RESIDENTIAL CONVERSIONS AND THEIR PLANNING IMPLICATIONS

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ABSTRACT

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During the thirties and forties, residential conversions were most instrumental in stretching the existing stock of housing to fill the part of housing demand that was not met by new construction. This role of conversions to provide additional dwelling units has lost much of its importance as housing shortage is being eased by new construction.

The long-term growth in the proportion of 1- and 2- person households has had many implications for conversion activity, especially in the light of a tremendously large supply of existing housing stock built in earlier generations for large households. Consequently the role of conversions has been to adapt some of these obsolete structures to meet small household requirements.

The purpose of this thesis is to investigate what possible role the residential conversions play in rehabilitating the existing stock of housing in central cities and gray areas, which are being abandoned in favor of suburban areas.

The main elements examined are: (1) the hypothetical role of conversions in the housing market; (2) the planning implications of conversion behavior for land use, intensity of use, open space, off-street parking, effects on housing quality, and types of consumer; and (3) the implications of the analyses and trends for public policy. Because of time limitations a single case study of the Town of Brookline was employed to test the hypotheses.

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INTRODUCTION

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 urban 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.[1] The heart of the problem lies in the fact that real estate inventories are fixed whereas people and establishments, who use these inventories, are mobile. Because of their fixity and durability, the real estate investments are constantly exposed to the effects of dynamic change.

Slums or blighted areas show the problem of fixed real estate inventories versus moving people and establishments in extreme form. But the problem is a general one and pervades all urban areas. To judge from past experience, the stable or growing district of today may well be the declining area of tomorrow.[2]

The phenomenon of residential conversion, which is defined as the process of changing existing dwelling units into a larger or smaller number of dwelling units,[3] is in large measure a product of the physical durability and fixity of urban land and its improvements. The residential structure has not changed much over the years with respect to its durability, but the stability of its use may have been considerably altered since the turn of the twentieth century. Our rapidly changing environ-

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1. Leo Grebler, Housing Market Behavior in a Declining Area, Columbia University Press, New York, 1952, p. 14.
2. Ibid.
3. See Appendix A for further definitions of conversion and dwelling unit.

ment, as reflected in the many economic and technological developments and changing characteristics of the population, has been playing a dominant role in this development. Mansions and town houses built at the turn of the century in the heart of the city, no longer serve a purpose, either because living habits have changed or because the environment may no longer be desirable. Homes built in earlier generations for larger families are often uneconomic for the smaller families of today.[1] There are a host of other types of urban land improvements which over the years are no longer able to provide the same quantity or quality of services they were originally intended to give, or the particular type and quality or services may no longer be desired.[2]

The outstanding feature is that the physical plant, the basic structure, may remain completely intact, yet the same unchanged structure does not produce services of economic value consistent with the original intent or cost of the improvement.[3] Thus, this change in the quantity and quality of housing with respect to the location of the real estate and over a period of time is fundamental to the problem of residential conversion.

In general, residential conversion depends on the growing number of obsolete dwelling units in which the quality of housing has significantly declined. The dwelling units, because of obsolescence resulting from changing family requirements, age and lack of profitability, represent frozen capital. Without attempting to appraise at this time the environmental effects of conversions, conversion process is a method for bringing some of this frozen capital back into the economic scene, or for

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1. Benjamin Lipstein, The Role of Residential Conversions in the Housing Market, unpublished Ph. D. thesis, Columbia University, 1956, p. 30.
2. Ibid.
3. Ibid., p. 31

making the existing stock of housing responsive to changed housing requirements. In short, conversion is a means for rehabilitating and salvaging the existing stock of housing.

Scope and Method of this Study

The purpose of the present study is to investigate what possible role the residential conversion play in rehabilitating the existing stock of housing in central cities and gray areas, which are now being abandoned in favor of suburban areas.

The main elements examined are: (1) the hypothetical role of conversions in the housing market; (2) the planning implications of conversion behavior for land use, intensity of use, open space, off-street parking, effects on housing quality, and types of consumer; and (3) the implications of the analyses and trends for public policy.

Because of time limitations, a single case study was employed to test the hypotheses. The area selected for case study is the Town of Brookline which is a sector of the Boston Metropolitan Area and continguous to the City of Boston. In addition to examining the town as a whole, a portion of the town, which includes four U. S. Census Tracts (NC-1, NC-2, NC-3 and NC-4), was chosen for a detailed study, whenever desired (See Map 1).

Aside from sheer convenience of location, Brookline was selected for the following reasons: (1) family requirements have been changing in Brookline; (2) the stock of housing has experienced many conversions in the last two decades; (3) the town has both aged and new residential structures; and (4) the town maintains many excellent records, particularly the building permits.

Map 1. The Town of Brookline and Adjacent Area

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The period of the study covers the decade of 1950-1960.[1] Because the study is in the nature of a case study, limitations are imposed on whatever conclusions may be drawn from it. Until similar materials for other areas are developed, generalizations are suggestive and preliminary rather than conclusive.

Other limitaions of this study are related to the scope of the investigation. The materials presented are not intended to test all the hypotheses that are implied in connection with the theoretical examination of the role of conversions in the housing market. The selection of hypotheses to be tested was guided, first, by seriousness of planning implications and second, by availability of data.

Even within these limitations, however, it is hoped that sufficiently significant materials have been assembled to illustrate the kind of study that can be undertaken to advance the understanding of conversion behavior in the housing market.

Lastly, wherever possible, the findings of the case study are compared with national and regional analyses and trends furnished by the 1956 National Housing Inventory.

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1. Although a longer period is desirable for a comprehensive study, lack of time necessarily has limited the period to the last decade.

CHAPTER ONE

SOME THEORETICAL ASPECTS OF CONVERSIONS

This chapter examines the type and location of the physical structures and of the families one may expect to be involved in the conversion process, and the main functions of the conversion process in the private economy under changing market conditions. It is shown that conversions are likely to occur in old and obsolete structures in which the quality of housing services has declined. They will occur not only in single-family residences, but also in multi-family structures, although the frequency of occurance is much greater in the former.

Most of these single-family houses are in old built-up parts of cities and owned by aged families. For many owners of these aged structures, there is a considerable incentive to convert. The cost of conversion is moderate, well within the financial means of these families and relative returns are great.

In the case of multi-family structure for leasehold, the landlord of a rental property may be often faced with the predicament in which the annual revenue from the rental units falls below the fixed and operating costs of the structure. If it continues too long, structures will either be abandoned or converted.

As for the role of conversion in the housing market, conversion had, since the thirties, assumed an increasingly important role filling the part of housing demand which was not met by new construction. The

converted dwelling units had been most instrumental in stretching the existing supply of housing to accommodate additional families.

Finally, the last part of this chapter is devoted to consider the role of conversion from the supply and demand side and for periods of shortage, surplus, and normal market behavior.

1. Reasons for Conversion

The quantity of sevices provided by structure is a function of its physical space and basic facilities. So long as these do not vary, the quantity of services remains the same. When a single-family house or a large apartment in multi-family structure is subdivided to accommodate two or more dwelling units, the quantity of services per dwelling unit is decreased and, if occupied, the intensity of use of the structure is increased.

On the other hand, proper physical maintenance of the structure may not in itself be able to control the quality of the services. The adequacy or value of the services may change because of changes in the household size, type of consumer, modes of living and the desire for the particular kind of services offered. Changes in the immediate environment, changes in architectural design, style and taste will be reflected in the evaluation of the quality of the services.[1] Thus, as housing moves downward in quality of services over time, the quality decline is often reflected in the price or rent.

When the relative position of a structure in terms of price or rent has declined in the housing inventory, the owner-occupant of a single-

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1. Lipstein, op. cit., p. 32.

family house may consider the alternatives of either remaining or selling and purchasing other shelter of better quality. He may also consider consuming only part of the shelter, thereby, reducing his living space, against renting the remainder of the house. To do this, he must examine the cost of conversion and potential income from the converted dwelling unit.

Owner-occupants of old single-family houses may be reluctant to sell since the sales price may be small and the cost of alternative shelter considerably higher than the cost of retaining the old property.[1] There is also a factor of many personal attachments to the neighborhood. If shelter requirements are small, and this would be particularly so for elderly couples, the owner-occupants may consider other uses for the unoccupied part of the house.

In the case of a multi-family structure for leasehold, the landlord may be gaining little on the structure and may even be incurring losses despite the fact that the dwelling units are rented. For many reasons, the revenue from the rental units may not be large enough to offset the fixed and operating costs of the structure. He may thus be confronted with discounting future losses or minimizing them. Consequently, structures such as this are often ready for an increase in intensity of use.

Ordinarily, if a structure became obsolete and of economic liability, it might be expected that it would be removed through the market forces for a new use. However, the "removal of obsolete structures through the action of market forces alone appears to be related not so much to physical or economic depreciation, but to alternative uses for the land,"[2]

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1. Ibid., p. 33.
2. Grebler, op. cit., p. 15.

particularly the rate of which new use can replace existing land use. Comparatively few sites are so well located as to justify the purchase of the land for demolition of the structure and subsequent improvement. Either greater intensity of use or succession of use is the more common occurrance.

Hence, old single-family houses or multi-family structures may no longer be rentable as they are now, but with some additional capital investments, can be subdivided into smaller dwelling units completely modernized and rehabilitated, and provide the going rate of return or better. Thus, expectations concerning the quantity and quality of services can be altered through conversions, thereby increasing the desirability of housing.

2. Submarket for Conversion

In general terms, a housing market area is the physical area within which all dwelling units are linked together in a chain of substitution.[1] After a locational choice in respect to a city or metropolitan area has been made, the housing market area is delineated by the closeness of possible substitutions, with dwelling units at the edges of an area becoming such poor substitutes that they can be disregarded.[2] Thus, it is quite possible to have a housing shortage in one housing market, but none in the other.

In studying the operations of the housing market, two analytic time periods might be considered. "The first, the standing stock period,

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1. Chester Rapkin, Louis Winnick and David M. Blank, Housing Market Analysis, A Study of Theory and Methods, HHFA, 1953, p. 9.
2. Ibid., p. 10.

relates to price determination during a period in which no new construction occurs. The size of the housing inventory remains constant. Prices (rents) and quantities (number of transaction per period) are determined by the mutual behavior of owners of the standing stock and potential consumers. The second, the construction period, describes the process of price determination in market where the size of the stock is permitted to vary through new construction and conversion."[1]

There are periods of calender time during which the additions to stock are so low as to be considered negligible. The behavior of the market during such periods may be considered to be equivalent to that postulated for the standing stock period. "The intensity of utilization of the stock at any given time is a significant measure of the relationship at that time between the supply of existing housing facilities and the demand for such facilities".[2]

The demand schedule for housing during the standing stock period is a function of "levels of income, the availability of rental and sales housing, the amount of liquid assets, terms of financing, tax considerations, expectations, the prospects of land speculation, migration trends, prices of substitutes, and household formation and composition".[3] These factors may be subject to considerable change during the short run and tend to give rise to greater instability than the supply schedule. On the other hand, the supply schedule for housing is primarily limited by the existing stock of housing during the standing stock period. The physical supply of housing is a relatively fixed and unalterable quantity.

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1. Ibid., pp. 16-17.
2. Ibid., p. 17.
3. Lloyd Rodwin, Housing and Economic Progress, Cambridge, 1961 Appendix B. p. 148.

In the present study, the framework is oriented toward the leasehold market since that is the area in which conversions compete. During the standing stock period, the intensity of utilization of existing housing stock is extremely critical to the leasehold market, particularly to the landlord. He is constantly faced with fixed costs, and operating costs which do not vary significantly with the intensity of utilization. When the demand is sluggish, the annual revenue may even at times fall below the landlord's total fixed costs without dwelling units being withdrawn from the market. His logical response may be either disinvestment, which means undermaintenance, or forced sale.

As the demand for dwelling units increases, the intensity of utilization also increases. The owners of single- and multi-family structures in the leasehold market find total revenue increasing as the vacancy ratio is reduced. Consequently, rents may be raised without affecting the number of the vacancies. Thus, for the first time, the size of the standing stock is allowed to vary through new construction and conversion. The initial response from builders at this stage is in the form of small-scale operations like single-family houses. Dwellings for sale, in general, start earlier than dwellings for rent, since the housing for sale enables the builders to get the most turnover without involving too much risk. Usually a full program of new rental investments do not get underway until it becomes evident that the demand is not transitory.

A similar phenomenon may be observed in the conversion activity. Conversion is generally in the nature of small-scale investment, and frequently requires relatively low cost, simple alterations in a short period of time. Because of its inherent characteristics of floor

plan,[1] a single-family house is more adaptable to conversion than is a multi-family structure. The former tends to impart more flexibility to the existing stock and respond more quickly to the changes in housing demand than the latter. However, the conversion of multi-family structures begins to be active once the direction of demand is firmly established to make conversion profitable. Comparatively, the conversion of single-family houses to 2-family use is considerably cheaper than the conversion of multi-family structures. Because of the higher cost and permanent nature of alterations involved, the financial risks are greater in conversions of this type.

The role of conversions in the early stage of the building upturn is of some interest since in a sense it bridges the gap between the standing stock period and the construction period.[2]

3. Conversions in the Period of Shortage

To alleviate housing shortage in the period of crisis, there are tendencies "such as the dividing of large houses in an effort to cut costs, the creation of kitchenette apartments in private homes for the duration of the shortage to gain income, and possibly even the renting of homes that would ordinarily be sold in the market".[3] During the thirties and forties, conversions were most instrumental for stretching the existing housing stock to accommodate additional families, thus, intensifying the use of structures. Conversions mushroomed because of

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1. Two or two and half story high houses can be easily converted to two-family use by providing a dwelling unit on each floor.
2. Lipstein, op. cit., p. 5.
3. Rodwin, op. cit., p. 148.

relatively moderate investment and reasonable return. Conversions in the United States for the decade of 1930 - 1940 are estimated to number more than one million dwelling units, about 40 percent of the total number of new private nonfarm dwelling units started in the period.[1] Converted dwelling units, during the decade, became much more frequent substitutes for new dwelling units. Furthermore, the situation in the post-war period[2] was such that, in 1946, the conversion of existing housing stock was actively encouraged by the National Housing Agency to provide more living accommodations for veterans' families.

