



## ***Middle Market Rentals***

# Hiding in Plain Sight

Joint Center for Housing Studies of Harvard University

## Table of Contents

1	— Introduction and Summary
4	— Characteristics of the Middle Market Rental Housing Stock
9	— Components of Middle Market Stock Change
14	— Attributes and Choices of Middle Market Renters
21	— Developing and Financing New Housing
27	— Financial Performance of Existing Properties
33	— Appendix A. Studying the Middle Market
37	— Appendix B. Multifamily Grading Systems and Middle Market Housing
38	— Appendix C. Relationship of Land Costs to Structure Quality and Rents
39	— Appendix D. Supplementary Tables
45	— Endnotes
47	— References

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## Introduction and Summary

With investors focused primarily on the upper segment and policymakers on the lower, the middle of the rental housing market has gone largely unexamined. Nonetheless, the 14 million units in this dynamic housing segment are home to some 35 million people of every family type, race, ethnicity, age, and occupation.

*In addition to providing families with moderate incomes a decent place to live, middle market rentals contribute importantly to the economy by generating construction, remodeling, lending, and brokerage activity, among other business opportunities.*

In addition to providing families with moderate incomes a decent place to live, middle market rentals contribute importantly to the economy by generating construction, remodeling, lending, and brokerage activity, among other business opportunities. In fact, renters in the middle market spent \$9.5 billion on their housing in 2001, nearly 4 out of 10 rentals built in the 1990s are in the middle market, 3 out of 4 middle market multi-unit properties carry mortgages, and ownership changes hands every 7–8 years on average.

This report sheds new light on this vital housing market by taking the first focused look at the characteristics and spatial distribution of the middle rental stock, the characteristics and motivations of its residents, the development of new units, the management and operations of existing units, and the debt financing available to investors in new middle market properties.

Because all real estate markets are local, this report includes a detailed examination of four metropolitan areas—Boston, Los Angeles, Tampa and Minneapolis—to provide a window into the workings of middle markets. These metro areas vary enough in terms of their housing stocks, growth rates, costs, rentership rates, and demographic composition to reveal basic similarities and differences across middle markets (*Table D-1*).

To enrich the view of the diversity of middle markets, additional analyses look at variations among the 100 largest metropolitan areas. These comparisons not only serve to amplify the diversity of markets, but they also suggest the degree to which middle markets reflect the character of the broader housing markets of which they are a part. Together, the analyses of the four metropolitan cases, the variations across the 100 largest metropolitan areas, and the regional and national aggregations of middle markets provide insights into the character and workings of this key rental segment.

This study uses rent to assign housing units and properties to the middle market. The middle market is defined as the stock of housing with rents between the 40th and 80th percentiles of local rent distributions, adjusted for number of bedrooms where possible. (See Appendix A for a more detailed discussion of the definition, rent ranges and data sources used in this report.) With some exceptions, the maximum rent allowable under the federal rental voucher program coincides with the lower bound of the middle market. Thus, few middle market rentals are subsidized and none are in the top fifth of the rent distribution.

The principal findings of the study follow.

### Middle Market Stock Characteristics

Middle market housing is composed of a mix of building types, ages, and property sizes. Half of the stock is more than 30 years old, although more than one-tenth was added in just the past decade. While most middle market rentals are in multi-family (2+ unit) structures, nearly 5 million are single-family homes. More than three-quarters of middle market units have two or fewer bedrooms, although the share of single-family rentals with three or more bedrooms is much higher than that of multi-unit rentals.

While the mix of structure types varies considerably by metropolitan area, the geographic distribution of middle market rentals is strikingly similar across the four case study metro areas. The fact that middle market rentals are found in nearly every census tract of Boston, Los Angeles, Minneapolis, and Tampa suggests that this segment satisfies consumer demand for a wide range of locations and neighborhood types. Although middle market rentals are somewhat concentrated in the top fifth of census tracts in each metro area, segregation of neighborhoods by rent level and tenure type is not extreme.

### Dynamics of the Middle Market Stock

The level of new construction in the middle market rivals that in the upper market. Nevertheless, construction contributed far less to changes in the middle market housing stock during the 1990s than existing units entering and exiting the market as a result of changes in their relative position in the rent distribution. More than half of the units in the middle market in 1991 exited that segment over the following ten years, with some shifting up to the upper market through gentrification or upgrading but nearly three times as many shifting down to the lower stock through depreciation.

As units exiting the middle market are replaced by rentals filtering in or augmented by new construction, the spatial distribution and character of the middle market changes. Indeed, many census tracts within the four study areas saw losses or gains of hundreds of middle market rentals within the ten-year period. The patterns of middle market change vary across the four case study metros. In Tampa more than in the other metros, new construction appears to have contributed much of the increase in middle market units. In Boston, gentrification of inner ring suburbs and some city neighborhoods played a larger role. Minneapolis and Los Angeles had middle market gains from both sources, though the development in both metros was mostly at the metro fringe and gentrification was concentrated in older inner-city neighborhoods.

### Middle Market Residents

Like the housing stock, middle market residents are also diverse in terms of their incomes and racial and ethnic composition. Nationally, more than 35 percent of middle market householders are minorities. Like renters generally, middle market households tend to be young, although 6.1 million middle-aged and 1.1 million elderly householders also reside in middle market rentals. More than 4.5 million middle market households are families with children, who tend to gravitate toward the 4.8 million single-family rentals in the market. In contrast, the additional 4.5 million single-person renters in the middle market are more likely to live in multifamily (5+ unit) buildings. Residents of single-family rentals have higher average incomes and their rents are commensurately higher.

Nearly half of middle market households have incomes between \$20,000 and \$50,000. Nevertheless, 23 percent have household incomes above that range and 29 percent below it. While most elect to spend 30 percent or less of their income on their housing, substantial shares stretch and spend much more—either for the additional value received by the unit's attributes and location, or because of limited suitable options available at lower costs. Indeed, moderate-income renters who pay more to live in the upper market have larger units and are more likely to live in the suburbs than other moderate-income renters on average. Upper market renters are also more likely to have college degrees, live with unrelated roommates, and move for job-related reasons than other moderate-income renters.

The middle market is also home to nearly 17 million workers, who account for about 10 percent of the nation's labor force. The share of workers in the top 15 occupations that live in the middle market varies little, ranging between only 8 and 12 percent.

About a third of middle market renters have lived in their units for a year or less, which is less than the 42 percent share in the upper market but more than the 29 percent share in the lower market. The higher the rent, the more likely a household is to cite a job-related reason for moving in. Furthermore, middle market renters report a wider range of reasons for moving in and hence are less dependent than the upper and lower markets for any one type of mover to fill vacancies.

Commute times of middle market residents vary by metro area, but average 28 minutes nationally. Both nationally and in three of the four metro cases, the average share of income devoted to housing costs is lower among those with commutes of more than

45 minutes than those with commutes of less than 20 minutes. This suggests that some renters trade off long commutes for lower housing costs.

### Development and Financing of New Construction

According to the 2000 Census, new construction added about 1.6 million rentals to the middle market stock during the 1990s despite the stubborn resistance of local jurisdictions to housing development in general, and multifamily rental development in particular. The amount of development over the 1990s relative to the standing stock of middle market rentals varies among the largest 100 metropolitan areas, from a low of 2 percent in Hartford to a high of 50 percent in Las Vegas.

Newer units tend to be larger on average than existing units. While the location of these units varies by metro area, newer middle market rentals are found more often in the suburbs than center cities, suggesting that many renters of newer middle market rentals are willing to forgo the most central locations to live in larger, newer units.

Financing for middle market rental development, as for all residential development, is expensive relative to permanent financing because of the additional risks involved in land development and lease up. Furthermore, capital markets have not yet developed for these loans. Single loans that cover the period from construction to permanent mortgage are coveted by developers but are not widely available. The principal source of funds for these loans is the Federal Housing Administration (FHA), although it only accounts for a small fraction of multifamily construction finance and an even smaller share of construction loans for 5- to 49-unit properties.

### Operations and Performance of Existing Units

Because of limited property-level data, conclusions about the financial performance of middle market rentals are necessarily tentative. Little is known about the average profitability of investing in these units relative to other real estate. On the negative side, average operating margins appear to be slightly lower in the middle market than in the upper market. On the positive side, middle market rentals appear to weather economic cycles better, which may make them less risky from a cash flow perspective. If middle market rentals are indeed more stable during downturns, they may be especially attractive to commercial mortgage-backed security issuers seeking to reduce the sensitivity of their securities to business cycles.

Property size and professional management appear to play a greater role than rent levels in influencing financing terms and capital costs of middle market properties. Large multifamily (50+ units) properties have better access to secondary mortgage market financing and FHA financing than smaller multifamily (5-49 units) properties. Thus, owners of smaller middle market properties have fewer financing options, tend to pay more for debt, and are more apt to have full recourse loans. Non-resident owners of properties with one to four units rely on small investor loans that have higher costs and tighter underwriting standards than single-family owner-occupied loans, but they do have access to both secondary market and portfolio sources of capital.

### Implications for Business and Public Policy

This report is intended to spark greater business and policy interest in this important segment of the American housing market, but further investigation is critical. All but one of the publicly available datasets used for this study collect information at the unit rather than the property level, and the one that does contain property-level information is older and fraught with problems. As a result, future examinations must rely on commercial data that ask questions of property owners and managers concerning financing, financial performance, ownership, management, and resident mix and marketing.

Existing sources could, however, be further exploited to study vacancy rate and rent changes of middle market units over economic cycles. There may be enough differences in the cyclical performance of middle market rentals relative to other segments to make them attractive to investors. Clearly, the equity investment, debt finance, and brokerage opportunities in the middle market are significant. In an environment with so little information, further research could provide rich returns for those with a better understanding of the market's potentials.

At the same time, policy makers interested in expanding the location choices of working families would do well to consider the regulatory constraints and costs of developing middle market housing in more desirable neighborhoods. Program administrators should also attend to the mechanisms by which middle market rentals move into the lower market because about one-quarter of the units that will qualify for subsidies 10 years from now will likely filter down from today's middle market stock. □

# Characteristics of the Middle Market Rental Housing Stock

The American Housing Survey (AHS) estimates that 14.2 million rental units make up the middle market. Of these, 4.8 million are single-family homes and 9.4 million are located in nearly 1 million multi-unit properties. They are available in a wide range of structure types and ages, with a number of features and amenities.

*Middle market rentals can be found in just about every community, including 94 to 99 percent of Census tracts among the four case study metro areas. Fully two-thirds of these units are located in the suburbs in Boston, Minneapolis and Tampa.*

Although middle market housing concentrates to some degree, nearly all the census tracts in the four case metros contain at least a few middle market rentals. In addition, even in the places where middle market rentals are more numerous, they seldom account for the majority of housing in the tract. Middle market housing is therefore an important part of the mix in many of the nation's communities.



## Exhibit 2 Composition of Middle Market Housing Stocks

	Top 100 Metro Areas			US Total		
	Lower	Middle	Upper	Lower	Middle	Upper
<b>Total Units (000s)</b>	9,796	9,714	5,131	14,410	14,321	7,544
<b>Share of Stock (%)</b>						
<b>Year of Construction</b>						
Pre 1940	19	15	13	19	15	12
1940s	10	8	6	9	8	6
1950s	14	12	9	13	12	9
1960s	18	16	12	17	15	12
1970s	20	21	17	21	22	18
1980s	12	17	20	13	17	19
1990 or Later	7	10	24	8	11	24
<b>Building Size</b>						
Single Family	25	24	29	32	30	34
2 to 4 Units	23	22	16	24	23	17
5 to 49 Units	34	40	34	31	35	32
50+ Units	17	15	22	14	12	18

Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

### Metropolitan Variations in Housing Mix

The characteristics of middle market units differ across metropolitan areas. As Exhibit 1 shows, the differences in the average characteristics of middle market rentals across metro areas are in fact much larger than differences between middle market rentals and the rest of the rental stock in their own metro.

Within metro areas, the most common and consistent difference between the middle market and the upper and lower markets is in the share of rentals that are recently built. As seen in Exhibit 2, these shares are greater in the middle market than in the lower market, but greater still in the upper market. In addition, building sizes are typically larger in the middle market than in the lower markets, but larger still in the upper market. Finally, the share of single-unit structures in the middle market having three or more bedrooms is significantly higher than the share of apartments with three or more bedrooms in structures with 5+ units.

The implications of differences in the mix of middle market housing, as well as of variations in the overall size of the middle market, are best illustrated by considering the four case metros (*Table D-2*). Boston, with its older housing stock, offers few opportunities for investors looking for larger, newer properties. Tampa, with its higher shares of new middle market rentals, has more ample opportunities for such investors. Even though it has a smaller share of new middle market rentals than faster-growing Tampa, Los Angeles has a greater number of middle market rentals built in the 1990s because it is so large and has such a low homeownership rate relative to other case metros. Institutional investors looking to invest in larger and newer properties must therefore look to the absolute numbers rather than shares of properties in an area.

Places with older housing like Boston also have higher average per-unit remodeling and rehabilitation costs than places with newer stocks like Tampa. Again, though, aggregate remodeling spending depends importantly on how large the middle market is in

absolute terms—not just on the average age of the stock. Indeed, in addition to having some of the oldest middle market stock, Boston and Los Angeles also have higher shares and greater numbers of middle market units because they have higher rentership rates and larger housing stocks than Minneapolis and Tampa. In Los Angeles, the 650,000 middle market units represent 20 percent of all metro area housing, while in Boston the share is 15 percent. These shares compare with only 10 percent in Minneapolis and 11 percent in Tampa.

The distribution of middle market rentals by property size matters because of its implications for finance. Places with a large share of 2- to 4-unit buildings like Boston rely more on small investor loans and loans for resident landlords. Places with especially large shares of buildings with 50 or more apartments, like Minneapolis, rely more heavily on large multifamily loans. Places with larger single-family shares, like Tampa and Los Angeles, rely more on single-family investor loans, as well as conventional home purchase loans on properties that were originally owner-occupied.

Over the latter half of the 1990s, capital market funding became increasingly available for larger multifamily properties while efficiencies were also gained in the finance of 1- to 4-unit properties. In contrast, properties with 5–49 units have less access to capital market funding and tend to have terms that are less attractive and sometimes more costly than for other property types.<sup>1</sup>

### Locations of Middle Market Housing

Although middle market rentals can be found in just about every community (they are present in 94 to 99 percent of census tracts in the four case study metro areas), many middle market units cluster together in a handful of neighborhoods. Nearly half of Boston's middle market

rentals, for example, are located in just one-fifth of the metro area's census tracts. Middle market rentals are even more highly concentrated in Minneapolis and Tampa, where nearly six in ten are found in just one-fifth of census tracts.<sup>2</sup> Furthermore, fully 82 percent of all middle market rentals in Minneapolis are found in just 40 percent of its tracts, compared with 72 percent in Boston (*Exhibit 3*).

Despite this apparent concentration, middle market rentals are typically just a small fraction of the housing mix in the communities of which they are a part. In Tampa and Minneapolis, only 23 percent of the housing units in the top fifth of tracts are middle market rentals, while in Los Angeles middle market rentals make up 34 percent of the stock in the top tracts (*Table D-3*).

In all four metros, the fifth of tracts with the fewest middle market rentals are in mostly affluent suburban areas dominated by owned single-family homes. In Minneapolis, for example, the homeownership rate in these tracts is 96 percent, the share of rentals in single-family units is 57 percent, and the median household income is over \$74,000.

By mapping census tracts by the number of middle market rentals they contain, the geographic dispersion of these units becomes apparent (*Exhibit 4*). Relative to tracts with few middle market units, those with the most middle market housing are

more likely to be located in center cities, where rentals are more common overall. Nonetheless, nearly two-thirds of all middle market rentals in Boston, Minneapolis and Tampa are located in the suburbs. In Los Angeles, where a larger share of households overall live in the center city, a little less than half of the middle market units are found in the suburbs.

### Vacancy Rates and Rent Changes

Like other housing characteristics, rental vacancy rates differ both across metro areas and within metro areas by market segment. However, the vacancy rate in the middle market is below that of the lower market in 67 metros, below that in the upper market in 70 metros, and below both segments in 47 of the largest 100 metros. Across the nation as a whole, as well as the top 100 metros and the four sample areas, vacancy rates in the middle market in 2000 were at least slightly lower than in the upper market (*Exhibit 5*).<sup>3</sup>

The reasons for the differences in vacancy rates across metros are complex. Some variation is expected because of differences in the “natural vacancy rate,” or the rate at which supply and demand are in balance. In this state, suppliers are neither under pressure to lower rents to fill vacancies nor able to raise them because of a rental scarcity. The natural vacancy rate varies because it depends on how many people move and how often. Mobility is in turn influenced by, among other things, the age distribution of the renter population, rent controls that may inhibit moving, the extent of in-migration, and the rate of natural increase of the renter population. New construction to accommodate growth lifts the natural vacancy rate because most new rentals are vacant as they come on to the market. Hence, a higher vacancy rate does not necessarily imply oversupply and a lower vacancy rate imply undersupply.

