by structure type, South Boston study area and total city[a]

		No. of Units in Structure				
		1	2	3-4	5-9	10 or more
South Boston	No	848	836	1949	73	111
	%	22.2	21.9	51.1	1.9	2.9
Boston	%	16.4	15.6	34.2	13.3	20.7

[a]Calculated from U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing, Final Report PHC(1)-18, Census Tracts Boston, Table H-1.

Examination of building permit records for the city provides a measure of total upgrading activities. The records indicate that 73,200 permits for improvements to existing structures were issued between 1950 and 1960 - 24,200 for plumbing repairs and 49,000 for building repairs.[13]

A twenty percent sample of building permits issued in the area between 1950 and 1960 was taken. On the basis of this sample, approximately 1250 permits were issued. This number was 2.8% of all permits for alterations and additions for the city during the same period. This slight over-representation of permit activity relative to the area's housing stock as a percentage of the total city stock supports the view that the area did experience significant

[13]Calculated from Building Department records as follows: records indicated the issuance of 44,009 permits for alterations and repairs to existing structure. A Department statistician estimated that permits represented 90% of actual work for which permits would be required. Hence the estimate of 49,000 permits for building repair. Recorded plumbing permits totaled 31,200. Assuming the same 90% reporting figure, and using the chief plumbing inspector's estimate that 70% of the permits were for existing units, I derived the estimate of 24,200 permits for plumbing repairs.

upgrading during the ten year period.

The permit data has three limitations - cost figures are not accurate, the permits are heavily weighted toward exterior work, since interior work is less susceptible to identification and control, and the nature of the issuing system permits the possibility of inadequate repair jobs being performed.[14] Nevertheless, the information gives a good picture of the range of work undertaken, and the reliability can be improved through the use of other sources of information.

Over 70% of the permits issued carried an estimated repair cost of less than $800. Only nine permits carried an estimated cost above $2000, indicating that few of the jobs involved major rehabilitation. That cost figures are generally understated is known; some measure of more realistic estimates was obtained through examination of selected permits taken out by contractors whose estimates the building inspectors considered reliable. The inspectors generally felt that estimates on the smaller jobs would be closer to true cost than those for more extensive work. Supplementary estimates developed with department inspectors are listed below:

1. Siding and roofing repairs are more frequently done as a complete job rather than through spot repairs. Depending on the

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[14]Unless major structural changes are involved, a short form permit, which requires no pre-inspection, is issued. It is possible, therefore, for poor conditions to be covered up before the work is inspected. However, inspectors are generally familiar with the quality of work and contractors operating in their area. A new operator or one whose reputation is bad, will receive closer attention than those whose operations are known to be satisfactory. source: interview with Frank Coughlin, Assistant Building Commissioner, Boston Dept. of Building Inspection; April 2, 1963.

type of material used and assuming no needed structural repairs, the cost of residing a wood frame two or three story building will run between $1500 and $3000; a complete reroofing will cost $1000 to $1200. These are the most expensive non-structural repairs.

2. Replacement of gutters and downspouts for a similar "typical" structure will cost about $400.

3. The cost of replacing obsolete plumbing facilities will run between $500 and $1200, depending upon the amount of finish work required and upon the extent to which vertical piping leading from the bathroom to discharge lines must be repaired or replaced. These figures are supported by data for plumbing permits issued between 1950 and 1960. During this period 31,200 permits were issued, at an average cost of $1,010. This includes permits for new construction, accounting for about 30% of the total.[15]

The above figures are not intended to represent a complete picture of costs; they do, however, cover the most expensive basic repairs.

Table V shows the permits issued by type of work. The bias toward exterior work is evident. The permits for siding work raise two questions: 1) the degree to which such work may have covered up basic structural deficiencies, and 2) the amount of low-quality work which may have been performed. The first problem was discussed in a footnote, in which I reported the feeling of inspectors that familiarity with contractors operating in a given area reduces the magnitude of this problem. In regard to the second point, the permit records in several instances showed permits for

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[15]Calculated from permit records of the Department of Building Inspection and from interviews with the Department staff, April-May 1963.

TABLE V.--Building permits issued in study area, 1950-60, by type of work proposed[a]

Proposed Work	No.	%
Exterior		
General Exterior Repair	19	8.1
Siding	71	31.2
Roofing and Cornice	14	6.3
Fire Escapes - Stairs and connecting balconies	43	18.8
Tuck-pointing Walls	8	3.4
Porch repair and replacement	29	12.6
Other exterior work - replacement of doors, windows, steps	15	6.3
Sills and foundation repair	3	1.1
Interior		
General Interior Repair	4	1.6
Walls	2	.6
Stairs	3	1.1
Flooring	2	.6
Structural work	3	1.1
Alterations in occupancy - conversion, merger, store to dwelling	8	3.4
Demolition	9	3.8
Total	233	100.0

[a]Calculated from Building Permit record files, Boston Department of Building Inspection, April, 1963.

a particular year bunched on a single street or block. This suggests the existence of factors other than owner initiative - either high-pressure salesmanship or social pressures from neighborhood citizen groups or local institutions.

Conversations with Building Department personnel confirmed the fact that public action through code enforcement had little to do with the upgrading activity. The only enforcement which might have been effective was through the Fire Department. This could explain much of the large number of permits for fire escape installation. However, the officials in the Building Department could recall no such activity.

The examination of building permits, including refinements made by inspectors, generally supports the hypothesis that much upgrading work is underemphasized because of the modest scope and cost of the repairs involved. It cannot be said with certainly that there is a direct connection between the decreased number of substandard units and the building permit activity in the South Boston study area. However, even without this connection firmly established, the figures do support the view that most of the repair work undertaken (and reported) was of a minor nature, seldom involving major structural repairs. Additional information on types of repairs and related costs is presented in Appendix D. This data underscores one point which was not brought out in the building permit data. While the cost of individual repair items is often small, any extensive renovation involving several jobs could quickly become costly. This factor shows up in the cost figures for major rehabilitation projects. Included also is a summation of the factors considered important by a local realtor and remodeler - Peter Turchon - in doing rehabilitation work particularly for the low income market.

Upgrading and Neighborhood Characteristics

A specific section of the city, improved in terms of housing condition, was selected for study for two reasons: (1) for purposes of obtaining specific building permit information, discussed in the preceding section, and (2) for examination of neighborhood environment and population characteristics which may bear some relationship to upgrading. In commenting on my findings in South Boston in this regard, I do not intend to suggest that a similar description could be made for every area in the city which experienced an improvement in housing condition. I do want to identify factors which may be relevant, either by their presence or absence, and the role they may play in the upgrading process. After field-checking several areas of the city in which the number of substandard units had decreased substantially, the South Boston area was selected. The reasons were in part intuitive, but the check of the area indicated a wide range of structural types and condition, and relatively high level of community organization.

Statistical characteristics of the area are shown in Table VI. The almost constant number of housing units conceals a small increase due to the "definitional increment", a limited number of demolitions, and a surprising amount of new construction. The number of substandard units dropped from 704 to 385 between 1950 and 1960, a decrease of 54.6%. More than 95% of the structures were built prior to 1940.

The distribution of structural type was referred to earlier (see Table IV). The over-representation of structures containing four or fewer units supports the views of Peter Turchon, a local realtor, who has had considerable experience in the modernization of old

TABLE VI.—Characteristics of change, 1950-60, for study area[a]

Characteristic		Boston	Census Tract N-2	Census Tract N-3	Census Tract N-4
Percentage change, no. substandard units		-10.6	-53.2	6.9[b]	-55.3
Percentage of Ownership		25.6	28.3	34.3	34.5
Percentage of Population Change		-13.1	-18.0	-8.8	-15.4
Percentage of Population Turnover		49.2	42.0	40.9	38.2
Increase in Non-white Population as percentage of total		4.5			
Percentage increase in median income		30.8	45.7	37.4	56.2
Percentage increase in median contract rent		29.9	35.6	32.4	35.5
Median age		32.9	33.7	34.8	33.3
Change in median persons per dwelling unit		-.7	-.4	-.5	-.3
Percentage change in no. of over-crowded unit		-34.2	-36.0	-33.6	-38.7
Total Population	1950		5113	3324	5521
	1960		4195	3033	4673
Persons per dwelling unit	1950		3.3	3.2	3.2
	1960		2.9	2.7	2.9
No. of over-crowded units	1950		186	113	212
	1960		119	75	130

[a]Calculated from: U.S. Department of Commerce, Bureau of the Census, 1950 U.S. Census of Housing, Bulletin P-D6, Census Tracts, Boston. _____, _____, 1960 U.S. Census of Housing, Final Report, PHC(1)-18, Census Tracts, Boston.