Even when relief in the form of new construction appears in the housing market, the lower-income groups will be the last to feel the impact of increasing supply, since the most profitable market for new construction is among the higher-income groups. In addition to this trend, new household formation generally occurs in the low- and middle-income groups, such as young married couples, and single and unrelated-person households, whose demand for housing is in leasehold market.

Residential conversions tend to respond quickly to the growing demand by these households by providing small, but desirable accommodations at rents relatively lower than those of new dwelling units, but not lower than rents of existing dwelling units. Since the rents required to recoup the investment for conversion may not exceed the long-term price level for rehabilitated dwelling units in the market, the rent ceilings in the area are most important factor in determining the economic feasibility of conversions. The converter-investors would have to be more selective in financing such efforts to see whether the rehabilitation of

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1. See Table 7.
2. Conversions were actively encouraged during the war to accommodate defense workers.

housing through conversion would be economically feasible.

4. Conversions in the Period of "Surplus"

A serious question arises as to the magnitude of conversions in the period of housing "surplus". As the vacancy ratio increases, slackening demand brings about a decline in rents and prices, unfavorable cost-price relationship, and a slowing up of new construction. When the surplus exists in all ranges of rents and prices and sizes of dwelling units, not only will conversions cease, but existing properties will probably suffer from inadequate maintenance and repairs, and their deterioration will be accelerated.

In this period, however, merger may assume an extremely important role. Since increased incomes intensify the search for better accommodations and encourage the trend toward home-ownership, the merger of two or more small dwelling units to a larger and more spacious dwelling may provide housing choices for middle-income and possibly low-income groups who desire to own houses in the central cities and gray areas. Taking advantage of high vacancy ratio in the housing stock, the merger will vastly improve over-all housing quality by reducing the intensity of use of structures.

5. Increase in the Proportion of Small Households

Despite the forces which tend to reduce the number of conversions, there is a minimum level below which annual conversions probably will not drop.[1] Demand for smaller units will be sustained by the long-term

1. Chester Rapkin and William G. Grigsby, The Demand for Housing in Eastwick, Philadelphia, 1960, p. 22.

downward trend in household size. This is a result of the combined influence of the increase in the number of older persons who maintain their separate households, the increasing proportion of one- and two- person households, and an expected rise in the number of young married couples in the future.

In addition to this influence, there is now a strong trend for the concentration of small households in the old built-up parts of the central cities, thereby, giving impetus for conversion activity in these areas. Because the supply of housing in the central cities is very much limited to the existing stock built in earlier generations for large households, the role of conversion is to adapt some of these obsolete structures to meet small household requirements.

6. Implications of Conversions

Conversions have often been associated with excessive population increase, overcrowding of structures and overburdening community facilities and services. However, there appears to be no direct relationship between conversions and population increase, at least on area-wide basis.

There are many serious implications of conversions on residential neighborhoods which must be examined in the case study: (1) the number of converted units is probably directly correlated to the number of automobiles; (2) the increased number of automobiles creates traffic congestion and off-street parking problem; (3) since converted units cater to small households, there is a tendency for these units to be occupied by transient households; and (4) relative increase in the proportion of

aged population calls for public improvements to meet the needs of these people.

In the following chapter, these hypotheses along with many observations which have been so far stated will be tested and closely examined in the case study of the Town of Brookline.

CHAPTER TWO

CASE STUDY

1. Decline in Household Size

Since the turn of the century, there has been a long-term decline in the average size of household, accompanied by sharp increases in the proportion of very small households and by even more dramatic decreases in the proportion of very large households. This growth in the proportion of very small households has many implications for conversion activity, especially in the light of a tremendously large supply of existing housing stock built for larger households of previous generations. Consequently, need arises for adapting these structures to meet changing household requirements, and this is often reflected in the volume of conversions in these structures.

Since 1890, the average population per nonfarm household in the United States has steadily declined from 4.23 in 1890 to 3.44 in 1950, a decline of 18.7 percent (see Table 1). This long-term trend, consequently, has had a significant impact upon the demand for housing. Generally, the increase in the number of households is the net result of the combined effect of the increase in population and the decrease in household size. Assuming that the average size of household remained constant between 1890 and 1950, the total nonfarm households would have numbered 30,176,000 compared to the actural number of 37,089,000 (see Table 1). Thus, it can be assumed that about 80 percent of total household increase is accounted for by the population increase, and the remaining 20 percent by the decline in household size.

TABLE 1

NONFARM POPULATION, NONFARM HOUSEHOLDS, AND NONFARM HOUSEHOLD SIZE, FOR THE UNITED STATES, 1890 - 1950

Year	Nonfarm Population (millions)	Nonfarm Households (millions)	Average Population per Nonfarm Household
1890	33.500	7.923	4.23
1900	44.800	10.274	4.36
1910	59.895	14.132	4.24
1920	74.096	17.600	4.21
1930	92.618	23.300	3.98
1940	101.453	27.874	3.64
1950	127.649	37.089	3.44

Source: Leo Grebler, David M. Blank, and Louis Winnick, Capital Formation in Residential Real Estate, Trends and Prospects, Princeton, Princeton University Press, 1956, p. 82.

Reasons for the Decline

The decline in family size is largely the result of sharp drops in the birth and death rates.[1] Not only has a falling birth rate meant fewer children per household but also fewer adults per household, since the aging of the population which accompanies a falling birth rate exerts powerful leverage in raising the proportion of households to population. Between 1890 and 1950 the share of children in the population declined from 46 to 35 percent as adults increased from 54 to 65 percent.[2]

The decline in the average number of adults in a household requires more explanation since adults, unlike children, are free to vary the rate at which they set up independent establishments, regardless of any change in their number. The question is how much of the decline in adults per household can be attributed to an autonomous change in consumer behavior, that is, an increasing preference for independent households, and how much can be accounted for by mere change in the age composition of the population.[3]

According to Louis Winnick, changing age composition, rather than change in consumer behavior, has been the strategic force. The increase in the relative number of adults have been roughly four times as important as autonomous changes in consumer preference for independent households.

In addition, there are other important factors in the decline of the average household size: (1) the decline in the age at marriage and increase in the number of married people; (2) the historical rise in

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1. The national death rate dropped during the last half century by more than 50 percent, from 17.8 to 8.4 persons per 1,000 population.
2. Louis Winnick, American Housing and Its Use: The Demand for Shelter Space, New York, 1957, p. 79.
3. Ibid., p. 80.

real income and change in social attitudes toward the composition of the family occupying a dwelling unit; (3) the increasing porportion of one- and two- person households; (4) the relative increase in the number of older single persons who maintain their separate households rather than live with relatives; and (5) the declining proportion of nonfarm households with resident servants.

Household Trends in Brookline

During the last decade, the average size of household in the Town of Brookline has declined from 3.34 in 1950 to 2.86 in 1960, a decrease of 14.4 percent (see Table 2). This is more than double the rate of decline for the State of Massachusetts as a whole. Although the population has declined by 6.1 percent, the number of households has continued to increase by 13.8 percent (see Table 3). Apparently, only the decrease in the household size has contributed to the increase in the number of households.

During the same period, the combined share in the number of one- and two- person households has risen from 35.3 to 51.1 percent, whereas the large households of 5 or more persons have declined from 20.1 to 14.0 percent by 1960. The tendency toward smaller households is plainly evident and may possibly continue into the future (see Table 4, Chart 1).

As for the age composition of population in Brookline, the aged population over 65 or more has increased to 16.5 percent from 12.7 percent in 1950, while the age group of 0 - 4 has declined slightly (see Table 5). The study of marital status in the town indicates the similar trends. Whereas the proportion in the number of widowed or divorced has increased

TABLE 2

AVERAGE NUMBER OF PERSONS PER HOUSEHOLD AND PERCENT CHANGE IN AVERAGE HOUSEHOLD SIZE, FOR THE STATE OF MASSACHUSETTS AND THE TOWN OF BROOKLINE. 1950 - 1960

Area	Year	Average Number of Persons per Household	% of Change 1950-1960
Massachusetts	1950	3.45	-
	1960	3.23	- 6.4
Brookline	1950	3.34	-
	1960	2.86[a]	- 14.4

a. Adjusted to account for the change in the 1960 definition of "housing unit". (The 1960 Census figure - 2.76 persons per household)

Source: 1950: Seventeenth Census, U.S., 1950, Population, vol. III, Census Tract Statistics, Chapter 6, Table 1, pp. 27-28. 1960: Eighteenth Census, U.S., 1960, Population and Housing Characteristics, Advance table PH-1, pp. 72-73; Advance Reports, General Population Characteristics- Massachusetts, p. 5.

TABLE 3

POPULATION AND PERCENT CHANGE IN POPULATION, AND NUMBER AND PERCENT CHANGE IN HOUSEHOLDS, FOR THE TOWN OF BROOKLINE, 1950 - 1960

Year	Population	% of Change 1950-1960	Households	% of Change 1950-1960
1950	57,589	-	15,776	-
1960	54,044	- 6.1	17,944[a]	+ 13.8
Net Change	- 3,545		+ 2,168	

a. Adjusted to account for the change in the 1960 definition of "housing unit". (The number of households in the 1960 Census - 18,944)

Source: 1950: Seventeenth Census, U.S., 1950, Population, vol. III, Census Tract Statistics, Chapter 6, Table 1, pp. 27-28.
1960: Eighteenth Census, U.S., 1960, Population and Housing Characteristics, Advance table PH-1, pp. 72-73.

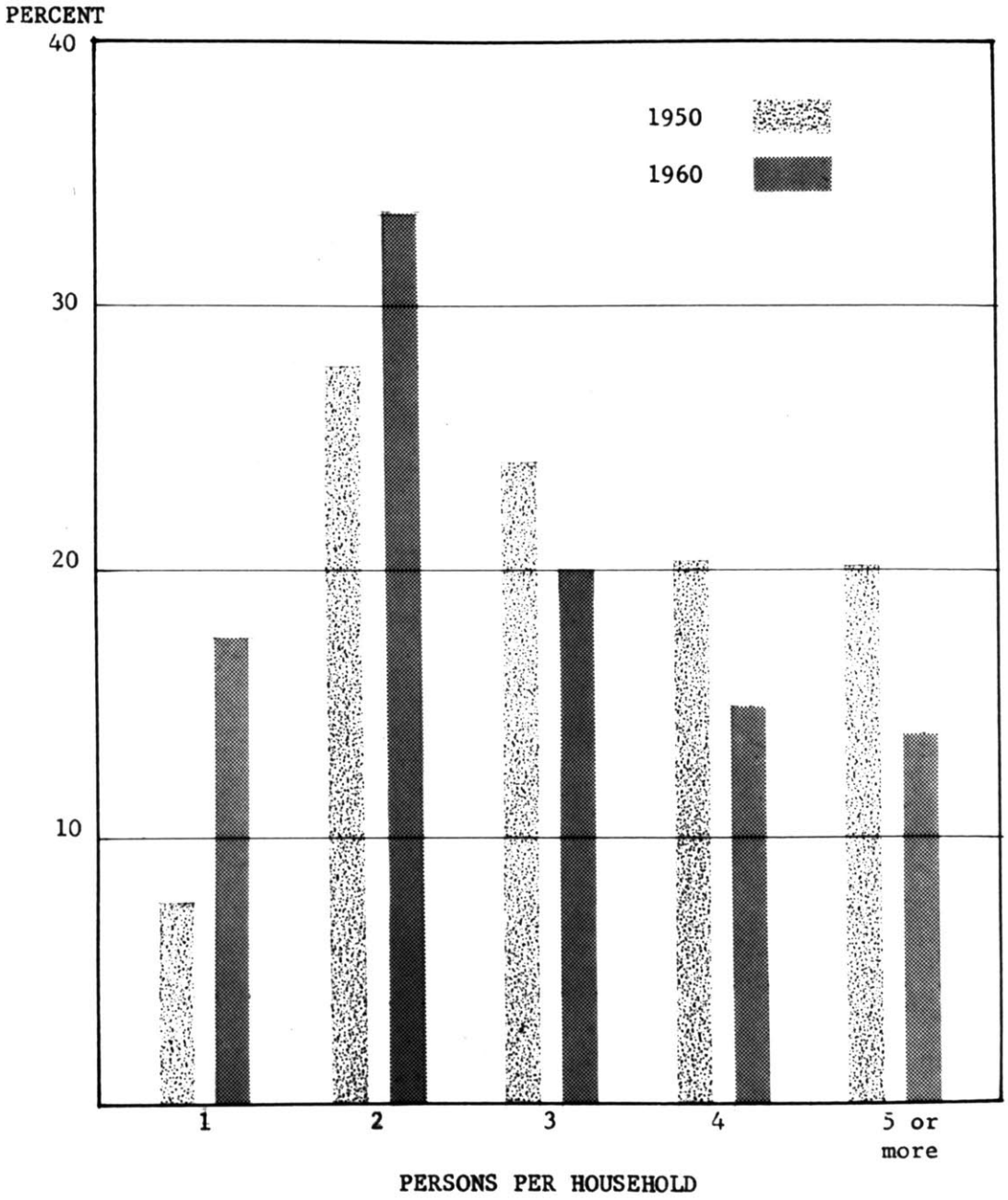

Chart 1 - Percent Distribution of Households, by Size, for the Town of Brookline : 1950 - 1960
Source: Table 4

TABLE 4

PERCENT DISTRIBUTION OF HOUSEHOLDS, BY SIZE
FOR THE UNITED STATES: 1950, 1900 and 1790
FOR THE TOWN OF BRROKLINE: 1950 - 1960

Size of Household	Brookline % of total		United States % of total		
	1960* (1)	1950 (2)	1950 (3)	1900 (4)	1790 (5)
1 person	17.5	7.6	9.3	5.1	3.7
2 persons	33.6	27.7	28.1	15.0	7.8
3 persons	20.0	24.3	22.8	19.6	11.7
4 persons	14.9	20.3	18.4	16.9	13.8
5 persons (or more, Brookline 1950 only)	8.0	20.1	10.4	14.2	13.9
6 persons or more	6.0	-	11.0	30.1	48.9
	100.0	100.0	100.0		

*. Adjusted to account for the change in the 1960 definition of "housing unit".