This leads to another still open question: does the middle market in most areas perform better during periods of economic weakness than the upper market? There are reasons to believe it might. First, the upper market depends to a greater degree than the middle market on filling vacancies with persons whose primary reason for moving is a new job or job transfer.<sup>4</sup> When the economy stumbles, it is likely that these moves slow or stop completely. Second, new construction contributes a larger share of the upper market than the middle market. Since there is a significant lag between when investment decisions are made and construction completed, the upper market is more susceptible to

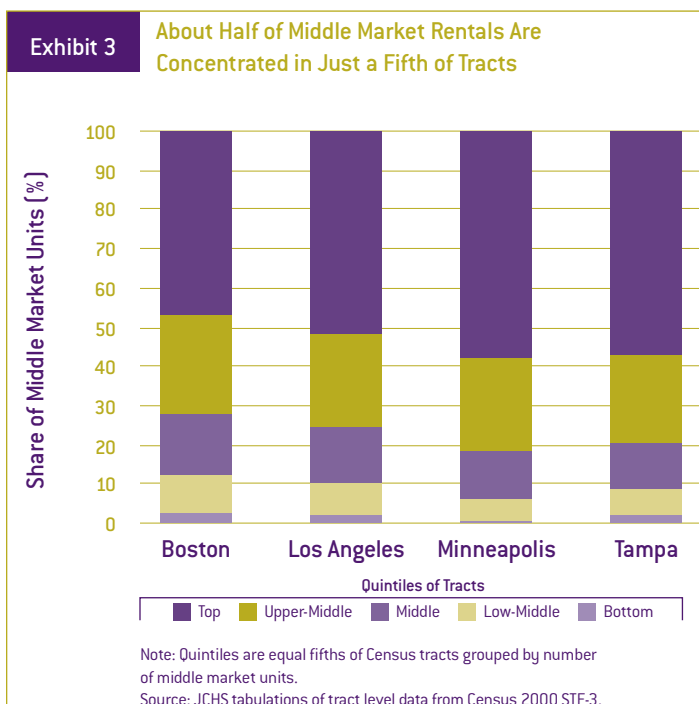
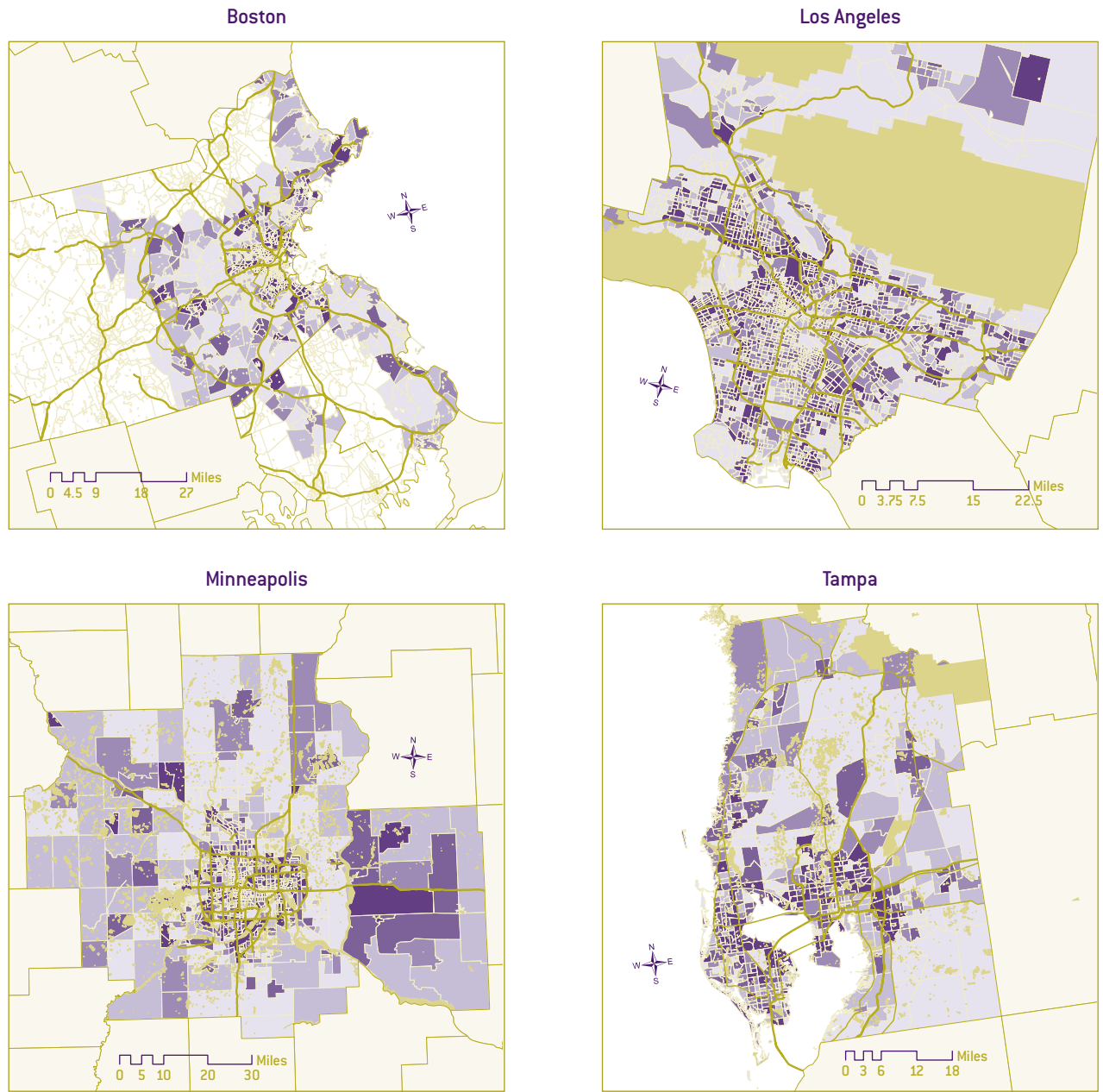




Exhibit 4

Despite Some Concentration, Middle Market Rentals Are Found Throughout Metropolitan Areas



Number of Middle Market Units



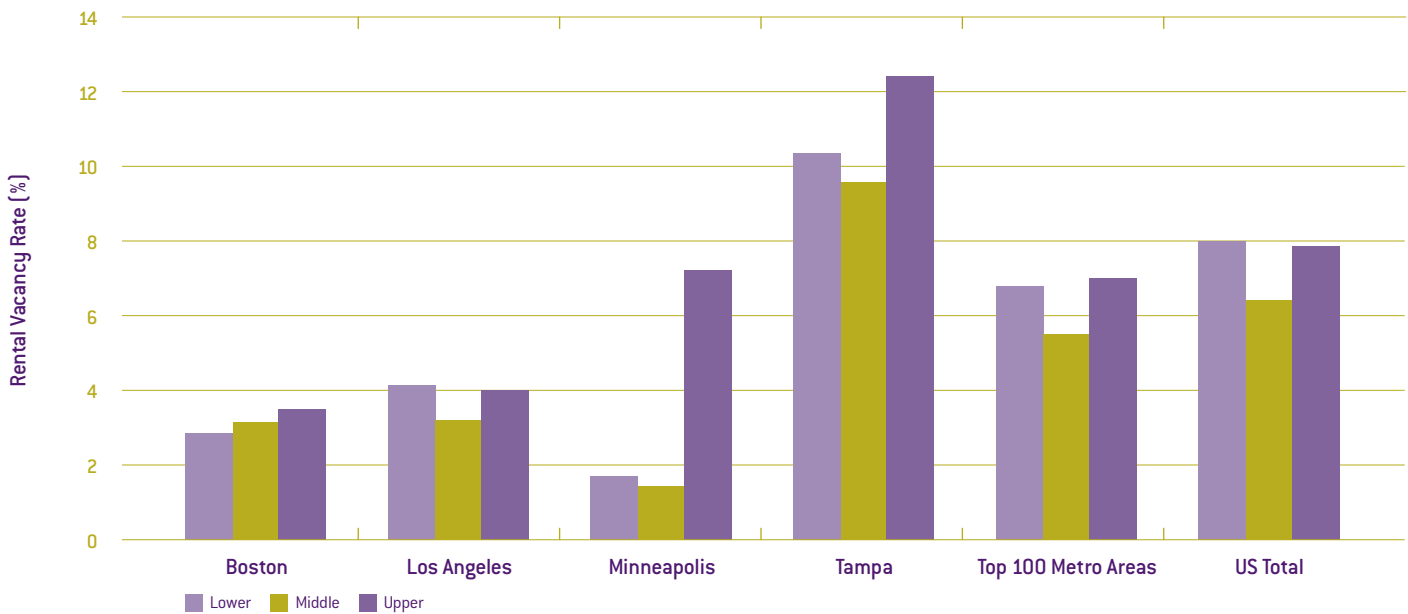
Source: JCHS tabulations of tract level data from Census 2000 STF-3.

temporary overbuilding that pushes down rents when the economy softens. Third, the upper market depends on renters with a narrower band of incomes than the middle market and is therefore less diversified against a downturn.

Indeed, it appears that middle market rental housing reacts differently to macroeconomic conditions than do luxury and affordable rentals. Using linked data from the American Housing Survey, Goodman (2003) found that rents on units in the middle third

Exhibit 5

Vacancy Rates in the Middle Market Are Often the Lowest of the Three Rental Segments



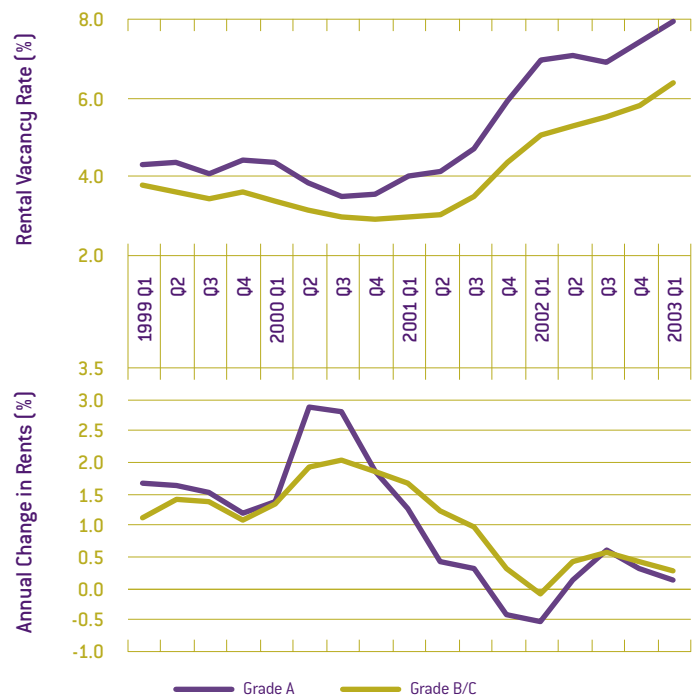
Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

of the national rent distribution of buildings with 5 or more units increased faster than those in the top third during the year leading up to and during the 1991 recession. Rents in this segment also rose more slowly than those in the top third during the economic expansion in 1997–9. Similarly, during 2001–2 when job growth nationwide turned negative, Class B/C properties posted larger rent increases and smaller rises in vacancies on average than Class A properties, as estimated by the REIS organization (Exhibit 6).<sup>5</sup>

In terms of the lower market, the difficulty of adding to the supply of low-cost rentals and the stagnant incomes at the bottom of the distribution suggest that this may be the most stable rental market of all during economic cycles. Goodman found that rents in the lower third of the market fared the best in 1989–91. However, some properties in the lower market are on the cusp of being removed from the stock because of their physical deterioration and undesirable location. This makes for instability in the lower market as well, although that instability may not be closely linked to economic cycles. □

Exhibit 6

The Recession Drove Vacancy Rates Up and Rents Down, Especially in Investment Grade A Properties



Note: See Appendix B for description of investment grades.  
Source: REIS, Inc.

## Components of Middle Market Stock Change

The dynamic process by which the middle market housing supply adjusts to the changing composition of demand is complex. New construction plays only a small role in this process. The larger adjustments occur through the actions of owners of existing properties.

*Changes in the supply and demand for particular types of rental properties in particular locations shift the spatial distribution and rent equilibrium within metros.*

More than half of all units in the middle market in 1991 had exited that segment by 2001, while a surprisingly large number of existing units entered the middle market from the upper and lower markets over the same period. Of the 2001 middle market stock, only about a tenth had been built over the previous ten years. The balance came from upper market rentals filtering down to the middle market, units filtering up from the lower market, and conversions of owner-occupied units and nonresidential or other structures to middle market rentals.

Changes in the supply and demand for particular types of rental properties in particular locations shift the spatial distribution and rent equilibrium within metros.

Filtering is the process by which housing moves up or down the quality or rent distributions over time.<sup>6</sup> Existing properties move down the distribution as new additions to the housing stock swell the high end of the rent distribution, or as they or their neighborhoods become less desirable or physically deteriorated. Rental units move up the distribution because of either significant upgrading or because their neighborhoods become relatively more desirable. New construction thus competes not only with existing middle market rentals, but with rentals filtering up to the middle market through gentrification or upgrading, and with rentals filtering down to the middle market through physical depreciation or changing neighborhood and property preferences.

**Exhibit 7** Filtering and New Construction in the Middle Market

Rental Units in 2001 by 1991 Status	Rental Units by Market Segment in 2001			
	Lower	Middle	Upper	Total
<b>Total (Thousands, 2001 weight)</b>	13,036	13,429	6,866	33,331
<b>Status in 1991<sup>1</sup> (Percent of total)</b>				
Lower Market	49	16	8	27
Middle Market	24	42	16	30
Upper Market	4	13	34	14
No Cash Rent	2	1	1	1
Owner-Occupied	10	12	13	11
Merged/Split/Converted/Other <sup>2</sup>	8	7	8	7
Built Post-1991	5	9	19	9
Rental Units in 1991 by 2001 Status	Rental Units by Market Segment in 1991			
	Lower	Middle	Upper	Total
<b>Total (Thousands, 1991 weight)</b>	10,842	11,674	6,024	28,540
<b>Status in 2001 (Percent of total)</b>				
Lower Market	55	25	7	33
Middle Market	18	45	28	31
Upper Market	5	9	36	13
No Cash Rent	2	1	1	1
Owner-Occupied	10	12	20	13
Demolished/Other <sup>3</sup>	10	8	8	8

Notes: 1) Excludes Type B non-interviews. 2) Units in AHS surveys that are substantially changed (e.g., merged with another unit) have new identifying numbers and are thus not comparable with previous surveys. 3) Units appearing in 1991 survey but not in 2001 survey may be demolished, converted to commercial use, or merged or split into new units. Source: JCHS tabulations of the 2001 and 1991 American Housing Surveys.

### Stock Changes at the National Level

Evaluating the filtering process requires following individual housing units over time, which can be done using linked AHS data from two survey years.<sup>7</sup> Exhibit 7 shows middle market units in 1991 and 2001 relative to their status ten years earlier or later. The upper panel describes the history of rental units that existed in 2001 and the lower panel shows what happened to rentals in 1991 ten years later.

According to the AHS, less than half of middle market rentals in either year were in the middle market ten years earlier or later, i.e., of the units that were in the middle market in 2001, just 42 percent had been middle market units in 1991. Residential construction and conversions of non-rental structures accounted for about 29 percent of the 2001 stock. Filtering was responsible for the rest of the middle market stock, with units filtering up from the lower market accounting for about 16 percent, and upper market rentals filtering down for about 13 percent.

Downward filtering of rentals is more common than upward filtering over a given period. Relative to their 1991 status, 35 percent of upper market units and 25 percent of middle market units filtered to a less expensive segment in the next 10 years, while 23 percent of lower market and 9 percent of middle market units moved up the rent distribution. Lastly, 8 percent of 1991 middle market rentals were permanently lost from the housing stock, temporarily uninhabitable, or of uncertain status by 2001.

This downward filtering trend makes middle market rentals an important source of lower market housing for the future. Of the 13 million housing units in the lower market in 2001, nearly one-quarter were middle market rentals in 1991. Even netting out units that percolated up to the middle market from the lower market, the middle market still provided a net increase of over 1 million units in the lower market. In absolute numbers, the AHS estimates that this downward filtering contributed nearly twice as many affordable units as were added directly from new construction.

### Stock Changes at the Metropolitan Level

Redrawing of the metropolitan samples in the AHS makes it impossible to examine filtering in the four sample areas. Instead, analyses were performed on Miami and Columbus over the 1995–2002 period to examine metro-level effects. In general, similar filtering patterns are observed for these two areas and the nation as a whole. That is, less than half of the 2002 middle market rentals were in that segment seven years earlier, and more units were added to the middle market stock by filtering than by new construction. Demolitions were higher in Miami than nationally or in Columbus, and conversions to owner-occupancy slightly higher in Miami than nationally and lower in Columbus. The magnitudes of the differences between the two metros and the national average are, however, small.

Although Census data cannot be used to track individual housing units below the metro level, they can be used to track changes in

the number of middle market rentals at the tract level. This is done by dividing tracts in each metro area into fifths based on the change in the number of middle market rentals. The bottom fifth is the group of tracts with the greatest losses of middle market rentals while the top fifth is the group of tracts with the greatest gains.

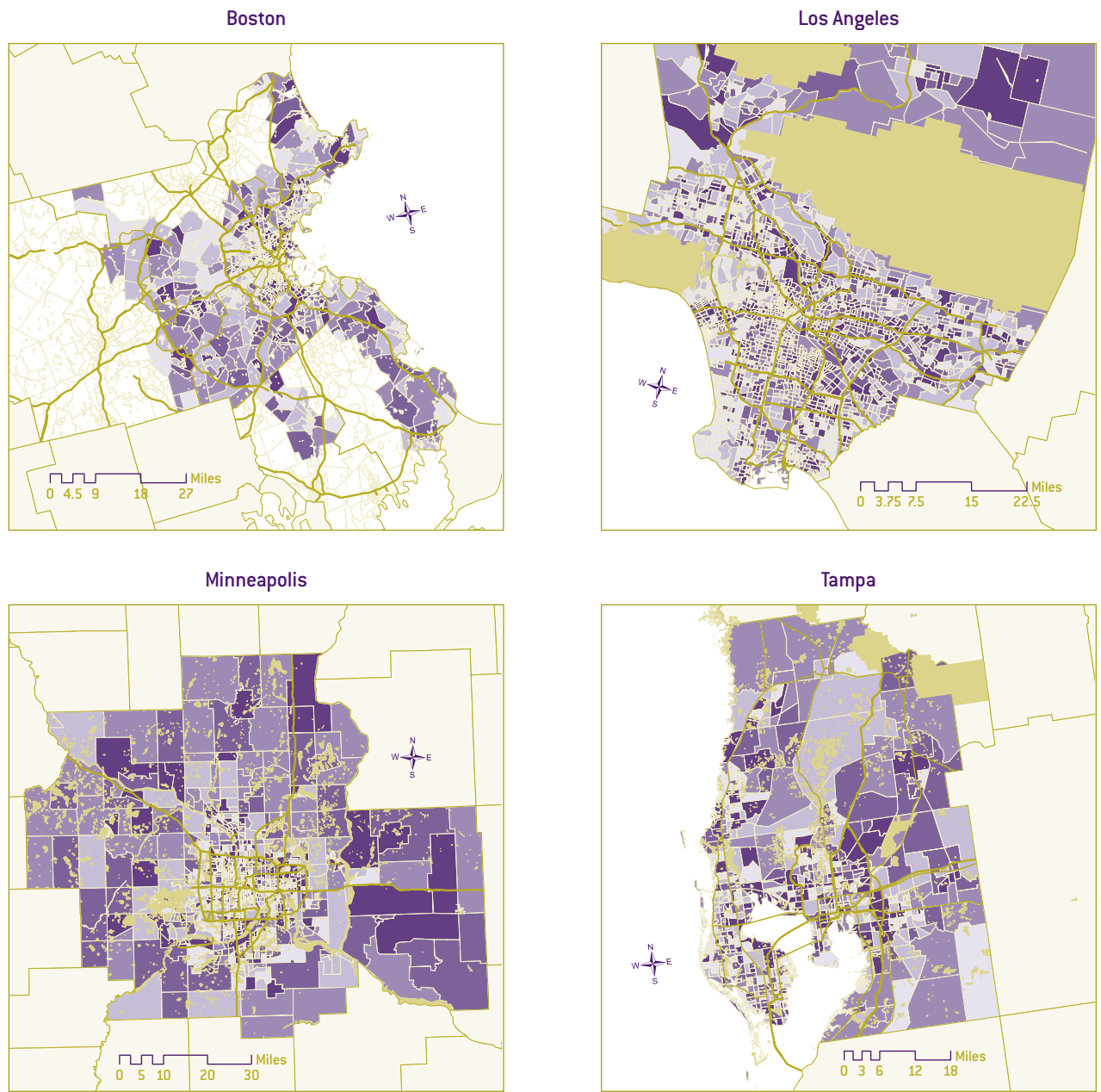
Table D-4 shows the consistency in the characteristics of tracts grouped by their gains and losses of middle market units across the four case metro areas. These consistencies suggest that places with the largest losses are often much slower-growing than other tracts in their metro areas, are experiencing net declines in renter households even as total household counts are rising, and are the fifth of tracts with the highest median rents. Only in Tampa are they also the fifth of tracts with the median household incomes to match. These locations thus appear to be in transition to higher ownership and are experiencing at least some losses of middle market rentals through net filtering to other market segments as well.

