HIDDEN HOUSING PRODUCTION:

RESIDENTIAL CONVERSION ACTIVITY IN THE CITY OF BOSTON

Vol. 1

by

JACQUES NICHOLAS GORDON

B.A. Urban Studies and Political Science
University of Pennsylvania
(1978)

M.Sc. Regional and Urban Planning Studies
London School of Economics and Political Science
(1979)

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Signature of Author _____
Jacques N. Gordon

Certified by _____
Phillip L. Clay
Professor, Urban Studies and Planning
Dissertation Supervisor

Accepted by _____
Langley Keyes, Chairman
Chairman, Doctoral Committee
Department of Urban Studies and Planning

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ABSTRACT

This dissertation examines the role that residential conversion activity plays in urban housing markets. The addition of dwelling units to existing residential buildings is analyzed at several different levels. First, the supply and demand for converted units are described at the national level. Second, the role of the regulatory process is explored, especially in older urban areas such as Boston. Finally, the importance of conversions in local housing markets will be examined through a socio-economic analysis of conversions in owner-occupied housing in three Boston neighborhoods: Allston-Brighton, Jamaica Plain and the South End.

Data from the U.S. Census Bureau's Components of Inventory Change and Annual Housing Survey, are used to show the characteristics and nationwide distribution of residential conversions. Converted units are smaller and more likely to be rented by tenants with lower incomes, on average, than the existing inventory of rental units. Residential conversions, the addition of accessory units to owner-occupied dwellings and the reconfiguration of multi-family buildings into a greater number of units, accounted for approximately one million units, or nearly half of all conversion activity, between 1973 and 1980. The demand for smaller rental units, driven by an increase in the number of smaller households and high headship rates among the maturing baby boom generation, led to a nation-wide supply response.

An institutional analysis of conversion activity reveals that the introduction of rental units in residential areas takes place in a highly regulated and contentious environment. Despite local zoning ordinances that restrict conversions, property owners often circumvent the regulatory system. Thus, residential conversion activity frequently takes place in a "gray" market beyond the purview of local planning authorities. In Boston, the regulatory system set up to deal with requests to convert existing structures is fraught with inefficiencies. Nevertheless, analyses of the records of the Planning Board of Appeal indicate that a growing number of Boston residential property owners are seeking to convert legally.

A survey of 600 Boston homeowners was conducted in order to go beyond the the Board of Appeal data and get information about illegal conversion activity. Converters were questioned about the

methods they used and their motivations for adding one or more rental units to their property. Nonconverters were asked if they were aware of conversions on their street and, if so, what effect they thought these extra units had on the neighborhood. The key findings of the survey are as follows:

1. The supply of converted units is not constrained by the regulatory process. Local zoning laws and variance procedures do not significantly affect the ability or willingness of property owners to add dwelling units. In fact, many homeowners circumvent the legal procedures entirely, or in part.

2. The reaction of non-converting homeowners to conversion activity in their neighborhoods is highly diverse. Of those aware of conversions on their street, 36 percent reported specific negative effects, 28 percent cited postive effects, 27 percent believed there was no effect, and the remainder thought the effects were mixed.

3. The socio-economic characteristics of converting homeowners differs significantly from those of non-converting homeowners. The strength of the market for small rental units and the physical suitability of a structure to undergo a conversion are not the only factors that are associated with a high likelihood of conversion activity--homeowner characteristics also matter.

4. Two types of converters are discernable in the three neighborhoods. One group is characterized by altruistic intentions and the other employs a more financially "savvy" approach. These two groups can be differentiated by their demographic attributes as well as by their motives.

5. Two discriminant models are developed from the survey data that distinguish between converters and non-converters, as well as between the two types of converters. Classification schemes based on these models show the relative importance of discriminating variables such as income, age, size of household and length of tenure.

Policy conclusions are developed in a final chapter. In Boston, residential conversions make a modest contribution to the supply of affordable rental housing. There are positive and negative externalities associated with their introduction. The net fiscal impacts of conversion activity are not determined conclusively through the survey findings. It is clear, however, that most converted properties are under-assessed. This situation may be an appropriate policy response in order to encourage the production of affordable rental units in areas where positive externalities outweigh negative community reactions.

Thesis Supervisor: Dr. Phillip L. Clay, Professor of Urban Studies and Planning

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As I moved on to the data gathering phases of the research, Ed Montfort, Branch Chief of the Census Bureau's Housing Division; John Bell, Boston Redevelopment Authority Zoning Office; John Woodward Planning Director for the Town of Brookline; and Alex Ganz, Research Director of the Boston Redevelopment Authority were all exceedingly helpful in steering me through the convoluted ways that conversion activity is (or is not) measured by the public sector. I owe a special debt of gratitude to Alexander Ganz, who encouraged me to submit a proposal for survey research to the Board of the Boston Redevelopment Authority. The Boston Redevelopment Authority's funding was indespensable to the homeowner survey and enabled me to develop a microeconomic database of converter behavior.

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Chapter I

INTRODUCTION

Approximately 20 percent of the 25 million housing units created in the United States during the last decade came from sources unaccounted for by the Census Bureau. In its 1981 Annual Housing Survey, the U.S. Census Bureau reported that the increase in the number of households between 1970 and 1980 exceeded the number of newly constructed units by almost five million households. The only explanation offered for this apparent housing shortage was that the surplus households were accomodated through the creation of 4.9 million "unspecified units." These units were unspecified in the sense that they were unmeasurable by the otherwise meticulous Construction Reports series of the Bureau's Housing Statistics Division. Because they are not tracked by the Census Bureau, very little is known about these unspecified units or under what circumstances their share of the housing stock is likely to change.

New housing starts represent about 2 percent of the entire housing stock in any given year. The remaining 98 percent of the stock is inherited by a changing population with different needs and preferences. Despite its overwhelming dominance as a source of shelter, a relatively small fraction of planning and policy research has been devoted to the ways that this existing stock is maintained, upgraded, downgraded, or reconfigured in the private sector. By contrast, a much larger amount of publicly and pri-

vately supported research has been directed to analysis of the new construction sector. Historically, this "new construction" bias carried over to many federal, state, and local programs and policies. The tools of policy analysis now need to be applied to the country's inherited stock of housing and the ways that new generations of households adapt to meet changing needs.

Conversion activity, the addition of dwelling units to existing residential and nonresidential buildings, is one of the principal components of the unspecified units category. One of the main reasons conversion activity has been overlooked is that it often takes place outside of the sphere of the regulated construction process. Consequently, conversions are less understood than other, better-documented categories of inventory change, such as new construction and demolition. Difficulties in analyzing the contribution of conversion activity to housing production stem from a lack of reliable data on dwellings created through conversion. This dissertation will address this issue through an analysis of the role of conversion activity in urban housing markets, the Boston housing market in particular, during the late 1970s and early 1980s.

First, at the national level, conversion activity will be analyzed as one element of the aggregate phenomena of unspecified additions that are referred to as "non-new construction sources of the housing supply." Second, the role of the housing and

land use regulatory system will be analyzed, especially as it relates to conversion activity in older cities, such as Boston. Finally, the importance of conversions in a specific housing market will be explored through an institutional and economic analysis of converted unit production in three urban neighborhoods in Boston. A survey of homeowners is used to distinguish between the characteristics of converters and nonconverters of owner-occupied structures in these neighborhoods, as well to identify two distinct types of converters.

The National Significance of Residential Conversions

New construction contributed a national annual average of 1.2 million units between 1980 and 1983. About 500,000 of these new units replaced dwellings removed from the inventory each year, leaving a net annual increase of 700,000 new, nonreplacement units. Meanwhile, the second wave of the baby boom (those born between 1955 and 1960--the largest five-year birth cohort in this nation's history) reached prime household-forming ages in the early eighties. Under conditions such as these, when housing starts were low and household formation was high, approximately one-third of annual housing unit "production" came from sources other than new construction.

The recycling and reconfiguration of existing buildings into additional residential space is certainly not a new phenomenon in

the United States. Early settlers and subsequent waves of immigrants have repeatedly proved adept at converting such unlikely structures as storefronts, barns, and other outbuildings into permanent shelters. At the end of the nineteenth century, and well into the twentieth, landlords frequently squeezed extra units out of crowded tenement buildings during periods of heavy immigration. [1] The conversion of single-family housing to multifamily dwellings was openly encouraged during World War II by local planning commissions in an effort to facilitate the relocation of workers to factory towns. [2]

In the early eighties, the housing market came to rely on residential conversions as an important, albeit secondary, source of housing supply. During the housing recession of 1980-1982 conversions contributed a greater share of the annual increase in units than at any other time in the post-World War II era. [3] Previous periods of high conversion activity were often characterized by severe housing shortages and mass migrations. Modern-day conversions are initiated less out of sudden necessity than out of gradually changing preferences, lifestyles, and economic circumstances. Today's households are smaller and more mobile: young people delay marriage and have fewer children; and elders live longer and are more likely to remain independent of other family members. [4] The inherited stock of housing was designed for a succession of earlier generations of housing con-

sumers who had different priorities for location and unit size. Large, single-family, detached dwellings in outlying suburbs may not suit the lifestyles of the two fastest growing population groups in our society: small households with members (1) either under the age of thirty-five or (2) older than sixty-five.

The mismatch of the existing housing supply with future demand indicates the continued potential for conversion activity. Demographers project the annual increase in the number of households will be between 1.4 and 1.6 million per year through the end of the decade. [5] At the same time, even the most optimistic forecasts predict that annual housing starts will not remain above 1.6 million units per year through the rest of the decade [6]. If these forecasts hold true, the supply of new housing and mobile homes will barely meet the demand attributable to household growth, leaving conversions to cover the demand attributable to replacement of lost inventory. With demolitions averaging between 200,000 and 300,000 per year in the first half of the decade, the size of the replacement market may be considerable. Thus, as long as housing starts remain below the 1.9 to 2.0 million range of the late seventies, conversions will continue to play a major role in housing supply through the end of the eighties.

Conceptual Framework and Research Strategy

New construction is but one of several components that contribute to the housing stock changes of a region, a city, or a neighborhood. Inventory adjustments include all the ways that units are introduced to the housing stock as well as all the ways they can drop out. In analyzing these processes, it is helpful to make a distinction between different types of conversions and other sources of gains and losses, as illustrated in the matrix in Exhibit 1.

Technically, conversions can lead to either losses from or additions to the inventory. The first cell in Exhibit 1 lists the five avenues that lead to additions from sources other than new construction or mobile home movements. Analysis of these "conversion gains" sheds light on the five million unspecified units reported by the Census Bureau. However, conversion activity can also deplete the housing stock. So the second cell refers to the ways that units leave the inventory through "conversion losses." The third and fourth cells represent gains and losses through the conventional channels of new construction, demolition, and mobile home placements. These processes are conventional in the sense that they are easily recognized as sources of housing inventory change and consequently receive more attention from policymakers and housing analysts. Through a

Exhibit 1
Housing Inventory Adjustment Processes

HOUSING STOCK CHANGES

Process:	gains	losses
Conversions	[A] 1. nonres. to res. 2. group qts. to res. 3. splitting 4. accessory units 5. renovation of vacant, abandoned 6. seasonal to year-round	[B] residential to: 1. nonresidential 2. to group quarters 3. merger 4. to abandoned, uninhabitable
Other Sources	[C] 1. new construction 2. mobile homes moved in	[D] 1. demolition 2. fire, other disasters 3. mobile homes moved out

STOCK ADJUSTMENT COUNTS
1973-80

Process:	gains	losses
Conversions	[A] 1. 564,000 3.1% 2. 558,000 3.1% 3. } 924,090 5.1% 4. } 5. 147,000 0.8% 6. Total: 2,193,000 12.1%	[B] 1. } 523,000 8.7% 2. } 3. 880,000 14.7% 4. 582,000 9.7% Total: 1,900,000 33.1%
Other Sources	[C] 1. 13,100,000 72.4% 2. 2,800,000 15.5%	[D] 1. } 1.8 million 30.1% 2. } 3. 2.2 million 36.8%
Totals	Production: 18.093 million 100.0%	Losses: 5.985 million 100.0%

Source: Bureau of the Census, Components of Inventory Change, Series HC80-4-1.

better understanding of the conversion side of the housing production process, policy and planning tools can be utilized to where they will have the greatest impact on the problems of housing availability, affordability, and adequacy. Public policies devised when new construction predominated may need to be reevaluated once the importance of conversion and renovation activity is apparent.

Closer examination of the "conversion gain" categories will reveal that they are all important sources of housing supply in particularly areas of the country. The six categories contained in the first cell of the matrix are described more fully as follows:

1. Conversion of nonresidential buildings to residential use--such as warehouse and loft conversions
2. Conversion of dormitories, hotels, and any other "group quarters" into independent, permanent dwelling units
3. Conversion of large housing units to a greater number of smaller units, eliminating the original units in the process (splitting)
4. Conversion of underused parts of existing dwellings into separate units that leave the original units virtually undisturbed (accessory units)
5. Renovation of condemned or uninhabitable, vacant housing units
6. Conversion of seasonal homes to units that are year-round primary residences.

The key distinguishing factor among these categories is the status of the structure prior to conversion. Therefore, an

understanding of the type of structure that dominates each category is a necessary step in learning about where new conversions are likely to occur. As noted in Exhibit 1, some types of conversions depend on the availability of nonresidential stock, while other categories rely on specific types of existing housing. Each of these six conversion types is characterized by different structural obstacles and advantages; however, a building's structural characteristics dictate only a few of the constraints that are imposed on potential converters. Regulatory, financial, and social constraints also affect the ability of the built environment to undergo conversion. This dissertation will focus on the contribution of the third and fourth categories--the conversion of existing dwellings--and their roles in urban housing markets.

The lower half of Exhibit 1 contains the gross flows of housing units into and out of the inventory between 1973 and 1980. Residential conversions, including types 3 and 4, accounted for approximately 924,000 units during this period. Conversion of non-residential structures, group quarters, seasonal homes, and vacant/abandoned buildings (types 1, 2, 5, and 6) to year-round housing brought the total contribution of conversions to 2,193,000 or 12 percent of total production. Even though evidence presented in Chapter 3 shows that these gross flows are probably underestimated, there is little doubt that:

1) conversions represent a relatively small fraction of total unit production and 2) their contribution to supply is almost entirely offset by conversions out of the inventory through mergers and conversions to non-residential use. Thus, while the gross conversion flows are substantial, the net flows are negligible.

Nevertheless, housing production through conversion activity is well worth examining for a number of reasons:

1. Conversions serve a very different market than newly constructed units.

2. Their share of total unit production has increased significantly since the fifties and sixties.

3. Their role in local housing markets is not well documented or understood.

A growing body of economic literature now attempts to identify the circumstances under which a household or a landlord is likely to invest or disinvest in a dwelling. [7] Yet, all these "micro" analyses emphasize an individual's decision to upgrade or downgrade a dwelling rather than a decision to add or subtract housing units. Moreover, little is known about what type of buildings are most likely to be converted and the characteristics of the converters or their prospective tenants.

In the sixties and seventies numerous analysts described patterns of neighborhood decline. In the late seventies and early eighties, social scientists also turned their attention to

revitalizing neighborhoods. [8] However, few studies have focused on the relationship between conversion activity and neighborhood change. In order to place neighborhood findings in perspective, this dissertation will investigate conditions that contribute to or impede the creation of conversions at three levels:

1. The national or regional level
2. The jurisdictional level
3. The neighborhood level.

The three different levels of aggregation offer different insights into the basic research questions: Where does conversion activity take place? How is it achieved? Who participates in the conversion process? When is conversion activity likely to be an important source of housing? And What are the effects of conversions on a city or neighborhood?

Several factors determine whether regional, jurisdictional, or neighborhood findings can be used to answer these questions. First, certain levels of aggregation are more useful for answering particular research questions. For instance, the neighborhood level may be better suited to addressing the "who" or "what" questions, but the regional or national level might address the broader "when" question more directly. Second, the lack of available data constrains the degree to which a question can be answered. For instance, there are very few data sets that track neighborhood statistics over time, and reliable jurisdictional or metropolitan time-series data are just as rare.

Therefore, national and regional data will be used for longitudinal analysis, while neighborhood, city, and metropolitan data will be used for cross-sectional comparisons.

A Word About Data Sources

Duane McGough, a researcher at the Department of Housing and Urban Development, made the first estimates of the non-new-construction housing inventory in 1981. [9] However, McGough neither undertook an analysis of the avenues that lead to the creation of these units nor established which parts of the country or of a metropolitan area are more likely to depend on these sources of housing. It is now possible, through the use of the Annual Housing Survey and the Components of Inventory Change series, to learn what types of structures lend themselves to this type of housing production, where these structures are located, and what sorts of families live in them.

In addition, a survey of approximately 600 Boston homeowners was undertaken in order to find out more about the methods and motivations of converters. The survey results will be used to investigate the obstacles and advantages of converting from the point of view of the individual homeowner. Nonconverters were also surveyed as to their attitudes to conversion activity in their neighborhoods. In Chapter 6, the survey results will be used to build an empirical model that distinguishes between different types of converters as well as between converters and

nonconverters. Policy implications of the model and the survey results are then explored in the final chapter.

The next chapter reviews published works that address the role of conversion activity as a source of housing. Authors representing a wide spectrum of the social sciences have examined conversion activity, including economics, architecture, urban planning, sociology, and other policy sciences. The following section also describes the multi-disciplinary approach that will be employed in this dissertation.

Notes to Chapter 1

1. I. Jordan "Room Overcrowding and the Lodger Evil Program" in Housing Problems in America Proceedings of the National Housing Association Vol. 2, 1912; and E.H. Marble, "The Menace of the Three-Decker" Vol. 5, 1916. Both authors decry the overcrowding of immigrant households in buildings designed for fewer families.

2. A typical example of the encouragement of conversion activty during wartime is contained in a policy statement issued in 1943: "Housing for workers behind the machines is as necessary as bullets for the men behind the guns. We know that we already have a severe shortage of housing, and that a further influx of workers is expected.... In view of the shortage of materials, labor and time, it is thoroughly reasonable to try to meet a part of this problem by another supplementation program [besides the War Guest program], that of converting existing structures to provide additional dwelling units." Cleveland City Planning Commission, unpublished memorandum "The Conversion of Structures to Provide Additional Dwellings for War Workers," February 9, 1943.

3. President's Commission on Housing, Report of the President's Commission on Housing, (Washington, D.C.: U.S.G.P.O.) 1982.

4. George Masnick and Mary Jo Bane, The Nation's Families: 1960-1990 (Boston, MA: Auburn House, 1980).

5. William C. Apgar, et. al. The Housing Outlook: 1980-1990 (New York, NY: Praeger 1985) pp. 112-118.

6. Representatives of this expanding literature include David Listokin The Dynamics of Housing Rehabilitation (New Brunswick, NJ: Center for Urban Policy Research, Rutgers Univ.), 1973 and James Sweeney, "Housing Unit Maintenance and the Mode of Tenure," Journal of Urban Economics 8 (1974): 111-138.

7. Jerome Rothenberg, "Neighborhood Deterioration and the Urban Housing Market Complex" in Urban Housing, Proceedings of the Fourth Annual Conference, Federal Home Loan Bank of San Francisco, 1979, pp. 36-75 and Michael Stegman Housing Investment in the Inner City (Cambridge, MA: MIT Press) 1972.

8. J. Thomas Black "Private Market Housing Renovation in Central Cities: A ULI Survey," Urban Land 34 , Nov. 1975, pp. 3-9; Franklin James, "Back to the City: Case Studies on Private Neighborhood Revitalization in Eight Metropolitan Areas" Urban Intitute Working Paper No. 0241-02 (Washington, DC: The Urban Institute, 1977); and Dennis Gale, "Middle Class Resettlement in Older Urban Areas," Journal of the American Planning Association 45 (1979),

8. (cont.)

pp. 293-304. The "gentrification" literature continues to expand after the publication of these three seminal studies.

9. Duane McGough, "Additions to the Housing Stock by Means other than New Construction" unpublished paper, Department of Housing and Urban Development, 1982.

Chapter II

REVIEW OF RESIDENTIAL CONVERSION LITERATURE

During the post-World War II housing boom, housing analysts typically considered new construction as the sole source of shelter production in the United States with good reason. [1] New houses financed with the help of the FHA and VA mortgage insurance programs were being built and sold in record numbers in the 1950s. A decade and a half later, the President's Committee on Urban Housing carefully studied national sources of housing supply, but the role of existing buildings as a source of additional housing units was not discussed. The Kaiser Committee's 1960 seminal report, A Decent Home, addressed the problems of slum housing and inefficiency in the housing industry: Rehabilitation strategies were presented as solutions to the problem of poor-quality housing, not as a potential source of additional units. Government reports issued within the last five years still do not acknowledge that conversions and other nonconstruction additions to the stock make important contributions to the number of additional units that are added to the housing inventory each year. The Department of Housing and Urban Development's 1980 National Housing Production Report gives a thorough accounting of the number and location of housing starts, but does not mention the other ways that a dwelling can "come on line."

Literature on Housing Malleability

Economists and planners have traditionally treated housing as one of the most durable and least malleable of all consumer goods. Most attempts to use economic theory to model housing markets and residential location decisions assume that housing, once built, is there to stay. [2] In the last thirty years, housing researchers have assessed the more complicated dynamics involved with a long-lived asset like housing. Theoreticians gradually introduced more complexity into these simplified models of residential land use by considering the effects of depreciation [3], maintenance and repair decisions [4], and the possibilities for redevelopment [5] or upgrading [6]. Recent theoretical work has focused on the investment aspects of owner-occupied housing (as opposed to treating housing as a pure consumption good) [7] as well as the dynamics of housing reinvestment decisions in revitalizing neighborhoods. [8] Older theories of filtering [9] and newer theories of upgrading (sometimes called "reverse filtering") have been formulated [10] to describe new patterns of reinvestment. Nevertheless, little attention has been paid in the neighborhood change literature to shifts in the intensity of use of the existing housing inventory.

Empirical studies that acknowledge the malleability of housing have focused on such issues as deterioration [11], maintenance and repair [12], and more recently, reinvestment [13] and tenure conversion. [14] However, with rare exceptions, analysts

have not specifically addressed the unit conversion phenomenon.

Housing Conversion Studies

Despite the wealth of contributions that examine the changeable nature of housing, very few economic studies have directly confronted the topic of housing conversions. The energies of architects, designers, and do-it-yourselfers have long been challenged by the conversion process. In recent times, popular interest in alternatives to conventional new construction can easily be traced through architectural publications. Photographic essays devoted to residential conversions of churches, schools, banks, warehouses, barns, and even old buses and railroad cars appeared in architectural journals during the mid-seventies [15], and several how-to manuals were published soon thereafter. [16]

Social scientists, however, were slower to begin studying possible alternatives to new construction. Several recent studies examine the conversion process in specific communities, such as the San Francisco-Oakland area [17], New York City [18], Babylon, N.Y. and Seattle, Wash. [19], suburban Boston [20], and Washington, D.C. [21] Roger Wentz examined fiscal impacts, legal issues, and the reaction of local residents when accessory units were introduced in the older, established suburbs of Washington, D.C. Sharon Zufkin undertook a sociopolitical analysis of the loft-conversion phenomenon in Manhattan. Philip Clay examined

the potential capacity of the existing stock to accommodate conversion activity. Martin Gellen, Clay, and the Merrimack Valley Planning Commission focused on regulatory responses to conversion activity in single-family suburban communities. Despite the growing literature on conversion activity, there have been no comprehensive analyses of the economics behind residential conversions: What are the key factors in a property owner's decision to create additional dwelling units from existing buildings? What risks and what benefits does the property owner face? What role does the regulatory process play in hindering or encouraging converters?

One of the reasons that economists and planners have rarely tackled this issue is that accurate conversion data have been very difficult to find. Until McGough's findings were published as part of The Report of the President's Committee on Housing in 1982, few housing analysts were aware of the magnitude of the conversion supply, and fewer still realized that Census Bureau data could be used to study conversions. A handful of housing researchers were attuned to the importance of conversions before McGough's report "Non-construction Additions to the Housing Stock" appeared in the summer of 1982. Researchers at the Urban Institute produced estimates independent of McGough of the number of dwelling units that had been created by converting single-family houses into multifamily dwellings between 1970 and 1978.

[22] That same year, William Apgar of the Joint Center for Urban Studies wrote a report that described the pitfalls involved in estimating the total number of conversions and other nonconstruction additions from U.S. Census data. Apgar noted that problems arise due to seemingly arbitrary changes in the Census definition of what constitutes a "housing unit," improvements in sampling procedures that "find" more units over time, and reconciliation of inter-census housing survey data with the decennial census. Apgar and others who have studied the conversion measurement problem have been frustrated by the fact that the Census Bureau concentrates on documenting housing "starts" (i.e., new construction) and losses from the stock, while ignoring the subtler changes that take place in the existing inventory. [23]

Several earlier studies are worth mentioning, not because of their access to superior data, but because of the theoretical contributions their authors made to the study of residential conversions. Housing from the Existing Stock, a 1976 Urban Institute monograph by Ozanne and Struyk, made several important contributions to the conceptual problem of operationalizing Muth's concept of "housing services." Although Ozanne and Struyk did not study the conversion process directly, they did attempt to model the role of the existing stock as a source of housing supply. [24]

Through examination of changes in the quantity and quality of housing in the Boston SMSA, they estimated and compared the

price elasticities of housing supply for owners and renters between 1960 and 1970. One of their principal findings was that owner-occupants and landlords both respond to price changes by adjusting their provision of housing services--whether to a tenant or to themselves. They concluded that supply responses to changes in demand are remarkably similar, despite the wide diversity of housing suppliers in cities such as Boston--including large real estate corporations, small-time landlords, and owner-occupants.

The implications of their findings for converters of owner-occupied property are intriguing--under what circumstances are homeowners likely to become interested in producing housing for demand outside of their own household? The Ozanne-Struyk empirical results imply that owner-occupiers do adjust their supply of housing services to themselves through reinvestment and disinvestment in ways that approximate the behavior of profit-maximizing landlords. However, they do not extend their analysis to the propensity of homeowners to maximize the return on their real estate assets through conversion.

Another study undertaken by Katharine Bradbury in 1977 did attempt to build an empirical housing supply model that explicitly included conversions: "Changes in Urban Housing Supplies Through Conversions or Retirement." [25] Bradbury used this model to estimate price elasticities of "conversion-retirement"

supply with Components of Inventory Change (CINCH) data from 89 zones in the Boston metropolitan area. Using the rate of conversion production or loss in each zone as the dependent variable, Bradbury estimates "conversion" models for single-family, two-to-four unit structures, and apartment buildings. These models explain a remarkably high percentage of the cross-sectional variation in ten-year conversion rates (R-squared of .75, .78, and .93, respectively) with only a few independent variables, including changes in housing price, vacancy rates, and the presence of restrictive zoning. However, her calculation of conversion rates encompasses conversions, mergers, and removals from the stock--in short, all inventory changes not attributable to new construction. Nevertheless, her findings do illuminate the way the Boston metropolitan housing market operated in the 1960s.

Bradbury concluded that shifts in the Boston housing supply due to conversion or retirement from the stock were less responsive to price changes than new construction. In zones with rapid price increases, conversions did augment new construction as a source of supply. Her overall estimate of the price elasticity of the conversion-retirement supply was .044, compared to the price elasticity of new construction, .152. Bradbury concluded that the lower price-elasticity of the conversion-retirement supply reflected the inertia of the existing stock to respond to changes in demand. In addition, her study yielded other in-

teresting results:

- The minimum lot size zoning coefficient has only a weak negative effect on the conversion rate.
- High vacancy rates and decreasing house values increase the probability that old apartment units and single-family units will be demolished and replaced by new construction.
- Conversion of unzoned old "singles" to multifamily units is encouraged by price increases concurrent with vacancy rate increases.
- By 1970, there was a net output of six additional multifamily dwellings through conversion for every 100 multifamily dwellings in the 1960 Boston housing stock.
- A direct and an indirect measure of the conversion-retirement price elasticity of supply were estimated. The probability of single to multi conversion was found to be an increasing function of price changes (a direct measure), but the probability of demolition and new construction turned out to be an increasing function of changes in price (the indirect measure). These elasticities were estimated to be .068 and .507 with the indirect effect overwhelming, by far, the direct effect.

A third approach to the measurement and modelling of conversion activity was undertaken by Weicher, Yap, and Jones in 1980 using national data from the Annual Housing Survey. [26] Weicher et al. attempted to account for the role of conversions in a nationwide model of the demand for housing. In order to estimate the rate of new construction (NC), Weicher solved simultaneously for losses (L) and conversions (C), while the rate of household formation (HH) was treated as endogenous:

$$NC = HH + L - C.$$

Due to the unreliability of the data in the three-year panel, the conversion model was not statistically significant. The authors ended up using an approximation of the conversion rate based on historical data in their overall model.

It is interesting to note that Weicher's expectations are somewhat at odds with Bradbury's findings. Weicher expected to find that conversions play a larger role in housing production when vacancy rates are low and there is rapid growth in the number of households. Weicher's underlying assumption is that conversions represent a temporary solution to a tight housing market characterized by declining household size, stable or falling incomes, and rising costs of new construction. Unfortunately, Weicher was not able to test any of these hypotheses due to the poor quality of the AHS conversion data. In estimating the sources of supply and demand for housing in the 1980s, Weicher did acknowledge that several of the factors that he believed would contribute to the demand for conversions would be in evidence. However, Weicher believed that "[Conversions and units added from nonhousing sources] would appear to be a relatively unlikely response to increased housing market pressure when incomes are rising, since more households would be interested in purchasing new units." [27] This assertion, it will be shown, does not necessarily apply to gentrifying urban neighborhoods such as the South End in Boston, where locational factors and rising incomes are associated with a strong demand

for conversions.

The most exhaustive study of conversion activity to date appears in Martin Gellen's 1985 book, Accessory Apartments in Single-Family Housing. [28] Gellen employs an eclectic approach and examines a wide variety of different aspects related to conversion activity, including architectural, sociological, economic, historic, and regulatory issues. His central thesis is that accessory apartment conversions (the addition of rental units to single-family dwellings) represent an untapped source of future rental housing, with potential benefits for both individual converters and society at large.

Gellen devotes several chapters to an examination of historic space utilization patterns in owner-occupied homes. He points out that the average dwelling size has not decreased commensurately with the decline in average household size. As a result, Gellen believes there has been an accumulation of "surplus space" in many American homes that represents a huge national potential for conversion:

> By my estimate, at least 10 million and perhaps as many as 18 million single-family homes in the U.S. contain surplus space and have the potential for some form of conversion. [29]

Gellen does acknowledge that many "over housed empty-nesters" are unlikely to convert. These older households are often reluctant to reduce their residential space consumption, even after the

children move out, unless forced to do so for health or financial reasons. Instead, he asserts that younger couples, individuals, and single parents are more likely to be producers of accessory units. Despite Gellen's thorough summary of several case studies of individual accessory units in California, he does not attempt to explain the housing market dynamics of the process he calls "densification" (i.e., rising residential density).

This study of conversion activity in Boston differs from the existing literature on conversion activity in several key respects. First, no other study has attempted to interview converters systematically, thereby identifying their motivations, methods, and socioeconomic attributes directly. Second, no previous attempts have been made to interview illegal converters and to determine why they circumvented the regulatory process. Third, this is the first survey to probe homeowners' inclination to add rental units to their property--why some homeowners considered taking this action and why others did not carry out their plans. Finally, while other researchers have examined conversion activity in suburban single-family neighborhoods, this study focuses on conversion activity in mixed single-family/multifamily urban neighborhoods.

Other Demand-side Considerations and the Supply-side Emphasis

Noted housing economist George Sternlieb forecast a dismal future for those who were not able "to board the housing train"

before the rapid housing inflation and high mortgage interest rates of the late seventies. According to Sternlieb, households that did not purchase their homes prior to 1974 missed a windfall capital gain and faced a double curse: much higher relative housing prices and skyrocketing interest payments. Sternlieb thought that the projected surge in the demand for housing fueled by the maturing baby boom generation would remain "pent-up," closed in by higher prices and interest rates.

However, household formation both drives and is driven by unit availability. Social phenomena such as changes in average household size, the rate of doubling up of friends and relatives, and even marriage and divorce rates, are simultaneously causes and functions of changes in the supply of housing. Sternlieb failed to take into account the resourcefulness of households in seeking solutions to their pent-up demand problems as well as the willingness of other households and developers to provide solutions.

Supply- and demand-side responses both serve as pressure valves for so-called pent-up housing demand. On the demand side, the size as well as the composition of the typical American household is changing and these changes are reflected in the ways that existing inventories are used. The increase in one- and two-person households across the entire age spectrum has led to increasing acceptance of smaller units. For the two fastest-growing groups in the population--young households (head aged

less than 35) and elderly households (head aged over 65)--the solution has sometimes been what the Census Bureau calls "group quarters." These include living situations such as a rooming house or a shared apartment occupied by unrelated, unmarried individuals. Conversions differ from these shared living arrangements, because the property owner has invested in creating separate, independent dwellings. This investment varies greatly in terms of size and permanence.

Although the demand-side story will be a key component of this dissertation, the research will emphasize the supply-side responses that have been made to meet changes in demand and the changing prices of factor inputs. If the nature of housing demand has changed since the fifties and sixties, so has the nature of both the product and the supplier. The emerging contribution of the conversion sector to the national supply of housing is one of the manifestations of these changes. Developers and contractors specializing in conversions have proliferated as major sources of converted units, along with individual do-it-yourselfers. Some of the professional developers rationalize the otherwise haphazard conversion process to such an extent that they are now able to take advantage of significant economies of scale and scope.

While professionals convert large nonresidential structures, such as warehouses or school buildings, the amateur do-it-yourselfers convert portions of their own homes. This dissertation

will focus on the methods and motives of these amateur converters. A review of national data (Chapter 3) and a closer examination of conversion patterns in the city of Boston (Chapters 4-6) show that these homeowners contributed significantly to housing unit production in the late seventies and early eighties.

Theoretical Basis for the Dissertation

A multi-disciplinary approach will be used to analyze the conversion of owner-occupied structures. A homeowner's decision to add dwelling units is primarily an economic one. However, social, political, demographic, and institutional analyses illuminate certain aspects of homeowner behavior. The conversion decision itself can be considered a constrained choice influenced by the following factors:

- Owner-occupied housing is treated by homeowners as both an investment and a consumption good. The decision to convert draws heavily on investment criteria, although consumption behavior also figures prominently due to the changes that necessarily take place in the owner's dwelling.
- Residential structures are malleable assets that can be reconfigured subject to numerous constraints. A household's decision to reconfigure its home is based on expected financial and non-financial returns. In order to achieve these returns, a household must make a variety of financial and non-financial investments. The conversion decision is subject to various budgetary, regulatory, and political constraints.

Factor inputs required for a residential conversion include:

SS = Surplus space in a residential structure
L = Labor ('sweat' equity and/or hired contractors)
HC = Hard costs (materials, appliances, tools, etc.)
SC = Soft costs (architectural fees, building permits, legal fees, loan charges)
OC = Opportunity cost of forgone "surplus" space (an imputed cost)
TC = Total costs of converting where
TC = HC + SC + OC
MC = Management and maintenance costs of operation including intangible costs associated with the role of an on-site landlord

The benefits side of the homeowner's conversion decision includes:

RR = Rental revenues
SR = Resale revenues dues to the added value attributable to the conversion
TS = Tax savings due to depreciation and interest deductions
B = Other non-financial benefits such as added security, possibility for tenants to provide services in lieu of cash rent, and provision of housing to a friend or relative

TB = Total Benefits where:

TB = RR + SR + TS + B

Thus, the supply function for the production of converted units (CU) in owner-occupied structures could be stated in its simplest form as:

$$CU = f(SS, L, TC, MC, TB)$$

subject to budget constraint (Y) and regulatory constraint (Z). The net present value (NPV) of the time-discounted stream of benefits and costs can be expressed as:

$$NPV = \left[\sum_{t=1}^{n} \frac{(TBt - MCt)}{(1+r)^t} \right] - (TC + L)$$

over a holding period of n years.

Homeowners will choose to convert when NPV is significantly greater than zero. In other words, converters maximize their utility by recouping more in rental/resale revenues and other non-pecuniary benefits than the ammortized costs of the initial outlays and ongoing expenses. These expected costs and returns are risk-adjusted through the selection (perhaps subconsciously) of a discount rate (r) that reflects such uncertainties as:

- Unforseen structural difficulties encountered during the conversion,
- The "hassle" factor of becoming an on-site landlord,
- The ability to attract and keep a well-behaved tenant,
- Regulatory risks including inability to get zoning approval, re-assessment of the property by the tax assessor, or fines for illegal conversion,
- Unfavorable reaction of neighbors.

While all homeowners do not necessarily weigh all these risks before they decide to convert, these are the types of considerations one would expect a rational decision maker to take into account. Non-financial criteria may figure prominently in the decision to convert. Such factors as the provision of housing for a relative or improving the security of an under-used property through the presence of a tenant require a broad interpretation of the discounted present value concept.

Analysis of the implicit decision not to convert also offers insights into understanding a converter's decision calculus. Households that would achieve a high financial return to a con-

version investment may not have access to the cash or credit required to get the job done. Others may be constrained by single-family zoning laws and be unwilling to act illegally, even in situations where these laws are not strictly enforced. Most importantly, different households attach different values to their privacy level, the amount of living space set aside for their own use, relations with neighbors, and other factors that might reduce the attractiveness of what appears to be an economically sound endeavor.

For many households, the dominance of consumption behavior over investment objectives results in an unwillingness to view their residential assets as a potential source of additional income. The notion of adding a rental unit never occurs to a vast majority of homeowners that place a high premium on the consumption aspects of housing. Other households that have seriously considered converting their properties may be inhibited by social factors that overwhelm the economic incentives to add rental units. A desire to avoid conflicts with neighbors, or a fear of having to deal regularly with tenants are both examples of the importance of non-economic factors that might influence the conversion decision.

The results of a survey of Boston homeowners will be used to examine the nature of the conversion decision in detail. These findings, which are presented in Chapters 5 and 6, also address the barriers that prevented others from converting. The next

the barriers that prevented others from converting. The next chapter contains a macroeconomic analysis of conversion activity. In contrast to the microeconomic perspective of the individual converter, this section investigates the relationship between conversion activity, new construction, and changes in housing demand at the national level.

Notes to Chapter 2

1. Two examples of this traditional emphasis on new construction include: Louis Winnick, American Housing and its Use: The Demand for Shelter Space (New York, NY: John Wiley & Sons, 1957) and Leo Grebler, Production of New Housing (New York, NY: Social Science Research Council, 1950).

2. The fixed and unmalleable nature of housing figures prominently in most monocentric models of urban land use as typified by Alonso and Muth. William Alonso, Location and Land Use (Cambridge, MA: Harvard University Press, 1964); Richard Muth, Cities and Housing (Chicago, IL: Univ. of Chicago Press, 1968).

3. For instance, William Grigsby, Housing Markets and Public Policy (Philadelphia, PA: Univ. of Pennsylvania Press, 1963) and H. B. Wolfe "Models for Condition Aging of Residential Structures," Journal of the American Institute of Planners 33 (1967): 192-196.

4. Sweeney, Ibid.

5. William Wheaton, "Urban Spatial Development with Durable but Replaceable Capital," Journal of Urban Economics (1982).

6. A.R. Winger "Some Internal Determinants of Upkeep Spending in Urban Homeowners," Land Economics 49 (1973): 474-478.

7. The important role of housing as an inflation hedge is described by George Sternlieb and James Hughes in "The Post-Shelter Society," 57 The Public Interest (1979): 39-45. Raymond Struyk deals with the theoretical implications of investment as well as consumption aspects of housing demand in Urban Homeownership (Lexington, MA: D.C. Heath, 1976).

8. Phillip Clay, "Managing the Urban Reinvestment Process," Journal of Housing 36 (1979) 453-458 and Frank DeGiovanni, "Patterns of Change in Housing Market Activity in Revitalizing Neighborhoods," American Planning Association Journal 49 (1983): 22-39.

9. For instance: Ira Lowry, "Filtering and Housing Standards: A Conceptual Analysis," Land Economics 36 (1963): 362-370; Grigsby, Ibid. Arthur Solomon and Kerry Vandell "Alternative Perspectives on Neighborhood Decline," Journal of the American Planning Association, 48 (1982): 81-98.

10. Anthony Downs, Neighborhoods and Urban Development, (Washington, D.C. : Brookings Institution, 1981); Rolf Goetze Understanding Neighborhood Change (Cambridge, MA: Ballinger, 1982).

11. George Sternlieb and Robert Burchell, Residential Abandonment: The Tenement Landlord Revisted (New Brunswick, NJ: Center for Urban Policy Research, 1973); Stegman, Ibid..

12. Neil Mayer, "Rehabilitation Decisions in Rental Housing," Journal of Urban Economics, 10 (1981): 76-94. Robert Mendelsohn "Empirical Evidence on Home Improvement,"Journal of Urban Economics, 4 (1977) 459-468.

13. Gale, Ibid.; James Ibid.

14. U.S. Department of Housing and Urban Development, The Conversion of Rental Housing to Condominiums and Cooperatives, (Washington, D.C.: U.S.G.P.O., 1980).

15. Charles Fracchia, Converted into Houses, (New York, NY: The Viking Press, 1976); Roland Jacopetti, Rescued Buildings, (Santa Barbara, CA: Capra Press, 1977).

16. Peter Collymore House Conversion and Renewal, (London: The Architectural Press, 1975); Margie Cohen Old Houses into New (Englewood Cliffs, NJ: Prentice Hall, 1982).

17. Martin Gellen, Accessory Apartments in Single-Family Housing, (New Brunswick, NJ: Center for Urban Policy Research, 1985).

18. Sharon Zufkin, Loft Living, Culture and Capital in Urban Change, (Baltimore, MD: Johns Hopkins Univ. Press, 1982).

19. Phillip Clay, "Improving the Utilization of the Existing Housing Stock: The Case of Accessory Apartments," unpublished paper presented at a conference sponsored by the Joint Center for Urban Studies of MIT and Harvard University and the Lincoln Institute for Land Policy, July 1982.

20. Merrimack Valley Planning Commission, One Family, Two Family: Accessory Apartments in the Merrimack Valley, (Haverhill, MA: Merrimack Valley Planning Commission, 1980) and Metropolitan Area Planning Council, Regulating Accessory Apartments in the Metropolitan Boston Region, (Boston, MA: Metropolitan Area Planning Council, 1978).

21. Roger Wentz and Elizabeth Irwin, Accessory Apartments: A Local Housing Alternative, (Washington, D.C.: Metropolitan Washington Council of Governments, Sept. 1981).

22. Thomas Thibodeau, "Estimating Dwelling Conversions During the 1970s," (Washington, D.C.: The Urban Institute, 1982).

23. William Apgar, "The Changing Utilization of the Housing Inventory," Joint Center for Urban Studies of MIT and Harvard University, October 1982.

24. Larry Ozanne and Raymond Struyk Housing from the Existing Stock, (Washington, D.C.: The Urban Institute, 1976).

25. Katherine Bradbury, "Changes in Urban Housing Supplies Through Conversion or Retirement," Institute for Research on Poverty Discussion Papers No.417-77, University of Wisconsin-Madison, 1977.

26. John Weicher, Lorene Yap, and Mary Jones National Housing Needs and Quality Changes During the 1980s (Washington, D.C.: U.S. Department of Housing and Urban Development, 1980).

27. John Weicher, Lorene Yap, and Mary Jones Metropolitan Housing Needs for the 1980s, (Washington, D.C.: The Urban Institute Press, 1982) p.42.

28. Gellen, Ibid.

29. Ibid., p. 96.

30. George Sternlieb and James Hughes, The Future of Rental Housing (New Brunswick, NJ: Center for Urban Policy Research, 1981).

Chapter III

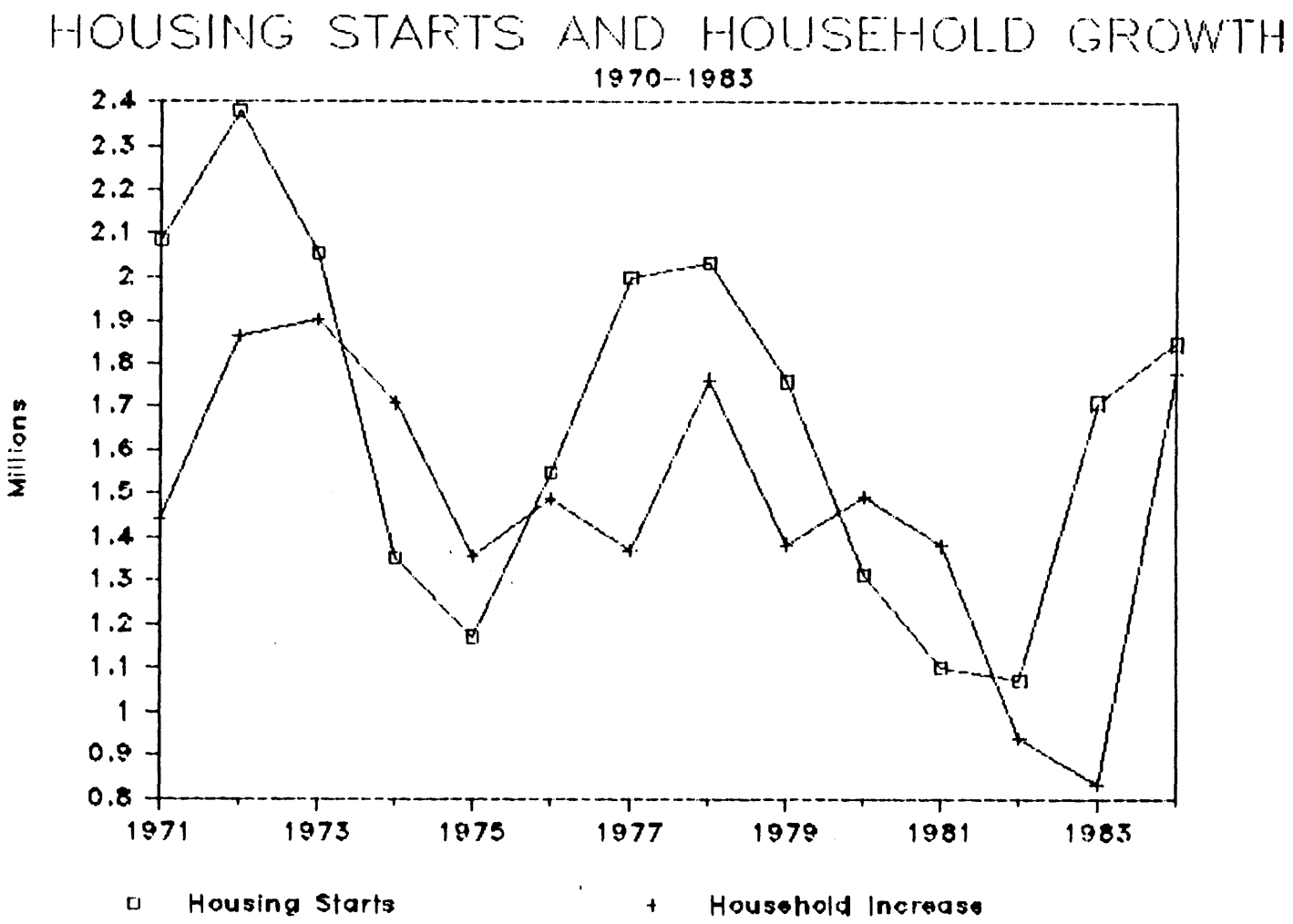
NATIONAL AND REGIONAL HOUSING CONVERSION ANALYSIS

National Overview

In the early 1980s, the construction industry in the United States produced fewer new houses each year than at any time since World War II. In fact, over the last ten years, there have been two downturns in housing starts that were deeper than any ever experienced before: The 1974-75 recession set a precedent in terms of amplitude, and the 1980-83 slowdown set new precedents in terms of amplitude and duration. Over this same period, the rate of household formation was not nearly as volatile as the pattern of new construction. Historical trends show that increases in the number of households outpaced housing starts by a considerable margin during downturns in the production cycle. Figure 3.1 illustrates that swings in household formation over the last decade were never as dramatic as the roller-coaster path of housing starts. These data show that increases in the number of households lagged behind housing starts during boom construction years (1971-73, 1978-79, and 1983-84), but were well ahead of starts during slow years (1974-75 and 1980-81).