[b]102 substandard units in 1950, 109 in 1960. However, there are 41 one-room units in 1960, which probably account for some of the down-grading.

housing for a low income market. Mr. Turchon feels that ownership of income properties is an important factor in maintaining good housing conditions in old neighborhoods, primarily because extra income from rents can facilitate better maintenance of property[16].

Population changes in the area presented a typical picture of thinning-out - decline in population, persons per dwelling unit, and number of over-crowded units. The pattern of population characteristics generally supports the conclusion of the tests made earlier, with a few exceptions. For example, the median age of the South Boston population is higher than the figure for the total city. This is probably related to factors of ethnic composition, which will be mentioned shortly.

In the hypothesis concerning the importance of neighborhood characteristics, I indicated that I felt no rigorous testing was possible. However, I do feel that a description of factors which appear to be relevant to the particular situation of South Boston can provide a kind of checklist for evaluating other neighborhood areas. The factors are both explicit and implicit, derived from observation, census information, and discussions with persons familiar with the area. They are listed below, together with comments concerning their relevance. While the area examined did experience significant improvement in housing condition, it would be difficult to establish a concrete relationship between the factors and the improvement in condition.

1. General Physical Characteristics - Open Space, Topography,

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[16]Interview, April 15, 1963. Mr. Turchon also supplied numerous publicity handouts presenting variations on the same theme.

And Street Pattern. Proximity to the open water and developed beach facilities appears to be a strong factor in the quality of housing in the area. The structures directly connected to the water - those along Columbia Road and Farragut Road are generally in very good condition. The condition of structures tends to deteriorate as one moves away from these open areas along the water. North of Broadway most structures are in poor condition. Broadway and Fourth Streets generally mark the highest land in the area; the topography both separates the areas of generally good and bad housing and provides more structures on the southern slope with a view of the water. Structures surrounding Independence Square are generally in good condition, but the park itself suffers because it is not isolated from the blighting factors to the north. Broadway is a wide tree-lined street, containing many well-maintained and distinctive structures. Most of the north-south streets are narrow and congested, with no differentiation in intensity of use. All are thru streets, carrying more traffic than their size and the lack of intersection controls should allow. The area, then, benefits from its relationship to surrounding open space and its general topography. This relationship is made more important by the lack of smaller interior open spaces. The area also benefits from its relative isolation from the main activity patterns of the city, but the interior circulation system has inadequate control over thru traffic.

2. Surrounding Land Use. If the presence of open space is an asset to the area, then the heavy industrial area to the north along the Channel is certainly a factor in the deteriorated housing conditions north of Broadway. Almost none of the building permit activity in the area occurred north of Broadway.

3. Residential Density. It was pointed out earlier that 95% of the structures in the study area contain fewer than 5 housing units. The density of the study area is approximately 60 persons per gross residential area, a relatively low figure for a built-up urban area[17]. While this fact may mean less intensive planning problems concerning provision for parking and sufficient recreation and school facilities, another aspect should be mentioned. City Councilor Thomas Sullivan has pointed out that while the over-all density is relatively low, land coverage is high, leaving too little open space around residential structures. He feels that any upgrading program for the area would be of limited value without a program of selective clearance (some primary structures, but mostly unused and/or dilapidated buildings) to provide more space in the immediate vicinity of existing houses[18].

4. Architectural Quality. The value of this factor, as exemplified in areas like the Beacon Hill Historic District or the Georgetown area in Washington, D.C., can be separated into three categories: (1) the aesthetic values of authentic period architecture, (2) the status values which may be ascribed to occupancy of such structures, and (3) the basic value of well-built structures. Louis Winnick has pointed out that the high prestige old areas like Georgetown have been generally identified and developed by now.

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[17]The figure was calculated from census information and a Boston Redevelopment Authority base map - Map 2 of this study. By comparison, the density figure (persons per gross residential acre) for the total city is 53, for Somerville - 61, and for Cambridge - 82. source: Greater Boston Economic Study Committee, Land Use in Greater Boston in 1960, (Boston: 1962), p. 33.

[18]Interview, May 1, 1963.

However, even if prestige values on this scale are not operative in a area like South Boston, soundly constructed older structures still present a good base for upgrading activities, containing fewer problems of structural dilapidation than might be expected in old housing in general. The best example of this in the study area occurs along East Broadway, particularly in the vicinity of Independence Square, but other examples can also be found.

5. Population Composition. One factor influencing persons free to make a decision between remaining in their present place of residence and moving to a new location is their sense of identification with the present neighborhood. This sense of identification may well be strengthened if the population is a homogeneous one, and ethnic background is a strong determinant in this regard. Boston's North End is a good example. In the case of South Boston the ethnic bond is Irish, and the strength of the bond was emphasized by both Councilor Sullivan and Building Inspectors[19]. Other factors may also effect the strength of neighborhood association, but ethnicity seems to be one of the most important. The strength of ethnic ties to South Boston may account in part for the area's high median age (higher than the city median).

6. Community Facilities. The availability of good schools, recreation facilities, churches, and shopping areas is generally recognized as an important factor in minimizing movement out of old

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[19]Councilor Sullivan pointed out the political overtones of the situation, identifying the area as an important source of political strength for both city and state political figures. Robert MaCauley Chief Builder Inspector for South Boston, suggested that the ethnic ties were strong enough to influence families to move back to the area from other parts of the Boston metropolitan area. The statement was neither supported nor refuted conclusively in my investigations.

neighborhoods. The evidence for South Boston is somewhat mixed. The availability of open space has been mentioned, and commercial areas along Broadway provide an adequate variety of services. However, only 36% of the elementary school age population is enrolled in public schools, compared with a figure of 67% for the city as a whole[20]. This suggests two conclusions - the quality of public schools in the area is poor, and parochial school education is desired by many families in the area. The latter also reflects the important position of the Catholic Church in the area.

7. Occupation. Much of the minor work involved in upgrading can be undertaken by residents on a do-it-yourself basis. William Nash has referred to the reservoir of skilled workers available in a working class neighborhood[21]. This factor may be relevant in the study area - 56% of the employed male labor force in 1960 were engaged as craftsmen, foremen, operatives and kindred workers, compared to a figure of 37% for the total city[22].

8. Community Organization.[23] The South Boston community has been organized for many years, but until recently the interest was primarily political. The old organization is the South Boston Citizen's Association. A new group, the South Boston Residents Group was founded in 1960 in an effort to give more specific attention

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[20]Calculated from: Bureau of the Census, 1960 U.S. Census of Housing, Final Report PHC(1)-18, Census Tracts - Boston, Table P-1.

[21]Interview, April 19, 1963.

[22]Bureau of the Census, 1960 U.S. Census of Housing, Final Report PHC(1)-18, Census Tracts - Boston, Table P-3.

[23]The material on community organization was obtained in a telephone interview with Charles Kalnan, past president of the South Boston Residents Group, May 12, 1963.

to the area's problems and to represent the community more widely than the old Association does. The newness of the group means that it had little to do directly with the changes which occurred between 1950 and 1960. However, the group reflects the active citizen interest which existed prior to formal organization. The principal committees of the group have been concerned with zoning, urban renewal and neighborhood clean-up campaigns. The group launched a successful campaign to keep the area free of political posters during the 1960 and 1962 campaigns, and was instrumental in bringing about a lowering of the building height limitation along Columbia Road from 65 feet to 40 feet (after the new public housing project, a six story structure near H Street, was under construction.)

A past president of the group, Mr. Charles Kalnan, confirmed the views of Councilor Sullivan concerning the demand for housing in the area. Structures along Columbia Road are selling for as high as $35,000, while recently constructed row housing on 5th Street (see Map 2) sold for $17,000 per unit. Mr. Kalnan also expressed the view that much of the land north of Broadway would eventually be converted to non-residential use. He identified the lack of available financing and absentee ownership as the principal barriers to more substantial upgrading in the area.