In contrast, those tracts with the greatest middle market rental gains are experiencing the most significant growth in renter households, the greatest average growth in households overall, and the highest rentership rates. Though these tracts have lower median rents on average than tracts losing middle market rentals, their rents are higher than those in tracts experiencing no or only slight changes in middle market rentals. Assuming rents proxy for the relative desirability of neighborhoods, places with the largest gains are relatively more desirable than places with little change in middle market units. In this case, the strong gainers are a combination of places with more rapid household growth and places with units filtering on net into the middle market from other markets.

Mapping provides an additional lens to understand the dynamic process by which spatial equilibrium changes over time (*Exhibit 8*). In Boston, most of the tracts with the largest losses of middle market rentals in the 1990s were concentrated in towns just outside the Route 95 corridor from Wellesley to Burlington, where the technology boom was feeding demand for rentals. The tracts gaining the most middle market rentals were those experiencing filtering of rentals up into the middle market through gentrification and, to a lesser degree, those tracts on the metro fringe with more new construction. Working-class communities close to the downtown—including Everett and Revere to the north and Quincy and Dorchester to the south—experienced a revitalization that raised some rentals from the lower market to the middle.

Exhibit 8

The Location of Middle Market Housing Shifted Within Metro Markets Over the 1990s



Quintiles of Census Tracts by Change in Middle Market Units

- Greatest Gains
- Some Gains
- Little or No Change
- Some Losses
- Largest Losses
- Parks, National Forests and Water Bodies

Source: JCHS tabulations of tract level data from Census 2000 STF-3.

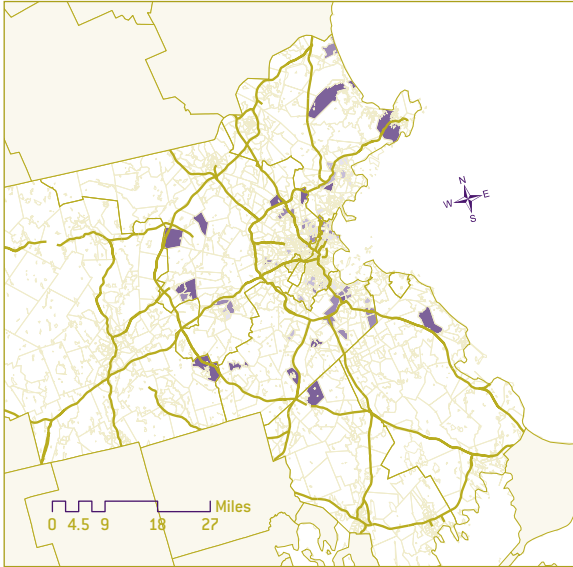
At the same time, pockets of middle market units added by new construction popped up in communities on the metro fringe, including Milford and Marlborough. This is illustrated by mapping these top-gaining tracts by quartiles of their share of all new rental construction (*Exhibit 9*).

In Los Angeles, the combination of a slumping economy and social instability in the early 1990s meant very low rents at the beginning of the period. By 2000, economic recovery and revitalization of some of the older communities had led to large rent increases in some areas, while the decline continued throughout

Exhibit 9

New Construction and Filtering Both Add to Middle Market Stock

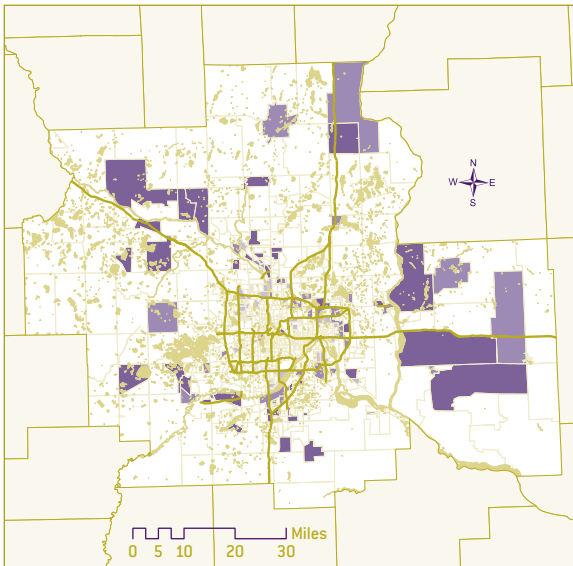
Boston



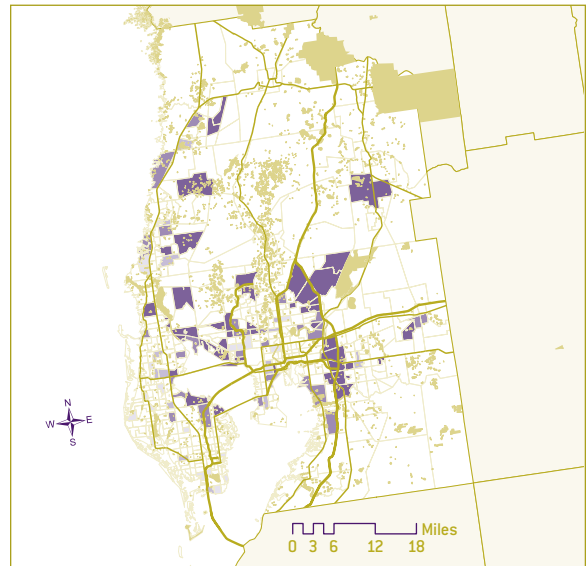
Los Angeles



Minneapolis



Tampa



Quintiles of Census Tracts by Share of Rental Units Built in the 1990s



Note: Tracts shown are those in the top 20 percent for the metro by number of all rental units (not just middle market units) added over the 1990s because Census tract level data do not report rents by age of unit.  
 Source: JCHS tabulations of tract level data from Census 2000 STF-3.

the decade in others. The number of middle market rentals increased in the cities on the northern fringe of LA County, including Palmdale and Santa Clarita, where much of the new rental construction took place. In the inner suburbs, however, there was little room for new development as demand increased, which allowed landlords to raise rents on some units from the lower market to middle market range in the San Fernando valley west of Burbank, as well as Pasadena and communities near the inland empire to the east of LA county. At the same time, along the coast from Santa Monica to Long Beach, rents rose more slowly than in other parts of the metro area, slipping some middle market units into the lower market.

Tampa's high share of new rental construction relative to the other metros implies that much of the change in its middle market units was from units added to the stock, although constraints imposed by its coastal location and a well-developed existing rental stock limited the amount of new construction possible in some older communities. The greatest gains in middle market units occurred in areas to the east and northeast of downtown Tampa along the Route 75 corridor—including the communities of Citrus Grove and New Tampa, where formerly agricultural land was developed to accommodate the rapidly growing population. Other new construction was more sporadically distributed among communities in the northern fringe and northwest coast of the metro, yet still contributed large numbers of middle market units. On the peninsula across the bay, many of the areas around Clearwater and St. Petersburg were fairly well developed before the 1990s, leaving little room for additional construction except in the Gateway area just north of Pinellas Park. Some peninsula communities saw modest growth in middle market units due to shifts in rents of existing units, though these places are scattered among locations with large losses in middle market units. Indeed,

the aging rental stock on the peninsula had rent increases below the metro area average, leading to a loss of middle market units relative to the rest of the area.

In the Minneapolis metropolitan area, record-low rental vacancies and urban revitalization in the late 1990s caused rents across the metro to rise between 1990 and 2000. Where the rent increases were highest, many units moved from the middle market to the upper market, as was the case in communities like Eagan and Apple Valley to the south and Cottage Grove to the east. However, in response to these rent increases, new construction has surged since 2000 in these desirable suburban communities, and consequently rents have since fallen back into the middle market over the last few years as they compete with newer rentals for tenants.

Not all Minneapolis communities prospered in the 1990s, however, with some inner suburbs experiencing falling rents that repositioned upper market units in the middle market. This was especially true in inner suburbs such as the north side of Minneapolis and the northeast of St. Paul. Any new construction of rental units over the decade occurred mostly at the fringe of the metro area, boosting middle market growth in places like Elk River to the northwest and parts of Wisconsin to the east.

As these descriptions of the four case study metros show, the causes of middle market filtering and change are strongly correlated to the community in which they occur. In many larger metro areas, new construction opportunities are generally limited to occasional in-fill development in high-density areas and the few areas of undeveloped land on the metro fringe. Thus, the shifting of existing units along the rent distribution is especially important to the expansion of middle market housing in inner cities and older suburbs that have the least new construction. □

## Attributes and Choices of Middle Market Renters

Middle market renters are more diverse in terms of their income, age, and education than residents in other rental segments. They also report a wider range of reasons for moving and for choosing particular housing attributes and neighborhoods. Although income clearly influences which households choose the middle market and which rentals they select, it is by no means the only determinant. The communities and types of housing that residents select also depend on a complex set of individual preferences. Most important among these preferences are the relative values they ascribe to particular neighborhood attributes, time spent commuting, commuting costs, rental unit size, rental unit quality, and property amenities.

*Middle market renters are more diverse in terms of their income, age, and education than residents in other rental segments. They also report a wider range of reasons for moving and for choosing particular housing attributes and neighborhoods.*

The subjective factors that shape individual choices only loosely correlate with basic demographic variables such as age, family type, income and ethnicity. As a result, few systematic relationships exist between the characteristics of middle market residents and the other choices they make, including how much income to spend on housing and how far to commute. The one exception is the strong association between family type and income on the one hand and choice of structure type on the other.

### The Diversity of Middle Market Residents

More than 13 million households live in middle market rentals. Median household incomes of middle market households are in the low \$30,000s in most metro areas, and nearly half have incomes in the \$20,000–50,000 range. Nevertheless, nearly one-quarter of all middle market households nationwide have incomes of \$50,000 or more, and an even larger fraction have incomes below \$20,000 (*Exhibit 10*). At the same time, almost one-quarter of all middle market household heads have a college or graduate degree.

Of course differences in metro area economies and populations result in wide variations in the share of middle market residents with certain levels of income and educational achievement. Even among just the four case metros, the share of middle market household heads with college degrees ranges from a high of 41 percent in Boston to a low of 20 percent in Tampa. The median household income of middle market renters in 2000 was nearly \$42,000 in Boston, compared with \$30,000–33,000 in the other three areas.

Middle market rentals cater mostly to younger adults and early middle-aged households. Nevertheless, older middle-aged renters were the fastest-growing age group in the middle market in the 1990s, when the baby boomers were moving into their 40s and 50s. This holds true for most metropolitan areas across the country.

Nationally, 38 percent of middle market renters are minorities. But the racial and ethnic composition of middle market residents varies widely across metros in a manner consistent with the uneven distribution of the minority and foreign-born

**Exhibit 10** Education and Incomes of Middle Market Households

	Boston	Los Angeles	Minneapolis	Tampa	Top 100 Metro Areas	US Total
All Households (000s)	207	629	114	113	9,179	13,397
<b>Share of Households (%)</b>						
<b>Education</b>						
No High School	4	13	4	2	6	6
Some High School	8	14	8	12	12	13
High School Grad	21	20	25	28	25	27
Some College	20	23	26	29	25	25
Associate Degree	7	6	8	9	7	7
College Degree	27	17	22	14	17	16
Graduate Degree	14	7	7	6	8	7
<b>Income</b>						
\$0–19,999	17	26	23	26	24	29
\$20,000–49,999	41	46	49	53	48	48
\$50,000+	41	28	28	21	28	23
Median	\$41,900	\$32,100	\$33,000	\$30,000	\$33,000	\$30,700

Source: JCHS tabulations of the 2000 Census PUMS 1% sample.



population across the United States (*Exhibit 11*). In contrast, the age and family type mix of middle market households does not differ that much among metro areas.

Differences in the mix of renters *within* metro areas by market segment are more dramatic (*Table D-5*). For example, in all four case metros, the share of renters with a college education is much higher in the upper market. Although the middle market in each metro attracts considerable shares of higher-income and college-educated residents, the upper market attracts a disproportionately larger share of these renters. In addition, in all four case metros, the lower rental market attracts higher shares of minority residents than the middle market.

### Occupational Characteristics

While their occupations run the gamut, nearly three in ten middle market residents in 2000 fell into just 15 of 477 detailed categories (*Exhibit 12*). In fact, the top three occupations—retail sales persons, secretaries/administrative assistants, and cashiers—alone accounted for nearly 1.4 million of the 16.7 million workers living in the middle market. The share of middle market residents within these top 15 occupations (28.2 percent) is, however, almost exactly the same as the share for all US earners (28.0 percent).

Within the top 15 occupations, the share of middle market renters ranged from 8 percent to 12 percent in 2000, compared with 10.2 percent of workers in all occupations that rented in the middle market. At 11.8 percent, the share of customer service representatives living in the middle market was the largest of the top 15 occupations. Nursing, psychiatric, and home health aides, cashiers, waiters and waitresses, cooks and retail sales persons all had slightly above-average shares of workers living in the middle market. “All other” managers had below-average shares, as did secre-

### Exhibit 11 Age, Race/Ethnicity and Family Type of Middle Market Households

	Boston	Los Angeles	Minneapolis	Tampa	Top 100 Metro Areas	US Total
<b>Share of Households (%)</b>						
<b>Age</b>						
Under 35	43	40	52	45	44	45
35–44	25	27	20	23	24	24
45–54	16	17	10	15	16	15
55–64	7	8	6	8	7	7
Over 65	9	8	11	9	9	9
<b>Race/Ethnicity</b>						
White	74	35	75	69	57	62
Black	9	13	12	14	18	17
Hispanic	7	37	6	12	16	14
Asian/Other	9	16	7	4	9	8
<b>Family Type</b>						
Married Without Children	13	13	10	14	13	13
Married With Children	14	25	11	14	18	18
Single Parent	10	16	13	16	16	16
Other Family	8	9	4	6	8	7
Single Person	39	28	44	39	34	34
Other Nonfamily	16	9	18	11	12	12

Note: Whites, Blacks and Asian/Others are Non-Hispanic. Hispanics may be of any race.  
Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

### Exhibit 12 Top 15 Occupations Among Middle Market Renters

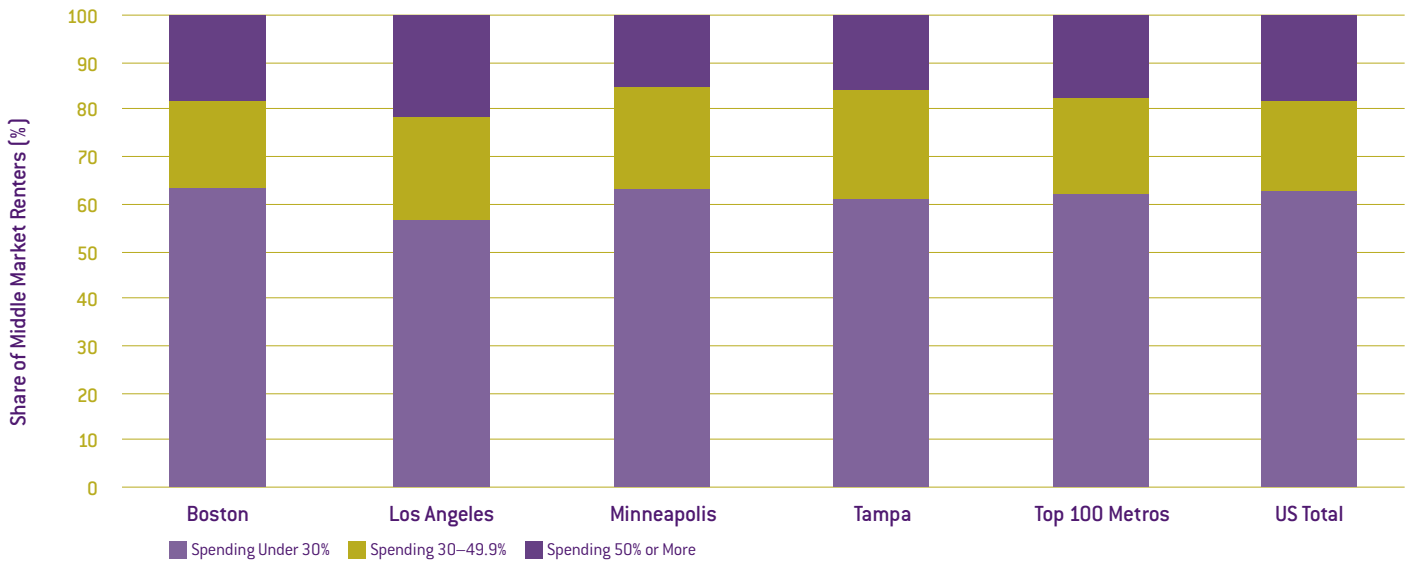
	Number	Share of All Workers In Occupation (%)	Median Income of Full-Time Workers
<b>Employed Middle Market Residents</b>	<b>16,746,674</b>	<b>10.2</b>	
<b>By Occupation</b>			
Retail Salespersons	481,335	10.9	\$26,000
Secretaries and Administrative Assistants	461,373	8.5	26,000
Cashiers	443,115	11.1	16,000
Driver/Sales Workers and Truck Drivers	390,936	10.4	31,000
Elementary and Middle School Teachers	348,776	9.9	35,000
First-Line Supervisors/Managers of Retail			
Sales Workers	338,480	10.3	30,000
Janitors and Building Cleaners	277,584	10.6	21,200
Laborers and Freight, Stock, and Material Movers	266,345	10.2	24,500
Waiters and Waitresses	262,204	11.2	15,600
Customer Service Representatives	262,068	11.8	26,000
Cooks	259,436	11.2	16,000
Registered Nurses	251,656	9.9	42,500
Nursing, Psychiatric, and Home Health Aides	247,230	11.0	19,400
Managers, All Other	218,576	8.2	52,000
Bookkeeping, Accounting, and Auditing Clerks	207,724	10.0	25,000
<b>Total Middle Market Workers in Top 15 Occupations</b>	<b>4,716,838</b>		

Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

taries and administrative assistants. Police officers and firefighters, at 9.7 percent and 9.9 percent, had shares closer to the national average. More than 87,000 of these protective services workers call the middle market home.