Residential conversions may play a particularly important role during these periods of low new-construction levels. The accumulated inventory of vacant, existing units also helps cover the shortfall between the supply of new units and the demand from new households. The appeal of smaller, cheaper converted units

FIGURE 3.1

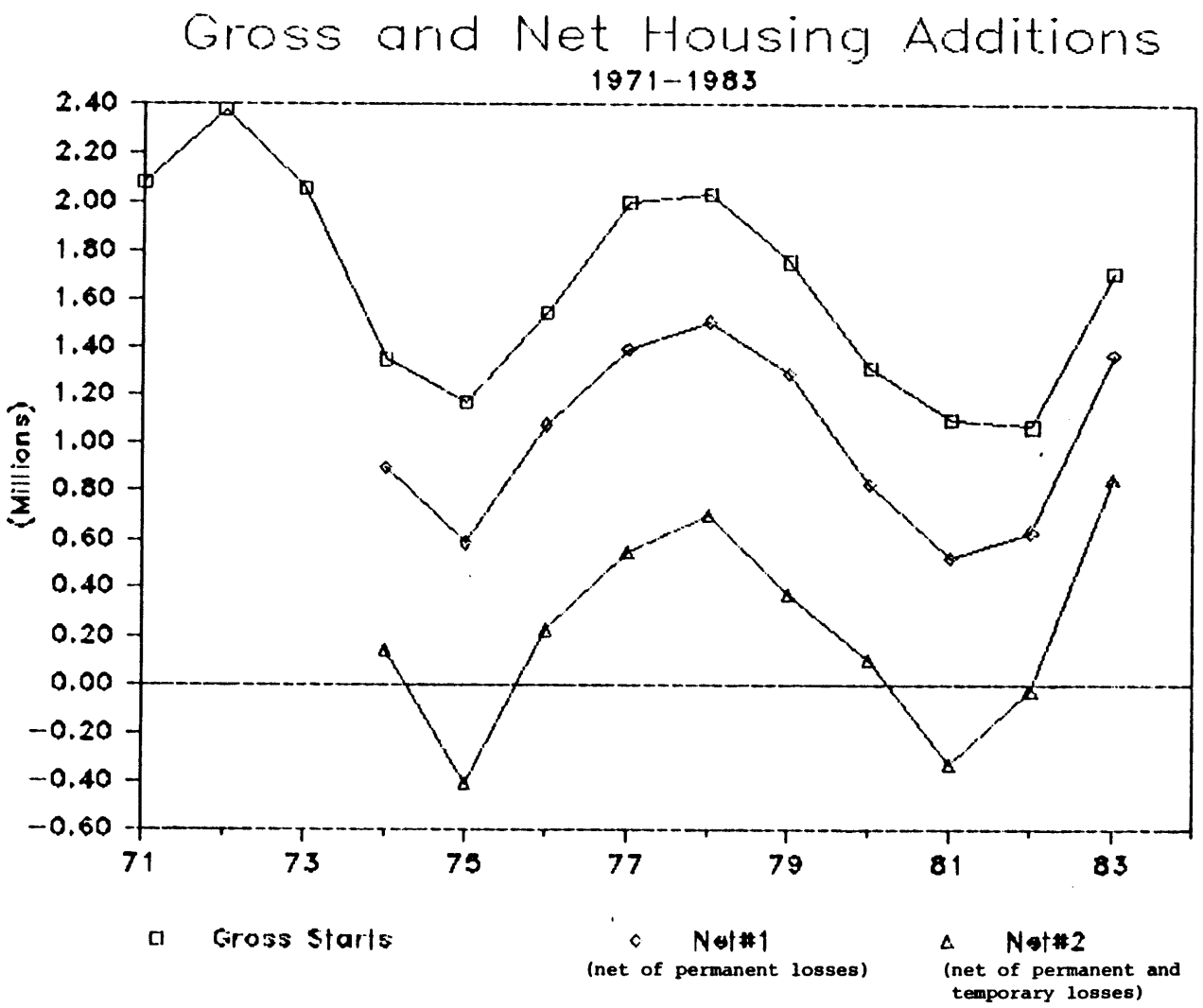


Source: Construction Reports, Series C-20, and Housing Reports Series H-121, Bureau of the Census.

may increase during recessions in the national economy when income growth is slow; however, the proposition that conversion activity is countercyclical is virtually impossible to demonstrate due to the lack of reliable annual data. In fact, a strong case can also be made for the pro-cyclicality of demand for converted units associated with the higher levels of household formation that typically occur in a rapidly growing national economy. The most plausible conclusion that can be drawn from the experience of the seventies is that conversions appeared to play a significant role in national housing production during periods of economic expansion and recessions.

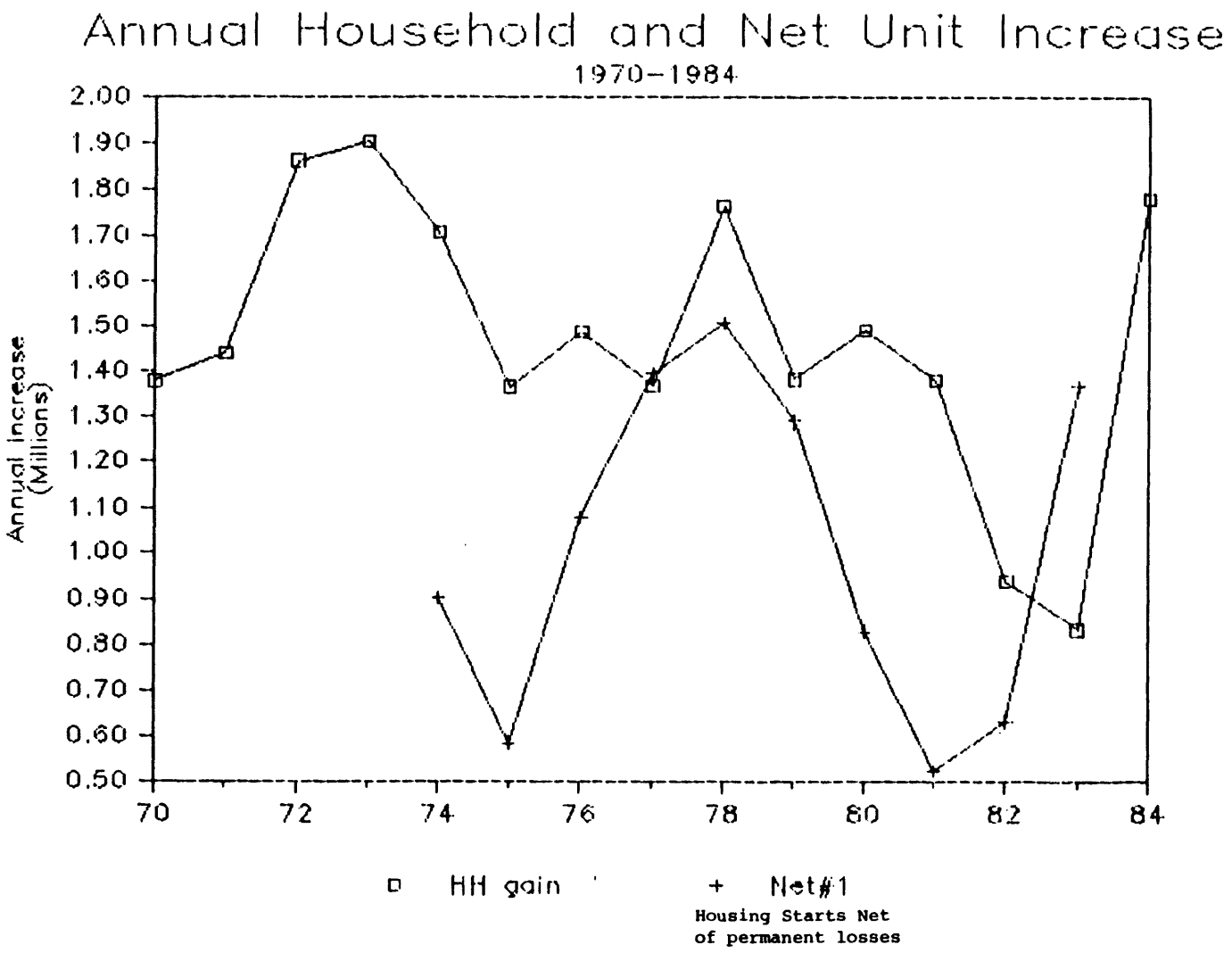
Figure 3.1 misses an important piece of the housing production picture, because units were dropped from as well as added to the inventory during the seventies. Figure 3.2 shows the number of net additions to the housing stock, after adjusting for two different measures of housing loss. The Census Bureau distinguishes between "permanent" and "temporary" losses from the inventory. The permanent-loss category encompasses losses due to demolition, fire, disaster, and condemnation (vacant and uninhabitable units). The temporary-loss group includes structures that have been converted to nonhousing uses, as well as to other categories not classified by the Census Bureau as part of the housing stock: vacant mobile homes, group quarters, and residential structures that are not for sale or rent and have been vacant for a lengthy period of time. Figure 3.3 shows the rela-

FIGURE 3.2



Source: Construction Reports, Series C-20, and Housing Reports Series H-121, Bureau of the Census.

FIGURE 3.3



Source: Construction Reports, Series C-20, and Housing Reports Series H-121, Bureau of the Census.

tionship between net household formation and housing additions net of the permanent losses alone. A comparison of the annual increase in households and the annual increase in housing units, net of only the permanent loss group is more valid because of the uncertain status of the temporary-loss group. This comparison shows that during five of the six years between 1977 and 1983, the increase in households surpassed the increase in housing starts, net of permanent losses from the stock. Even in 1978, a peak year for housing starts, the increase in households surpassed new construction, net of housing losses.

These housing stock statistics suggest that new units created through conversion did not disappear through remerger activity when new construction revived. Instead, converted dwellings became an integral part of the way that the housing stock adjusted to changing economic and demographic circumstances. Cumulative statistics from the seventies affirm that conversions made an important contribution over the entire decade. The United States had 17 million more households in 1980 than in 1970. During the same period, 20.3 million housing units were added through new construction and 7.2 million units were lost from the housing inventory--yielding a net increase of only 13.1 million new units. [1] Thus, four million households, or almost 25 percent of the 17 million increase, found housing through means other than new construction.

Components of Inventory Change 1970-1980
(in millions)

Housing units	
New construction	20.3
Permanent losses	7.2
Net increase	13.1
Households (occupied housing units)	
1980 Households	80.1
1970 Households	63.0
Household increase 1970-80	17.1
New construction net of losses	13.1
Households accomodated by means other than new construction	4.0

There are only two possible ways that this "surplus" of households over net new construction could have been accommodated:

1. Through conversion activity (all six types) or
2. From the inventory of vacant homes.

There can be little doubt that the first possibility absorbed nearly all of the four million "surplus" households. The supply of vacant homes increased over the last ten years from 5.7 million vacant units in 1970 to 6.7 million in 1980. This modest increase indicates that the excess capacity of the existing stock could not have played a major role in housing many of the four million surplus households.

There are other avenues that may have helped meet the record-breaking demand for housing in the seventies, which was driven in part by the coming of age of the 1950-60 baby boom

cohort. Doubling up of families and individuals as well as other group-quarters arrangements may have been an important source of shelter for a younger population faced with the rapid inflation of housing costs in the seventies. However, group quarters and doubling up would not have led to the observed increase in the national household counts. According to the Census Bureau, a "household" consists of any collection of related people (or less than five unrelated people) occupying a "housing unit" with either direct access from outside or from a common hallway or with complete kitchen facilities for the exclusive use of the occupants. [2] Thus, most cases of doubling up--roommates and relatives living together--do not result in additional, separate households. If the group of occupants exceeds five unrelated individuals in a single housing unit, then the Census Bureau classifies the residence as "group quarters" and does not count it as part of the inventory at all. Therefore, residents of group quarters were not counted in the "household" population and did not contribute to the increase in the number of households reported between 1970 and 1980. Moreover, the size of the population living in group quarters, which includes institutional housing, residential hotels, and rooming houses, decreased between 1970 and 1980. [3]

Although a growing "homeless" population has gained greater attention in the last few years, estimates of individual cities suggest that their numbers are far lower than the four million

surplus households. [4] In any event, the Census Bureau does not include the homeless population in the household count. In fact, census takers have great difficulty in reaching families and individuals without valid mailing addresses. Several cities successfully showed that their populations were higher than reported by the preliminary 1980 census results due to an undercount of certain groups, including the homeless. The accuracy of both the 1970 and 1980 household counts raises another possible explanation for the source of the surplus households--a diffential in undercounts between censuses. In other words, some of the apparent increase over the course of the decade may be attributable to a higher household undercount in 1970 than in 1980. A differential undercount may have contributed marginally to the size of the apparent surplus. However, it is unlikely that the magnitude of this error would be large enough to account for 23.5 percent of the increase in households over the course of the decade, or 6 percent of the total number of households. Corrected population counts in major cities where census figures were challenged have never reached these proportions and, in some cases, revealed overcounts. According to Census officials, undercounts typically range between 2.5 and 2.8 percent of the entire population, and the decennial differential in these undercounts ranges from 0.1 to 0.3 percent of the total population. [5] If these estimates are accurate, then undercounts can not

account for the discrepancy between the increase in households and the net increase in new housing units.

Despite problems stemming from the accuracy of the data, it seems plausible that the four million surplus households represent an approximate measure of the total demand for converted units (including all six categories) during the last decade. This figure nearly matches the 4.9 million "unspecified units" described in the first chapter. These unspecified units, created by all non-new-construction sources including conversion activity, represent the approximate supply that met the demand of the surplus households of the seventies.

Supply Analysis

The Census Bureau provides two sources of information on at least some of the unspecified units created through the conversion process: The Annual Housing Survey (AHS) and the Components of Inventory Change (CINCH). Although both sources identify conversions directly, indirect estimation techniques indicate that these are only the tip of the conversion "iceberg." Nevertheless, the physical characteristics and locations of the conversions identified through these data raise key questions such as: What types of structures lend themselves to conversion? and Where are conversions most likely to take place?

Annual Housing Survey

The Annual Housing Survey was designed to measure the nation's progress toward meeting the goal set forth in 1949 of "decent, safe, and sanitary housing for every person in the United States." The Survey's emphasis is consequently on the physical quality of units rather than the demographic characteristics of the inhabitants. An initial sample of 49,000 units was drawn in 1973 and the inhabitants of these units have been re-interviewed every year since. If a unit is vacant, survey takers try to gather as much information as possible on the unit's condition and availability. Because housing units rather than households are tracked over time, the sample was expanded every year in order to include the characteristics of newly built housing units. [6]

Unfortunately, the efforts to expand the sample were not specifically directed toward nonconstruction additions to the stock. A cautionary note in the appendix of every AHS report published since 1973 warns of the inability of the survey to break the "unspecified units" category into its constituent parts:

> There are other [than new construction] components of change in the housing inventory for which the AHS provides no specific measures. The survey procedures do not include a measure of conversions and mergers and units added from other sources such as nonresidential structures. The net effect of these omissions on the change in the total housing inventory is not known. [7]

Despite this disclaimer, there are several ways that conversions can be detected using the Annual Housing Survey. The most direct source of conversion data lies in the first question asked by AHS interviewers. Prior to 1976, the interviewer had to determine the "conversion-merger status" of the unit: Was the unit "merged" with another unit or "converted" into more units, or was there no change? If the unit had been merged, it was treated as an inventory loss; if the unit was split into a greater number of units, the original unit was maintained in the sample and the new unit(s) were also added. However, these converted units were not identified in any way that linked them with the "parent" unit.

Until the 1976 survey, new construction was the only other source of new "sample units." Even after 1976, newlybuilt units constitute 98.7 percent of the additions to the sample each year, mainly because they can be drawn from a known universe--housing start and completion statistics gathered by the Commerce Department's Construction Reports series--while the universe of nonconstruction additions is not known. The few conversions picked up inadvertently as a consequence of tracking the AHS sample over time are assigned weights based on the attributes of the residents. No attempt is made to weight these Type 3 and 4 conversions (residential to residential--see Chapter 1 for typology) to reflect the estimated size of all conversions of this type. Normal weighting procedures are used, based primarily on

household characteristics, and consequently the total number of conversions reported in the AHS is grossly understated.

In 1976, an effort was made to improve the coverage of the AHS sample beyond new construction and units resulting from the conversion of residential stock. This Coverage Improvement Program targeted residential conversions from nonresidential stock and mobile home movements. The "conversion-merger status" identification was replaced by a new survey question that took several nonconstruction sources of supply into account:

> If the unit was in the sample for the first time in the current enumeration period, what was the reason for adding the sample unit?
>
> 1. New construction
> 2. Mobile home moved in
> 3. House moved in
> 4. Unit resulted from structural conversion
> 5. Conversion of nonresidential unit
> 6. Other (to be specified by the interviewer) [8]

These six categories reflect the fact that the sample was expanded to include mobile homes and houses that "moved in," as well as conversions of nonresidential structures. This was accomplished through the use of special surveys designed to find units to represent the neglected categories. Unfortunately, this method presents several problems. First, there are no accurate estimates of the relevant universe for each category, so that the proper weights for non-new-construction observations cannot be established. Second, the new procedure is supposed to identify residential units not previously covered by earlier sampling

techniques, yet Census officials acknowledge that

> the listing procedure (used to find mobile homes placed outside parks, units converted from nonresidential to residential, and houses that had been moved on to their present site) was not very efficient for finding nonresidential conversions (which might be primarily in business districts), since the listing procedure started from a residential unit. The sample estimate of this component was approximately 16,000 housing units with a standard error of 12,000. [9]

In the final analysis, the post-1976 AHS provides microdata on both important categories of conversions: (1) residential to residential (split units and accessory units) and (2) from nonresidential (inclusive of group quarters and vacant/uninhabitable) to residential. Unfortunately, there is no way to break either category down into its constituent parts, because no information on the prior status of the structure was collected. The weights assigned to these observations by the Census Bureau are based on the occupants of the unit, and therefore do not necessarily reflect the overall size of the conversion-gain universe. Nevertheless, the observations themselves contribute valid data and, taken together, form a regionally representative sample of conversion-gains.

The Components of Inventory Change

The CINCH reports, published as part of the decennial census effort, attempt to identify all sources of change in the housing inventory over the last decade. Because the CINCH series is compiled at the same time as the other census reports, it can

take advantage of the most recent population and housing data available as well as intercensus data such as the AHS. However, the regular census does not collect information on the sources of housing inventory change; it only provides a snapshot of the standing stock every ten years, without any information on where the current stock came from. The CINCH data attempt to fill this gap through estimates of housing losses and additions that occurred over the course of the decade, including conversions and mergers. These estimates are based on information from the Annual Housing Survey as well as other data collected especially for the CINCH reports.

Findings: Conversions by Region and Metropolitan Area

The AHS and CINCH data can both be used to analyze the characteristics of converted units and to discover where conversions are most likely to occur. These two data sets do directly identify units added each year as a result of conversions, even though there is strong evidence that the national total of conversions are underestimated by both sources.

1)AHS data: 1981-83

Tables 3.1 and 3.2 show where units added through conversion turned up according to the Annual Housing Survey. Over a 24-month period in 1981-83, the AHS reported that 180,000 units were created through "conversion": 144,000 from splitting or

Table 3.1
Conventional Housing Units Created by Conversions
*
1981-1983

Location	Type A		Type B		Total Production	
	#	%	#	%	#	%
Northeast						
Metropolitan Areas	35,081	24.3%	11,926.0	32.7%	47,007	26.0%
Non-Metropolitan Areas	7,448	5.2%	3,476.0	9.5%	10,924	6.0%
North Central						
Metropolitan Areas	42,103	29.2%	7,981.0	21.9%	50,084	27.7%
Non-Metropolitan Areas	23,139	16.1%	3,562.0	9.8%	26,701	14.8%
South						
Metropolitan Areas	5,744	4.0%	1,686.0	4.6%	7,430	4.1%
Non-Metropolitan Areas	8,447	5.9%	5,389.0	14.8%	13,836	7.7%
West						
Metropolitan Areas	18,578	12.9%	1,520.0	4.2%	20,098	11.1%
Non-Metropolitan Areas	3,550	2.5%	947.0	2.6%	4,497	2.5%
Total Metropolitan Areas	101,506	70.4%	23,113	63.3%	124,619	69.0%
Total Non-Metro Areas	42,584	29.6%	13,374	36.7%	55,958	31.0%
Total Units	144,090	100.0%	36,487	100.0%	180,577	100.0%

Note: Conventional units include all year-round dwelling units exclusive of mobile homes.

Type A: Residential to Residential (splitting or accessory units)
Type B: Non-residential to Residential

*
1/81 through either 9/83 or 12/83 depending on the timing of the interview. Conversions include both Type A and Type B conversions.

Source: Tabulations of the 1983 Annual Housing Survey from the national public-use microdata files.

Table 3.2
Conversions versus New Construction
*
1981-83
(in thousands)

Location	Conversions		New Construction		Conversions Total Production
	#	%	#	%	
Northeast					
Metropolitan Areas	47.0	26.0%	120.1	5.4%	28.1%
Non-Metropolitan Areas	10.9	6.0%	95.5	4.3%	10.3%
North Central					
Metropolitan Areas	50.1	27.7%	188.2	8.5%	21.0%
Non-Metropolitan Areas	26.7	14.8%	177.3	8.0%	13.1%
South					
Metropolitan Areas	7.4	4.1%	647.0	29.1%	1.1%
Non-Metropolitan Areas	13.8	7.7%	584.4	26.2%	2.3%
West					
Metropolitan Areas	20.1	11.1%	248.1	11.1%	7.5%
Non-Metropolitan Areas	4.5	2.5%	166.1	7.5%	2.6%
Total Metropolitan Areas	124.6	69.0%	1,203.3	54.0%	9.4%
Total Non-Metro Areas	56.0	31.0%	1,023.3	46.0%	5.2%
Total Units	180.6	100.0%	2,226.6	100.0%	7.5%

* 1/81 through either 9/83 or 12/83 depending on the timing of the interview. Conversions include both Type A and Type B conversions.

Source: Tabulations of the 1983 Annual Housing Survey from the national public use microdata files.

accessory units (residential to residential conversions) and 36,000 as a result of the conversion of nonresidential structures (group quarters and vacant and abandoned structures are not included in either category). Although these numbers understate the total amount of conversion activity that took place during this period, there is no reason to believe that this underestimate contains any locational (or other characteristic) biases. [10]

An examination of the cross-regional and metropolitan/nonmetro frequencies turns up some striking patterns of conversion activity. Contrary to the popular conception of conversions as strictly an urban-Northeast phenomenon, conversions can be found in significant numbers in all regions of the country and in rural as well as metropolitan areas. Table 3.1 shows that 69 percent of the conversions between 1981 and 1983 occurred in metropolitan areas, only slightly greater than the 66 percent share of all units found in these urbanized areas. The regional breakdown shows that conversions have been particularly strong in the Northeast and North Central metropolitan areas, which together account for more than half of all conversions (54 percent).

The South was the only region where nonmetropolitan conversions of both residential and nonresidential buildings outpaced the number of conversions in metropolitan areas. The south has traditionally had a proportionately larger nonurban population than the other three census regions. When net out-migration

to nonurban areas (often in counties contiguous to SMSAs) became discernable in the seventies, the rural South may have contained a larger existing inventory of convert-able structures to receive the newcomers than nonmetropolitan regions in the rest of the country. The South also received the largest share of mobile homes moving in during the seventies. However, it is unlikely that many of them would have been mis-identified as conversions, because "mobile homes moved in" was a separate category in the improved "conversion-merger status" question.

When compared to the pattern of new construction, as in Table 3.2, areas with high numbers of conversions turn out to be a virtual complete reversal of the rapid growth areas of the nation. According to the AHS, the South single-handedly captured more than 55 percent of all new construction in the early eighties in contrast to its 12-percent share of conversions. By the same token, metropolitan areas in the Northeast and North Central states received only 14 percent of all the new construction, indicating that the high level of conversions there (97,000 units added) helped meet the demand for housing.

The under-estimation problems notwithstanding, comparison of new construction statistics and conversion data yields some interesting insights. According to the AHS, only 8 percent of all the units added to housing stock during the 1981-83 period were created as a result of conversions. Table 3.2 shows that

nonmetropolitan areas relied relatively less on conversions than urbanized areas. In metropolitan areas, 9.4 percent of all additional units were created through conversions while in rural areas the rate of reliance was only 5.5 percent. The metropolitan areas in the Northeast had the highest rate of reliance: 28 percent of all additions to the stock were converted units. The low size of these percentages is open to question due to the weighting problems cited earlier; however, the relative size of the conversion share of additional units gives a good indication of where conversions are most likely to occur.

2) CINCH data: 1973-80

The CINCH data tell a similar story over the preceding 1973-80 period. The CINCH estimates show that there were 2.2 million conventional housing units (i.e., year-round dwellings exclusive of mobile homes) added through conversion activity in the mid- to late seventies. This is equivalent to an annual production of 327,714 conversion-gains per year--more than three times the AHS estimate of 98,500 per year in 1981-83. The difference between these two figures probably has more to do with the different estimation techniques employed than any decrease in conversion activity. The CINCH conversion counts include the renovation of exposed, damaged, or condemned units, as well as conversions of group quarters, while the AHS data do not include these categories.

The CINCH statistics also echo the finding that the incidence of conversion is highest in northeastern metropolitan areas and lower in nonmetropolitan areas. This makes sense given the geographic distribution of existing buildings that constitute one of the necessary inputs for the conversion process. Consequently, opportunities for conversions in nonmetropolitan areas are limited--even if the demand is sufficiently high to support nonconventional sources of production. Low-cost housing production in these rural areas is accomplished, instead, through manufactured housing, especially mobile homes. The CINCH report shows that 1.9 million mobile homes moved into areas outside of SMSAs between 1973 and 1980, or over 270,000 per year. By the same token, opportunities for mobile home parks are often limited in developed areas due to restrictive zoning--only 126,000 per year moved into SMSAs. Conversions help meet the demand for low-cost housing in urbanized areas where restrictions on mobile homes are stringently enforced, in contrast to the less stringent enforcement of zoning codes that prohibit conversion activity.

In comparing new construction to conversions, the CINCH data tell a slightly different story about an earlier time than the most recent Annual Housing Survey data. During the seventies, the Northeast's reliance on conversions was even more pronounced. Approximately 40 percent of all additions to the metropolitan housing stock in the Northeast came from conversions, compared to

to 11 percent nationwide. More than half (57 percent) of all units created through the conversion of nonresidential stock were in the cities or suburbs of the Northeast. Between 1973 and 1980, the Northeast captured 44 percent of all conversions and 11 percent of all new construction (versus 32 percent and 12 percent in 1981-83, see Tables 3.3 and 3.4).

The change that took place in the Midwest was even more startling. According to the CINCH data, only 17 percent of all conversions took place in this region during the seventies. By 1981-83, the AHS reported that 42 percent of all conversions took place in the Midwest, while the region's share of new construction declined slightly. Just the reverse situation can be observed in the South: In the seventies, the South captured 25 percent of all conversions and 43 percent of all new construction. By the early eighties, the South's share of new construction had risen to 55 percent, while its share of conversions dropped to 21 percent. Both the CINCH and the AHS data indicate reliance on residential conversions for a significant fraction of all four regions' additional units, but this reliance appears to be especially strong in regions where demand is high and new construction is limited.

3) An indirect method of estimation using housing vintages

As noted previously, both the CINCH and the AHS estimates of conversions are far too low to explain the five million

Table 3.3
Conventional Housing Units Created by Conversions
*
1973-1980
(in thousands)

Location	Type A		Type B		Type C		Type D		Total	
	#	%	#	%	#	%	#	%	#	%
Northeast										
Metropolitan Areas	247	26.7%	325	57.6%	27	18.4%	51	9.1%	650	29.6%
Non-Metropolitan Areas	102	11.0%	17	3.0%	8	5.4%	143	25.6%	270	12.3%
North Central										
Metropolitan Areas	91	9.8%	40	7.1%	24	16.3%	28	5.0%	183	8.3%
Non-Metropolitan Areas	87	9.4%	22	3.9%	16	10.9%	52	9.3%	177	8.1%
South										
Metropolitan Areas	171	18.5%	67	11.9%	30	20.4%	81	14.5%	349	15.9%
Non-Metropolitan Areas	90	9.7%	31	5.5%	26	17.7%	46	8.2%	193	8.8%
West										
Metropolitan Areas	92	10.0%	45	8.0%	7	4.8%	104	18.6%	248	11.3%
Non-Metropolitan Areas	44	4.8%	17	3.0%	9	6.1%	53	9.5%	123	5.6%
Total Metropolitan Areas	601	65.0%	477	84.6%	88	59.9%	264	47.3%	1,430	65.2%
Total Non-Metro Areas	323	35.0%	87	15.4%	59	40.1%	294	52.7%	763	34.8%
Total Units	924	100.0%	564	100.0%	147	100.0%	558	100.0%	2,193	100.0%

Note: Conventional units include all year-round dwelling units exclusive of mobile homes.

Type A: Residential to Residential (splitting or accessory units)
Type B: Non-residential to Residential
Type C: Renovation of exposed, damaged or condemned units
Type D: Units created from living quarters previously classified as group quarters

Source: Bureau of the Census, Components of Inventory Change, Series HC80-4-1, (Washington, D.C.: USGPO, 1983).

Table 3.4
Conversions vs. New Construction
*
1973-1980
(in thousands)

Location	Conversions		New Construction		Conversions' Share of Total
	#	%	#	%	%
Northeast					
Metropolitan Areas	650	29.6%	947	7.2%	40.7%
Non-Metropolitan Areas	270	12.3%	474	3.6%	36.3%
North Central					
Metropolitan Areas	183	8.3%	1,650	12.6%	10.0%
Non-Metropolitan Areas	177	8.1%	1,123	8.6%	13.6%
South					
Metropolitan Areas	349	15.9%	2,926	22.3%	10.7%
Non-Metropolitan Areas	193	8.8%	2,756	21.0%	6.5%
West					
Metropolitan Areas	248	11.3%	2,398	18.3%	9.4%
Non-Metropolitan Areas	123	5.6%	843	6.4%	12.7%
Total Metropolitan Areas	1,430	65.2%	7,921	60.4%	15.3%
Total Non-Metro Areas	763	34.8%	5,196	39.6%	12.8%
Total Units	2,193	100.0%	13,117	100.0%	14.3%

Note: Conventional units include all year-round dwelling units exclusive of mobile homes.

Type A: Residential to Residential (splitting or accessory units)
Type B: Non-residential to Residential
Type C: Renovation of exposed, damaged or condemned units
Type D: Units created from living quarters previously classified as group quarters

Source: Bureau of the Census, Components of Inventory Change, Series HC80-4-1, (Washington, D.C.: USGPO, 1983).

unspecified units that came on-line in the seventies or the four million "surplus" households whose housing cannot be explained by new construction, vacant housing, or homelessness. In fact, for the period between 1973 and 1980, the CINCH report lists only 2.2 million units created through all six conversion-gain categories listed in Chapter 1. When extrapolated to a full decade, the CINCH estimate explains approximately 62 percent of the unspecified units and only seventy-five percent of the apparent household surplus. Census officials acknowledge that their techniques for increasing the sample size are geared toward new construction, but they do not know how to account for the discrepancy between the five million unspecified units and the two million clearly identified conversions. They cite difficulties in locating and surveying units added through means other than new construction, as well as uncertainty over how to weight the few conversions that do make it into their sample. [11]

Fortunately, there is another indirect method that can be used to estimate the number of conversions using unpublished data gleaned from the AHS public use computer tape files. Information is gathered every year on the age of the housing stock in the Annual Housing Survey. This information can be used to show what happens to the surviving stock of structures: Is it being successfully recycled? Has there been a change of use? Are certain "vintages" of housing stock being used more intensively than others? For example, in 1973 there were 72 million conventional

housing units (excluding mobile homes and vacation homes), both vacant and occupied. Over the next ten years, 4.6 million of these units were lost from the stock, leaving 67.4 million surviving units built prior to 1973. However, analysis of the 1983 AHS data tape shows that there were 73 million units in structures built before October 1973. Thus, it would appear that 5.6 million units were created in ten years out of the existing (pre-October 1973) stock of structures. [12]

One possible explanation for part of this discrepancy is that the AHS weights were adjusted upwards in 1981 in order to bring the total counts in line with the 1980 census results. Therefore, AHS statistics released prior to 1980 and data released after 1980 differ by approximately 2 percent. [13] However, the growth in the number of pre-1973 units amounts to 7.7 percent--almost four times greater than could have been produced by the 1981 weighting adjustment alone.

Table 3.5 shows that in three of the four regions of the United States, the number of year-round (i.e., not seasonal) housing units in structures built before 1973 actually increased between 1973 and 1983, despite losses from the stock. After losses are netted out, the surviving pre-1973 buildings contained 8 percent more housing units (5.57 million units) in 1983 than they did in 1973. This amount appears to closely match the number of "unspecified units" and "extra households" reported for

TABLE 3.5 *
CONVENTIONAL HOUSING UNITS
IN STRUCTURES BUILT BEFORE OCTOBER, 1973
(In thousands)

	1973 STOCK	** LOSSES 1973-83	NET	1983 STOCK	NET CHANGE 1973-83 #	NET CHANGE 1973-83 % Change	% Distribution
Owner Occupied Units							
Northeast	9238	163	9075	9692	617	6.8%	11.1%
North Central	12323	328	11995	12322	327	2.7%	5.9%
South	13256	403	12853	13552	699	5.4%	12.6%
West	7036	150	6886	7047	161	2.3%	2.9%
U.S. Total	41853	1044	40809	42613	1804	4.4%	32.4%
Rental Units							
Northeast	6548	730	5818	6639	821	14.1%	14.7%
North Central	5699	662	5037	5614	577	11.5%	10.4%
South	7063	910	6153	7029	876	14.2%	15.7%
West	4897	397	4500	5543	1043	23.2%	18.7%
U.S. Total	24207	2699	21508	24825	3317	15.4%	59.6%
All Occupied Units							
Northeast	15786	893	14893	16331	1438	9.7%	25.8%
North Central	18022	990	17032	17936	904	5.3%	16.2%
South	20320	1313	19007	20581	1574	8.3%	28.3%
West	11933	547	11386	12590	1204	10.6%	21.6%
U.S. Total	66061	3743	62318	67438	5120	8.2%	92.0%
Vacant							
Northeast	1239	155	1084	1023	-61	-5.6%	-1.1%
North Central	1437	289	1148	1552	404	35.2%	7.3%
South	2163	383	1780	1987	207	11.6%	3.7%
West	1118	101	1017	978	-39	-3.8%	-0.7%
U.S. Total	5957	864	5093	5540	447	8.8%	8.0%
All Housing Units							
Northeast	17025	1048	15977	17354	1377	8.6%	24.7%
North Central	19459	1279	18180	19488	1308	7.2%	23.5%
South	22483	1696	20787	22568	1781	8.6%	32.0%
West	13050	648	12402	13568	1166	9.4%	20.9%
U.S. Total	72017	4607	67410	72978	5568	8.3%	100.0%

*
Year-round housing units, exclusive of seasonal units and mobile homes

**
Losses of year-round units only, exclusive of seasonal units and mobile homes

Source: Joint Center for Urban Studies, Special Tabulations of Annual Housing Survey Data for 1983 and U.S. Department of Census, Annual Housing Survey (Washington, D.C.: U.S.G.P.O., 1973 and 1983).

the 1970-80 period--perhaps somewhat overstated due to the 1981 adjustment.

The regional distribution of the increase in pre-1973 housing units confirms the evidence from the CINCH estimates that conversions are a national phenomenon. The four census regions each contributed roughly 1 to 1.5 million housing units from existing buildings between 1973 and 1983. The West and the Northeast experienced the highest rates of housing unit increase--10.6 percent and 9.7 percent, respectively; however, the region with the largest absolute increase was the South. Thus, conversions, as measured by change in the pre-1973 stock, are by no means limited to older cities in the Northeast. In both the Northeast and the West regions, vacant stock made a modest contribution (+100,000 units) along with conversions and new construction, to accommodate household growth. By contrast, the Midwest contained 400,000 more vacant units in 1983 than in 1973; the slackness of this region's housing market may have reduced the demand for conversions.

The production of rental housing through conversion was nearly twice as great as the number of owner-occupied units produced by conversion. This rental dominance of the conversion market was particularly pronounced in the West, where out of 1.2 million conversion-gains, only 13 percent were owner-occupied. Owner-occupied conversions were strongest in the Northeast, contributing 95 percent of all conversions while adding 7 percent to

the surviving stock of pre-1973 owner-occupied housing. By contrast, rental conversions contributed 23 percent to the stock of pre-1973 rental units in the west, illustrating the importance of conversions as a source of affordable housing in the tight western housing markets.

Despite an inability to track certain segments of the residential sector, including the mobile home stock, and possible reporting error associated with the "year structure built question," [14] this vintage method of identifying nonconstruction additions yields the best evidence that the number of conversions reported in the AHS and CINCH series are significantly underestimated.

Changes in the number of units in older structures can also be observed for specific "vintages" of housing. Table 3.6 shows how the oldest housing units, in structures built before 1940, exhibited comparable rates of increase to the pre-1970 stock. These older structures are particularly important to analyze because they have a higher conversion potential. Although less than one-fifth of the nation's housing stock is in structures built before 1940, approximately one-half of all conversions occur in older buildings. The pre-1940 stock has a geographic distribution that parallels the conversion supply--41.2 percent of all pre-1940 structures are in the northeast region and 40.1 percent of all conversions produced in older buildings occur

there. The vintage analysis also shows that conversions of pre-1940 buildings are more likely to be rented or vacant than other conversions. Together, these observations suggest that conversions may be an especially important source of lower-cost rental housing in older urban areas.

Table 3.7 confirms the results of the vintage analyis using a direct data source -- the characteristics of residential conversions from the CINCH reports. Over half of all residential conversions (type 3 and type 4) were created out of buildings built before 1940. This table also shows that residential conversions are more likely to be found in central cities (36.4 percent) than recently constructed units (16.1 percent) or the rest of the pre-1973 stock (32.5 percent). The overwhelming majority of residential conversions are in structures containing 2 to 4 units and two-thirds are rented. By contrast, only one-quarter of recently constructed units are rented and one third of the unchanged pre-1973 stock is rented.

Residential conversions, which are targeted in the survey of Boston homeowners in Chapters 5 and 6, comprise a little less than half of all conversion activity. Table 3.7 shows that the majority of these residential conversions occur in smaller structures with a total of two to four units, not in larger apartment buildings. Thus, the national picture of the conversion supply emerges as an older inventory concentrated in the urban northeast and the midwest.

TABLE 3.6 *

NUMBER OF HOUSING UNITS BUILT BEFORE 1940
IN METROPOLITAN AREAS
(In thousands)

	1973	LOSSES ** 1973-81	NET	1983	NET CHANGE 1973-83 #	% Change	% Distribution
Owner Occupied Units							
Northeast	3174	91	3083	3263	180	5.8%	7.0%
Midwest	2775	137	2638	2647	9	0.3%	0.3%
South	1341	81	1260	1373	113	9.0%	4.4%
West	998	47	951	1027	76	8.0%	2.9%
U.S. Total	8288	356	7932	8310	378	4.8%	14.7%
Rental Units							
Northeast	3682	598	3084	3669	585	19.0%	22.7%
Midwest	2114	397	1717	2023	306	17.8%	11.9%
South	1242	334	908	1116	208	22.9%	8.1%
West	1157	204	953	1283	330	34.6%	12.8%
U.S. Total	8195	1533	6662	8091	1429	21.5%	55.4%
All Occupied Units							
Northeast	6856	689	6167	6932	765	12.4%	29.7%
Midwest	4889	534	4355	4670	315	7.2%	12.2%
South	2583	415	2168	2489	321	14.8%	12.4%
West	2155	251	1904	2310	406	21.3%	15.7%
U.S. Total	16483	1889	14594	16401	1807	12.4%	70.1%
Vacant							
Northeast	423	87	336	604	268	79.8%	10.4%
Midwest	352	106	246	526	280	113.8%	10.9%
South	220	77	143	279	136	95.1%	5.3%
West	183	34	149	237	88	59.1%	3.4%
U.S. Total	1178	304	874	1646	772	88.3%	29.9%
All Housing Units							
Northeast	7279	776	6503	7536	1033	15.9%	40.1%
Midwest	5241	640	4601	5196	595	12.9%	23.1%
South	2803	492	2311	2768	457	19.8%	17.7%
West	2338	285	2053	2547	494	24.1%	19.2%
U.S. Total	17661	2193	15468	18047	2579	16.7%	100.0%

* Year-round housing units, exclusive of seasonal units and mobile homes

** Losses of year-round units only, exclusive of seasonal units and mobile homes

Source: Joint Center for Housing Studies, Special Tabulations of Annual Housing Survey Data for 1983 and U.S. Department of Census, Annual Housing Survey (Washington, D.C.: U.S.G.P.O., 1973 and 1983).

Table 3.7

STRUCTURAL CHARACTERISTICS *
OF UNITS CREATED BY CONVERSION AND NEW CONSTRUCTION
COMPARED TO THE PRE-1973 HOUSING INVENTORY
(in thousands)

	New Construction		Residential Conversions		Pre-1973 Inventory	
Units in structure	#	%	#	%	#	%
Owner occupied						
1, detached	6,776	77.5%	---	0.0%	36,667	88.3%
1, attached	378	4.3%	---	0.0%	1,584	3.8%
2 to 4	210	2.4%	229	95.8%	1,768	4.3%
5 or more	218	2.5%	7	2.9%	617	1.5%
mobile home	1,163	13.3%	3	1.3%	908	2.2%
Total owner	8,745	100.0%	239	100.0%	41,544	100.0%
Renter occupied						
1, detached	370	12.8%	---	0.0%	6,691	29.3%
1, attached	169	5.9%	---	0.0%	1,001	4.4%
2 to 4	606	21.0%	424	84.3%	6,174	27.1%
5 to 9	483	16.7%	34	6.8%	2,746	12.0%
10 to 19	498	17.2%	4	0.8%	2,348	10.3%
20 to 49	297	10.3%	39	7.8%	1,637	7.2%
50 or more	357	12.4%	---	0.0%	1,946	8.5%
mobile home	108	3.7%	2	0.4%	280	1.2%
Total renter	2,888	100.0%	503	100.0%	22,823	100.0%
Year structure built						
after 11/73	12,880	100.0%	---	0.0%	14	0.0%
4/70 - 10/73	---	0.0%	19	2.1%	7,167	10.4%
1965 - 4/70	---	0.0%	72	8.1%	8,342	12.1%
1960 - 64	---	0.0%	58	6.5%	7,755	11.3%
1950 - 59	---	0.0%	118	13.3%	13,337	19.4%
1940 - 49	---	0.0%	88	9.9%	7,571	11.0%
1939 or earlier	---	0.0%	531	59.9%	24,701	35.9%
Total	12,880	100.0%	886	100.0%	68,887	100.0%
Occupied units						
central cities	1,872	16.1%	270	36.4%	20,937	32.5%
suburbs	5,254	45.2%	239	32.3%	24,333	37.8%
SMSAs Total	7,126	61.3%	509	68.7%	45,270	70.3%
Non-urban	4,507	38.7%	232	31.3%	19,096	29.7%
Total units	11,633	100.0%	741	100.0%	64,366	100.0%

*

Note: New construction includes units built between 1973 and 1980.
Conversions includes units added to residential structures from 1973 to 1980.

Source: Bureau of the Census, Components of Inventory Change, Series HC80-4-1, (Washington, D.C.: USGPO, 1983).

Demand Analysis

During the fifties and sixties population trends favored new construction of single-family houses in the suburbs. In 1950, the average household contained 3.4 persons and 3.6 million births were recorded. Parents wanted yards for their children to play in and the VA and FHA loan programs helped millions of young households fulfill their dreams of a freestanding house in the suburbs. The number of births rose virtually every year during the early to mid-fifties, peaked in 1958, and then tapered off slowly until the mid-sixties, when birth rates began a more precipitous decline. By the early seventies, twenty years after the baby boom began, the number of households increased at more than twice the rate of population growth as the children of the fifties came of age and started to form independent households of their own.

Table 3.8 sheds light on the role that conversions played in meeting the demands of these new households of the seventies and eighties. Between 1970 and 1980, U.S. population increased 11.5 percent while the number of households increased 26.4 percent. This increase was associated with the largest decennial drop (on a percentage basis) in average household size in the nation's history: 3.14 persons per household in 1970 to 2.76 persons in 1980. The most important component of the declining household size--the increase in the number of one-person households--was

Table 3.8

Rates of Change Over Decade				
Decade	Population	Households	1-person Households	Median Household Size
1950-60	16.0%	17.4%	20.2%	-1.2%
1960-70	11.8%	16.3%	29.8%	-5.7%
1970-80	11.5%	26.4%	32.9%	-12.4%
1980-83	1.6%	3.9%	7.0%	-1.9%
1980-1990*	5.3%	13.0%	23.4%	-6.2%

*Linear Projection of 1980-83 rate, shown for illustrative purposes only.

Source: U.S. Bureau of the Census, 1960, 1970, and 1980 Census of Population, Annual Housing Survey, 1983.

also of historic proportions: 33 percent more such households in 1980 than in 1970. These trends have continued apace in the eighties: the average household size reached 2.71 in 1984 and the number of one-person households increased 7 percent between 1980 and 1983, while the overall population increased only 1.6 percent [15].

Given these demographic forces, it is not surprising that conversion activity became an important source of dwelling units during the seventies. The housing stock could not adjust fast enough through new construction alone to meet the demand for small living units. While new construction contributed an annual average amount equivalent to 2 percent of the existing stock during the seventies, the number of households increased at a faster rate (2.6 percent year) and single person households increased faster still (3.3 percent year). Thus, the other component of inventory adjustment--conversion of the existing stock--played a critical role in meeting the demand from smaller households.

Many of the new households formed in the seventies and eighties do not have the same living space requirements as the larger families of the fifties and sixties. The babyboom generation's propensity for delaying both marriage and childbirth, combined with the decision to have fewer children, has contributed more to the declining size of American households than any other factor [16]. However, it would be misleading to characterize all smaller households as "babyboomers." Existing

families shrink in size when younger members leave to start their own households. The elderly are now more likely to live independently, due to greater longevity and a gradual improvement in their economic circumstances. Higher divorce rates result in smaller households added to the middle of the age distribution as well.

Each of these sources of smaller households implies that conversions may serve a dual function in the housing market: the availability of converted units may contribute to the creation of some households (especially among young adults), while for other, older households, converted units provide a better match for shrinking space needs. This duality suggests that conversions were simultaneously a cause and an effect of the rapid rate of household formation in the seventies and early eighties. The increase in the number of small households drove the demand for converted units, but at the same time, the availability of these units might have been a contributing factor to the proliferation of smaller households. The housing choices of the elderly and those of young adults provide good examples of how conversions meet the demands of very different types of housing consumers.

The Elderly

After the children have all moved out or a spouse dies, the elderly frequently find that their dwelling no longer meets their space needs and is expensive to maintain. The choices they face

include:

1. continuing to live in their present unit,
2. continuing to live independently in a different unit,
3. moving in with relatives,
4. or, in the case of the sick or frail, moving to some kind of long-term care facility.

Converted housing plays an important role in the first three options, all of which are becoming increasingly popular as the elderly successfully avoid or delay the institutional option. When the elderly choose to remain in a large house, they must bear the costs of being "overhoused." These costs include maintenance, utilities, and the opportunity cost of underutilizing such a large asset. However, the social costs of moving may be high as well--leaving a familiar neighborhood and finding and moving to a new neighborhood may present a greater burden for the elderly than for younger members of the population. Several authors have suggested that by adding an accessory apartment, the elderly may be able to reduce these costs while staying in the neighborhood they know best [17].

Although the elderly would appear to be prime candidates for producing secondary units, there is little evidence that many have done so. The 1983 Annual Housing Survey reveals that many elderly are willing to bear the costs associated with living in a large house. Of the 9.52 million single-family, owner-occupied homes with a one- or two-person elderly household in 1983, 80

percent contained more than five rooms and 9 percent had more than eight rooms [18]. Patrick Hare, a city planner for Montgomery County, Maryland, points out that the elderly may hesitate to convert their single-family units because of the uncertainties associated with getting the necessary permits, arranging the financing, dealing with a contractor, finding a tenant, and negotiating a lease. Although any converter must deal with these factors, Hare believes that the elderly feel particularly vulnerable in dealing with strangers.

The second and third options--moving to a smaller unit or moving in with relatives--may prove less daunting to the elderly. There is strong evidence that one of the most common reasons for adding an accessory apartment is to provide housing for an elderly parent or relative. [19] The elderly may feel more at ease as consumers, either with relatives or in the open housing market, than as suppliers of converted housing.

Table 3.9 shows the percentage of households with an elderly member living in units created by conversion of residential structures (as documented in the CINCH report). Approximately 30 percent of all owner-occupied units created by conversion contain at least one elderly person, while only 13 percent of renter-occupied converted units have an elderly member. By contrast, 25 percent of all owner-occupied units and 13 percent of all renter-occupied units have at least one elderly member.