Source: Col. 1: Eighteenth Census, U.S., 1960, Population and Housing Characteristics, Advance table PH-1, pp. 72-73.
Col. 2: Seventeenth Census, U.S., 1950, Population, vol.III, Census Tract Statistics, Chapter 6, Table 3, pp. 107-108.
Cols. 3, 4, and 5: Louis Winnick, American Housing and Its Use, New York, 1957, Table 30, p. 79.

TABLE 5

PERCENT DISTRIBUTION OF POPULATION, BY AGE GROUP, FOR THE TOWN OF BROOKLINE, AND THE STATE OF MASSACHUSETTS, 1950 - 1960

Age Group	Brookline % of total		Massachusetts % of total	
	1950 (1)	1960 (2)	1950 (3)	1960 (4)
0 - 4	6.4	5.9	9.5	10.7
5 - 14	10.6	11.8	14.1	18.1
15 - 24	14.4	12.9	14.1	12.7
25 - 44	27.8	21.4	29.7	25.9
45 - 59	22.4	23.8	17.9	16.9
60 - 64	5.7	7.7	4.7	4.6
65 and over	12.7	16.5	10.0	11.1
	100.0	100.0	100.0	100.0

Source: Col. 1: Seventeenth Census, U.S., 1950, Population, vol. III, Census Tract Statistics, Chapter 6, Table 2, pp. 74-75. Cols. 2, 3 and 4: Eighteenth Census, U.S., 1960, Population and Housing Characteristics, Advance table PH-1, pp. 72-73; Advance Reports, General Population Characteritics - Massachusetts, p. 4.

be 7 percent, all the other groups, single, married, and children below 14 years old have suffered a significant decline (see Table 6).

In summary, the household characteristics of Brookline are as follows: (1) more than half of the total households are one- and two- person households; (2) about 24 percent of the population are 60 years old or more; (3) 11 percent of total population are either widowed or divorced; and (4) a further decrease in the number of school age children is expected.

Assuming a proportional utilization of space with respect to household size, the predominance of small households in Brookline suggests a good deal of conversion has occurred during the decade. A study of new construction activities during the decade of 1950-1959 may indicate the submarket for conversions. About 560 new multi-family dwelling units were constructed as against the increase of approximately 3,600 one- and two-person households. And in spite of the decline in the number of 3 or more person households, a loss of 1,380 households, about 610 dwelling units in one- and two-family structures were added to the standing stock of housing.[1] It may, thus, be concluded from the above that conversions have provided flexibility to the existing stock of housing, and thereby adapting to the change in the demand schedule.

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1. It is assumed here that these dwelling units consist of primarily efficiency or 1 bedroom apartments.
   Source: The Records of Permits in the Town of Brookline.

TABLE 6

NUMBER AND PERCENT CHANGE IN POPULATION, BY MARITAL STATUS, FOR PERSONS 14 YEARS AND OVER, IN THE TOWN OF BROOKLINE, 1950 - 1960

Marital Status	1950	1960	Gain or Loss	% of Change
Single	15,885	14,128	- 1,757	- 11.1%
Married	26,648	24,739	- 1,909	- 7.2%
Widowed or Divorced	5,895	6,299	+ 404	+ 6.9%
Total	48,428	45,166	- 3,262	- 6.7%
Below 14 years old	9,161	8,878	- 283	- 3.1%
Total Population	57,589	54,044	- 3,545	- 6.1%

Source: 1950: Seventeenth Census, U.S., 1950, Population, vol. III, Census Tract Statistics, Chapter 6, Table 2, pp.74-75. 1960: Eighteenth Census, U.S., 1960, Population and Housing Characteristics, Advance table PH-1, pp.72-73.

2 Demand for Housing

The degree of utilization of the standing stock at any given time is a significant measure of the relationship between the supply of existing housing facilities and the demand for such facilities. Conversions occur more frequently when the vacancy ratio of the standing stock is considerably reduced. The demand for housing is often reflected in the vacancy ratios with respect to the type and size of dwelling, rent and location within the housing market.

In part, converted dwelling units are competitors of new construction. The cost of modernizing and converting obsolete housing is comparatively small compared to the current cost of new housing (see Cost of Conversions). Furthermore, there is the added convenience of fully developed facilities which go with old established communities. Converted dwelling units have the attraction for small households, particularly those without children, of being close in to the heart of the city. Travel time to and from business is low; central shopping districts, eating places and entertainment are near at hand; for single-person households, furnished apartments relieve them of the burden of owning furniture and house furnishings. Price-wise, converted dwelling units are attractive since they frequently enter the market at the middle level rather than at the top, which is more common case with new apartment house construction.[1]

The market in which housing units in Brookline are directly in competition with other units consists for the most part of those areas immediately contiguous to Brookline. The cities of Newton, Cambridge,

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1. Lipstein, op. cit., p. 62.

and Boston have contributed over 80 percent of all the in-migrants coming from the Boston Metropolitan Area into Brookline. Boston was by far the largest contributor and most of the in-migrants from Boston came from Brighton and the Back Bay.[1]

The demand for rental units in Brookline mostly comes from small households, such as unattached persons living alone or in small groups, childless couples, older couples, and transient families. The persistent demand for housing in Brookline exists because: (1) it is well served both by rapid transit lines and highways; (2) it is conveniently located with respect to the Central Business District of Boston and other shopping centers; (3) it is an extention of the best residential areas of Boston and maintains a high quality of public services; and (4) it has proven itself as a market place for high rise luxury and medium income apartments.[2]

This continued demand can be substantiated by the vacancy ratio for the town. The 1960 U. S. Census indicates that the vacancy ratio was 2.2 percent of the total housing stock in 1960.[3] Another indicator is an increasing number of converted basement apartments in Brookline. During the decade of 1950-1960 alone, approximately 124 basement apartments were added to the housing stock.[4]

In summary, converted dwelling units are competitors of new construction and extremely attractive for small households who desire to live in an established urban environment. Brookline, because of many factors stated above, has established itself as a town desirable for luxury and medium income apartments.

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1. Joseph F. Turley and Richard M. Doherty, Economic Study of Brookline, Part II, Housing Demand Study, p. 2.
2. The median rentals in the four census tracts selected range from $100 to $140.
3. The vacancy ratio in 1950 for the town was 1.9 percent.
4. About 10 percent of the total legal conversions during the period.

3. The Volume of Conversions

The volume of conversions is a function of the relationship between the supply of housing facilities and the demand for such facilities. Conversions are most active in a period of housing shortage, both absolutely and relatively with respect to providing additional dwelling units. In this period, converted dwelling units are frequent substitutes for new dwelling units. In short, the volume of conversions is greatest in the period of housing shortage and is at a minimum level in the period of housing surplus.

In the decades before 1930, the sources of additional dwelling units in the United States were almost entirely in the form of newly constructed dwelling units (see Chart 2). In the following two decades of 1930-1939 and 1940-1949, a significant proportion of the increase in the housing stock came from conversions of existing structures (Table 7). The volume of conversions for 1930-1939 was estimated about one million dwelling units, that is about 40 percent of the number of new private nonfarm dwelling units started during the decade. Although the absolute number of conversions increased by 750,000 units in the next decade, the ratio of converted units to new dwelling units started declined to 37 percent. Thus, these two decades were characterized by a high level of conversions compared with earlier decades, both because of the effects of the depression of the thirties and because of the war and postwar housing shortages of the forties.

However, the relative importance of conversion as a source of additional dwelling units has considerably diminished since 1950. The 1956

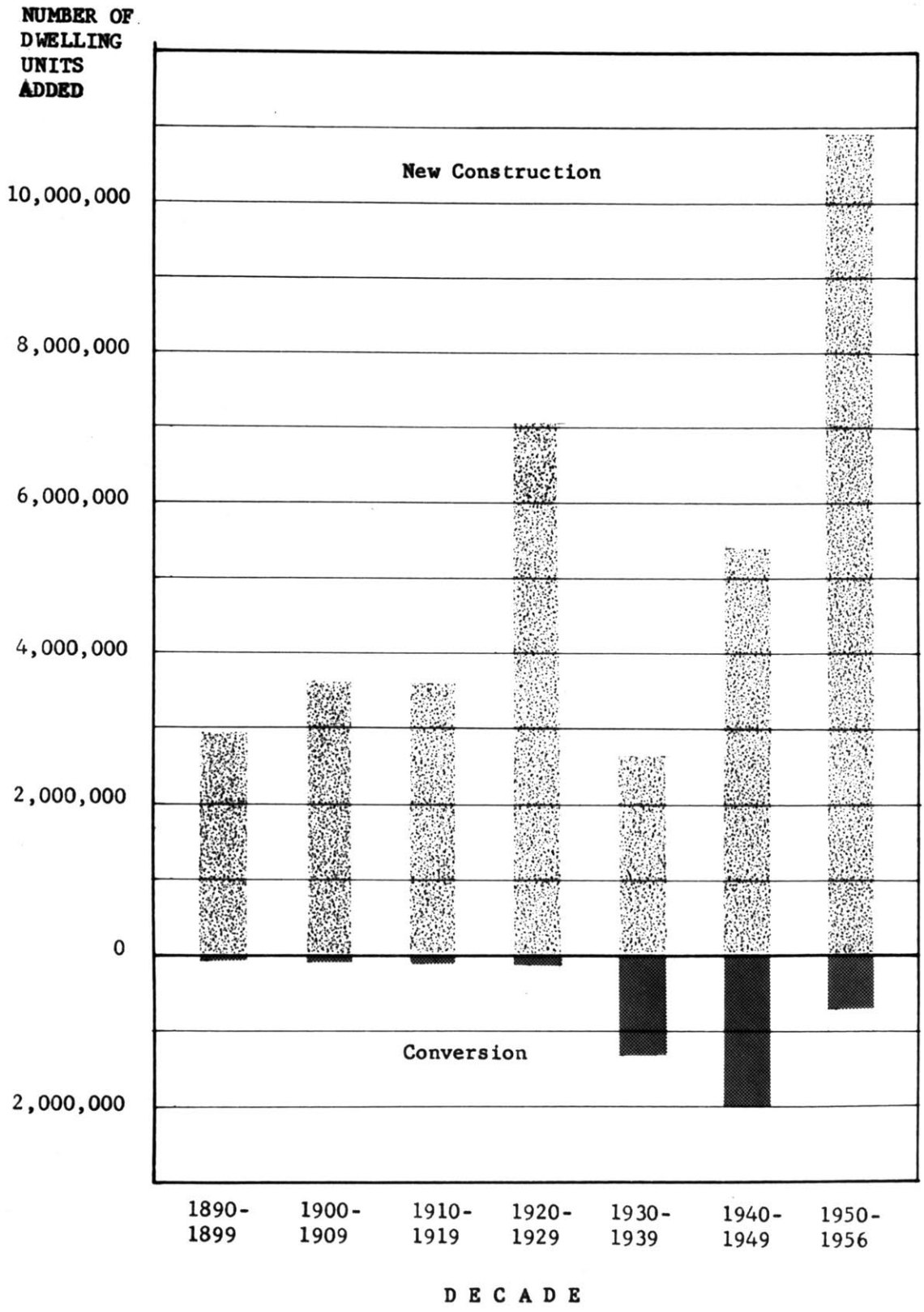

Chart 2 - Estimates of Net Number of Dwelling Units added to Nonfarm Stock by New Construction and Conversion, 1890 - 1956.
Source: Table 7

TABLE 7

ESTIMATES OF NET NUMBER OF DWELLING UNITS ADDED TO NONFARM STOCK BY CONVERSION, AND RATIO TO NEW PRIVATE PERMANENT NONFARM HOUSEKEEPING DWELLING UNITS STARTED, 1890 - 1956

Decade	Net Number of Dwelling Units Added by Conversion	New Private Nonfarm Dwelling Units Started	Ratio of Converted Units to Dwelling Units Started
1890-1899	62,000[a]	2,941,000[h]	2.1 %
1900-1909	81,000[a]	3,606,000	2.2
1910-1919	103,000[a]	3,593,000	2.9
1920-1929	125,000[a]	7,004,000	1.8
	500,000[b]	"	7.1
1930-1939	1,070,000[c]	2,646,000	40.4
	1,320.000[d]	"	49.8
1940-1949	1,750,000[e]	5,393,000	32.4
	2,000,000[f]	"	37.0
1950-1956	708,000[g]*	10,920,000[g]	6.5

a. Probably limited to structural conversions. David L. Wickens, Residential Real Estate, National Bureau of Economic Research, 1941, p. 54.

b. Probably limited to structural conversions. Lowell J. Chawner, Residential Building, National Resources Committee, 1939, p. 14.

c. Includes both structural and nonstructural conversions. Nonstructural conversions estimated at 345,000 or 13.0 % of new dwelling units started in decade; structural conversions estimated at 725,000 or 27.4 % of new dwelling units started. M. H. Naigles, Housing and the Increase in Population, Bureau of Labor Statistics, Serial no. R 1421, 1942, p. 12.

d. The estimate by George Schumm in an unpublished memorandom in the files of the Bureau of Labor Statistics. (see Benjamin Lipstein, The Role of Residential Conversions in the Housing Market, unpublished Ph.D thesis, Columbia University, 1956, p. 57.)

e. The 1953 estimate by the Bureau of Labor Statistics, Lipstein, op. cit., p. 58.

Note: Footnotes continue on next page.

f. Includes both structural and nonstructural conversions. preliminary estimate by an interdepartmental committee of federal agencies. Leo Grebler, David M. Blank and Louis Winnick, Capital Formation in Residential Real Estate, Trends and Prospects, Princeton University Press, Princeton, 1956, Table A-1, Appendix A, p. 329.

g. Sample estimates by the Bureau of the Census, 1956 National Housing Inventory, "Components of Change, 1950 and 1956", vol. 1, part 1, Table C, p. 15.

h. Grebler, Blank and Winnick, op. cit., Appendix B, Tables on Residential Construction, 1889 - 1953, p.332.