The small differences in the shares of middle market residents in the most common occupations in part reflect the simple fact that the economy generates more moderate-paid than high-paid jobs. Even within the “all other” managers category with its higher

**Exhibit 13** Two in Ten Middle Market Renters Spend More Than Half Their Incomes on Housing



Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

median earnings, the share renting in the middle market deviates only two percentage points from the national average. This underscores the point that even though the middle market serves moderate-income workers and their families more than others, it does meet some of the housing demand of higher-income workers in professional occupations.

**Housing Expenditures**

Households that value housing above other goods and services will dedicate larger shares of their income to it than those with comparable incomes. This gives rise to significant variation in the share of income that middle market renters spend on their housing even within metro areas.

In all four sample metro areas, around 60 percent of middle market renters spent less than 30 percent of their incomes on housing in 2000. In higher-cost Boston and Los Angeles, the shares of households spending more than half their incomes on rent were slightly higher (at 18 percent and 22 percent, respectively) than the 15 percent of middle market renters in Minneapolis and the 16 percent in Tampa (*Exhibit 13*).

Among the top 100 metro areas, the locations with the highest shares of middle market renters spending more than half their incomes on housing are a mix of Southern California metros with high housing costs that lack the incomes to match (such as

Santa Barbara, Salinas, and Orange County) and Northeastern manufacturing centers with relatively low housing costs but high unemployment and depressed incomes (including Syracuse, Buffalo, and Rochester, New York). Places like Boston and San Francisco, in contrast, have high incomes to meet their high housing costs and are therefore closer to the middle of the pack.

**Housing Choices of Moderate-Income Renters**

Households with similar incomes clearly make very different choices about how much to spend on housing. Among renters with incomes in the \$20,000–50,000 range (defined here as moderate income) in 2001, nearly half chose to live in middle market housing, 18 percent chose the upper market, and the rest the lower market. As a consequence, moderate-income renters made up nearly half of middle market renters but only 38 percent of upper market and 36 percent of lower market renters.

Moderate-income renters living in upper market units are clearly stretching to do so, with fully 20 percent spending more than half their incomes on housing in 2001. Only 3 percent of moderate-income renters in the middle market and 0 percent in the lower market spent that much. Nevertheless, nearly a third of moderate-income renters in the middle market still spend 30–50 percent of their incomes on housing, compared with only 9 percent of moderate-income renters in the lower market.

**Exhibit 14**

**Tracts With the Most Middle Market Units Have Shorter Average Commutes**

Metro Area	Quintiles of Tracts	Share of Commuters Traveling:		Average (Minutes)
		Less Than 30 Minutes	More Than 45 Minutes	
Boston	Bottom	53	23	30.1
	Lower-Middle	55	22	28.9
	Middle	57	19	27.7
	Upper-Middle	55	21	28.5
	Top	54	20	28.7
Los Angeles	Bottom	53	24	30.8
	Lower-Middle	55	21	29.7
	Middle	55	21	29.9
	Upper-Middle	55	20	29.2
	Top	57	19	28.1
Minneapolis	Bottom	60	14	26.1
	Lower-Middle	65	12	24.8
	Middle	67	12	23.9
	Upper-Middle	71	10	22.7
	Top	74	8	21.7
Tampa	Bottom	56	19	28.7
	Lower-Middle	64	16	26.3
	Middle	65	15	25.5
	Upper-Middle	65	15	25.4
	Top	67	12	24.0

Note: Quintiles are equal fifths of tracts by number of middle market units in tract. Census tract level commute times data are reported in ranges beginning with 30 minutes or less. Source: JCHS tabulations of tract level data from Census 2000 STF-3.

Moderate-income renters living in the upper market were slightly more likely than those in the middle market to cite a new job or job transfer as the reason for moving to their rental (18 percent versus 13 percent), but much more likely to cite these reasons than those opting to live in the lower market (7 percent). Similarly, those who stretched their incomes to live in the upper market were more likely to cite moving closer to work or school as the reason for moving (15 percent) than those living in the middle market (11 percent).

Moderate-income renters living in upper market rentals generally have larger units than those in other segments. The median size of units occupied by moderate-income renters in the upper market was 900 sq. ft., compared with 800 sq. ft. in the middle market and 750 sq. ft. in the lower market. In addition, the share of moderate-income renters living in the suburbs increases by market segment, rising from 35 percent in the lower, to 40 percent in the middle, to 47 percent in the upper market. Higher market segments are associated with larger multifamily shares as well. The distributions of commute times of moderate-income households do not, however, differ materially among the three market segments.

So which middle market renters make the choice to pay more or less for housing? While age and household type do not appear to have a systematic influence on that choice, race/ethnicity and level of education do. Nearly a third of moderate-income renters in the upper market have college degrees, compared with about a fifth in the middle market and about an eighth in the lower market. Minorities and less educated households with moderate incomes are clearly less likely to live in the upper market than in the lower market. Only 33 percent of moderate-income households in the upper market are minorities, compared with 41 percent in the middle market and 46 percent in the lower market. Finally, larger shares of moderate-income households in the upper market are unrelated individuals living together (19 percent versus about a tenth in the middle and lower markets).

**Commuting Behaviors and Patterns**

Once they decide how much rent to pay, households typically look at units in a variety of locations that fall within that price range. Because the search often spans several neighborhoods or towns, households must balance their housing costs against transportation costs and commute times. Some renters place a higher premium on their time and therefore outbid others for rentals near job concentrations. Others may place a higher premium on neighborhood or other attributes, such as the size of the unit or the quality of the school district.

Overall, renters are slightly more likely than owners to select homes that shorten their journey to work. According to the 2000 Census, 15 percent of renters in general and 15 percent of middle market renters in particular had long-haul commutes of 45 minutes or more, compared with 18 percent of owners. In all four metros, the share of long-haul commuters was smaller in the fifth of census tracts with the most middle market housing than in the fifth of tracts with the least, although the differences are only significant in Minneapolis and Tampa (*Exhibit 14*).

Some middle market renters appear to devote larger shares of their incomes to rent as a tradeoff for shorter commutes. Nationally, those paying more than half their incomes for housing have an average commute time of 28 minutes, versus 35 minutes for those spending smaller shares of income on housing (*Table D-6*). In three of the four case metros, the share of middle market renters with the shortest commutes (20 minutes or less) and spending more than half their incomes on rent is slightly higher than the share with the longest commutes (45 minutes or more).

Only in Minneapolis is that relationship reversed. Several factors, however, likely contribute to this anomaly. Minneapolis has the smallest share of middle market renters with long commutes and the largest share of single-parent, long-haul commuters. It is also the only case metro where the median income of long-haul commuters is lower than that of short-haul commuters.

### Structure Type Choices

Of the many factors that influence the choice of how much to pay and which unit to rent, the only one that is somewhat associated with a particular demographic group is the demand for single-family middle market rentals. Families with children prefer these homes, while younger singles tend to prefer units in multifamily structures. Since families with children are older on average than other renters, this likely contributes to the larger share of single-family than multifamily middle market rentals occupied by middle-aged households.

These tendencies are evident in each of the sample metros (*Exhibit 15*). Married couples with children and single-parent households in all four areas make up a much larger fraction of middle market renters of single-family homes than of renters of

apartments in buildings with five or more units. These patterns are also associated with income. In all four metros, the median income of single-family middle market renters is higher than that of the multifamily renters. Rents for single-family units are commensurately higher, as is the share of units with three or more bedrooms.

### Decisions of Middle Market Movers

Turnover rates in the middle market are much higher than in the lower market, but usually somewhat lower than in the upper market.<sup>8</sup> According to the American Housing Survey, 36 percent of middle market renters have lived in their units for a year or less, compared with 42 percent of upper market renters and 29 percent of lower market renters. The much larger share of elderly renters in the lower market translates into lower mobility rates in this segment because senior citizens move less frequently than younger people. But even within age groups, one-year mobility rates are higher for upper market renters than for middle and lower market renters. One explanation is that upper market renters are more likely to have just started a new job and move again once they decide to stick with it.

**Exhibit 15** Characteristics of Middle Market Renters by Structure Type

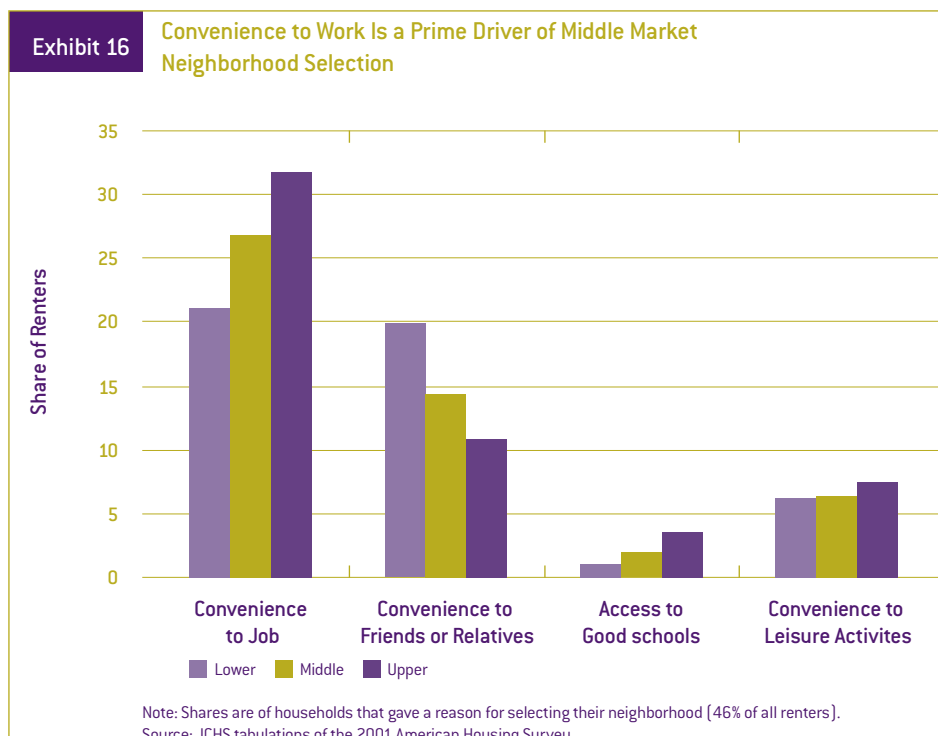
	Boston		Los Angeles		Minneapolis		Tampa	
	Single Family	5+ Unit Structures	Single Family	5+ Unit Structures	Single Family	5+ Unit Structures	Single Family	5+ Unit Structures
<b>Total</b>	24,672	88,138	171,403	368,469	13,453	85,457	30,524	64,137
<b>Share of Renters (%)</b>								
<b>Age</b>								
Under 35	35	45	34	44	41	53	39	49
35–44	27	21	31	24	35	17	29	19
45–54	22	12	20	15	14	10	20	13
55–64	10	8	9	8	7	6	7	8
Over 65	6	14	6	9	6	14	5	11
<b>Family Type</b>								
Married Without Children	17	11	14	13	16	9	15	13
Married With Children	25	9	37	20	19	10	26	7
Single Parent	15	6	19	14	30	8	20	13
Other Family	10	6	11	9	8	3	7	4
Single Person	19	55	13	36	12	51	20	51
Other Nonfamily	14	14	6	10	15	18	11	12
<b>Household Income</b>								
\$0–19,999	13	20	23	27	20	24	21	27
\$20,000–49,999	37	44	43	47	40	50	52	53
\$50,000+	50	35	34	26	41	26	26	20
Median Income	\$48,000	\$35,910	\$35,000	\$30,000	\$42,000	\$31,400	\$34,000	\$26,400
<b>Median Rent</b>								
	\$940	\$850	\$865	\$724	\$870	\$665	\$726	\$638

Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

Looking at turnover rates at the metropolitan level, larger shares of middle market renters move within five years in areas with stronger job-related in- and out-migration. In Minneapolis and Tampa, for example, 72–75 percent of middle market households in 2000 had moved in within the past five years. In Boston, 53 percent of middle market households reported they had moved in within that time frame. In Los Angeles, the share was 46 percent. Nationwide, 62 percent of all middle market household heads reported having moved within a five-year period. Higher mobility rates result in higher re-leasing costs for middle market property owners and managers.

Moves to and within the middle market are more likely to be a step up for renters than a step down. When asked about their previous housing, only 24 percent of middle market renters stated that their current rent was about the same as for their previous unit. Fully 50 percent reported their current rent was higher, and only 28 percent reported it was lower. (Because the responses were qualitative rather than quantitative, it is impossible to know whether the change in rents was large enough to result in a shift from one market segment to another.)

Not all those renting middle market units move from another rental. Both previous homeowners and young adults forming independent households rent middle market units. Of the 5 percent of rental in-movers in 2000–1 who had left a home owned by a parent, nearly half chose middle market units. Of the 14 percent of movers that had previously owned or co-owned a home but then opted to rent, more than 40 percent chose middle market units.



The motivations and attitudes of middle market renters differ from those of renters in the other two market segments (*Table D-7*).<sup>9</sup> The higher the rent, the more likely a renter is to cite a job-related reason for moving. And the lower the rent, the more likely a renter is to cite a family-related reason. Because smaller shares of middle market renters move for job-related reasons, the middle market may be less sensitive to economic cycles.

When asked why they picked a particular home or apartment, the higher the rent, the more likely a renter is to emphasize design/layout/size. Conversely, the lower the rent, the more likely respondents are to cite financial reasons. Middle market renters are therefore slightly less influenced by the unit’s design than upper market renters, and they are less likely to make choices based on financial constraints than lower market renters.

As for neighborhood selection, accessibility to work is by far the most important consideration for middle market renters. In contrast, proximity to friends and relatives is more important to those in the lower cost segment than those in the middle market (*Exhibit 16*). Middle market renters are more likely than those in the other two segments to report multiple reasons for choosing their units. This broader set of motivations is therefore a signature of the middle market.

### The Changing Mix of Residents

The demand for rental housing seems likely to grow, and with it the demand for middle market units. Nationally, the projected rate and composition of population growth imply the addition of about 1.3 million households annually for the next 20 years. How much of this new housing demand will go to the rental market will be determined partly by economics. Overall income growth, the distribution of that growth, industry practices, and tax policy will all play important roles.

## Exhibit 17 Change in Characteristics of Middle Market Households

	Boston			Los Angeles			Minneapolis			Tampa		
	1989	1998	Change	1989	1998	Change	1989	1998	Change	1989	1998	Change
<b>Total Households</b>	240,386	194,535	-45,851	602,795	681,159	78,364	109,516	117,263	7,747	101,066	104,923	3,857
<b>Share of Households (%)</b>												
<b>Age</b>												
Under 35	51	44	-8	52	40	-12	59	56	-2	54	47	-7
35–44	21	25	5	21	27	6	17	19	1	17	21	4
45–54	9	14	5	13	17	5	11	11	0	9	15	6
55–64	7	7	0	6	7	1	3	4	1	9	6	-3
Over 65	12	10	-2	8	8	0	10	10	0	11	11	0
<b>Race/Ethnicity</b>												
White	86	78	-8	45	34	-12	92	82	-9	83	77	-6
Black	6	9	2	13	14	0	4	8	4	11	12	1
Hispanic	4	6	1	33	38	6	1	2	1	6	9	3
Asian/Other	4	8	4	8	15	6	3	7	4	0	2	2
<b>Family Type</b>												
Married Without Children	16	14	-2	14	12	-2	14	8	-5	17	13	-5
Married With Children	18	15	-3	30	26	-3	13	10	-2	20	15	-5
Single Parent	13	10	-3	15	13	-1	15	13	-2	11	12	1
Other Family	5	6	1	6	12	6	5	5	0	6	8	2
Single Person	34	39	5	27	29	2	36	45	9	32	40	8
Other Nonfamily	14	16	3	9	8	-1	17	18	1	12	11	-1

Notes: Minneapolis added two counties and Boston added and subtracted several municipalities for the 1998 survey. Whites, Blacks and Asian/Others are Non-Hispanic. Hispanics may be of any race. Source: JCHS tabulations of the 1989 and 1998 AHS Metropolitan Area surveys and the 1999 AHS National survey.

Still, as members of the echo baby boom begin to reach young adulthood, the share of young renters is likely to rise. The minority share of renters is also poised to grow significantly as a result of immigration and higher rates of natural increase among minority populations. If the homeownership rates of different demographic groups remain at recent levels, Joint Center projections indicate that the total number of renter households will increase by about 400,000 annually between now and 2020. If the sharply higher ownership rates of the 1990s prove to be unsustainable, however, growth in the number of renters may well be higher.

Regardless of its growth rate, the rental market—and its middle segment—will have residents who are more ethnically diverse and younger on average than today. While the age profile of middle market renters changed little over the 1990s, the racial and ethnic composition shifted decisively toward minorities,

especially Hispanics. Consequently, growth in the minority share of middle market renters has been dramatic in areas experiencing large influxes of Hispanic immigrants, such as Los Angeles, Dallas, Houston, Phoenix, and Miami. Over the past decade, the minority share of the middle market nationwide increased from 31 percent to 42 percent.

These trends are mirrored in the four case metros (*Exhibit 17*). The share of middle-aged middle market renters increased as a large portion of baby boomers moved into this age range over the 1990s. At the same time, the white share of middle market renter households fell and the minority share surged, with gains in Los Angeles concentrated among Hispanics and Asians, in Minneapolis among African-Americans and Asians, and in Boston among Asians. In Tampa, the increase was more evenly spread among the minority groups.<sup>10</sup> □

# Developing and Financing New Housing

Although the upper market accounts for only 20 percent of all rentals and fully 40 percent of all new rental construction, nearly an equal share of new construction takes place in the middle market. Indeed, about 1.6 million additional middle market units were built in the 1990s, accounting for over 10 percent of the entire middle market stock as of 2000.