Thus, the elderly are drawn to converted units as owners at a higher rate than their share of the total population. As renters, they are drawn to converted units in almost exact proportion to their share of the renter population. These findings show that conversions are an important source of housing for many elderly households. The fact that the elderly's presence in converted units is not higher suggests that their attraction to converted units is reduced by the actual or perceived cost of adjusting their housing consumption to meet their current situation.

Young Adults

Young adults considering independent living for the first time face a different set of choices and constraints. Their housing decisions hinge on the availability of small, affordable rental units, such as those created by conversion. In the absence of a supply of such units, young adults stay with parents or double up with friends. However, Table 3.10 shows that headship rates for young, unmarried adults reached record highs in the seventies, a clear indication of their success at starting independent households. In 1950, 9.6 percent of all unmarried men and 17.7 percent of all unmarried women aged 25 to 29 headed their own households; by 1980 the comparable headship rates had risen dramatically to 35.5 percent and 47.9 percent for unmarried men and women, respectively. These high headship

Table 3.9
Households with Elderly Members
by place of residence in 1980
(in thousands)

	All Units		Conversions*	
	#	%	#	%
Owner-occupied households				
One elderly member	8,691	16.5%	37	15.5%
Two or more elderly members	4,462	8.5%	30	12.6%
No elderly members	39,362	75.0%	172	72.0%
Total owner-occupied households	52,515	100.0%	239	100.0%
Renter-occupied Units				
One elderly member	3,965	14.4%	61	12.2%
Two or more elderly members	968	3.5%	3	0.6%
No elderly members	22,623	82.1%	438	87.3%
Total renter-occupied households	27,556	100.0%	502	100.0%

* Note: Dwellings created by the conversion of residential structures to more units

Source: Bureau of the Census, Components of Inventory Change, Series HC80-4-1, (Washington, D.C.: USGPO, 1983).

TABLE 3.10

Proportion of Unmarried Adults Heading Their Own Households, 1940-1980

	1940	1950	1960	1970	1980	Change 1940-80	Percentage Change
Males							
Age:							
20-24	0.0325	0.0417	0.0598	0.1221	0.1968	0.1643	505.5%
25-29	0.0774	0.0961	0.1631	0.3262	0.4325	0.3551	458.8%
30-34	0.1438	0.1576	0.2459	0.4078	0.5148	0.3710	258.0%
35-44	0.2495	0.2564	0.3354	0.4928	0.6057	0.3562	142.8%
45-54	0.3804	0.3740	0.4452	0.5921	0.5897	0.2093	55.0%
55-64	0.4750	0.4492	0.5137	0.6503	0.6108	0.1358	28.6%
65-74	0.5050	0.4834	0.5477	0.6669	0.6863	0.1813	35.9%
75+	0.4249	0.4136	0.4581	0.5550	0.6324	0.2075	48.8%
Females							
Age:							
20-24	0.0427	0.0727	0.1237	0.2017	0.2654	0.2227	521.5%
25-29	0.1192	0.1772	0.3011	0.4933	0.5986	0.4794	402.2%
30-34	0.2418	0.2936	0.4283	0.6001	0.7381	0.4963	205.3%
35-44	0.4307	0.4355	0.5461	0.6712	0.8041	0.3734	86.7%
45-54	0.5546	0.5493	0.6150	0.7158	0.8125	0.2579	46.5%
55-64	0.5593	0.5542	0.6262	0.7361	0.8075	0.2482	44.4%
65-74	0.5202	0.5242	0.6083	0.7233	0.8423	0.3221	61.9%
75+	0.4085	0.4056	0.4668	0.5530	0.6450	0.2365	57.9%

Source: Based on data from the Census of Population, 1940-1970 and 1980 Current Population Survey cited in George Masnick, "The Demographic Factor in Household," Joint Center for Urban Studies of MIT and Harvard University, Working Paper No. W83-3.

rates, the rising age at marriage, and the large size of the baby-boom cohort contributed to an enormous number of young adults entering the seventies' housing market.

The influx of young households cannot be summarily classified as the "cause" for conversions; likewise, the increase in converted units may be more than simply an "effect" because of the way that supply and demand interact. The large size of the 1950s birth cohort led to a potentially huge number of independent households in the 1970s. However, without a readily available source of affordable units, young household demand for housing could have remained pent-up. The rising headship rates for young, unmarried adults in Table 3.10 reveal that this did not happen. Young people were able to start households in the seventies, even though the price of housing and interest rates were setting record levels. [20] And the production of low-cost units from unconventional sources, such as conversions, was one of the key factors in the baby boom's success.

The interaction between young households' demand for housing and the supply of smaller, converted units is demonstrated whenever a young person tries to find rental housing for the first time. Ultimately, the decision to "unbundle" from a larger household depends on the availability of small, inexpensive, rental units and the financial status of the potential renter. The overall health of the economy has often been acknowledged by demographers as an important factor in household formation. [21]

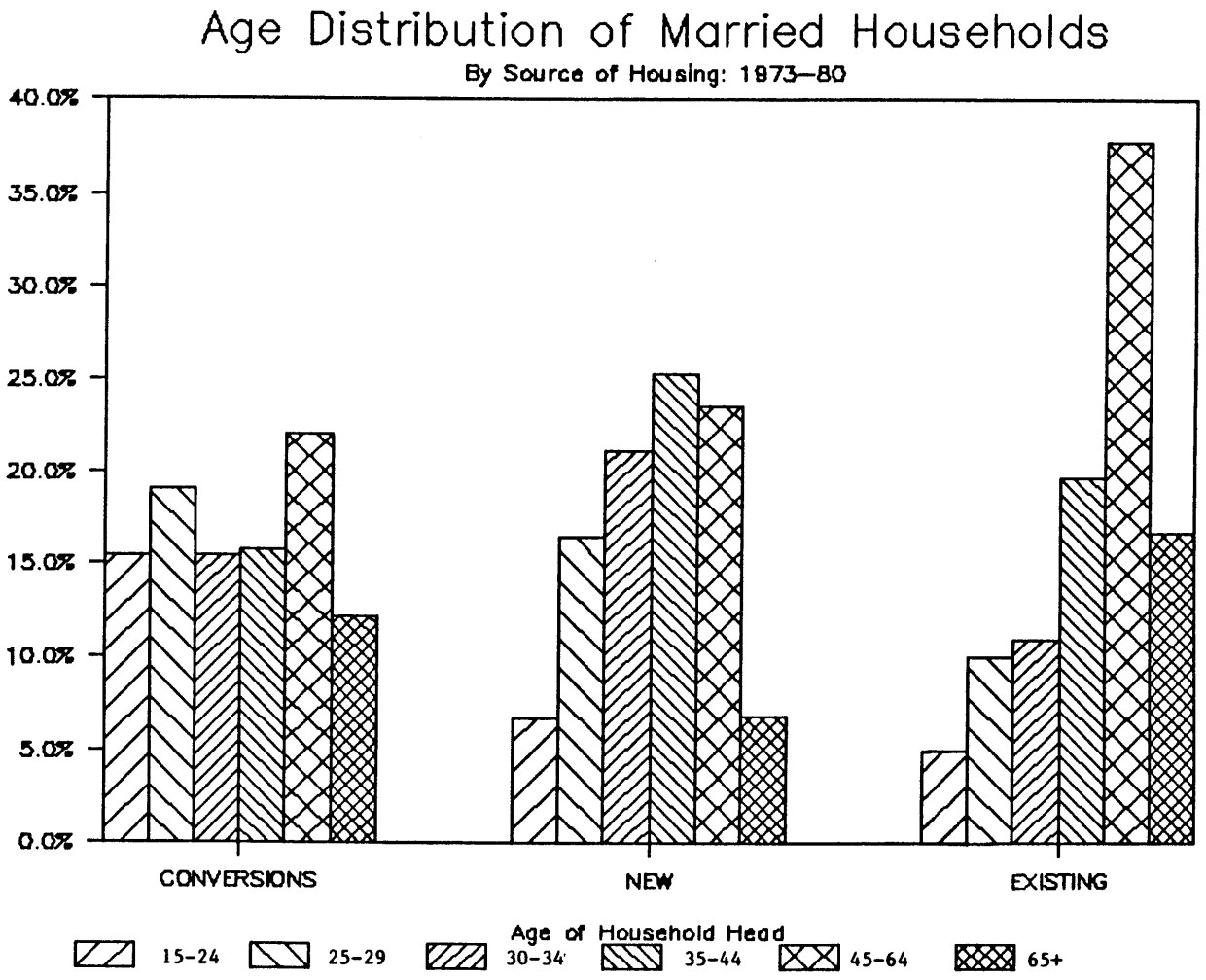
However, little research has been done on the relationship between the supply of affordable rental housing and the rate of household formation.

Evidence that conversions played an important role in meeting the housing needs of many different age groups comes from the U.S. Census Bureau's CINCH data. Figure 3.4 shows the age distributions of married households (both husband and wife present) living in units created by conversion or new construction (units built between 1973 and 1980), and in units built before 1973. The married population in converted housing is spread across the age spectrum in a remarkably even way, ranging between 12 percent and 22 percent in each of six age categories. By contrast, the residents of newly constructed housing and existing units exhibited much more uneven age distributions across these same age cohorts: as low as 5 or 6 percent in some categories, and as high as 38 percent in others. Converted units did contain higher proportions of young married couples: 34.6 percent of all married men (married couples are classified by the age of the man in the CINCH reports) living in converted units were under age 30, while comparable rates for new construction and existing units were 23.1 percent and 15.0 percent, respectively.

Summary

Housing choices for elderly and young households provide an illustration of the "chicken and egg" nature of conversions

Figure 3.4



Source: U.S. Bureau of the Census, Components of Inventory Change, Vol. 4, 1983.

and household formation. The availability of unused space in large, single-family houses is a necessary but not sufficient condition for the emergence of conversions as a significant source of new units in the seventies and eighties. The willingness of property owners to divide their dwellings and a growing demand for smaller units are also factors that contribute to the increase in conversion activity. A demand-driven model of conversion activity that overlooks the importance of the price elasticity of household formation neglects households that form because of the availability of affordable housing. A model driven purely by supply cannot account for the timing of the upsurge in conversion activity during the seventies. As the baby boom generation ages, one could expect that conversion activity would be less likely to meet their expanding housing needs. However, to the extent that this cohort chooses not to have children, the smaller units created by conversion could continue to play an important role in meeting the housing needs of middle-aged baby boomers.

The increase in smaller households across the entire age spectrum led to growing demand for smaller units such as those created by conversion. The CINCH data show that the median size of a converted unit is 3.7 rooms in contrast to 5.3 rooms for units built during the seventies and 5.2 units for the rest of the unchanged inventory (see Table 3.11). The availability of

Table 3.11

FINANCIAL CHARACTERISTICS
OF UNITS CREATED BY CONVERSION AND NEW CONSTRUCTION
COMPARED TO THE PRE-1973 HOUSING INVENTORY
(in thousands)

	New Construction	Residential Conversions	Pre-1973 Inventory
Median number of rooms			
Renter	5.8	5.0	5.7
Owner	4.0	3.3	4.1
Total	5.3	3.7	5.2
1979 Median Income			
Renters	$24,400	$14,900	$19,200
Owners	13,300	8,600	10,300
1980 Median gross rent			
subsidized units	$308	$227	$237
unsubsidized units	327	229	247
1980 Median contract rent			
all units	$268	$190	$196

*

Note: New construction includes units built between 1973 and 1980. Conversions includes units added to residential structures from 1973 to 1980.

Source: Bureau of the Census, Components of Inventory Change, Series HC80-4-1, (Washington, D.C.: USGPO, 1983).

these smaller units may have contributed to the decline in real rents over the decade of the seventies. [22] As Table 3.11 shows, the 1980 median rent in units created by residential conversions were slightly lower than the median rent in the pre-1973 stock and were significantly lower than rental units built during the seventies. Table 3.11 also indicates that the median incomes of both renter and owner households living in residential conversions was substantially lower than the median incomes of households living in recently built units and the pre-1973 unchanged inventory. Thus, it is clear that residential conversions are serving a population interested in smaller, low-cost housing. The supply of converted units helped meet the increase in the demand for these smaller units, largely driven by the maturing baby boom generation, and may have kept real rents down in the process.

The next two chapters will focus on the motivations and methods employed by converters in the city of Boston. While not typical of the rest of the nation, Boston is an excellent place to study residential conversion activity due to the relatively high visibility and prevalence of all types of conversions there. The advanced age of much of the housing stock and the large student population in Boston created especially ripe conditions for potential converters.

Notes to Chapter 3

1. U.S. Department of Commerce, Bureau of the Census Components of Inventory Change, Vol.4 (Washington, D.C.: U.S.G.P.O., 1983), Table A.

2. Ibid., Appendix B-3. The definition of a housing unit used by the Census Bureau excludes accessory units that do not meet at least one of these two conditions: 1) a separate entrance and 2) a separate kitchen. The "group quarters" designation applies to all living arrangements with five or more unrelated individuals. This definition was changed to include dwellings with 10 or more unrelated individuals in the 1980 Census.

3. The change in the definition of residences classified as group quarters may have contributed to the decline in the group quarters population. It is possible that some of the surplus households were accomodated in residences that were once classified as group quarters but now qualify as bona fide housing units under the new definition. However, the number of such redefined residences does not exceed 100,000 dwellings and therefore can only explain a fraction of the "surplus" of households over net new construction.

4. Nationwide estimates ranged from 100,000 to 800,000 permanently homeless people in 1985. See John Herbers, " Housing Aid Debate Focuses on Question of Government's Duty to Poor," New York Time, May 4, 1985. These estimates are based on the non-institutionalized population living in emergency shelters or in public areas such as parks, train stations, etc. Estimates have been made by the National Low-Income Housing Coalition as well as by the Policy Development and Research staff at the U.S. Department of Housing and Urban Development. The number of homeless in individual cities range from 2,000 in Boston according to the Permanent Charity Fund of Boston to 100,000 in New York City. For further analysis see: Kim Hopper and Jill Hamberg, "The Making of America's Homeless: From Skid Row to New Poor, 1945-1984" pp. 12-39 in Hartman, ed. Critical Perspectives in Housing (Baltimore, MD: Johns Hopkins Press, 1985).

5. Charles Kaplan and Thomas Van Valey et.al., Census '80: Continuing the Factfinder Tradtion, (Washington, D.C.: U.S.G.P.O., 1980), pp. 80-81. The population undercount in the 1970 Census was estimated to be 2.5 percent in 1970 and 2.7 percent in 1960. Masnick and Pitkin estimate that the housing unit undercount was 0.75 percent of the enumerated stock in 1980 and 2.2 percent in 1970. Like the differential

5. (cont.) in population undercounts, the household differential undercount probably accounts for some, but not all of the "unspecified units" described in Chapter 1. Figures cited in: George Masnick and John Pitkin, The Changing Population of States and Regions, (Cambridge, MA: Joint Center for Urban Studies of MIT and Harvard University, 1982).

6. U.S. Department of Commerce, Bureau of the Census, Annual Housing Survey, United States and Regions. Part A: General Housing Characteristics, (Washington, D.C.: U.S.G.P.O., 1973-1983). The sample was cut back in 1977 and again in 1981 as a cost-containment measure. The AHS sample reached a peak of 75,000 in 1980 before being scaled back to 56,000 in 1981. Federal cutbacks also forced the survey to switch to a bi-annual basis, starting in 1981. The bi-annual data series will be known as the American Housing Survey, thus keeping the same acronym: AHS.

7. Ibid., 1983, Appendix A.

8. Ibid. Appendix A.

9. Ibid. Appendix A, App-57. A three-stage ratio estimation technique is employed that assigns initial weights based on the characteristics of households, not housing units. These weights are then adjusted to reflect new construction additions and estimates of the total number of units. Coverage improvement programs instituted in 1977 made special efforts to account for non-residential conversions and mobile homes. No special efforts were made, until the 1985 American Housing Survey (as yet unavailable), to account for the conversion of residential structures.

10. The total number of conversions was based on a very small weighted sample of 160 observtions with an average weight of 1,125. These weights were assigned by a process that the Census Bureau acknowledges may have been faulty. The only locational bias that might affect estimates of conversion activity would be the strong regional effect of vacant mobile homes becoming re-occupied (see note 12). However, Tables 3.1, 3.2, 3.3, 3.4, and 3.5 are all restricted to just the conventional housing stock.

11. Interview with Ed Montfort, Branch Chief, Housing Division, Bureau of the Census, March 12, 1985.

12. Special runs of the Public Use Microdata Sample made with the assistance of the Joint Center for Housing Studies of MIT and Harvard University. One of the drawbacks to using the AHS to

12. (cont.) estimate conversion activity using the vintage technique is that an unoccupied mobile home is not considered part of the housing inventory and is not treated as a vacant unit. Therefore, a mobile home built before 1970 and vacant in 1973 is not counted as part of the inventory and shows up as a non-construction addition to the stock if it is re-occupied in 1980. The only solution to this problem was to exclude mobile homes form the analysis as was done in Tables 3.5 and 3.6. Seasonal units or group quarters converted into conventional housing over the 1973-1983 time span are included in the "net change" total. The Annual Housing survey did not adopt the Census Bureau's change in the group quarters definition, so the "net change" figures are not affected by the 1980 Census definition of 10 or more unrelated individuals.

13. Annual Housing Survey, Ibid., Appendix A, p.2.

14. The reporting error is probably lower in Table 3.5 than Table 3.6 under the assumption that most occupants would be able to correctly identify their home as being built either before or after 1973. The likelihood of occupants mis-identifying pre-1940 stock is undoubtedly higher. However, the "year structure built" question exhibited fairly high reliability in a reporting error study conducted on a subset of the AHS sample.

15. U.S. Bureau of the Census, Census of Population, 1970, and 1980 for household counts; Current Population Reports, Series P-20, 1985 for household size estimates, and Annual Housing Survey, 1983 for the number of one-person households.

16. Masnick and Bane, Ibid.

17. Patrick Hare, Accessory Apartments: Using Surplus Space in Single-Family Houses, (Chicago, IL: American Planning Association, 1981) and Rolf Goetze, Changing Housing Standards, (Washington, D.C.: Public Technology, Inc. 1983).

18. Annual Housing Survey Public Use Micro Data File, Ibid., housholds with householder of age 65 or older.

19. Edith Netter, "Accomodating Accessory Apartments," Urban Land April 1984, pp. 34-35.

20. Kermit Baker and H. James Brown, Homeownership and Housing Affordability in the United States: 1968-1984, (Cambridge, MA: Joint Center for Housing Studies of MIT and Harvard University, 1985).

21. For instance William Alonso, "The Population Factor and Urban Structure," in Arthur Solomon ed., The Prospective City, (Cambridge, MA: MIT Press, 1980). In this chapter Alonso emphasizes the changing life-styles and the participation of women in the work force as key determinants of demographic changes. Professors Donald Walls and George Masnick of Harvard University have also done work on the relationship between economic trends and household formation. Masnick describes the importance of separating the components of population change closely associated with economic events (migration and household formation) from the changes due to age structure effects in Chapter 2 of Apgar, et. al. The Housing Outlook.

22. Most housing analysts agree that median rents did not increase as fast as the cost of other goods during the seventies. Although the extent of the declining real rents is overstated by the rental component of the Consumer Price Index, Ira Lowry and others have shown that rent increases were still lower than the overall rate of inflation even after correcting the deficiencies of the CPI.Apgar, et. al. Ibid., pp. 87-89.

Chapter IV

JURISDICTIONAL AND REGULATORY ANALYSIS OF CONVERSION ACTIVITY

The previous chapter showed that conversion activity is an important source of national housing production, contributing between 20 and 30 percent of the annual increase in units each year from 1973 to 1983. On the demand side, the national overview demonstrated that changing demographics and the rising cost of housing provided a ready market for smaller, cheaper units. However, these national statistics yield few insights into how the conversion process works at the local level and leave unanswered such questions as: Which buildings are most likely to be converted? Where are they located? Who is likely to live in which type of unit?

The next three chapters will describe the importance of conversions in a particular urban housing market--the city of Boston, Massachusetts. This chapter examines the role of local regulatory policies in encouraging or constraining conversion activity, particularly in Boston. Chapter 5 explores the results of a survey of Boston homeowners, and Chapter 6 uses the survey to build a model that distinguishes between converters and nonconverters, and that compares different types of converters. The final chapter will discuss policy implications raised by the survey and will examine possible uses of the model by local planners.

In economic terms, any structure becomes a candidate for residential conversion when the costs of converting can be more than fully recaptured by the discounted stream of rental income that results from the extra unit. Yet, real estate is closely regulated at the local level, and many conversion projects that would show a profit are not allowed under local zoning laws. Moreover, even in areas where restrictive zoning is not a factor, owners may be reluctant to convert their properties for a variety of nonfinancial reasons. On the other hand, some conversion activity appears to be totally unaffected by local zoning laws. As the survey results show, much conversion activity circumvents the legal regulatory process entirely.

The national overview provided a glimpse of several key characteristics associated with a high likelihood of conversion activity. For instance, units created by conversion were twice as likely to come from structures that were previously in residential use than from commercial, industrial, or other nonresidential buildings. The conversion of old factories and warehouses to condominiums may be more dramatic, but the reconfiguration of residential structures contributes many more units each year to the housing stock (925,000 units added through the conversion of residential structures vs. 565,000 units created out of nonresidential structures between 1973 and 1980, according to the CINCH report). In older urban areas, such as the city of Boston,

there is strong evidence that this situation is reversed -- nonresidential conversions have contributed a substantial number of condominiums over the last 10 years. Nevertheless, data from the Boston Planning Board of Appeal show that residential conversions also make a significant contribution to the supply of rental housing in Boston. Moreover, their share of total conversion activity is growing at an even faster rate than nonresidential conversions.

A wide variety of factors affect the conversion of residential structures. Owners and developers carve new units out of houses and apartment buildings in as many different ways as there are types of residential property: Attics, basements, and garages of single-family detached dwellings are made over into "mother-in-law" or accessory units; single-family row houses are converted into two- or three-family dwellings; extra units are squeezed out of apartment buildings when they are converted to cooperatives or condominiums. As shown in Chapter 3, residential conversion activity of all types is not restricted to any single region of the country or only to metropolitan areas. Data from the CINCH and AHS reports showed that more housing units were created out of the extisting housing stock during the late seventies and early eighties than at any time since 1940, when the Census Bureau began tracking records of nonconstruction additions to the housing supply.

A combination of interrelated factors contributed to the

emerging importance of conversions during this period: the increasing cash costs (relative to income) of owning or renting a home, the rapid increase in the number of young households entering the market for the first time, a shortage of rental housing in many metropolitan housing markets, low multi-family housing starts, the rising cost of new versus existing housing, and the steady decline in household size over the last 15 years. Each of these pressures played a slightly different role in different metropolitan housing markets across the country. Analysis of national aggregates masks the specific market niches that conversions fill in various housing markets.

The fact that conversion activity can be found in almost any major metropolitan area indicates that suppliers are responding to broad-based changes in demand rather than isolated pressures. Fears of overcrowding and unhealthy conditions are rarely raised in discussions of conversion activity in the postwar era. Turn-of-the-century reformers, such as Robert Hunter in Chicago, were concerned about too many <u>people</u> sharing an individual unit. Today, the debate centers on the appropriate number of <u>units</u> in an individual building and the effect that conversions may have on the appearance and property values in the surrounding neighborhood. The issues raised by modern conversion activity revolve around the regulation of property rights and the special place that housing occupies as a consumption good, an investment, and a

source of social status in a relatively affluent society.

The Regulation of Residential Conversion Activity

Residential conversion activity, including the addition of accessory dwelling units (ADUs) and the splitting of a large residence into two or more smaller units, often takes place in a highly regulated and contentious environment. today. In recent years, the introduction of illegal units has emerged as a particularly fractious issue for residents of both single family and multifamily neighborhoods. The regulation of conversion activity raises some of the most politically sensitive and emotionally charged questions ever faced by the planning boards of otherwise sedate communities:

1. Should secondary units that are already occupied be legalized?

2. If an illegal unit is discovered, what steps should be taken? What sanctions and what means of enforcement are appropriate?

3. How should a property with a legal secondary unit be assessed for property taxes?

4. Should communities adopt ordinances that deal explicitly with conversions, allowing changes by "right" or by permit? What restrictions should these new by-laws contain?

Opponents of residential conversions cite the erosion of property values, the introduction of unwanted extra traffic and parking problems in a neighborhood, and fears of undue burdens placed on local public services as reasons to prohibit con-

versions. Although some communities allow accessory units in areas already zoned for multifamily, planning boards rarely allow variances in single-family zones in order to protect the exclusive character of these neighborhoods. Well-organized civic groups in many communities have made sure
that planning boards control the introduction of rental units in owner-occupied neighborhoods. [1] According to John Woodward, the planning director of Brookline, Mass.--an older suburb surrounded almost entirely by the city of Boston--representatives of community groups opposed to conversions

> often show up at permit appeals hearings well-prepared and highly vocal. Brookline has many well-educated doctors and lawyers willing to spend long evenings defending their property values.[2]

However, not all communities are opposed to residential conversions. In recent years, several suburban jurisdictions (Babylon, N.Y.; Fairfax County, Va.; and Weston, Conn.), a few large cities (Seattle, Wash.; St. Paul, Minn.), and one state (California) have passed ordinances that specifically allow accessory apartments in single-family zones if property owners can meet certain criteria. Almost all of these ordinances require that off-street parking be provided and that existing setback requirements be upheld. Many ordinances only allow the creation of units contained entirely within the existing structure (i.e., no exterior additions or separate structures), and some communities (such as Falls Church, Va.) limit applications

to the elderly or to households that plan to use the extra unit for a family member.

Proponents of residential conversions, many of whom helped write the first accessory apartment ordinances, argue that conversions can facilitate more efficient use of a community's housing stock. These advocates claim that the rental revenues from an accessory apartment can help elderly households on fixed incomes meet rising utility and maintenance costs and younger households meet high mortgage payments. Patrick Hare, a planner for the city of Bethesda, Maryland, also argues that the elderly can stay out of nursing homes longer or return from hospital stays sooner if their tenants are willing to help with shopping or other chores.[3] Martin Gellen, author of several studies on suburban conversion activity, points out that accessory apartments are valuable sources of affordable rental stock, especially in areas with large numbers of students.[4] He also believes that accessory apartments meet many communities' needs for providing multigenerational housing: young adults can stay near their parents and grandparents can stay near their grandchildren, yet enjoy the privacy of an independent unit.

While these advantages may be worth promoting, both Gellen and Hare fail to address carefully the negative impacts that conversions can have on a neighborhood. The survey results discussed in the next chapter reveal that many Boston homeowners blame conversion activity for a variety of problems in their

neighborhoods. In many urban ares, the advantages and disadvantages of conversion activity are already being felt through illegal activity that takes place outside of the regulatory process. Woodward reports that in Brookline there is a strong incentive to keep the units illegal. That way, neighbors can wield a powerful weapon if they ever feel that the situation is getting out of hand:

> If a resident doesn't like the looks of his neighbor's new tenant, he can tell the neighbor to get rid of the tenant or else he will report the illegal unit to the Building Department. We have had a number of complaints about illegal units and when the Building Inspector goes out to check up on the house, it is obvious that the accessory apartment has been there for quite some time. [5]

Those who would relax the rigidity of existing residential zoning--including Gellen and Hare--argue that an ordinance that allows conversion activity, subject to certain restrictions, is an important tool for regulating what would otherwise be a haphazard, underground process. By allowing a legal means for a homeowner to add one or more rental units, the rights of both property owners and tenants can be protected. Moreover, neighbors are protected because an ordinance could require that the landlord provide off-street parking, and it could state exactly what types of exterior alterations would be allowed. More importantly, closer regulation of conversion activity would be the best way to monitor the existing inventory for purposes of tax assessment and provision of public services.

Up until 10 years ago, very few local ordinances specifically addressed the introduction of additional dwellings in areas already zoned for a particular residential density. As more requests for residential conversions began to be made, local planning officials realized that existing zoning codes and regulatory procedures were not equipped to deal with the growing demand. In most urban areas, homeowners could seek variances or special-use permits in order to add one or more units (the name and nature of the procedure varies from place to place); however, very few conversions actually went through a legal process.

Several regional planning groups and councils of local governments have examined the bylaws in their own communities in order to find out how accessory units are treated under the variety of zoning codes and appeals procedures among their constituent localities. [6] Except for the handful of jurisdictions that have set standards for allowing residential conversions, most jurisdictions still deal with requests to add rental units on a case-by-case basis. For instance, a 1985 study by the Metropolitan Area Planning Council of Boston found that of the 104 separate jurisdictions in the Boston metropolitan area, only 15 contained zoning provisions that set standards for accessory units in single-family zones as of 1985. Other studies undertaken in the New York and Washington, D.C., metropolitan areas confirm that the zoning laws of the overwhelming majority of localities do not deal explicitly with residential con-

versions. [7] In most communities, including the city of Boston, the addition of a rental unit in an area zoned for a specific residential density can only be accomplished by the issuance of a variance.

In theory, variances in most jurisdictions are granted only if property owners can show that the existing zoning law places them at a disadvantage relative to other properties in the area, and that no abutters will be adversely affected by the proposed change. Under the land use laws of most communities, the only argument that can be used to get a variance is proof of economic hardship. In practice, zoning boards often use the presence or absence of citizen opposition as the litmus test for approval of a residential conversion request. This means that relief from existing zoning codes is often granted because the appellant has lined up the necessary political support, or because the abutters were never notified or cannot attend the zoning board hearing. By the same token, requests for permission to create an ADU can be turned down just as easily under a variance system, if a few neighbors show up expressing fears about declining property values, congestion, and the presence of "transients." Thus, local officials and citizens serving as members of local zoning boards rarely have a standard way of dealing with secondary units that insures equitable treatment of different cases.

It can be argued that public hearings are the best way for

all sides to be heard in controversial cases. Many residents believe that attendance at these hearings may be the only way that they can exercise control over the kind of development allowed in their neighborhoods. Ordinances that allow conversions "by right" rather than by variance can remove this type of public input. This may be one reason that in towns such as Belmont, Massachusetts, the planning board and local officials endorse an ADU bylaw, while the selectmen and residents are reluctant to lend their support. [8]

Proponents of tighter regulation of conversion activity point out that if the zoning restriction are carefully constructed in an open process with high levels of resident participation, community control over development need not be relinquished. In fact, some advocates of more regulation believe that when the restrictions built into the zoning ordinance reflect community values, control over conversion activity is often gained for the first time. Dan Borchelt, of the Boston Metropolitan Area Planning Commission, believes that an ordinance that deals explicitly with conversions may turn out to be self-policing once neighbors realize that enforcement of the law is in their best interests. When illegal units are added, they represent a net fiscal drain on the community. A property that contains an illegally converted unit is rarely reassessed to reflect the new occupancy. Consequently, the owners of converted units and their tenants receive all the benefits of public ser-

vices without contributing a fair share to local property tax revenues. Zoning reformers believe that if a systematic process with well-publicized rules for legalizing an illegal unit were introduced, owners may be encouraged to come forward when they get ready to sell or insure their property. This would give assessors a chance to capture the added value of the illegal unit in their property tax calculations.

Some local officials favor zoning ordinances that specifically allow conversions over a variance system because it would make their job easier. They believe that such an ordinance would reduce the administrative burden imposed by processing variance requests on a case-by-case basis and bring zoning codes in line with existing conditions. In recent years, the American Planning Association, [9], the National Association of Housing and Redevelopment Officials, [10], and the U.S. Department of Housing and Urban Development, [11], all came out with "how to" books recommending that local communities consider the adoption of a zoning bylaw that would replace the time-consuming process of issuing variances. Model ordinances were included in several of these reports showing local officials the types of legislation that other communities had successfully adopted.

Many residents, however, believe that any ordinance that allows conversion activity, even with restrictive conditions, is unenforceable and conversion activity will quickly get out of

control. According to Dan Borchelt, who has surveyed communities considering the adoption of an ADU bylaw:

> Homeowners fear that any erosion of the single-family standard will encourage more illegal activity, just as lowering the drinking age to 18 made it harder to keep 16-year-olds from getting liquor. [12]

Others argue that these illegal units are not "victimless crimes," but that long-term residents bear the burden of illegal conversion activity through increased density, parking and traffic congestion, and ultimately, lower property values. Although the value of a particular converted property may increase due to the rental income, neighbors want assurance that their properties will not be devalued.

This legitimate concern can be carried to ludicrous extremes and may often be used as a smokescreen for the real issue: the unwelcome presence of lower-income renters in a middle-class, home-owning neighborhood. Racial discrimination or fears of noisy students may lie behind the stated fear of deteriorating property values. A recent case heard by the Boston Zoning Board of Appeal illustrates how this argument was successfully used at the public hearing to prevent the addition of a third rental unit on a street where almost all the two-family houses contained at least one rental unit already. [13]

The appellant, an Asian immigrant, claimed that the property was sold to him as a legitimate three-family dwelling and had been assessed as such for more than ten years. Further-

more, he was counting on the rental income from the extra unit to help meet his monthly mortgage payments. However, the next-door neighbor, an elderly owner of a two-family house, testified that legalization of this extra unit would lead to more conversions, followed by the deterioration of the whole street, and eventually bring down the value of her property. When this elderly neighbor complained to the City, the Inspectional Service Department (the division charged with enforcing building and zoning codes) discovered that the previous owners of the property had never secured the necessary variance for the third unit. Despite the fact that both the appellant and the woman's property were several houses away from a variety store, which contained several apartments on the second floor that together may have generated as much traffic as the rest of the street combined, the Board decided the long-term resident's concerns about "increased traffic and inappropriate density" were legitimate and voted to deny permission to legalize the third unit. The elderly woman's case was buttressed by the contribution of Boston City Councilor Albert "Dapper" O'Neil, who spoke eloquently on her behalf:

> What is this city coming to when the community values that this woman represents can no longer be upheld? This woman has lived in Jamaica Plain all her life; she's got her entire life's savings tied up in that house. What will happen to her if this kind of thing is allowed to continue? [14]

While the zoning board saw fit to agree with Councilor O'Neil in this case, they approved 122 other variances in 1984, resulting in more than 700 additional housing units. [15] Many

of these variances were granted for properties where conversion clearly increased traffic congestion and residential density, but no opposition was presented before the Board and so the variance was approved. That same year, less than twenty appeals were denied, mainly because opposition was voiced or because the local planning agency (the BRA) recommended denial on environmental grounds.

As this case illustrates, the variance process can be haphazard and frustrating. The slow, unpredictable nature of the hearings and the political environment in which they take place lead many property owners to go ahead with plans for an ADU without waiting for the permission of a zoning appeal board. The necessary building permits needed for electrical and plumbing work are often taken out over a long period of time and in such a way as not to arouse the suspicion of the Building Inspector that an additional unit is being created. Local officials in Boston report that many contractors, especially carpenters, are not averse to working without a building permit--even though to do so can mean losing the license to practice their trade. Thus, many of the changes needed to create an ADU never leave a paper trail.

Interviews with zoning officials in Boston and Brookline reveal that the experience of the man in Jamaica Plain is a common one: the purchaser of a house is told that the accessory apartment is legal, only to find out during the title search (or

later) that no variance had ever been issued for the accessory unit. [16] In the absence of an ADU ordinance, there is no easy way for sellers to legitimize an illegal arrangement in order to obtain a higher selling price or for buyers to avoid the same fate as the owner of the illegally converted house in Jamaica Plain. As a result, the legalization of an existing illegal unit is currently one of the most common cases heard before the Boston Board of Zoning Appeal. The appellants typically come before the Board either right before or just after the sale of the illegally converted property they want to legalize.

The next section takes an in-depth look at how this legalization process works in Boston and examines the regulatory mechanism that applies to all proposed conversions. This section also provides important background analysis of the supply and demand for rental housing in Boston--thereby setting the stage for the analysis of the survey results in chapters 5 and 6.

Historical Overview of the Boston Housing Market

The decade of the seventies was a tumultuous period in Boston's history. The city was torn apart by the traumatic events surrounding court-ordered school desegregation; 78,000 residents left for the suburbs or beyond, joining the 160,000 that left between 1950 and 1970. In the middle of the decade, the beginning of a downtown office-building boom was under way and the city was the focus of the nation's bicentennial celebration. The Boston housing market--really an amalgam of overlapping yet distinct submarkets--suffered from declining demand during the fifties and sixties. A high percentage of substandard units, high vacancy rates, arson, and abandonment plagued many inner-city neighborhoods. While most neighborhoods continued to lose population in the seventies, a few--most notably, the Back Bay, the South End, and Jamaica Plain--showed signs of incipient reinvestment. In fact, the population of the South End increased 19.6 percent and the Back Bay-Beacon Hill increased 9.7 percent in the face of a citywide population decline of 12.2 percent over the decade (see Table 4.1).

Analysis of Boston's changing demographic profile yields insights into the unusual pressures exerted on the city's aging housing stock. The average household size in Boston fell from 2.77 in 1970 to 2.40 in 1980. Even though population declined during the seventies, the number of households increased slightly. Table 4.2 shows that the number of one- and two-person

Table 4.1

BOSTON POPULATION, 1980 AND 1970
BY PLANNING DISTRICT

	1980	1970	Change	
			Number	Percentage
East Boston	32,178	38,873	-6,695	- 17.2
Charlestown	13,364	15,353	-1,989	- 13.0
South Boston	30,396	38,488	-8,092	- 21.0
Central	21,797	19,334	2,463	12.7
Back Bay-Beacon Hill	30,212	27,538	2,674	9.7
South End	27,125	22,680	4,445	19.6
Fenway-Kenmore	30,842	32,965	-2,123	- 6.4
Allston-Brighton	65,264	63,657	1,607	2.5
Jamaica Plain	39,331	47,767	-8,436	- 17.7
Roxbury	57,751	71,095	-13,344	- 18.8
North Dorchester	23,789	32,665	-8,876	- 27.2
South Dorchester	59,123	74,415	-15,292	- 20.5
Mattapan	35,827	45,449	-9,622	- 21.2
Roslindale	32,626	39,558	-6,932	- 17.5
West Roxbury	31,333	34,989	-3,656	- 10.4
Hyde Park	30,223	34,977	-4,754	- 13.6
Planning District Totals	561,181	639,803	-78,622	- 12.3
Harbor Islands and Crews of Vessels	1,748	1,268	480	37.9
Boston Total*	562,994	641,071	-78,077	- 12.2

* Planning districts may not sum exactly to City total.

Source: 1980 Census of Population and Housing: Summary Tape File 1; 1970 Census of Population and Housing: First Count Summary Tape. Prepared by S. Jaster, Boston Redevelopment Authority Research Department.

Table 4.2
BOSTON HOUSING
1970-1980

	1970	1974	1977	1980	Percentage Change 1970-80
All year-round housing	232,400	224,800	234,800	232,489	.0%
Owner-occupied	59,300	57,000	58,500	59,489	0.3%
One unit, detached	24,800	23,900	24,400	26,227	5.8%
One unit, attached	3,300	4,200	4,200	3,660	10.9%
Two to four units	29,100	27,200	27,700	24,692	-15.1%
Five or more units	1,800	1,600	2,100	4,803	166.8%
Renter occupied	158,300	143,200	147,500	158,968	0.4%
One unit	5,100	7,600	4,600	6,707	31.5%
Two to four units	70,600	64,300	64,700	66,114	-6.4%
Five to nine units	25,000	21,600	22,800	23,418	-6.3%
10-19	28,100	23,600	25,400	25,506	-9.2%
20-49	18,300	16,100	17,800	16,968	-7.3%
50 or more	11,300	10,000	12,300	20,128	78.1%
Vacant Units	14800	24600	28800	14032	-5.2%
Population	641,071	530,900	521,700	562,994	-12.2%

Sources: U.S. Census of Population and Housing, 1970 and 1980.
Annual Housing Survey, Boston SMSA, 1974 and 1977.

households increased significantly over the decade. The additional 17,000 one-person households did little to offset the 78,000 population loss, but it did mean that smaller units such as those created through conversion were in greater demand.

Record enrollments at many of the region's 35 institutions of higher learning may also have contributed to the demand for smaller units. Students have always been a significant component of the demand for rental housing in the city. In the seventies, undergraduates were less of a source of the increase in year-round demand for rental housing than recent graduates and graduate students: the percentage of Boston's population aged 20-34 increased more rapidly from 24.4 percent in 1970 to 33.5 percent in 1980. Meanwhile, families with children left the city, and the under-20 population fell from 33.3 percent of the population in 1970 to 26.1 percent in 1980. The number of elderly residents declined, but their share of the population remained virtually constant at 12.2 percent.

These powerful demographic forces led to adjustments in the way that the inherited stock of housing was used. These adjustments occurred differently in different neighborhoods. The rental housing stock in many Boston neighborhoods has long been dominated by three-story frame buildings--43 percent of Boston's rental units were in two to four unit structures in 1980. These "triple-deckers" are particularly well suited to reconfiguration into more or less units--whatever the market demands. Most of

these structures were built as inexpensive "worker housing" between 1890 and 1915 and have been adapted and readapted to meet fluctuations in demand ever since. [17]

The conversion activity of the seventies and eighties is yet another iteration in the ever-changing use of these structures. The most recent wave of conversion activity, however, is quite distinct from the multigenerational uses that characterized three-deckers in the early nineteenth century. The survey of three Boston neighborhoods shows that accessory units are rarely leased to family members and that social rents are now the exception, [18], economic rents, the rule. At the same time, the survey also shows that triple-deckers and duplexes were more likely to undergo conversion activity than single-family, detached houses. In fact, the survey showed that it was not unusual for more than one rental unit to be added to an owner-occupied structure.

While triple-decker housing is typical of large swaths of Dorchester, Jamaica Plain, East Boston, and Allston-Brighton, the older brick structures in the South End, the Back Bay, and parts of Charlestown were built as single-family row houses for middle-class families. Conversion activity played an equally important role in their history--many of these buildings were converted to rooming houses or apartments to accommodate the waves of immigrants at the turn of the century. While the Back Bay and

Beacon Hill retained a substantial upper middle-class population, neighborhoods such as the South End were transformed into crowded, immigrant communities:

> During the last third of the 19th century, the South End began to decline. Competition from the more fashionable Back Bay section of Boston and economic difficulties resulting from the 1873 real estate panic hurt the South End. Many of the large houses were converted into lodging houses and tenement houses, and the area became a "port of entry" for immigrants and newcomers to the City. . . . [19]

In 1910, the South End had a population of 76,000. By 1970, the population declined to 22,680, many of whom lived in the 923 licensed lodging houses--more than any other neighborhood in the city. In many cases, the conversion activity documented by the homeowner survey reduced the number of dwellings per structure when these rooming houses were reconverted to condominiums or apartments.

Regulatory Considerations in Boston

The seventies were also a period of unprecedented public intervention in Boston's housing market. This public involvement ranged from the maintenance and management of massive public housing projects built during the fifties and sixties to the passage of rent control and condominium conversion legislation.

By 1981, approximately 20 percent of Boston's housing stock was subsidized under state or federal programs of assistance--putting Boston well ahead of other cities such as Chicago or

Philadelphia, where 6 to 8 percent of the units were subsidized. Most of these units were concentrated in the poorest neighborhoods--more than 20 percent of the units in Roxbury, Mission Hill, the South End, East Boston, Charlestown, and South Boston were subsidized. Although even relatively stable neighborhoods, such as Dorchester with 5,435 units and Allston-Brighton with 3,785 units, relied on public programs for between 12 percent and 18 percent of their housing units.

At first, the large public presence in the housing market may have actually reduced the demand for converted units. Subsidized housing helped meet the lower-income demand for affordable rental housing traditionally served by conversion activity. However, the seventies took a hard toll on the city's public housing stock; many of the large projects built in the sixties were boarded up and abandoned 10 years later. Instead of relieving the demand for affordable rental housing, the public housing stock may have heightened it. Many households that settled in Boston because of the opportunities for low rents in public housing projects in the early seventies may have ended up in private-sector apartments, once life became unbearable in the Columbia Point or Mission Hill projects. In any case, the public housing population became dominated by elderly residents and single-parent families, rather than the young, childless, one- or two-person households that were most apt to occupy small, converted units. By contrast, most of the converted housing

identified in the homeowner survey cannot be considered as a very close substitute for public housing; typical rents are well above both public housing levels and the FMR (Fair Market Rent) for existing housing allowed under the Section 8 program.

Conversion activity in the city of Boston may be more directly affected by two other forms of regulatory control of the housing market. In 1969, the City Council and mayor declared a state of "housing emergency" and passed the first Rent Control Act since the repeal of the wartime controls in 1956. The 1969 Act extended to all private-sector rental housing, except "luxury units," that were above certain rent levels at the time the ordinance was adopted. Later amendments to this Act may have improved the competitive position of converted units in the private rental market--rental units in owner-occupied structures with five or fewer units were exempt from the controls.

Many housing analysts believe that rent controls reduce the supply of rental housing in the long run by slowing the supply of new units while accelerating the deterioration of the existing rental stock. [20] In Boston, the evidence in favor of this proposition includes the appearance of 5,000 abandoned, not-for-rent units scattered throughout the city by 1980. On the other hand, the number of rental units in the city increased modestly over the decade, and other cities without strict rent control also experienced high levels of abandonment. In any event, the

percentage of renter-occupied units was 72.7 percent in both the 1970 and the 1980 Census, revealing the enduring reliance of the city on its rental housing stock. Between 1970 and 1982, 18,000 rental units were lost due to demolition and conversion to owner-occupancy. During the same period, an independent study, carried out by the Boston Urban Observatory, reported that 3,000 private rental units and 26,000 publicly subsidized units were constructed--more than offsetting the number of demolished and abandoned units. [21]

These two trends are not inconsistent. Rent controls did not apply to newly built luxury housing, only to existing absentee-landlord structures. These older buildings were more likely to end up abandoned and tax delinquent as owners discovered that their revenues--whether due to the low-incomes of the tenants or to the rent controls--did not cover their expenses. As a result, absentee owners of larger multifamily structures allowed their property to run down until tenants were forced out by uninhabitable conditions. Owner-occupied multifamily dwellings, such as those with converted units, may have experienced a very different scenario, because they were exempt from the rent controls.

The other major intervention into the private housing market involved the restrictions placed on the conversion of rental property to condominiums. Enacted in December 1979, this legislation required that oneyear's notice be given to all tenants and

two years' notice be given to elderly or handicapped residents prior to conversion to condominiums. In 1981, this legislation was amended to include the requirement that tenants be given the right of first refusal at prices equal to or better than the publicly listed prices. Longer periods of notice were required for long-term residents as well as the elderly and handicapped.

These restrictions probably had little effect on conversion activity. Converters of nonresidential property did not have to deal with existing tenants, and units from smaller residential conversion projects are more often rented than sold. According to zoning records, a few residential conversion projects did involve both the reconfiguration of the building into more units and a change to condominium ownership. Such projects undoubtedly took longer than they would have without the condominium conversion restrictions. According to one BRA official, astute property owners now anticipate these delays and have learned to start the bureaucratic process of getting a variance at about the same time that they give notice to their tenants. It usually takes between one and two years before the necessary approvals for both the condominium conversion and the "change in occupancy" can be obtained. The regulation of condominiums is only one part of the regulatory process that has an impact on structural conversions (as distinct from tenure conversions). The regulatory mechanism that deals with structural conversions is described in the following section.

The Conversion Process in Boston

The same regulatory process set up to deal with new construction projects in Boston also applies to conversion activity. Property owners attempting to add one or more dwelling units to their property by legal means must start by applying for a building permit from the City Inspectional Services Department (ISD). This system, fraught with inefficiency and delays, historically has allowed many converters to sidestep the legal process through negligent and occasionally corrupt practices. [22] Figure 4.1 illustrates how the formal process is supposed to work. However, there are numerous points where the system breaks down, even after a property owner puts the process in motion by applying for a building permit. The legal conversion process is supposed to proceed in accordance with the following steps:

1. Appliction for a building permit from the ISD. If the proposed work involves a change of occupancy, it is turned over to the zoning section of the ISD.