* The figure does not account for dwelling units lost by merger. The net addition to the housing inventory by conversion is 36,000 units.

National Housing Inventory shows that a total of 708,000 dwelling units were added by conversion to the housing inventory between 1950 and 1956. This is about 7 percent of the number of new dwelling units started in the same period, which implies that the new construction has again gained its role as the major source of providing additional dwelling units.

Nevertheless, this new trend has not diminished the role of conversion in giving flexibility to the existing housing stock. Despite the fact that the net addition to the housing stock by conversion during the 1950-1956 period was only 36,000 dwelling units, about 2.7 million dwelling units, 24.7 percent of the new dwelling units started, were involved in either conversion or merger (see Table A, Appendix C).

Conversions in Brookline

The study on the volume of conversions in Brookline covers the two decades of 1940-1949 and 1950-1959. The data are primarily based on the building permits in the Building Department of the Town.

In the forties, contrary to the national trend, the volume of conversions was relatively small, about 27.6 percent of new dwelling units started. This was partly because new construction was most active during the post-war period (see Chart 3 and Table 8). In the fifties, however, the steady decline in new construction activity was clearly reflected in the increasing volume of conversions. The ratio of conversions to new dwelling units was more than 100 percent. If we include the estimated figure of illegal conversions,[1] the total number of converted units is about 1,660, as compared with 1,136 of new construction (see Table 9). This is about 8.9 percent[2] of the total housing inventory in the Town

1. Illegal conversions are estimated to number about 476 units.
2. Using adjusted figure of housing inventory in 1960 - 18,646 units.

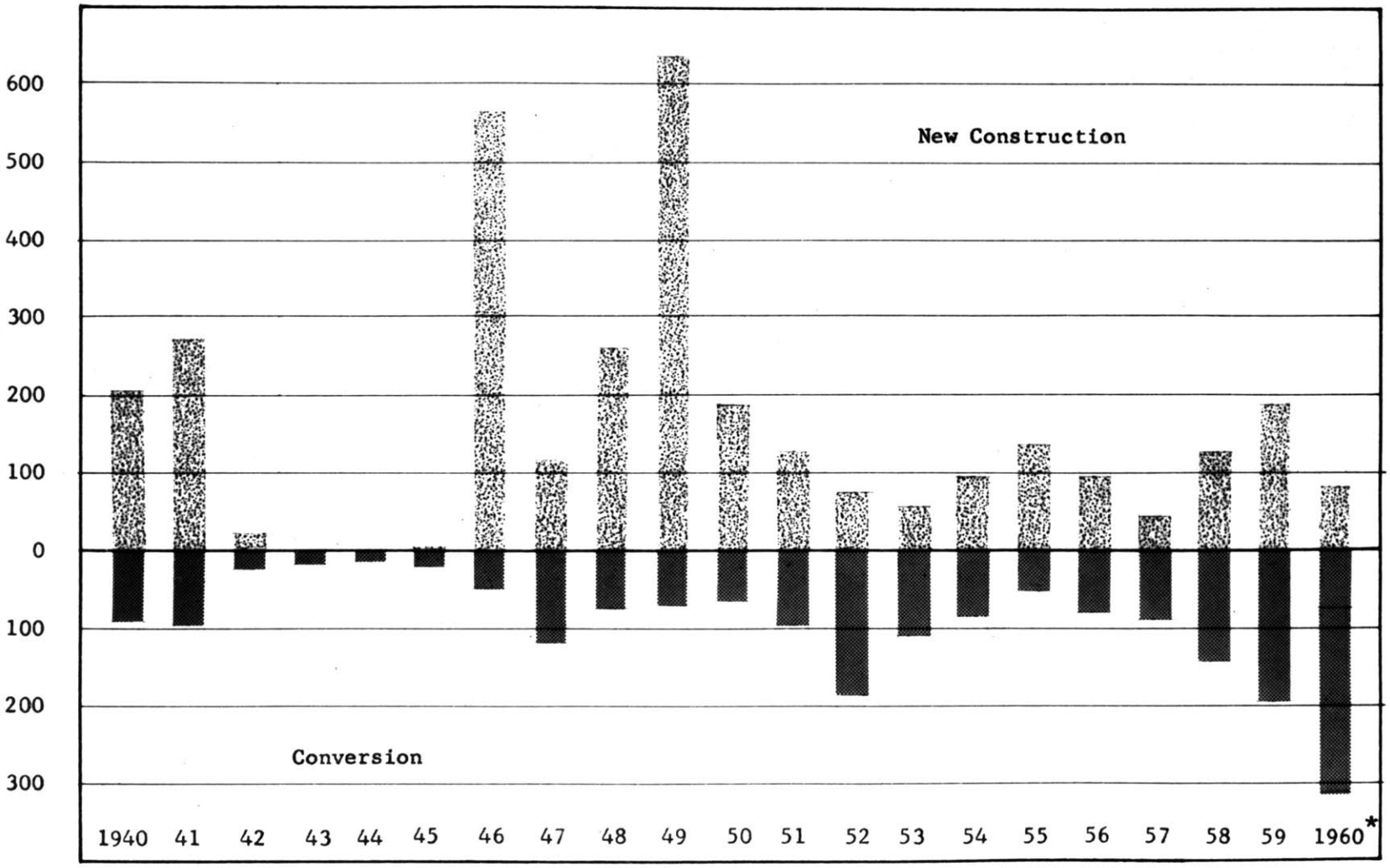

Chart 3 - Dwelling Units added by New Construction and Conversion with Building Permits, for the Town of Brookline, 1940 - 1960. (* figures for the entire year of 1960)
Source : Table 8

TABLE 8

DWELLING UNITS ADDED BY NEW CONSTRUCTION AND CONVERSION WITH BUILDING PERMITS, AND RATIO OF CONVERTED DWELLING UNITS TO NEW DWELLING UNITS STARTED, FOR THE TOWN OF BROOKLINE, 1940 - April 1, 1960

Year	New Dwelling Units Started	Dwelling Units Added by Conversion	Ratio of Converted Units to New Dwelling Units Started
1940	203	92	
1941	270	94	
1942	21	24	
1943	-	16	
1944	-	13	
1945	2	20	
1946	566	48	
1947	117	118	
1948	260	76	
1949	633	70	
Total	2,072	571	27.6 %
1950[a]	187	65	
1951	129	97	
1952	74	187	
1953	57	110	
1954	95	86	
1955	137	53	
1956	96	80	
1957	45	89	
1958	124	142	
1959	189	196	
1960[b]	3	78	
Total	1,136	1,183	104.0 %

a. From April 1 to December 31, 1950

b. From January 1 to April 1, 1960. Conversion figure of 1960 is 321.

Source: 1940 - 1949: The study of building activity prepared by Brookline Planning Board. 1950 - 1960: The Records of Permits in the Building Department of the Town of Brookline.

TABLE 9

CHANGES IN THE HOUSING INVENTORY
IN THE TOWN OF BROOKLINE
1950 - 1960

Components of Change		Number of Dwelling Units
Inventory, April 1, 1950		16,091
Plus : New Construction		+ 1,136
Plus : Conversions		+ 1,183
Less : Withdrawals		- 240
	Mergers (3)	
	Conversions to other uses (16)	
	Demolition (221)	
Plus : Illegal Conversions [a.] and other means		+ 1,476
Inventory, April 1, 1960		19,646

a. Illegal conversions are estimated to be 476 units, and about 1,000 units are accounted for the change in the 1960 Census definition of "housing unit".

Source: Eighteenth Census, U. S., 1960, Population and Housing Characteristics, Advance table PH-1, pp. 72-73; Seventeenth Census, U.S., 1950, Population, vol. III, Census Tract Statistics, Chapter 6, Table 3, pp. 107-108; and the Records of Permits in the Building Department of the Town of Brookline.

of Brookline. In addition, the absolute number of legal conversions in 1960 was the highest in the State of Massachusetts, including that of Boston.[1]

Many explanations may be given to this trend in Brookline: (1) The town was in the midst of amending the Zoning By-Law to restrict conversions if off-street parking requirements were not met. The increasing number of conversions in 1959 and 1960 was partially due to the desire of owners to rush conversions before the passing of new zoning amendments; (2) Brookline still has a good reservoir of aged residential structures susceptible to conversion; and (3) there has been a consistent demand for housing in the high and middle-income ranges, and especially for smaller dwelling units near the transit line.

Because of the relatively high median rental levels[2] and constant demand for housing, there is a strong incentive for conversion in Brookline. In the last decade, about 10 percent of conversions were in the form of basement apartments. The indication is that the economic feasibility of conversions is very high in Brookline. This is also reflected in the insignificance of mergers - only 6 dwelling units were involved in merger during the ten year period - compared with the national trend of merger (see Table A, Appendix C).

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1. Conversion data from the State Department of Labor and Industry.
2. $100 - $140

4. Type of Structures

It has been stated that a single-family house is more adaptable to conversion than is a multi-family structure. The former generally responds more quickly to changes in housing demand than the latter. The conversion of multi-family structures tends to occur once the direction of demand is firmly established to make conversion profitable.

Certainly the data provided by the 1956 National Housing Inventory seem to support the above hypothesis. About 70 percent of the total structures involved in the conversion process were in single-family houses (see Table 10). This implies that most of conversions occur in single-family houses and mergers generally occur in two- to four- family structures. It may be speculated from this that the cost of converting single-family house to two-family unit is relatively small so that the return to the original use can be accomplished easily by merger without too much loss in investment. The conversion of single-family houses is much more flexible than that of multi-family structures because of less structural alterations and lower installation cost of bathroom and kitchen, etc.

Contrary to the national trend, however, the incidence of conversions in single-family houses in Brookline is relatively low. About 33 percent of the total number of structures involved in conversion were in single-family houses.[1] Moreover, about 73 percent of the net addition of dwelling units to the housing inventory by conversion were accommodated in three or more family structures (see Table 11).

The incidence of conversions is also a function of the percent

1. Of which 12 percent were conversions of single-family houses to three or more family dwelling units.

TABLE 10

NUMBER OF DWELLING UNITS CHANGED BY CONVERSION AND MERGER, BY TYPE OF STRUCTURE, FOR THE UNITED STATES 1950 - 1956

Type of Dwelling Unit	Dwelling Units Changed by Conversions		Dwelling Units Changed by Merger	
	From (1950)	To (1956)	From (1950)	To (1956)
1 d. u.	465,000	-	-	454,000
2 & 4 d. u.	149,000	1,170,000 (85 %)	1,177,000	150,000
5 d. u. or more	53,000	206,000 (15 %)	144,000	44,000

Source: The Bureau of the Census, 1956 National Housing Inventory, "Components of Change, 1950 to 1956", vol. 1, part 1, Table 1 and Table 2, pp. 20-21.

TABLE 11

INCIDENCE OF CONVERSIONS AUTHORIZED BY BUILDING PERMITS, BY TYPE OF STRUCTURE, FOR THE TOWN OF BROOKLINE, APRIL 1, 1950 - APRIL 1, 1960

Type of Structure		Number of Structures Involved in Conversion	% of Total	Dwelling Units Added by Conversion	% of Total
1 fam.	1 to 2	165		165	
	1 to 3	9		18	
	1 to 4	3		9	
	1 to 5 or more	11		54	
	Total	188	33.3 %	246	20.8 %
2 fam.	2 to 3	53		53	
	2 to 4	6		12	
	2 to 5 or more	2		6	
	Total	61	10.8 %	71	6.0 %
3 fam.	3 to 4	36		36	
	3 to 5 or more	95		338	
	Total	131	23.2 %	374	31.6 %
4 fam.	4 to 5 or more	41	7.3 %	79	6.7 %
5 fam. or more	2 or more additional units	68		337	
	1 d.u. to 2 d.u.	70		70	
	Total	138	24.4 %	406	34.4 %
Others		6	1.0 %	6	0.5 %
Total		565		1,183	

Source: Computed from the Records of Permits in the Building Department of the Town of Brookline.

distribution of dwelling units by type of structure in Brookline (see Photograph 1 and 2). In comparison with the Boston Metropolitan Area, dwelling units in single-family use do not predominate in Brookline. About 70 percent of the total dwelling units are in 2 or more family structures (see Table 12).

Lastly, the type of converters in Brookline should be mentioned. The high incidence of conversions in 3 or more family structures and relatively high concentration of converted dwelling units within a structure indicate that the scope of alterations are quite extensive, and that the converters of these structures are not limited to owner-occupants, but include professional realtors and rehabilitators who buy properties for conversion, and then, either operate or sell the rental properties after conversion.

Thus, the hypothesis that conversions generally occur in single-family houses, and that it is the owners of these old houses, not the professional realtors, who have a considerable incentive to convert, must be rejected as far as Brookline is concerned.

Photograph 1. Typical multi-family structures in the Town of Brookline which were recently converted.

TABLE 12

PERCENT DISTRIBUTION OF DWELLING UNITS BY TYPE OF STRUCTURE, FOR THE TOWN OF BROOKLINE AND BOSTON STANDARD METROPOLITAN AREA, 1950

Type	Brookline	Boston Standard Metropolitan Area
	% of Total	% of Total
1 unit detached & attached	29.0	34.1
1 & 2 units semi-detached	1.9	2.8
2 unit structures	14.7	23.0
3 & 4 unit structures	23.9	23.0
5 or more unit structures	30.5	17.1
	100.0	100.0

Source: Brookline Planning Board, "Factual Profile of the Town of Brookline", Planning for Brookline, 1960.

5. Age of Structures

In most instances, not until the structure has deteriorated or become obsolete, is it economically ready for conversion. This implies that the case study data should show a majority of conversions in old structures. The data in Table B in Appendix C clearly support this hypothesis. About 88 percent of the total conversions in the United States between 1950 and 1956 were found in structures built before 1929. Only 8 percent of the total occurred in the structures less than 10 to 15 years old.

Without appraising the individual converted structures, it is extremely difficult to establish whether or not there is any correlation between conversion and deteriorated structures. However, the observable facts, that conversions occur in old structures, are not inconsistent with this hypothesis.