*Newly constructed middle market units are more likely to be in large multifamily structures, located in the suburbs, include more bedrooms and bathrooms, and have higher rents than older middle market units.*

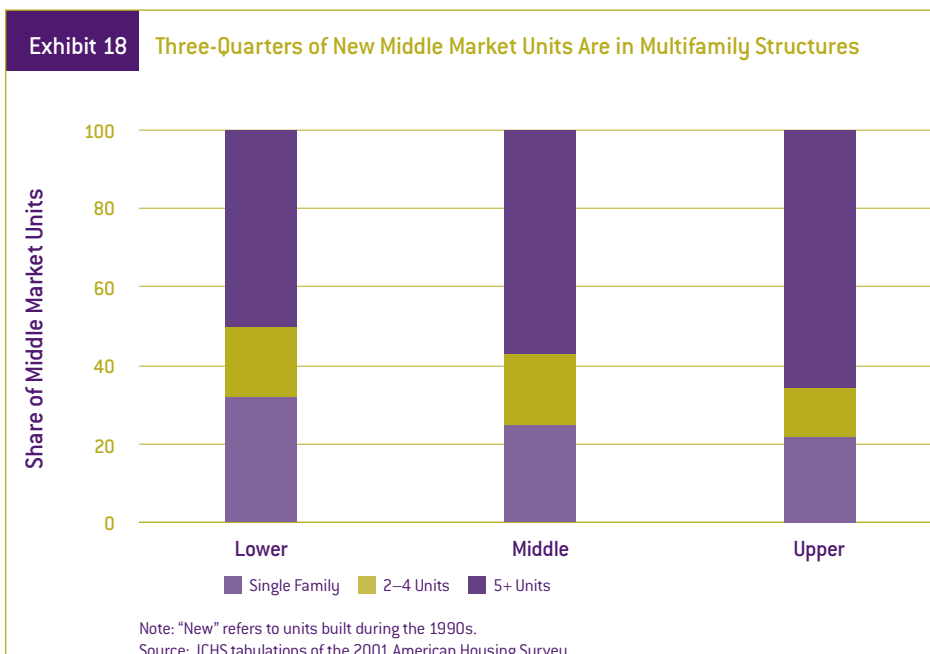
Furthermore, despite the special challenges of gaining local approval for development of multifamily rental housing, fully three-quarters of the additions to the middle market stock were in buildings with 2+ units (*Exhibit 18*). According to 2000 Census data, roughly 292,000 of the middle market units built in the 1990s were in buildings with 2–4 apartments and 920,000 were in buildings with 5 or more apartments.

New units are generally not perfect substitutes for older units, however. It is not always possible to build new units that can compete on price with existing units in the same neighborhoods. Increasingly stringent building codes and other regulations add to construction costs over time. Several developers interviewed for this study stated that new construction must achieve rents in the upper 10 percent of the distribution in the immediate neighborhood to cover development costs plus a competitive risk-adjusted profit.

Because rents vary so much within a metropolitan area, the top 10 percent of rentals in many neighborhoods often falls squarely within the middle market for the metro area as a whole. Regardless of location, new rental units are therefore apt to have higher rents than most existing housing in the neighborhood.

## New Construction Rates and Levels

Developers make decisions about middle market construction based on the market conditions and regulations in effect in a particular area. Where demand is growing, there is greater demand for new middle market units. Indeed, in Las Vegas, the nation’s fastest-growing metro area, fully half of middle market rentals were built in the 1990s. Other rapidly expanding metros also have high shares of recently built middle market units, including a quarter of units in Atlanta and more than a third in Orlando. In Boston, where growth was slower and there were more opportunities to meet incremental gains in demand through older properties, only 3 percent of middle market rentals were built during the 1990s according to the Census. The share in Tampa was 13 percent, in Minneapolis 7 percent, and in Los Angeles 6 percent.



## Exhibit 19 Characteristics of Middle Market Units by Location and Age of Stock

Region Year Built	Northeast		Midwest		South		West		US Total	
	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s
Total Middle Market Units (000s)	2,877	89	2,611	294	4,053	643	3,175	429	12,715	1,455
Share of All Middle Market Units (%)	97	3	90	10	86	14	88	12	90	10
<b>Structural Characteristics</b> (Percent of total)										
2+ Units	79	61	67	77	59	66	63	76	66	71
50+ Units	14	15	6	5	5	4	7	7	8	6
In Suburbs	37	50	35	39	37	48	42	48	38	46
In Center City	55	35	44	34	46	27	47	38	48	32
With 2+ Bedrooms	59	59	66	75	70	82	64	73	65	76
With 2+ Baths	5	8	7	25	25	55	22	46	16	43
Median Gross Rent (\$)	734	689	614	600	651	680	790	775	696	690

Source: JCHS tabulations of the 2001 American Housing Survey.

Metro Year Built	Boston		Los Angeles		Minneapolis		Tampa		US Total	
	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s
Total Middle Market Units (000s)	207	6	609	41	108	8	109	17	12,699	1,616
Share of All Middle Market Units (%)	97	3	94	6	93	7	87	13	89	11
<b>Structural Characteristics</b> (Percent of total)										
2+ Units	89	72	72	81	89	84	72	88	69	75
50+ Units	7	13	11	21	24	40	12	14	12	13
With 2+ Bedrooms	56	60	42	45	44	71	58	57	60	66
Median Gross Rent (\$)	880	910	753	760	696	797	658	665	658	660

Source: JCHS tabulations of the 2000 Census 1% PUMS sample.

Although the share of middle market housing built in a metro during the 1990s is correlated with the share of all rental housing built in the 1990s in that area, the correlation is far from perfect. In fact, among the nation's 100 largest metropolitan areas, it explains only 41 percent of the variation across metros in the share of middle market housing that was newly constructed. Among the four case metros, Los Angeles is the only place where the two shares are the same. In the other three, the middle market share lags the upper market share, suggesting that newer middle market housing was either in relatively less demand in these metros or easier to deliver profitably in Los Angeles.

In larger metro areas, even small shares of newly built middle market housing can translate into significant amounts of construction—especially in places like Los Angeles that also have low homeownership rates. In absolute terms, nearly 41,000 middle market rentals were built in the 1990s in Los Angeles. By comparison, fast-growing Tampa—with its smaller size and higher homeownership rate—added only 17,000 new middle market rentals.

### Characteristics of Newer Rentals and Residents

Newer middle market rental housing differs from older middle

market housing in the share that is in multifamily structures (*Exhibit 19*). In all census regions but the Northeast, a significantly larger fraction of newer middle market rentals also has two bedrooms and two baths. In the South, for example, the difference in shares between older and newer properties with two bedrooms is 12 percentage points, while the difference in the shares with two bathrooms is 30 percentage points. Also, in all four regions except the Northeast, the share of multi-unit middle market housing is higher in newer properties.<sup>11</sup>

Differences also exist in the characteristics of residents of newer versus older middle market rentals, but they are modest at the regional level (*Exhibit 20*). For example, the elderly share of middle market renters in newer units is significantly higher in the Midwest, but only somewhat higher in the West, and somewhat lower in the Northeast and the South. In addition, the share of renters spending more than 30 percent of their incomes on housing for older and newer housing is similar in the Northeast and Midwest, slightly lower in older than newer units in the South, and slightly higher in older than newer units in the West. Median incomes are slightly lower among residents of newer middle market units in all regions but the West.



Differences in minority shares are more ambiguous because of different signals sent by two datasets. The AHS suggests that minority shares are far higher in older than newer units in three of four regions and for the country as a whole. Census data, however, indicate that minority shares are only slightly higher in older units nationally and are in fact lower in Los Angeles and Tampa.

A larger share of newer than older middle market rentals is found in suburbs in all four regions of the country. The share built in center cities in the 1990s varies by region, topping one-third in three of four regions but reaching only one-quarter in the South. The number of bedrooms and baths is greater in newer than older properties in all regions but the Northeast, while differences in median gross rents between older and newer units were also small everywhere but the Northeast.<sup>12</sup> This suggests that many renters of newer middle market units are willing to forgo the most central locations for larger and better-quality rentals.

Median gross rents of newer and older units are also roughly comparable in three of the four sample metro areas, with Minneapolis the exception. But only a slightly larger share of newer than older middle market rentals had two or more bedrooms in three of the four metro cases.<sup>13</sup>

Information on the spatial distribution of new middle market construction is available only at the level of relatively large census primary micro-sample areas. Nevertheless, these data provide a rough idea of the relative dispersion and location of middle market development (*Exhibit 21*). In Tampa and Minneapolis, the difference between the areas with the least and most construction was about four- to fivefold, and in Boston, it was about threefold. In Los Angeles, construction of middle market rentals in each primary area was at least 1,000 units, with nearly four times that in the areas of Los Angeles County with the most new construction.

## Exhibit 20 Characteristics of Middle Market Renters by Location and Age of Stock

Region Year Built	Northeast		Midwest		South		West		US Total	
	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s
<b>Total Middle Market Units (000s)</b>	2,877	89	2,611	294	4,053	643	3,175	429	12,715	1,455
Share of All Middle Market Units (%)	97	3	90	10	86	14	88	12	90	10
<b>Resident Characteristics (Percent of total)</b>										
Age 65+	14	9	9	19	7	5	6	10	9	9
With Children	32	28	30	29	35	34	36	29	34	31
Minority	45	21	30	17	47	46	44	30	43	34
Commuting 45+ Minutes	19	7	9	9	9	9	12	11	12	9
Spending 30% or More of Income on Housing	43	41	41	38	44	49	51	46	45	45
Median Household Income (\$)	33,000	32,199	29,000	28,000	29,100	28,000	32,400	34,000	30,250	30,050
Average Persons Per Household (#)	2.40	2.30	2.20	1.96	2.38	2.46	2.60	2.29	2.41	2.30

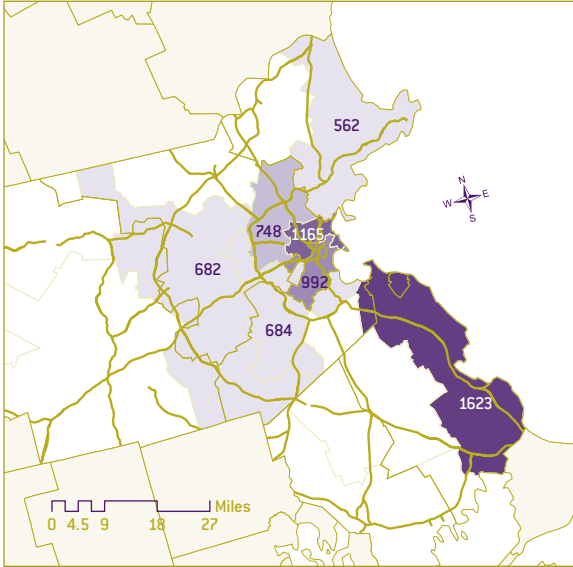
Source: JCHS tabulations of the 2001 American Housing Survey.

Metro Year Built	Boston		Los Angeles		Minneapolis		Tampa		US Total	
	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s	Pre-1990	1990s
<b>Total Middle Market Units (000s)</b>	207	6	609	41	108	8	109	17	12,699	1,616
Share of All Middle Market Units (%)	97	3	94	6	93	7	87	13	89	11
<b>Resident Characteristics (Percent of total)</b>										
Age 65+	9	16	8	9	10	23	9	7	9	8
With Children	24	28	40	42	24	23	30	32	34	35
Minority	26	27	64	73	25	16	30	34	38	35
Commuting 45+ Minutes	22	20	20	23	7	6	13	9	15	14
Spending 30% or More of Income on Housing	37	37	43	50	37	37	40	30	37	38
Median Household Income (\$)	41,950	38,500	32,500	29,000	32,300	39,000	28,800	35,000	30,704	30,600
Average Persons Per Household (#)	2.23	2.34	2.95	3.07	2.05	2.10	2.23	2.17	2.47	2.39

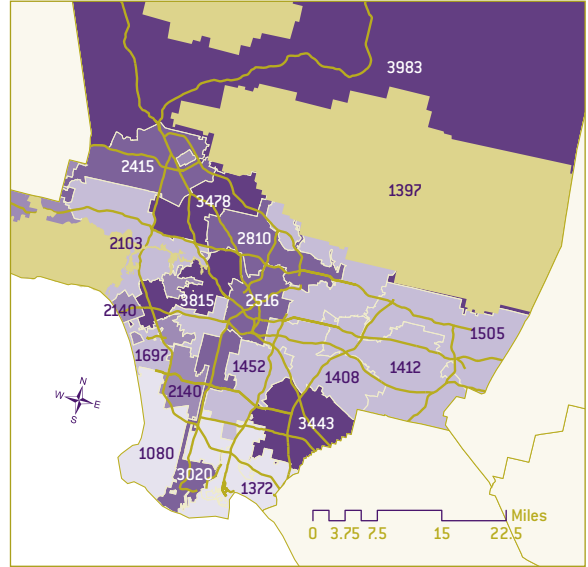
Source: JCHS tabulations of the 2000 Census 1% PUMS sample.

Middle Market Construction is Heaviest at the Metro Fringe

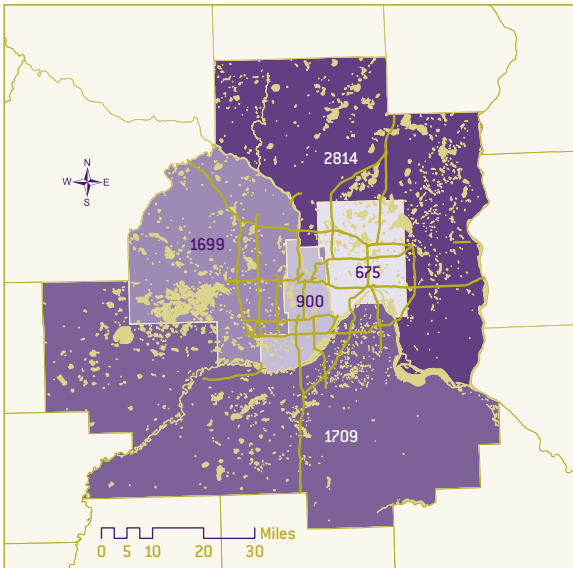
Boston



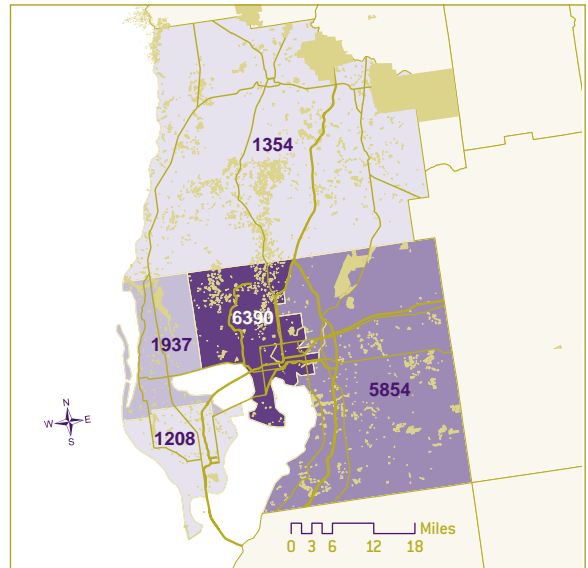
Los Angeles



Minneapolis



Tampa



Number of New Middle Market Units



Source: JCHS tabulations of tract level data from Census 2000 STF-3.

### Development Decisions and Land Costs

Land value is a key component in the decision to build middle market units because it is a proxy for the relative attractiveness of the site to different types of renters, and thereby influences the highest and best residential use at a site. For example, consumers seldom demand luxury apartments in places with lower land costs because they are undesirable neighborhoods or sites, and developers do not build upper market units in those locations because no one would pay high rents for them. Luxury apartments are more often the highest and best use on relatively more expensive sites, middle market rentals the highest and best use on more moderately priced sites, and lower market rentals (if they are economic at all without subsidy) on low-cost sites. (See Appendix C for further discussion.)

To appreciate the choices developers face, take the example of Gresham Central Apartments, a development in Oregon profiled in an Urban Land Institute development case study. Gresham Central is a 90-unit multifamily rental community built on an in-fill site adjacent to a light-rail transit station in the mid-1990s. Development costs are as follows:

Site acquisition (in 1991, for 2.14 acres)	\$	360,000
Site improvement		814,000
Construction (1995–6)		2,924,000
Soft costs		328,000
<b>Total development cost</b>	<b>\$</b>	<b>4,426,000</b>
<b>Total development cost per unit</b>	<b>\$</b>	<b>49,177</b>
<b>Average rent per unit (in 1997)</b>	<b>\$</b>	<b>688</b>

Raw land costs at Gresham Central represent 8 percent and improved land costs 18 percent of total development costs. Although no sales price or appraisal is available, one can be estimated by assuming 40 percent of revenues are spent on operating costs and an 8.5 percent capitalization rate, yielding a market value of \$58,300 per unit and \$5.25 million for the property.<sup>14</sup> Compared with the total development cost of \$4.4 million, the implied rate of return is 19 percent—a realistic target for rental development projects.

Although one can only speculate why the Gresham site was developed as a middle market property, it is likely the additional revenues to be gained would not fully offset the higher construction and operating costs required to build for the upper market. Conversely, it is likely that the reduction in costs to

build a lower-quality apartment would not have been as great as the reduction in rent revenues. Thus, 19 percent is likely the highest rate of return achievable at the site.

### Financing and Capital Costs

Because commercial banks and thrifts are not required to report loan performance separately for commercial and residential properties, information on land acquisition, development, and construction (ADC) financing of middle market properties is difficult to come by. ADC debt is provided primarily by commercial banks and thrifts that hold these loans in portfolio.

In 2001, the National Association of Home Builders Quarterly Financing Survey found that 100 percent of multifamily and 90 percent of single-family construction loans came from one of these two sources. Additional ADC financing is available from insurance companies and the secondary market, although some of those products, such as Fannie Mae's mezzanine loan program, come with sharply higher origination fees than permanent mortgage programs and are therefore more costly.

Thus, middle market developers of both single-family and multifamily properties likely get most of their ADC financing from banks or thrifts offering non-standard loan products. These products typically have higher interest rates, higher origination fees, and greater reliance on recourse to the borrower than permanent loan products (Donovan 2001). In setting interest rates and fees, lenders focus especially on the developer's experience and on their own assessment of how quickly the project will reach stable occupancy (Donovan 2002). Middle market developers that have less experience, are poorly capitalized, or are developing in new areas and are therefore likely to face higher capital costs.