Recapitulation: Neighborhood Characteristics

I can restate the possible significance of these factors on the upgrading process by summarizing their evident importance in the South Boston area. All of these factors can be related to my basic assumption that upgrading activities are more likely to occur in neighborhoods in which there is a relatively stable population and a high level of community organization. "Stability" refers to the

willingness or desire of persons to remain in their present place of residence when free choice of location is available to them. The South Boston area is one in which there are strong ethnic and institutional ties. The main institutional force, the Catholic Church, in addition to being a strong social force also makes up a deficiency in educational facilities. The population is predominantly working class, a positive factor in terms of upgrading activities. In terms of physical characteristics, the area benefits from its isolation from the major activity patterns of the city, from a relatively low gross residential density, and from its accessibility to open space and major recreational facilities. The area's population experienced a pattern of thinning-out found to be positively associated with upgrading, while median income rose faster in the study than it did for the total city. On the basis of the observed significance of these factors in the study area, I conclude that the results do support an hypothesis that upgrading, particularly that which results in changes in condition from substandard to standard, can be related to identifiable neighborhood characteristics. In short there are areas of the city in which upgrading is likely to be concentrated, and certain characteristics of such areas - as noted above - can be identified.

Summary of Research

The research which has been described in this chapter was conducted to answer certain questions and to test certain hypotheses related to the improvement of old housing. Before moving on to discuss the conclusions and implications which can be drawn from the research, it would be well to return to the questions and hypotheses and summarize the research findings:

Net Change

1. Between 1950 and 1959 the number of substandard units in the United States declined from 15.5 million to 10.5 million. Of the 10.5 million substandard units in 1959, 3.0 million (29.2%) were located in standard metropolitan statistical areas. The six largest metropolitan areas contained 25% of the substandard units in all metropolitan areas. About 1.6 million units - 15.3% of the total - were located in the central cities of standard metropolitan statistical areas. Of the 1.6 million substandard units in central cities, 881 thousand (54%) were substandard due only to lack of plumbing facilities; 737 thousand (46%) were dilapidated, possibly including the lack of plumbing facilities.

2. Between 1950 and 1960, the number of substandard units in the city of Boston declined from 41,700[24] to 35,200. Of the total number of substandard units in 1960, 9,300 (26%) were dilapidated and 25,900 (74%) were substandard due only to lack of plumbing facilities.

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[24]This is the corrected factor based on the determination of the "definitional increment".

Upgrading

3. Approximately 4.8 million units in the United States were upgraded from substandard to standard condition between 1950 and 1959. Approximately 3.6 million (75%) of these units were located in standard metropolitan statistical areas; 1.1 million (22%) were located in central cities. Of the total number of upgraded units in central cities, 38% were owner-occupied in 1959, and 57% were renter occupied.

4. Calculations based on the national figures (central city upgradings as a percentage of SMSA upgrading) indicate an estimated 19,800 units were upgraded from substandard to standard condition in Boston. An estimate of all upgrading activities, including those not resulting in a change in condition from substandard to standard, can be derived from building permit records. Between 1950 and 1960, 73,200 permits for improvements to existing structures were issued - 24,200 for plumbing repairs and 49,000 for building repairs. This figure still understates the amount of activity, since much work which might fit my definition of upgrading would not require a building permit (e.g. painting), or might be done without the issuance of a building permit.

5. Assuming continuance of the upgrading activity of the 1950-60 decade and assuming no increase in the number of substandard units through deterioration or occupancy change, only 15 to 20 years would be required to eliminate all substandard structures in the city. The assumption of no increase in the number of substandard units is unrealistic, but it serves to emphasize the importance of another aspect of upgrading activities - improvements to presently standard

structures to prevent decline to substandard condition.

Hypotheses

1. The activities associated with upgrading as defined in this Study are under-emphasized because of the frequently modest scope of the work. The work summarized above indicates that the volume of upgrading activity was large, both in urbanized areas as a whole and in the city of Boston in particular. Analysis of building permit data in a section of Boston which experienced a significant decrease in the number of substandard units, combined with comments on this material by Building Department inspectors, supports the statement that most of the improvements for which permits are issued involved a limited amount of work and costs which seldom exceeded $1000. Major jobs such as residing, reroofing, replacement or addition of porches, and replacement of plumbing facilities involving new piping as well as new fixtures, exceeded this amount. However, "typical" expenses averaged around $800 for building repairs and $600 for plumbing repairs, figures somewhat below the estimated costs of rehabilitation in publicly initiated rehabilitation projects.[25] The question of the relation of the work performed to standards

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[25]For example, estimated rehabilitation costs for the Washington Park Renewal Project in Boston ranged from $345 for minor repairs to a wood frame single family structure to $6,140 for major repairs to a wood frame three family structure. source: Chester Rapkin, The Washington Park Urban Renewal Area: An Analysis of the Economic, Financial and Community Factors that will Influence the Feasibility of Residential Renewal, (Boston Redevelopment Authority, December, 1961), pp. 4-5. Estimated rehabilitation costs for the Morningside Heights Renewal Area in New York City ranged from zero to $427 per apartment for minimal rehabilitation to about $4100 per apartment for major remodeling. The figures are for walk-up tenements. source: New York State Housing Rent Commission, Prospects for Rehabilitation: A Demonstration Study of Housing in Morningside Heights, New York City, (New York: December, 1960), pp. 27-34.

established through codes or other public policy is obviously relevant here. It will be discussed in the concluding chapter.

2. Upgrading has occurred largely through individual actions in the market without the impetus of public intervention. Moreover, the activity does not occur randomly throughout the city but can be associated with a particular location pattern and type of neighborhood. I indicated initially that I did not consider this hypothesis to be testable in any rigorous manner. However, I do feel that examination of the general character of a neighborhood which experienced significant improvement in housing condition can suggest the factors which may be important to the process of neighborhood upgrading.

Since numerous census tracts had to be eliminated in an effort to overcome the limitations of the data, no comment can be made in terms of a location pattern for the total city. The tracts examined in detail contained only 16,542 (47%) of the city's substandard units, but a large number of the remaining substandard stock consisted of one-room units. In general the substandard stock, with the exception of the one-room units, was contained in a middle ring between the densely built-up core and the newer and less densely built-up out-lying areas.

The only direct public activity which could have been responsible for any of the upgrading would be code enforcement (i.e. no rehabilitation projects had progressed to the execution stage by 1960), and Building Department officials indicated that there had been no concerted enforcement programs in the South Boston study area between 1950 and 1960.

The characteristics of the South Boston neighborhood which appear to be factors in the upgrading activities there can be summarized as

follows:

(1) On the positive side, accessibility to open space and recreational facilities; relative isolation from major circulation and activity patterns; a relatively low residential density (primarily two to four unit structures); a homogeneous population, particularly in terms of ethnic composition; presence of some structures with historic value in terms of architectural quality; strong social and institutional forces, in this case, evidently the Catholic Church; a high level of community organization; and a predominantly working class population, providing a stock of skilled labor for do-it-yourself home improvements.

(2) On the negative side, lack of differentiation in the interior circulation system; the presence of uncontrolled heavy industrial areas abutting the residential area, high land coverage on residential lots, leaving little open space in the immediate vicinity of houses.

These factors will not always be relevant for a particular neighborhood, but they do suggest a checklist of items which might be important to evaluate before formulating any program designed to encourage neighborhood upgrading.

3. Upgrading activity can also be related to specific population and housing characteristics, serving to identify further the parts of the city in which upgrading is likely to be most evident. Examination of upgrading in Boston, as measured by the percentage change in the number of substandard units, suggests the following associations:

(1) Improvement in housing condition is associated strongly with owner-occupancy, with the thinning-out process (decline in total population, in the number of units housing more than one person per

room, in dwelling unit density), and with a decrease in the total number of housing units.

(2) Improvement in housing condition is associated moderately with low population turnover, low median age and rising income.

(3) There appears to be no consistent relationship between improvement in housing condition and racial change. Instead, two types of situations can be identified: (a) Increase in non-white population in an area already extensively non-white may well lead to intensification of substandard conditions. (b) Increase in non-white population which represents replacement of low income white families by middle income non-whites may well result in improvements in housing condition.

(4) There was little association, either positive or negative, between improvement in housing condition and increases in rent. This suggests that much of the upgrading activity does not automatically result in increases in housing costs, presumably because much of the work does not involve major rehabilitation.

III. CONCLUSIONS AND IMPLICATIONS FOR PUBLIC POLICY

Before discussing any conclusions, I would like to return briefly to a key question affecting the reliability of much of the data used in this study. I identified earlier the problems associated with the use of census data on housing conditions. In using that data in this study I attempted to reduce the problem by utilizing other sources of data - building permits, interviews with persons familiar with particular situations - to provide comparison, and by using the data on condition selectively to eliminate the most obvious areas of bias.

The study developed from a desire to test the validity of some widely help beliefs concerning the fate of the old residential areas in our metropolitan areas - the so-called gray areas. The beliefs generally hold that decline and deterioration of housing condition in these areas is inevitable, that rehabilitation of such structures is not feasible, and that old housing is accepted through necessity rather than choice by most of the urban population.