Although the converted units in Brookline during the period of 1950-1960 were not traced back to the age of structures, the data on Table 13 show how aged are the structures in the town. About 74 percent of dwelling units in Brookline were 20 or more years old in 1950.

In summary, the national and local trends tend to support the hypothesis that conversions occur more frequently in old, thereby, obsolete structures.

TABLE 13

NUMBER AND PERCENT DISTRIBUTION
OF DWELLING UNITS, BY YEAR BUILT,
FOR THE TOWN OF BROOKLINE, 1950

Year Built	Dwelling[a] Units	% of Total
1940 - 1950	1,385	13.8
1930 - 1939	1,250	12.4
1920 - 1929	2,085	20.8
1919 or earlier	5,315	53.0
	10,035	100.0

a. For the dwelling units reported.

Source: Brookline Planning Board, "Factual Profile of the Town of Brookline", Planning for Brookline, 1960.

6. Cost of Conversions

Another moot question is whether the conversion of a single-family house to 2 family use is considerably cheaper than the conversion of a multi-family dwelling.

Construction cost data on conversions are based on the building permits in the Building Department of Brookline. The data on the cost of conversions in Table 14 and Table 15 are from the selected samples of all legal conversions during the last decade.

The tables show that the median cost of converting a single-family house to two-family use is $1,250, whereas that of converting a multi-family dwelling unit is $2,250 per converted unit. One interesting point is that more than half of the conversions in single-family houses were carried out at a cost below $1,500 per unit.[1] On the other hand, the distribution of average alteration costs for multi-family structures is much more symmetrical and spread out.

Clearly, the data indicate that the cost of most conversions in single-family houses is relatively moderate and within the means of most home owners. Since most converters may already own the structure, the cost of conversion can probably be self-financed. Assuming the average contract rent of $109 for the town in 1960 as potential rent from a converted unit, the cost of alterations would be recaptured within one or two years. Thereafter, aside from operating and fixed costs, rent from the converted unit is clear profit.[2] Thus, to the owner of single-family house, there is a strong financial incentive to convert.

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1. The distribution curve is very much skewed to lower cost ranges.
2. According to William W. Nash in Residential Rehabilitation: Private Profits and Public Purposes, New York, 1959, opportunities for rehabilitation for middle-income families arise when a gap between existing and potential rents and sales prices allows rehabilitation expenditure averaging between $3,500 and $5,000 a dwelling unit.

TABLE 14

DISTRIBUTION OF AVERAGE ALTERATION COST PER CONVERTED DWELLING UNIT, FOR THE TOWN OF BROOKLINE, 1950-1960

CONVERSION OF 1-FAMILY HOUSE TO 2-FAMILY USE

Average cost in dollars	Number of dwelline units added by conversion	% of Total
0 - 500	34	21.4
501 - 1,000	39	24.5
1,001 - 1,500[a]	19	11.9
1,501 - 2,000	16	10.0
2,001 - 2,500	11	6.9
2,501 - 3,000	11	6.9
3,001 - 3,500	5	3.4
3,501 - 4,000	6	3.8
4,001 - 4,500	1	0.5
4,501 - 5,000	7	4.4
5.001 and over	10	6.3
	159	100.0

a. Median alteration cost per converted unit.

Source: Computed from the Records of Permits in the Building Department of the Town of Brookline.

TABLE 15

DISTRIBUTION OF AVERAGE ALTERATION COST PER CONVERTED DWELLING UNIT,[a] FOR THE TOWN OF BROOKLINE, 1950-1960

CONVERSION OF 3 OR MORE FAMILY STRUCTURE TO MULTI-FAMILY USE

Average cost in dollars	Number of dwelling units added by conversion	% of Total
0 - 500	14	1.8
501 - 1,000	53	6.9
1,001 - 1,500	58	7.6
1,501 - 2,000	138	18.0
2,001 - 2,500[b]	136	17.8
2,501 - 3,000	119	15.6
3,001 - 3,500	79	10.3
3,501 - 4,000	83	10.8
4,001 - 4,500	14	1.8
4,501 - 5,000	23	3.0
5,001 - 5,500	3	0.4
5,501 - 6,000	6	0.8
6,001 and over	40	5.2
	766	100.0

a. The entire cost of the alteration per structure averaged by the net dwelling units added. The cost also involves the alteration of existing dwelling units since they are subsequently divided.

b. Median alteration cost per converted unit.

Source: Computed from the Records of Permits in the Building Department of the Town of Brookline.

As for the conversions in multi-family dwelling units, it is difficult to speculate whether or not potential returns are great, since most converters may or may not own the structure. Using the average rent of $109 for the town, the annual gross income from a converted unit would be about $1,300, as against the conversion expenditure of $2,250.

In summary, conversion in a single-family house is in the nature of small-scale investment and often within the means of most home owners. It also tends to respond more quickly to the changes in family requirements and housing demand than conversion in multi-family unit. However, conversion in multi-family unit may be more substantial, of better quality and permanent nature, as indicated by the higher cost of alterations.

7. Size of Converted Dwelling Units

Since conversions are generally created through the subdivision of existing dwelling units, it is believed that they result in smaller than average dwelling units and that this in turn produces overcrowding. This hypothesis will be examined by using the data on floor space, taken from the building permits of the Town of Brookline.

A question arises, first of all, whether or not households in converted dwelling units have enough space for living. "A complete answer requires an analysis not only of number of rooms but of size of rooms, floor layouts, and family composition."[1] Of these characteristics, the only data available for converted dwelling units are number of square feet per unit. In addition to this, room inventory figures are available on a census tract basis.

The data on Table 16 show that the median floor area of converted unit in a single-family house is about 1,500 square feet. Assuming about 5 percent of this area is used for common use[2] outside of dwelling unit, total usable space would be 1,425 spuare feet. Since no room counts are available, the schedule of minimum space requirements prepared by the American Public Health Association is used for translating the square feet into number of persons per dwelling unit (see Table 17). According to these standards, 1,400 square feet are adequate for a 5 person household. Thus, it is quite obvious that 1,425 square feet are ample enough to accommodate the typical household of 2.86 persons. The APHA minimum

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1. New York State Temporary State Rent Commission, Prospects for Rehabilitation, New York, 1960, p. 23.
2. For circulation, such as hallway and stairway.

TABLE 16

DISTRIBUTION OF AVERAGE FLOOR AREA PER CONVERTED DWELLING UNITS[a], FOR THE TOWN OF BROOKLINE, 1950 - 1960

CONVERSION OF 1-FAMILY HOUSE TO 2-FAMILY USE

Average Floor Area in Square Feet	Number of Dwelling Units added by Conversion	% of Total
0 - 200	-	-
201 - 400	-	-
401 - 600	-	-
601 - 800	10	7.9
801 - 1,000	6	4.8
1,001 - 1,200	18	14.3
1,201 - 1,400	16	12.7
1,401 - 1,600[b]	15	11.9
1,601 - 1,800	27	21.4
1,801 - 2,000	11	8.7
2,001 - 2,200	5	4.0
2,201 - 2,400	7	5.5
2,401 - 2,600	3	2.4
2,601 - 2,800	1	0.8
2,801 - 3,000	2	1.6
3,001 and over	5	4.0
	126	100.0

a. Average gross floor area per converted dwelling unit. It includes the area for common use, such as hallway or stairs.

b. Median floor area.

Source: Computed from the Records of Permits in the Building Department of the Town of Brookline.

TABLE 17

MINIMUM FLOOR SPACE REQUIRED FOR BASIC ACTIVITIES, BY NUMBER OF PERSONS IN HOUSEHOLDS

Persons per Household	Floor Space in square feet
1	385
2	765
3	989
4	1,159
5	1,420
6	1,550

Source: American Public Health Association, Planning the Home for Occupancy, Public Administration Service, Chicago, 1950, p. 15.

floor space required by 3 person-household is 1,000 square feet. As a matter of fact, less than 20 percent of all conversions from single-family use to two-family use have floor area of less than 1,100 square feet.

One main weakness of this analysis is the fact that the APHA minimum total space required for family living was established on the assumption that the architect would later "subdivide and plan that space in accord with his own creative imagination and the needs of the family to be served".[1] The drawback lies in the fact that conversions generally occur in already existing structures whose floor layouts are often obsolete

1. American Public Health Association, Planning the Home for Occupancy, Chicago, 1950, p. vi.

and frequently wasteful.

As for the conversion in multi-family dwelling unit, the median floor area per converted unit is about 950 square feet (see Table 18). Although this is not adequare for three-person household, converted units of this size will satisfy the floor space requirements for basic household activities of one- and two person-households. Overcrowding may result, for example, when a two-person household consisting of a young married couple grows into a three-person household with the arrival of a baby. It may be assumed, however, this temporary overcrowding will disappear as soon as they decide to move out for a larger dwelling unit. In essense, about 20 percent of all conversions in multi-family structures are not adequate for two person-households according to the APHA standards, and only 4 percent of the total are inadequate for one-person households.

In addition to the above analysis, the data on persons per room in the four census tracts[1] of the case study area provide information on the degree of utilization of space. About 55 percent of the households have at least two rooms per person (a person-per-room ratio of 0.5 or less). More than 98 percent of all households in the case study area have one room per person. At the other end of the range, 1.6 percent of all households have a person-per-room ratio higher than 1.0. In general, these data indicate that most of the dwelling units in the area have ample space.

In summary, considering the fact that all conversions in the four census tracts in the study area were 9 percent of the total housing

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1. NC-1, NC-2, NC-3 and NC-4.

TABLE 18

DISTRIBUTION OF AVERAGE FLOOR AREA PER CONVERTED DWELLING UNIT,[a] FOR THE TOWN OF BROOKLINE, 1950 - 1960

CONVERSION OF 3 OR MORE FAMILY STRUCTURE TO MULTI-FAMILY USE

Average Floor Area in Square Feet	Number of Dwelling Units added by Conversion	% of Total
0 - 200	-	-
201 - 400	6	1.3
401 - 600	29	6.2
601 - 700	25	5.4
701 - 800	72	15.5
801 - 900	56	12.0
901 - 1,000[b]	49	10.5
1,001 - 1,100	48	10.3
1,101 - 1,200	52	11.2
1,201 - 1,300	23	5.0
1,301 - 1,400	21	4.5
1,401 - 1,500	19	4.1
1,501 - 1,600	23	5.0
1,601 - 1,700	26	5.6
1,701 and over	16	3.4
	465	100.0

a. Average gross floor area per converted dwelling unit. It includes the area for common use, such as hallway and stairway, averaged by the number of dwelling units, sharing the area.

b. Median floor area.

Source: Computed from the Records of Permits in the Building Department of the Town of Brookline.

inventory in the area, the person-per-room ratio suggests that no serious overcrowding exists in these converted dwelling units.[1] This is also substantiated by the analysis of floor areas of converted dwelling units. Although it may be concluded that conversions produce dwelling units of smaller size than those in the existing inventory of housing, the size of converted units in single-family houses seems adequate for 3- and 4-person households. On the other hand, the size of converted units in multi-family structures caters to 1- and 2- person households and some of 3-persons households.

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1. 653 conversions against 7,492 dwelling units. If adjusted to the change in the 1960 definition of "housing unit", and including the illegal conversions, the percentage would be much greater.

8. Rents

The rental price of a dwelling unit is the economic manifestation of the value placed on the services of a dwelling unit and indirectly, is a measure of the quality of its service. The rents charged for converted dwelling units in the case study area of Brookline were far from low when compared with the units whose status were unchanged (see Table 18-A).

The rents for these units closely match the rental levels of other units in the town. Considering the average contract rent of $109 for the town in 1960, and taking into account that the field survey was made in 1959, the rents for converted units were equal or more than those for existing dwelling units in the area.

In 1960, the figures for the West End Project in Boston indicate that rents start at $130 per month for efficiencies. 1-bedroom apartments are expected to rent at $185 to $190 and 2-bedroom apartment at $250.[1]

1. Sheldon P. Gans, Implications of Residential Redevelopment Staniford-Chardon Area, Boston, unpublished MCP thesis, MIT, 1960, p. 52.

TABLE 18-A

RENT DISTRIBUTION OF CONVERTED DWELLING UNITS, BY SIZE,* FOR THE CASE STUDY AREA OF NC-1, NC-2, NC-3 and NC-4 IN THE TOWN OF BROOKLINE, 1959

Monthly Rent in Dollar	Number of Rooms per Dwelling Unit					
	1	2	3	4	5	6
60 - 69	2	-	-	-	-	-
70 - 79	3	-	-	-	-	-
80 - 89	4	1	4	1	-	-
90 - 99	-	9	9	4	-	-
100 -109	4	11	13	13	-	-
110 -119	10	-	9	11	-	1
120 -129	-	-	12	17	3	3
130 -139	-	-	3	10	-	1
140 -149	-	-	-	-	1	1
150 -159	-	-	-	-	-	-
160 -169	-	-	-	-	-	-
	23	21	50	56	4	6

*. A full size ketchen was counted as one room.

Source: Structures involved in conversion in 1956 and 1958 were traced to the Assessor's cards in the Town of Brookline. The figures are based on the Assessor's field survey of rents in 1959 (160 samples).

CHAPTER THREE

PLANNING IMPLICATIONS OF CONVERSIONS

There is a widespread view that "the appearance of residential conversions in a neighborhood is a sign that the area is deteriorating and that before long the neighborhood will become blighted or slum".[1] On the same subject, James Ford stated that: "Another source of slums, ascribable in part to population movements, also existed early in New York's history. For, as business developed and encroached upon residences, the more cultured and well-to-do families moved north to less crowded regions. The houses which they abandoned could not be rented to persons of means and background similar to their own, and there was as yet no incentive to destroy them. So the houses were partitioned for the use of two or more families. Since the houses had not been built for such use, and were often crudely converted, they sooner or later attracted families whose standards were low, though usually there was an intermediate down-grade stage before the areas of converted houses became true slums".[2]

Similarly Raymond Vernon, in his Anatomy of a Metropolis,[3] expressed the opinion that conversion is generally associated with "a down-grading stage, in which old housing (both single- and multi-family) is being adapted to greater-density use than it was originally designed for. In this stage there is usually little actual new construction, but there

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1. Lipstein, op. cit., p. 126.
2. James Ford, Slums and Housing, Harvard University Press, Cambridge, 1936, p. 445.
3. Raymond Vernon, Anatomy of a Metropolis, Cambridge, Harvard University Press, 1959, p. 196

is some population and density growth through conversion and crowding of existing structures".