Construction-to-permanent loans are the most attractive options for multifamily developers. These loans provide a single loan for ADC and permanent finance. While increasingly available to purchasers of new single-family homes, these loans are scarce for multifamily housing. The loans are made directly to homebuyers and offer interest-rate protection, no mortgage payments during the construction phase, and allow for a single loan closing.

On the multifamily side, FHA is the primary source of construction-to-permanent loans (Millennial Housing Commission 2002). Although FHA loans entail insurance premiums and impose regulations such as paying prevailing wages as required by the Davis-Bacon Act, they allow non-recourse development of highly

leveraged (10 percent down) properties with no interest payments during construction, interest-rate locks, and a single loan closing. In recent years, however, FHA has financed only about 10–15 percent of multifamily rental production.<sup>15</sup>

Financing for middle market development is also available through federal tax subsidy programs administered by state and local housing finance agencies. The Low-Income Housing Tax Credit provides credits that developers sell to raise equity, thereby offsetting development costs and lowering their debt costs. These credits enable development of higher-quality middle market properties or in areas with higher land costs than would otherwise be possible.

Eligibility for units financed with tax credits is restricted to households with incomes no higher than 60 percent of the local median, adjusted for family size, and gross rents cannot exceed 30 percent of their income. Tax credit-allowable rents can sometimes fall in the middle rental market.<sup>16</sup> According to Cummings and DiPasquale (1999), in several metros as much as 30 percent of tax credit properties built before 1996 had rents above the fair market limits. While additional middle market rentals benefit from tax-exempt bond financing and property tax abatement, most construction appears to be “market-rate” despite the financial and regulatory roadblocks that such developments often face.

### Challenges to Production

The challenges to building middle market rental housing can be formidable because of the cost and availability of financing and the constraints imposed by development regulation. Lacking access to broader capital markets, middle market developers—like developers for all housing market segments—must seek debt financing from local banks and thrifts. This can leave them unable, in periods of credit contraction when capital becomes unavailable, to move forward with planned projects. It also leaves them with relatively high costs.

Regulations governing residential development in many jurisdictions are notoriously strict. Zoning, other land use controls, and various impact fees and taxes restrict the opportunity to build and increase the cost of what does get built (Advisory Commission on Regulatory Barriers to Affordable Housing 1991; Malpezzi 1996; Green 1999). Restrictions on the land supply available for higher-density multifamily development are typically even greater than for single-family housing (Schill 2002).

In this regard, middle market housing may thus face unique challenges in gaining necessary community approvals. This type of development lacks the appeal of “luxury” apartments, which local officials often view as superior sources of property tax revenue. Participants in focus sessions conducted for this study (see Appendix A) described how the cost of buying land for middle market developments is often far surpassed by the cost of getting the regulatory approvals to build on it. They explained that asking for even minor zoning or subdivision waivers or concessions can bring inordinate delays in the local review process, adding to costs and making outcomes more uncertain. This additional risk, in turn, forces developers to demand higher returns and may also impede building (Mayer and Somerville 2000). □

## Financial Performance of Existing Properties

Although information on the financial performance of middle market properties is scarce, evidence suggests they tend to have significantly lower operating cost-to-rent and capital expense-to-rent ratios than lower market properties, but slightly higher ratios than upper market properties. With deductions of operating and capital expenditures from revenues governing how much residual cash flow is left over to service debt and earn a return, middle market properties operate on slightly thinner margins and thus may present a greater default risk than upper market properties. They do, however, have wider margins and pose less risk than lower market properties. Even so, middle market properties appear to fare better in economic downturns than upper market rentals. More stable cash flow during economic rough spots may compensate to some degree for slightly thinner operating margins, but this hypothesis has not been fully tested.

*Middle market properties appear to fare better in economic downturns than upper market rentals, with more stable cash flow during economic rough spots compensating for slightly thinner operating margins.*

In determining whether a property is profitable or not, rent levels appear to exert less independent influence than the ownership and management of the property. Specifically, corporately owned and professionally managed middle market properties are more likely to earn a profit from operations. In addition, interviews with large lenders and developers for this report suggest that rent levels are not the primary determinant of loan pricing. Property size appears to play a larger role in governing financing terms and sources.

### Profitability

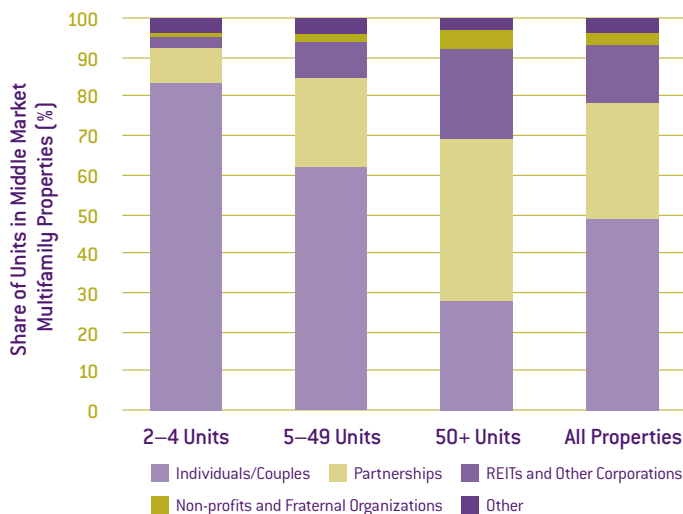
Existing middle market properties present many opportunities for owners to realize a profitable return on their investment, according to owners and investors interviewed for this study. One approach is to find poorly managed properties, acquire them based on the capitalized value of their present rent stream, and then improve net operating incomes (rent revenues minus operating expenses) through better management. Another is to purchase properties that, with modest improvements, can command rents that cover acquisition and improvement costs and still earn a strong return.

Beyond strategic acquisitions, many in the middle market profit simply by managing their properties well. They are able to generate after-tax cash flows net of operating expenses, debt costs, and capital expenditures that provide a return on equity that meets an appropriate risk-adjusted internal rate of return.

Available data provide only qualitative and often incomplete information on property profitability. One source is the 1995–6 Property Owners and Managers Survey (POMS), which asks only whether a profit was made and not the specific amount of any profit or loss. But these survey data are fraught with missing values, respondents that may not have had the information to assess operating profits, and limited other variables available for drawing sound conclusions about the determinants of property performance (see Appendix A). Despite these drawbacks, a generalized model of profitability using these data reveals only a scant correlation with rent levels. Although the model has relatively weak explanatory power, other variables that one would expect to have an impact on profitability did have a statistically

Exhibit 22

Middle Market Ownership Patterns Differ by Size of Property



Notes: Multifamily properties are all properties with two or more units. Shares are of all units in properties of indicated size.  
Source: JCHS tabulations of 1995–1996 Property Owners and Managers Survey.

More careful research and modeling based on more complete, detailed, and verified quantitative information on profitability is necessary before stronger findings on the middle market are possible. Relating the available findings to the middle markets in the four case metros is therefore difficult because the shares of middle market properties that are professionally managed, the management behaviors of property owners, and the distribution of property sizes are all unknown.

Ownership

The Property Owners and Managers Survey provides estimates of the composition of middle market ownership. The survey shows that individuals or couples owned about half of all middle market units in multi-unit (2+ unit) properties in 1995–6, partnerships and joint ventures owned about three in ten, and a mix of Real Estate Investment Trusts (REITs) and other corporations, nonprofits, and others owned the rest. Larger middle market properties are less likely to be owned by individuals and more likely to be owned by limited partnerships, REITs or corporations. Net of non-responses, 23 percent of units in middle market properties with 50 or more units were under corporate ownership, compared with 9 percent of properties with 5–49 units and 3 percent of properties with 2–4 units (*Exhibit 22*).

The breakdown by types of owners of multi-unit rental properties in the middle market differs little from that in other markets. Middle market properties are only slightly less likely to be owned by individuals or couples, and slightly more likely to be owned by partnerships and REITs. Properties owned by individuals and couples are smaller and the least likely to be professionally managed, while those owned by corporations are larger and the most likely to be professionally managed. This is an important difference because professionally managed properties are more likely to operate at a profit.

Operating Costs

The costs of operating a middle market property depend on the quality of management, the mix and turnover rate of tenants, and the nature of the property. Operating costs play a direct role in a property’s profitability because they determine how much residual cash flow from rent revenues is left over to service debt and pay out a return to equity holders. Operating costs can also indirectly influence profitability by affecting the size of the mortgage a property can carry, and hence potentially its leverage ratio.<sup>18</sup>

significant influence and in the expected direction.<sup>17</sup> Professional management and corporate ownership, for example, boost the odds of being profitable, while receipt of a government subsidy reduces the odds.

Previous studies on what drives differences in average returns shed some light on which types of properties *within* the middle market may achieve higher operating profitability. Sirmans and Sirmans (1991) concluded that properties that have professional managers are able to charge higher rents than other comparable apartment properties. Benjamin and Lusht (1993) and Sirmans et al. (1992) also found that property management actions, including rent-setting strategies and tenant search cost reductions, result in higher rents, all else equal. Bogdon and Ling (1998) found that smaller properties are less likely to be profitable than large properties because of lower net operating income-to-value ratios, although their model does not include a measure of a property’s position in the rent distribution as an independent variable.

Micro data from the National Apartment Association’s (NAA) operating cost study can be used to gauge whether the ratio of operating costs to rent revenues is different on average in the middle market than in other segments. These data, from nearly 3,000 multifamily rental properties, reveal that operating cost-to-rent revenue ratios do not increase proportionally with rents. In other words, operating costs are a larger share of rents in lower market than in middle and upper market properties.

Exhibit 23 illustrates this point with NAA-surveyed properties in the case study metros of Los Angeles, Minneapolis, and Tampa (Boston had too few observations to be meaningful). While costs relative to rents are higher in higher-rent properties, the general downward slope indicates that those costs rise less than proportionally with rent. Nationwide, for properties in the middle third of the rent distribution, the operating cost ratio averages approximately 0.43, compared to 0.53 in the lower third of the rent distribution and 0.40 in the upper third. More detailed cost information from the NAA survey, as well as from the 1995–6 POMS, indicates that this pattern holds for a wide variety of individual cost components and categories, including labor, repairs, and general management fees.

In addition to rent level’s independent and statistically significant influence on operating costs, Goodman (2003) found that the age of a property, its size, and its location also influence operating costs. All else equal, new properties have lower operating costs per apartment, as do larger properties with up to 200 units. Controlling for metropolitan fixed effects increases the model’s explanatory power, suggesting that differences in factors such as labor costs influence operating costs.

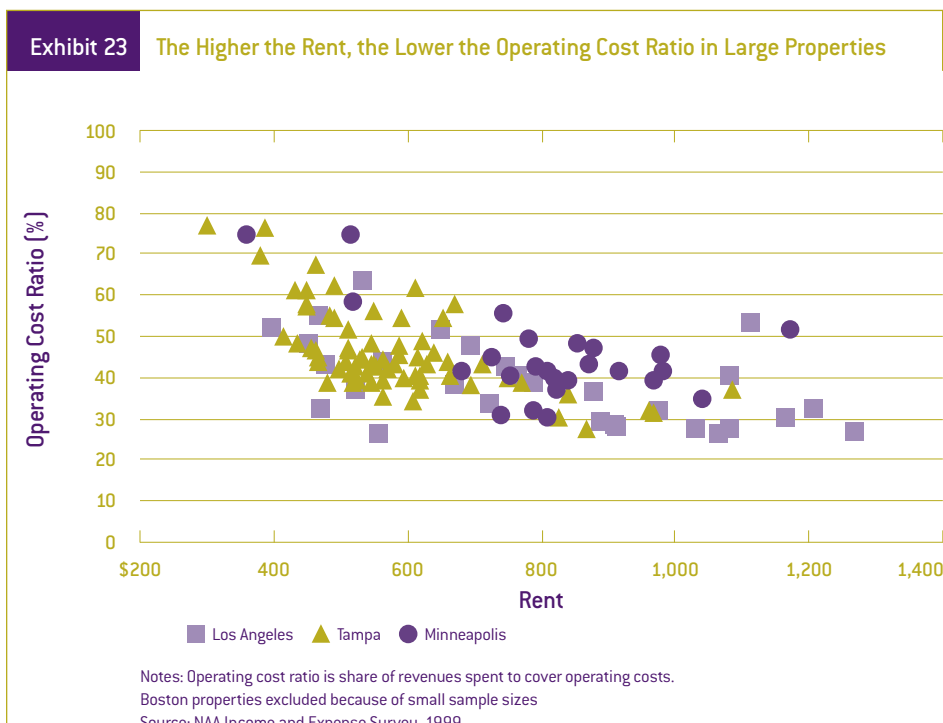
### Capital Costs and Financing Terms

Evidence that the income of middle market properties may be less volatile than that of upper market properties, and that their operating margins are thinner, implies that a property’s position in the local rent distribution may influence capital costs. Nevertheless, lenders typically treat volatility of income and operating margins as separate factors in their pricing models and therefore do not rely on rent level as a proxy for them. Other factors that influence pricing are whether the property is under professional management, the track record of the owner and property, projections of future market demand, and the size of the property.

Property size is an important determinant of lenders’ terms. Financing of middle market properties divides into single-family finance, available to 1- to 4-unit properties, and multifamily finance, available to properties with 5 or more units. Finer distinctions are also made for single-family versus 2- to 4-unit properties, and for properties with 5–49 units versus 50+ units. Each has distinct loan products, suppliers, underwriting standards, upfront fees, and interest rates.

The system for financing single-family owner-occupied housing is the most highly integrated into capital markets. Securities backed by these loans are liquid and supported by a geographically diversified asset base. Origination costs and fees in this market are lower than those for other residential real estate. Furthermore, intense competition and better risk management tools have resulted in the proliferation of mortgage products for owner-occupied housing.

Loans for 1- to 4-unit properties divide into owner-occupied loans and investor loans, i.e., loans on properties in which the owner is not a resident. These loans



have different terms than loans for the purchase of properties as a primary residence. For example, loans purchased or guaranteed by Fannie Mae and Freddie Mac generally have lower interest rates than those funded by portfolio lenders, but the maximum loan-to-value ratios for these products are lower for investor loans than for home purchase loans. Investor loans also carry a 150 basis-point upfront fee, which some lenders capitalize into a slightly higher interest rate relative to owner-occupied property loans. Properties with 2 to 4 units that are purchased by resident landlords are treated as owner-occupied loans, with the exception that rent payments received by the landlord are included in the landlord's income for the purpose of underwriting the loan. It is likely that some one-unit rentals are financed with loans originally used to buy the home as a primary residence.

Reserve requirements for investor loans are higher, extending up to six months of full loan payments in some cases. Documentation is also more involved, including the completion of an operating income statement from the borrower or an appraiser and a single-family comparable rent schedule or small residential income property appraisal report.<sup>20</sup>

In addition to mainstream secondary market programs, special programs permit low- to moderate-income buyers and purchasers of properties in underserved areas to put less money down, and to stretch their incomes and rent revenues further, if they are owner-occupants.<sup>21</sup> But even these programs have less generous underwriting standards than comparable affordable lending programs for home purchases and refinances. Portfolio lenders, meanwhile, specialize in loans that are above the loan sizes that Fannie Mae and Freddie Mac can purchase.

On the multifamily side, large properties (with 50 or more units) now benefit from many of the advantages capital markets bring to single-family properties. During the 1990s, Fannie Mae, Freddie Mac, and private secondary market conduits increased their penetration of the large multifamily property market, especially for buildings with 100 or more units (Bradley et al. 1998). In fact, securitization shares of large multifamily mortgage originations now rival those of single-family mortgage originations (Herbert 2001).

Small multifamily properties (with 5–49 units), in contrast, are poorly integrated into capital markets (Donovan 2002). Their size has impeded development of a secondary market because they lack the economies of scale necessary to bear the upfront costs of securitization. Investors and guarantors of commercial mort-

gage-backed securities often demand that multifamily properties have state-certified appraisals, environmental reviews, attorney opinions and certifications, rating agency opinions, and detailed documentation of income and expenses (Schneider and Follain 1998). Meeting these requirements imposes too high a fixed cost relative to the size of the mortgages to make public security offerings as economic as they are for large properties.

In addition, many small property owners simply do not document incomes and expenses in the format that investors in the secondary mortgage market require. Although Fannie Mae, Freddie Mac, and private conduits offer a growing number of small multifamily programs, they typically cater to the subset of owners with well-documented income and expense statements and unit counts closer to 49 than 5. They also impose stricter underwriting standards, higher fees on a percentage basis, or both relative to their large multifamily programs (Herbert 2001).

As a result, banks and thrifts are the dominant providers of financing for smaller multifamily properties while capital markets are the dominant provider for larger multifamily properties. In 1999, 51 percent of multifamily mortgages financed by banks and 56 percent of multifamily mortgages financed by thrifts had balances of less than \$1 million, compared with only 13 percent of the multifamily mortgages financed by Fannie Mae and 16 percent of those financed by Freddie Mac (Schnare 2001). Conversely, only 11 percent of multifamily mortgages financed by banks and 6 percent of those financed by thrifts exceeded \$4 million, while fully 36 percent of Freddie Mac's and 47 percent of Fannie Mae's multifamily mortgages were that large.<sup>22</sup>

Although the expanded secondary market for large multifamily property loans has tapped new capital sources, the evidence is not compelling that the greater liquidity and geographic diversification offered by tradable securities, and the lower cost of funds that comes from a broader investor base, have lowered capital costs.<sup>23</sup> Indeed, even though the interest rates on multifamily loans are now similar to the rates on single-family loans, all-in financing costs are still higher for large multifamily properties than for single-family properties. Average maturities on large multifamily loans are somewhat lower than on single-family loans and upfront costs are significantly higher (Donovan 2002).<sup>24</sup>

Many studies have suggested that increased access to capital markets has lowered capital costs for large multifamily properties relative to small ones, but do not furnish direct or convincing evidence to prove the point. While it is clear the upfront fees for



small multifamily loan originations are higher as a percentage of the loan balance (because fixed costs are spread over a smaller base), evidence on interest rate differences is scant. Herbert (2001) reports small differences in median interest rates between small and large multifamily properties but does not control for origination date, loan type, and other drivers of interest rates that would render such comparisons meaningful. Hubbard, Kuttner, and Palia (2002) have, however, found evidence that banks and thrifts charge higher interest rates on small multifamily properties after controlling for credit risk—presumably because loans for these properties are less liquid and less geographically diversified.