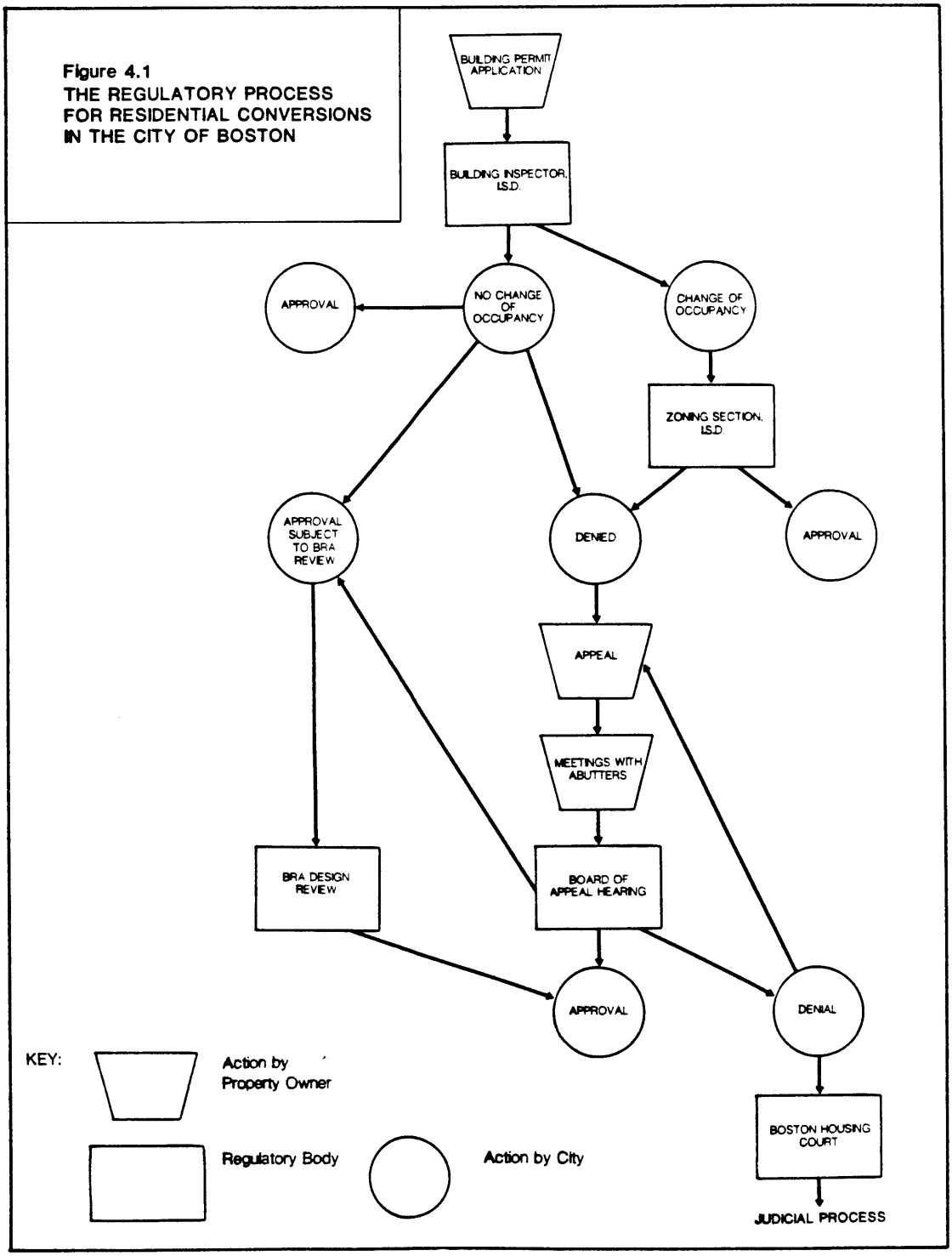
2. The zoning section of the ISD determines if a proposed change in occupancy is allowed under the zoning restrictions that apply to the property. These restrictions include:

    - lot area per dwelling unit
    - floor area ratio
    - open space provisions per dwelling unit
    - off-street parking
    - height, setback, and other design restrictions
    - Boston building code requirements for existing residential structures.

3. If the ISD denies a building permit based on these restrictions, the property owner can file an appeal.

4. A public hearing before the Board of Appeal is scheduled, typically within three to four months. An advertisement of this hearing is placed in a local paper a week in advance. The property owner is instructed to meet with community organizations and abutters prior to this

Figure 4.1
THE REGULATORY PROCESS FOR RESIDENTIAL CONVERSIONS IN THE CITY OF BOSTON



4. (cont.) public hearing in order to discuss his plans and to hear if they have any concerns that can be addressed before the hearing.

5. At the hearing, the Board of Appeal has the power to grant variances in districts where the proposed use is forbidden. Before the Board can grant an appeal, a property owner must show that the existing zoning subjects him to an undue "hardship" and no abutting properties will be adversely affected. The Board may also add whatever restrictions they deem appropriate before they grant permission for a "conditional use" permit. For instance, if the converter can show that he will meet one-half of the requirements for lot area and open space, then the addition of a dwelling unit may be accepted by the Board of Appeal as a conditional use. However, the Board may also require that the owner provide extra off-street parking to accommodate the tenants.

6. If the appeal is approved by the five-member Board, the property owner has two years to use the variance or conditional use permit. Approval requires an assenting vote by four-fifths of the Board. If the Board denies the request, the property owner must either wait a year or substantially alter the proposal before trying again. An unsuccessful appellant may also try to reverse the Board of Appeal's decision in the Boston Housing Court, a process that takes from three to five months.

The results of the homeowner survey reveal one of the common points where the system breaks down: many converting homeowners do not declare that they intend to change the occupancy of their property. Building inspectors approve the work because the property owner does not indicate that the improvements will result in a new, separate dwelling unit within the same property. For example, the proposed work may only consist of a new bathroom or a second entrance. The property owner may not tell the building inspector about the kitchen he planned to add along with

the other improvements. Instances of collusion between inspectors and property owners, although not specifically addressed by the survey, are not unknown.

The expenses in time and fees avoided by converters who operate illegally are substantial, while the risks are relatively insignificant. The rewards often include tax-free rental income from an extra unit, without fear of reassessment. The risks consist of fines imposed by the Inspectional Services Department for zoning violations and the possibility of reassessment if the conversion goes through. However, enforcement is usually limited to cases where complaints are received from neighbors--the worst that can happen is that the property owner must go through the same Board of Appeal process that should have been followed in the first place. The standard procedure in such cases is to waive all fines and to assess a double fee on property owners that come forward to legalize a conversion after the fact.

In recent years, the number of cases involving the legalization of existing converted units have increased faster than the caseload for proposed conversions. In fact, in 1984 (the most recent year cases were counted) more units were <u>legalized</u> in converted buildings (208) than were <u>proposed</u> to be added to residential structures (170). Property owners who add apartments illegally often take the trouble to legalize their conversion

work right before selling, knowing that the rental unit will increase their expected sales price. The rise in the number of owners seeking legalization may be attributable to increasing turnover rates among converted properties. The added value of legal rental units often makes it worth the seller's trouble to go through the lengthy Board of Appeal process.

Tracking Legal Conversion Activity

Despite inability to identify illegal conversions, the Board of Appeal can be used to measure the legal portion of conversion activity that takes place in the city. Table 4.3 summarizes four types of cases heard by the Board of Appeal between 1974 and 1984:

1. Conversions applied for and approved for three categories of buildings:
   - o Conversion of residential property
   - o Conversion of nonresidential property
   - o Conversion of rooming houses from transient to permanent housing
2. Approved changes of occupancy resulting in a loss of housing units
3. Legalization of a conversion that has already taken place
4. Conversions applied for and denied

The high cost of filing an appeal, both in terms of time and money, assures that a very high percentage of appellants receiving approval from the Board of Appeal actually carry out the

TABLE 4.3

Legal Conversion Activity

In Boston 1974-1984

	Use Prior to Conversion:								Other Cases Heard by Board of Appeal:					
	Residential		Non-Residential		Lodging Houses		Total Additions		Losses		Legalized Existing Use		Variance Denied	
Year	units added	cases	units added	cases	units added	cases	units added	cases	units lost	cases	units legalized	cases	units denied	cases
1974	21	13	90	5	5	1	116	19	-11	7	2	1	24	12
1975	25	23	27	5	3	2	55	30	-10	6	9	7	32	7
1976	40	17	339	7	14	3	393	27	-66	10	10	6	35	8
1977	30	20	329	9	18	3	377	32	-23	8	18	11	14	7
1978	44	28	63	6	3	1	110	35	-23	12	8	6	2	2
1979	52	25	104	8	17	2	173	35	-28	5	6	5	18	12
1980	43	28	205	12	5	2	253	42	-15	8	16	9	47	20
1981	92	40	161	17	43	7	296	64	-28	8	52	13	169	22
1982	110	40	282	14	5	2	397	56	-263	16	51	22	28	11
1983	229	46	253	14	52	9	534	69	-10	7	191	46	96	20
1984	170	88	392	15	98	14	660	117	-33	13	208	40	78	14
TOTAL	856	368	2245	112	263	46	3364	526	-510	100	571	166	543	135

Source: City of Boston, Board of Appeal Records, 1974-1984
This table is based on an analysis of applications for variances and conditional use permits heard by the Board of Appeal.

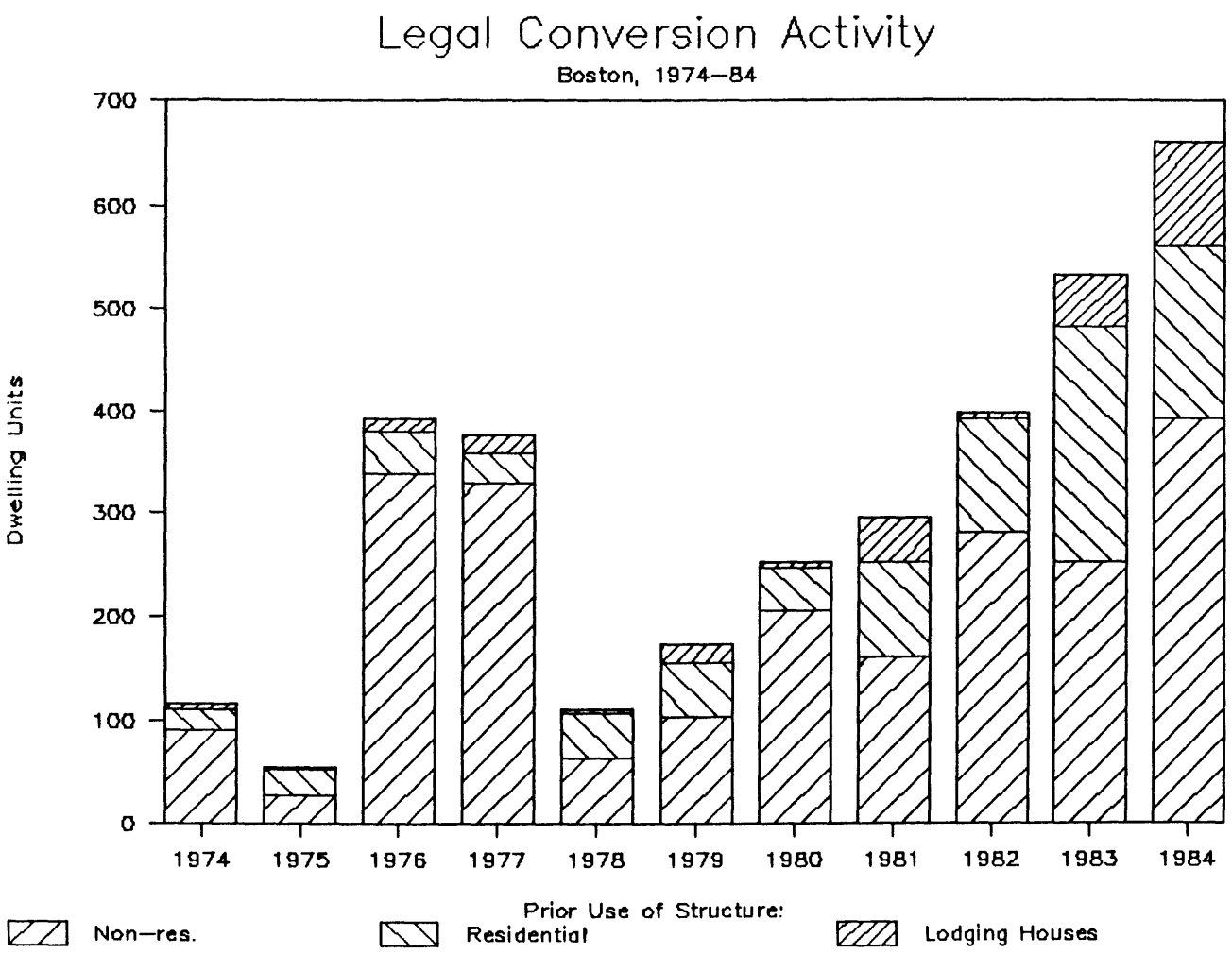
conversion. Many cases heard by the Board of Appeal involve requests for the addition of more than one dwelling unit. Thus, from 1974 to 1984, 3,364 units were added through the approval of 526 cases; 70 percent of these cases involved buildings already in residential use, 21 percent concerned nonresidential buildings converted to residential use, and the remaining 9 percent of the cases dealt with lodging houses.

The number of dwelling units created by conversion activity reached an all-time high (over the 11 year period for which records were available) of 659 units in 1984. A preliminary analysis of variances in the following year revealed that the level of conversion activity may have been even higher in 1985. Figure 4.2 charts the rapid increase of conversion activity in the city of Boston between 1974 and 1984.

Residential vs. NonResidential Conversions

The conversion of residential buildings is more widespread in terms of location and the number of buildings affected than conversion of nonresidential structures. The conversion of commercial, industrial, and institutional buildings has contributed a greater number of dwelling units in a few, concentrated locations. The creation of 2,245 units through nonresidential conversions between 1974 and 1984 is 2.6 times greater than the 856 units created through the legal conversion of residential buildings. Even with generous assumptions about

Figure 4.2



Source: Records of the Boston Planning Board of Appeal, 1974-1984.

the amount of illegal conversion activity taking place in residential structures, the conversion of nonresidential buildings undoubtedly added more dwelling units each year to the city's inventory during the late seventies and early eighties.

Table 4.3 shows that, even though nonresidential buildings yield more dwelling units, many more residential buildings are converted each year. According to the Planning Board records, 112 nonresidential structures were converted between 1974 and 1984, resulting in an average increase of twenty dwelling units per property. By contrast, the owners of 368 houses and apartment buildings went through the process of getting a variance or a conditional use permit in order to add less than two dwelling units, on average, to each property. Of course, this count does not include those who may have been able to add a dwelling unit "by right" or those who added one or more units illegally.

There are other fundamental differences between residential and nonresidential conversions. The conversion of large non residential structures, such as abandoned schools, factories, or warehouses, is a highly visible source of upper-income housing in many parts of the city (e.g., the Charlestown Navy Yard, Dorchester Lower Mills, and numerous warehouses along the downtown waterfront and Fort Point Channel). These projects are typically so large that the developers could not avoid going through the proper legal channels to get their permits. Con-

sequently, City officials are more likely to make sure that these conversions comply with local zoning restrictions and that these buildings are reassessed to reflect the new occupancy.

The conversion of residential buildings, on the other hand, is less visible and less likely to be undertaken within the regulatory process. Residential buildings can often be converted more cheaply by the owner and do not require the heavy investment needed to convert industrial space or institutional buildings. The survey of converted properties in Boston shows that these lower costs are frequently, though not always, passed along to the tenant in the form of lower rents.

One of the most striking findings that emerges from the analysis of the Board of Appeal records is that the caseload of property owners seeking permission to add dwelling units has increased dramatically since 1974. Between 1974 and 1979, an annual average of seven nonresidential properties and 22 residential buildings qualified for variances or conditional use permits. This annual caseload has now more than doubled: approximately 14 nonresidential conversion projects and 48 residential projects were approved, on average, between 1980 and 1984. This rapid increase takes place concurrently with many of the demographic trends described earlier. Recent growth in the number of smaller Boston households and the renewed interest in several of the older neighborhoods close to downtown can be

tracked through the increasing caseload before the Board of Appeal.

The rate of growth of conversion activity can also be measured in terms of the units added. The number of dwellings created by nonresidential conversions reached an all-time high of 392 units in 1984. The nonresidential contribution exceeded 300 twice before--in 1976 and 1977, when several large warehouses were converted to condominiums along the downtown waterfront. The amount of legal residential conversion activity increased even more dramatically. From 1974 to 1980, the annual average number of units added was 36. Between 1981 and 1984, the annual average increase was 150 units; a peak of 229 units was reached in 1983. This fourfold increase in the number of units added to residential structures corresponds to a "mere" 65 percent increase in dwelling units added to nonresidential structures over the same period.

The rapid rise in the number of cases that come before the Planning Board has unquestionably strained the regulatory system to its limits. The weekly hearings before the Planning Board, formerly completed in three to four hours, have now been stretched into day-long sessions.

Lodging House Conversions

The third category--conversions of lodging houses--does not necessarily represent an increase in the city's capacity to house

low-income and elderly citizens. Although 263 permanent dwelling units have been created through the conversion of 46 lodging houses, even more rooms for transients may have been lost.

About one-third of these properties were listed as vacant at the time the appeal was filed, but there was no way to tell how long the property had been vacant. In some cases, the owner could have evicted the residents, who are usually tenants at will, in anticipation of getting permission from the Board of Appeal to convert the structure into apartments or condominiums. In other cases, the conversion work could have resulted in the rehabilitation of a long-vacant property. Unfortunately, there is no way to distinguish between these two different situations. Moreover, because many rooming houses are not legally licensed, the Board of Appeal records do not indicate when applicants were proposing to convert a structure that contained rooms for transients.

An examination of the Board of Appeal records for the 1974-1984 period revealed that six variances were approved for the creation of lodging houses and an equal number were denied. The net result was the loss of at least 40 lodging houses between 1974 and 1984. Many other lodging houses, not identified as such by the Planning Board records, might also have been converted to permanent quarters over the same period. The resultant loss of from 300 to 500 rooms for transients is not mitigated by the

creation of 263 permanent dwelling units. After the large investments used to convert these rooming houses, developers set rents well beyond the reach of the former lodgers.

Almost all the lodging houses identified through the analysis of the Board of Appeal records were located in the South End. Only one or two lodging houses were legally converted each year until 1981, when seven such properties were converted. Then in 1984, 14 lodging houses were converted. If this trend continues, the supply of rooms for single, elderly, and lower-income individuals who rely on this type of accommodation will be seriously impaired.

Neighborhood Analysis

Table 4.4 shows legal conversion activity between 1974 and 1984 by neighborhood. Approximately one-half of the conversion projects approved by the Board of Appeal were in Central Boston--including the Back Bay, Beacon Hill, Bay Village, the North End, the South End, and Chinatown--Boston's most sought-after neighborhoods for smaller households. More than twice as many dwelling units were approved for Central Boston than for Dorchester/Mattapan, the neighborhood with the next-highest total. However, Dorchester/Mattapan had the greatest number of units "legalized" (variances approved for an existing illegal occupancy) which is indicative of the amount of past conversion activity there.

TABLE 4.4

Legal Conversions in the City of Boston

By Neighborhood

1974-1984

	GAINED	LOST	LEGALIZED	DENIED
	(dwelling units)			
Allston-Brighton	170	143	15	55
Central Boston	1,614	200	114	253
Charlestown	137	18	49	5
Dorchester/Mattapan	793	21	158	18
East Boston	75	6	20	27
Hyde Park/Roslindale/W. Roxbury	67	5	16	34
Jamaica Plain	261	7	26	88
Roxbury	30	53	4	7
South Boston	138	6	49	53
TOTAL	3,285	459	451	540

Note: Totals less than in Tables 4 and 6 because the exact location of several converted buildings was not available.

Source: This table is based on analysis of variances and conditional use permits. Records of the City of Boston, Board of Appeal 1974-84. Neighborhood definitions are based on zip code.

These legalized units constitute an approximate, though imperfect, measure of the amount of illegal conversion activity going on in a neighborhood. A high number of these cases indicates that property owners added dwelling units illegally at some point in the past and that present owners want to legalize the property, often right before the property is sold. Legalization of an income-producing rental unit raises the price that a property can bring to a seller; it also raises the amount that financial institutions are willing to lend to prospective purchasers. Thus, the number of legalized units may be indicative of past, rather than present, conversion activity and may be more closely linked to high turnover rates than to current levels of illegal conversion activity.

The geographic pattern of legalized units differs greatly from that of proposed conversion projects for which variances were obtained. The latter are more prevalent in neighborhoods with low vacancy rates, rising rents, and rapidly increasing property values, such as the Central Boston neighborhoods, Jamaica Plain, and sections of Dorchester. Petitions to legalize existing units represent a larger share of all the cases heard by the Board of Appeal in tightly knit, lower-income neighborhoods, such as Charlestown, South Boston, and East Boston. Informal arrangements that existed illegally for years in these neighborhoods are now being "formalized," as properties held by the same family for several generations are sold to newcomers. Staid,

single-family neighborhoods with high levels of homeownership, such as Hyde Park, Roslindale, and West Roxbury, contained few cases of legal conversion activity, both past and present. Over the years, well-organized community groups from Hyde Park and Roslindale have fought conversions at the Board of Appeal hearings on the grounds that the introduction of rental apartments would erode property values and change the single-family character of these neighborhoods. While no hard evidence of these charges has ever been presented, there is little doubt that conversion activity would stand out prominently in these suburbanlike parts of the city.

Another neighborhood, at the other end of the socioeconomic spectrum, also experienced low levels of conversion activity over the 1974-1984 period. Roxbury, a lower-income minority neighborhood with a high concentration of renter households, contained the fewest cases of legal conversion in the city--both in terms of proposals for new conversion projects and legalization of existing units. This situation is not surprising given the declining rents and rising vacancy rates that accompanied the large loss of population in Roxbury during the seventies and that has continued into the eighties. Although the demand for legally converted units was low in Roxbury, requests for demolition and mergers into fewer units were higher than in other neighborhoods.

This analysis of legal conversion records clearly points to the importance of local housing market conditions as a key factor

contributing to the creation of converted units. Based on patterns of legal conversion activity alone, it is clear that neighborhoods where rental housing is in short supply and demand is rising are most attractive to converters. Yet, this simplistic conclusion does not extend to neighborhoods dominated by single-family structures; instead, conversion activity in Boston is still limited to market areas where rental housing is already well established. After Central Boston and Dorchester, two neighborhoods from those selected for the homeowner survey had the highest number of legalized units over the last ten years: 261 units in Jamaica Plain and 170 units in Allston-Brighton. A third neighborhood selected for the survey, the South End, could not be separated from the statistics for the rest of Central Boston. South Boston (138) and Charlestown (137) had the next-highest totals of units added legally. Central Boston also contained the greatest number of proposed conversion projects (representing 253 units) turned down by the Board of Appeal; Jamaica Plain was a distant second with 88 units denied.

Table 4.5 contains a more detailed breakdown of the type of buildings that underwent conversion. Converted factories and warehouses contributed 1,200 units between 1974 and 1984, more than one-third of all the units added by legal conversion activity over this period. Another third of the total units added came from a combination of commercial structures (471 units)-- including office and retail buildings, school buildings

TABLE 4.5

Legal Conversions in Boston
By Property Type: 1974-1984

PRIOR USE	UNITS ADDED	NUMBER OF BUILDINGS	AVERAGE NUMBER OF UNITS ADDED PER BUILDING
Non-Residential Conversions	2,248	112	20.1
Commercial	471	47	10.0
Manufacturing	1,205	26	46.3
Schools	393	15	26.2
Other Institutional	169	18	9.4
Other Non-residential	10	6	1.7
Residential Conversions	1,093	403	2.7
Single-Family	212	114	1.9
Two-Family	144	88	1.6
Three-Family	128	71	1.8
Four- to Five-Family	78	50	1.6
Six or More Units	268	44	6.1
Lodging Houses	263	36	7.3
TOTAL UNITS ADDED	3,341	515	6.5

Source: This table is based on analysis of variances and conditional use permits. Records of the City of Boston, Board of Appeal 1974-84.

(393), and an assortment of other institutional buildings such as nursing homes or churches (169 units).

Residential buildings contributed the remaining third of the units added by legal conversions. These additions to residential buildings, which Table 4.3 showed to be the most rapidly growing component of legal conversion activity, were spread among a wide variety of structure types. Structures with six or more units prior to conversion were the source of the largest number of units legally added to residential structures (291), followed by lodging houses (263) and single-family dwellings (215). In addition, 144 units were added to two-family structures, 128 units to three-family buildings, and 78 units to four- and five-family dwellings. In terms of the type of structures most frequently converted, single-family and two-family dwellings topped the list with 115 and 89 structures, respectively. Incredibly, almost two units, on average, were added to each of the converted single-family structures, while an average of 1.6 units were added to each two-family building. Large multifamily apartment buildings were reconfigured to make room for an additional 6.6 units, on average. These statistics suggest that the Board of Appeal records overstate the importance of larger conversion projects involving more than one unit, while smaller conversion projects are accomplished illegally or slip through the system unnoticed by building inspectors.

The Board of Appeal records indicate a wide range of supply

responses to the intense pressures in the Boston housing market during the late seventies and early eighties. Despite the limitations of this data source, the trends are unmistakable--the demand for smaller rental units in selected neighborhoods was met, in part, through conversion activity. Furthermore, residential conversions represent a significant share of total conversion production and their numbers are growing faster than those of nonresidential conversions. The next two chapters take a closer look at these residential conversions--who creates them and who is served by them.

Notes to Chapter 4

1. Interviews with John Woodward, Planning Director, Brookline, MA March 5, 1985 and Patrick Hare, Planner, Montgomery County, MD March 20, 1985.

2. Woodward interview: March 5, 1985.

3. Patrick Hare, "Rethinking Single-family Zoning: Growing Old in American Neighborhoods," New England Journal of Human Services, Summer 1981, pp.32-35.

4. Martin Gellen, "Underutilization in American Housing: Residential Space Standards and Social Change," Working Paper No. 399 (Berkeley, CA: Institute of Urban and Regional Development, 1983).

5. Woodward interview: March 5, 1985. Patrick Hare describes a similar scenario in "Carving up the American Dream," Planning July 1981, pp. 14-17.

6. In Boston: Metropolitan Area Planning Council, Ibid., and in the greater New York area: Tri-State Regional Planning Commission, Legalizing Single Family Conversions (New York, NY: Tri-State Regional Planning Commission, 1981).

7. Wentz, Ibid. and Tri-State Regional Planning Commission, Ibid.

8. Interview with Rolf Goetze, Belmont resident and planning consultant, May 3, 1985. A similar situation exists in Winchester, MA where the selectmen appointed a "Small Apartment Study Committee," in response to concerns expressed by local officials and some residents that affordable rental housing was making it difficult for young and old people to stay in Winchester. Their carefully researched report rejects the legalization of accessory apartments: "The Committee has determined that there is not a 'need' for in Winchester for small apartments in single family houses. Further, in view of the significant adverse effects that this would be expected to have on the character of Winchester, the Committee believes that such apartments would be an inappropriate method of meeting the housing demand." p.23 of "Report and Conclusions of the Small Apartment Study Committee," 1984. While acknowledging the demand for rental housing in Winchester, the Committee concurrently rejects the 'need' for this housing.

9. Hare, 1981 Ibid.

10. Edward Connolly, "Single-Family Housing Conversions: A Strategy for Increasing the Housing Supply," Journal of Housing, April 1982, pp. 40-42 and Jean Sickle and Julie Kascal, "Housing Options: Three Variations," Journal of Housing, June 1984, pp. 75-77.

11. Samuel Hodges and Ellis Goldman Allowing Accessory Apartments: Key Issues for Local Officials, (Washington, D.C.: U.S. Department of Housing and Urban Development, 1983).

12. Interview with Dan Borchelt, Director of Housing Research, Metropolitan Area Planning Council, May 6, 1985.

13. Boston Zoning Case No. 8014, July 17, 1985.

14. Hearing before the Boston Planning Board of Appeals, July 17, 1985.

15. Analysis of records of the Planning Board of Appeals in Jacques Gordon, "Hidden Housing Production: Conversion Activity in the City of Boston," unpublished report to the Boston Redevelopment Authority, Feb. 17, 1986.

16. Interviews with John Bell, zoning section, Boston Redevelopment Authority July 8, 1985 and John Woodward, March 5, 1985.

17. The role of triple-deckers in Boston's housing supply has been ably described in Sam Bass Warner, Streetcar Suburbs: The Process of Growth in Boston 1870-1900, (Cambridge, MA: Harvard University Press, 1962) and Lloyd Rodwin, Housing and Economic Progress: A Study of Boston's Middle-Income Families, (Cambridge, MA: Harvard University Press and The Technology Press, 1961).

18. The survey found that only 16 percent of the converters (10 of 61) had rented their converted unit to a relative. The term "social rents" refers to non-cash forms of rent paid to the landlord in the form of goods, services or other obligations. This notion is developed further by Roger Krohn and E.B. Flemming in "The Other Economy and the Urban Housing Problem," (Cambridge, MA: Joint Center for Urban Studies of MIT and Harvard University, 1972).

19. Robert Whittelsey The South End Row-House and Its Rehabilitation for Low-Income Residents, (Boston, MA: South End Community Development Inc., 1969) p. 5.

20. A review of evidence that supports and disputes this notion appears in Peter Drier, John Gilderbloom, and Richard Applebaum, "Rising Rents and Rent Control," in Urban and Regional Planning in an Age of Austerity, (New York, NY: Pergamon Press, 1980).

21. Joseph Slavet, "Current Issues in Regulation of Rents and Condominium Conversions," unpublished report, October, 1982 Boston Urban Observatory.

22. In appointing a new Commissioner of the Boston Inspectional Services Department, Boston Mayor Raymond Flynn remarked, "The Inspectional Services Department has lost the confidence of the public. A renewed ISD must be build around three principles-integrity, reponsiveness and professionalism." as quoted in "Flynn appoints N.J. man to head Boston Inspectional Services Dept.," The Boston Globe June 6, 1985. Flynn felt compelled to dismiss the previous commissioner after several of his staff were indicted for accepting bribes from building owners in exchange for ignoring building code violations.

Chapter V

THE BOSTON HOMEOWNER SURVEY

Survey Objectives

The analysis in this chapter is based on a survey of approximately 600 Boston homeowners. Residents of owner-occupied dwellings were interviewed to determine the role of conversion activity in smaller, residential buildings--the fastest-growing source of converted units in the city. The three neighborhoods selected for the survey all reported high levels of conversion activity in recent years. This research strategy was adopted in order to insure that the number of converters interviewed would be sufficient for meaningful statistical analysis. As further insurance, a fourth, "legal oversample" group was targeted as a means of increasing the number of converters interviewed. The methodology used in selecting and interviewing the respondents is described in Appendix A. [1]

The survey's purpose was threefold:

1. Go beyond the Board of Appeal records by attempting to get information about illegal conversion activity. This was accomplished by finding out how many units had been added without building permits or variances. The addition of such units leaves no "paper trail" to analyze, so a survey was necessary to learn the methods and motivations of both legal and illegal converters.

2. Shed light on the role of conversion activity as a source of affordable rental housing. This was accomplished through a series of questions focused on residents of converted units, the rents they pay, and the costs to property owners of converting.

3. Discover the attitudes of nonconverting Boston homeowners to conversion activity in their neighborhoods. A series of questions was asked to determine whether respondents were aware of conversions on their streets, and, if they were aware, the effect they thought these extra units had on their neighborhood; and whether they ever considered adding a rental unit to their own homes.

The survey results were used to affirm or reject hypotheses that could not be tested through existing sources of data. The analyses in the following two chapters relies on findings from the survey to develop a simple model of:

- the type of homeowner most likely to convert
- the type of structure most likely to be converted
- two distinct types of converters--those whose motives are primarily to provide housing for a friend or relative (altruistic converters) and those whose objectives are strictly financial (savvy converters).

The sensitive nature of the topic and the timing of the interviews undoubtedly contributed to the relatively low response rate of approximately 40 percent (see Appendix A). Although nonresponse bias probably affected the overall incidence of converter versus nonconverter interviews (converters would have been less likely to cooperate, especially if they had added a unit illegally), a substantial number of both legal and illegal converters did participate. The resultant sample sizes were large enough to allow a variety of statistically significant comparisons and to develop a simple typology of converters and their methods. Unfortunately, the number of illegal converters iden-

tified and interviewed (22) was not large enough to allow extensive analysis of this important subgroup. Nevertheless, the survey results contain more information on illegal conversion activity in Boston than any other source of systematically collected data. These data have been analyzed to the fullest extent possible, but high standard errors and large confidence intervals (at the 95 percent level of confidence) allow only basic breakdowns of the characteristics of illegal converters.

The survey results are intended to shed light on the current increase in residential conversion activity. However, it should be reiterated that conversion activity is not a new phenomenon, especially in Boston where changes in demand have frequently necessitated adaptations of the stock. Moreover, conversions have always occurred side by side with mergers--the reduction of the number of dwelling units in a building. The survey addressed this point; both reductions and increases in the number of dwelling units were recorded. Many older residential properties in Boston have been reconfigured several times through the years. The conversion of single-family houses into multifamily dwellings, followed years later by subsequent mergers to fewer units, has not been an uncommon occurrence.

An examination of the building permit records for several converted properties in the South End, the oldest of three neighborhoods selected for the survey, revealed the constantly

changing occupancy patterns typical of these bow-front houses. Likewise, the triple deckers that comprise the dominant structure type in sections of Jamaica Plain and Allston-Brighton were often adapted and re-adapted to meet the needs of growing households over the course of the family life cycle.

This survey was designed to identify the motivations and methods of contemporary, small-scale Boston converters. When the survey results are combined with the findings from the previous chapter, which described the nature of the demand for small, rental units in Boston (such as those provided by conversion activity), a more complete picture of the market for converted units emerges. The survey provides a wealth of information on the supply side of this market, but limited data on the demand side; therefore, outside sources must be used to supplement the survey results. Together, these data can be used to "test" the following hypotheses:

1. Hypothesis: The supply of converted units is not constrained by the regulatory process. Local zoning laws and variance procedures do not seem to affect the ability or the willingness of property owners to add dwelling units to their buildings.

2. Hypothesis: The introduction of additional rental units in a residential area always has negative effects on the surrounding neighborhood.

3. Hypothesis: The socio-economic characteristics of converting homeowners differ significantly from those of non-converting homeowners. The strength of the market for for small, rental units and the physical attributes of a structure are not the only factors that contribute to a high likelihood of conversion activity--homeowner characteristics also matter.

4. Hypothesis: The tenants of converted units are transients: either students or unstable, lower-income households.

5. Hypothesis: Two types of converters are discernable from the survey data. One group is characterized by altruistic intentions and the other employs a more financially "savvy" approach. These two groups are distinguishable by their socio-economic traits as well as by their stated motivations.

6. Hypothesis: Converted units represent a fiscal drain on a community because they are often not fully assessed, even though the inhabitants consume public services.

Overall Survey Findings

Approximately 8 percent (41 of 505) of the randomly sampled homeowners had added, or were in the process of adding, one or more dwelling units to their property. This estimate does not cover all units added by conversion activity in the three surveyed neighborhoods. For instance, converters who added units and then moved away were not interviewed, neither were absentee landlords who may have added dwellings to their rental properties. Furthermore, the owners of many converted buildings may not even be aware that their property formerly contained a different number of dwelling units. Thus, the converters that were interviewed represent a distinct subset of all those who have produced rental units through means other than new construction in Boston. The respondents are homeowners in three neighborhoods who added separate living quarters to their property and were still living on the premises themselves. Although this group was

responsible for only a fraction of the accumulated inventory of units added through conversion, their contribution is important to learn about for the following reasons:

- Residential conversions constitute a growing share of all conversion activity. Hence, on the margin, the conversion of owner-occupied dwellings has become an important source of dwelling unit production in Boston.

- According to Boston zoning officials, the converters of owner-occupied structures are less likely to go through the regulatory process than other types of conversion activity. Consequently, a survey was the best way to get information on these illegally added units.

- The potential for future conversion activity in Boston may be much higher for owner-occupied dwellings than for the dwindling supply of vacant, nonresidential buildings, or for larger absentee landlord facilities, which have very little excess capacity left.

- Additions to owner-occupied buildings make a significant contribution to the supply of lower-priced rental housing in Boston. The conversion of residential structures usually requires less investment than the conversion of non-residential structures. As a result, the rents required by the owners of residential conversions can be somewhat lower than those of nonresidential buildings.

Information collected from nonconverting homeowners is also important because it enables comparisons to be made with the converter group. The sample of nonconverting homeowners were also questioned about the effects, if any, of conversion activity in their neighborhoods.

The first objective, to go beyond the Board of Appeal records, was achieved with modest success, even though a relatively low response rate suggests that many illegal converters

may have chosen not to cooperate with the interviewers. Nevertheless, the survey results do afford a glimpse of the motivations and characteristics of those who did participate in the survey. The three neighborhoods selected for the survey were not chosen randomly; they were picked on the basis of reportedly high levels of conversion activity. Within these three neighborhoods, a random sample of homeowners was selected. Given the advance reports of conversion activity, it is not surprising that 8.1 percent of the random sample had added or were in the process of adding an independent dwelling unit to their property. What was unexpected was the wide divergence of the percentage of converted properties in each neighborhood: 27 percent of the homeowners in the South End had added one or more units, while 3.7 percent in Jamaica Plain and only 1.5 percent in Allston-Brighton reported that they had done so (a small number of South End respondents were in the process of adding a unit at the time of the interview, bringing the total incidence there to 37 percent). lightly higher . This result offers insights into the type of neighborhood most likely to have a high rate of conversion activity. Table 5.1 summarizes the incidence of conversion activity detected by the survey.

Awareness of conversion activity by nonconverting homeowners confirmed the finding that the South End had undergone the most conversion activity--52 percent of the nonconverting respondents

in this neighborhood reported that conversion activity had taken place on their street in the last five years. However, responses to the "awareness" question also suggest that conversion activity may be much more prevalent than reported in either of the other two neighborhoods: 21.4 percent of the nonconverting homeowners in Jamaica Plain and 20.8 percent of the nonconverters in Allston-Brighton were aware of apartments added to buildings on their street. Thus, neighbors' awareness was twice the level of reported conversions in the South End, almost 6 times the reported level of conversion in Jamaica Plain, and over 14 times the rate of conversion detected in Allston-Brighton. The larger discrepancy between the neighbors' perception and the observed rate of conversion in Allston-Brighton and Jamaica Plain suggests that there may have been more conversion activity going on in these two neighborhoods than detected by the survey. One possible explanation for under-reporting by converters was that they were uncomfortable about talking to interviewers in neighborhoods where local sentiment was against the introduction of additional rental units.

Illegal Conversions

Despite the under-reporting problem, some legal and illegal converters did cooperate with the interviewers. The picture that emerges from these interviews is that nearly half of the conversions carried out by homeowners may have been undertaken

Table 5.1

CONVERSIONS BY NEIGHBORHOOD

	Converters		Non-converters		Total
	#	%	#	%	
Jamaica Plain	8	3.7%	210	96.3%	218
South End	25	26.9%	68	73.1%	93
Allston/Brighton	3	1.5%	200	98.5%	203
Total random sample	36	7.0%	478	93.0%	514
Oversample	25	24.5%	77	75.5%	102

NONCONVERTERS AWARENESS OF CONVERSIONS ON THEIR STREET

	Aware		Unaware		Total
	#	%	#	%	
Jamaica Plain	43	21.4%	158	78.6%	201
South End	33	51.6%	31	48.4%	64
Allston/Brighton	40	20.8%	152	79.2%	192
Total	116	25.4%	341	74.6%	457

Source: Survey of Boston homeowners, August 1985.

illegally. However, nearly all the property owners that added rental units without a hearing before the Board of Appeal were under the impression that such an appearance was not required.

The survey results indicated that there were two types of illegally added units. The first type belonged to homeowners who added independent dwellings to their properties without obtaining a building permit. The second, more common situation, involved homeowners who reported that they had taken out building permits, but had not obtained a variance or a conditional use permit from the Board of Appeal. While only 7 percent of the randomly sampled converters reported that they had not taken out a building permit, 46 percent said they never received the approval of the Board of Appeal before adding one or more units. When asked why they had not done so, an overwhelming majority of the converters responded that they did not believe a variance or conditional use permit was required (91 percent).

To give these converters the benefit of the doubt, many may have acted illegally out of ignorance--but none of them could have done so without the tacit approval of a building inspector. Because building permits were taken out by 82 percent of the no-variance converters, building inspectors had the opportunity to examine the homeowners' conversion plans in detail. In order to avoid a hearing before the Board of Appeal, either the permit applicant withheld information about the planned change of occupancy or the inspectors looked the other way. In either case,

the legal addition of a dwelling unit to a house in a residential zone in the city of Boston is virtually impossible without a hearing before the Board of Appeal. [2]

The survey results also shed light on why other converters do bother to get variances, despite the apparently lax system of detection and enforcement. Although nearly all the legal converters interviewed stated that the primary reason they obtained a variance was that it was required by law, other reasons mentioned included: "I wanted to protect my rights as a landlord" or "I needed the variance to qualify for a loan." On the other hand, some legal converters gave evidence of what the illegal converters may have been trying to avoid: the average length of time before a variance could be obtained from the Board of Appeal was 3.4 months, and some converters waited as long as 12 months for approval. One-quarter of the converters reported that they had difficulty getting a variance from the Board of Appeal.

Another breakdown in the process involves the requirement that property owners meet with their neighbors before attempting to get a variance from the Board of Appeal. Only half of the converters interviewed said that they had discussed their plans with abutters (27 of 54). Perhaps converters' fears of upsetting their neighbors were unfounded; only 7 percent (2 of 27) of those that discussed their plans reported that any objections were raised. Whatever their reasons, some converters are reticent to

confront their neighbors and this "silence strategy" often backfires in the Board of Appeal hearing room. Whether or not a converter chooses to tell the neighbors about his plans, abutters are notified about the hearing through advertisements in community papers and, more recently, direct contact by a community liaison officer from the mayor's office. The Board of Appeal members invariably ask whether the owner has contacted the community. If any kind of opposition is voiced at the hearing, the chances of denial are increased considerably. Often the Board will deny the appeal "without prejudice" or "subject to BRA review," allowing the appellant to meet with the community and then reapply before the usual one-year waiting period has expired.

In conclusion, the survey results appear to confirm the first hypothesis--that the supply of conversions is not constrained by the regulatory process, at least not in these three Boston neighborhoods. Legal converters were able to manoeuver their way through the complicated regulatory process described in Chapter 4. Illegal converters were apparently not inhibited by this process either. In fact, they circumvented it entirely or in part. The survey contains scant evidence that more homeowners would add rental units if the regulatory restrictions were lessened or the process were streamlined. Of the 45 nonconverters who had considered adding a dwelling unit, only five (11 percent) mentioned regulatory restrictions as one

Table 5.2

CONVERTERS AND THE REGULATORY PROCESS

	Yes		No	
	#	%	#	%
Obtained building permit	49	90.7%	5	9.3%
Obtained zoning variance	26	54.2%	22	45.8%
Did you have difficulty obtaining a variance?	5	25.0%	15	75.0%
Did you talk to you neighbors about your plans to convert?	27	50.0%	27	50.0%
Did any neighbors object?	2	7.4%	25	92.6%

Source: Survey of Boston homeowners, August 1985.

of the reasons they had not gone ahead with their plans. Table 5.2 contains the relevant evidence from the survey used to examine the role of the regulatory process. It should be noted that these results are specific to Boston and to the neighborhoods selected for the study. Furthermore, the ratio of illegal to legal converters is undoubtedly skewed in favor of the legal group due to under-reporting by illegal converters.

Neighborhood Effects

Illegal conversions, it has been argued, may be a type of victimless crime. An unwritten agreement between neighbors and illegal landlords supposedly holds the latter in check, preventing any egregious violation of community standards. If circumstances get out of hand, the theory goes, the neighbors hold the ultimate weapon--complaining to the authorities. However, in a system where the authorities are not enforcing the existing zoning and are even allowing illegal changes of occupancy to pass through the building permit process, reports of malfeasance from abutters may carry little weight.

Results from the survey illustrate the fallacy of the "neighborhood policing" and "victimless crime" theories. Among all nonconverters interviewed in the random sample, 25 percent were aware of conversion activity in their neighborhoods. If aware of conversions on their street, respondents were asked

what overall effect they thought these additional units had on the neighborhood; 36 percent reported a negative effect, 28 percent reported a positive effect, 27 percent found no effect at all, and the remainder consisted of those who believed the effect was "mixed" or who didn't know (see Table 5.3). Thus, more than one-third of the respondents felt "victimized" by conversion activity and cited specific examples. If the neighborhood policing concept was at work, these residents were apparently not getting support from the City to enforce existing zoning laws.

On the other hand, the "crimes" perpetrated on neighboring homeowners were hardly felonious. The most common complaint was that conversion activity had led to traffic and parking congestion in all three of the selected neighborhoods--74 percent of those who thought conversion activity had a negative effect listed this as a reason for their conclusion. Another 45 percent expressed dissatisfaction with the occupants of converted units, often labeling them "transients," "students," or simply "people who don't care about the neighborhood." Other complaints were more generally directed at the "excessive density" that occurred as a result of conversion activity or the increased noise levels that went along with this density.

These complaints constitute clear evidence of the external costs imposed by converters on their neighbors. Not all of the externalities are negative, however. Of the 28 percent who thought that conversion activity had a positive effect, nearly

Table 5.3

HOMEOWNERS' RESPONSE TO
CONVERSION ACTIVITY ON THEIR STREET

What effect has conversion activity had on your neighborhood?
(asked of all nonconverters who were aware of conversion activity on their street, see Table 5.1)

	Jamaica Plain		South End		Allston/Brighton		Total	
positive effect	12	28.6%	16	50.0%	4	9.5%	32	27.6%
negative effect	9	21.4%	8	25.0%	25	59.5%	42	36.2%
no effect	17	40.5%	4	12.5%	10	23.8%	31	26.7%
mixed effect	2	4.8%	3	9.4%	2	4.8%	7	6.0%
don't know	2	4.8%	1	3.1%	1	2.4%	4	3.4%
Total	42	100.0%	32	100.0%	42	100.0%	116	100.0%
Positive effects mentioned								
upgraded housing	3	14.3%	10	32.3%	1	16.7%	14	24.1%
provided affordable housing	8	38.1%	6	19.4%	1	16.7%	15	25.9%
raised property values	1	4.8%	6	19.4%	0	0.0%	7	12.1%
brought good neighbors	1	4.8%	6	19.4%	3	50.0%	10	17.2%
increased population	1	4.8%	1	3.2%	1	16.7%	3	5.2%
made better use of housing	1	4.8%	1	3.2%	0	0.0%	2	3.4%
other	6	28.6%	1	3.2%	0	0.0%	7	12.1%
Total	21	100.0%	31	100.0%	6	100.0%	58	100.0%
Negative effects mentioned								
parking/traffic problems	9	40.9%	2	10.5%	20	40.8%	31	34.4%
excessive density	3	13.6%	2	10.5%	9	18.4%	14	15.6%
influx of undesirables	4	18.2%	4	21.1%	9	18.4%	17	18.9%
raised rents	1	4.5%	3	15.8%	2	4.1%	6	6.7%
change character of nbrhd.	0	0.0%	0	0.0%	4	8.2%	4	4.4%
more crime	1	4.5%	0	0.0%	1	2.0%	2	2.2%
more noise	2	9.1%	1	5.3%	4	8.2%	7	7.8%
other (including displacement)	2	9.1%	7	36.8%	0	0.0%	9	10.0%
Total	22	100.0%	19	100.0%	49	100.0%	90	100.0%

Source: Survey of Boston homeowners, August 1985.

one-half reported that conversion activity had upgraded the neighborhood; and the same proportion believed that the provision of affordable rental housing constituted another positive effect. Another beneficial consequence mentioned by nonconverters was "the good neighbors brought in through conversion activity"--the exact opposite conclusion of those objecting to transients. Another 22 percent cited "rising property values" as a positive effect, confirming the ambiguous nature of homeowners' perceptions of conversion activity.

The acceptance of conversion activity varied greatly in the three neighborhoods studied. South End homeowners were twice as likely to be aware of conversion activity on their street, and they were also twice as likely to view the effects of conversion activity in a positive light--48 percent reported a positive effect in the South End. Only 19 percent of those aware of conversion activity in Jamaica Plain or Allston-Brighton said that they thought it had a positive effect on their neighborhood.

At the other extreme, Allston-Brighton residents were more likely to assert that conversion activity had a negative effect on their neighborhood than either South End or Jamaica Plain homeowners--63 percent of those aware of conversion activity in Allston-Brighton thought the added apartments had a negative effect on the neighborhood, while only 24 percent of the respondents in the South End and 21 percent of the Jamaica Plain homeowners expressed this negative view of conversion activity in

their neighborhoods.

Ultimately, the evidence on neighborhood effects gleaned from the survey is severely limited in two important repects. First, the only source of information used to measure the effects of conversion activity on the surrounding neighborhood was the purely subjective reactions of the respondents. No objective measures of traffic, density or other indicators of neighborhood change were used to confirm their reports. Second, the respondents' attitudes reflect only those of owner-occupants, not of renters. Different results might have been obtained if renters had also been questioned about the effects of conversion activity. Even though this skewed sample might be expected to be more likely to express negative opinions about the effects of conversion activity, it is worth emphasizing that a significant proportion responded favorably--28 percent of those who were aware of conversion activity on their street. Thus, the second hypothesis--the introduction of rental units always has a negative effect on the surrounding neighborhood--can be rejected based on the the perceptions of the Boston sample. While not a definitive measure of the externalities associated with conversion activity, the respondents' perceptions do reveal several important pieces of information:

- A significant proportion of Boston homeowners are aware of conversion activity in their neighborhood. The high proportion that reported conversion activity on their street suggests that the survey results

understate the total amount of conversion activity in residential areas in Boston.