The first information offering evidence to contradict these views came with the 1960 Census of Housing, which recorded substantial decreases in the number of substandard units, and in the number of over-crowded units, in the country as a whole and the large metropolitan areas in particular. The study grew from these basic figures, and was designed to document more specifically the part played by upgrading activities in this improvement, in terms of both the quantity and quality of the work undertaken, and of the relationship of the work to other facets of the urban environment.

The findings may be summarized briefly as follows:

1. An impressive amount of upgrading activity did occur during the 1950-60 decade, largely the result of privately initiated decisions rather than public programs.

2. "Rehabilitation" is an improper term for much of the work, which often involves much less extensive work than is implied by that word as it is used currently - i.e., largely in conjunction with large scale renewal programs. Upgrading as defined in this study encompasses work ranging from maintenance operations to major structural renovation.

3. The importance of maintenance work is emphasized strongly by the census figures. Upgrading activities which resulted in decreases in the number of substandard units were always partially offset by the deterioration of structures from standard to substandard condition, a process which could have been avoided at least in part with adequate maintenance work.

4. Upgrading activity was found to be associated with particular population and housing characteristics. I also identified certain facets of neighborhood characteristics which seem to be important to the existence of upgrading activities on a neighborhood scale.

It is in regard to this last point that this study is most directly related to the field of city planning. The study documented both the quantity of privately initiated upgrading activities, and the aspects of the urban environment which appear to be related to the improvement of housing condition in old neighborhoods. Any planning program concerned with such areas could well begin with an understanding of the forces operative in the private market.

Before discussing the specific implications of the study for planning programs, I would like to discuss the issue of public policy briefly in somewhat more general terms. The results of the study supported the belief that the thinning-out of the population in the central cities of the large metropolitan areas was a positive factor. In this sense population mobility is a positive force in the improvement of old neighborhoods. However, one of the principal objectives of most renewal programs involving rehabilitation and conservation is the maintenance of neighborhood stability. Clearly the explicit public policy is at odds with the implicit consequences of population mobility and the thinning-out process.

The answer to this dilemma involves a close look at the interaction of the two forces - population mobility and programs stressing neighborhood stability - in particular neighborhoods. In some instances, where population loss is coupled with increased deterioration of housing condition, the facts may suggest that the proper policy would be encouragement of transition, doing little to improve conditions or actively promoting redevelopment for non-residential or luxury residential use when factors of location and demand support the feasibility of such actions.

However, this study is concerned with another type of neighborhood, one in which population thinning-out has been accompanied by improvement of housing condition rather than deterioration. I suggest that it is in such areas, where private actions in the housing market have produced upgrading, that public policy based on encouragement of stability is most relevant.

What, then, are the implications of this study for public policy

and planning programs in areas of old housing? I would like to discuss this question in three sections, the three facets of public policy most directly related to upgrading activities. The three areas concern (1) the standards which should control the work undertaken, (2) the indicated role of public powers in providing for financial assistance, and (3) the case for comprehensive treatment on a neighborhood scale, and the factors which are involved in the planning proposals for such a program.

Standards

One of the problems confronting many rehabilitation projects now being planned is the fact that the level of rehabilitation proposed would require increases in housing costs producing almost as much displacement of present residents as would a clearance project.

The study indicated that a large volume of upgrading has occurred without the application of public programs. While the results do not provide specific information on the quality of this work relative to established code standards, it does seem reasonable to conclude that much of the work was done to suit the owner's standards, rather than those of a public problem geared to a high level of rehabilitation. In this respect the results make a case for differential standards, above a set minimum, which would be applicable to a given neighborhood based on the role of the area in the city housing market; and the relative stability of the area's population as measured by such factors as population turnover, income rises, and the amount of privately initiated upgrading activity which is occurring.

In the South Boston study area, in the part south of Broadway,

home improvements are being encouraged through the increasing demand for housing in that area. Despite population losses, the demand for housing marks it as a valuable housing resource in the city. In such areas, the indicated public policy concerning standards would seem to be a hands-off attitude, at least to the extent of attempting to enforce any standards intended to produce upgrading to a much higher level of condition in the short time span of a project program. In areas where this upgrading is not evident and further deterioration is occurring, the alternatives are different and other public programs are required.

The above summary presents a case for flexible standards geared to the particular requirements of neighborhoods. This is particularly important in areas like the South Boston study area, which have experienced upgrading, but still contain housing which is within the means of working class families. William Nash points out that "communities with poor housing cannot expect to enforce highly exacting codes without causing a sudden jump in rents, and must therefore either adopt a code of relatively low standards or enforce a high standard in easy stages. The process of staged enforcement could be legalized by stipulating that a given level of standards was to be in effect for a fixed period of years and then superceded by a higher level of standards and so on, until an ultimate level was obtained. This process by recognizing financial realities could avoid the stagnation that results from factional haggling over 'unattainable' goals."[26]

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[26] William W. Nash, Residential Rehabilitation - Private Profits and Public Purposes, (New York: McGraw-Hill, 1959), p. 168.

However, an opposite view holds that rehabilitation cannot be, and should not be, undertaken in government programs unless standards are set high enough to assure the long-run maintenance of good condition in the structures concerned. Alfred Cohn, a local builder who hopes to conduct a Housing and Home Finance Agency Demonstration Grant project studying rehabilitation techniques, expresses this view. He feels that government participation in a project requires the application of standards which will give some lasting value to the work undertaken. In this project the techniques would approximate new construction operations as much as possible, with houses being gutted to the bare structure and repairs made to a series of houses on a mass production basis. The two basic problems in rehabilitation projects today, he feels, are the frequent poor quality of do-it-yourself operations, and the cost involved in rehabilitating on a house by house basis. His project is designed to provide solutions to these problems.

Certainly there is little question that the value of home improvement activity is diminished if the work is of poor quality. However, the implications of my study in South Boston are that the factors of population change and environmental characteristics are positive factors affecting home improvement and that the application of very high standards may well disrupt the desirable work already underway.

Financing

In the South Boston study area, despite the improvement in housing condition which has occurred, it has been noted that local

banks have been reluctant to loan money for home improvements,[27] The study did indicate that much of the improvement work involved relatively small expenditures; however the cost data available (seeAppendix D) shows that work involving extensive repairs may well total up to an amount which would prohibit the work if financing is not available. Particular problems are also related to rehabilitation of housing for low income families which will not result in extensive displacement. Mr. Cohn feels that subsidies (to be recovered eventually through a lien against the property) are a necessary part of his program. Proposed rehabilitation activities in the Washington Park Urban Renewal Area will involve an estimated subsidy of $1500 to $3000 per structure.[28] The necessity of such assistance, whether in the form of direct subsidy or through more liberal lending policies of local banks (this is the case in the South Boston study area), suggests at least one way in which a public program may be needed, even in areas where substantial improvement has taken place.

Comprehensive, Neighborhood Scale Programs

The benefits of substantial improvement by individual owners are considerably lessened by the minority of owners who do not participate willingly in the improvement of their structures, and by problems at the neighborhood scale - the provision of community facilities and public services - over which the individual owner has little control. This is perhaps the basic reason for public participation

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[27]Interview with Charles Kalnan, Past President of the South Boston Citizens Group, May 13, 1963.

[28]Chester Rapkin, The Washington Park Urban Renewal Area: An Analysis of the Economic, Financial, and Community Factors that will Influence the Feasibility of Residential Renewal, (Boston, Boston Redevelopment Authority, December, 1961), p. 78.

in areas where private actions have produced significant improvement. The role of the public body will vary greatly from project to project. It may include the enforcement of code standard and provisions for financial assistance discussed above, as well as improvements to the street system and other public services, improvements to school and recreational facilities, selective clearance of structures too deteriorated to merit rehabilitation, and adjustments of land use patterns through selective clearance.[29]

The study area in South Boston provides a specific example of the planning programs which may be relevant in an upgrading area. A policy of comprehensive public programming for that area would lead to consideration of the following specific issues:

1. Circulation. Reorganization of the interior circulation system to remove the problem of thru traffic on residential streets. Improvement of First Street to provide a good access road for truck traffic other than Broadway, the locus of both commercial areas and some fine old housing.

2. Recreation Facilities and Open Space. Selective clearance of substandard structures to provide open space and small parks within residential blocks. At present, almost all of the open space is located at the periphery of the residential area.