Evidence on the differences in loan products available to small and large multifamily borrowers is more compelling. While most small multifamily property finance programs usually involve balloon payments after 5, 7 or 10 years, some large multifamily

finance programs offer fixed-rate financing with loan periods that match their amortization schedule (*Exhibit 24*). Although debt service coverage ratios and loan-to-value ratios for small and large property loans tend to be similar, many bank and thrift small multifamily loan programs require recourse to the borrower's personal assets to compensate for poor income and expense records or as a substitute for costly market studies.

FHA offers some of the most attractive terms for loans on existing properties. FHA insures loans with loan-to-value ratios as high as 90 percent, debt service coverage ratios as low as 1.17 percent, and non-recourse, fixed-rate, fully amortizing, 35-year term mortgages. Higher loan-to-value ratios allow greater leverage and therefore increase the potential return on equity. FHA also provides stable, long-term financing that minimizes monthly debt costs by lengthening the amortization schedule to 35 years.

**Exhibit 24** Examples of Multifamily Loan Products

Name	Maximum Mortgage (Millions)	Rates	Loan-to-Value Ratio	DSC	Recourse	Loan Term/ Amortization
<b>Small Multifamily Properties</b>						
Celtic Financial Group	\$3.5	Fixed	Lesser of 85% of purchase price or 80% of appraised value	1.25x min	Partial	7–20 years/20–30 years
ARCS	\$2	Competitive	Not specified	Not specified	None	5–30 years/25–30 years
PW Funding	\$3	Fixed	80% max	1.25x min	Non-recourse	7, 10, 15, 30 years/7–30 years
SI Bank & Trust	\$5	ARM	75% max	Not specified	Not specified	Up to 25/Not specified
Atlantic Bank	\$10	Not specified	75% max	Not specified	Not specified	5 years/20–25 years
Greystone Lending	\$3	Fixed	80%	1.25x min	No	70%: 5–10 year/25 year; 30%: 15–25 year/15–25 years
<b>Large Multifamily Properties</b>						
<b>Freddie Mac</b>						
Fixed Rate Amortizing	\$1	Fixed	80% max	1.25x min	Non-recourse	5, 7, 10, 15, 20, 25, or 30/30
Standard ARM	\$2	1-month or 3-month Freddie Mac Reference Bill® index or LIBOR index	Up to 80% for amortizing loans with terms of 7 years or longer; 75% for loans with terms of less than 7 years; 70% for interest-only loans	1.25x underwritten at the index (Reference Bill or LIBOR) plus the quoted spread, including the servicing fee, plus a stress of 100 basis points	Non-recourse	3, 5, 7, or 10 years/30 max
<b>Fannie Mae</b>						
Fixed-rate	\$2	Fixed	80% max	1.25x min	No	5–30/30
ARM	\$2	Floating based on 1 or 3 month LIBOR	77.5% max	1.0x minimum at the cap rate as determined by the borrower	No	5, 7 or 10/30
<b>Banks</b>						
Fixed Rate (EF&A funding)	\$1	Fixed	80%-55% max	1.25–1.55x min	Non-recourse	5, 7, 10, 15, 18, 25 & 30/30
Standard Fixed-Rate (Wells Fargo)	\$3.5	Fixed	80% max	1.20x min	Non-recourse	5-20/20–30
Large loan financing (Wells Fargo)	\$25	Fixed and variable	75% max	Not specified	Non-recourse	5–20 year for Fixed Rate, 3–5 year for Floating Rate/2–30*
<b>FHA</b>						
FHA Section 221(d)(4)— Acquisition, Rehabilitation	Not specified	Fixed (competitive)	90% max	1.17x min	Non-recourse, no personal liability	35/35
FHA Section 223(f)— Refinance, acquisition or moderate rehabilitation	Not specified	Fixed (competitive)	Acquisition: 95%, Refinancing: 80–85%	1.17x min	Non-recourse	35/35

Note: Loans are sample products available for existing properties in January 2004.

Sources: ARCS, Atlantic Bank, Celtic Financial Group, Fannie Mae, FHA, GMAC, Greystone Lending, PW Funding, SI Bank & Trust, Wells Fargo.

But FHA is used far less to fund small multifamily than large multifamily properties. Schnare (2001) reports that in 1997, for example, only 13 percent of FHA's loan endorsements were for mortgages with balances of less than \$1 million while 44 percent were for mortgages of greater than \$4 million.<sup>25</sup>

As for the mortgage debt attached to the existing stock of middle market properties, the most recent evidence available is from 1995–6 the Property Owners and Managers Survey. High non-response rates, however, introduce considerable error into the estimates.<sup>26</sup> According to the survey, FHA insured 11 percent of mortgages on middle market properties in 1995–6 (excluding non-responses). Consistent with the view that FHA insurance is less available to smaller properties than to larger properties, the survey also found that (excluding non-responses) 18 percent of large (50+ unit) middle market multifamily mortgages carried FHA insurance, compared with 7 percent of small (5- to 49-unit) properties and 12 percent of 2- to 4-unit properties.

Adjustable-rate mortgage shares are apparently higher among 5- to 49-unit middle market multifamily properties than those with 50+ units or with 1–4 units. Excluding non-responses, the share of small multifamily properties with adjustable rate mortgages was 35 percent, the share of large multifamily properties was 27 percent, and the share of 2- to 4-unit properties was 23 percent. A more carefully controlled analysis of older Residential Finance Survey data from 1991 by Segal (2002) also found that 5- to 49-unit properties have higher adjustable-rate shares and higher probabilities that a deposit-taking institution holds the mortgage than 50+ unit properties.

### Capital Expenditures and Renovations

Capital expenditures to replace worn-out systems and to upgrade properties are more discretionary than maintenance expenditures, which are necessary to prevent deterioration and depreciation. Nevertheless, long-term deferral of capital expenditures also leads to systems that at some point can no longer be repaired.

Like operating expenses, capital expenditures increase less than proportionally with rent. According to the 1999 National Apartment Association Income and Expense Survey, the median ratio is 0.072 percent for properties with average rents under \$500, 0.063 percent for properties with rents of \$500–674, but only 0.048 percent for properties with rents of \$675 or more. Owners in the middle market have less left over from rents after capital expenditures than those in the upper market, but more than those in the lower market. This may reflect the fact that lower-rent properties are typically older and more likely to need capital expenditures. In part, it also reflects the fact that the costs of basic mechanical and structural systems constitute a smaller share of total development costs for higher-rent properties since tenants are paying for amenities beyond these basic systems.

Renovations can also change a unit's position in the rent spectrum, and thus play a role in the movement of housing into and out of the middle rental stock. Just over half of the middle market units in the POMS survey received a capital improvement—new kitchen or bath, central air, or new plumbing or heating systems—within the preceding five years. This closely matches the incidence of these improvements in the other two segments of the rental market.

According to property owners and lenders interviewed for this project, significant renovations and system replacements are usually accomplished by taking out a larger mortgage. All or part of the difference between the new and old mortgages is then plowed back into the property. Owners can only do this if the value and rents on their properties have increased enough to support the larger mortgage and debt service. □

## Appendix A. Studying the Middle Market

The first step in studying middle market rentals is to define them. Firms in the housing industry typically use multiple criteria rather than rent alone to assign grades to multifamily properties. Furthermore, each firm has its own grading system and many of the criteria commonly used to develop these unique systems are not measured in publicly available surveys.

Fortunately, rent level is strongly associated with most of the features that result in the grade a property is assigned. Rather than using multiple criteria, therefore, this study uses rent to assign housing units and properties to the middle market. The middle market is defined as the stock of housing with rents between the 40th and 80th percentiles of the rent distribution, adjusted for number of bedrooms when the data permit that adjustment.

The identification of middle market rentals is specific to individual metropolitan areas because housing markets are local (*Exhibit 25*). Households usually search over rentals in a variety of locations across a metropolitan area and make tradeoffs among rents, housing quality, and location to find a suitable home.

With some exceptions, the maximum rent allowable under the federal rental voucher program coincides with the lower bound of the middle market. Hence, this definition of the middle market results in the study of a slice of the rental stock that contains only limited numbers of subsidized units, few units in poor condition, and few of what most observers would consider luxury or upscale rental housing.

Of the several datasets used in this report, each captures certain aspects of the middle market but with important limitations. The datasets vary in sample size, level of geographic detail, coding of variables, timing of redrawn samples, and measurement errors. These give rise to the strengths and weaknesses discussed below.

**American Housing Survey.** The American Housing Survey (AHS) is a national survey on the characteristics of housing units and their residents, conducted every two years by HUD. It has the advantages of asking an unusually wide range of questions about housing units and households, and of following many of the same sample of housing units over time.

However, some units do not appear in every survey, either because they are no longer available for residential use or are temporarily unavailable for interviewing. The AHS data are augmented to reflect the loss of these units from the survey, as well as the inclusion of new units from new construction or to replace unsampled units.

For the purposes of this study, the AHS is valuable because it allows for adjustments for number of bedrooms in the definition of the middle market, and observations can be separately identified for about 26 metropolitan areas with sufficient sample sizes to segment rental units by number of bedrooms. Other observations are grouped at the regional, metropolitan, and non-metropolitan levels to determine rent spectrums. Gross rents on vacant units are imputed by comparing similar occupied units. Units reporting no cash rent are excluded from the analysis because they cannot be assigned to their appropriate market segment.

The AHS is the primary source for analyzing the filtering process (flow of existing units into and out of the middle market), the motivations of recent movers to move and select the housing units and neighborhoods they do, and the quality, characteristics and amenities of middle market rentals. Its principal drawbacks are that (1) sample sizes are generally too small to focus on the dynamics of middle rental markets at the metropolitan level, and (2) almost all of the information refers to the individual housing unit rather than the property.

**Exhibit 25** Middle Market Rent Ranges by Metro Area

Metros	0–1 Bedrooms		2 Bedrooms		3+ Bedrooms	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Boston	608	964	800	1,188	817	1,367
Los Angeles	578	804	750	1,065	928	1,453
Minneapolis	529	735	690	933	788	1,162
Tampa	490	680	610	825	696	983
Lowest of Top 100 Metros: Scranton, PA	310	437	428	579	470	636
Highest of Top 100 Metros: San Jose, CA	938	1,333	1,192	1,629	1,483	2,225

Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

The AHS also conducts metropolitan surveys in 44 areas on a rotating basis. The most recent surveys conducted in Boston, Minneapolis and Tampa were in 1998, while an expanded sample of the AHS national survey in 1999 provides similar data for the Los Angeles area. While sample sizes can still pose a problem for finer-grained analysis, the metro area AHS does allow a closer look at a level that has some cohesion as a housing market.

The AHS metropolitan surveys have all the same variables as the national AHS except commute times, but the smaller sample sizes in the metro area AHS render some variables unusable when looking at the 10–20 percent of units falling within the middle rental market. For example, variables that get at the motivations of recent movers are unusable because too few respondents moved in the previous year and the number of possible responses is so large. Unfortunately, the metropolitan surveys also cannot be used to analyze filtering in any of the case study metros because their samples were redrawn in the early and mid-1990s.

**Decennial Census of Population and Housing.** The Decennial Census of Population and Housing is used to analyze middle market housing at the tract level in specific metropolitan areas and more generally in the largest 100 metropolitan areas. The Census has the advantage of releasing information down to the tract level, which in many cases is even more detailed than what are thought of as neighborhoods in cities or as towns in suburbs and non-metro areas. The drawback is that the Census Bureau releases only limited information at the tract level to preserve confidentiality, and only provides summary statistics for the tract as a whole rather than attributes of individual units.

Rents are reported at the tract level by aggregating the number of units that fall within prescribed rent ranges, and not the rent on individual units. In all case metros, the upper and lower bounds of the middle market fall in the middle of these rent ranges, requiring estimation of the portion of rentals in that range that are in the middle market. These ranges are not available by number of bedrooms and exclude vacant units, and therefore are less precise than units defined with the AHS. Data from the Census STF-3 release, as processed by Geolytics, Inc., provide consistent tract geography across years and is used for the tract analysis.

Other Census data available at less detailed geography allow inspection of specific units. The 1 percent Public Use Micro Sample (PUMS) data provides information on 1 in 100 households nationally, including rent and number of bedrooms of occupied

units, permitting a more precise counting of middle market units than the tract-level data do. The PUMS identifies the location of units by public use microdata area, which are Census-defined areas with populations of at least 400,000.

Both sources of Census data provide only a limited set of housing characteristics, few questions on recent movers, and incomplete responses to commuting data (one-third of Census respondents do not report a commute time). In addition, individual housing units and households cannot be linked over time, although census tracts can be linked with some measurement error.

Perhaps the greatest drawback of the Census, however, is that it does not precisely count households and population. For example, the 2000 Census is believed to over-count households while the 1990 Census under-counted them. Mounting evidence suggests that this resulted in overstating the growth in renter households during the 1990s. As a result, the Census data are used only in limited ways to examine changes over time, and only when requiring a level of geographic detail not permissible with the AHS. Furthermore, the counts of units produced with Census data and AHS often deviate significantly from each other and the results are not comparable across the two datasets. Analyses of Census data therefore must be viewed with these caveats in mind.

**Property Owners and Managers Survey.** The Property Owners and Managers Survey (POMS), a one-time survey conducted in 1995 and 1996, is based on the AHS sample. The principal advantages of the POMS are that it provides characteristics and sampling weights for both properties and individual units, and contains information on the ownership, property maintenance, debt, profitability and operations of properties.

Unfortunately, the sample sizes are small, underreporting is great, questions about financial performance are vaguely worded and provide only qualitative assessments, and respondents are ill-informed about some questions. For example, the only question about property profitability provides only a yes or no response, and only two-thirds of interviewed property owners reported one of these two answers. Furthermore, the POMS does not specify metropolitan areas or number of bedrooms. As a result, definition of the middle market is based on rent distributions calculated separately for the metropolitan and non-metropolitan portions of each region. No significant geographic detail is available and most results must be viewed with caution.

### **National Apartment Association Income Expense Survey.**

To supplement publicly available datasets, information on operating costs from the micro data of the 1999 National Apartment Association Income Expense Survey was used to look at the relationship of operating expenses to rents in the middle market. To simplify the analysis, the complete distribution of rents in the survey was plotted and the expense/rent ratio was examined by thirds of the distribution. Although the survey overrepresents the top part of the market, it does provide valuable insights into operating expenses.

**Other sources.** Data on vacancy rates and rent growth by property class from REIS were used to explore the performance of A-grade properties relative to B/C-grade properties over a recent three-year period. As with the NAA sample, the REIS data are not a national probability sample but are very extensive, geographically broad-based, and largely representative of investment grade properties (mostly built after 1970).

Rents and age are the primary factors used to assign grades, with A-grade properties likely including some fraction of units classified as middle market as defined in this report. Information from Urban Land Institute Case Studies was also used to develop scenarios around development of middle market properties.

**Discussions with industry experts.** In addition to the quantitative analysis prepared for this study, interviews were conducted with rental property owners, managers, developers, brokers and financiers to provide an industry perspective on the definition and characterization of the middle market. Interviewees reported a range of perceptions on what constitutes the middle market, with lower bounds from the 30th to the 50th percentile and upper bounds from the 75th to 90th percentile. Most agreed, however, that a 40th to 80th percentile definition, adjusted for number of bedrooms and calculated within each metro market, was appropriate.

A focus session was also held in February 2003 with ten industry experts to discuss the initial findings of the study and provide details not captured in the data. Participants provided a cross-sectional view of the challenges and circumstances involved in the acquisition, development and financing of middle market properties. In particular, the experts clarified how different players in the rental industry distinguish the middle market from the upper and lower markets, and the distinctions important within the middle market on property size, age, location and financing structure.

### **Geographic Definitions**

When using the national AHS file, metropolitan boundaries as of 1984 were used to identify middle market rentals and roll them up to national totals. When AHS metro data are used, the boundaries are those provided by the American Housing Survey. These boundaries start with 1970 definitions of Statistical Metropolitan Areas and are adjusted over time. Tampa and Los Angeles have consistent boundaries for the 1989–98 period (1989–99 for Los Angeles) used in the study, but Boston added and dropped some outlying towns and Minneapolis added two lightly settled counties. None of these boundary inconsistencies affects the qualitative conclusions drawn in the study.

When using Census tract-level data to examine the four case study areas, the 2000 definition of the Primary Metropolitan Statistical Area (PMSA) is used for Boston and Los Angeles, while definition of the Metropolitan Statistical Area (MSA) was used for Tampa and Minneapolis. When the one-percent micro sample is used, the boundaries approximate, but do not precisely line up with, the 2000 PMSA and MSA definitions.

### **Data Limitations**

The data available for this study were limiting in several important respects. The most severe limitation is the lack of information at the property level, especially with respect to financial information, financial performance, ownership, and management practices. Most of the datasets provide information on individual housing units rather than on whole multifamily properties. Property information is especially valuable because the industry focuses on the number of units in the property more than the number of units in a building. In the case of single structure properties, the two are synonymous. But it is common to place several structures on a single property. Properties therefore often contain many smaller buildings that add up to larger properties. Indeed, many rental developments feature garden-style campuses of smaller buildings and occasionally even multiple large high-rise buildings. Unfortunately, the data available do not allow for distinguishing units in multi-structure properties from those in single-structure properties.

The Residential Finance Survey was not used in this study. This survey is conducted once every 10 years by the Census Bureau, with the most recent data available only from 1991 and the 2001 survey results not released in time for this report. This source has the distinct advantage of collecting information at the property level and of answering probing and detailed questions on financing

and ownership. Its main drawbacks are its small sample size (the lowest level of geographic identifier is the four census regions) and its lack of information on tenants.

Without detailed information about a range of factors at the property level, it is difficult to draw conclusions about many important dimensions of the middle market. Property-level information is needed to analyze the factors that drive profitability and the cost of financing different types of properties—especially relative to upper and lower market properties. Property-level information is also needed to explore whether there are any special management challenges and costs associated with middle market rental properties, and the degree to which larger middle market rental properties target or end up appealing to distinct subsets of tenants.

Information at the property level on services and amenities would allow for the examination of what people get for their money and how they value particular amenities and services. Limited information on rehabilitation spending and the decision to make significant modifications to position a property for a different market segment also stymie efforts to better understand the market. Finally, a dearth of information on absorption rates of new middle market rentals, as well as vacancy rates, rent changes, and rent concessions on existing middle market rentals, make it difficult to draw conclusions about risk-adjusted returns to investors.

Another major drawback of existing information (with the exception of the AHS) is the limited detail not only on the motivations for owning or renting, but also which segment of the rental market to search over and settle in. Without that information, it is difficult to determine why some renters opt to spend lesser amounts of their higher incomes to live in the middle market while others spend larger amounts of their smaller incomes to live there. More generally, it is difficult to judge what tenants are looking for from middle market properties, and how this may vary as a result of systematic differences in preferences among observable demographic groups. Only limited inferences can be made from demographic information on age, family type, income, race, and ethnicity.