- Boston homeowners attribute both positive and negative effects to the introduction of converted units.

- Whether or not these effects are strictly attributable to conversion activity, a significant proportion of respondents expressed a perception that their neighborhoods are undergoing change--in some cases to the good and in others, for the worse. The fact that they associated these changes with conversion activity offers a good indication of of their likely response to policies aimied at promoting or restricting conversion activity.

Attitudes toward Conversion Activity in Individual Neighborhoods

The contrasting reactions reported by the respondents can be ascribed to the different roles that converted units play in each of the three neighborhoods surveyed. The historical patterns of residential development that preceded this study helped shape these different roles. For instance, the South End's long tradition of conversion activity and rental occupancy meant that most residents readily accepted the introduction of more rental units. New immigrants to the neighborhood bought and renovated the old row houses, sometimes adding rental units or taking them out in the process. Unlike the 1920s and 1930s, when many South End properties were reconfigured by absentee landlords in order to meet the demand for extremely cheap rental accommodations, the conversions of the late seventies and early eighties were undertaken by owner-occupiers and were aimed at higher-income

tenants. The reinvestment and resettlement that accompanied South End conversions led to higher property values and rents as a result of the large sums spent by the so-called gentrifiers. The survey confirmed that South End converters spent more than any of the other converters interviewed--the median amount spent on a South End conversion project was more than $45,000 compared to $25,000 per converted property in other Boston neighborhoods.

Given the historical context and the type of conversions being carried out, it is not surprising that most South End respondents expressed a positive reaction to conversion activity on their streets. The reinvestment activity that accompanied the conversion work there may have been the underlying factor behind the favorable impressions of the South End respondents. However, a substantial minority of respondents pointed out that displacement of long-term tenants had become a problem. The concern for displaced households in the South End was expressed more frequently than parking and traffic congestion --the most common complaint in the other two neighborhoods. Because tight parking and crowded streets have always existed in the South End, the marginal increase in residential density brought about by conversion activity appears to be of relatively little importance to residents.

By contrast, the vast majority of nonconverting homeowners in Jamaica Plain believed that conversions led to increased

congestion and noise. With the highest rates of owner-occupancy of the three neighborhoods studied, Jamaica Plain has also experienced extensive resettlement and rapidly rising property values over the last 10 years. [3] Sections of Jamaica Plain are dominated by suburbanlike single-family houses, while duplexes and triple-deckers are typical of the rest of this diverse neighborhood. Unlike the South End, the introduction of rental units is highly visible on most streets in Jamaica Plain.

A high, positive correlation between the length of time that respondents had owned a home in Jamaica Plain and their propensity to express a negative reaction to conversion activity suggests the intergenerational tensions behind the changes taking place in this neighborhood. Respondents with negative reactions tended to be older and to have lived longer in the neighborhood. Converters there tended to be younger households; 63 percent stated that the converted property was the first house they had bought. Many longtime residents of Jamaica Plain believed that the introduction of converted units made their once-quiet neighborhood noisy and clogged with traffic. Their comments reveal that they are most concerned about changes in the quality of life they perceive taking place in their neighborhood. The negative reactions recorded most frequently in the South End (displacement) and in Allston-Brighton (an influx of unwelcome neighbors, leading to property value erosion) were rarely raised in Jamaica Plain.

The majority of those aware of conversion activity in Allston-Brighton also reacted negatively. However, the comments of the Allston-Brighton homeowners were more frequently directed toward their new neighbors' effect on the neighborhood. When asked why they thought that conversion activity had a negative effect on Allston-Brighton, respondents stated that the rental apartments attracted "students or transients who don't care about our neighborhood." Allston-Brigton residents were also more likely to link new residents to declining property values--a charge that was never made in the South End and that was recorded only twice in Jamaica Plain.

Allston-Brighton residents' antipathy for unwanted neighbors probably reflects that community's traditional role as a source of cheap housing for students attending universities in Boston, Chestnut Hill, and Cambridge. Negative comments may also belie resentment against the area's newest immigrants--Thai and Cambodian refugees. The housing of Boston's growing population of Southeast Asians has been a source of great controversy in Allston-Brighton. [4] Therefore, it is not surprising that the respondents in this neighborhood would react negatively to conversion activity such as they have witnessed--immigrant families crammed into deteriorating apartment buildings.

Converters Versus Nonconverters

Structure types, neighborhood attributes, and household characteristics can be compared for converters and for nonconverters. Cross-tabulations revealed several structural and demographic attributes that distinguish recently converted buildings and their owners from the rest of the owner-occupied stock.

Structure Types: No converted structures were less than three stories in height--even though 27 percent of the randomly sampled structures were described as being only one or two stories. Approximately half of the converted buildings were four stories or more, compared to 13 percent of the unconverted homes. Converted structures were also more than three times as likely to be described as row houses or semi-attached buildings than the rest of the sample--67 percent of the converted buildings fit this description, while only 18 percent of the unconverted dwellings were described in this way by the owners. Comparison of the age distributions of converted and unconverted structures revealed that converted buildings were much older--70 percent were built prior to 1900, compared to only 32 percent of the unconverted buildings. As might be expected, the difference in the proportion of newer buildings was just as large: 44 percent of the unconverted stock was built after 1930, compared to only 9 percent of the converted structures.

Another structural variable that differentiates converted

from unconverted buildings is the number of independent dwelling units in the surveyed buildings. This distinction is not entirely tautological, because of the high proportion of owner-occupied dwellings in Boston that were originally built for multifamily use. As discussed earlier, the survey results indicated that rental apartments were more likely to be added to structures that already contained more than one unit. By definition, no converted structures had less than two units on the premises. Approximately one-quarter of the converted structures contained exactly two units, one-quarter contained three or four units, and the remaining one-half contained five or more units.

A majority of the unconverted structures were also multiple family dwellings. In this respect, the unconverted structures selected for the survey did not differ from the converted buildings as much as might be expected if other city neighborhoods or suburban areas had been selected for the survey. The difference between the two groups lay in the proportion of structures with three or more units--27 percent of the unconverted structures had three or more units, versus 67 percent of the converted structures. Of the remaining unconverted structures, 32 percent contained two units and 41 percent were single-family dwellings. Based on the preconversion characteristics of the converted structures, these one-family dwellings

Table 5.4

STRUCTURAL ATTRIBUTES OF
OWNER-OCCUPIED DWELLINGS

	Converted		Unconverted	
Number of units in structure	#	%	#	%
1	0	0.0%	194	41.4%
2	23	37.7%	148	31.6%
3	21	34.4%	95	20.3%
4	10	16.4%	26	5.5%
5 or more	7	11.5%	6	1.3%
Total	61	100.0%	469	100.0%
Number of stories				
1	0	0.0%	19	4.1%
2	0	0.0%	105	22.4%
3	26	42.6%	275	58.6%
4	18	29.5%	51	10.9%
5 or more	10	16.4%	11	2.3%
Total	54	88.5%	461	98.3%
Type of structure				
detached	17	31.5%	341	73.7%
duplex/semi-attached	7	13.0%	22	4.8%
row house/multifamily	30	55.6%	100	21.6%
Total	54	100.0%	463	100.0%
Year structure built				
before 1900	37	75.5%	136	31.8%
1900-1919	9	18.4%	103	24.1%
1920-1939	1	2.0%	124	29.0%
after 1940	2	4.1%	65	15.2%
Total	49	100.0%	428	100.0%

Source: Survey of Boston homeowners, August 1985.

were the less likely candidates for future conversion activity than multi-family dwellings. Table 5.4 compares the structural characteristics of converted and unconverted owner-occupied structures covered by the survey.

Neighborhood Attributes: Thus, the typical converted building that emerged from the survey was a three- or four-story row house, built before 1900 and containing one or two rental units. This description most closely fitted the housing stock in the South End, where the highest levels of conversion activity were observed. This is not surprising given the higher proportion of South End converions in the converter sample. However, this profile holds true even for the other neighborhoods covered by the survey. Converted dwellings in Jamaica Plain, Allston-Brighton, and the legal oversample shared many of the characteristics of the older, larger structures that characterize the South End.

Respondents' descriptions of the predominant type of buildings in their neighborhoods also differed depending on whether they were converters or nonconverters. Converters were more likely to report that most of the other buildings in their neighborhood were two- to four-family dwellings (81 percent) than nonconverters (61 percent). Only 10 percent of the converters described their neighborhoods as being predominantly single-family homes, compared with 32 percent of the nonconverters.

This finding suggests that conversion activity may be more likely to take place in neighborhoods where multifamily housing is already well established. Large sections of both Jamaica Plain and Allston-Brighton are dominated by single-family homes, yet very few conversions were detected in these areas. Conversion activity was highest in neighborhoods, such as the South End, where rental units had already been introduced and were less likely to be obtrusively disruptive to the surrounding neighborhood.

Demographic Characteristics of Converters:

Structural and neighborhood attributes are not the only factors associated with conversion activity. An examination of respondents' characteristics revealed significant differences between converters and nonconverters (see Table 5.5). Converters were less likely to be very young or very old and more likely to be middle-aged than nonconverting homeowners--61 percent were in their 30s or 40s compared to 48 percent of the nonconverting group. Converters' incomes were also higher than nonconverting homeowners--44 percent earned more than $40,000, compared to 27 percent of nonconverters. High interaction between these two variables is expected; and middle-aged households are often near the peak of their lifetime earnings potential. However, other characteristics do not match the norms for this age group in

Table 5.5
Characteristics of
Converters and Non-Converters

	Converters	Non-Converters
Years at Current Residence:		
0-5	28.3%	19.5%
6-10	22.6	21.8
11-15	17.0	12.1
16-25	11.3	21.5
25+	20.8	25.1
	100.0%	100.0%
	(N=53)	(N=455)
Age of Homeowner:		
20s	9.4%	11.6%
30s	32.1	27.4
40s	30.2	19.3
50s	11.3	15.4
60+	17.0	26.3
	100.0%	100.0%
	(N=53)	(N=456)
Income:		
Less than $10,000	6.1%	13.6%
$10,000 - $19,999	22.4	18.9
$20,000 - $29,999	18.4	22.4
$30,000 - $39,999	10.2	17.9
$40,000 - $49,999	16.3	10.5
$50,000+	26.5	16.6
	100.0%	100.0%
	(N=49)	(N=449)
Ethnic Group:		
White	83.0%	84.2%
Black	11.3	5.1
Hispanic	5.7	4.7
Asian	0.0	6.0
Other	0.0	0.0
	100.0%	100.0%
	(N=53)	(N=449)
Marital Status		
Single	45.3%	35.4%
Divorced or separated	13.2	6.6
Married	41.5	58.0
	100.0%	100.0%
	(N=53)	(N=449)

Source: Survey of Boston homeowners, August 1985.

Boston. For instance, converters were more likely to be single, separated, or divorced than other homeowners--57 percent fitted this description compared to only 40 percent of nonconverters and 36 percent of all Boston homeowners (according to the results of the Annual Housing Survey). Converters were also slightly less likely to have dependents under 16 years of age living with them, and, of those that did, few had more than two children.

The comparison of converter and non-converter characteristics seems to affirm the third hypothesis--the socio-economic status of homeowners matter as much as the structural attributes of their homes or the characteristics of the local housing market in determining the likelihood that they will add a rental unit to their property. However, the differences in socio-economic characteristics observable in Table 5.5 might simply reflect the attributes of South End residents. Most of the conversion activity detected by the survey took place in the South End, where building and market attributes are highly uniform. If the characteristics of South End residents also tend to be uniform, then their attributes will dominate the traits of the converter sample. A multi-variate model developed in the next chapter attempts to control for the dominant effects of the South End, in order to test this hypothesis more rigorously.

Occupants of Converted Units

The homeowner survey sheds light on the the population served by residential conversion activity in Boston. Stereotypes of converted units described in the news media do not necessarily hold up in the three Boston neighborhoods surveyed. For instance, the terms "granny-flat" or "mother-in-law apartment" imply familial relationships between the occupants of converted units and property owners that were rarely found in the Boston sample. The occupants of converted units are much more likely to be unrelated to the owner and the relationship more often than not is strictly business. Instead of housing an elderly parent or grandparent, an overwhelming majority (81 percent) of the converters leased to non-relatives. In fact, of the remaining 19 percent of the respondents that did rent to relatives, grandparents and parents were rarely mentioned as tenants--siblings and children were the most common type of relatives occupying converted units.

Table 5.6 shows the characteristics of the occupants of converted units, as reported by the converter. The respondents were asked to estimate the number and age of their tenants, as well as whether or not any of their relatives lived in the converted unit. The results show that the typical household served by a residential conversion in any of these three neighborhoods contains only one or two persons in their twenties or thirties and is childless. The ethnic make-up of these renter

Table 5.6

OCCUPANTS OF CONVERTED UNITS

No. of occupants	No. of Properties		Total Occupants
one	20	38.5%	20
two	9	17.3%	18
three	7	13.5%	21
four	10	19.2%	40
5 or more	6	11.5%	37
Total	52	100.0%	136
Persons per property			2.6

Units Added	No. of Properties		Total Units
one	38	64.4%	38
two	13	22.0%	26
3 or more	8	13.6%	28
Total	59	100.0%	92
Persons per unit			1.5

*Note: includes total for all units added

Age of occupants		
College students	2	3.9%
Young adults (20s or 30s)	35	68.6%
Middle aged (40s or 50s)	8	15.7%
Older/retired (over 60)	3	5.9%
Mixture of ages	3	5.9%

No. of occupants over age 60		
0	43	87.8%
1	5	10.2%
2	1	2.0%

No. of occupants under age 16		
0	45	91.8%
1	3	6.1%
2	0	0.0%
3	1	2.0%

Ethnic background		
White	36	66.7%
Black	6	11.1%
Hispanic	2	3.7%
Asian	6	11.1%
Other	4	7.4%

Source: Survey of Boston homeowners, August 1985.

households closely parallels the characteristics of the surveyed neighborhoods. When asked specifically if the renters were college students, only two converters (less than 4 percent of the sample) responded affirmatively.

These findings would appear to refute the fourth hypothesis--that the occupants of converted units are transients, either college students or low-income households--as alleged by many of the nonconverters interviewed. However, the survey did not provide sufficient data to test this hypothesis fully, particularly in Allston-Brighton where the incidence of these allegations was highest. This Boston neighborhood has traditionally provided inexpensive housing for students attending many of the universities in the region. The small number of conversions detected in Allston-Brighton (probably due to under-reporting) coupled with the lack of any information concerning the income and length of tenure of the occupants of converted units, means that this "transient" hypothesis cannot be conclusively affirmed or rejected--even if college students were rarely mentioned as occupants by the converters.

The survey did not detect any tenants that paid no rent. However, there was evidence that relatives of the converter paid below-market rents-- rent levels were 26 percent less, on average, than that of other "unrelated" tenants, controlling for unit size.

The survey did not specifically address whether or not "social rents" were collected in the form of services rendered by the tenant. However, approximately 15 percent (9 of 61) of the converters said that the desire for "a tenant to help look after my property" was a "major factor" in their decision to convert and roughly half (30 of 61) cited this reason as either a major or a minor factor in thieir decision to add an apartment. Other studies have shown that tenants in owner-occupied buildings often receive rent discounts because of personal relationships that develop with the landlord. The survey results confirm this finding. Amounts paid by tenants were substantially below prevailing market levels for absentee-landlord buildings in these three neighborhoods. Table 5.7 shows that 60 percent of the rents in converted units were lower than the median quoted rents in the South End (where a majority of the conversions took place). Almost all the the converted units (96 percent) had rents lower than the asking rates in new, unsubsidized units.

The high proportion of property owners that reported they wanted a tenant around to help keep an eye on their property provides clear evidence why some landlords might decide to offer these discounts. Rent discounts are in the landlord's best interest if a trusted tenant enhances a converter's perception of his unit's security. This desire for security may just as important for urban converters than rationales found by other re-

Table 5.7

RENT LEVELS IN UNITS CREATED
BY CONVERSION ACTIVITY
RANKED BY PER SQ. FT. RENTAL RATES

Lowest Three Quintiles

	Case No.	Rent	Approx. sq.ft.	Rent psf	Cost ($1000s)	No. of Units added	Cost Per Unit ($1000s)
	1	$200	850	$0.24	$10.0	1	$10.0
	2	200	700	0.29	---	1	---
	3	250	700	0.36	---	2	---
Bottom	4	250	700	0.36	5.0	1	5.0
Quintile	5	400	1000	0.40	125.0	2	62.5
	6	350	850	0.41	35.0	2	17.5
	7	290	700	0.41	3.0	1	3.0
	8	350	700	0.50	20.0	1	20.0
	9	475	850	0.56	---	1	---
	10	395	700	0.56	7.0	1	7.0
	11	400	700	0.57	50.0	1	50.0
	12	400	700	0.57	---	4	---
	13	400	700	0.57	50.0	2	25.0
	14	400	700	0.57	56.0	1	56.0
Second	15	500	850	0.59	80.0	2	40.0
Quintile	16	300	500	0.60	2.0	1	2.0
	17	600	1000	0.60	35.0	1	35.0
	18	425	700	0.61	30.0	3	10.0
	19	450	700	0.64	27.0	1	27.0
	20	675	1000	0.68	160.0	2	80.0
	21	475	700	0.68	20.0	1	20.0
	22	475	700	0.68	10.0	1	10.0
	23	475	700	0.68	5.0	1	5.0
	24	485	700	0.69	20.0	1	20.0
Third (middle)	25	700	1000	0.70	135.0	2	67.5
Quintile	26	600	850	0.71	---	1	---
	27	500	700	0.71	40.0	1	40.0
	28	525	700	0.75	7.0	1	7.0
	29	380	500	0.76	---	1	---
	30	550	700	0.79	50.0	5	10.0

Source: Survey of Boston homeowners, August 1985.

Table 5.7 (continued)

RENT LEVELS IN UNITS CREATED
BY CONVERSION ACTIVITY
RANKED BY PER SQ. FT. RENTAL RATES

Top Two Quintiles

	Case No.	Rent	Approx. sq.ft.	Rent psf	Cost ($1000s)	No. of Units added	Cost Per Unit ($1000s)
	31	$400	500	$0.80	$4.0	2	$2.0
	32	400	500	0.80	---	1	---
	33	800	1000	0.80	200.0	3	66.7
	34	700	850	0.82	135.0	2	67.5
Fourth	35	585	700	0.84	30.0	1	30.0
Quintile	36	725	850	0.85	275.0	3	91.7
	37	600	700	0.86	15.0	1	15.0
	38	800	850	0.94	45.0	1	45.0
	39	500	500	1.00	2.0	1	2.0
	40	500	500	1.00	8.0	2	4.0
	41	500	500	1.00	---	1	---
	42	500	500	1.00	---	1	---
	43	700	700	1.00	180.0	3	60.0
	44	1000	1000	1.00	30.0	1	30.0
Top	45	1000	850	1.18	35.0	1	35.0
Quintile	46	595	500	1.19	20.0	1	20.0
	47	600	500	1.20	175.0	3	58.3
	48	850	700	1.21	1.0	1	1.0
	49	1200	850	1.41	10.0	1	10.0
	50	850	500	1.70	35.0	2	17.5
	Mean	$534	722	$0.76	$53.2	1.6	$28.9
	Median	$500	700	$0.70	$30.0	1.0	$20.0

Median Rent Levels

	Citywide		Existing By Neighborhood		
	New	Existing	So.End	J.P.	All./Bri.
Median quoted rents in 1985 (total)	$950	$460	$560	$500	$530
Median quoted rents in 1985 (psf)	$1.25	$0.66	$0.80	$0.71	$0.76
Percentage of converted units below median quoted rents	96%	38%	68%	50%	56%

Source: Survey of Boston homeowners, August 1985.
Median quoted rents in South End: Research Department, Boston Redevelopment Authority

searchers such as small landlords' need to minimize turnover or tenants' contributions with maintenance and other chores. [5]

Analysis of Converters

Other authors have alluded to the lack of a professional outlook by owner-occupant landlords. Sagalyn classifies such landlords as "amateurs", citing their lack of knowledge of the favorable tax depreciation rules that apply to income-earning property. [6] The survey results do not entirely confirm this stereotype. Another converter profile that emerges in the Boston survey is that of a savvy, experienced landlord who already had at least one rental unit on the property before adding more. Approximately one-third (22 of 61) of the converters interviewed had one or more rental units on the property prior to conversion. These "savvy" converters were also more likely to finance their conversion work with loans and less likely to report that they did most of the structural conversion work themselves. By contrast, another, more altruistic group of converters were likely to do the work themselves, rent to relatives at below market levels, and to pay for the conversion work out of pocket.

The litmus test that distinguishes this group of "altruistic" converters from the "savvy" converters is the list of motivations that each group said led to their decision to add a rental unit. Savvy converters were much more likely to cite the

reason "wanted to get tax benefits from owning rental property" as a major or minor factor affecting their decision to convert. Altruistic converters listed "wanted to provide affordable housing for a friend or relative" as a major or minor factor. They were also more likely to report that the mere presence of a tenant on their property was an important consideration in their decision to add a unit. Savvy converters were unequivocally interested in the income flow from their rental property, altruistic converters were more likely to respond that this was a "minor factor" or "not a factor" in their decision to convert. Table 5.8 shows the wide range of motivations that lie behind respondents' decisions to convert.

Insights into the advantages and obstacles facing converters can also be gained from the reasons other homebuyers gave for not converting. Even among this group of "potential" converters, the difference between savvy and altruistic converters can be discerned. Of those that did not convert, 10.6 percent (49 of 462) considered adding a dwelling unit to their property. Respondents mentioned the same reasons for wanting to add a unit and in roughly the same proportions as those who actually carried out their plans. A slightly higher percentage of the potential converters cited the desire to provide housing for a friend or relative, but given the small sample sizes involved, this difference is not statistically significant. Approximately the

Table 5.8

MOTIVATIONS OF CONVERTERS

Factor	Major factor	Minor factor	Not a factor
Needed rental income to help cover mortgage payments	60%	18%	22%
Needed rental income to help cover maintenance costs	43%	26%	31%
Wanted to increase resale value of home	36%	29%	36%
Wanted to get tax benefits from owning rental property	34%	32%	34%
Wanted to provide affordable housing for a friend/relative	24%	25%	51%
Needed rental income for other uses	19%	29%	52%
Wanted a tenant to help look after my property	15%	35%	60%

Note: Based on a sample size of 59 converters.

Source: Survey of Boston homeowners, August 1985.

same percentage of potential converters as actual converters stated that tax advantages were one of the reasons they had considered adding a unit. The overlap between the potential converters who shared the motivations of the "savvy" converters and those that shared the traits of the "altruistic" converters was virtually nil. In other words, respondents were either interested in providing affordable housing for a friend or relative or getting financial benefits, such as a steady rental income stream or tax advantages, but not both.

Among the non-converters who wanted to add a unit, roughly half (23 of 45) still hoped to carry out their plans. The most commonly mentioned reasons for not carrying out their plans were financial. Potential converters gave the following reasons for not adding a unit:

- 45 percent could not afford to do the work
- 14 percent decided that they really preferred their house the way it was
- 11 percent complained that there was too much red tape involved

Some potential converters appear to be put off by perceptions that financing and regulatory permits are difficult to obtain. Yet, most of these respondents were long-time homeowners (67 percent had lived in their houses for six or more years) and undoubtedly could have borrowed against the equity they had built up in their homes. The comments of this group of nonconverters

probably indicates their ignorance of financing possibilities more than their inability to qualify for second mortgages. Savvy converters were clearly successful at qualifying for some kind of institutional financing; 70 percent had done so. Another explanation is that homeowners were aware of the possibilities for financing conversion work but were reluctant to do so for non-economic reasons. Even though adding a unit appeared to be financially attractive to potential converters, social or psychological factors may have prevented them from taking the drastic step of altering their home.

As many economists have pointed out, the purchase of a house is not only the largest expenditure most families ever make, this purchase has both consumption and investment aspects. However, potential converters' reasons for not going ahead with their plans to add a unit suggests the underlying conservatism that prevents homeowners from viewing this house in purely investment terms. Unlike other assets that comprise a household's accumulated wealth, a home is less liquid, less easily partitioned and therefore more difficult to adjust to the constantly changing financial status of a household. Most importantly, non-economic criteria and values enter into the decision calculus of the homeowner. For example, survey respondents exhibited a reluctance to reconfigure their house for a variety of non-economic reasons. The comments of some potential converters that they

"liked their house the way it was," hints at the deep-seated associations that prevent property owners from paying attention only to bottom-line considerations. Long-term homeowners, who constituted such a large part of the sample, may find it especially difficult to accept the idea of setting aside a portion of their current living space to a stranger.

Regulatory barriers, may have prevented a few potential converters from proceeding with their plans. However, the "excessive red-tape" comments by would-be converters are also closely related to financial constraints. The regulatory process adds real costs to the converter in terms of time and fees. In addition to the City's processing charges, observation at Appeal hearings reveal that many converters hire legal help to assist them in the presentation of their case. The complaint that there was too much "red-tape" involved in adding a unit appears to be supported by the reported length of time legal converters had to wait before obtaining a variance. The average length of time before a variance could be secured was 3.4 months, although some converters waited as long as a year before getting permission.

Comments by a group of savvy converters reveal other interrelationships between regulatory and financial constraints. When asked why they had bothered to get a variance, several converters mentioned that they had done so in order to qualify for a loan. Another converter stated a desire to "protect my rights as a landlord." Presumably, this property owner wanted to protect

himself from objections that might be raised by neighbors or by his tenants if it was ever discovered that his rental units had been added illegally. Both types of comments reinforce the self-interested motivations of savvy legal converters. This group viewed the regulatory process as a way to insure that conversion work financing could be arranged and that the unit they added would be safe from legal challenges.

By contrast, illegal converters' behavior showed that other homeowners were willing to risk sizeable investments of time and energy on property improvements that could be legally prevented from earning the expected return. As savvy converters, these property owners may have calculated that the risk of a legal challenge was so remote that their investment was safe, even though they had not obtained the necessary permits. An investigation of the procedures of the Inspectional Services Department and the Planning Board of Appeal support this conclusion. Illegal occupancies come to the attention of the Inspectional Services Department through complaints, staff shortages do not allow for spot field checks or enforcement of existing zoning. Upon notification that they have been cited for an illegal occupancy violation, property owners may still petition the Board of Appeal for a variance. As discussed earlier, converters face a double appeal fee for legalization of an existing illegal condition. However, the rental income from the legalized unit

usually far outweighs this one-time expense and, in any case, is a much more attractive option than paying a code violation fine or evicting any tenants.

Altruistic versus Financial Motivations for Converting

The typology of converters describes two distinctly different approaches to the conversion process--one based on altruistic intentions, and another driven by financial objectives. A comparison of the characteristics of these two converter-types offers further insights into the differences between these two groups.

The altruistic converters were more likely to be older, long-time residents who rented their unit at below-market rates: 82 percent had lived more than ten years at their current address, compared to 41 percent of the savvy converters. Only 9 percent of the altruistic converters were in their twenties or thirties at the time of the interview, while 51 percent of the savvy converters were in these younger age categories. The proportion of altruistic converters in their fifties or sixties was more than double the proportion of older "savvy converters" (54% versus 22%). Table 5.9 shows that savvy converters also tended to have much higher incomes than the altruistic group, although no significant differences were evident in terms of marital status, ethnic background, or the number of persons per household. The savvy group were also much more likely to living

Table 5.9

DEMOGRAPHIC CHARACTERISTICS
OF ALTRUISTIC AND SAVVY CONVERTERS

	Altruistic Converters	Savvy Converters
Age of respondent		
20-29	4%	13%
30-39	25%	37%
40-49	33%	27%
50-59	13%	10%
60s or older	25%	13%
Household income		
less than $10,000	4%	8%
$10,000 - $19,999	39%	8%
$20,000 - $29,999	13%	23%
$30,000 - $49,999	30%	23%
More than $50,000	13%	38%
Ethnic background		
White	83%	83%
Black	13%	10%
Hispanic	4%	7%
Years at current address		
More than 45 years	13%	3%
25-45 years	17%	10%
15-24 years	13%	10%
10-14 years	25%	10%
5-9 years	17%	28%
0-5 years	17%	38%
First home ever owned?		
Yes	50%	73%
No	50%	27%

Based on a sample of 32 savvy converters and 29 altruistic converters.

Source: Survey of Boston homeowners, August 1985.

in their first home--75 percent of the savvy converters and half of the altruistic group reported this to be the case.

As might be expected, savvy converters charged much higher rents, even after controlling for the number of bedrooms: 44 percent asked more than $700 per month for the units they added, compared to 7 percent of the altruistic converters. The most common type of unit added by the savvy converters was a one-bedroom apartment. Altruistic converters were more likely to have added a studio apartment with a combined bedroom and living/dining area. The altruistic group was also much more likely to rent their unit furnished or partially furnished: 31 percent had done so, versus only 5 percent of the savvy converters. The survey turned up only two converters who reported that they had sold the units they added as condominiums. Needless to say, "providing affordable housing for a friend or relative" was not cited as a relevant factor in either converter's decision. Table 5.10 summarizes the differences between the types of rental units added by savvy and altruistic converters.

An important indicator of the differences in the type of dwelling unit produced by each group are the nature and levels of investment they employed. Altruistic converters spent much less cash, borrowed less frequently, and did more of the actual construction work themselves: 70 percent of this group spent less than $10,000 adding a unit, compared to only 22 percent of the

Table 5.10

CHARACTERISTICS OF UNITS ADDED
BY ALTRUISTIC AND SAVVY CONVERTERS

Units added by:	Altruistic Converters	Savvy Converters
Unit rented:		
furnished	4%	4%
partially furnished	11%	4%
unfurnished	85%	93%
Type of unit added:		
Studio apartments		
Yes	32%	19%
No	64%	81%
One bedroom apartments		
Yes	50%	52%
No	50%	48%
Two bedroom apartments		
Yes	30%	29%
No	70%	71%
Three bedroom apartments		
Yes	18%	10%
No	82%	90%
Obtained loan for Conversion work		
Yes	50%	67%
No	50%	33%
Type of structure:		
detached building	33%	30%
semi-attached	21%	7%
rowhouse or multifamily	46%	63%
Contract rent		
$0-399	25.0%	21.0%
$400-499	33.0%	25.0%
$500-649	21.0%	33.0%
$650-899	13.0%	17.0%
$900 or more	8.0%	4.0%

Based on a sample of 32 savvy converters and 29 altruistic converters.

Source: Survey of Boston homeowners, August 1985.

savvy converters, and 73 percent did the work without a loan, compared to only 31 percent of the more heavily spending savvy converters. Half of the altruistic converters reported that they accomplished most of the actual conversion work themselves; only one-third of the savvy converters could make that claim. The savvy converters were much more likely to report that contractors or subcontractors undertook most of the work; although nearly all respondents reported that they had been involved in at least some of the physical work required to alter their home. A brief examination of the types of work that accompanied the conversion project reveal why this might be so. Table 5.12 shows that in addition to major jobs that would have required a professional, such as the installation of a kitchen or a bath, almost all converters reported that they had also undertaken a variety of minor tasks in conjunction with adding a unit. Jobs such as interior painting or plastering are well within the range of most "do-it-yourselfers" and these jobs were undertaken by an overwhelming majority of the converters.

Further insights into the thinking that lies behind the actions of the two types of converters can be drawn from the survey. The series of questions that asked respondents to rate the importance of various factors that led to their decision to convert reveals that the level of sophistication that separates the two groups is not as great as might be expected. Savvy converters were more likely to cite tax benefits as a major or

minor factor in their decision to convert--70 percent did so compared to 50 percent of the altruistic group. However, it is interesting to note that such a high percentage of the altruistic converters found that the tax laws worked to their advantage. This result is particularly unexpected because of the lower incomes reported by converters in the altruistic group. A possible explanation for this apparent incongruency is that the respondents' incomes may have been higher at the time they converted. Many of these converters are retired and the advantages of the tax shelter are lessened, but at the time that the unit was added the tax benefits may have been significant. Whatever the true explanation, the survey results offer concrete evidence that middle-income housholds were aware of the favorable tax treatment of income-earning rental property, even though they had less income to shelter and may have been taxed at a lower marginal rate.

In like manner, a higher percentage of savvy converters agreed with the statement, "needed rental income to help cover mortgage payments," and said that this had been a "major factor" in their decision to add a unit. However, the difference in the percentage of respondents from each of the two groups that cited this as a major factor (62 percent versus 50 percent) is not large enough to be statistically significant because of the small sample sizes involved. Clearly, the altruistic converters also

relied on the "contribution" of their friend or relative to help them meet their mortgage payments. Thus, even these "altruistic" converters found that some of their own interests were served by the presence of tenants on their property. A further example of this self-interested aspect of the altruistic converters' objectives was the high priority they placed on having a tenant on the premises to help look after their property--57 percent cited this as a major or minor factor versus 45 percent of the savvy converters.

In the final anaysis, the altruistic converters looked after some of their own interests, in addition to their stated goal of providing affordable housing. What distinguishes them most from the savvy converters is that they put more modest levels of investment into adding smaller units, on average. As a consequence, they were less likely to need outside financing and less likely to be concerned about the added value that the extra unit conferred on the house--savvy converters were twice as likely to report that this was a major factor in their decision to add a rental unit (45 percent versus 21 percent).

Altruistic converters' approach to the regulatory process also differed from the savvy converters group. Perhaps because they had less at stake, altruistic converters were less likely to follow the required procedures in adding their units: 60 percent of the altruistic converters did not obtain variances compared to 41 percent of the savvy converters. Altruistic converters were

also less likely to discuss their plans to add a unit with their neighbors. It is not surprising, then, that none of the altruistic converters interviewed reported having any trouble getting permission to add their unit--very few of them appeared to have bothered to go through the proper legal channels.

The survey results appear to support the contention that altruistic and savvy converters are fundamentally different in terms of their socio-demographic characteristics and the methods that they used. The multi-variate model developed in the next chapter goes beyond the simple bivariate comparisons presented here, in order to examine the interrelationship between converters' traits and their motives. Although not shown, there were no significant differences between the demographic characteristics of the tenants served by each group. The tenant profile served by either group is that of a one- or two-person, childless household with both members in their twenties or thirties.

Even though the altruistic versus savvy distinction holds up under the more rigorous discriminant analysis used in Chapter 6, the classification of all converters in one group or another may be a somewhat artificial exercise. In actuality, converters are probably driven by a continuum of altruistic and financial motives. Some converters undoubtedly fall at either end of this

continuum, while others may fall more toward the middle. Nevertheless, splitting the sample into two discrete groups offers many useful insights into the behavior of converters identified in these three Boston neighborhoods.

Fiscal Impacts of Conversion Activity

When coupled with information from the City Assessor, the survey results indicated a substantial difference between the way converted and unconverted dwellings were assessed. The taxation of residential property in the city of Boston is based, to a large degree, on the number of dwelling units in a building. The vast majority of the "unconverted" buildings were correctly assessed, based on a comparison of the official tax classification of each property and the number of units reported by the owners. By contrast, approximately one-half of the converted buildings were assessed for fewer units than their current occupancy. For instance, a high proportion (30 percent) of converted structures were classified as "R-1" properties (single-family structures), even though the respondents reported the existence of a second or third dwelling unit.

Table 5.11 shows the incidence of residential properties that were incorrectly classified for purposes of tax assessment. Among the converted buildings identified by the survey, 56 percent contained more dwelling units than the tax classification

indicated should have been present on the property. Properties that had not been converted by the current owners were much less likely to be misclassified--16 percent were underassessed and another 10 percent were overassessed (i.e., they contained fewer dwelling units than indicated by the tax classification). Two-family structures, where an accessory apartment was added to a single-family house, were frequently misclassified as R-1 properties. In fact, more than one-half of the converted structures that were incorrectly classified as R-1 properties fitted this description. The remaining 45 percent of the underassessed R-1 properties contained more than one rental unit and should have been classified as R-3 or R-4 properties.

Table 5.11

PERCENTAGE OF UNDERASSESSED RESIDENTIAL PROPERTIES

Classification	Converted Properties	Nonconverted Properties
R1	100.0%	20.4%
R2	47.1	11.5
R3	30.0	19.6
R4	27.3	7.1
TOTAL	55.7	16.4

Source: Survey of Boston homeowners, August 1985.

Table 5.11 highlights one negative aspect of conversion activity, apart from complaints voiced by nonconverting respondents, parking and traffic. These underassessed properties represent a net fiscal loss to the City: the tenants utilize city services, but the landlord does not make the appropriate tax payment. The argument that converted units burden such public services as schools and hospitals was not borne out by the survey findings. When asked about the occupants of the units they added, only 8 percent of converters reported that their tenants included any children under the age of 16, and only 12 percent reported that their tenants were over 60. Contrary to the popular belief that most illegal units in Boston are rented to college students, only 4 percent of the converters' tenants were reported to be in this group. The age categories with the highest representation among occupants of converted units were "young adults" in their 20s or 30s (69 percent) or "middle-aged" occupants in their 40s or 50s (16 percent). The vast majority of the occupied converted units were inhabited by one- or two-person households. An average of 1.67 persons were living in each added unit, considerbly less than the citywide average of 2.4 persons per rental unit. The average number of persons per property was higher--2.46--owing to the number of properties that had added more than one unit.

Evidence from the survey does not support the conclusion

that occupants of converted units are net "consumers" of public services--i.e., they consume more public services than they contribute in taxes. The statistical profile of those residing in converted units is consistent with that of a young, childless household that does not rely heavily on such social services as public schools, city hospitals, or programs designed to serve the poor. The survey did not provide direct evidence concerning the economic status of these occupants. However, the high concentration of tenants in their 20s and 30s who can afford to pay the market-level rents asked by converters indicated that most occupants probably earned steady incomes.

Yet, it is not entirely clear that these tenants are net "contributors" to Boston's fiscal health. Even if the occupants of underassessed, converted units work in the city, contribute to City revenues through the City wage tax and indirectly through the state sales and income taxes, their landlords do not pay the appropriate property tax. Some of this savings is undoubtedly passed along to the tenant in the form of lower rents and may be part of the reason that so many converted units are at or below the median rates in their neighborhood, as reported in Table 5.7. Therefore, both the owners and the occupants of structures with underassessed, illegal units are, in effect, subsidized by fully assessed properties. Moreover, the occupants of converted units cannot help but consume a wide range of city services because many of the services provided by the City contain elements of a

"pure public good," i.e., a nonexhaustive good that is freely available to all. For instance, city parks, public transit, police, and fire protection presumably benefit all residents, even if only indirectly. Occupants of illegal units unavoidably consume these public goods by virtue of their location. Illegal converters shift the tax burden to fully assessed properties, thereby consuming "two households' worth" of police and fire protection, while contributing only one household's worth of taxes.

Despite a negative short-run fiscal impact from underassessment, there is good reason to believe that eventually a property's tax bill will reflect the added value of the converted units. Property tax assessments in Boston are based on sales prices, so the added value of an unreported conversion should be fully capitalized into the price of a property whenever it is sold. Table 5.12 shows the types of improvements made during a conversion that often go undetected by the City tax assessor, even if a building permit is taken out. This table also gives a good indication of the wide range of property reinvestment tasks associated with conversion activity. As shown in Table 5.7, the average amount spent by all converters was $53,200 per property or $28,900 per unit. The median amount spent was $30,000 per property or $20,000 per unit. When those who reported that they had spent less than $10,000 are excluded (a group of 10 altruistic converters), these figures rise to $97,600 per property (average) and $50,000 (median). Thus, substantial investments may go unreported and thus be unreflected in the City's assessment of owner-

Table 5.12

REMODELING UNDERTAKEN IN
CONJUNCTION WITH CONVERSION ACTIVITY

Major Tasks Mentioned:

69 percent added kitchen
61 percent added electrical wiring
61 percent added bathroom
61 percent repaired or replaced ceiling
59 percent repaired or replaced windows or doorways
57 percent repaired or replaced walls
56 percent added plumbing
56 percent added wall(s)
52 percent added windows or doorways
49 percent added water heater
49 percent repaired or replaced floors
49 percent repaired or replaced plumbing
48 percent repaired or replaced roof
46 percent repaired or replaced bathrooms
44 percent repaired or replaced electrical wiring
44 percent added furnace or heating system

Minor Tasks Mentioned

80 percent: Interior painting
69 percent: Interior plaster work
51 percent: Exterior painting
51 percent: Landscaping
46 percent: Exterior siding or masonry repair

(N=56)

Source: Survey of homeowners in three Boston neighborhoods, August 1985.

occupied multi-family housing. On the other hand, it can be argued that vigilant reassessment might discourage welcome reinvestment in the city's older housing stock. The concluding chapter will explore these policy alternatives further.

In the final analysis, no definitive test of the sixth hypothesis--that converted units represent a fiscal drain on a community-- can be devised with the data available from the survey. It is clear that the assessments of a high proportion of converted properties do not reflect their new occupancies or the reinvestment that has gone into them. Nevertheless, the inhabitants of converted units are young households with good income-earning potential who probably do not rely greatly on social services and therefore represent net fiscal revenue producers, on net, to the city of Boston. Furthermore, the occupants of converted units rarely have children, so the charge that conversion leads to crowding in school appears to be unfounded in these three neighborhoods. In the long run, there is good reason to believe that the assessments of converted buildings will catch up with their new occupancies, whenever these properties change hands.

The next section employs multivariate statistical techniques to search for patterns among the homeowners interviewed in the three Boston neighborhoods. Two models are developed--one that distinguishes between converters and non-converters and another that examines differences between the motives and methods of converters.

Notes to Chapter 5

1. Appendix A contains a detailed account of the methodology employed in the Boston homeowners survey. A copy of the survey instrument is in Appendix C and survey marginals for both converters and nonconverters are in Appendix A.

2. The Boston Zoning Code does allow property owners to increase the number of dwelling units in their buildings "by right" under certain circumstances (i.e., with just a building permit; no variance is required). This right is reserved for large multi-family buildings in districts zoned for apartments, and has been exercised occasionally by absentee landlords. However, all apartment buildings and condominiums were screened in the sample selection process through the use of the 1985 City Assessor's records.

   Technically, rental units can also be added legally to homes in certain "general residential" zones with an FAR of 0.8 or 0.5 (R.8 or R.5 districts). These districts carry stringent controls for lot area, open space, and off-street parking per dwelling unit that only the largest lots can accommodate. For instance, lots zoned R.5 must be at least 3,000 square feet larger than the minimum lot size of 5,000 square feet required in R.5 districts. However, nearly all the lots of this size in the three neighborhoods selected for study are zoned S.3 or S.5 and do not allow additional dwelling units without a variance or conditional use permit. Thus, it can be assumed that all of the no-variance converters interviewed during the course of the study acted illegally.

3. Jacques Gordon, "Neighborhood Change in Jamaica Plain: A Case Study of the Revitalization Process," Urban Institute Working Paper No. 1396-02, August, 1981.

4. Several Allston-Brighton landlords who rented to Thai immigrants were fined by the City in 1984 and again in 1985 for renting apartments that did not meet building codes or zoning requirements. Overcrowded and unsafe housing conditions in Allston-Brighton were first reported by nearby residents, not by the in-moving Thais.

5. Frank Porrel, "One Man's Ceiling is another Man's Floor: Landlord/Manager Residency and Housing Conditions," Land Economics 61 (1985).

6. Lynne Sagalyn, "Who Owns Rental Housing? Ownership Patterns and Investment Incentives in the Boston Metropolitan Area," paper presented at conference sponsored by The Joint Center for Urban Studies of MIT and Harvard University and The Lincoln Institute for Land Policy, July 1982.

Chapter VI

EMPIRICAL MODELS OF CONVERSION ACTIVITY

Analysis of the survey data using cross-tabulations and correlation matrices, while helpful for identifying broad patterns, are limited tools for disaggregating multivariate data. These techniques do not easily yield answers to such questions as whether or not converters really tend to earn higher incomes, after controls for neighborhood and age of householder have been applied. A majority of the respondents who added rental units to their houses lived in the South End: To what extent do the attributes of converters simply reflect those of South End residents?

Statistical techniques, such as discriminant analysis, are useful for disaggregating multivariate categorical data. Models can be constructed that distinguish between converting and nonconverting homeowners while controlling for key variables such as structure type and neighborhood. These models serve as classification schemes that achieve several purposes. First, the results of discriminant analyses provide a more rigorous test of the hypothesis that converters share certain attributes that set them apart from other Boston homeowners. Second, the models can be used in a predictive capacity to identify neighborhoods where conversion is most likely to occur. Third, the model's coefficients lend insight into the behavior of converters and help to establish any systematic patterns in their methods or motives.

Discriminant analysis is well adapted to accomplish these objectives. This technique is often used in the social sciences when independent and dependent variables are categorical rather than continuous. Linear combinations of the independent or predictor variables are formed and serve as a basis for assigning cases to groups. Coefficients are calculated, so that the "scores" produced by the resultant discriminant function maximize the ratio of the between-group's sum of squares to the within-group's sum of squares. In other words, the assignment of cases to groups is accomplished by establishing ranges of discriminant scores that minimize within-group variation while maximizing between-group variation. Predicted group affiliation, based on these discriminant scores, can be compared to actual group membership, and is one test of the model's ability to "fit" the data. The generalized form of the discriminant function is similar to that of a linear, multivariate regression equation,

$$D = B_0 + B_1 X_1 + B_2 X_2 + \ldots + B_n X_n$$

where the discriminant score, D, is a linear function of n variables, each of which are normally distributed. In addition, the probability of misclassification is reduced if the covariance matrices for all groups, as defined by the dependent variable, are equal or nearly so. The most common method of assessing the performance of the discriminant function is to test its ability

to correctly classify cases--both those that were used to estimate the discriminant function as well as other cases where the group affiliation was known but not used during the original estimation. The percentage of correctly classified cases is analogous to the R-squared or "goodness of fit" statistic used to evaluate regression models. [1]

Discriminant analysis was used to estimate several different conversion models based on various combinations of variables and the survey data. The variables ADDUNIT and WHYNOT were used to create two group-defining categories: those who had added, or were in the process of adding, a separate dwelling unit to their property, and those who had not. Table 6.1 summarizes the results of several of these modelling efforts.

The first set of coefficients is based on a discriminant analysis of the entire data set, including both the random sample from three Boston neighborhoods and the citywide oversample. The second set of coefficients is based solely on the random sample, while the third and fourth model were estimated using neighborhood subgroups. One of the advantages to partitioning the data set in this way is that the model can be applied to cases not used in the discriminant analysis. This technique tests the robustness of the model and allows separate analyses of important subgroups.

The models shown in Table 6.1 substitute means for missing values in the YRBUILT and INCOME variables. Results were not

Table 6.1
Conversion Discrimination Functions

Model No.:	1	2	3	4
Sample:	Random	Random	South End	Jamaica Plain Allston-Brighton
No. of Cases:	499	498	87	411
	Standardized Function Coefficients			
variables				
CLASS	*	-.176	*	-.704
NUNIT	.597	.641	.843	.759
STORIES	.414	.182	*	.319
TYPE	.212	*	*	*
OTHBLDG	-.188	.185	-.390	*
FSTHOME	.249	.217	.280	*
SE	---	.714	---	---
DIVORCE	*	-.148	-.345	-.723
SINGLE	*	*	-.296	-1.656
PERSONS	.219	.156	.661	*
ETHNIC	-.152	-.172	-.565	*
AGE	.190	.157	*	*
YRBUILT	-.304	-.130	*	-.188
CHILDREN	*	*	*	*
NCHILD	-.158	*	-.354	-.293
MOVEDIN	*	*	-.428	*
INCOME	.194	*	.515	.241
JP	---	*	---	---
AB	---	*	---	---
Variables entered:	16	19	16	17
Variables kept:	11	11	10	8
Percentage of Cases Correctly Classified by Discrimination Function:				
Non-Converters	81.9%	86.0%	82.5%	87.8%
Converters	66.7%	78.9%	83.3%	83.3%
Overall	80.8%	85.4%	82.8%	87.6%
Test Statistics:				
Wilks Lambda	.836	.777	.566	.916
Canonical correlation	.405	.472	.659	.289
Chi-Squared test	87.96	123.88	45.52	35.43
Significance	.00	.00	.00	.00

Note: Variables entered in stepwise fashion with selection criteria set for a partial F statistic to enter of 1.0 and partial F to remove of 1.0.

* variable entered, but not kept, during discriminant analysis

--- variable repressed from discriminant analysis

The Chi-squared statistic tests the null hypothesis that the discriminant scores of the two groups are the same.