3. Incompatible Land Uses. The industrial uses north of the

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[29]A description of the principle factors of "neighborhood quality" is contained in: Maurice F. Parkins, Neighborhood Conservation: A Pilot Study, A Demonstration Study in cooperation with the Housing and Home Finance Agency, (Detroit: City Planning Commission, 1958), p. xii. The factors listed are: (1) availability and adequacy of schools, (2) playgrounds, (3) shopping facilities, (4) off-street parking, (5) municipal services, (6) over-all area economy, and (7) traffic.

study area are generally noisy, dirty, and unpleasant in appearance. The adjacent residences north of Broadway did not share in the area's improvement. Public action is indicated here, probably clearance with industrial or commercial reuse, but possibly residential redevelopment if adequate buffering from the industrial areas could be developed.

4. Code Enforcement. Application of flexible standards, geared to the private upgrading which has occurred, in situations where owners have not acted on their own initiative.

5. Municipal Services. Maintenance of adequate levels of services - street cleaning and lighting, garbage collection.

6. Schools. The provision of new facilities would be more important were it not for the large enrollment in parochial schools in the study area. Nevertheless, existing public schools should be repaired or replaced.

This list suggests the range of public programs which could supplement the improvement work which has occurred already. These conclusions are based on the South Boston study area. Essentially, the study suggests that programs for old neighborhoods must be geared to the specific population and environmental characteristics of each area. Flexibility is needed in applying code enforcement standards in such areas. The existing level of community organization is another factor affecting the extent of community programs. In the South Boston area, for example, local initiative has already been effective. In such situations the best solution may be for the public programs to be implemented mainly through the existing local organization.

It should be emphasized that this kind of flexible program is not

applicable to all situations. Certainly the deteriorated area north of Broadway requires an approach different from the area south of Broadway. The basic indicator is the degree of stability demonstrated in the neighborhood, as measured by population change and turnover relative to the city changes, the level of existing community organization, and the amount of improvement which has taken place through private initiative.

The study has provided evidence that strong positive forces were helping to produce improvement in condition in some neighborhoods in Boston between 1950 and 1960. If public policies are to result in programs which supplement, rather than contradict these forces, then the level of rehabilatation encouraged or required must be carefully related to the characteristics of particular neighborhoods.

APPENDIX A

Statistical Data on

Changes in Condition for the United States and

Selected Standard Metropolitan Statistical Areas

TABLE A-I.—Substandard dwelling units, 1950 and 1959, for the United States and selected standard metropolitan statistical areasa (in thousands of units)

		United States	All SMSA'S	Central Cities	SMSA					
					Boston	Chicago	Detroit	Los Angeles	New York	Philadelphia
Total Dwelling Units 1950		46,137.1			687.8	1,682.6	858.0	1,521.8	3,953.9	1,052.5
Total Substandard	No	15,510.6			70.9	303.5	99.9	131.4	384.4	136.5
	%	33.7			10.3	18.0	11.6	8.7	9.7	12.9
Dilapidated	No	4,503.2			26.2	87.6	32.8	53.0	170.5	42.3
	%	9.8			3.8	5.2	3.8	3.5	4.3	4.0
Lacking Other Plumbing Facilities	No	11,007.4			44.7	215.9	67.1	78.4	213.9	94.2
	%	23.9			6.5	12.8	7.8	5.2	5.4	8.9
Total Dwelling Units 1959		58,467.9	35,099.4	18,769.4	772.4	2,144.0	1,143.1	2,327.8	4,843.2	1,328.4
Total Substandard	No	10,474.2	3,046.9	1,618.3	51.3	177.0	63.5	59.6	294.9	89.1
	%	17.9	8.7	8.6	6.6	8.2	5.6	2.5	6.1	6.7
Dilapidated	No	4,001.8	1,300.2	737.5	27.0	90.5	36.5	38.3	142.9	50.0
	%	6.8	3.7	3.9	3.5	4.2	3.2	1.6	3.0	3.8
Lacking Other Plumbing Facilities	No	6,472.4	1,746.7	880.8	24.3	86.5	27.0	21.3	152.0	39.1
	%	11.1	5.0	4.7	3.1	4.0	2.4	.9	3.1	2.9

[a]Calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing; Vol.IV; Components of Inventory Change; Final Report HC(4); Part 1A; No's 1,3,4,6,7,8 & 9; Table 1.

TABLE A-II.—Improvements in condition through demolition, conversion and merger; 1950-59; for the United States and selected standard metropolitan statistical areas[a] (in thousands of units)

	United States	SMSA					
		Boston	Chicago	Detroit	Los Angeles	New York	Philadelphia
Total Units Demolished	1,932.8	13.6	53.4	25.3	58.0	120.7	14.2
Substandard No	1,275.3	5.0	22.8	8.7	17.4	35.2	9.2
%	66.0	36.7	42.8	34.3	30.0	29.2	64.8
Dilapidated	641.6	1.9	14.1	6.4	10.4	33.4	5.5
Lacking Other Plumbing Facilities[b]	633.7	3.1	8.7	2.3	7.0	1.8	3.7
Total Change through Conversions (additions except where noted)	807.4	19.2	33.5	14.8	14.1	77.2	28.5
Substandard	257.4	3.6	15.5	4.1	3.8	18.2	5.8
Dilapidated	88.5	1.1	14.3	1.4	- .1	- .1	2.8
Lacking Other Plumbing Facilities	168.9	2.5	1.2	2.7	3.9	18.3	3.0
Total Change through Mergers (losses)	815.1	9.2	26.7	14.5	7.7	48.2	19.3
Substandard	763.5	6.0	17.2	11.1	4.0	10.1	15.6
Dilapidated	112.8	.8	3.0	.7	1.2	2.7	3.3
Lacking Other Plumbing Facilities	650.7	5.2	14.2	10.4	2.8	7.4	12.3
Net Change through Conversions and Mergers	- 7.7	10.0	6.8	.3	6.4	29.0	9.2
Substandard	-516.1	- 2.4	- 1.7	-7.0	- .2	8.1	-9.8
Dilapidated	- 24.3	.3	11.3	.7	-1.3	- 2.8	- .5
Lacking Other Plumbing Facilities	-481.8	- 2.7	-13.0	-7.7	1.1	10.9	-9.3

[a]Calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing; Vol. IV; Components of Inventory Change; Final Report HC(4); Part 1A; No's 1,3,4,6,7,8, & 9; Tables 1, 2, & 13.

[b]Tables 2 and 3 give information for units lacking some or all plumbing facilities, which includes units lacking only hot water. The figures were corrected as follows:

$$\text{Units Lacking some or all facilities} \times \frac{\text{1959 Units lacking other facilities}}{\text{1959 Units lacking some or all facilities}}$$

TABLE A-III.—Changes in condition for same units, 1950-59, for the United States, central cities, and selected metropolitan statistical areas[a] (in thousands of units)

	Total Units	1950 Condition								
		Standard			Sub-Standard					
					Lacking Some or all Facilities			Dilapidated		
		1959 Condition								
		Stan.	Sub-Stan.		Stan.	Sub-Stan.		Stan.	Sub-Stan.	
			Lack Fac.	Dilap.		Lack Fac.	Dilap.		Lack Fac.	Dilap.
United States										
No	40,056.6	26,815.8	472.7	618.1	4,000.3	4,010.2	1,448.4	801.9	833.9	1,059.1
%	100.0	67.2	1.2	1.5	10.0	10.0	3.6	2.0	2.1	2.6
Central Cities										
No	14,045.5	11,624.2	133.5	226.3	774.0	509.2	190.1	285.3	138.8	162.0
%	100.0	82.8	1.0	1.6	5.5	3.6	1.4	2.0	1.0	1.2
Boston										
No	618.9	536.0	9.8	15.4	22.8	10.2	4.6	13.2	2.7	4.2
%	100.0	86.8	1.6	2.5	3.7	1.6	.7	2.1	.4	.7
Chicago										
No	1,515.2	1,255.2	20.7	24.4	85.9	54.7	21.3	30.8	11.1	11.0
%	100.0	82.9	1.4	1.6	5.7	3.6	1.4	2.0	.7	.7
Detroit										
No	770.2	674.2	6.9	18.6	32.5	14.5	4.3	12.1	1.4	5.8
%	100.0	87.4	.9	2.4	4.2	1.9	.6	1.6	.2	.8
Los Angeles										
No	1,371.8	1,296.2	3.8	17.0	13.0	4.9	2.8	20.8	.6	11.9
%	100.0	94.5	.3	1.2	.9	.4	.2	1.5	-	.9
New York										
No	3,566.7	3,121.0	53.7	72.2	107.4	69.0	23.0	67.3	18.2	33.9
%	100.0	87.5	1.5	2.0	3.0	1.9	.6	1.9	.5	1.0
Philadelphia										
No	952.6	825.7	8.3	21.1	37.0	18.0	13.7	16.0	3.3	9.2
%	100.0	86.7	.9	2.2	3.9	1.9	1.4	1.7	.3	1.0

[a] Calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing; Vol. IV; Components of Inventory Change; Final Report HC(4); Part 1A; No's 1,3,4,6,7,8, & 9; Table 5.