Nonetheless, there appear to be significant exceptions. For examples, one can cite such communities as Beacon Hill in Boston, Georgetown in Washington, D. C., and Sutton Place in New York, neighborhoods of almost complete conversion, which have had much of their original value and character restored through conversion.

However, examples of successful rehabilitation of declining neighborhoods through conversion are not limited to past living areas for the affluent, or near affluent. There are many examples[1] in New York, Chicago and Boston which show what conversions can accomplish with obsolete housing in middle-income neighborhoods or even in low-rent areas.

The main purpose of this chapter is to examine the planning implications of residential conversions on land use, intensity of use, off-street parking, open space and type of occupants, and to determine what aspects of conversions tend to accelerate the decline of a residential neighborhood.

1. Increase in Population Density

Slums and poor housing conditions have often been associated with excessive population density. Uncontrolled population increase may have the effects of overloading streets and off-street parking facilities, water and sewage system, schools, open spaces, police and fire protection, and other community facilities and services, resulting in a more rapid rate of neighborhood deterioration.

The lessened desirability of old neighborhoods, due to now overloaded

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1. Cf. William W. Nash, Residential Rehabilitation: Private Profits and Public Purposes, New York, 1959.

and inadequate community facilities, in turn, accelerate the out-migration of families with children, followed by a wave of conversions to rooming and fraternity houses.

A study of the 1950 and 1960 Censuses, however, reveals that in the Town of Brookline, the population actually declined by about 6 percent, while the number of dwelling units increased by about 14 percent (see Table 3). A similar trend can be observed in the four census tracts of the case study area. Its population declined by 6.7 percent, whereas 1,356 units were added to the existing housing stock, a gain of 24.7 percent, which is almost two times that of the Town (see Table 19). The converted dwelling units added by both legal and illegal conversion accounted for 14.3 percent of the housing inventory in the case study area (see Table 20).

One may question whether this population decline occurred mostly in non-converted dwelling units rather than in converted units.[1] Conversions might have resulted in an increase in the number of persons per structure. However, it is not feasible to test this possibility without the direct appraisal of individual converted units. Even if this increase in population occurred, it was more than likely offset by a population decline in the non-converted units.

In short, as far as Brookline is concerned, conversions do not have a direct relationship to population increase. The possible increase in population through conversion was mainly offset by the outflow of population from Brookline to suburban areas. Therefore, some of our concern that the population increase by conversions frequently overload the

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1. The vacancy ratio in the case study area was 3.1 percent in 1960.

TABLE 19

POPULATION AND PERCENT CHANGE IN POPULATION, AND NUMBER AND PERCENT CHANGE IN DWELLING UNITS FOR THE CASE STUDY AREA (4 CENSUS TRACTS OF NC-1, NC-2, NC-3, AND NC-4) IN THE TOWN OF BROOKLINE, 1950 - 1960

Year	Population	% of Change 1950-1960	Dwelling Units	% of Change 1950-1960
1950	19,675	-	5,486	-
1960	18,353	- 6.7	6,842[a]	+ 24.7
Net Change	- 1,322		+ 1,356	

a. Adjusted to account for the change in the 1960 definition of "housing unit". (the number of housing units in the 1960 Census is 7,492)

Source: 1950: Seventeenth Census, U.S., 1950, Population, vol. III, Census Tract Statistics, Chapter 6, Table 1, pp. 27-28. 1960: Eighteenth Census, U.S., 1960, Population and Housing Characteristics, Advance table PH-1, pp. 72-73.

TABLE 20

CHANGES IN THE HOUSING INVENTORY, FOR THE CASE STUDY AREA (4 CENSUS TRACTS OF NC-1, NC-2, NC-3, and NC-4) IN THE TOWN OF BROOKLINE, 1950 - 1960

Components of Change	Number of Dwelling Units
Inventory, April 1, 1950	5,486
Plus : New Construction	+ 424
Plus : Legal Conversions	+ 653
Less : Demolitions	- 43
Plus : Illegal Conversions [a] and other means	+ 972
Inventory, April 1, 1960	7,492

a. Illegal conversions are estimated to be 322 units, and about 650 units are accounted for the change in the 1960 Census definition of "housing unit".

Source: Eighteenth Census, U.S., 1960, Population and Housing Characteristics, Advance table PH-1, pp. 72-73; Seventeenth Census, U.S., 1950, Population, vol. III, Census Tract Statistics, Chapter 6, Table 3, pp. 107-108; and the Records of Permits in the Building Department of the Town of Brookline.

existing community facilities and services must be rejected. During the thirties and forties conversions often brought about an increase in population and overcrowding of structures, and had serious effects on communities, primarily because the residents of the communities stayed on while conversions occurred.

2. Single-room Occupancy

Frequently the problems of single-room occupancy have been associated with those of conversions. By definition, conversion excludes a majority of single rooms which do not meet the census definition of dwelling unit. "This requirement specifically excludes one-family homes used as rooming houses. It may well be that a structure is converted and some of the rooms in the dwelling units are rented as sleeping quarters, but this is of no consequence in the count of converted dwelling units. Some of the poorest quality of living accommodations are make-shift rooming arrangements or sleeping quarters."[1]

The change in the 1960 Census definition of "housing unit", however, has expanded its scope to accommodate, as dwelling units, living quarters consisting of one room with direct access but without separate cooking equipment. These one-room units qualify as housing units in 1960, but generally did not qualify as dwelling units in 1950 (see Appendix A).

As a result of the change in the definition some of the problems of single-room occupancy is associated with conversion. The shift of more and more self-contained apartments to single-room occupancies would have the effect of steady deterioration of the neighborhood. The situation

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1. Lipstein, op. cit., p. 18.

worsens if there is an influx of minority families with children as renters of single rooms, such as in Morningside Heights[1] in New York City.

One serious social effect of single-room units and some of the small converted apartments on the neighborhood is that they do not invite long-term occupancy. There is a tendency for these units to be occupied by residents - not necessarily families - who will remain in the neighborhood only a short time.

In the case study area of Brookline, there were 1,302 lodgers in 73 licensed lodging houses in 1960. This is about 7 percent of the total population in the area. In addition, there were 1,415 one-person households.[2] As for the influx of minority families with children as renters of single rooms, this problem is almost non-existent in Brookline since the percent of these families are negligible.

3. Off-street Parking

At the present time, one of the most serious effects of past conversions on the neighborhood is the increase in the number of automobiles. It is estimated that one out of every two and half persons in Brookline owns an automobile, which is about one for each dwelling unit. In general, the off-street parking problem is less serious in converted two-family structures, and most serious in multi-family structures in which conversion to smaller quarters has occurred. Each additional conversion usually results in a further disappearance of open spaces in the neighborhood for parking, increased on-street parking and a consequent deterioration

1. Cf. New York Temporary State Housing Rent Commission, op. cit.

2. Adjusted to account for the change in the 1960 definition of "housing unit" (the census figure is 2,065).

of the environment, which, in turn, encourages many dissatisfied families, who have lived in the neighborhoods for many years, to move.

The off-street parking problem is extremely important since it is closely related to the number of dwelling units and single room-units. If the proportion of one- and two- person households is steadily on the rise, so is the number of automobiles. Assuming one car per dwelling unit, there would be approximately 1,350 additional cars in the case study area alone, and 2,170 cars for Brookline since 1950. This assumption is supported by the actual automobile registration in the Town of Brookline. There were 22,604 cars in 1950 and 25,814 cars in 1960, an increase of 3,210 cars.

4. Open Space

The census projections show some significant changes in the distribution of future population by age-group which should vitally affect the planning not only of dwellings but also of the community facilities and services and the character of the communities in which people want to live.[1]

For the nation, there will be a much greater proportion of people in their later years. Whereas in 1950 persons 65 and over numbered 12.5 million, or about 8 percent of the total population, the number of people in that age group by 1975 is expected to be about 20.7 million or 10 percent of the population - an increase of about 8 million.[2] In Brookline persons 65 and over rose from 12.5 percent of the total population in 1950 to 16.5 percent in 1960 (see Table 5).[3] Although it has not been

1. Harold M. Mayer, "Current and Prospective Population Trends - Some Real Estate Implication," The Appraisal Journal, April, 1955, p. 217.
2. Ibid.
3. The proportion of persons 60 and over increased form 18.2 percent in 1950 to 24.2 percent in 1960.

established that more older people live in converted units than in non-converted units, it is safe to assume that families with children are less likely to live in converted small dwelling units.

In the four census tracts of the study area in which conversions mostly occurred during the last decade, the aged population of 60 and over accounted for 28.8 percent of the area's population in 1960, whereas persons 65 and over accounted for 20.5 percent. Obviously the population in the case study area has much higher proportion of aged population than the town as a whole.

This trend indicates that there is an urgent need for public improvements by the town to provide facilities, either outdoors and indoors, for passive recreation desired by the older people. Such facilities should be accessible to the local neighborhoods without the necessity of travel over long distances to reach them. Preferably, such facilities should include smaller, and quiet neighborhood parks within easy and safe walking distance of homes where older people can relax and meet their neighbors.

5. Spatial Distribution of Conversions

Contrary to the popular conception that conversions are limited to central cities, the data in the 1956 National Housing Inventory indicate that they occur not only in standard metropolitan areas but also outside metropolitan areas. Of the conversions during the period of 1950 to 1956, about 43 percent occurred in central cities, 22 percent inside metropolitan areas exlusive of central cities, and 35 percent were located outside metropolitan areas (see Table 21).

TABLE 21

PERCENT DISTRIBUTION OF DWELLING UNITS ADDED BY NEW CONSTRUCTION AND CONVERSION, AND LOST BY MERGER, BY AREA, FOR BOTH INSIDE AND OUTSIDE OF STANDARD METROPOLITAN AREAS, 1950 - 1956

Area	% of Dwelling units Added by New Construction	% of Dwelling Units Added by Conversion	% of Dwelling Units Lost by Merger
Inside Standard Metropolitan Areas			
a. In Central Cities	16.3	42.6	41.4
b. Not in Central Cities	45.6	22.1	17.1
	61.9	64.7	58,5
Outside Standard Metropolitan Areas	38.1	35.3	41.5
	100.0	100.0	100.0

Source: The Bureau of the Census, 1956 National Housing Inventory, "Components of Change, 1950 to 1956", vol. 1, part 1, Table C, p. 15.

On the other hand, dwelling units added by new construction are occuring mostly in metropolitan areas; that is - about 16 percent in central cities and 46 percent outside of central cities. The trend for new construction is, thus, exactly opposite that for conversion and merger. This confirms the previously stated hypothesis that conversions generally occur in old built-up parts of cities where aged residential structures predominate. One surprising trend is that the magnitude of conversions and mergers is equally significant outside of the standard metropolitan areas. Here, the dwelling units lost by merger outnumber those added by conversion.

As for regional differences in conversion activity, existing housing stock were more frequently converted in North East and North Central Regions than West and South Regions (see Table 22). The percentage of dwelling units built before 1929 are much greater in North East and North Central Regions.

The data on differences between cities in conversion activity are provided by the Massachusetts State Department of Labor and Industry (see Table 23). The data covering the last decade indicate that the rate of conversions to new dwelling units added in Brookline was highest in the State of Massachusetts. Even the absolute number of conversions in 1960 in the town far outnumbered conversions in Boston.

Two interesting questions may be raised from the above data: (1) Why is it that conversions had been so active in Brookline ? (2) Do the data in Table 23 indicate in any way a slowing-down of conversion activities in Boston and Cambridge and if so, why ? Is it partially because a majority of existing old structures have been already subdivided into

TABLE 22

RATIO OF DWELLING UNITS ADDED
BY CONVERSION TO DWELLING UNITS
ADDED BY NEW CONSTRUCTION
1950 - 1956

Region	Percent
North East	9.0
North Central	9.8
South	5.1
West	2.6

Source: The Bureau of the Census, 1956 National Housing Inventory, "Components of Change, 1950 to 1956", vol. 1, part 1, Table C, p. 15.

smaller quarters ? It may be assumed that the rate of conversions prevailing in the thirties and forties was possible because there was a large supply of older, relatively spacious residential structures adaptable for conversion, primarily in the more central areas of cities. Probably many of these structures in Boston and Cambridge have already been converted. Furthermore, many of the dwelling units in newer structures are of such small size and in such location that they do not lend themselves easily to conversion.

Conversion Distribution in Brookline

To study the spatial distribution pattern of conversions in the Town of Brookline, all conversions occurred in the last decade were

TABLE 23

NUMBER OF DWELLING UNITS ADDED BY NEW CONSTRUCTION AND CONVERSION, AND RATIO OF CONVERTED UNITS TO NEW DWELLING UNITS ADDED, BY AREA, 1950 - 1959

Area	Dwelling Units Added by Conversion	Dwelling Units Added by New Construction	Ratio of Converted Units to New Dwelling Units
State of Massachusetts	15,626	216,001	7.2 %
Brookline	1,183[a]	1,136[a]	104.0
Cambridge	452	748	58.8
Boston	3,817[b]	9,771	39.1

a. Brookline figures have been adjusted to the Records of Permits in the Building Department of the Town of Brookline.

b. The number of converted units in 1960 was 293 units in Boston, compared to 321 units in Brookline.

Source: Building permits data from the Massachusetts Department of Labor and Industry.

plotted on the town map (see Map 2). The map shows clearly that almost all of the conversions were located in the census tracts of NC-1, NC-2, NC-3, NC-4, NC-5 and NC-8. The outstanding characteristic is the concentration of conversions in ordinary residential neighborhoods at the density of 8 dwelling units or more per acre.

One of the most interesting findings is that a majority of conversions in multi-family structures were concentrated within one or two blocks from the transit line on Beacon Street. There are two basic reasons for this phenomenon: (1) predominance of multi-family structures along this line; and (2) a tendency for conversions to be conveniently located with respect to basic facilities, such as public school, shopping center, and public transportation.