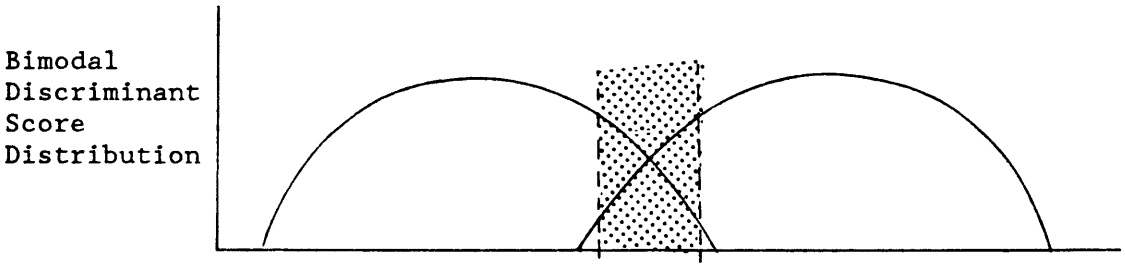
found to differ greatly when cases with missing values for these variables were dropped from the estimation. Repeated estimation of discriminant functions using different combinations of variables and cases yields several consistent results. The key findings are as follows:

1. the estimated models correctly classify between 80 percent and 90 percent of the cases, indicating that converters and nonconverters are readily distinguished through linear discriminant analysis. The Chi-squared statistics for each discriminant function reveal that there is close to 0.00 percent probability that the mean discriminant scores for converters and for nonconverters are equal.

2. The estimated discriminant functions consistently performed better as predictors of nonconverters than of converters. The smaller number of converter cases exhibited much higher within-group variability, making it more difficult to establish a classification scheme that fully captured the attributes of this group. The Wilks Lambda statistic measures the percentage of total variation in the discriminant scores not accounted for by differences between the two groups. The fact that this statistic was approximately .75 indicates that about three-quarters of the total variability in discriminant scores across the entire random sample is not explained by differences between converters' scores and those of nonconverters.

The second finding is not surprising, given the heterogeneous nature of the Boston housing stock and the diversity of its inhabitants. A discriminant function, unlike a regression equation, need not explain a high percentage of the total variance in its dependent variable (in this case, discriminant scores) in order to be successful as a classification scheme. Good performance in classifying cases can still be achieved, as

long as there are consistent combinations of independent variables more closely associated with one group or the other. Discriminant analysis seeks to minimize within-group variability, while maximizing between-group variability. Nevertheless, with a data set as diverse as the homeowners' survey, a high degree of variance unexplained by the differences between groups can be expected. The key to a successful two-group discriminant function is its ability to identify a bimodal distribution among the discriminant scores:



Although the mean discriminant scores of the two groups differed by a statistically significant margin, the distributions of each group overlapped. Classification of cases in this "overlap" area is subject to a higher degree of uncertainty. The models perform no better than a random classification scheme over this range. This "unclassifiable" range typically encompassed 5 to 10 percent of the data set.

The standardized discriminant function coefficients confirm the findings of the cross-tabulations and correlation matrices.

Many of the variables with the highest correlation coefficients were among the 9 or 10 variables that emerged with highly significant coefficients in the discriminant functions.

In models estimated without neighborhood dummy variables, the two variables that consistently came through with large, statistically significant standardized coefficients were STORIES (number of stories) and NUNIT (number of dwelling units). Both variables carry large, positive coefficients, indicating that taller, multifamily buildings are more likely to have higher discriminant scores, which are associated with the converter group. The STORIES variable was one of the few variables that described the size of a respondent's property. Interior square footage or the total number of rooms in each structure were not determined through the questionnaire. As a result, STORIES may have proxied for the total size of each interviewee's property.

NUNIT was expected to be a discriminating variable, because converted structures, as defined here, must contain at least one dwelling unit in addition to the respondent's own residence. However, the NUNIT coefficient was larger than could be explained simply by the number of units that were added to each structure. Examination of the cases in the converter group revealed that there were a disproportionate number of three- to four-unit structures that had one added unit. This indicates the higher propensity of converters to add apartments to buildings that

already contain two or more separate dwelling units.

The large coefficients associated with NUNIT and STORIES make sense intuitively. Taller structures, especially those with existing rental units, make excellent conversion targets for a number of practical reasons:

1. The extra space in a larger structure is more likely to be viewed as underutilized by homeowners. In fact, many of the converters indicated that their desire to make better use of their property was one of their chief reasons for converting. Entire floors in dwellings that once housed larger families may be converted after the children grow up and move out. More than one-half of Boston converters reported that they had added a unit by making an independent apartment out of an unused basement, attic, or other floor in their house. This contrasts with other methods of conversion more prevalent in single-family neighborhoods, including converting a garage or a separate addition to a single-family home. Less than 2 percent of the converters that responded to questions concerning the method of conversion employed one of these "suburban" techniques.

2. Owners of buildings that are already in multifamily use are less likely to face the opposition of their neighbors or of the zoning Board of Appeals when they add another apartment. By the same token, illegal converters are less likely to be reported in multifamily areas. The addition of an accessory apartment in a neighborhood of single-family detached homes stands out with

much more prominence than the addition of a basement or attic apartment to a triple-decker that already contains two or three separate units.

In versions of the model without any neighborhood variables entered, the smaller but nonetheless statistically significant size of the TYPE (structure type) coefficient confirms that duplexes, row houses, and semiattached dwellings have a much higher likelihood of being converted. The multivariate TYPE coefficient is much smaller than its bivariate correlation coefficient with the discriminant score, due to the fact that it is highly correlated with both NUNIT and STORIES.

The coefficients of these "building attribute" variables reflect the fact that most of the conversions detected by the homeowner survey did not take place in single-family, detached structures. Rental units were more frequently added to the type of multifamily structures that predominated in each neighborhood: brick, bow-front row houses in the South End and wood-frame duplexes and triple-deckers in Jamaica Plain and Allston-Brighton. Although single-family detached housing is plentiful in two of the neighborhoods surveyed--Jamaica Plain and Allston-Brighton--these structures appeared to be unlikely targets for conversion.

It is possible that, despite assurances of confidentiality, owners of converted single-family homes chose not to tell inter-

viewers about an added unit. Approximately 216 owners of detached, single-family homes were interviewed for the study. This group exhibited about the same propensity to express negative or mixed attitudes to local conversion activity as the overall sample (43 percent), although they were less likely to be aware of the conversions at all. These homeowners have strong incentives to maintain the low-density appearance of their single-family neighborhoods. Whether driven by an affinity for a lower-density living environment or, ultimately, by an urge to preserve the value of their property, single-family owners are reluctant to allow highly visible conversions in their neighborhoods. It is difficult to gauge the precise effect that nonresponse bias (respondents' reluctance to discuss a conversion with an interviewer) might have had on the survey results. Nevertheless, it seems reasonable to assume that the amount of undetected conversion activity required to significantly alter the "building attribute" coefficients is highly unlikely.

Special precautions must be taken to control for the effects of neighborhood location when analyzing the survey results. The attributes of South End structures and property owners will dominate the converter profiles, unless certain techniques are used to examine the attributes of converters while holding neighborhood constant. One such technique would be to employ discriminant analysis separately in each neighborhood. Another method involves entering dummy variables into the discriminant function

and observing the ensuing changes in the size and sign of the other coefficients.

The first technique yields valuable insights into the attributes of South End converters, while proving less useful in Jamaica Plain and Allston-Brighton, where respondents who converted were rare. The discriminant function coefficients for the South End subgroup roughly parallel those of the unpartitioned data set (see model 3, Table 6.1). In both models, NUNIT, OTHBLDG, FSTHOME, PERSONS, and ETHNIC emerge as discriminating variables. However, three structural variables drop out when the South End is analyzed on its own: CLASS, STORIES, and YRBUILT. These three variables no longer exhibit variation that coincides with the converter/nonconverter groupings within the South End. At the same time, three variables enter the equation that did not contribute to the overall model--NCHILD, MOVEDIN (year moved in), and INCOME. The signs of these coefficients indicate that South End converters have fewer children, have lived at their current address longer, and have considerably higher incomes than their nonconverting neighbors. Unlike the model built using cases from all three neighborhoods, the importance of building attribute variables is substantially reduced in the South End discriminant function. This result is almost certainly due to the homogeneity of structures there--converted structures cannot be distinguished from unconverted buildings in the South End simply in terms of

building age, height, or type.

These findings throw considerable doubt on the appropriateness of interpreting the STORIES, CLASS, and YRBUILT coefficients in the original equation as discriminating variables. These variables are significant in the overall model, because about two-thirds of the converters in the sample were from the South End. Thus, without a dummy variable for each neighborhood, the overall model misidentifies these South End attributes as conversion attributes.

The low proportion of variance left unexplained by the South End model (Wilks Lambda = .57) and the high classification performance indicate the "tighter fit" that results from applying discriminant analysis on a neighborhood-by-neighborhood basis. As before, there is still a small "overlap range" of discriminant scores, where a certain mix of attributes cannot be easily classified by the model. The model correctly classifies 82.8 percent of all South End cases and is slightly better at of picking out converters (83.3 percent) than nonconverters (82.5 percent). At the same time, however, the applicability of these models to other neighborhoods is diminished. The South End model classifies only 66.3 percent of the non-South End cases correctly and misclassifies more than one-half of the conversions in Jamaica Plain, Allston-Brighton, and the oversample group.

Discriminant analysis was also attempted using data from the other two neighborhoods. However, due to the scarcity of con-

versions, reliable models could not be estimated until the Jamaica Plain and Allston-Brighton (JPAB) data were pooled. The combined JPAB model correctly classifies 87.6 percent of all the cases in these two neighborhoods. However, this model also performed poorly as a classification scheme for the South End cases (64.9 percent correctly classified in model 4, Table 6.1).

The second technique--entering dummy variables in the discriminant function--also proved an effective tool for separating the effects of neighborhood (see model 2, Table 6.1). As expected, the South End dummy variable emerges as a powerful contributor to the overall discriminant score. NUNIT and STORIES remain in the model, but the size of their coefficients are substantially reduced, reflecting their correlation with the SE dummy variable.

The fact that these two variables were not removed from the discriminant function indicates their contribution to the classification of converters and nonconverters, even after controlling for a South End location. The interpretation of other coefficients in this expanded model is less straightforward, due to correlation with the South End variable. For example, the signs of the CLASS (tax assessor's classification) and OTHBLDG (respondent's description of other buildings in the neighborhood) are reversed from those of their univariate Pearson correlation coefficients with the discriminant scores. In other words, the

subtleties of interpreting individual coefficients in the multivariate model become quite complex due to the inter-relationships between the independent variables. A more intuitive approach to understanding the contribution of individual variables in the discriminant function is to compute their univariate correlation coefficients with the discriminant scores. As shown in table 6.2, the building attribute variables exhibit much higher correlation with the discriminant function than do the demographic variables. The variables FSTHOME and ETHNIC are the only two demographic variables that possess correlation coefficients greater than .10. Respondents who were nonwhite and those who were living in the first house they had owned were more likely to have higher discriminant scores, and, therefore, less likely to be classified as converters. INCOME and PERSONS also exhibited weak positive corrrelations with the discriminant score--converters tended to have higher incomes and larger households than nonconverters. However, during the stepwise discriminant analysis process, INCOME drops out of the discriminant function due to its very low f-value. FSTHOME, ETHNIC, and PERSONS remain in the equation. AGE and DIVORCE, variables with virtually no univariate correlation with the discriminate score, are retained in the discriminant function. Thus, when analyzed simultaneously with other variables, the contribution of these two variables to a converter/nonconverter classification scheme becomes evident: Respondents that were older and those that were not divorced were

Table 6.2
Correlation Coefficients
Between All Variables and *
Discriminant Scores Produced by Model 2

Variable	Pearson Correlation Coefficient
SE	.743
STORIES	.607
NUNIT	.520
TYPE	.429
YRBUILT	-.407
CLASS	.355
AB	-.294
JP	-.246
FSTHOME	.199
OTHBLDG	.198
ETHNIC	-.113
INCOME	.092
PERSONS	.035
NCHILD	.020
DIVORCE	-.019
AGE	.007
MOVEDIN	-.004
CHILDREN	.003
SINGLE	.000

Note: Model 2 was estimated with 498 cases from the random sample of converting and non-converting homeowners.

more likely to be classified as converters.

The results of the converter/nonconverter discriminant analysis clearly show that there are systematic and statistically significant differences between these two groups. It is true that much of the variation between converters and nonconverters is attributable to the fact that a higher proportion of conversions in the sample were from the South End. However, even after controlling for the dominant effects of the South End, approximately 12 attributes, encompassing both the characteristics of converted buildings and of their owners, are correlated with conversion activity.

Discriminant analysis can also be applied to multiple group situations. The variables ADDUNIT, CONADD (Have you ever considered adding a separate unit?), and WANTADD (Do you still want to add a unit?) were used to create a single group-defining variable. This variable acts as the dependent and splits the entire sample into four groups:

1. Those that added an independent dwelling unit
2. Respondents that once considered adding a unit, but no longer wish to
3. Those that still want to add a unit
4. Householders that never considered adding a separate unit.

This four-group model performed adequately as a predictor of converters, classifying 68.3 percent of converter cases correctly. However, the model performed poorly in distinguishing between the three types of nonconverters and consistently misclassified more

than one-half of the cases in each group. Apparently, building and demographic attributes cannot be used to distinguish between those who have considered converting and those who have not.

Altruist/Savvy Model

Discriminant analysis was applied with greater success to test the distinction between converters' motives suggested in chapter 5. The two types--"altruistic" and "savvy" converters -- appeared to be distinguishable by a variety of demographic and attitudinal traits. Discriminant analysis provides a more rigorous test of the degree of separateness between subgroups and clarifies our understanding of the contribution of these various traits to a classification scheme. The results of several models based on the altruistic/savvy distinction are shown in Table 6.3.

The first model uses only six of the 20 variables entered to derive a discriminant function capable of correctly classifying 69 percent of all cases as either converters or nonconverters. Four of the six are other motivational variables such as PAYMTG (wanted extra income to help meet mortgage payments) and TAXBEN (wanted to get tax benefits associated with income earning property). Respondents who indicated that these two reasons were "major" or "minor" factors in their decision to convert were more likely to be classified as "savvy" converters. Respondents who cited UPKEEP (wanted income to help pay for property maintenance) and LOOKOUT (wanted a tenant to help look after the property) as

Table 6.3
Altruist/Savvy Discrimination Functions

No. of cases:	49	58	46	47	44
Model No.	1	2	3	4	5
		Standardized Function Coefficients			
Variables					
ADDVALU	*	*	---	---	---
FSTHOME	-.572	-.476	-.468	-.719	-.744
INCOME	.744	.717	.564	.739	.652
PAYMTG	-.345	*	---	---	---
UPKEEP	.444	.289	.433	---	---
LOOKOUT	.864	.730	.816	---	---
TAXBEN	-.479	-.585	-.767	---	---
VAR	---	---	-.258	-.375	-.386
PERSONS	*	---	---	.742	.615
CHILDREN	*	---	---	.858	.771
MOVEDIN	*	---	---	.415	.452
MARRIED	*	---	---	.353	.360
COSTX	*	---	---	---	*
RENTX	*	---	---	---	*
AGE	*	---	---	*	*
DIVORCE	*	---	---	*	---
SINGLE	*	---	---	*	---
Variables entered	20	7	6	10	10
Variables kept	6	5	6	7	7
Percentage of Cases Correctly Classified by Discriminant Function:					
Altuistic Group	69.0%	69.0%	87.5%	76.0%	76.0%
Savvy Group	69.0	79.3	95.5	81.8	81.8
Overall	69.0	74.1	91.3	78.7	78.7
Mean Discriminant Scores:					
Altruist Group	.84	.70	1.08	.79	.81
Savvy Group	-.66	-.70	-1.18	-.89	-.86
Wilks Lambda	.561	.622	.430	.577	.566
Canonical Correlation	.663	.58	.76	.65	.66
Chi-squared	24.43	22.03	34.62	22.80	21.91
Significance	.00	.00	.00	.002	.003

Note: Variables entered in stepwise fashion with selection criteria set for a partial F statistic to enter of 1.0 and partial F to remove of 1.0.

* variable entered, but not kept, during discriminant analysis

--- variable repressed from discriminant analysis

The Chi-squared statistic tests the null hypothesis that the discriminant scores of the two groups are the same.

"major" or "minor" factors had lower discriminant scores and were more likely to be classified as "altruistic" converters.

Only two demographic variables entered the discriminant function: FSTHOME and INCOME. The signs of their coefficients revealed that altruistic converters were less likely to be living in the first home they had owned and that higher incomes were associated with savvy converters. It is interesting to note that no building attribute variables emerged as significant contributors to the discriminant function. This is probably due to the homogeneity of structure types that composed the sample of converted buildings.

The second model shows that by entering only those variables that were significant in the first model, the number of cases used to estimate the discriminant function increases by 20 percent. This occurs because discriminant analysis drops cases with missing values. This second model does a slightly better job of correctly classifying cases (74.1 percent). The PAYMTG variable is dropped, probably due to multicollinearity with other variables--its Pearson correlation coefficient with the discriminant score is higher than TAXBEN's and only a little lower than that of LOOKOUT, UPKEEP, and FSTHOME.

The third model introduces a new variable: VAR (Did you obtain a variance or Planning Board approval when you added a unit?). This variable raises the correct classification per-

formance of the model to 91.3 percent and lowers Wilks Lambda to

that those who had not obtained legal permission to add a unit were more likely to have altruistic motives, if all other attributes were held constant. This confirms the finding discussed in the previous chapter that altruistic converters were less likely to follow legal channels in providing shelter for their friend or relative.

The last model also includes VAR, but restricts the other entered variables to those describing demographic attributes. Although the correct classification performance is reduced to 78.7 percent, this technique allows inspection of the correlation between the demographic variables and the altruistic/savvy distinction. While the inclusion of the other motivational variables led to a highly accurate model, many of its findings were tautological. For instance, the correlation between the TAXBEN or PAYMTG variables and the tendency toward "savviness" is intuitive. Of greater interest is the relationship between the demographic profile of the respondent and the altruistic/savvy distinction.

The fourth and fifth models differ only in terms of the variables entered--the variables retained after stepwise discriminant analysis are the same. These models show that the altruist category is associated with smaller households, often without any children present. They also show that the altruistic

group tends to have lived longer at their current address and that they are less likely to be married, all other things being equal. The story told by the INCOME and FSTHOME variables in these two models is the same as in the previous versions--lower incomes and fewer people with their first home characterize the altruistic converter group.

It is interesting to note that in the fifth model, two variables--RENTX (rent charged by converter) and COSTX (total cost of conversion)--were not retained in the discriminant function. Although altruistic converters tended to charge lower rent and spent marginally less per converted unit, other variables preempted RENTX and COSTX in the model. This suggests that other variables, such as INCOME, PERSONS, or MOVEDIN, were more closely correlated with the altruistic/savvy distinction. Once these variables had entered the discriminant function, there was scarcely any variation left to be explained by these two financial variables.

Model Simulations

It is difficult to assess the importance of individual variables through the standardized discriminant function coefficients shown in Tables 6.1 and 6.3. Simulations can be run that illustrate the sensitivity of the estimated models to changes in the attributes of converters or their properties. These simulations make it easier to see the contribution of each

variable in the discriminant analysis. The model coefficients are used to observe the changes in the classification of cases when the value of just one variable is altered, while leaving all other values unchanged.

The results of the first set of simulations show what the effect of various changes in the respondents' attributes would have on the incidence of conversions in the South End. Model 3 from Table 6.1 was selected for these simulations because of its high reliability in classifying South End homeowners as converters or non-converters. The results of these simulations are shown in Table 6.4.

The actual incidence of converters in the South End sample was 27 percent and the discriminant model classified 31 percent of the cases as converters, with over 90 percent of the cases classified correctly. The effect of changes in the value of NUNIT on the incidence of converters can be seen at the top of Table 6.4. If all of the respondents reported that they had two units in addition to their own, rather than the median response of one such extra unit, then the incidence of converters would rise to 45 percent. It is not surprising that the incidence of converters is so sensitive to changes in this variable because NUNIT has the largest standardized coefficient in the South End model. This variable is so important in the converter/nonconverter classification scheme that the simulations

Table 6.4

SIMULATIONS OF
CONVERTER/NONCONVERTER DISCRIMINANT FUNCTION
BASED ON SOUTH END SURVEY RESULTS

Variable			Converters	Non-converters
	South End: actual incidence		27%	73%
	South End: model		31%	69%
NUNIT	Actual: mean = 1.4			
	median = 1.0			
	Simulation:			
	NUNIT =	0.00	6%	94%
		1.00	31%	69%
		2.00	45%	55%
		3.00	70%	30%
		4.00	90%	10%
FSTHOME	Actual: yes = 64%			
	Simulation:			
	yes = 0%		28%	72%
	yes = 100%		48%	52%
OTHBLDG	Actual: mean = 2.1			
	median = 2.0			
	Simulation:			
	OTHBLDG =			
	single family	1.00	53%	47%
	2-4 units	2.00	28%	72%
	apartments	3.00	17%	83%
	commercial	4.00	8%	92%
DIVORCE	Actual: yes = 12%			
	Simulation:			
	yes = 0%		38%	62%
	yes = 100%		14%	86%
SINGLE	Actual: yes = 31%			
	Simulation:			
	yes = 0%		43%	58%
	yes = 100%		22%	78%

Table 6.4
(continued)

SIMULATIONS OF
CONVERTER/NONCONVERTER DISCRIMINANT FUNCTION
BASED ON SOUTH END SURVEY RESULTS

Variable		Converters	Non-converters
	South End: actual incidence	27%	73%
	South End: model	31%	69%
PERSONS	Actual: mean = 2.9		
	median = 2.0		
	Simulation:		
	PERSONS = 1.00	14%	86%
	4.00	47%	53%
ETHNIC	Actual: white = 74%		
	Simulation:		
	white = 0%	20%	80%
	white = 100%	45%	55%
NCHILD	Actual: mean = 0.5		
	median = 0.0		
	Simulation:		
	NCHILD = 0.00	40%	60%
	2.00	16%	84%
MOVEDIN	Actual: mean = 4.04		
	median = 4.0		
	4 = (10 - 14 years)		
	Simulation:		
	more than 45 years = 100%	53%	47%
	less than 5 years = 100%	23%	77%
INCOME	Actual: mean = 4.0		
	median = 4.0		
	4 = $30K - $40K		
	Simulation:		
	less than $10K = 100%	11%	89%
	more than $50K = 100%	52%	48%
INCOME and MOVEDIN			
	< 5 yrs. and < $10K	6%	94%
	> 45 yrs. and > $50K	73%	27%

Simulations based on a sample of 87 South End homeowners and the results of Model 3 as shown in Table 6.1.

produce improbable results for extreme values of NUNIT. For instance, it would be technically impossible to find any converters among a group composed entirely of homeowners with NUNIT = 0, yet the model would expect to find that 6 percent of such a subsample had converted. Despite improbable results at the extremes, the NUNIT simulations highlight the close (and obvious) association between conversion activity and the number of units in an owner-occupied property.

Compared to NUNIT other variables such as FSTHOME have a much smaller impact on the classification of converters. A slightly lower likelihood that a respondent was in the converter group would be associated with a sample composed entirely of first time homeowners. A sample without any first-time owners would raise the incidence of conversion activity to 48 percent, based on the model.

Other variables that exert a strong influence on the likelihood of being classified as a converter are OTHBLDG, MOVEDIN and INCOME. Within the South End respondents who reported that their neighborhood was dominated by single-family or two- to four-family houses were more likely to have converted than those that the described the surrounding buildings as "apartments" or "a mixture of residential and commercial uses". Respondents that had lived longer in their unit and earned higher incomes were more likely to have converted in the South

End, all other things being equal. The simulations show that a subsample composed entirely of households with annual incomes in excess of $50,000 in 1985 would be expected to have 52 percent converters. The last simulation shows the interactive effect of MOVEDIN and INCOME. A subsample with the combined characteristics of very low income and having just moved to their South End residence would be expected to contain only 6 percent converters. On the other hand, a sample composed of wealthy, long-term residents would contain 73 percent converters according to the South End model.

A second set of simulations, shown in Table 6.5 test the sensitivity of the Altruist/Savvy model to changes in respondent attributes. The fourth model in Table 6.3 was selected for these simulations because it contains demographic variables of most interest to policy makers. Although the third Altruist/Savvy model performed best in a statistical sense, it is based on attitudinal variables that would be harder to obtain short of conducting a survey simular to the one undertaken for this study.

The 61 cases used in this set of siumulations were split roughly in half between altruistic converters (47 percent) and savvy converters (53 percent). This classification scheme is most sensitive to the INCOME, FSTHOME, and CHILDREN variables. If the entire sample consisted of converters earning less than $10,000, the model predicts that 87 percent would fall in the altruistic category. Conversely, if they all earned in excess of

Table 6.5

SIMULATIONS OF
ALTRUISTIC/SAVVY DISCRIMINANT FUNCTION

Variable		Altruistic Converters	Savvy Converters
	Actual incidence	47%	53%
	Discriminant model	48%	52%
FSTHOME	Actual: yes = 63%		
	Simulation:		
	yes = 0%	83%	17%
	yes = 100%	36%	64%
INCOME	Actual: mean = 4.3		
	median = 4.0		
	(4 = $30K - $40K)		
	Simulation:		
	less than $10K = 100%	87%	13%
	more than $50K = 100%	21%	79%
VAR	Actual: variance obtained = 54%		
	Simulation:		
	variance obtained = 0%	55%	45%
	variance obtained = 100%	35%	0.65
PERSONS	Actual: mean = 3.2		
	median = 3.0		
	Simulation:		
	PERSONS = 1.00	31%	69%
	4.00	54%	46%
CHILDREN	Actual: yes = 31%		
	Simulation:		
	white = 0%	79%	21%
	white = 100%	34%	66%
MOVEDIN	Actual: mean = 4.2		
	median = 4.0		
	(4 = 10 - 14 years)		
	Simulation:		
	more than 45 years = 100%	75%	25%
	less than 5 years = 100%	25%	75%
MARRIED	Actual: yes = 36%		
	Simulation:		
	yes = 0%	55%	45%
	yes = 100%	40%	60%

Simulations based on a sample of 61 converters homeowners and the results of Model 4 as shown in Table 6.3.

$50,000, the model would expect to find that only 21 percent of the group belonged in the altruistic category.

In conclusion, the discriminant models developed in this chapter provide a more rigorous test of two of the hypotheses discussed in the previous chapter. First, the socio-economic characteristics of converting homeowners differ significantly from those of nonconverting homeowners in the Boston sample. After controlling for the effects of neighborhood and the structural attributes of respondents' properties, these socio-economic characteristics still account for many of the differences between converters and nonconverters. Thus, homeowner characteristics act as significant predictor of conversion activity along with local market conditions and the physical suitability of a structure to undergo conversion.

Second, the discriminant analysis confirms the observation that there are two types of convertrers presently operating in the Boston neighborhoods surveyed. The group characterized by altruistic motives shared socio-economic traits in addition to their common aim of providing affordable housing for a friend or relative. By the same token, the savvy converters were discernable from the altruistic group through their demographic and economic characteristics, as well as their motives.

As discussed in the following section, both models developed in this Chapter have potential applications for neighborhood policy and planning. The converter/nonconverter model could be used to predict which neighborhoods will have the highest rates of conversion activity. The altruist/savvy model would help housing analysts understand the type of conversion activity likely to take place in a given neighborhood as well as the type of tenants to be served by conversions.

Notes to Chapter 6

1. A discussion of the derivation of the discriminant coefficients is beyond the scope of this dissertation. A complete description of the mathematical basis for the discriminant functions is contained in William Cooley and Paul Lohnes, Multivariate Data Analysis, (New York, NY: Wiley and Sons, 1971), pp. 243-250; and M. Goldstein and W.R. Dillion Discrete Discriminant Analysis, (New York, NY: Wiley and Sons, 1978).

Chapter VII

CONCLUSIONS AND POLICY ANALYSIS

An underlying premise of this dissertation has been that conversion activity is a "hidden" source of housing production--undocumented by housing analysts, ignored by planners and policy-makers, and unregulated by local authorities. Chapters 3, 4, and 5 all sought to uncover several of the hidden aspects of conversion activity in order to understand its role in urban housing markets. Chapter 3 showed the national and regional importance of conversions, as well as the difficulties involved in measuring conversion activity on a nationwide level. Chapter 4 highlighted some of the issues raised by conversion activity at the metropolitan and jurisdictional levels through descriptions of regulatory responses across the nation and in Boston, Massachusetts. The fifth and sixth chapters focussed on the role of conversion activity in particular, localized housing markets of Boston. The findings from a survey of homeowners in these markets were used to illuminate the motivations and methods of converters in three Boston neighborhoods.

Survey Summary

The survey results presented in chapters 5 and 6 successfully tested several of the hypotheses posed at the outset, although several of the hypotheses remain untested. In one sense, the

survey results challenged the initial premise that conversions are "hidden"--between 21 percent and 53 percent (depending on the neighborhood) of the homeowners interviewed were aware of conversion activity on their street. Nevertheless, these conversions were covert in the sense that approximately one-half had been accomplished without the proper permits or variances. Moreover, tax assessments of many of these converted properties did not reflect the higher occupancies. Thus, conversion activity remained hidden from the regulatory system, even while functioning as an integral part of the rental housing market.

The survey findings indicate that the supply of converted housing does not appear to be constrained by the regulatory system. Local zoning laws and variance procedures did not diminish the ability or the willingness of property owners to add dwelling units to their properties in the three Boston neighborhoods targeted by the survey. It is true that a small percentage of the respondents reported that an excess of redtape kept them from carrying out their plans to add a rental unit. However, the survey results showed that many other property owners were not held back by the regulatory process. In fact, approximately one-half of the converters circumvented it.

The increase in the amount of conversion activity in Boston coincided with demographic changes--first with increases in the number of smaller households in certain gentrifying neighborhoods, and, ultimately, with population increases for the city as

a whole. [1] Boston's recent citywide population growth has been largely attributable to an increase in young, childless city dwellers. Conversions meet the demand of these one- or two-person households through small, affordable units in centrally located neighborhoods. Even though the market pressures for small rental units were spread more or less uniformly throughout each of the surveyed neighborhoods, homeowners did not respond to the rising demand in a uniform fashion. In fact analysis of the Boston survey data show that certain homeowner characteristics are more closely associated with converters, even after controlling for the effects of neighborhood and structure type.

The survey results also show how demand and supply for urban rental units meet in a "gray market" that operates both inside and outside the regulatory process. Even though most conversion projects conformed with building codes, few satisfied zoning requirements. Converters were more likely to obtain building permits from the Inspectional Services Department than to get variances or conditional use permits from the Board of Appeal.

Most conversions are characterized by an informal production process. High amounts of owner labor, low levels of outside financing, and disregard for local zoning laws contrast with the techniques used by professional developers. The motives of converters, whether altruistic or financially-based, also differ from the profit motive of professionals. Altruistic converters'

principal motive is to provide housing for friends or relatives. Savvy converters are more concerned about offsetting their mortgage payments or other housing costs than about making a profit. Despite these differences, the survey results reveal that converted units are treated as close substitutes for rental housing produced by conventional methods. Low vacancy rates and competitive rents among a large portion of the sample of converted units provide evidence of the high demand for converted housing.

Two concurrent factors present in Boston during the early eighties--the availability of an underused resource (large, row houses and triple-deckers) and an increase in demand for rental housing close to a resurgent downtown--required a third catalyst before a market solution could be reached.

This catalyst, the converter, is different from other developers of rental housing. The most obvious difference is that converters are amateur producers. However, they also distinguishable from other homeowners. The survey results reveal that converters are a diverse group, yet they do share several key attributes. Not all homeowners are as likely to become converters as others. Large amounts of capital may be required, even by those who rely on their own labor.

In addition to having surplus space on their property and access to capital, converters must possess other qualities not directly addressed by the survey. They have to be willing to

take on the responsibilities associated with managing a rental property. (Even with existing rental units on the premises prior to conversion, another apartment certainly adds to these management tasks.) Moreover, the method of conversion favored by nearly all the respondents--subdivision of their existing unit--requires homeowners to give up large portions of their living space. Elderly households with plenty of furnished surplus space may be reluctant to sacrifice a lifetime's accumulation of possessions in order to make room for an accessory unit. Other homeowners may simply not be psychologically prepared to alter their homes and, in some cases, to reduce their privacy in order to make the most efficient use of their property.

The survey does reveal two types of households willing to make these sacrifices. Savvy converters tended to make changes to their property soon after purchasing and probably felt the reduction in living space less acutely. Altruistic converters added units after they had lived in their homes a much longer time. However, because they were renting to friends or relatives, they also would not feel the effects of the loss of privacy and living space as much as other homeowners might.

A final tally of outcomes illustrates the wide array of winners and losers generated by conversion activity. Converters themselves emerge indisputably better off. The financial objectives of savvy converters appear to be realized through rental

income and tax benefits generated by the added apartment. Altruistic converters successfully meet their primary objective--to provide affordable housing for friends or relatives. In the process of adding a unit, converters garner other benefits as well. For example, property values are enhanced--often without fear of immediate reassessment--the favorable tax treatment of income-earning real estate helps shelter other income, and improved security (or at least the perception of it) results from the presence of new tenants.

As discussed earlier, there are drawbacks and risks associated with converting:

- Becoming a landlord may be more work than some converters bargained for.
- The costs of converting, including the loss of space and privacy may turn out to be higher than the benefits.
- The risks associated with illegal conversion, though relatively minor, include payment of fines for zoning violations and appearances before the Board of Appeals.

Nevertheless, as shown in the pro-forma in Appendix B, a prototypical converter will achieve high internal rates of return and positive net present values, based on a set of assumptions derived from the survey results.

The effect of conversion activity on other homeowners is more ambiguous. South End homeowners associated conversion activity with neighborhood revitalization, residential reinvestment, and, in some cases, displacement. Residents of Jamaica Plain believed that conversion activity led to traffic

and parking congestion and declining property values. Allston-Brighton respondents associated the addition of converted rental units with an influx of unwanted neighbors.

In conclusion, the attitudes of nonconverting neighbors clearly indicate the mixed effects that the introduction of more rental units can have on a residential area. The negative comments of many of the respondents point to the pernicious effects of poorly enforced zoning laws. On the other hand, many other respondents stated that conversion activity had a positive effect on their neighborhood through the promotion of rehabilitation and reinvestment in older buildings. By taking place outside the control of local zoning laws and planning procedures, conversion activity cannot be steered to areas where the positive effects are strong and the negative effects are minimized. Instead, conversions take place in neighborhoods where the demand for small rental units is high, and where an ample supply of both suitable structures and homeowners willing to convert exists.

Citywide Imacts of Conversion Activity

The survey results also shed light on the largest group affected by conversion activity--all city residents. A general equilibrium approach suggests that the consequences of conversion activity extend beyond the neighborhoods where they occur. Both negative and positive effects may be far-reaching. For instance, the underassessment of converted properties represents a

potential fiscal problem for the rest of the city. Property tax revenues constitute the largest source of revenues to the City of Boston. Owners of fully assessed property end up subsidizing the residents of underassessed properties. As the survey showed, converted properties exhibit a high incidence of underassessment. Households living in converted units require police and fire protection, trash collection, and the provision of schools for their children. Yet, the owners of converted properties do not pay the additional taxes to cover these essential services.

However, the underassessment issue may not have an enduring negative impact on the overall fiscal health of the City. The survey showed that very few residents of converted units have school-age children. Furthermore, the records from the Planning Board of Appeal show that many illegally converted properties are eventually legalized. For a number of reasons, underassessment is often corrected with the sale of converted dwellings:

- Reassessment in Boston is based on sale price; if the price of a property reflects the addition of rental units, so does the new assessment.
- Owners frequently legalize converted units before a sale in order to enhance their property's value.
- Buyers also legalize converted properties in order to qualify for a larger loan or simply in order to comply with existing zoning laws.

To the extent that reassessment does take place, the added value of the converted dwelling units can be expected to be fully

capitalized into Boston's residential tax base, in the long run. Thus, the short-term negative fiscal impact of conversions may ultimately lead to a beneficial effect, as converted properties are gradually turned over and reassessed.

In the short term, other general equilibrium effects may be more unambiguously benign than the effects of underassessment. For instance, in neighborhoods that had previously been thought to be builtout (i.e., fully developed), the addition of rental units serves as an alternate source of supply. The introduction of converted units may dampen rapid rent escalation in areas where landlords were previously able to obtain quasi-monopoly rents. The 2,200 units added through residential conversion activity between 1974 and 1984, including approximately 1,100 illegally added units, compete in the same market as 160,000 other rental units in Boston--so the effect on citywide rent levels is probably quite small. [2] However, in specific neighborhoods and for specific submarkets, such as Jamaica Plain or the South End-- where conversions account for approximately 5 percent of the private rental housing stock and over 60 percent of the annual increase in the supply of rental housing--the additional units may meet the demand not served by any other existing inventory of rental housing.

Conversion activity expanded the spectrum of housing opportunities for renters in Boston at a time when demand for small

rental units was rising faster than the supply. The below-market rents offered by altruistic converters provides direct evidence of the positive effect of additional units for the friends and families that moved into the converted units. To a lesser degree, other renters in the city of Boston benefited from conversion activity, whether or not they currently reside in a converted unit. The conversion process may have kept rents from accelerating faster than they would have, if increases in the supply of rental units had remained limited to new construction. By acting as a "pressure valve" in Boston's tight housing market, conversion helped relieve the intense competition for smaller rental units in the $350-$600 (per month gross rent) range. The survey showed that the rents of converted units were more affordable for a wide range of smaller households than the least expensive newly-constructed apartments, which were renting in the $800-$1,200 range (depending on the neighborhood) at the time of the interviews. The rents of about half of the converted units in the sample were below the median rents in the neighborhoods where they occurred.

From a nonconverting landlord's point of view, increases in the supply of rental units may have slowed the increase in the effective rates of return earned by some rental properties. Yet, the concurrent surge in demand for rental housing in Boston's central neighborhoods has been so great that vacancy rates declined between 1974 and 1980. In fact, the rental vacancy rate

in the city of Boston, which decreased from 10.4 percent in 1974 to 9.2 percent in 1977 according to the Annual Housing Survey, is now less than 5.0 percent as measured in special surveys conducted by the Boston Redevelopment Authority. The average advertised rent in Boston rose 16 percent from $455 in 1983 to $528 in 1984, so there is little evidence that conversions exerted any downward pressure on rents at all. In contrast to rent-control laws, conversion activity was a negligible factor affecting the rates of return earned by many property owners during the rapidly growing demand for rental housing in these three neighborhoods.

Converted units filled an important niche in the rental housing market at a time when many landlords were changing their rent-controlled properties to condominium ownership or letting them deteriorate. Apartments added to owner-occupied structures were (and still are) exempt from these rent-control restrictions. By setting rents to market levels, converters could recoup their investment in less that six years, even before taking potential tax benefits into account (based on the median rent of $500 and a conversion cost of $30,000; see Appendix B for a more sophisticated financial analysis). Furthermore, if owners converted illegally, there was little risk of reassessment.

In conclusion, this analysis shows that conversion activity is a relatively low-risk proposition that helps solve the affordable housing problems of at least three, and perhaps four,

different groups. 1) Altruistic converters successfully provide affordable housing for friends or relatives, 2) while meeting some of their own needs as well. 3) Savvy converters reduce the burden of their own affordable housing problem by defraying their mortgage payments with rental revenues, while reaping tax benefits at the same time. 4) The tenants of these savvy converters are arguably the third group whose affordable housing problems are eased by conversion activity. These tenants pay market rents for their apartments, but their accommodations are generally a step lower in quality than the newly built or renovated apartment buildings available in sections of all three neighborhoods. Thus, these converted units provide the only way that many of these tenants could ever afford to live in such desirable neighborhoods as the South End or Jamaica Plain.

Implications for Public Policy

In addition to the positive benefits that accrue to Boston converters and their tenants, the survey clearly shows the widespread awareness of spillover effects--both positive and negative--that are felt in the rest of the neighborhood. Mitigation of these negative effects and encouragement of the positive effects cannot be undertaken without making certain public policy choices. These choices are not presently being made. As the survey disclosed, at least one-half of all conversion activity

takes place outside of the regulatory system. Even those conversions that do take place legally are served by a permit and variance process that is not directly connected to any citywide housing policy.

The data provided by the survey could serve as a useful policy tool to guide decision makers--both public officials and members of community groups--as they grapple with the issues raised by conversion activity. These issues can be quite complex. For instance, the survey results show that both positive and negative spillover effects can differ from neighborhood to neighborhood. In the South End, conversions are a welcome sign of revitalization; in Allston-Brighton, they are viewed as a source of instability. Furthermore, there are several citywide issues raised by conversion activity--Do conversions make more than a modest contribution to the supply of affordable housing? Does the City's lack of knowledge about conversions lead to problems with public service provision and taxation?

The survey results presented in this dissertation only address these issues directly in the three targeted neighborhoods. Nevertheless, the conversion patterns described by homeowners in these three Boston neighborhoods represent a fairly wide range of motivations, reactions, and concerns. The following discussion exmphasizes some of the key issues that the survey brought to light. Each policy question is followed by a

brief analysis and recommendation.

Policy Question

Does conversion activity in owner-occupied dwellings contribute to the supply of affordable rental housing?

Analysis

Conversion activity has undoubtedly made a modest contribution to the supply of rental housing in Boston. By combining the survey results, which show that one-half of all converters did not obtain a variance, with records from the Board of Appeal, which show the legal addition of 150 units in 1984 (to buildings with five or fewer units prior to conversion), a rough production estimate of 300 units per year can be obtained. This estimate represents 16 percent of the total housing production in Boston that year. Although there is no way to be absolutely sure, an overwhelming proportion of these additions were probably rented, rather than sold as condominiums, if the three neighborhoods surveyed are representative of the rest of Boston. In any event, this 16 percent market share translates into a miniscule amount compared with the total inventory of rental housing in Boston (0.3 percent). Nevertheless, conversions of owner-occupied buildings have made a significant contribution to the marginal increases that Boston is limited to, due to the scarcity

of buildable sites.

From a public policy perspective, rental rates asked by converters and the characteristics of their tenants are more pertinent pieces of information than the total number of units added to owner-occupied dwellings. The evidence from the survey suggests that two different markets are served by conversions. One market consists of friends and relatives of converters, who pay substantially less than competitive rental rates. The other market pays rents that are less than those of newly constructed or renovated apartment buildings, but are competitive with older rental units in the surveyed neighborhoods.

"Affordable housing"--the holy grail of so many public officials including the current administration of the City of Boston--is a vague and sometimes misleading policy objective. Affordability is a relative term that can refer to vastly different rental rates, as well as varying sizes and quality of housing, depending upon the socioeconomic group making the housing expenditure.

The apartments created by the savvy converters are not affordable by the standards of most lower-income households. Such households will also not be served by altruistic converters, unless they have a friend or relative who owns a large house and is willing to convert--an unlikely circumstance for many of the urban poor. On the other hand, converted housing is affordable for many middle-income renters who cannot pay the higher rents

asked by professional, private-sector landlords. If conversions are to be encouraged through any public policy initiatives, policymakers must be explicit about the groups that will be served. The survey results offer little evidence that the lowest-income groups are currently being served, either as tenants or as converters. Furthermore, there is scant evidence that "filtering" will take place in a heated-up rental market such as Boston's--few lower-priced apartments will be freed up when tenants move into converted units. The tenant profile described by many converters in the survey is of a young, one- or two-person household--a household type that frequently represents a first-time renter. To the extent that many of the occupants of converted units are start-up households, very few units will be freed up--thereby reducing the likelihood of any "filter-down" effects.

Policy Recommendations

Conversion activity is not a panacea that can cure a shortage of affordable rental housing, especially for low-income households. The supply of converted units is ultimately constrained by the necessary inputs: underutilized large homes and homeowners willing to take on landlord responsibilities. Conversions do represent an important market response to the rising demand for small, middle-priced rental units in certain desirable Boston neighborhoods. The fact that the private sector responded

to this demand in the absence of any public policy encouragement could be interpreted as evidence that no public policy input is needed. However, the presence of negative and positive spillover effects associated with conversion activity support the case for monitoring and regulating the addition of rental apartments to owner-occupied structures. Inequities and inefficiencies arise when conversion activity takes place whenever and wherever the private market dictates. By the same token, conversion activity could make a greater contribution to the supply of affordable rental housing for lower-income households, if homeowners in lower-income areas could gain access to the financing and expertise needed to become "amateur" landlords.

As a first step, housing policy analysts in cities such as Boston should become cognizant of the role that conversion activity plays in various types of neighborhoods. In neighborhoods where conversion activity has created positive spillover effects, including the creation of affordable rental housing for certain groups, the possibility for allowing conversions without requiring a variance should be explored. As discussed in the next issue and policy section, the existing public policy tools of zoning and variance enforcement should be exercised aggressively in neighborhoods where conversion activity has created negative spillover effects.

The finding that conversion activity contributes to the

supply of rental housing does not, by itself, justify the use of public policy tools to subsidize or encourage other homeowners to convert. The role of conversions must be examined by local policymakers in view of their overall housing strategy. If providing affordable rental housing for low-income families is a component of that strategy, then the effectiveness of promoting conversion activity would have to be assessed relative to other low-income housing policies and programs. As discussed earlier, Boston homeowners are probably ill-equipped to deal with the challenge of housing low-income families--no matter how extensive the subsidy. However, if City officials believe that encouraging production of market-rate rental housing for one- or two-person households is a goal worthy of subsidization, there are a range of policy initiatives they could consider. Examples of these policies are described in the sections below.

Policy Question

Does conversion activity in owner-occupied buildings affect neighborhood quality?

Analysis

The survey results leave little doubt that many homeowners perceive changes in their neighborhoods as a direct result of conversion activity. Approximately 90 percent of all respondents who were aware of conversion activity on their street reported

some effect, and most were willing to give specific examples to back up their assertion. In the neighborhoods with the highest incidence of conversions, more than one-half of the nonconverting homeowners believed that conversions affected their neighborhood, either positively or negatively. Although no independent, non-resident opinions were solicited to corroborate the respondents' impressions, the residents' perceptions of neighborhood change are one of the best measures of the effect of conversions on neighborhood quality. Even if the perceived changes are greater than the actual changes (in an absolute sense), the importance of residents' perceptions cannot be denied.

The types of effects reported by the neighbors of converters have profound implications for zoning policies and implementation in Boston and other cities. The negative effects reported by the survey respondents fall into three general categories--the first encompasses all complaints that stem from increasing residential densities (e.g., traffic, parking, noise); the second relates directly to the characteristics of the incoming tenants (e.g., transients, students, or others who don't care about the neighborhood); and the third is prompted by fears that conversion activity may have been accompanied by the displacement of other long-term renters. The positive effects mentioned fall into three similar categories: improved maintenance of local buildings, high quality of new neighbors, and welcome additions

to the local supply of affordable housing. An overarching concern--the effect of conversion activity on property values--was mentioned in conjunction with both positive and negative changes.

Policy Recommendations

The widely divergent reactions of Boston homeowners reveal the complex range of spillover effects attributed to conversion activity. Dealing with the complexities of neighborhood change from a policy perspective also requires confronting issues relating to the tools of neighborhood planning. Positive effects cannot be encouraged and negative effects cannot easily be mitigated until conversion activity is brought under the aegis of a neighborhood planning system. This system does not need to be remote, bureaucratic, or operate without input from local residents. However, it should have the capability to guide local development, including conversion activity, within a well-informed framework.

Few planning agencies or community groups are sophisticated enough to monitor the subtle, incremental changes in neighborhoods that occur as a result of illegal conversion activity. By the time that conversions have reached a concentration level where negative effects become intolerable to some, it may be very costly and politically divisive to force compliance with local zoning laws. Local policymakers can avoid some of these adverse effects by anticipating the concerns of residents who fear that

their neighborhoods will be ruined by the introduction of more rental units. In neighborhoods where conversion activity is welcomed, local zoning should reflect a more liberal attitude to conversions.

In either case, converters must be required to register their requests to add rental apartments with local community groups and planning officials. The stringency of this registration process would differ from neighborhood to neighborhood, depending upon community concerns. Tolerance levels for conversion activity could be monitored through meetings with community groups or the use of attitudinal surveys undertaken in each neighborhood. The results of these surveys could be used to establish the number of restrictions to be imposed in each neighborhood through the zoning code or building permit process. Whatever methods are used to tailor zoning to suit the specific needs of individual neighborhoods, these ordinances must be enforced with greater vigilance.

Policy Question

What role does public policy currently play in regulating conversion activity in the City of Boston? What role should it play?

Analysis

The regulatory system set up to deal with conversion activity in Boston is not guided by any explicit policy at all. Instead, its primary role is to enforce an obsolete zoning code inherited from a different era in the city's economic and social history. The secondary role is to respond to complaints when the system fails in its primary function. The City departments set up to carry out these two roles are severely understaffed, so as a practical matter, virtually no effort is put into the primary enforcement function, and staff spend most of their time responding to complaints.