TABLE A-IV.--Units upgraded, 1950-59, for the United States, standard metropolitan statistical areas, and central cities[a] (in thousands of units)

Source of Upgrading	United States	Inside SMSA's	SMSA as % of US	Central Cities	Central Cities as % of SMSA's
Addition of Plumbing Facilities only	4,000.3	1,551.8	38.8	774.0	49.9
Structural Improvements, not necessarily excluding plumbing work	801.9	450.7	56.2	285.3	63.3
Addition of Plumbing Facilities, Structure still classified Dilapidated	833.9	217.1	26.0	138.7	63.9

[a] Calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing; Vol. IV.; Components of Inventory Change, Final Report HC(4), Part 1A, No. 1, Table 5.

TABIE A-V.--Upgrading by tenure, 1950-59 for the United States and selected standard metropolitan statistical area[a]
(in thousands of units)

	Total Units Upgraded[b]	Owner Occupied	%	Renter Occupied	%
United States	5,636.1	3,186.0	56.6	1,962.0	34.8
Central Cities	1,198.0	460.4	38.4	680.1	56.8
Boston	38.7	14.3	36.9	21.7	56.1
Chicago	127.8	59.7	46.7	59.8	46.8
Detroit	46.0	23.6	51.3	18.5	40.2
Los Angeles	34.4	14.2	41.3	17.6	51.2
New York	192.9	33.4	17.3	150.4	78.0
Philadelphia	56.3	26.5	47.1	23.9	42.4

[a] Calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing; Vol. IV.; Components of Inventory Change; Final Report HC(4); Part 1A, No's 1,3,4,6,7,8, & 9, Table 5.

[b] Includes units upgraded but still substandard due to lack of plumbing fixtures.

APPENDIX B

Data Related to

Changes in Condition for the City of Boston

Determination of the "Definitional Increment" for Boston in 1960

Realizing comparability between 1950 and 1960 Census information on housing condition involves making adjustments for the definitional changes in the basic unit of enumeration. In 1960 the housing unit included all private units with direct access from the outside or from a private hall, or a kitchen or cooking equipment for the exclusive use of the occupants. The 1950 dwelling unit definition included only those one room units located in "standard" apartment houses, excluding many rooming house and other single room occupancy structures. Thus some, but not all, of the one room units enumerated in 1960 existed but were not counted in 1950. The task is to determine the number of 1960 one room units included in this category.

The problem can be approached in two ways, using Census data or Building Department information. The 1960 Census reported an increase of 10,176 in one-room units; all other units increased by 6,590. The total housing stock went from 222,079 to 238,547, an increase of 16,568. Building Department records for new construction, demolition, and alterations indicate a net increase of 7,367. This leaves 9,101 units unaccounted for, one estimate of the increment. However, even if all of these were one-room units, the figures would indicate an "honest" increase of 1,075 one-room units (10,176 - 9,101), probably a high figure. Therefore, a figure of 9,101 units stands as a minimum.

An estimate of the increment also can be derived from Census data. In the SMSA from 1950-59, 582 one and two room units were added by new construction,[1] and 2,262 one and two room units were added through alterations,[2] a total of 2,844 units. In 1960, Boston contained 60% of the SMSA's one and two room units and 45% of these were one room units.[3] Using these figures, we estimate that 800 one room units were added to the housing stock in Boston (2900 x 60% x 45%). Subtracting this figure from the reported increase of 10,176 one-room units, we obtain a definitional increment of 9,376.

Since the first estimate of 9,101 units was probably a minimum, it seems reasonable to set a figure of 9300 units as the "definitional increment" for Boston.

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[1]U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing, Vol. IV, Components of Inventory Change, Part 1B-3, Table 7.

[2]Ibid., Vol. IV, Components of Inventory Change, Part 1A-3, Tables 1 and 2.

[3]Ibid., Series PHC(1)-18, Census Tracts Boston, Table H-1.

TABLE B-I.--Indices of Housing condition and components of inventory change, Boston, SMSA, and city, 1960
(in thousands of units)

		SMSA	Boston	Boston as % of SMSA
Indices of Housing Condition[a]				
Total Housing Units		813.8	238.5	29.4
Total Substandard	No.	63.2	35.2	55.9
	%	7.8	14.8	
Dilapidated	No.	19.3	9.3	48.4
	%	2.4	3.9	
Lacking other Plumbing Facilities	No.	43.9	25.9	59.2
	%	5.4	10.9	
Negro Occupied		26.4	21.6	82.2
Units with more than 1.01 Persons/ Room		50.7	17.9	35.2
Families with income under $3000		70.7	27.4	38.6
Components of Inventory Change[b]				
New Construction		103.1	12.6[c]	12.2
Demolition		13.6	9.5	69.6
Net Additions through Conversion and Merger		10.0	4.1	41.3

[a]Calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing, Series PHC(1)-18, Census Tracts: Boston, Table H-1.

[b]SMSA data calculated from: U.S. Department of Commerce, Bureau of the Census, 1960 U.S. Census of Housing, Vol. IV, Components of Inventory Change, Final Report HC(4), Part 1A, No.3, Tables 2 and 3.

[c]6818 of these units - 54% - were in public housing projects.

APPENDIX C

Improvements in Condition, and Population and Housing Characteristics: Methodology and Data

Because of the problems of reliability which arise in dealing with the evaluation of housing condition at the census tract level, and the small size of the sample, I did not feel that a complex correlation analysis was warranted for examining the relationship between improvements in condition and other demographic characteristics. The method selected to provide some measure of relationship was the use of the "coefficient of association".[1] The method provides an index of the relationship between two variables. The test of correlation is not rigorous, but Hagood and Price point out that "the findings, however, will be a description of the association of characteristics, with the description of the group of units, large or small, acting simply as a specification of where, when, and among what sorts of units the described association exists".[2]

Since a two by two matrix is involved, dividing lines for each characteristic had to be selected. In each case, the line separating the two groups into which each variable was divided was drawn at the value for the variable for the total city. The relevant figures for the city were as follows:

1. Percentage change in number of substandard units, 1950-60: -13.6%
2. Percentage of ownership, 1960: 25.6%
3. Percentage change in total population, 1950-60: -13.1%
4. Absolute change in median number of persons per dwelling unit, 1950-60: -.7
5. Percentage change in number of over-crowded units, 1950-60: -34.2%
6. Absolute change in total number of housing units,

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[1]The procedure is described in: Hagood and Price, Statistics for Sociologists, (New York: Holt, Rinehart & Winston, 1960) pp. 358-63.

[2]Ibid., p. 360.

1950-60: the measurement was made simply by whether each tract gained or lost units.

7. Percentage of population moved between 1955 and 1960: 49.1%
8. Change in percentage of population non-white, 1950-69: +4.5%
9. Median age, 1960: 32.9
10. Percentage change in median income, 1950-60: +30.8%
11. Percentage change in contract rent, 1950-60: +29.9%

The matrix for each of the tests is shown below; the complete operation is shown for the first test only. In each case the horizontal line marks the 10.6% decrease in the number of substandard units for the total city. Units above the line are those which experienced a percentage decrease greater than the median figure; the units below the line experienced a percentage decrease less than the median, or a percentage increase. The facts on the tested characteristic differ somewhat in several instances, but in all cases the vertical line represents the figure for the city for the particular characteristic. In some cases the sample totals less than 78; information on a specific characteristic was not always available for the total sample.

1. Ownership

	less	25.6%	more
Improvement	30		24
Decline	20		4

54 tracts experienced a percentage decrease in the number of substandard units greater than that for the city. Of these, 30 had a percentage of owner-occupied units less than that for the city, and 24 had a percentage of owner-occupied units greater than the city percentage. 24 tracts experienced a percentage decrease in the number of substandard units less than that for the city or an actual percentage increase. Of these, 20 had a percentage of owner-occupancy less than the city percentage, and 4 had a higher percentage than the city figure.