On the other hand, the distribution pattern of conversions in single-family houses is a much more scattered one and evenly distributed over the areas of relatively high density in the town. This trend supports the hypothesis that conversions in multi-family structures create areas of extreme congestion by automobiles, and occasionally of people.

6. Summary

In summary, conversions are not characteristic of slums or undesirable neighborhood, but rather occur in average or typical neighborhoods of the city. Obviously the quality of conversions differs between cities and may well be a reflection of the existing stock of housing. Cities with more slum areas tend to have more conversions in slum areas. However, structures in a low-rent area which were originally built for low-income groups do not lend themselves easily to conversion. They

NEWTON

BOSTON

HAMMOND'S POND

CHESTNUT HILL RESERVOIR

RESERVOIR PARK

MUNICIPAL GOLF COURSE

WALNUT HILLS CEMETERY

LARZ ANDERSON PARK

JAMAICA POND

LEVERETT POND

CAMBRIDGE

CHARLES RIVER

NC-1

NC-2

NC-3

NC-4

TOWN OF BROOKLINE

MASSACHUSETTS.

● 10 CONVERTED D. U.

● 5 " "

● 1 " "

CENSUS TRACT BOUNDARIES

MAP 2

BASE MAP PREPARED BY WALTER A. DEVINE, TOWN ENGINEER 1956

SPATIAL DISTRIBUTION OF CONVERSIONS

1950 - 1960

FEET 0 200 400 800 1200 1600 2000 2400

MILES 0 1/4 1/2

CHAPTER FOUR

SOME IMPLICATIONS FOR PUBLIC POLICY

The conversion program of today must be considered within the broader context of the urban renewal program. Conversion is increasingly considered as one of the three alternative methods of urban rehabilitation: "(1) Minimal rehabilitation - to improve the facade of the building, rewire the structure and obtain compliance with the local building, sanitary and fire codes; (2) Modernization - all of the above work plus replacement of outmoded mechanical equipment and fixtures (generally new kitchens and bathroom fixtures) and redecoration of all public areas; and (3) Remodeling - all of the work cited above and conversion and merger of existing units".[1]

Conversion as a method of rehabilitation should be, first of all, guided by the housing policies and housing needs of local community. Effective housing program can only result from understanding local housing market, housing types and community problems. The possible levels of rehabilitation would "depend upon whose housing requirements are to be served -low-income families, middle-income families or high-income households; small households or large families. These decisions would determine which public agencies or private sponsors would undertake the responsibility for rehabilitation. Where lower income families are to be served, public housing loans and subsidies can be used."[2]

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1. New York Temporary State Housing Rent Commission, op. cit., p. 2.
2. Ibid., p. 48.

In certain areas of the Town of Brookline in which apartment houses predominate, the Comprehensive Plan recommends as a Town policy "the conversion of some of the large, single-family houses no longer in demand, some large apartments, and some of the large houses now used as lodging houses into the smaller, good standard dwelling units that are needed by small families." Thus, the conversion process has been publicly adopted as a means of improving the existing housing stock and of adapting it to altered environmental conditions and consumer demand. In certain areas, conversions should be vigorously checked and prevented either by private efforts or by public controls. In other areas, conversions should be encouraged as part of the rehabilitation program. It is extremely important for the town to determine when and where private efforts must be supplemented by some form of public action.

1. Single-room Occupancy

In the course of a neighborhood's decline, "residential space is usually carved up into smaller quarters and the resulting accommodations often lack facilities considered essential to family life, such as private kitchen and bathroom."[1] Generally, single-room units invite short-term occupancy and encourage quick turn-overs. Frequently the number and percent of such single-room units are a means of measuring the social disintegration of the neighborhood.

There were 117 licensed lodging houses in 1960 in the Town of Brookline which were occupied by 2,189 lodgers. This is about 4 percent of the total population. However, there would be many more illegal

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1. Ibid., p. 10.

lodging houses in the town. In the case study area alone, the number of lodgers is about 7 percent of the population in the area.

Because of the threat to the neighborhood posed by lodging houses, it is essential that the town considers ways for lodging houses to be converted back to the original use or to accommodate small self-contained apartments.

There are certain market forces acting now in Brookline which make the conversion of lodging houses to apartment use profitable. However, some owners may be enjoying a high return from the structures rented on a single-room basis and they may not be likely to convert them to apartment use. To assure the permanent correction of such abuses, a vigorous code enforcement program should be employed and, if necessary, public acquisition or other public action should be considered.

2. Obsolete Structures

It has previously been stated that functional obsolescence of structures is the basis for conversion activity, and that the obsolescence is, in turn, a function of the decline in the quality of housing services. The quality of services may change because of changes in: (1) household size; (2) type of consumer; (3) modes of living; (4) the immediate environment; and (5) locational advantages.

There are many structures in Brookline in which the signs of neglect and obsolescence can be observed. The conversion of these obsolete single-family homes and large apartment no longer in demand into smaller dwelling units is essential to improve the quality of existing housing stock.

It has been established that in Brookline, the conversion of single-family houses to two-family use has no significant detrimental effects on the neighborhood, and the cost of conversion is within the means of most home owners. Hence the rehabilitation of the neighborhood through conversion may be carried out mainly by the property owners with public controls and environmental improvements.

However, the conversion of single- or two-family structures to 3 or more family use, and that of multi-family structures may or may not be detrimental. Judicious change in the zoning by-law and conversion standards are needed to permit desirable conversions and prevent those conversions which are in conflict with sound standards of health and safety.

3. Local Zoning Ordinances and Need for Conversion Standards

In many areas the evidence is substantial that conversions continue to occur in violation of existing regulations. Generally, the forces that motivate conversion activity are economic in character. When zoning regulations are ineffective in maintaining a neighborhood as a single-family residential area, it suggests that the zoning ordinance is running contrary to its economic direction. "Zoning bodies must take cognizance of changes in neighborhood living patterns and values. As measured by cost, when conversions are done without official authorization, they tend to be less substantial".[1]

Many old residential neighborhoods are no longer desirable for single-family occupancy. The persistence of the zoning ordinance to maintain it at all cost may well lead to a blighting of the area.

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1. Lipstein, op. cit., p. 153.

Such old neighborhoods are frequently well located with respect to the business and shopping district and well served by transportation facilities and highly desirable as apartment areas. It is possible that if the zoning regulations were altered to permit conversions, this change would encourage substantial alterations and rehabilitation of obsolete structures.

It certain areas, in spite of the presence of obsolete structures, there may be remaining values of physical use and character in the neighborhood which are worth preserving, and there may be no possibility of general development of the property for more intensive uses within a reasonable period of time. In such circumstances, zoning the area for a more intensive use is detrimental. There may be occasional construction of apartment houses, but the usual result is the sporadic alteration of old dwellings for poor quality boarding houses and rooming houses. The nature of the answer will depend on the ultimate use of the area as indicated by the Comprehensive Plan. Among the possible methods of treatment are:[1]

(1) Classifying the area as a multi-family residential district with spacious yard requirements and an occupancy standard expressed in either minimum number of square feet of lot area per family or possibly minimum number of square feet of floor area per family or per person.

(2) Permitting the issuance by the board of appeals of permits for the alteration of old dwellings for a limited multi-occupancy within the existing structures, with the number of families limited in terms of lot area and floor area.

(3) Adding off-street parking requirements for multi-family struc-

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1. American Society of Planning Officials, Zoning: Conversions of Old, Large Dwellings For Multiple Family Use, p. 1.

tures when converted into additional dwelling units.

In Brookline, mindful of the serious parking problems created by the additional converted dwelling units, the Town meeting recently passed amendments to the existing Zoning By-Law[1] requiring a minimum of 50 percent off-street parking (½ space per dwelling unit) for multi-family structures when converted into additional dwelling units.

In summary, a fundamental question may be raised with respect to this long-term trend in Brookline for converting the existing structures into smaller living units. How long and how far would this trend be allowed to continue in the name of rehabilitation ? In 1960, the proportion of one- and two-person households was more than 50 percent of the total households. If the present trend continued too long, Brookline would eventually become a town of small transient households. And if the trend toward smaller households ever reversed itself, the obsolescence of the town would be accelerated drastically.

4. Test of Feasibility

There are both economic and social considerations in judging the feasibility of plans for modernizing or remodeling (conversion and merger) existing rental housing. From the standpoint of private owner the investment must be attractive enough to warrant the risks, and mortgage money must be available on acceptable terms. But it is also important to know the impact of proposed housing improvements upon the tenants. Will they have to be removed from the structure while the renovation work is being done ? Will they be able to afford the new rents ?[2]

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1. The provision of off-street parking spaces was not required before the passing of the amendments.
2. New York Temporary State Housing Rent Commission, op. cit., p. 40.

The case study in Chapter 2 indicates that the conversion of existing structures to adapt to new environmental conditions and consumer demand can make for good business and satisfactory investment. In a market economy, the test of feasibility is often profitability.

For example, the cost of most conversions in single-family houses, it has been found, is within the means of most home-owners. And the magnitude of conversions in multi-family structures during the last decade implies that ample financial incentives for conversion had existed in the Town of Brookline.

However, not every kind of conversion is likely to be profitable, expecially when conversion standards have been set up in a community to control quality, size and occupancy of converted units, and often with additional yard and off-street parking requirements. Frequently, in these cases, private efforts must be supplemented by some form of public action in order to proceed with area-wide rehabilitaion.

The program carried out by the Sub-Committee on Conversions of the National Housing Agency during the war and post-war periods illustrates a kind of conversion program actively supported by the federal agency (see Appendix B). Although the primary objective of war conversions was not to rehabilitate the existing housing stock, but to provide additional dwelling units for defense workers and veterans because of acute housing shortage, the action program, nevertheless, shows how the governmental agencies can provide financial incentives through loans and subsidies.

In recent years, federal legislation has provided financial aid to relocated families and also more emphasis on rehabilitation. The "FHA

220 loan" insured by the Federal Housing Administration under Section 220 of the National Housing Act permits liberal financing within a designated urban renewal area. In addition, there are conventional loans. Beyond these financing arrangements, under the Urban Renewal Law, capital subsidy may be granted to the local community to acquire substandard houses at higher purchase price and sell them back to the original owners at a much lower price on the condition that they use the profit, which is one form of capital subsidy, for remodeling and improving their substandard houses. Additional financial incentives, such as tax concessions which would exempt the value of improvement from tax consideration, may have to be provided in order to make newly rehabilitated or converted dwelling units available to middle- and low-income families.

Because of the limited scope of this thesis, the test of feasibility has not been made for selected structures of typical types in the Town of Brookline. To proceed with conversion programs in conjunction with the urban renewal, it is essential for the community to determine what levels of conversion are feasible with various methods of mortgage financing. As a public program, the architect may be invited to draw up appropriate renovation plans for each structure and submit cost figures for each level of improvement.

5. Environmental Improvements

The success or failure of conversion program depends largely on the expected desirability of living environment. Public environmental improvements must be initiated in conjunction with the up-grading of individual structures. The conversion program will not "correct basic

defects which contribute to the area's decline; the overutilization of land, the lack of playgrounds and parks, the obsolescence of traffic patterns. The removal of such anachronisms rests with a program which requires extensive displacement, demolition and public monies".[1]

In the light of the case study, a question may be raised as to what are the kinds of conversion which incur relatively minor costs to the owners and possibly to the community, and what are not. The findings indicate that conversions in single-family houses are, in general, randomly scattered, relatively flexible with low alteration cost, and within the means of the home-owners. Their resulting detrimental effects from the increased intensity of use may be easily controlled by a code enforcement program and conversion standards without affecting their economic feasibility.

However, in the case of conversions in multi-family structures, conversion standards often come in conflict with the economic feasibility of such structures. Conversions of this kind cost more, and tend to be clustered in certain areas. Because of these inherent characteristics, they often have serious detrimental effects on the community, and as a consequence should be subject to further controls and restrictions.

For example, the recent amendments to the existing Zoning By-Law for Brookline requiring a minimum of one parking space for each two converted units, provided either on the property or within 400 feet of the structure may put an end to a majority of conversions in the Town of Brookline. Structures most affected by this requirement are high-density multi-family structures, three or more stories high and with relatively high building coverage.

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1. Ibid., p. 4.

There are two main objectives for the off-street parking requirement; (1) to arrest the trend toward very small efficiency dwelling units and, thereby toward transient occupancy; and (2) to minimize a serious off-street parking problem. Now let us examine what the possible effects of this requirement are on conversion activity: (1) it may stop the conversion of obsolete multi-family structures not only to small efficiency dwelling units, but also to apartments of reasonable size[1] in an urban environment; and (2) since conversions of this kind are no longer economically feasible, existing structures will probably remain obsolete and suffer from inadequate maintenance and repairs, and their deterioration will be accelerated.

These effects might be to the advantage of the town, if there was a possibility of redevelopment for modern apartment use. If this is not possible, is there an alternative method of preventing the undesirable effects of conversions and at the same time encouraging the desirable conversions ? If multi-family structures adaptable to conversion are clustered in one area, the town may choose to restrict conversions altogether for reasons of parking problem, or to encourage conversions within the conversion standards by providing public or subsidized private off-street parking facilities nearby so that economic feasibility may be restored in the market.

Thus, the scale of conversion activity is extremely important. The community must assess its responsibilities in the direction of supplementing private actions. If the scale of conversions is relatively large and concentrated, the community must consider all the resulting effects of this activity on the surrounding environment. Careful

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1. 1- to 2-bedroom apartment.

studies will have to be made of present and future land use, traffic patterns, parking needs, the adequacy of schools, parks and other community facilities.

In Brookline, to study these aspects of public improvement program, six basic goals have been formulated by the Brookline Planning Board:

(1) Channel through traffic on main streets;

(2) Reduce traffic through neighborhoods;

(3) Preserve convenient local access;

(4) Provide adequate parking for business and for residents;

(5) Expand park and play space;

(6) Improve walkways to schools and play area.