According to the survey findings, this system forces one-half of all would-be converter to go through a lengthy, politicized hearing process in order to get the City's approval. These hearings typically consist of a rubber-stamp approval, unless organized community opposition is voiced. The other half circumvent the regulatory process either in part (by obtaining a building permit, but not a variance) or entirely (by not obtaining either). The official policy toward this group of converters is that their actions are illegal. The implicit policy is that anything you do with your property is your own business as long as it doesn't lead to a complaint from one of your neighbors to any of the City agencies that deal with private-sector housing. In effect, neither the official nor the implicit policy are able to discourage illegal conversions in neighborhoods where this activity is disruptive, unless a complaint is

filed. From the City policy-makers' point of view, this purely reactive posture does not permit conversion activity to become linked with other planning or policy efforts aimed at citywide housing issues. Not only are the number and location of these illegal units unknown to the City's housing analysts, but their accumulation in certain neighborhoods means that the zoning currently on the books bears little relation to reality.

The irony of the current system is that both the hypothesis to be tested by the survey (the supply of converted units is constrained by the regulatory process) and its alternative (local zoning laws and variance procedures do not seem to affect the ability of property owners to add rental units) both prove to be true. Law-abiding citizens who want to follow the proper procedures must face the lengthy ordeal of submitting plans to the Inspectional Services Department and the Boston Redevelopment Authority, meeting with their local community organizations, and finally, after an average wait of eight to ten weeks, making an appearance before the Planning Board of Appeal. It is not surprising that several interviewees reported being discouraged from adding rental apartments to their properties, because "there is too much redtape involved."

At the same time, homeowners who are less scrupulous or who are ignorant of zoning laws do not appear to be affected by the regulatory process in the least. They know the risk of being

cited for a zoning or building code violation, but they also know their chances of being reported are slim (as long as they remain on good terms with their neighbors) and the penalties for being caught are relatively minor. The worst that can happen is that they would have to evict their tenant and lose their new-found source of rental income. More typically, illegal converters cited for zoning violations simply apply for a variance. The members of the Board of Appeal tend to look favorably on requests for permission to legalize an existing violation, especially if the apartment has been in place for a year or more. Their reasoning is that the neighborhood has already adapted to the conversion, because so many converted apartments are legalized ten or more years after they were created. Moreover, it is in the City's interest to collect the double fee demanded of all legalization cases than to enforce and monitor a "cease and desist" order. The cumbersome regulatory process in Boston does not hamper the production of illegally converted units, but it does hinder other neighborhood planning aims, such as full property tax assessment, the promotion of neighborhood stability, and the provision of public services.

Policy Recommendations

In most cities, the zoning code is the principal tool that policymakers have at their disposal to control conversion activity. In Boston, as in many other jurisdictions, this tool

is not used effectively for a number of reasons:

- There are few links between the zoning in force in a particular area and the housing goals pursued by City agencies. In fact, the two are sometimes at odds.

- Prevailing zoning does not reflect reality in many older, residential areas. The accretion of granted variances and illegal activity leads, over time, to a new residential mix that bears scant resemblance to the intention of the original zoning ordinance. In many areas, current zoning is a holdover from a previous stage in the neighborhood's development.

- Zoning enforcement in Boston is reactive, at best. Illegal converters take advantage of the fact that the system only responds to complaints and that there is widespread ignorance of zoning laws. Without sanctions or enforcement, the regulatory system loses its legitimacy in the eyes of many citizens.

Before any zoning reform can take place, the first step is the formulation of citywide housing goals that are responsive to citizens' needs. An explicit declaration of these goals must guide the reexamination of the housing regulatory system in any city. In the case of Boston, City officials should adopt a coherent policy toward conversion activity that acknowledges the link between the addition of rental units to owner-occupied housing and the production of moderately priced rental apartments. If promoting the production of these rental units becomes part of Boston's overall housing strategy, then specific policies could be implemented.

For instance, zoning restrictions could be eased in neighborhoods with favorable attitudes toward conversion activity and where public facilities can accomodate the extra units. The

zoning in these neighborhoods could allow a conversion "by right" (i.e., without a variance) as long as building codes and urban design guidelines are followed. This policy would remove the necessity of a hearing before the Board of Appeal, but would still require the approval of a building inspection (for building codes) and a BRA design review (for compliance with urban design guidelines).

Housing analysts could monitor this activity to make sure that it did not lead to the deterioration of neighborhood quality. As soon as signs of excessive residential densities are observed, neighborhood planners could reimpose restrictions on further conversion activity. In neighborhoods where conversions are disruptive, an active program of zoning enforcement must be coupled with the cooperation of the Planning Board, which must begin denying variances for proposed or legalized conversions in these targeted areas.

The next step required to reinstate zoning as an effective policy tool would be to establish an ongoing zoning review process. This review process would be responsible for making sure that the zoning restrictions that apply in each neighborhood reflect an appropriate balance of existing building and land uses, community standards, and citywide housing goals. Changes should be made wherever the prevailing zoning impinges on local concerns or citywide goals. The primary objective of these code

revisions would be to tailor the zoning in each neighborhood to its ability and willingness to absorb conversion activity. The secondary purpose would be to realign zoning districts with existing conditions. The revisions would improve the integrity of the system and would encourage property owners to acknowledge zoning restrictions. Neighborhoods are not static; they change constantly. Zoning must be allowed to evolve along with these neighborhood changes.

The key to successfully reforming the conversion regulatory process lies in restoring citizens' faith in the system. This may also be the most difficult policy element to carry out. There are three overlapping areas where efforts should be concentrated in order to achieve this goal: enforcement, efficiency, and education.

Enforcement. One of the most effective ways to improve enforcement would not involve any extra staff time or field visits. The survey results revealed that nearly all converters obtained a building permit, as required, even if they did not obtain a variance. In order to receive this permit, a building inspector has to review the construction plans and must often also make a site visit. These inspectors could be trained to spot proposals that might result in the creation of rental units, even if the applicant does not fully state his or her intentions. In addition, these inspectors should be thoroughly familiar with the Boston zoning code and be able to explain the procedures for

obtaining a variance to potential converters.

Inspectors should conduct "postmortems" on certain types of renovation proposals, especially those highly correlated with conversion work--data from the homeowner survey could be used to establish these correlations. These "postmortems" would consist of unannounced spot checks one year after a building permit expires. Sanctions, not now imposed by building inspectors, could add clout to the enforcement system. General contractors who do work that violates zoning codes could have their licenses revoked--as is done for work that does not meet building codes.

The cost of other enforcement techniques could be kept low by targeting areas where illegal conversions are most prevalent. The models developed in Chapter 6 would prove useful for establishing neighborhoods and structures where conversion activity is likely to occur. Data on demographic and structural attributes, which are readily available in other City departments, could be applied to the coefficients derived from the neighborhood survey. Simulations of the model would show the conversion propensities of different locations and properties through their discriminant scores. Buildings that have particularly high discriminant scores could be spot checked through on-site visits.

The primary emphasis of any enforcement efforts should be to make all potential converters aware of the applicable zoning laws in their neighborhoods. The legalization of existing illegal

conversions should be pursued as a secondary objective. Illegal conversions that are not disruptive to the surrounding neighborhood should be legalized with only modest penalties imposed. Homeowners that come forward voluntarily could even be exempted from all penalties. However, a highly publicized system of modest fines could be imposed on conversions that do disrupt communities. Nominal bounties could be paid to community groups that report illegal conversion activity out of the revenues raised by these fines. (These fines should not be viewed as a potential source of revenue for the City.) In the most egregious cases of disruptive conversions (e.g., multiple units, overcrowding, units that don't meet building codes), illegal converters should be required to relocate tenants at their own expense.

Efficiency. The Board of Appeal hearings process needs to be streamlined and improved. These hearings are characterized by long delays and interruptions. At present, cases are heard by the Board of Appeal in a haphazard fashion. Hearings for homeowners who want to add rental units are scheduled alongside variance petitions for major commercial construction projects. A separate hearing process should be set up to deal only with residential cases, including conversions, in a consistent and efficient manner.

Members of the Planning Board need to be supplied with more information about the number of conversions taking place in any

given location. They should also be kept informed about the effects of conversion activity on neighborhood quality. At present, an adversarial system is used in which the petitioner (or his or her legal counsel) presents the case for the conversion and neighbors and members of local community groups make statements in support of or against the proposal. The persuasiveness of the presentation and the show of political strength by each side are often all the Board members have to go on. Professional neighborhood analysts from the local planning agency (in this case, the BRA) should be present to confirm or deny the validity of the arguments presented. The BRA representatives could also ensure that citywide housing goals are taken into consideration, as well as the concerns of neighbors unable to attend the hearing. The adversarial system has its merits for large, well-publicized development projects that have a high likelihood of attracting articulate advocates on both sides. However, this system is illsuited for minor real estate development projects, such as conversions that only occasionally attract much interest. The hearing process favors petitioners and complaintants with time on their hands to prepare and present their cases and with good political connections. In general, the minority with the greatest self-interest at stake is heard from, while spokespersons for neighborhoodwide or citywide issues are rarely present to testify. The input of an objective third party

is needed to balance the narrow interests of the self-selected sample of citizens who have the greatest motivation to appear at the hearings.

Education. The high levels of ignorance of residential zoning laws revealed in the survey are understandable, given the few sources of information available to homeowners. The choices open to would-be converters are limited: try to reach an overworked BRA staff member over the phone or purchase a copy of the Boston Zoning Code, a voluminous technical document. This code book contains all the detailed restrictions that apply to each zoning category in the city. However, separate phone calls must still be made to discover which zoning applies to one's own property.

In a city the size of Boston, a zoning primer, written in layman's language, is needed to explain the purpose and the procedures associated with residential zoning. This primer could contain instructions that describe what alterations are allowed in various zoning districts. Maps showing these districts could be prepared for each neighborhood and disseminated along with the "primers."

An entire section should be devoted to conversions, highlighted by the steps necessary to add a rental unit legally. The penalties for illegal conversions could also be discribed. This primer should also make citizens aware of the rationales for regulating conversion activity. If policymakers decide to pro-

mote conversion activity because of it contributes to the supply of rental housing, the zoning primer could list the advantages to converting the unused portion of one's house.

An urban equivalent to the U.S. Department of Agriculture's circulars could be developed to aid this promotion effort. Pamphlets describing how to add a rental unit and take on the responsibilities of a landlord could be distributed in neighborhoods where rental housing is in particularly short supply and where community support exists for conversion activity. However, instead of depending on the efforts of a federal agency, such as the Department of Housing and Urban Development, cities must rely on their own resources to promote and control conversion activity. The issues raised by conversion activity are highly localized: as a result, decisions regarding where and when to promote conversion activity must take place at the local level. City policymakers and community residents must work together to determine the housing needs in each neighborhood and the role conversions can play in meeting them.

Notes for Chapter 7

1. Ann Hafrey, Gregory Perkins, Alexander Ganz, et. al. "The Future of Boston's Poor; The People of The Boston City Hospital Area; Population Projections, By Race and Ethnicity, Age and Income, and Neighborhood-- to the Year 2000," unpublished report by the Boston Redevelopment Authority, Research Department, July 1985. Table 31 and 33 show that the population of Boston reversed a three-decade trend in the early eighties by increasing in population from 563,000 to 572,000 between 1980 and 1985.

2. The estimate for the total production of units added to residential units was based on the finding in the three surveyed neighborhoods that only half of all converters added a rental unit legally. The analysis of the Planning Board of Appeal records show that approximatedly 1,093 units were added legally to residential structures between 1974 and 1984. It seems reasonable to conclude, therefore, that the total contribution of residential conversions was approximately twice as great as the legally-added amount, or a total of roughly 2,200 units.

BIBLIOGRAPHY

Alonso, William. Location and Land Use (Cambridge, MA: Harvard University Press, 1964).

_____. "The Population Factor and Urban Structure," in Arthur Solomon ed., The Prospective City, (Cambridge, MA: MIT Press, 1980).

Apgar, William. "The Changing Utilization of the Housing Inventory," Joint Center for Urban Studies of MIT and Harvard University, October 1982.

_____ with Brown, H. James; Masnick, George; Pitkin, John; et. al. The Housing Outlook: 1980-1990 (New York, NY: Praeger 1985).

Baker, Kermit and Brown, H. James. Homeownership and Housing Affordability in the United States: 1968-1984, (Cambridge, MA: Joint Center for Housing Studies of MIT and Harvard University, 1985).

Black, J. Thomas. "Private Market Housing Renovation in Central Cities: A ULI Survey," Urban Land 34 , Nov. 1975, pp. 3-9.

Bradbury, Katherine. "Changes in Urban Housing Supplies Through Conversion or Retirement," Institute for Research on Poverty Discussion Papers No.417-77, University of Wisconsin-Madison, 1977.

Clay, Phillip. "Managing the Urban Reinvestment Process," Journal of Housing 36 (1979) 453-458.

_____. "Improving the Utilization of the Existing Housing Stock: The Case of Accessory Apartments," unpublished paper presented at a conference sponsored by the Joint Center for Urban Studies of MIT and Harvard University and the Lincoln Institute for Land Policy, July 1982.

Cohen, Margaret. Old Houses into New (Englewood Cliffs, NJ: Prentice Hall, 1982).

Collymore, Peter. House Conversion and Renewal, (London: The Architectural Press, 1975).

Connolly, Edward. "Single-Family Housing Conversions: A Strategy for Increasing the Housing Supply," Journal of Housing, April 1982, pp. 40-42.

Cooley, William and Lohnes, Paul. Multivariate Data Analysis, (New York, NY: Wiley and Sons, 1971).

DeGiovanni, Frank. "Patterns of Change in Housing Market Activity in Revitalizing Neighborhoods," American Planning Association Journal 49 (1983): 22-39.

Drier, Peter; Gilderbloom, John and Applebaum, Richard. "Rising Rents and Rent Control," in Urban and Regional Planning in an Age of Austerity, (New York, NY: Pergamon Press, 1980).

Downs, Anthony. Neighborhoods and Urban Development, (Washington, D.C. : Brookings Institution, 1981).

Fracchia, Charles. Converted into Houses, (New York, NY: The Viking Press, 1976)

Gale, Dennis. "Middle Class Resettlement in Older Urban Areas," Journal of the American Planning Association 45 (1979), pp. 293-304.

Gellen, Martin "Underutilization in American Housing: Residential Space Standards and Social Change," Working Paper No. 399 (Berkeley, CA: Institute of Urban and Regional Development, 1983).

_____ . Accessory Apartments in Single-Family Housing, (New Brunswick, NJ: Center for Urban Policy Research, 1985).

Goetze, Rolf Understanding Neighborhood Change (Cambridge, MA: Ballinger, 1982).

_____ . Changing Housing Standards, (Washington, D.C.: Public Technology, Inc. 1983).

Goldstein, M. and Dillion, W.R. Discrete Discriminant Analysis, (New York, NY: Wiley and Sons, 1978).

Gordon, Jacques. "Hidden Housing Production: Conversion Activity in the City of Boston," unpublished report to the Boston Redevelopment Authority, Feb. 17, 1986.

_____. "Neighborhood Change in Jamaica Plain: A Case Study of the Revitalization Process," Urban Institute Working Paper No. 1396-02, August 1981.

Grebler, Leo. Production of New Housing (New York, NY: Social Science Research Council, 1950).

Grigsby, William. Housing Markets and Public Policy (Philadelphia, PA: Univ. of Pennsylvania Press, 1963).

Hafrey, Ann; Perkins, Gregory; Ganz, Alexander Ganz; et. al. "The Future of Boston's Poor; The People of The Boston City Hospital Area; Population Projections, By Race and Ethnicity, Age and Income, and Neighborhood-- to the Year 2000," unpublished report by the Boston Redevelopment Authority, Research Department, July 1985.

Hare, Patrick. Accessory Apartments: Using Surplus Space in Single-Family Houses, (Chicago, IL: American Planning Association, 1981).

_____ . "Rethinking Single-family Zoning: Growing Old in American Neighborhoods," New England Journal of Human Services, Summer 1981, pp.32-35.

Hodges, Samuel and Goldman, Ellis. Allowing Accessory Apartments: Key Issues for Local Officials, (Washington, D.C.: U.S. Department of Housing and Urban Development, 1983).

Jacopetti, Roland. Rescued Buildings, (Santa Barbara, CA: Capra Press, 1977).

James, Franklin. "Back to the City: Case Studies on Private Neighborhood Revitalization in Eight Metropolitan Areas" Urban Institute Working Paper No. 0241-02 (Washington, DC: The Urban Institute, 1977).

Jordan, I. "Room Overcrowding and the Lodger Evil Program" in Housing Problems in America Proceedings of the National Housing Association Vol. 2, 1912.

Kaplan, Charles; et.al. Census '80: Continuing the Factfinder Tradtion, (Washington, D.C.: U.S.G.P.O., 1980).

Keyes, Langley C. The Rehabilitation Planning Game: A Study in the Diversity of Neighborhood, (Cambridge, MA: MIT Press, 1969).

Krohn, Roger and Flemming, E.B. "The Other Economy and the Urban Housing Problem," (Cambridge, MA: Joint Center for Urban Studies of MIT and Harvard University, 1972).

Listokin, David. The Dynamics of Housing Rehabilitation (New Brunswick, NJ: Center for Urban Policy Research, Rutgers Univ.), 1973.

Lowry, Ira. "Filtering and Housing Standards: A Conceptual Analysis," Land Economics 36 (1963): 362-370.

Masnick, George and Bane, Mary Jo Bane. The Nation's Families: 1960-1990 (Boston, MA: Auburn House, 1980).

_____ and John Pitkin. The Changing Population of States and Regions, (Cambridge, MA: Joint Center for Urban Studies of MIT and Harvard University, 1982).

Marble, E.H. "The Menace of the Three-Decker" Housing Problems in America Proceedings of the National Housing Association Vol. 5, 1916.

Mayer, Neil. "Rehabilitation Decisions in Rental Housing," Journal of Urban Economics, 10 (1981): 76-94.

McGough, Duane . "Additions to the Housing Stock by Means other than New Construction" unpublished paper, Department of Housing and Urban Development, 1982.

Mendelsohn, R. "Empirical Evidence on Home Improvement,"Journal of Urban Economics, 4 (1977) 459-468.

Merrimack Valley Planning Commission. One Family, Two Family: Accessory Apartments in the Merrimack Valley, (Haverhill, MA: Merrimack Valley Planning Commission, 1980).

Metropolitan Area Planning Council. Regulating Accessory Apartments in the Metropolitan Boston Region, (Boston, MA: Metropolitan Area Planning Council, 1978).

Muth, Richard. Cities and Housing (Chicago, IL: Univ. of Chicago Press, 1968).

Netter, Edith. "Accessory Apartments," Urban Land April 1984, pp. 34-35.

Ozanne, Larry and Struyk, Raymond. Housing from the Existing Stock, (Washington, D.C.: The Urban Institute, 1976).

Porell, Frank W. "One Man's Ceiling is Another Man's Floor: Landlord/Manager Residency and Housing Conditions," Land Economics 61 (1985).

President's Commission on Housing. Report of the President's Commission on Housing, (Washington, D.C.: U.S.G.P.O.) 1982.

Rodwin, Lloyd. Housing and Economic Progress: A Study of Boston's Middle-Income Families, (Cambridge, MA: Harvard University Press and The Technology Press, 1961).

Rothenberg, J. "Neighborhood Deterioration and the Urban Housing Market Complex" in Urban Housing, Proceedings of the Fourth Annual Conference, Federal Home Loan Bank of San Francisco, 1979, pp. 36-75.

Sagalyn, Lynne. "Who Owns Rental Housing? Ownership Patterns and Investment Incentives in the Boston Metropolitan Area," unpublished paper at a conference sponsored by the Joint Center for Urban Studies of MIT and Harvard University and the Lincoln Institute for Land Policy, July 1982.

Sickle Jean and Kascal, Julie. "Housing Options: Three Variations," Journal of Housing, June 1984, pp. 75-77.

Slavet, Joseph. "Current Issues in Regulation of Rents and Condominium Conversions," unpublished report, October, 1982 Boston Urban Observatory.

Solomon, Arthur, and Vandell, Kerry. "Alternative Perspectives on Neighborhood Decline," Journal of the American Planning Association, 48 (1982): 81-98.

Stegman, Michael. Housing Investment in the Inner City (Cambridge, MA: MIT Press) 1972.

Sternlieb, George and Burchell, Robert. Residential Abandonment: The Tenement Landlord Revisted (New Brunswick, NJ: Center for Urban Policy Research, 1973).

_____ with Hughes, James. "The Post-Shelter Society," The Public Interest 57 (1979): 39-45.

_____ with James Hughes. The Future of Rental Housing (New Brunswick, NJ: Center for Urban Policy Research, 1981).

Struyk, Raymond. Urban Homeownership (Lexington, MA: D.C. Heath, 1976).

Sweeney, J. "Housing Unit Maintenance and the Mode of Tenure," Journal of Urban Economics 8 (1974): 111-138.

Thibodeau, Thomas. "Estimating Dwelling Conversions During the 1970s," (Washington, D.C.: The Urban Institute, 1982).

Tri-State Regional Planning Commission. Legalizing Single Family Conversions (New York, NY: Tri-State Regional Planning Commission, 1981).

U.S. Department of Commerce, Bureau of the Census Components of Inventory Change, Vol.4 (Washington, D.C.: U.S.G.P.O., 1983).

U.S. Department of Commerce, Bureau of the Census, Annual Housing Survey, United States and Regions. Part A: General Housing Characteristics, (Washington, D.C.: U.S.G.P.O., 1973-1983).

U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, 1980-1985.

U.S. Department of Housing and Urban Development, The Conversion of Rental Housing to Condominiums and Cooperatives, (Washington, D.C.: U.S.G.P.O., 1980).

Warner, Sam Bass. Streetcar Suburbs: The Process of Growth in Boston 1870-1900, (Cambridge, MA: Harvard University Press, 1962).

Wheaton, William. "Urban Spatial Development with Durable but Replaceable Capital," Journal of Urban Economics 11 (1982).

Wentz, Roger and Irwin, Elizabeth. Accessory Apartments: A Local Housing Alternative, (Washington, D.C.: Metropolitan Washington Council of Governments, Sept. 1981).

Weicher, John; Yap, Lorene and Jones, Mary. National Housing Needs and Quality Changes During the 1980s (Washington, D.C.: U.S. Department of Housing and Urban Development, 1980).

_____ . Metropolitan Housing Needs for the 1980s, (Washington, D.C.: The Urban Institute Press, 1982).

Whittelsey, Robert. The South End Row-House and Its Rehabilitation for Low-Income Residents, (Boston, MA: South End Community Development Inc., 1969) p. 5.

Winger, A.R. "Some Internal Determinants of Upkeep Spending in Urban Homeowners," Land Economics 49 (1973): 474-478.

Winnick, Louis. American Housing and its Use: The Demand for Shelter Space (New York, NY: John Wiley & Sons, 1957).

Wolfe, H.B. "Models for Condition Aging of Residential Structures," Journal of the American Institute of Planners 33 (1967): 192-196.

Zufkin, Sharon Loft Living, Culture and Capital in Urban Change, (Baltimore, MD: Johns Hopkins Univ. Press, 1982).

Appendix A

METHODOLOGY

I. Sample Design

The objectives of the sample design were to construct a representative data set of Boston homeowners that was large enough for statistically valid analysis of conversion activity, yet would meet a stringent budget constraint. Two strategies were adopted in order to increase the likelihood of obtaining a large sample of converters. First, three neighborhoods were targeted that had higher than average levels of conversion activity, as measured by the number of requests for variances. This method also allowed valuable interneighborhood comparisons to be made. Second, a separate sample of legal converters was drawn from the records of the Board of Appeal. This citywide sample was used to bolster the number of converters identified in these three neighborhoods.

II. Neighborhood Sample Frame

A. Street Selection

The universe of homeowners in each neighborhood was identified through the use of Boston Streets and the City Assessor's records. The Boston Streets book lists all of the streets in the city by ward and precinct. However, the neighborhood boundaries chosen for this study corresponded to the neighborhood planning districts, as defined by the Boston Redevelopment Authority (BRA). These districts were first developed for planning purposes in the early seventies and were later revised by the BRA staff in conjunction with the Census Bureau's neighborhood statistics program just prior to the 1980 Census. The neighborhood planning districts do a much better job than the political subdivisions of matching physical boundaries with the socioeconomic attributes that contribute to neighborhood identity in Boston. Unfortunately, a comprehensive list of the streets that comprise each neighborhood planning district does not exist. The BRA staff have devised an equivalency chart that shows the wards and precincts corresponding to each district. This chart, along with the Boston Streets book, was used to establish the universe of eligible streets in each neighborhood.

B. Property Selection

A systematic sampling technique was used to select homeowners on all streets in each neighborhood. An owner-occupied

property was chosen at random in each neighborhood and used as a starting point. Every tenth owner-occupied structure was selected on either side of this starting point using the 1985 tax assessor's list. Owner-occupied structures were identified by matching the address of the assessed property with the address to which the tax bill was sent. All streets in the eligible universe for each neighborhood were sampled in this way. The first question on the survey instrument screened out any renters that may have slipped through this process. The phone numbers of the selected homeowners were identified using the 1985 edition of Cole's City Directory. An attempt was made to match the name on the tax bill with the name and phone number shown in the Cole's City Directory. Phone numbers not listed in this directory were obtained by calling directory assistance, whenever possible.

Using the 1980 Census of Population counts shown in Table A.1 as an approximate universe, the selection process resulted in a one-in-ten sample. Due to refusals, no responses, and a few renters slipping through the selection process, the ultimate sample size was about one in 20, in terms of completed interviews.

The firm of Bell Associates, Inc., of Campbridge, Mass., conducted the interviews by telephone. The average length of an interview was eight minutes for nonconverters and 20 minutes for converters. Interviews were conducted in English, Spanish, and Chinese. Interviewing started on August 7, 1985, and was completed on September 4. A total of six attempts spaced over two weeks were made to reach each member of the sample. Interviewing was conducted between 5:00 pm and 9:00 pm on weekdays, between 11:00 am and 6:00 pm on Saturdays, and 2:00 pm and 8:00 pm on Sundays.

III. Oversample Selection

The universe for selection of the "legal oversample" consisted of all the owners of residential properties that had successfully petitioned to add one or more rental units before the Board of Appeal over the last six years. At first, the intention was to include only those cases that involved properties in the same three neighborhoods used in the random sample. However, due to the difficulty in finding phone numbers for the petitioners in these three neighborhoods, the universe was expanded to include successful petitioners in owner-occupied structures all across the city. Cole's City Directory was again used to determine phone numbers at the address of each legally converted property. No attempt was made this time to match the name on the variance petition with the name in the Cole's directory

because of the scarcity of such matches. As a result, only 25 of the 98 completed interviews in the oversample group were with the owners who had actually undertaken the conversion. The other 73 were purchasers of a converted property who did not own the property at the time it was converted. This group was interviewed with the nonconverter survey instrument described below. However, their responses were not tabulated and presented along with the responses of the non-converters in the neighborhood sample.

IV. The Survey Instruments

Two survey instruments were designed, pretested, and used in this study. The first instrument, consisting of 18 categorical and open-ended questions, was used for respondents who had not added any independent dwelling units to their property. Respondents were told that the survey was being undertaken as part of a study on affordable rental housing in Boston by the Joint Center for Housing Studies of MIT and Harvard. Respondents were assured by the interviewer that their answers would be treated with strict confidentiality.

The second survey instrument, consisting of 56 questions (not including sub-questions), was used for respondents who had added an independent dwelling unit. The shorter instrument determined the awareness and attitudes of nonconverters to conversion activity in their neighborhoods. The longer instrument probed the motivations, methods, and costs associated with adding an independent unit.

V. Coding and Keypunching

Coding of the completed questionnaires was undertaken by Alan Bell Associates staff. At first, Bell Associates staff only coded the categorical and numerical responses and this researcher coded the open-ended responses. Later, after a coding scheme for the most frequent responses to the open-ended questions was established, they coded these questions as well. All coded forms were double punched and cross checked by Punch City of Watertown, Mass. The converter and nonconverter responses were each stored in separate ASCII files.

VI. Statistical Analysis

Frequencies and cross-tabulations were generated by using SYSTAT (release 1.0) on an IBM two-disk drive personal computer. Discriminant analysis and analysis of variance were performed

with SPSSPC+ (1985 edition) on an enhanced Compaq 286 Desk-pro with 30 megabytes of storage capacity.

VII. Effect of Nonresponse Bias

There are several reasons why converters may have been more likely than other homeowners not to cooperate with the interviewer. During the fourth and fifth day of interviewing, the Boston Globe ran front-page stories concerning corrupt officials in the Inspectional Services Department. Respondents may have thought that the interview was somehow connected with this malfeasance and may have been reluctant to cooperate with the formal legal investigation. It is also likely that converters may not have cooperated with the interviewer, despite repeated assurances of confidentiality, because they feared reassessment or fines for illegally added units. Indeed, the survey results revealed that many of the converted units were not assessed for the correct number of units and that several homeowners had added units illegally.

Using the observations of nonconverting neighbors as a guide, it is evident that more conversion activity may be taking place than was reported by the 8 percent of the random sample that affirmed they had added a unit. The survey results were intended to shed light on the type of conversions taking place, the characteristics of the converters, and the characteristics of those living in converted dwellings. However, the survey results should be used with caution as a means for estimating the total amount of conversion activity in the city of Boston.

Given the reluctance of many illegal converters to cooperate, the proportion of illegal converters reported in the survey findings is probably understated. Field visits could be taken to a subset of the random sample in order to estimate the extent of this undercount. However, no such field visits were undertaken due to the time and budget constraints of the survey. In any event, the effects of nonresponse bias on the discriminant analysis is probably minimal. The converter/nonconverter model would be affected insofar as nonreporting illegal converters may have different characteristics than the rest of the converting population. In fact, the altruistic/savvy model revealed that converters with altruistic intentions were more likely to add a unit illegally. Thus, one could reasonably conclude that the conversion model overstates the characteristics of the savvy converters and understates those of the altruistic group. To correct this situation, weights could be applied to the illegal converter cases that correspond to an estimate of their true proportion of the converter population.

TABLE A-1

Housing Inventory
In Study Neighborhoods

	OWNED		RENTED		VACANT		TOTAL
	Number	% of Total	Number	% of Total	Number	% of Total	
Allston-Brighton	4,503	15.2%	23,624	79.9%	1,424	4.8%	29,551
Jamaica Plain	4,504	28.8%	8,038	51.3%	3,123	19.9%	15,665
South End	1,582	11.5%	10,427	75.6%	1,788	13.0%	13,797
Total Boston	59,489	24.6%	158,968	65.9%	22,886	9.5%	241,343

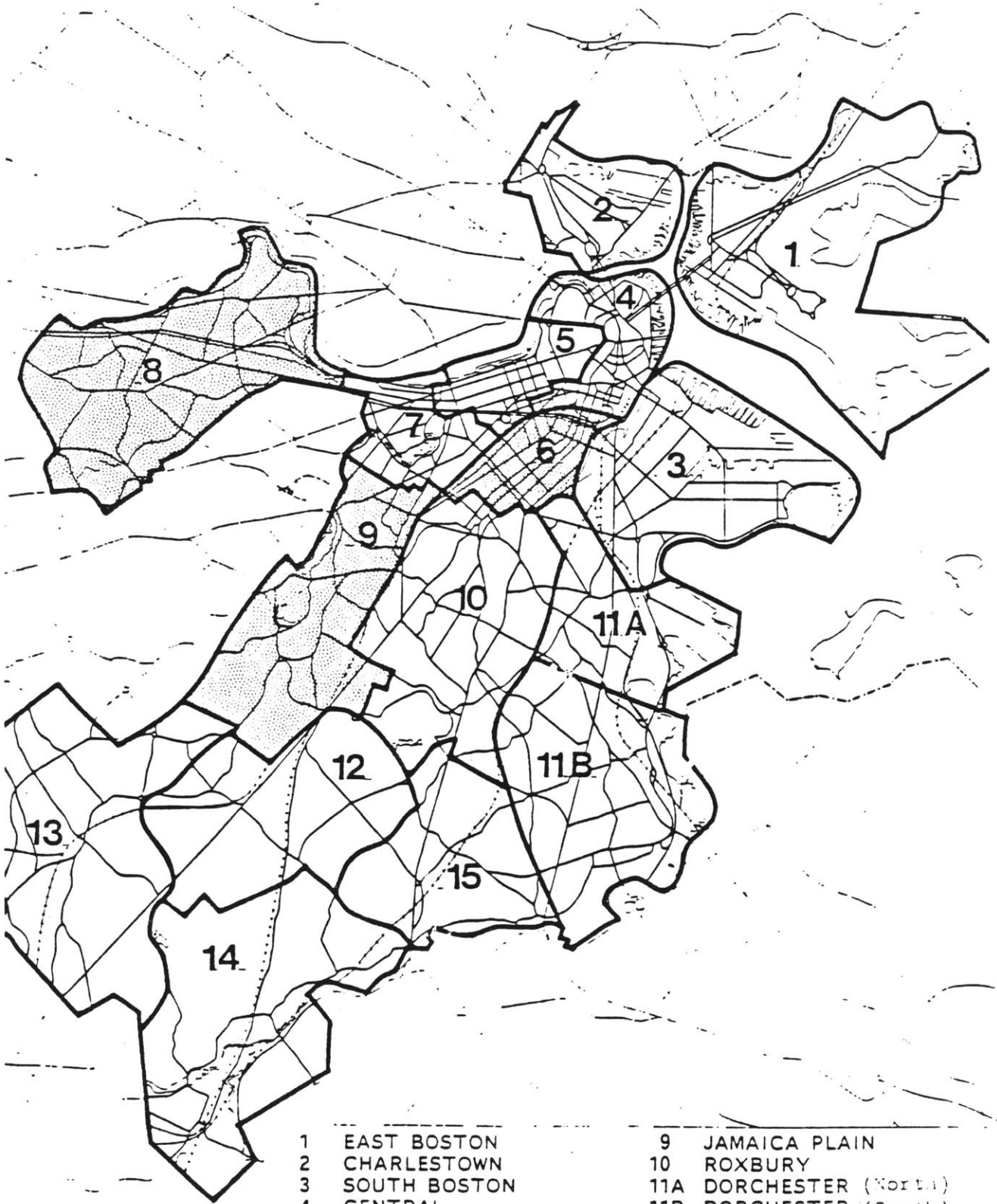
Source: U.S. Census of Population and Housing 1980,
Neighborhood Statistics Data.

Interviews Undertaken and Completed

	Original Sample	Failed Interviews*	Completed Interviews	Completion Rate	Non-Converter Interviews	Converter Interviews	Percentage of All Owner-Occupiers Interviewed
Allston-Brighton	517	319	198	38.3%	195	3	4.4%
Jamaica Plain	573	358	215	37.5%	207	8	4.8%
South End	226	134	92	40.7%	67	25	5.8%
Oversample**	248	150	98	39.5%	73	25	0.2%
TOTAL	1,564	961	603	38.6%	542	61	

* Reasons for failed interviews include: disconnected numbers, respondents refused or not at home, and renters that were inadvertently selected. for the sample.

**Only 25 of the 98 completed interviews in the oversample group were with with converters. The other 73 were purchasers of a converted property who did not own the property at the time it was converted. This group was interviewed using the non-converter survey instrument, although their responses were not tabulated and presented along with the responses of the non-converters in the random sample.



1	EAST BOSTON	9	JAMAICA PLAIN
2	CHARLESTOWN	10	ROXBURY
3	SOUTH BOSTON	11A	DORCHESTER (North)
4	CENTRAL	11B	DORCHESTER (South)
5	BACK BAY/BEACON HILL	12	ROSLINDALE
6	SOUTH END	13	WEST ROXBURY
7	FENWAY/KENMORE	14	HYDE PARK
8	ALLSTON/BRIGHTON	15	MATTAPAN/FRANKLIN FIELD

PLANNING DISTRICTS
Boston. MA

APPENDIX B

CONVERSION PRO FORMA
Based on addition of two rental units
with sale at end of tenth year

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
A. Before-Tax Cash Flow											
Rental revenues	$12,000	$12,600	$13,230	$13,892	$14,586	$15,315	$16,081	$16,885	$17,729	$18,616	$19,547
Vacancy and collection loss	600	630	662	695	729	766	804	844	886	931	977
Effective gross income	11,400	11,970	12,569	13,197	13,857	14,550	15,277	16,041	16,843	17,685	18,569
Operating Expenses											
Utilities (heat & water)	$1,140	$1,197	$1,257	$1,320	$1,386	$1,455	$1,528	$1,604	$1,684	$1,769	$1,857
Unit maintenance	342	359	377	396	416	436	458	481	505	531	557
Real estate taxes	570	599	628	660	693	727	764	802	842	884	928
Total Expenses	2,052	2,155	2,262	2,375	2,494	2,619	2,750	2,887	3,032	3,183	3,342
Net operating income	9,348	9,815	10,306	10,821	11,363	11,931	12,527	13,154	13,811	14,502	15,227
Debt service	6,953	6,953	6,953	6,953	6,953	6,953	6,953	6,953	6,953	6,953	6,953
Before-tax cash flow	2,395	2,862	3,353	3,868	4,409	4,977	5,574	6,200	6,858	7,549	8,274
B. Taxable Income or Loss											
Net operating income	$9,348	$9,815	$10,306	$10,821	$11,363	$11,931	$12,527	$13,154	$13,811	$14,502	$15,227
Depreciation	5,263	5,263	5,263	5,263	5,263	5,263	5,263	5,263	5,263	5,263	
Interest	5,500	5,340	5,163	4,966	4,747	4,504	4,235	3,936	3,604	3,236	
Taxable income (loss)	(1,415)	(788)	(120)	593	1,352	2,163	3,029	3,954	4,944	6,003	
(Tax) or savings at 50%	708	394	60	(296)	(676)	(1,082)	(1,514)	(1,977)	(2,472)	(3,001)	

CONVERSION PRO FORMA

Based on addition of two rental units

with sale at end of tenth year

C. Reversion on sale at end of 1994

Net operating income in 1995	$15,227	Gross sale price		$152,269
Capitalization rate	10.0%	Depreciable basis	$100,000	
Value of converted units at sale	$152,269	Accumulated depreciation	$52,632	
Selling expense (3%)	$4,568	Adjusted basis		$47,368
Sales proceeds	$147,701			
Mortgage balance due	$25,699	Capital Gain		$104,901
		Exclusion (60%)		$62,940
Cash flow before tax	$122,002			
		Capital gain subject to tax		$41,960
		Taxes due on sale		$20,980

D. After tax cash flow with sale at end of 1994

Before-tax cash flow	2,395	2,862	3,353	3,868	4,409	4,977	5,574	6,200	6,858	7,549
Net cash flow from sale										122,002
(Tax) or savings at 50%	708	394	60	(296)	(676)	(1,082)	(1,514)	(1,977)	(2,472)	(3,001)
Capital gains tax										(20,980)
Aftertax cash flow	3,102	3,256	3,413	3,572	3,733	3,896	4,059	4,223	4,386	105,569

CONVERSION PRO FORMA

Based on addition of two rental units
with sale at end of tenth year

E. Assumptions

House value in 1985	$100,000
Percentage of space for two converted units	50.0%
Value of converted space	$50,000
Conversion costs	$50,000
Depreciable basis in 1985	$100,000
Recovery period	19 years
Depreciation method:	straight line
Marginal tax rate of owner	50.0%
Loan amount	$50,000
Interest rate	11%
Term	15 years
Annual payments	$6,953

Rent per unit in 1985	$500
Number of rental units	2
Annual rental increase	5.0%
Vacancy & collection loss	5.0%
Utility costs (excluding electric)	10.0%
Maintenance costs	3.0%
Real estate taxes	5.0%

All costs are calculated as a percentage of effective gross income.

Second Mortgage

Year	Beginning Balance	Payment	Interest @ 11%	Principal	Ending Balance
1985	$50,000	$6,953	$5,500	$1,453	$48,547
1986	48,547	$6,953	$5,340	$1,613	$46,934
1987	46,934	$6,953	$5,163	$1,791	$45,143
1988	45,143	$6,953	$4,966	$1,988	$43,156
1989	43,156	$6,953	$4,747	$2,206	$40,949
1990	40,949	$6,953	$4,504	$2,449	$38,501
1991	38,501	$6,953	$4,235	$2,718	$35,782
1992	35,782	$6,953	$3,936	$3,017	$32,765
1993	32,765	$6,953	$3,604	$3,349	$29,416
1994	29,416	$6,953	$3,236	$3,717	$25,699
---------- Year of sale ----------					
1995	25,699	$6,953	$2,827	$4,126	$21,572
1996	21,572	$6,953	$2,373	$4,580	$16,992
1997	16,992	$6,953	$1,869	$5,084	$11,908
1998	11,908	$6,953	$1,310	$5,643	$6,264
1999	6,264	$6,953	$689	$6,264	$0

Note: Rents, conversion costs, and utility costs are all based on information collected from a survey of Boston homeowners in three neighborhoods.

CONVERSION PRO FORMA
Based on addition of two rental units
with sale at end of tenth year

F. Investment performance measures

Discount rate	9.0%	10.0%	11.0%
Present value of After tax cash flow	$66,455	$64,709	$63,858
Initial investment	$50,000	$50,000	$50,000
Net present value	$16,455	$14,709	$13,858
Adjusted opportunity costs	$50,000	$37,500	$25,000
Adjustment factor	0%	75%	50%
Net present value @ 10.0%	$14,709	$27,209	$39,709
Internal rate of return	14.9%	20.1%	28.6%

Note: Opportunity costs of foregone living space may be less than the estimated value of the converted space ($50,000). The net present value value will be closer to the present value ($64,709, discount rate = 10%) to the extent that opportunity costs are low. Two adjustment factors are used to illustrate the effect of reduced opportunity costs on the investment's net present value and internal rate of return.