The coefficient of association = $\frac{24 \times 20 - 30 \times 4}{24 \times 20 + 30 \times 4} = +.60$

2. Population Change

	less decrease or increase	greater decrease	
Improvement	6	48	-10.6%
Decline	10	14	

-13.1%

The coefficient of association = +.70

3. Population Density, persons per dwelling unit

	lesser decrease	greater decrease	
Improvement	48	6	-10.6%
Decline	19	4	

-.7

The coefficient of association = -.25

4. Over-crowding

	lesser decrease	greater decrease	
Improvement	12	42	-10.6%
Decline	16	7	

-34.2%

The coefficient of association = +.78

5. Number of Housing Units

	increase	decrease	
Improvement	10	44	- 10.6%
Decline	14	10	

The coefficient of association = +.72

6. Population turnover

	less turnover	more turnover	
Improvement	42	12	-10.6%
Decline	15	9	

49.1%

The coefficient of association = -.36

7. Non-White Population

	less increase	4.5% more increase	
Improvement	2	12	-10.6%
Decline	1	12	

The sample here was limited due to the small number of census tracts containing more than a small percentage of non-white population.

The coefficient of association = -.33

8. Median Age

	younger	32.9 older	
Improvement	38	16	-10.6%
Decline	13	11	

The coefficient of association = -.34

9. Income

	lesser increase	30.8%	greater increase
Improvement	20	31	-10.6%
Decline	13	10	

The coefficient of association = .34

10. Contract Rent

	lesser increase	29.9%	greater increase
Improvement	29	22	-10.6%
Decline	11	12	

The coefficient of association = -.18

APPENDIX D

Selected Information on Improvement Costs

and

Rehabilitation Techniques Related to Low-cost Housing

Peter Turchon of Homes, Inc., in Boston, buys and remodels 500 old houses a year. We asked him and his assistant, Charles Norton, to pass along a few pointers to our readers.

Remodeling Tips From the Nation's Top Remodeler

ROOFS

Roofs seldom need replacing, but nearly all need repairs. Leaks should be stopped, and rotted or worn shingles replaced in patches wherever needed. Any redecorating inside will be ruined if water gets into the house afterward. Flat roofs can be made watertight with an inexpensive coating of tar and gravel; asphalt shingles are best for slopes.

EXTERIOR REPAIRS

Never cover wood siding with any new surface. It's wasteful. Besides, a coat of paint looks better anyway. Masonry should be pointed up and rotten wood replaced. Occasionally, an ancient portico or porch can be torn off economically if sagging, or if the looks of the house will be substantially improved. Any exterior work should be regarded with caution as any major outside building changes are expensive. Do not put in more than you can get out.

STRUCTURAL CHANGES

Go easy here, but keep a careful eye on the essentials. Rotten wood in sills or studs should be replaced. The cause (usually poor outside drainage) should be removed. Masonry foundations should be repaired where necessary. To put a sway-backed house back on an even keel at low cost, set jack-columns on a firm base under the sagging beams and take up only a turn or two each day. If you try to do it all at once you will crack plaster. Disconnect all steam and water pipes so movement of the house won't snap old joints. Homes, Inc., straightened one house that had no firm basement floor for columns. Nine hydraulic jacks were used with nine men working them simultaneously. Two new 12 by 12 beams were placed under the house with the ends seated in prepared niches in the foundation wall. Then the house was lowered into place.

INTERIOR WALLS

Many old houses have crooked walls and plaster that is rough and uneven. Wall surface replacement is expensive. Wallpaper can cover a multitude of flaws. Cracks can be patched and papered over. Where walls are crooked, the effect can be dispelled by intelligent use of wallpaper patterns. Striped paper run horizontally around a warped corner will hide the tilt. Large patterns are best. Where plaster is rough, use a heavy pebble-textured paper.

CEILINGS

When ceilings are bad, a slick new ceiling of dry panels can be fastened to furring strips nailed through the old plaster. If old ceilings are too high they can be lowered a foot or two with a dry panel at reasonable cost. In kitchens or baths, ceilings can be dressed up even more simply and very effectively with one-foot-square dry panels that are simply stapled directly to the old ceiling without any furring. Materials for new ceilings are varied and good.

FLOORS

If floors are made of hardwood they can be sanded. However, floors in most old houses are soft wood and should be cleaned and repainted or covered with linoleum if they are pitted or splintered. Baths and kitchens should almost always get new floor coverings of asphalt tile or linoleum which are not expensive.

KITCHENS

Top priority should be given kitchens when it comes to redecoration. Old stoves should be torn out, also iron sinks and wooden drainboards. These can be replaced with low-cost modern units, many of which are available from mail-order houses. Some modern sink units can be purchased in kit form and are easily assembled. Metal wall-cabinet units (in banks to fit the kitchen layout) can be bought for little. Unpainted wood cabinets of the do-it-yourself variety may also be used. Walls may be covered part way up with plastic or metal tile if the wall surface is even. If not, wavy walls can be furred out and panel-type tileboard used. A simple coat of enamel paint can be used on good walls with excellent effect and for a tenth the cost. You can put a picture window over the sink for $80 to $120. Whatever you do make use of what the house has to offer.

BATHROOMS

Plumbing is the most expensive part of any modernization and should not be changed if it works well. If the old bathtub works try to think of some way to dress it up. Remember a new $75 tub may require $300 of plumbing revision. With new asphalt tile on the floor, ceiling tile stapled to the overhead, and with paint, paper or tileboard on the walls, even an old-fashioned bath can be made to look pretty good for a little money. Careful window treatment and good use of colors in the accessories are also important factors in the new-old bath.

WIRING

New fixtures can be installed in most old houses at slight expenditure and go a long way to minimize the shabby appearance of an old house. All old wiring should be checked carefully for safety and replaced where necessary. Extra outlets should be installed generously to accommodate modern appliances.

HEATING

Most old houses in the northern part of the country have adequate heating. If not, a hot-air floor furnace or oil-burning unit with hot-air outlet into the living room will do a passable job at reasonable cost. As far as the mortgage goes, this will satisfy most banks and insurance companies. Cold floors or walls may be corrected with insulation.

POPULAR MECHANICS OCTOBER

(Reproduced from publicity handout, Homes, Inc.)

Selected Costs for Remodeling and Renovation Work

This information is taken from the price lists of Modernization, Inc., as supplied by the Remodeling Department of the National Association of Home Builders. It is included here to supplement the information on types of repairs and related costs obtained from building permit data. The estimates include cost of labor and materials and of course are based on typical situations involving no special problems.

INTERIOR WORK

Framing and Partitions, assuming 8 foot ceiling	
½" Drywall construction, 20 linear feet	$252.00
Replace framing and trim on existing door	30.45
New door opening in existing partition	47.25
Cabinets	
Kitchen, base, 10 linear feet	390.00
Kitchen, wall, 10 linear feet	270.00
Library, 3 feet high, 10 linear feet	390.00
Flooring	
New floor and joists, softwood, 100 sq. ft.	165.00
Hardwood flooring, 100 sq. ft. unfinished	135.00
Hardwood flooring, 100 sq. ft. refinishing	35.00
Floor covering (tile, linoleum) 100 sq. ft.	40.00-180.00
Interior stairway, assuming 8 ft.height, including landing	490.00
Door, cut in existing partition	75.00
Door, wall up existing	53.00
Electrical Wiring	
Installation cost per 20 ampere circuit, not including outlets	53.00
Cost per outlet, open wall	8.00
Cost per outlet, "fishing" in existing walls	16.00
Furnace Installation	
Gravity, 6-room house	415.00
Forced Air, 6-room house	677.00
Bathroom replacement	
New, sink, toilet, bathtub, first floor	1,015.00
New, sink, toilet, bathtub, second floor	1,085.00
New, sink, toilet, bathtub, third floor	1,155.00
Sink, labor only	52.00
Toilet, labor only	60.00
Bathtub, labor only	147.00

Replace Kitchen Sink	$165.00 min.
Replace Water Lines, one bath on first floor	525.00
Replace Water Lines, one bath on second floor	610.00
Replace Water Lines, baths on first and second floor	695.00

Painting

6-room House, walls and wookwork, not including basement or third floor, average	735.00
6-room House, trim and woodwork only, average	410.00
Individual Rooms, one or two, with no other painting, average	
Floor, two coats	26.00
Walls, Ceiling, and Woodwork, two coats	110.00
Ceiling only, two coats	63.00

EXTERIOR WORK

Windows

Close up existing window	95.00
Cut New Window	190.00
Concrete steps, 3 treads, 4 feet wide, including 16 sq.ft. platform	131.00
Chimney, painting	66.00-105.00

Roofing

Asphalt roof, assuming 1000 sq. ft. (20ft. x 40 ft. structure) including average amount of new flashing

2-ply, no cleaning	320.00
4-ply, no cleaning	440.00
4-ply, cleaning	460.00

(note- includes estimate for removal of old slate or wood shingles)

Siding, assuming 2 story, 20 ft. x 40 ft. structure.