CHAPTER FIVE

SUMMARY AND CONCLUDING OBSERVATIONS

1. Summary

Role of Conversions

(1) In the periods of housing shortage, residential conversions were most instrumental in stretching the existing stock of housing to fill part of the demand which was not met by new construction. This role of conversions to provide additional dwelling units has lost much of its importance in recent years as housing shortage is being eased by new construction. However, this role seems still strong in Brookline.

(2) The decline in the average household size and accompanying growth in the proportion of very small households have had many implications for conversion activity, especially in the light of a tremendously large supply of existing housing stock built for larger households of previous generations. Consequently the role of conversions is to adapt these obsolete structures to meet changed household requirements. On the supply side, it is questionable whether rate of conversions prevailing in the thirties and forties can be continued for long. This rate was possible because there was a large supply of older, relatively large residential structures adaptable for conversion. A majority of these structures may have been already converted and many of newly constructed

dwelling units are of such small size and in such location that they do not lend themselves to conversion. In Brookline, although this has not been examined, there appears to be a reservoir of structurally sound, but functionally obsolete large dwellings.

(3) Considering the large magnitude of mergers reported by the National Housing Inventory, it is one of the roles of conversions to reconvert many of those dwellings already converted in the period of acute housing shortage into adequate and good standard self-contained apartments. The size of reconverted units will be primarily determined by whose housing needs they are to serve.

Characteristics of Conversions

(1) Conversions are likely to occur in old and obsolete structures in which the quality of housing services has declined. Conversion is a function of the age of structures.

(2) Conversions occur not only in single-family residences, but also in multi-family structures, although the frequency of occurance is greater in the former.

(3) The cost of converting single-family houses to two-family use is considerably cheaper than converting multi-family structures. Generally, conversions in single-family houses are more flexible and more responsive to changes in housing demand and household requirements. Most converters of single-family houses are owner-occupants, and the conversion of multi-family structures is frequently carried out by professional realtors and rehabilitators.

(4) Conversions in single-family residences are randomly scattered because of lower density. On the other hand, conversions in multi-family structures tend to be concentrated and located near basic facilities such as shopping center, restaurant and transportation.

(5) Converted units in single-family houses cater to 3- and 4-person households, whereas converted units in multi-family structures cater to 1- and 2- person households.

Implications of Conversions

(1) No direct relationship between conversions and population increase appears to exist.

(2) The problems of single-room occupancy and off-street parking caused by conversion have deteriorating effects on residential neighborhoods.

(3) The quality of converted dwelling units depends on the quality and type of the existing stock of housing in the area.

(4) Conversions in multi-family structures must be vigorously controlled with appropriate conversion standards.

(5) There is a strong need for public improvements to meet the requirements of increasing aged population.

2. Concluding Observations

Because of the inherent limitations of a single case study, generalizations from the findings are hazardous. However, it is hoped that the case findings may provide the basic framework for many similar communities

in metropolitan areas, such as the Town of Brookline, to undertake a conversion program as an effective means of rehabilitating the existing stock of housing.

In testing the feasibility of conversions, consideration of local housing needs and available financial mechanism is extremely important. In certain areas conversions may have to be carried out in spite of unprofitability as part of the urban renewal program. In addition, a metropolitan regional planning agency should be established to formulate comprehensive housing policies for the region which will provide the basis for many individual local communities to proceed with their own conversion program.

Since there is a limit to the supply of old and spacious residential structures built in earlier generations for large households, the role of conversions in urban renewal may be to reconvert many dwelling units which were already converted, during the periods of housing shortage, with poor standards. As rising income and rising housing standards accelerate the search for better accommodations, mergers may play an important role to restore and improve original values and character of many residential neighborhoods in central cities and gray areas.

APPENDICES

APPENDIX A

Definition of Dwelling Unit

A dwelling unit is a group of rooms or a single room, occupied or intended for occupancy as separate living quarter, by a family or other group of persons living together or by a person living alone. It may be located in a structure devoted entirely or in part to residential purposes. A unit is defined as a dwelling unit (in the 1950 Census) if it has (a) separate cooking equipment, or (b) two or more rooms and separate entrance. An exception is the case of a one-room apartment in a regular apartment house, or one room which is the only living quarters in the structure even though it does not have separate cooking equipment.[1]

Living quarters have separate cooking equipment if they have an installed range or stove for the exclusive use of the occupants or if they have a portable stove or hot plate, provided that the portable stove or hot plate is used for preparing full meals. A separate entrance exists if the occupant can reach his rooms directly through an outside door or common hall, and does not have to pass through a room of any other occupant.[2]

The 1960 definition of a household differs slightly from that used in the 1950 Census. The change arises as a result of the shift from a dwelling unit to a housing unit as the basic unit of enumeration in the Census of Housing. The main difference between housing units and dwelling units is as follows: living quarters consisting of one room with

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1. U. S. Department of Commerce, Bureau of the Census, Urban Enumerator's Reference Manual, 1950 Census of the United States, Washington, D. C., pp. 68-71.
2. Lipstein, Benjamin, The Role of Residential Conversions in the Housing Market, unpublished Ph. D. thesis, Columbia University, 1956, p. 14.

direct access but without separate cooking equipment qualify as a housing unit in 1960 but generally did not qualify as a dwelling unit in 1950.[1]

The change in the definition may have a significant effect on the comparability of the household statistics for census tracts that are located in some of the larger metropolitan areas where many persons live alone in single rooms in hotels, rooming houses, and other light housekeeping quarters.

Definition of Conversion

A residential conversion is defined as the process of changing existing dwelling units into a larger or smaller number of dwelling units. "A conversion is said to occur in rooms meeting the definition of a dwelling unit when the tenancy is altered so that the number of dwelling units within these rooms is changed."[2] For the sake of convenience, however, the process of decreasing the number of dwelling units will be called "merger".

A single-family house may be converted to two or more-family use, and a large apartment in a multi-family structure may be converted to accommodate two or more dwelling units. Conversions are not confined to residential structures, but may occur in non-residential structures too.

Conversions may occur with or without structural change. They are said to occur through structural change when some feature of the original unit must be altered physically. Common alterations are the addition of partitions, a separate entrance, outside stairway, kitchen or bath

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1. U. S. Department of Commerce, Bureau of the Census, Advance Reports, General Population Characteristics, 1960 Census of Population, p. 2.
2. Lipstein, op. cit., p. 15.

facilities or extensions to the structure. When a conversion takes place through non-structural change, it may amount only to a change in living arrangements, such as closing a door between rooms or designating a room or rooms as a separate dwelling unit to be rented out.[1]

It is important to distinguish between non-structural conversions and cases of doubling up, to which non-structural conversions bear a resemblance in borderline cases. Non-structural conversions and doubling up represent alternative methods of stretching existing housing space. In non-structural conversions, additional dwelling units are created out of existing space; in doubling up, additional families are accommodated without changing the number of existing dwelling units.[2]

Analytically, there is considerable difference between non-structural conversions and doubling up. Double-up families are effectively single spending units for shelter. The magnitude of doubling up is suggestive of a possible need for additional housing. However, the vacating of a dwelling by a secondary family, e.g., married children living with parents, will not make a unit available for rent. In the case of non-structural conversions, each dwelling unit is occupied by a primary spending unit. The occupying family in this instance uses a dwelling unit which would otherwise be available on the market for other families.[3]

By definition, a residential conversion must result in a dwelling unit. Thus, the alteration of a single-family house to rooming house use does not constitute a conversion since the single-room units in the

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1. Lipstein, op. cit., p. 15
2. Ibid. p. 17
3. Ibid.

rooming house do not qualify as dwelling units according to the 1950 definition. However, the change in the census definition of "housing unit" in 1960 will include some of these single-units as dwelling units, thereby, qualifying as converted units.

APPENDIX B

Excerp

from

CONVERSIONS PROVIDE HOMES FASTER

Community Action Bulletin No. 5
Veterans Emergency Housing Program
National Housing Agency
Washington, D. C.

August, 1946

Advantages of Conversions

The remodeling of existing homes, apartments and other structures to provide more living accommodations for veterans' families is an integral part of the Veterans Emergency Housing Program. During the war government-aided and private conversion programs resulted in the creation of some 250,000 additional dwelling units. Although conversions have continued since the end of the war, special emphasis on this part of the program affords an immediate opportunity for additional dwelling units in the shortest space of time. Some advantages are:

1. Conversions require less materials than new houses.
2. Conversions produce dwelling units faster.
3. Conversions provide cheaper rental housing.
4. Conversions require less utility installation.
5. Conversions are not limited by weather to a set building season.

6. Conversions spread the work over a larger section of the economy.

Role of the Mayor's Emergency Housing Committee

Providing good homes for veterans speedily at a reasonable price or rental is the reason for and objective of the Veterans Emergency Housing Program. One of the most effective means of meeting this immediate emergency is the conversion program for remodeling existing structures into dwelling units. This program is recommended to the Mayor's Emergency Housing Committee, the group responsible for local action, which can best secure the public recognition of this need, essential before full community cooperation....

It is suggested that a Sub-Committee on Conversions be named to carry out the following activities:

1. Survey the community to find properties available for remodeling.
2. Confer with owners concerning remodeling of their properties.
3. Enlist the full support of FHA-qualified financial institutions and of building material dealers, architects and contractors in the conversion program.
4. Launch a well-rounded publicity campaign.
5. Recommend any changes in zoning ordinances and building codes that may be necessary to facilitate conversions.

The campaign for more conversions, including accommodations for minority group veterans, should be carried on with the help of local planning officials, realtors, Federal Housing Administration and

Federal Home Loan Bank Administration representatives.

Surveying the Possibilities

For purposes of the Veterans Emergency Housing Program, conversion means the remodeling of any structure with the object of producing additional dwelling units for veterans' families. Here are some possibilities:

1. A spacious old-fashioned residence can be converted into small apartments faster and more economically than new homes can be built. Many cities have an ample supply of such dwellings, still structurally sound. These should be canvassed for possible use.
2. Rooming houses with an excess of rooms can convert same into small apartments or housekeeping units.
3. An attic can be remodeled to provide attractive living quarters.
4. Excess basement space, dry, well lighted and ventilated, may make good small apartments.
5. The second floor of a garage may become an attractive garden apartment.
6. Space over stores or other commercial buildings can be converted into conveniently located apartments for downtown workers.
7. Large apartments can be cut up into smaller apartments.
8. A summer home can be winterized for year-round living.
9. Surplus small war structures can be made into acceptable temporary dwelling units.

Advantages to Property Owners

What are the advantages to owners of converting such properties into dwelling units? Among them are the following:

1. It is a good business investment to make an income-producing property out of a tax eater. Most conversions are permanent property improvements.
2. Priorities are available to property owners who remodel for veterans.
3. FHA-insured loans of up to $5,000 may be secured through qualified lending institutions. Repayment may be spread over a period of seven years. This is the lowest cost financing ever made generally available. Although such loans are designed primarily to aid individual home owners, a loan of up to $5,000 is permitted for the conversion of each property.
4. Rentals from the added apartments will soon repay the cost of the work and will provide a steady extra income, as well as adding to the value of the property. The owner who converts is not required to set a proposed rental for the entire building or for any part which he or continuing tenants will occupy. He is only required to have a proposed rental approved by the FHA for the additional dwelling units in advance of conversion.
5. When conversion to additional dwelling units increases the value of a single structure, it adds to the value of

a neighborhood. Cities facing the problem of depreciating property values in certain areas will appreciate this fact.

APPENDIX C

TABLE A

NET CHANGES IN THE HOUSING INVENTORY
U. S. AND REGIONS
APRIL 1, 1950 - DECEMBER 31, 1956

Area	Units Added Through				Units Lost Through			
	Total Added	New Const.	Conversion	Other Sources	Total Lost	Demolition	Merger	Other Means
United States	12,571,000	10,920,000	708,000	943,000	3,216,000	1,131,000	672,000	1,413,000
Inside Standard Metropolitan Areas	7,672,000	6,763,000	458,000	451,000	1,688,000	643,000	394,000	651,000
In Central Cities	2,340,000	1,783,000	302,000	255,000	1,177,000	512,000	278,000	387,000
Not in Central Cities	5,332,000	4,980,000	156,000	196,000	510,000	131,000	115,000	264,000
Outside Standard Metropolitan Areas	4,899,000	4,157,000	250,000	492,000	1,529,000	488,000	279,000	762,000

Source: The Bureau of the Census, 1956 National Housing Inventory, "Components of Change, 1950 to 1956", vol. 1, part 1, Table C, p. 15.

TABLE B

1950 and 1956 CHARACTERISTICS OF DWELLING UNITS CHANGED BY CONVERSION AND MERGER FOR THE U. S.

Characteristics	Units Changed by Conversion		Units Changed by Merger	
	From 1950	To 1956	From 1950	To 1956
Total Dwelling Units	668,000	1,376,000	1,321,000	649,000
Year Built				
April, 1950 - 1956	-	-	-	-
1940 - March, 1950	52,000	105,000	106,000	67,000
1930 - 1939	28,000	49,000	76,000	29,000
1929 or earlier	558,000	1,210,000	1,093,000	552,000
Not reported	30,000	11,000	46,000	1,000
Number of Dwelling Units in Structure				
1 d. u.	465,000	-	-	454,000
2 to 4 d. u.	149,000	1,170,000	1,177,000	150,000
5 d. u. or more	53,000	206,000	144,000	44,000
Occupancy Status				
Owner Occupied	393,000	397,000	379,000	371,000
Renter Occupied	236,000	826,000	879,000	234,000
Vacant	-	153,000	-	44,000
Number of Rooms				
1 to 2 rooms	39,000	313,000	414,000	26,000
3 to 4 rooms	107,000	770,000	597,000	124,000
5 to 6 rooms	247,000	256,000	212,000	237,000
7 rooms or more	250,000	35,000	42,000	261,000
Not reported	25,000	1,000	56,000	1,000
Color of Occupants				
White	571,000	1,038,000	1,131,000	527,000
Non-white	58,000	185,000	126,000	78,000

Source: The Bureau of theCensus, 1956 National Housing Inventory, "Components of Change, 1950 to 1956", vol. 3, part 1, Table 1 and 2, p.

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