APPENDIX C
SURVEY MARGINALS

A. Characteristics of nonconverting homeowners.

NBRHD neighborhood

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Jamaica Plain	1	210	43.9	43.9	43.9
South End	2	68	14.2	14.2	58.2
Allston/Brighton	3	200	41.8	41.8	100.0
	TOTAL	478	100.0	100.0	

Valid Cases 478 Missing Cases 0

CLASS assessors tax classification

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Single-family	1	199	41.6	42.2	42.2
Two-family	2	151	31.6	32.0	74.2
Three-family	3	101	21.1	21.4	95.6
Four-family	4	17	3.6	3.6	99.2
Residential/commercial	5	4	.8	.8	100.0
	.	6	1.3	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 472 Missing Cases 6

NUNIT No. of separate units on property besides respondents'.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	148	31.0	31.7	73.0
	2	94	19.7	20.1	93.1
	3	26	5.4	5.6	98.7
	4	1	.2	.2	98.9
5 or more units	5	5	1.0	1.1	100.0
	.	11	2.3	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 467 Missing Cases 11

REDUNIT Did you reduce the no. of units?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	16	3.3	3.5	3.5
no	2	445	93.1	96.5	100.0
	.	17	3.6	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 461 Missing Cases 17

NREDUNIT No. of units removed

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	2.1	55.6	55.6
	2	7	1.5	38.9	94.4
	5	1	.2	5.6	100.0
	.	460	96.2	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 18 Missing Cases 460

WANTADD Have you ever considered adding unit(s)?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	49	10.3	10.6	10.6
no	2	412	86.2	89.4	100.0
	.	17	3.6	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 461 Missing Cases 17

WHYADD1 Why add unit(s)? First reason mentioned

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
wanted rental income	1	26	5.4	53.1	53.1
place for friend or relative	2	8	1.7	16.3	69.4
pay off mortgage	3	1	.2	2.0	71.4
have unused space	4	10	2.1	20.4	91.8
tax benefits	5	1	.2	2.0	93.9
heard about tight market	6	2	.4	4.1	98.0
other	7	1	.2	2.0	100.0
	.	429	89.7	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 49 Missing Cases 429

WHYADD2 Why add unit(s)? Second reason mentioned.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
wanted rental income	1	2	.4	66.7	66.7
heard about tight market	6	1	.2	33.3	100.0
	.	475	99.4	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 3 Missing Cases 475

WHYNOT1 What kept you from adding unit(s)? First

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
could not afford it	1	21	4.4	42.9	42.9
no longer needed for relative	2	5	1.0	10.2	53.1
privacy	3	1	.2	2.0	55.1
too much red tape	4	4	.8	8.2	63.3
zoning/bldg. code restrictions	5	3	.6	6.1	69.4
no longer needed rental income	6	1	.2	2.0	71.4
liked house as is	7	6	1.3	12.2	83.7
other	8	4	.8	8.2	91.8
in process of converting	9	4	.8	8.2	100.0
	.	429	89.7	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 49 Missing Cases 429

WHYNOT2 What kept you from adding unit(s)? Secon

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
couldn't afford it	1	1	.2	11.1	11.1
wanted to keep privacy	3	1	.2	11.1	22.2
too much red tape	4	2	.4	22.2	44.4
no longer needed rental income	6	1	.2	11.1	55.6
liked house as is	7	1	.2	11.1	66.7
other reason mentioned	8	2	.4	22.2	88.9
in process of converting	9	1	.2	11.1	100.0
	.	469	98.1	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 9 Missing Cases 469

CONADD Still considering adding unit(s)?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	25	5.2	51.0	51.0
no	2	24	5.0	49.0	100.0
	.	429	89.7	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 49 Missing Cases 429

AWARE Are you aware of conversion activity on your street?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	116	24.3	25.4	25.4
no	2	341	71.3	74.6	100.0
	.	21	4.4	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 457 Missing Cases 21

EFFECT What effect has conversion had on your neighborhood?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
positive	1	32	6.7	27.6	27.6
negative	2	42	8.8	36.2	63.8
no effect	3	31	6.5	26.7	90.5
mixed effect	4	7	1.5	6.0	96.6
do not know	5	4	.8	3.4	100.0
	.	362	75.7	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 116 Missing Cases 362

POS1 First positive effect

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
upgraded neighborhood	1	10	2.1	27.0	27.0
more affordable housing	2	11	2.3	29.7	56.8
raised property values	3	4	.8	10.8	67.6
brought good neighbors	4	6	1.3	16.2	83.8
increased population	5	1	.2	2.7	86.5
other	7	5	1.0	13.5	100.0
	.	441	92.3	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 37 Missing Cases 441

POS2 Second positive effect

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
upgraded neighborhood	1	4	.8	23.5	23.5
more affordable housing	2	3	.6	17.6	41.2
raised property values	3	3	.6	17.6	58.8
brought good neighbors	4	4	.8	23.5	82.4
increased population	5	2	.4	11.8	94.1
other	6	1	.2	5.9	100.0
	.	461	96.4	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 17 Missing Cases 461

POS3 Third positive effect

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
more affordable housing	2	1	.2	33.3	33.3
made better use of housing	8	2	.4	66.7	100.0
	.	475	99.4	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 3 Missing Cases 475

NEG1 First negative effect

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
parking/traffic problems	1	22	4.6	44.9	44.9
excessive density	2	8	1.7	16.3	61.2
influx of undesirabl	3	8	1.7	16.3	77.6
raised rents	4	4	.8	8.2	85.7
change character of nbrhd.	5	3	.6	6.1	91.8
more crime	7	1	.2	2.0	93.9
other	9	3	.6	6.1	100.0
	.	429	89.7	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 49 Missing Cases 429

NEG2 Second negative effect

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
parking/traffic proble,s	1	9	1.9	29.0	29.0
excessive density	2	3	.6	9.7	38.7
influx of undesirables	3	9	1.9	29.0	67.7
raised rents	4	2	.4	6.5	74.2
more noise	8	3	.6	9.7	83.9
other	9	5	1.0	16.1	100.0
	.	447	93.5	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 31 Missing Cases 447

NEG3 Third negative effect

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
excessive density	2	3	.6	25.0	25.0
influx of undesirables	3	2	.4	16.7	41.7
change character of nbrhd.	5	1	.2	8.3	50.0
more crime	7	1	.2	8.3	58.3
more noise	8	4	.8	33.3	91.7
other	9	1	.2	8.3	100.0
	.	466	97.5	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 12 Missing Cases 466

STORIES No. of stories in building

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	1	.2	.2	.2
	1	19	4.0	4.1	4.3
	2	105	22.0	22.8	27.2
	3	273	57.1	59.3	86.5
	4	51	10.7	11.1	97.6
	5	11	2.3	2.4	100.0
	.	18	3.8	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 460 Missing Cases 18

TYPE Type of structure

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
detached house	1	339	70.9	73.5	73.5
duplex or semi-attached	2	22	4.6	4.8	78.3
row house or multi-family	3	100	20.9	21.7	100.0
	.	17	3.6	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 461 Missing Cases 17

OTHBLDG Description of other buildings in neighborhood.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
single-family houses	1	146	30.5	31.9	31.9
2-4 family dwellings	2	283	59.2	61.9	93.9
apartments	3	27	5.6	5.9	99.8
non-residential bldg	4	1	.2	.2	100.0
	.	21	4.4	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 457 Missing Cases 21

FSTHOME First home you have owned?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	355	74.3	76.5	76.5
no	2	109	22.8	23.5	100.0
	.	14	2.9	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 464 Missing Cases 14

PERSONS Persons in household

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	2	.4	.4	.4
	1	70	14.6	15.1	15.6
	2	140	29.3	30.2	45.8
	3	79	16.5	17.1	62.9
	4	85	17.8	18.4	81.2
	5	48	10.0	10.4	91.6
	6	22	4.6	4.8	96.3
	7	7	1.5	1.5	97.8
	8	7	1.5	1.5	99.4
	9	3	.6	.6	100.0
	.	15	3.1	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 463 Missing Cases 15

CHILDREN Do you have any children living with you?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	151	31.6	32.9	32.9
no	2	308	64.4	67.1	100.0
	.	19	4.0	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 459 Missing Cases 19

NCHILD No. of children

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	69	14.4	47.6	47.6
	2	57	11.9	39.3	86.9
	3	12	2.5	8.3	95.2
	4	5	1.0	3.4	98.6
	5	2	.4	1.4	100.0
	.	333	69.7	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 145 Missing Cases 333

MARITAL Marital status of respondent

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
single	1	160	33.5	35.2	35.2
married	2	264	55.2	58.0	93.2
separated	3	6	1.3	1.3	94.5
divorced	4	24	5.0	5.3	99.8
widowed	6	1	.2	.2	100.0
	.	23	4.8	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 455 Missing Cases 23

ETHNIC Ethnicity of respondent

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
white	1	376	78.7	84.1	84.1
black	2	23	4.8	5.1	89.3
hispanic	3	21	4.4	4.7	94.0
asian	4	13	2.7	2.9	96.9
native american	5	3	.6	.7	97.5
other	6	11	2.3	2.5	100.0
	.	31	6.5	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 447 Missing Cases 31

AGE Age of respondent

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
20s	1	53	11.1	11.7	11.7
30s	2	124	25.9	27.3	39.0
40s	3	87	18.2	19.2	58.1
50s	4	70	14.6	15.4	73.6
60s or older	5	120	25.1	26.4	100.0
	.	24	5.0	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 454 Missing Cases 24

INCOME 1984 household income

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
less than $10K	1	52	10.9	13.8	13.8
$10K - $20K	2	71	14.9	18.8	32.5
$20K-$30K	3	85	17.8	22.5	55.0
$30K-$40K	4	67	14.0	17.7	72.8
$40K-$50K	5	40	8.4	10.6	83.3
above $50,000	6	63	13.2	16.7	100.0
	.	100	20.9	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 378 Missing Cases 100

YRBUILT Year structure built

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
prior to 1880	1.00	55	11.5	13.0	13.0
1880-1900	2.00	76	15.9	18.0	31.0
1900-1920	3.00	103	21.5	24.4	55.5
1930s	4.00	77	16.1	18.2	73.7
1940s	5.00	47	9.8	11.1	84.8
1950s	6.00	14	2.9	3.3	88.2
1960s	7.00	30	6.3	7.1	95.3
1970-1985	8.00	20	4.2	4.7	100.0
	.	56	11.7	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 422 Missing Cases 56

MOVEDIN Year moved in

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
more than 45 years ago	1.00	35	7.3	7.7	7.7
25-44 years	2.00	80	16.7	17.6	25.3
15-24 years	3.00	98	20.5	21.6	46.9
10-14 years	4.00	55	11.5	12.1	59.0
5-9 years	5.00	98	20.5	21.6	80.6
0-4 years	6.00	88	18.4	19.4	100.0
	.	24	5.0	MISSING	
	TOTAL	478	100.0	100.0	

Valid Cases 454 Missing Cases 24

B. Characteristics of converters

NBRHD neighborhood

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Jamaica Plain	1	8	13.1	13.1	13.1
South End	2	25	41.0	41.0	54.1
Allston/Brighton	3	3	4.9	4.9	59.0
Oversample	4	24	39.3	39.3	98.4
	9	1	1.6	1.6	100.0
	TOTAL	61	100.0	100.0	

Valid Cases 61 Missing Cases 0

- -

CLASS Assessors tax classification

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Single-family	1	20	32.8	32.8	32.8
Two-family	2	17	27.9	27.9	60.7
Three-family	3	10	16.4	16.4	77.0
Four-family	4	11	18.0	18.0	95.1
Residential/commercial	5	3	4.9	4.9	100.0
	TOTAL	61	100.0	100.0	

Valid Cases 61 Missing Cases 0

NUNIT No. of separate units on property other than respondent's

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	23	37.7	37.7	37.7
	2	21	34.4	34.4	72.1
	3	10	16.4	16.4	88.5
	4	5	8.2	8.2	96.7
	8	1	1.6	1.6	98.4
	13	1	1.6	1.6	100.0
	TOTAL	61	100.0	100.0	

Valid Cases 61 Missing Cases 0

STORIES No. of stories in building

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	3	26	42.6	48.1	48.1
	4	18	29.5	33.3	81.5
	5	9	14.8	16.7	98.1
	7	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

- -

TYPE Type of structure

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
detached house	1	17	27.9	31.5	31.5
duplex or semi-attached	2	7	11.5	13.0	44.4
row house or multi-family	3	30	49.2	55.6	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

- -

OTHBLDG Description of other buildings in neighborhood

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
single-family houses	1	6	9.8	11.1	11.1
2-4 family dwellings	2	42	68.9	77.8	88.9
apartments	3	5	8.2	9.3	98.1
	9	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

FSTHOME First home you have owned?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	34	55.7	63.0	63.0
no	2	20	32.8	37.0	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

PERSONS Persons in household

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	16.4	18.5	18.5
	2	17	27.9	31.5	50.0
	3	10	16.4	18.5	68.5
	4	5	8.2	9.3	77.8
	5	6	9.8	11.1	88.9
	6	3	4.9	5.6	94.4
	7	1	1.6	1.9	96.3
	8	1	1.6	1.9	98.1
Missing value	99	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

- -

CHILDREN Do you have any children living with you

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	17	27.9	31.5	31.5
no	2	37	60.7	68.5	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

- -

NCHILD No. of children

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	9.8	37.5	37.5
	2	6	9.8	37.5	75.0
	3	3	4.9	18.8	93.8
	4	1	1.6	6.3	100.0
	.	45	73.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 16 Missing Cases 45

MARITAL Marital status of respondent

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
single	1	24	39.3	44.4	44.4
married	2	22	36.1	40.7	85.2
separated	3	2	3.3	3.7	88.9
divorced	4	5	8.2	9.3	98.1
	9	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

- -

ETHNIC Ethnicity of respondent

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
white	1	44	72.1	81.5	81.5
black	2	6	9.8	11.1	92.6
hispanic	3	3	4.9	5.6	98.1
	9	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

AGE Age of respondent

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
20s	1	5	8.2	9.3	9.3
30s	2	17	27.9	31.5	40.7
40s	3	16	26.2	29.6	70.4
50s	4	6	9.8	11.1	81.5
60s or older	5	9	14.8	16.7	98.1
	9	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

INCOME 1984 household income

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
less than $10K	1	3	4.9	5.6	5.6
$10K - $20K	2	11	18.0	20.4	25.9
$20K-30K	3	9	14.8	16.7	42.6
$30K-40K	4	5	8.2	9.3	51.9
$40K-50K	5	8	13.1	14.8	66.7
above $50,000	6	13	21.3	24.1	90.7
	9	5	8.2	9.3	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

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NOADD number of units added to property

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	38	62.3	63.3	63.3
	2	13	21.3	21.7	85.0
	3	5	8.2	8.3	93.3
	4	2	3.3	3.3	96.7
	5	1	1.6	1.7	98.3
MISSING	99	1	1.6	1.7	100.0
	.	1	1.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 60 Missing Cases 1

YADD1 First reason mentioned for adding unit(s)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	1	1.6	1.6	1.6
Wanted rental income	1	28	45.9	45.9	47.5
Place for friend or relative	2	4	6.6	6.6	54.1
Help pay off mortgage	3	4	6.6	6.6	60.7
Have unused space in home	4	12	19.7	19.7	80.3
Wanted tax benefits	5	2	3.3	3.3	83.6
Other	7	9	14.8	14.8	98.4
MISSING	9	1	1.6	1.6	100.0
	TOTAL	61	100.0	100.0	

Valid Cases 61 Missing Cases 0

YADD2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Wanted rental income	1	3	4.9	25.0	25.0
Have unused space in home	4	2	3.3	16.7	41.7
Heard about tight housing	6	2	3.3	16.7	58.3
Other	7	2	3.3	16.7	75.0
MISSING	9	3	4.9	25.0	100.0
	.	49	80.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 12 Missing Cases 49

- -

PAYMTG Added units to help with mortgage payments

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Major factor	1	36	59.0	60.0	60.0
Minor factor	2	11	18.0	18.3	78.3
Not a factor	3	13	21.3	21.7	100.0
	.	1	1.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 60 Missing Cases 1

UPKEEP Added units to help with maintenance costs

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Major factor	1	25	41.0	42.4	42.4
Minor factor	2	15	24.6	25.4	67.8
Not a factor	3	18	29.5	30.5	98.3
MISSING	9	1	1.6	1.7	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

OTHUSE Needed rental income for another use

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Major factor	1	11	18.0	18.6	18.6
Minor factor	2	17	27.9	28.8	47.5
Not a factor	3	30	49.2	50.8	98.3
	9	1	1.6	1.7	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

- -

FORREL Added unit to house friend or relative

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Major factor	1	14	23.0	23.7	23.7
Minor factor	2	15	24.6	25.4	49.2
Not a factor	3	30	49.2	50.8	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

ADDVALU Added unit to increase value of home

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Major factor	1	21	34.4	35.6	35.6
Minor factor	2	17	27.9	28.8	64.4
Not a factor	3	21	34.4	35.6	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

- -

LOOKOUT Added unit because tenant would help look after property

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Major factor	1	9	14.8	15.0	15.0
Minor factor	2	21	34.4	35.0	50.0
Not a factor	3	30	49.2	50.0	100.0
	.	1	1.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 60 Missing Cases 1

TAXBEN Added unit to get tax benefits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Major factor	1	20	32.8	33.9	33.9
Minor factor	2	19	31.1	32.2	66.1
Not a factor	3	20	32.8	33.9	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

CVTATTC Method: converted attic

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	10	16.4	16.9	16.9
No	2	49	80.3	83.1	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

- -

CVTBSMT Method: converted basement

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	15	24.6	25.0	25.0
No	2	45	73.8	75.0	100.0
	.	1	1.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 60 Missing Cases 1

- -

CVTGAR Method: converted garage

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	1	1.6	1.7	1.7
No	2	59	96.7	98.3	100.0
	.	1	1.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 60 Missing Cases 1

SUBDIV Method: subdivided original unit

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	30	49.2	50.0	50.0
No	2	30	49.2	50.0	100.0
	.	1	1.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 60 Missing Cases 1

- -

NOTCON New unit is not connected to building

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	2	3.3	3.4	3.4
No	2	56	91.8	96.6	100.0
	.	3	4.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 58 Missing Cases 3

- -

CVTOTH: Conversion of other, non-residential structure

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	1	1.6	1.7	1.7
No	2	59	96.7	98.3	100.0
	.	1	1.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 60 Missing Cases 1

OTHCAT Other method of conversion used

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	15	24.6	26.3	26.3
No	2	42	68.9	73.7	100.0
	.	4	6.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 57 Missing Cases 4

CAT1 Other method used

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	1	1.6	5.9	5.9
Converted rooming house	1	5	8.2	29.4	35.3
Total reconfiguration	2	2	3.3	11.8	47.1
Converted first floor	3	5	8.2	29.4	76.5
Converted third floor	5	1	1.6	5.9	82.4
Converted a commercial bldg.	6	3	4.9	17.6	100.0
	.	44	72.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 17 Missing Cases 44

- -

STU Did you add any studio apartments?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	15	24.6	25.4	25.4
No	2	43	70.5	72.9	98.3
	9	1	1.6	1.7	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

NOSTU Number of studio apartments added

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	22.2	22.2
	2	5	8.2	55.6	77.8
	3	2	3.3	22.2	100.0
	.	52	85.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 9 Missing Cases 52

ONEBR Did you add any one bedroom apartments?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	30	49.2	50.8	50.8
No	2	28	45.9	47.5	98.3
	9	1	1.6	1.7	100.0
	.	2	3.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 59 Missing Cases 2

- -

NO1BR Number of one bedroom apartments added

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	1	1.6	6.7	6.7
	1	6	9.8	40.0	46.7
	2	6	9.8	40.0	86.7
	3	2	3.3	13.3	100.0
	.	46	75.4	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 15 Missing Cases 46

- -

TWOBR Did you add any two bedroom apartments?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	17	27.9	29.3	29.3
No	2	41	67.2	70.7	100.0
	.	3	4.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 58 Missing Cases 3

NO2BR Number of two bedroom apartments added

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	9.8	60.0	60.0
	2	1	1.6	10.0	70.0
	3	1	1.6	10.0	80.0
	4	1	1.6	10.0	90.0
	9	1	1.6	10.0	100.0
	.	51	83.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 10 Missing Cases 51

- -

THREEBR Did you add any three bedroom apartments

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	8	13.1	14.0	14.0
	2	49	80.3	86.0	100.0
	.	4	6.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 57 Missing Cases 4

- -

NO3BR Number of three bedroom apartments added

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	50.0	50.0
	2	2	3.3	50.0	100.0
	.	57	93.4	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 4 Missing Cases 57

SEPENTR Does converted unit have a separate entrance from street?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	40	65.6	69.0	69.0
No	2	18	29.5	31.0	100.0
	.	3	4.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 58 Missing Cases 3

COMENTR Does converted unit have a common entrance from street?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	31	50.8	53.4	53.4
No	2	27	44.3	46.6	100.0
	.	3	4.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 58 Missing Cases 3

- -

VISENTR Is the entrance to the converted unit visible from street?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	46	75.4	79.3	79.3
No	2	12	19.7	20.7	100.0
	.	3	4.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 58 Missing Cases 3

- -

PARK Do you provide parking spaces for your tenants?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	8	13.1	14.0	14.0
No	2	49	80.3	86.0	100.0
	.	4	6.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 57 Missing Cases 4

NOPARK How many parking spaces?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	4.9	37.5	37.5
	2	2	3.3	25.0	62.5
	3	1	1.6	12.5	75.0
	6	1	1.6	12.5	87.5
	7	1	1.6	12.5	100.0
	.	53	86.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 8 Missing Cases 53

SOLD Did you sell the converted units as condominiums?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	2	3.3	3.4	3.4
No	2	55	90.2	94.8	98.3
	4	1	1.6	1.7	100.0
	.	3	4.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 58 Missing Cases 3

- -

FORRENT Is new unit rented or for rent?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	48	78.7	87.3	87.3
No	2	7	11.5	12.7	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

UNCASH Are any of the occupied units rented for free?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	4	6.6	7.4	7.4
No	2	49	80.3	90.7	98.1
	9	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

- -

EMPTY Are any of the converted units vacant?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	5	8.2	9.1	9.1
No	2	49	80.3	89.1	98.2
	9	1	1.6	1.8	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

- -

NOEMPTY How many units are vacant?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	1	1.6	33.3	33.3
	1	1	1.6	33.3	66.7
	2	1	1.6	33.3	100.0
	.	58	95.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 3 Missing Cases 58

FURN Is the unit rented furnished?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	2	3.3	3.6	3.6
Partially	2	4	6.6	7.3	10.9
No	3	48	78.7	87.3	98.2
	9	1	1.6	1.8	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

RENT What rent do you charge for the converted unit(s)?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	9	1	1.6	1.8	1.8
	200	2	3.3	3.6	5.5
	250	2	3.3	3.6	9.1
	290	1	1.6	1.8	10.9
	300	1	1.6	1.8	12.7
	350	2	3.3	3.6	16.4
	380	1	1.6	1.8	18.2
	395	1	1.6	1.8	20.0
	400	7	11.5	12.7	32.7
	425	1	1.6	1.8	34.5
	450	1	1.6	1.8	36.4
	475	4	6.6	7.3	43.6
	485	1	1.6	1.8	45.5
	500	5	8.2	9.1	54.5
	525	1	1.6	1.8	56.4
	550	1	1.6	1.8	58.2
	585	1	1.6	1.8	60.0
	595	1	1.6	1.8	61.8
	600	4	6.6	7.3	69.1
	675	1	1.6	1.8	70.9
	700	1	1.6	1.8	72.7
	725	1	1.6	1.8	74.5
	800	2	3.3	3.6	78.2
	850	2	3.3	3.6	81.8
	1000	2	3.3	3.6	85.5
	1200	1	1.6	1.8	87.3
MISSING	9999	7	11.5	12.7	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

HEAT Rent includes heat?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	29	47.5	51.8	51.8
No	2	26	42.6	46.4	98.2
	9	1	1.6	1.8	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

ELEC Rent includes electricity

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	15	24.6	26.8	26.8
No	2	40	65.6	71.4	98.2
	9	1	1.6	1.8	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

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WATER Rent includes water and sewer charges

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	50	82.0	89.3	89.3
No	2	5	8.2	8.9	98.2
	9	1	1.6	1.8	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

NOOCCS Number of occupants (total for all units)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	20	32.8	36.4	36.4
	2	9	14.8	16.4	52.7
	3	7	11.5	12.7	65.5
	4	10	16.4	18.2	83.6
	5	1	1.6	1.8	85.5
	6	4	6.6	7.3	92.7
	8	1	1.6	1.8	94.5
	9	1	1.6	1.8	96.4
MISSING	99	2	3.3	3.6	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

OLDOCCS Number of occupants over 60 years old

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	43	70.5	82.7	82.7
	1	5	8.2	9.6	92.3
	2	1	1.6	1.9	94.2
	9	3	4.9	5.8	100.0
	.	9	14.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 52 Missing Cases 9

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CHILDOCC Number of occupants under 16 years of age

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	45	73.8	86.5	86.5
	1	3	4.9	5.8	92.3
	3	1	1.6	1.9	94.2
	9	3	4.9	5.8	100.0
	.	9	14.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 52 Missing Cases 9

AGEOCCS Average age of adult occupants

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
College students	1	2	3.3	3.7	3.7
Young adults (20s or 30s)	2	35	57.4	64.8	68.5
Middle-aged (40s or 50s)	3	8	13.1	14.8	83.3
Older/retired (over 60)	4	3	4.9	5.6	88.9
Mixture of ages	5	3	4.9	5.6	94.4
Don't know	6	1	1.6	1.9	96.3
No response	9	2	3.3	3.7	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

RELOCCS Are any of the occupants related to you?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	10	16.4	18.5	18.5
No	2	43	70.5	79.6	98.1
	9	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

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TYPEREL1 What is their relationship to you?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Son or daughter	1	3	4.9	30.0	30.0
Parent	2	1	1.6	10.0	40.0
Sibling	3	3	4.9	30.0	70.0
Relative by marriage	4	1	1.6	10.0	80.0
Cousin, aunt or uncle	5	2	3.3	20.0	100.0
	.	51	83.6	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 10 Missing Cases 51

ETHOCCS Ethnic background of occupants

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
White	1	36	59.0	66.7	66.7
Black	2	6	9.8	11.1	77.8
Hispanic	3	2	3.3	3.7	81.5
Asian	6	6	9.8	11.1	92.6
Other	9	4	6.6	7.4	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

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DDWALL Did you add any walls?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	34	55.7	61.8	61.8
No	2	21	34.4	38.2	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

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REPWALL Did you repair any walls?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	35	57.4	62.5	62.5
No	2	21	34.4	37.5	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

ADDCEIL Did you add any ceilings?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	22	36.1	40.0	40.0
No	2	33	54.1	60.0	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPCEIL Did you repair any ceilings?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	37	60.7	66.1	66.1
No	2	19	31.1	33.9	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

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ADDFLR Did you add any floors?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	25	41.0	45.5	45.5
No	2	30	49.2	54.5	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

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REPFLR Did you repair any floors?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	30	49.2	53.6	53.6
No	2	26	42.6	46.4	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

ADDSTR Did you add any stairways?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	16	26.2	29.1	29.1
No	2	39	63.9	70.9	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPSTR Did you repair or replace any stairways?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	22	36.1	39.3	39.3
No	2	34	55.7	60.7	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

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ADDWD Did you add any windows?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	32	52.5	57.1	57.1
No	2	24	39.3	42.9	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

REPWD Did you repair or replace any windows?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	36	59.0	64.3	64.3
No	2	20	32.8	35.7	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

- -

ADDELEC Did you add any electric wiring?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	37	60.7	67.3	67.3
No	2	18	29.5	32.7	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPELEC Did you repair or replace any wiring?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	27	44.3	48.2	48.2
No	2	29	47.5	51.8	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

- -

ADDPLUM Did you add any plumbing?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	34	55.7	61.8	61.8
No	2	21	34.4	38.2	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPPLUM Did you repair or replace any plumbing?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	30	49.2	53.6	53.6
No	2	26	42.6	46.4	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

- -

ADDKTCHN Did you add a kitchen?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	42	68.9	76.4	76.4
No	2	13	21.3	23.6	100.0
	.	6	9.8	MISSING	
		61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPKTCHN Did you repair or replace a kitchen?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	22	36.1	39.3	39.3
No	2	34	55.7	60.7	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

- -

ADDBATH Did you add any bathrooms?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	37	60.7	67.3	67.3
No	2	18	29.5	32.7	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPBATH Did you repair or replace any bathrooms?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	28	45.9	50.0	50.0
No	2	28	45.9	50.0	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

- -

ADDROOF Did you add any roofing?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	11	18.0	20.0	20.0
No	2	44	72.1	80.0	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPROOF Did you repair or replace any roofing?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	29	47.5	51.8	51.8
No	2	27	44.3	48.2	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

- -

ADDFDTN Did you add a foundation?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	6	9.8	10.9	10.9
No	2	49	80.3	89.1	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPFDTN Did you repair or replace the foundation?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	9	14.8	16.4	16.4
No	2	46	75.4	83.6	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

- -

ADDHEAT Did you add a furnace or new heating system?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	27	44.3	49.1	49.1
No	2	28	45.9	50.9	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

REPHEAT Did you repair or replace heating system?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	20	32.8	35.7	35.7
No	2	36	59.0	64.3	100.0
	.	5	8.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 56 Missing Cases 5

- -

ADDWATER Did you add a new water heater?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	30	49.2	55.6	55.6
No	2	24	39.3	44.4	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

REPWATER Did you repair or replace water heater?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	13	21.3	23.6	23.6
No	2	42	68.9	76.4	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

- -

ADDBALC Did you add a porch or balconly?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	12	19.7	22.2	22.2
No	2	42	68.9	77.8	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

REPBALC Did you add or replace a porch or balcony?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	10	16.4	18.5	18.5
No	2	44	72.1	81.5	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

- -

SIDING Did you do any siding or masonry repair?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	28	45.9	50.9	50.9
No	2	27	44.3	49.1	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

EXPAINT Did you do any exterior painting?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	31	50.8	56.4	56.4
No	2	24	39.3	43.6	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

- -

INPAINT Did you do any interior painting?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	49	80.3	89.1	89.1
No	2	6	9.8	10.9	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

INPLSTR Did you do any interior plaster work?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	42	68.9	76.4	76.4
No	2	13	21.3	23.6	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

- -

LNDSCPNG Did you do any landscaping work?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	31	50.8	56.4	56.4
No	2	24	39.3	43.6	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

OIMPR Did you undertake any other improvements in conjunction with the conversion?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	11	18.0	20.4	20.4
No	2	43	70.5	79.6	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

SELFHELP Did you or any member of your family do any of the conversion work?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	19	31.1	38.8	38.8
No	2	28	45.9	57.1	95.9
	9	2	3.3	4.1	100.0
	.	12	19.7	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 49 Missing Cases 12

- -

FRDHELP Did any friends help with the work?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	9	14.8	18.4	18.4
No	2	38	62.3	77.6	95.9
	9	2	3.3	4.1	100.0
	.	12	19.7	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 49 Missing Cases 12

CONHELP Did a contractor do any of the work?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	14	23.0	29.2	29.2
No	2	32	52.5	66.7	95.8
	9	2	3.3	4.2	100.0
	.	13	21.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 48 Missing Cases 13

SCONHELP Did a subcontractor do any of the work?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	17	27.9	34.7	34.7
No	2	30	49.2	61.2	95.9
	9	2	3.3	4.1	100.0
	.	12	19.7	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 49 Missing Cases 12

- -

OHELP Did anyone else help with the work?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	9	14.8	18.8	18.8
No	2	37	60.7	77.1	95.8
	9	2	3.3	4.2	100.0
	.	13	21.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 48 Missing Cases 13

COST What was the estimated total cost of the conversion work?

Value Label (in thousands of dollars)	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.6	1.8	1.8
	2	2	3.3	3.6	5.5
	3	1	1.6	1.8	7.3
	4	1	1.6	1.8	9.1
	5	2	3.3	3.6	12.7
	7	2	3.3	3.6	16.4
	8	1	1.6	1.8	18.2
	9	1	1.6	1.8	20.0
	10	4	6.6	7.3	27.3
	15	1	1.6	1.8	29.1
	20	4	6.6	7.3	36.4
	27	1	1.6	1.8	38.2
	30	3	4.9	5.5	43.6
	35	4	6.6	7.3	50.9
	40	1	1.6	1.8	52.7
	45	1	1.6	1.8	54.5
	50	3	4.9	5.5	60.0
	56	1	1.6	1.8	61.8
	80	1	1.6	1.8	63.6
	125	1	1.6	1.8	65.5
	135	2	3.3	3.6	69.1
	160	1	1.6	1.8	70.9
	175	1	1.6	1.8	72.7
	180	1	1.6	1.8	74.5
	200	1	1.6	1.8	76.4
	275	1	1.6	1.8	78.2
No response/don't know	9999	12	19.7	21.8	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

GOTLOAN Did you finance the conversion with a loan?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	29	47.5	58.0	58.0
No	2	19	31.1	38.0	96.0
	9	2	3.3	4.0	100.0
	.	11	18.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 50 Missing Cases 11

SNDMTG Did you take out a second mortgage?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	14	23.0	37.8	37.8
No	2	20	32.8	54.1	91.9
	9	3	4.9	8.1	100.0
	.	24	39.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 37 Missing Cases 24

- -

COMLOAN Did you obtain a consumer loan or use an existing line of credit?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	14	23.0	37.8	37.8
No	2	20	32.8	54.1	91.9
	9	3	4.9	8.1	100.0
	.	24	39.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 37 Missing Cases 24

- -

RELLOAN Did a relative lend you money?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	6	9.8	16.2	16.2
No	2	28	45.9	75.7	91.9
	9	3	4.9	8.1	100.0
	.	24	39.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 37 Missing Cases 24

INSLOAN Did you borrow against your insurance policy?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	3	4.9	8.1	8.1
No	2	31	50.8	83.8	91.9
	9	3	4.9	8.1	100.0
	.	24	39.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 37 Missing Cases 24

OLOAN Did you obtain a loan from another source?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	5	8.2	25.0	25.0
No	2	10	16.4	50.0	75.0
	3	2	3.3	10.0	85.0
	9	3	4.9	15.0	100.0
	.	41	67.2	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 20 Missing Cases 41

- -

COMBANK Financing was from a commercial bank?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	16	26.2	43.2	43.2
No	2	18	29.5	48.6	91.9
	9	3	4.9	8.1	100.0
	.	24	39.3	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 37 Missing Cases 24

SNL Financing was from a Savings and Loan?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	16	26.2	44.4	44.4
No	2	17	27.9	47.2	91.7
	9	3	4.9	8.3	100.0
	.	25	41.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 36 Missing Cases 25

- -

CREDU Financing was from a credit union?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	4	6.6	11.1	11.1
No	2	29	47.5	80.6	91.7
	9	3	4.9	8.3	100.0
	.	25	41.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 36 Missing Cases 25

- -

GOVT Financing was from a government subsidized program?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	5	8.2	13.9	13.9
No	2	28	45.9	77.8	91.7
	9	3	4.9	8.3	100.0
	.	25	41.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 36 Missing Cases 25

OINST Financing was from another institution?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	4	6.6	12.1	12.1
No	2	26	42.6	78.8	90.9
	9	3	4.9	9.1	100.0
	.	28	45.9	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 33 Missing Cases 28

- -

BLDGPER Did you obtain a building permit?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	49	80.3	90.7	90.7
No	2	4	6.6	7.4	98.1
	3	1	1.6	1.9	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

PERREQ Obtained permit because it was required.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	41	67.2	87.2	87.2
No	2	6	9.8	12.8	100.0
	.	14	23.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 47 Missing Cases 14

- -

CONPER Got permit because contractor would not work without one.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	4	6.6	9.5	9.5
No	2	38	62.3	90.5	100.0
	.	19	31.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 42 Missing Cases 19

CONGOTP Contractor took care of getting permit.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	3	4.9	7.1	7.1
No	2	39	63.9	92.9	100.0
	.	19	31.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 42 Missing Cases 19

- -

NOTREQP Did not get permit because thought it was not required.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	3	4.9	75.0	75.0
Missing	9	1	1.6	25.0	100.0
	.	57	93.4	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 4 Missing Cases 57

- -

VAR Did you obtain a variance or permission from the Planning Board before undertaking the conversion?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	26	42.6	48.1	48.1
No	2	22	36.1	40.7	88.9
	9	6	9.8	11.1	100.0
	.	7	11.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 54 Missing Cases 7

REQVAR Obtained variance because it is required by law.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	23	37.7	82.1	82.1
No	2	2	3.3	7.1	89.3
	9	3	4.9	10.7	100.0
	.	33	54.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 28 Missing Cases 33

CONVAR Obtained variance because contractor would not work without one.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No	2	23	37.7	88.5	88.5
	9	3	4.9	11.5	100.0
	.	35	57.4	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 26 Missing Cases 35

- -

LANDVAR Obtained variance to protect my rights as a landlord.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	1	1.6	3.8	3.8
No	2	22	36.1	84.6	88.5
	9	3	4.9	11.5	100.0
	.	35	57.4	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 26 Missing Cases 35

OVAR Variance required by bank in order to qualify for loan.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	4	6.6	15.4	15.4
No	2	19	31.1	73.1	88.5
	9	3	4.9	11.5	100.0
	.	35	57.4	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 26 Missing Cases 35

WAIT How many months did it take to get approval for conversion?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	7.1	7.1
	2	5	8.2	17.9	25.0
	3	7	11.5	25.0	50.0
	4	2	3.3	7.1	57.1
	5	1	1.6	3.6	60.7
	6	1	1.6	3.6	64.3
	12	1	1.6	3.6	67.9
No response/ do not know	99	9	14.8	32.1	100.0
	.	33	54.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 28 Missing Cases 33

- -

REDTAPE Did you have difficulty obtaining variance?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	5	8.2	20.0	20.0
No	2	15	24.6	60.0	80.0
	9	5	8.2	20.0	100.0
	.	36	59.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 25 Missing Cases 36

NOTREQV Didn't obtain variance because thought it was not required.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	20	32.8	80.0	80.0
No	2	2	3.3	8.0	88.0
	9	3	4.9	12.0	100.0
	.	36	59.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 25 Missing Cases 36

TROUBLEV Didn't obtain variance because it was too much trouble.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No	2	14	23.0	82.4	82.4
	9	3	4.9	17.6	100.0
	.	44	72.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 17 Missing Cases 44

- -

ONOTVAR Other reason mentioned for not obtaining variance.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	3	4.9	21.4	21.4
No	2	9	14.8	64.3	85.7
	9	2	3.3	14.3	100.0
	.	47	77.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 14 Missing Cases 47

TALK Did you talk to your neighbors about your plans to convert?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	27	44.3	49.1	49.1
No	2	27	44.3	49.1	98.2
	9	1	1.6	1.8	100.0
	.	6	9.8	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 55 Missing Cases 6

- -

OBJECT Did any neighbors object?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	2	3.3	6.9	6.9
No	2	26	42.6	89.7	96.6
	9	1	1.6	3.4	100.0
	.	32	52.5	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 29 Missing Cases 32

- -

MOVEDIN Year moved in

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
more than 45 years ago	1.00	4	6.6	7.5	7.5
25-45 years	2.00	7	11.5	13.2	20.8
25-15 years	3.00	6	9.8	11.3	32.1
11-15 years	4.00	9	14.8	17.0	49.1
6-10 years	5.00	12	19.7	22.6	71.7
0-5 years	6.00	15	24.6	28.3	100.0
	.	8	13.1	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 53 Missing Cases 8

- -

YRBUILT Year structure built

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
prior to 1880	1.00	26	42.6	52.0	52.0
1880-1900	2.00	11	18.0	22.0	74.0
1900-1920	3.00	9	14.8	18.0	92.0
1930s	4.00	2	3.3	4.0	96.0
1940s	5.00	1	1.6	2.0	98.0
1970-1985	8.00	1	1.6	2.0	100.0
	.	11	18.0	MISSING	
	TOTAL	61	100.0	100.0	

Valid Cases 50 Missing Cases 11

ALTRUIST Altruistic motivations for converting (recode of FORREL variable).

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No	0.0	32	52.5	52.5	52.5
Yes	1.00	29	47.5	47.5	100.0
	TOTAL	61	100.0	100.0	

Valid Cases 61 Missing Cases 0

APPENDIX D
SURVEY INSTRUMENT

HOUSING CONVERSION STUDY
SURVEY OF HOME OWNERS
(Screening Questionnaire)

1. Do you or a member of your household own your home or do you rent?

Own - 1
Rent - 2

IF RENTER, SAY: That's the only question I have for renters. Thank you for your cooperation. Good bye.

CONTINUE FOR OWNERS.

2. We're interested in the number of "independent" dwelling units there are on your property. By "independent" I mean a separate apartment with its own kitchen and at least one bathroom.

Using this definition, how many independent dwelling units are on your property, other than the one you live in? Do not include rooms for boarders unless they have their own kitchen and bathroom.

_____ _____(number)

IF NONE, GO TO QUESTION 4.

3. Did you add any of these dwelling units after you acquired the property?

Yes - 1
No - 2

IF YES, GO TO LONG INTERVIEW GUIDE, Q 18.
IF NO, GO TO QUESTION 4.

4. Have you reduced the number of dwelling units in your building since you bought the property?

Yes - 1
No - 2

IF YES: How many units did you remove? _____ (number)

5. Have you ever considered converting part of your house or garage in order to add one or more separate dwelling units to your property?

Yes - 1
No - 2
IF NO, GO TO QUESTION 6.
IF YES: Why did you want to add another unit?

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5. (cont.)
Why didn't you carry out your plan?

Are you still considering adding one or more units?

Yes - 1
No - 2

6. Are you aware of any houses on your street that have had apartments added to them in the last five years?

Yes - 1
No - 2

IF YES: Do you think these apartments have had a positive, a negative, or no effect on your neighborhood?

Positive - 1
Negative - 2
No effect - 3
Mixed effect - 4
Don't Know - 5

IF POSITIVE OR MIXED EFFECT: In what ways do you think these apartments have helped your neighborhood?

IF NEGATIVE OR MIXED: In what ways do you think these apartments have hurt your neighborhood?

Now I'd like to ask you some questions about your house.

7. How many stories does your house have, not including the basement but including the attic?

____ (number)

8. Is your building...

Detached? - 1
Semi-attached? - 2
A row house or apartment building? - 3

9. Approximately what year was your house built?

____ ____ ____ ____ (year)

10. How would you describe the other buildings in your neighborhood? Are they primarily...

Single-family homes? - 1
Two- to Four-family homes? - 2
Apartment Buildings? - 3
Non-residential buildings? - 4

And finally, I have a few questions to ask you about yourself.

11. When did you move into your current residence?

____ ____ ____ ____(year)

12. Is this the first home you have ever owned?

Yes - 1
No - 2

13. How many people are there in your household?

____ ____ (number)

14. Do you have any children under the age eighteen living with you?

Yes - 1
No - 2

IF YES: How many? ____ ____ (number)

15. What is your marital status? Are you...

Single? - 1
Married? - 2
Separated? - 3
Divorced? - 4

16. Which ethnic group do you belong to? Are you...

White?	- 1
Black?	- 2
Hispanic?	- 3
Asian?	- 4
Native American?	- 5
Other?	- 6

17. What is your age? Are you in your...

20s?	- 1
30s?	- 2
40s?	- 3
50s?	- 4
60s or older?	- 5

18. In 1984, was your household income...

Less than $10,000?	- 1
Between $10,000 and 20,000?	- 2
Between $20,000 and 30,000?	- 3
Between $30,000 and 40,000?	- 4
Between $40,000 and 50,000?	- 5
Above $50,000?	- 6

Thank you very much for your cooperation. You have been most helpful. Goodbye.

(If the respondent asks, the findings from this survey will be available to the public when the study is finished.)

18. How many separate units did you add?

____ ____ (number)

19. What were your principle reasons for adding a unit (these units)?

---

20. I'm going to read you a list of reasons why people might add a unit to their property. Please tell me for each one whether it was a major factor, a minor factor, or not a factor in your decision:

Needed rental income to help cover mortgage payments

Major factor - 1
Minor factor - 2
Not a factor - 3

Needed rental income to help cover property maintenance costs

Major factor - 1
Minor factor - 2
Not a factor - 3

Needed rental income for other uses

Major factor - 1
Minor factor - 2
Not a factor - 3

Wanted to provide affordable housing for friend or relative

Major factor - 1
Minor factor - 2
Not a factor - 3

Wanted to increase the resale value of my property

Major factor - 1
Minor factor - 2
Not a factor - 3

Wanted a tenant to help look after my property

Major factor - 1
Minor factor - 2
Not a factor - 3

Wanted to get tax benefits from owning rental property
Major factor - 1
Minor factor - 2
Not a factor - 3

21. What part of your property did you use to add this unit (these units)? Did you...

	Yes	No
Convert the attic?	1	2
Convert the basement?	1	2
Convert the garage?	1	2
Subdivide the original unit?	1	2
Construct a new addition connected to the main building?	1	2
Construct a new unit not connected to the main building?	1	2
Convert any other structures on your property such as a tool shed, barn, or carriage house?	1	2
Other (please describe)?	1	2

---

22. What type of unit(s) did you add?

Did you add a (any) studio apartment(s) (combined living-dining-sleeping area)?

Yes - 1
No - 2

IF YES AND MORE THAN ONE UNIT ADDED:
How many studio apartments? ___ ___(number)

Did you add a (any) one-bedroom apartment(s)?

Yes - 1
No - 2

IF YES AND MORE THAN ONE UNIT ADDED:
How many 1-bedroom apartments? ___ ___(number)

22. (cont.)
Did you add any two-bedroom apartment(s)?

Yes - 1
No - 2

IF YES AND MORE THAN ONE UNIT ADDED:
How many 2-bedroom units? ___ ___ (number)

Did you add any three or more bedroom apartment(s)?

Yes - 1
No - 2

IF YES AND MORE THAN ONE UNIT ADDED:
How many 3-bedroom units? ___ ___ (number)

23. Where is (are) the exterior entrance(s) to the unit(s)? Is there an (are there)...

	Yes	No
Outside entrance(s) separate from the entrance to your dwelling?	1	2
Outside entrance(s) common with your own?	1	2
Entrance(s) visible from the street?	1	2

24. Do you provide parking for the occupants of the additional unit(s) on your property?

Yes - 1
No - 2

IF YES: How many spaces? ___ ___ (number)

25. A. Did you sell the new unit?
(Did you sell any of the new units?)

Yes - 1
No - 2
No, but vacant and for sale - 3

IF NO GO TO QUESTION 26.
IF YES AND MORE THAN ONE UNIT ADDED:

B. How many units did you sell? ___ ___ (number)

IF YES:

C. Was it (were any) sold as ...

	Yes	No
a condominium unit?	1	2
a cooperative unit?	1	2
a separate property after subdivision of the lot?	1	2

25. cont.
D. How much did it/they sell for?
GET AVERAGE PRICE IF MORE THAN ONE SOLD

____ ____ ____ ____ (in thousands of $)

IF VACANT: What is your asking price?
GET AVERAGE PRICE IF MORE THAN ONE FOR SALE

____ ____ ____ ____ (in thousands of $)

26. Was the new unit rented or is it for rent?
(Were any of the new units rented or are they for rent?)

Yes - 1
No - 2

IF NO, GO TO QUESTION 27 B.

27. A. Is the new unit (Are any of the new units)... Rented for cash?

Yes - 1
No - 2

IF YES AND MORE THAN ONE UNIT ADDED:
How many? ____ ____ (number)

B. Is the new unit (Are any of the new units) occupied, but no cash rent is collected?

Yes - 1
No - 2

IF YES AND MORE THAN ONE UNIT ADDED:
How many? ____ ____ (number)

C. Is the new unit (Are any of the new units) vacant?

Yes - 1
No - 2

IF YES AND MORE THAN ONE UNIT ADDED:
How many are vacant? ____ ____ (number)

IF ANY UNITS RENTED OR FOR RENT:

D. Is/are the unit(s) rented...

Furnished? - 1
Partially furnished? - 2
Unfurnished? - 3

E. What is the rent for this unit (these units)?
GET AVERAGE IF MORE THAN ONE UNIT FOR RENT

____ ____ ____ ____ ($ per month)

F. Does this rent include...

	Yes	No
Heat?	1	2
Electricity?	1	2
Water and sewer charges?	1	2

IF ALL THE UNITS ARE VACANT GO TO Q. 34.

IF ANY OF THE UNITS ARE OCCUPIED:
Now I would like to ask a few questions about the current occupants of the unit(s) you added.

28. How many people live in the unit(s) you added (in total)?

____ ____ (number)

29. How many of the occupants are over 60?
LEAVE BLANK IF RESPONDENT DOESN'T KNOW...

____ (number)

30. How many are children, aged 16 or under?
LEAVE BLANK IF RESPONDENT DOESN'T KNOW

____ ____ (number)

31. About how old are the adults in the unit(s) you added? Are they

College students? - 1
Young adults (twenties or thirties)? - 2
Middle aged (forties or fifties)? - 3
Older/retired (sixty or older)? - 4
A mixture of different ages? - 5
Don't know - 6

32. Are any of the occupants related to you?

Yes - 1
No - 2

IF YES: Please describe their relationship to you:

1. _____

2. _____

3. _____

33. What is the ethnic background of the occupants? Are they...

White?	- 1
Black ?	- 2
Hispanic?	- 3
Asian?	- 4
Native American?	- 5
Other?	- 6

34. Let's talk for a minute about the actual construction and financing involved in adding units to your property.

I'm going to read you a list of features in an apartment, and for each one I'd like you to tell me whether you... a) added, or b) repaired or replaced that item in adding units to your property.

	Yes	No
Wall(s)		
Did you add any walls?	1	2
Did you Repair or replace any walls?	1	2
Ceiling(s)		
Added	1	2
Repaired/replaced	1	2
Flooring		
Added	1	2
Repaired/replaced	1	2
Stairway(s)		
Added	1	2
Repaired/replaced	1	2
Doorway(s) or window(s)		
Added	1	2
Repaired/replaced	1	2
Electrical wiring		
Added	1	2
Repaired/replaced	1	2
Plumbing		
Added	1	2
Repaired/replaced	1	2
Kitchen		
Added	1	2
Repaired/replaced	1	2
Bathroom		
Added	1	2
Repaired/replaced	1	2

34. (cont.)

Roofing		
Added	1	2
Repaired/replaced	1	2
Foundation		
Added	1	2
Repaired/replaced	1	2
Furnace or heating system		
Added	1	2
Repaired/replaced	1	2
Water heater		
Added	1	2
Repaired/replaced	1	2
Porch or balcony		
Added	1	2
Repaired/replaced	1	2

35. Did you make any other improvements to your building in conjunction with the addition of unit(s), Such as....

	Yes	No
Exterior Siding or Masonry repair?	1	2
Exterior painting?	1	2
Interior painting?	1	2
Interior plaster work?	1	2
Landscaping?	1	2
Other (please describe)	1	2

---

36. In performing all these improvements, who did the most work (in terms of hours spent)? ONE ANSWER ONLY

Self and other family members - 1
Friends - 2
General contractor - 3
Sub-contractors - 4
Other - 5

IF OTHER: Please describe:_____

37. Who else helped?

	Yes	No
Self and other family members?	1	2
Friends?	1	2
General Contractor?	1	2
Sub-contractors?	1	2
Others?	1	2

At this point, let me remind you that your answers will be kept completely confidential.

38. What is your estimate of the total cost of adding this (these) unit(s)?

____ ____ ____ ____ (in thousands of $)

39. Did you obtain a loan for the conversion work?

Yes - 1
No - 2

IF NO, GO TO QUESTION 42

40. What type of loan(s) did you obtain?

	Yes	No
Second mortgage?	1	2
Commercial loan or line of credit?	1	2
A loan from friend or relative?	1	2
Borrowed against life insurance policy?	1	2
Other (please describe)		

---

41. From what type of institution(s), if any?

	Yes	No
Commercial bank?	1	2
Savings & Loan?	1	2
Life insurance company?	1	2
Credit union?	1	2
Government subsidized loan program?	1	2
Other (please describe)	1	2

42. Did you take out a building permit for any of these jobs?

Yes - 1
No - 2
Don't know - 3

IF YES: Why did you get the building permit?

DO NOT READ LIST, CIRCLE "1" FOR EACH REASON THE RESPONDENT MENTIONS:

Required by law	1
Contractor wouldn't work without one	1
Contractor took care of it	1
Other (describe)	1

---

42. (cont.)
IF NO: Why not?

DO NOT READ LIST, CIRCLE "1" FOR EACH REASON THE RESPONDENT MENTIONS:

Not required	1
Too much trouble	1
Don't want to be re-assessed	1
Permit fee is too expensive	1
Afraid work would not have been approved by building inspector	1
Other (describe)	1

---

43. Did you get a variance or approval of the Planning Board of Appeals to add a unit to your property?

Yes - 1
No - 2

IF YES:

Why did you get a variance?

DO NOT READ LIST, CIRCLE "1" FOR EACH REASON THE RESPONDENT MENTIONS:

Required by law	1
Contractor wouldn't work without one	1
Wanted to protect my rights as a landlord	1
Other (describe)	1

How long did it take to get approval from the Planning Board?

____ ____ (number of months)

Did you have difficulty getting the variance from the Planning Board?

Yes - 1
No - 2

IF NO: Why not?

DO NOT READ LIST, CIRCLE "1" FOR EACH REASON THE RESPONDENT MENTIONS:

43. (cont.)

Not required	1
Too much trouble	1
Don't want to be re-assessed	1
Variance procedure is too expensive	1
Afraid conversion would not have been approved	1
Other (describe)	1

---

44. Did you talk to your neighbors about your plans to convert?

Yes - 1
No - 2

IF YES: Did they object to your plans?

Yes - 1
No - 2

IF YES: What objections did they raise?

---

45. Now I'd like to ask you some questions about your house. How many stories does your house have, not including the basement, but including the attic?

(number)

46. Is your building...

Detached?	- 1
Semi-attached?	- 2
A row house or apartment building?	- 3

47. Approximately what year was your house built?

____ ____ ____ ____ (year)

48. How would you describe the other buildings in your neighborhood? Are they primarily...

Single-family homes?	- 1
Two- to Four-family homes?	- 2
Apartment Buildings?	- 3
Non-residential buildings?	- 4

We're almost at the end now. I just have a few questions to ask you about yourself.

49. When did you move into your current residence?

____ ____ ____ ____ (year)

50. Is this the first home you have ever owned?

Yes - 1
No - 2

51. How many people are there in your household?

____ ____ (number)

52. Do you have any children under the age eighteen living with you?

Yes - 1
No - 2

IF YES: How many? ____ ____ (number)

53. What is your marital status? Are you...

Single? - 1
Married? - 2
Separated? - 3
Divorced? - 4

54. Which ethnic group do you belong to? Are you...

White? - 1
Black? - 2
Hispanic? - 3
Asian? - 4
Native American? - 5
Other? - 6

55. What is your age? Are you in your...

20s? - 1
30s? - 2
40s? - 3
50s? - 4
60s or older? - 5

56. In 1984, was your household income...

Less than $10,000?	- 1
Between $10,000 and 20,000?	- 2
Between $20,000 and 30,000?	- 3
Between $30,000 and 40,000?	- 4
Between $40,000 and 50,000?	- 5
Above $50,000?	- 6

Thank you very much for your cooperation. You have been most helpful. Goodbye.

(If the respondent asks, the findings from this survey will be available to the public through the Joint Center for Housing Studies when the report is finished.)

RECORD THE NEIGHBORHOOD HERE: _____

RECORD THE CLASSIFICATION HERE: _____