Asbestos	940.00-1,000.00
Aluminum	1,500.00-1,740.00
Wood Shingles	1,800.00-2,200.00
Roofing Used as siding	600.00- 660.00

(note- removal of existing asbestos siding would add 100.00)

Painting

Front Porch, average size, two coats	$205.00
6-room House, average, with front porch, not including openings, two coats	683.00
Window openings, wire brushed, two coats	6.00
Door opening, wire brushed, two coats	7.50

NOTE: It should be remembered that these estimates include labor. The cost of work done by people on a do-it-yourself basis generally would be less.

BIBLIOGRAPHY

Books

Banfield, Edward and Grodzins, Martin, Government and Housing in Metropolitan Areas. New York: McGraw-Hill, 1958.

Beyer, Glenn H. Housing: A Factual Analysis. New York: The MacMillan Company, 1958.

Colean, Miles L. Renewing Our Cities. New York: 20th Century Fund, 1953.

Duncan, Beverly and Hauser, Philip M. Housing A Metropolis - Chicago. Glencoe: Free Press, 1960.

Duncan, Beverly and Duncan, Otis. The Negro Population of Chicago. Chicago: University of Chicago Press, 1957.

Foote, Nelson N., et al. Housing Choices and Housing Constraints. New York: McGraw-Hill, 1960.

Grebler, Leo. Experience in Urban Real Estate Investment. New York: Columbia University Press, 1955.

_____. Housing Market Behavior in a Declining Area. New York: Columbia University Press, 1952.

Harrington, Michael. The Other America: Poverty in the United States. New York: MacMillan Co., 1962.

Hoover, Edgar M., and Vernon, Raymond. Anatomy of a Metropolis. Cambridge: Harvard University Press, 1959.

McEntire, Davis. Residence and Race. Berkeley: University of California Press, 1960.

Meyerson, Martin, Terrett, Barbara, and Wheaton, William. Housing, People, and Cities. New York: McGraw-Hill, 1962.

Millspaugh, Martin, and Breckenfeld, Gurney. The Human Side of Urban Renewal. Baltimore: Published by Flight-Blight, Inc., 1949.

Nash, William W. Residential Rehabilitation - Private Profits and Public Purposes. New York: McGraw-Hill, 1959.

Rapkin, Chester, and Grigsby, William G. The Demand for Housing in Racially Mixed Areas. Berkeley: University of California Press, 1960.

Strauss, Nathan. The Seven Myths of Housing. New York: Alfred A. Knopf, 1941.

Woodbury, Coleman. Urban Redevelopment: Problems and Practices. Chicago: University of Chicago Press, 1953.

Articles and Periodicals

"First Cities to Use New Demonstration Program Use Architects", Journal of Housing, (February, 1962), pp. 64-65.

Hoff, Arthur. "Rehabilitation Means Subsidy", Journal of Housing, (March, 1960), pp. 103-04.

Hommann, Mary M. "Neighborhood Rehabilitation in Working in Six Projects in New Haven: Here's How", Journal of Housing, (May, 1962), pp. 185-89.

Kristof, Frank S. "The Increased Utility of the 1960 Housing Census for Planning", Journal of the American Institute of Planners, Vol. XXIX, No. 1 (February, 1963), pp. 40-47.

MacDonald, Dwight. "Our Invisible Poor", The New Yorker, January 19, 1963, pp. 85-132.

Seeley, John R. "The Slum: Its Nature, Use and Users", Journal of the American Institute of Planners, Vol. XXV, No. 1, (February, 1959), pp. 7-14.

Siegelman, Leonore R. "A Technical Note on Housing Census Comparability", Journal of the American Institute of Planners, Vol. XXIX, No. 1 (February, 1963), pp. 48-54.

Vernon, Raymond. "Some Reflections on Urban Decay", Confluence, Vol. III, No. 2, (Summer, 1958), pp. 128-40.

Ylvisaker, Paul. "The Deserted City", Journal of the American Institute of Planners, Vol. XXV, No. 1, (February, 1959), pp. 1-6.

Reports

Boston Municipal Research Bureau. Improving Our Neighborhoods - A New Approach to Code Enforcement, (Boston: Boston Municipal Research Bureau, January, 1962).

Brussat, William K. (ed) Rehabilitation and Conservation Aspects of Urban Renewal, a report of the Fourth Working Conference on Problems in Urban Renewal, National Association of Housing and Redevelopment Officials, (Madison: 1959).

Housing and Home Finance Agency. 1961 Annual Report.

_____. Potential Housing Demands of Non-White Population in Selected Metropolitan Areas, a report of the Office of the Administrator, Office of Program Policy, (Washington: U.S. Government Printing Office, December, 1962).

New York City Planning Commission. Urban Renewal, a report on the West Side Urban Renewal Area, (New York: 1958).

New York State Temporary Housing Rent Commission. Prospects for Rehabilitation, A Demonstration Study of Housing in Morningside Heights, New York City, (New York,1960).

Organization of Cornell Planners. Housing-Whose Responsibility? - Proceedings of the Third Annual Spring Conference, Department of City and Regional Planning, (Ithaca: Cornell University, 1960).

Parkins, Maurice F. Neighborhood Conservation - A Pilot Study, a Demonstration Study in Cooperation with the Housing and Home Finance Agency, (Detroit: Detroit City Planning Commission, 1958).

City of Philadelphia, Office of the Development Coordinator. Partnership for Renewal - A Working Program, a Demonstration Study in cooperation with the Housing and Home Finance Agency, (Philadelphia: 1961).

Rapkin, Chester. The Real Estate Market in an Urban Renewal Area: Tenure Ownership and Prices of Residential Real Property in a Twenty-Block Area of Manhatten's West Side, (New York: New York City Planning Commission, 1959).

_____. The Washington Park Urban Renewal Area: An Analysis of the Economic, Financial and Community Factors that will Influence the Feasibility of Residential Renewal, (Boston, Boston Redevelopment Authority, December, 1961).

United States Commission on Civil Rights. Housing Report #4, (Washington: 1961).

Wolff, Reinhold R., and Gillogy, David. The War on Substandard Housing, Bureau of Business and Economic Research, (Coral Gables: University of Miami, 1959).

Other Sources

Anderson, Martin C. "The Federal Urban Renewal Program: A Financial and Economic Analysis". Unpublished PhD. dissertation, School of Industrial Management, MIT, 1962.

Boston Housing Authority. "The Low-Rent Public Housing Program in Boston", Unpublished report prepared by Cornelius Connors, Director of Research. Boston, 1961. (Mimeographed).

Frieden, Bernard J. "Communities in Decline: The Use and Rebuilding of Old Neighborhoods". Unpublished PhD Dissertation, Department of City and Regional Planning, MIT, 1962.

Park, Ki Suh. "Residential Conversions and their Planning Implications". Unpublished Master's Thesis, Department of City and Regional Planning, MIT, 1961.

United States Bureau of the Census, 1950 U.S. Census of Housing, Vol. I, No. 21, General Characteristics, Massachusetts.

_____. 1950 U.S, Census of Housing, Bulletin PD-6, Census Tracts, Boston, Mass.

_____. 1960 U.S. Census of Housing, Vol. I, Series HC(1)23, States and Small Areas - Massachusetts.

_____. 1960 U.S. Census of Housing, Vol. II, Series HC(2)-31, Metropolitan Housing - Boston, Mass.

_____. 1960 U.S. Census of Housing, Vol. III, Series HC(3)-180, City Blocks, Boston, Mass.

_____. 1960 U.S. Census of Housing, Vol. IV, Series HC(4), Components of Inventory Change.

_____. 1960 U.S. Census of Housing, Series PHC(1)-18 Census Tracts - Boston, Mass.

Interviews

Boston Department of Building Inspection. Frank Coughlin, Assistant Commissioner and Robert MaCauley, Inspector in South Boston, several conferences during April, 1963.

Cohn, Alfred B. Building Contractor, Cambridge, Mass., April 16, 1963.

Kalnan, Charles. Past President, South Boston Residents Group, telephone interview, May 13, 1963.

Kristof, Frank S. Deputy Director, Planning and Program Research Division, New York City Housing and Redevelopment Board, March 26, 1963.

Nash, William W. Associate Professor, Department of City and Regional Planning, Harvard University, April 19, 1963.

Sullivan, Thomas, City Councilor, City of Boston, May 1, 1963.

Turchon, Peter. Realtor, Boston, Mass., April 15, 1963.