A further limitation is the lack of geographic detail in most datasets. Housing markets may operate at a metropolitan level in a meaningful way, but there is ample evidence of geographic submarkets at the town and neighborhood levels as well. Indeed, census tract data reveal significant and systematic variations in the location and concentration of middle market rentals. But the reasons for these variations and understanding their implications require additional information.

Thus, in addition to measurement errors associated with existing datasets and the limitations imposed by the size of their samples and their sampling methods, thin coverage of important topics limits more probing analysis of the middle market. This report therefore duly notes specific instances where data availability restricts or conditions the strength of a conclusion. To some degree these restrictions could be eased by industry efforts to gather more information or by the willingness of firms to make proprietary information available to researchers for investigation of particular issues on mutually agreeable terms.

Nevertheless, much can still be learned from the available public data, supplemented by the commercial datasets that were provided for this study. These data allow for insights into the character and the operation of middle markets. This study brings the middle market into focus and reveals the essential role it plays in meeting the nation's housing demands. □

## Appendix B. Multifamily Grading Systems and Middle Market Housing

In assigning grades to multifamily properties, the rental industry considers several features of a rental property, such as the age of the property, its location, its quality and amenities, and sometimes its size or configuration. According to interviews conducted with industry experts for this study, so-called A properties are usually defined as those built within about the last 10 years, have a high level of services and amenities, and are well located with respect to employment and transportation. B properties, which one might equate with the middle of the grading scale if not of rental markets, are generally in the 15–30 year-old age range, are in good repair, and have features and amenities that are not high end but still appeal to a wide range of renters. C properties may exhibit some degree of deterioration, but are more importantly defined as being older, less desirable, often in less desirable locations, and bordering on what several industry interviewees describe as “functionally obsolete.” The interviewees defined functional obsolescence as housing in generally poor condition, having small rooms, few bathrooms, poorly laid-out kitchens, and a lack of storage space. Lastly, the interviews confirmed that no standard definition of A, B and C grade properties exists, and that the application of those grades can vary by location—for example, an A grade property in an older metro with little newly built stock may not qualify as an A grade in a metro with abundant newer high quality stock.

Although a mix of attributes determines the grades assigned to multifamily properties, all of those interviewed agreed that rent level is strongly associated with most of the features that result in the grade assignment. Thus, A grade properties usually have rents

near the top of the distribution in an area, B grade properties around the middle, and C grade properties at the bottom.

It is difficult to build a bridge between the middle market definition and the industry grading systems because of the lack of property-specific data on location and amenities. However, it is possible to provide at least a rough mapping of the middle market definition to industry grades by keying off those variables captured in whole or in part by the data used for this study (*Table D-8*).

Recall that even though the attributes used to grade properties are strongly associated with rent levels, they are not perfectly correlated with them. Assuming that age of structure alone were the basis for assigning grades, 10 percent of the middle market would receive a grade of A. If it is assumed that subsidized rentals by definition lack the quality of construction and amenities also needed to qualify for an A grade, 9 percent of the middle market would receive an A grade. Finally, if it is further assumed that housing classified as moderately or severely inadequate by the Department of Housing and Urban Development does not qualify for an A grade, the middle market share drops further to 7 percent. This is perhaps the upper limit of the share of middle market properties that are A grade, given that it does not account for such factors as a high-level of construction value and amenities, excellent location, low vacancies, and strong management (Goodman and Scott 1997). Nonetheless, this calculation means that around a million middle market units might be classified as A grade. □

## Appendix C. Relationship of Land Costs to Structure Quality and Rents

Consumers prefer relatively fixed combinations of structure and location quality. Indifference curves illustrate the combinations for which consumers are willing to pay the same rent (*Exhibit 26*). For example, lower market renters demand the least housing quality and upper market renters the most. But renters in all market segments are unwilling to trade off much of one quality dimension for another. The range over which a change in one dimension results in much of change in another is narrow and concentrated around the “corners” of the indifference curves.

Assume that consumers in the three rental markets have the same preferences for housing and differ only in their purchasing power. The slope of the indifference curves where they are crossed by the dotted line indicates how much value consumers place on additional location quality as measured by the amount of structure quality they would be willing to forego. In this context, structure quality is a proxy for the amount of additional rent they would be willing to pay. The slope is steepest where the dotted line crosses the upper market curve and flattest where it crosses the lower market, indicating that the valuation of additional location quality for any given level of structure quality is greatest in the luxury market.

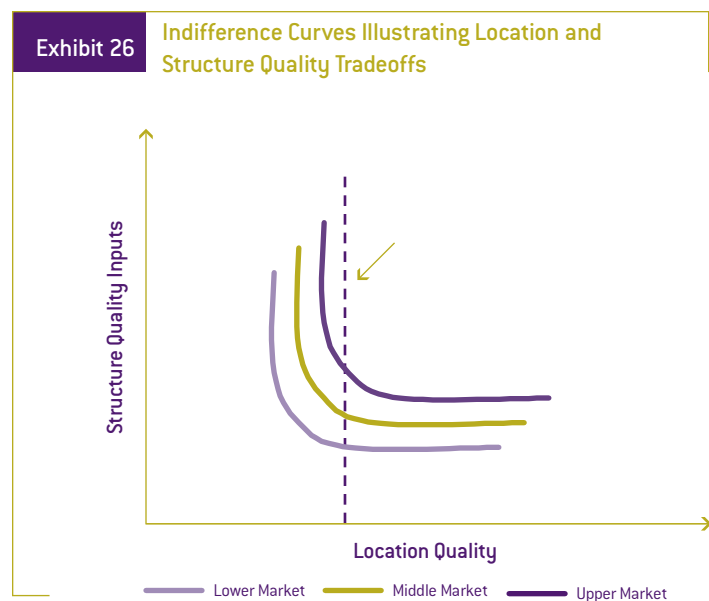
This chart illustrates the theory behind why sites with higher land costs typically have both higher quality construction and higher rents. It also shows why, in profit-maximizing development decisions in a local market, land costs would be expected to be about the same percentage of total development costs, regardless of the quality and rent level of the development.

By making the simplifying assumption that land costs are exactly the same percentage of total development costs regardless of the quality level of the property, it is possible to determine the rent necessary for a competitive rate of return for different land costs.

As a first example, take an acre site with a land cost of \$1 million. This cost is governed both by the value attached by consumers to location amenities and the site’s allowable land uses and densities. If the land cost is 20 percent of the total development cost, that total cost would be \$5 million. The project probably would not go forward if it were not expected to return at least 20 percent, which corresponds to an anticipated market value of \$6 million.

Now assume this is a middle market property, with rents at \$700 and operating costs at 40 percent of rents. The annual net operating income per apartment is \$5,040. Capitalizing this at 8 percent gives a value per apartment of \$63,000. The minimum density required to earn a market rate of return on a middle market property under these assumptions is 95 (the \$6 million property value divided by \$63,000 per apartment).

Assuming that 95 units per acre is the allowable density on this site but the land cost is \$1.5 million instead of \$1 million, the total development cost would be \$7.5 million, the required expected market value \$9 million, and the per apartment value \$94,500. The implied required rent is \$1,050. If the property is not expected to command that high a rent, it will not be built. Thus, land costs are important determinants of whether middle market properties or properties for another market are built at a particular site. □





## Appendix D. Supplementary Tables

**Table D-1 Basic Characteristics of Case Study Metro Areas**

	Boston	Los Angeles	Minneapolis	Tampa
<b>Population (Millions)</b>	3.4	9.5	2.6	2.4
<b>Housing Market Characteristics</b>				
Rentership Rate (%)	41	52	29	29
Middle Market Rentals as Share of All Housing Units (%)	15	20	10	11
Median Gross Rent of All Rental Units	\$800	\$701	\$650	\$610
Average Annual Permits Issued 1991–2001 per 1,000 population (2000)	2.7	1.2	6.3	6.5
<b>Housing Stock by Year of Construction (%)</b>				
Pre 1970	69	65	50	31
1970s	13	16	17	26
1980s	10	12	17	26
Units Built 1990 or Later	8	7	16	17
<b>Distribution of All Households</b>				
<b>Age of Householder (%)</b>				
Under 35	22	25	25	19
35–44	23	24	26	20
45–54	19	20	21	18
55–64	14	12	12	14
65 or Older	22	18	16	29
<b>Family Type (%)</b>				
Married Without Children	26	22	26	31
Married With Children	22	26	26	18
Single Parent	7	11	8	9
Other Family	7	10	5	6
Single Person	30	25	27	30
Other Nonfamily	8	7	8	7
<b>Household Incomes (%)</b>				
\$0–19,900	17	22	13	23
\$20,000–49,900	28	34	31	41
\$50,000+	55	44	56	37
<b>Householder's Education (%)</b>				
No High School Degree	12	26	9	18
High School Degree Only	46	46	55	59
College Degree	42	28	35	23

Notes: Boston and Los Angeles metro areas are PMSAs, Minneapolis and Tampa are MSAs.  
Source: Census 2000 1% PUMS, Census building permit data.

**Table D-2 Housing Stock Characteristics by Rental Market Segment in Case Metro Areas**

	Boston			Los Angeles			Minneapolis			Tampa		
	Lower	Middle	Upper	Lower	Middle	Upper	Lower	Middle	Upper	Lower	Middle	Upper
<b>Total Housing Units</b>	215,841	213,244	113,672	661,208	650,022	347,932	116,866	115,640	60,908	125,196	125,312	65,701
<b>Stock Characteristics</b> [Percent of total]												
<b>Structure Type</b>												
Single Family	11	12	14	26	27	31	15	12	13	40	26	22
2-4 Units	37	46	33	16	14	11	16	14	9	24	17	12
5-49 Units	33	35	33	46	47	37	45	49	27	25	46	45
50+ Units	19	7	20	12	12	20	24	25	51	12	12	21
<b>Year Built</b>												
Pre 1940	37	40	41	15	10	10	25	17	9	7	3	3
1940s	10	11	8	12	10	9	7	6	2	4	3	3
1950s	11	12	10	19	19	15	11	10	4	12	6	5
1960s	12	13	10	20	21	17	22	18	8	17	13	8
1970s	17	15	15	17	20	22	20	30	19	31	30	14
1980s	9	7	8	11	13	17	9	13	32	20	32	28
1990s	4	3	6	6	6	10	7	7	24	8	13	39
<b>Vacancy Rate (%)</b>	2.9	3.1	3.5	4.1	3.2	4.0	1.7	1.5	7.2	10.3	9.6	12.4

Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

**Table D-3 Middle Market Characteristics of Four Case Metros by Quintiles of Census Tracts**

Metro Area	Tract Quintiles	Middle Market Units			Tract Characteristics			
		Distribution Total	Share of Units Over Metro (%)	Share of Units in Tracts (%)	Share In Suburbs (%)	Share of Single Family Rentals (%)	Homeownership Rate (%)	Median Household Income (\$)
<b>Boston</b>								
	1	6,082	3	3	89	34	87	80,818
	2	19,215	9	8	76	18	73	64,644
	3	33,735	16	14	56	12	58	52,155
	4	53,310	25	20	52	8	48	47,109
	5	98,037	47	27	62	6	41	45,608
<b>Los Angeles</b>								
	1	11,240	2	3	59	58	84	68,826
	2	52,306	8	11	52	41	61	42,267
	3	94,476	15	17	49	35	49	35,476
	4	152,904	24	23	50	29	42	35,729
	5	329,301	51	34	49	15	28	38,471
<b>Minneapolis</b>								
	1	868	1	0	98	57	96	74,706
	2	6,339	5	3	81	33	87	59,970
	3	15,346	13	7	61	20	77	49,152
	4	28,774	24	12	57	13	67	48,148
	5	70,315	58	23	67	8	50	44,911
<b>Tampa</b>								
	1	2,430	2	2	85	59	88	47,488
	2	7,436	7	4	66	50	81	36,093
	3	13,074	12	7	61	41	76	33,237
	4	25,328	22	11	69	37	72	34,497
	5	64,693	57	23	67	15	53	35,692

Note: Quintiles are equal fifths of tracts in each metro area ranked by the number of middle market units.  
Source: JCHS tabulations of tract level data from Census 2000 STF-3.

Table D-4

## Change in Middle Market Units for Four Case Metros by Quintiles of Census Tracts, 1990–2000

Metro Area	Tract Quintiles	Average Change in Middle Market Units		Average Change in Households		Average Tract Characteristics in 2000			
		Number	Percent	Renters	All	Rentership Rate (%)	Share of Rentals Built 1990s (%)	Median Rent (\$)	Median Household Income (\$)
<b>Boston</b>									
	1 (Largest Losses)	-130	-40.9	-36	100	45	3	979	65,396
	2	-30	-29.2	-4	155	29	4	818	68,989
	3	4	4.2	-3	153	33	5	770	60,716
	4	52	29.8	47	142	50	5	769	48,686
	5 (Greatest Gains)	153	42.9	100	199	57	3	808	45,469
	Total	9	1.1	20	149	43	4	829	57,921
<b>Los Angeles</b>									
	1 (Largest Losses)	-140	-50.1	-25	5	46	6	971	55,888
	2	-30	-32.6	8	45	37	6	909	56,865
	3	8	7.3	31	69	46	7	691	43,920
	4	58	35.1	48	71	56	6	691	38,049
	5 (Greatest Gains)	187	66.5	149	151	66	8	725	37,618
	Total	16	5.0	42	68	50	7	798	46,493
<b>Minneapolis</b>									
	1 (Largest Losses)	-81	-49.4	-47	176	28	10	730	56,981
	2	-20	-41.2	-11	171	20	8	684	60,495
	3	-2	-17.0	5	256	17	9	641	58,705
	4	21	76.4	30	256	32	9	631	50,233
	5 (Greatest Gains)	122	149.0	122	328	40	12	667	49,373
	Total	8	22.7	19	236	27	10	671	55,212
<b>Tampa</b>									
	1 (Largest Losses)	-91	-47.1	-77	165	26	12	675	42,035
	2	-23	-30.2	-10	128	24	8	633	41,448
	3	1	2.7	19	214	24	11	610	39,472
	4	32	83.4	49	253	29	11	592	37,428
	5 (Greatest Gains)	181	277.7	279	513	43	25	651	38,166
	Total	19	56.2	51	253	29	16	632	39,738

Source: JCHS tabulations of tract-level data from Census 2000 STF-3.

**Table D-5 Demographic and Economic Characteristics of Renters in the Four Case Metros**

	Boston			Los Angeles			Minneapolis			Tampa			US Total		
	Lower	Middle	Upper	Lower	Middle	Upper	Lower	Middle	Upper	Lower	Middle	Upper	Lower	Middle	Upper
<b>Number of Renters (000s)</b>	210	207	110	634	629	334	115	114	57	112	113	58	13,261	13,397	6,948
<b>Demographic Characteristics</b> (Percent of total)															
<b>Age</b>															
Under 35	26	43	58	36	40	40	42	52	47	34	45	42	35	45	44
35–44	20	25	17	24	27	27	19	20	14	24	23	23	21	24	23
45–54	14	16	10	16	17	17	15	10	14	13	15	12	15	15	14
55–64	11	7	5	9	8	8	8	6	6	10	8	5	10	7	7
Over 65	29	9	9	15	8	8	17	11	19	19	9	18	19	9	12
Median Age	47	37	32	40	38	38	38	34	36	41	36	39	41	36	37
<b>Race</b>															
White	67	74	78	21	35	54	70	75	86	64	69	79	52	62	72
Black	13	9	4	17	13	8	15	12	5	20	14	7	24	17	10
Hispanic	12	7	4	51	37	19	4	6	4	13	12	11	17	14	9
Asian/Other	8	9	14	11	16	19	11	7	5	3	4	4	6	8	9
<b>Education</b>															
No High School	11	4	2	25	13	6	10	4	2	9	2	1	14	6	4
Some High School	17	8	3	21	14	7	13	8	4	24	12	8	21	13	8
High School Grad	31	21	11	20	20	14	28	25	17	32	28	22	30	27	19
Some College	18	20	14	18	23	22	25	26	30	22	29	23	20	25	24
Associates Degree	5	7	4	5	6	6	6	8	7	4	9	8	5	7	6
College Degree	13	27	38	8	17	29	14	22	25	7	14	23	8	16	25
Graduate Degree	5	14	28	3	7	16	5	7	15	3	6	15	3	7	14
<b>Family Types</b>															
Married Without Children	11	13	17	10	13	15	6	10	19	8	14	17	10	13	17
Married With Children	10	14	10	24	25	20	9	11	10	11	14	15	13	18	18
Single Parent	16	10	4	20	16	9	16	13	8	19	16	10	19	16	11
Other Family	8	8	5	10	9	7	6	4	6	8	6	5	9	7	6
Single Person	47	39	37	30	28	33	52	44	40	44	39	40	41	34	33
Other Nonfamily	8	16	27	6	9	16	11	18	17	10	11	13	8	12	15
<b>Income &amp; Housing Costs</b> (Percent of total)															
<b>Income of Renter</b>															
\$0–19,999	45	17	16	47	26	17	45	23	13	50	26	14	55	29	20
\$20,000–49,999	35	41	27	39	46	32	42	49	37	39	53	45	36	48	38
\$50,000+	19	41	58	14	28	51	13	28	50	10	21	41	9	23	42
Median [\$]	21,600	41,900	54,000	20,000	32,100	49,000	21,900	33,000	49,200	19,190	30,000	41,200	18,720	30,700	42,000
<b>Rent as Share of Income</b>															
0–30 %	70	63	53	59	57	56	70	63	65	63	61	60	66	63	58
30–50 %	17	19	22	21	22	20	15	21	18	20	23	21	18	20	20
50%+	13	18	25	21	22	24	15	15	17	17	16	19	16	18	22
Median [%]	23	24	28	26	27	28	22	25	24	25	25	26	23	25	26

Note: Whites, Blacks and Asian/Others are Non-Hispanic. Hispanics may be of any race.  
Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

**Table D-6** Characteristics of Middle Market Renters by Commute Time

	Boston		Los Angeles		Minneapolis		Tampa		Top 100 Metros		Nation	
	<20 Min	45+ Min	<20 Min	45+ Min	<20 Min	45+ Min	<20 Min	45+ Min	<20 Min	45+ Min	<20 Min	45+ Min
<b>Total Commuting Middle Market Householders (000s)</b>	51	32	140	81	39	6	38	10	3,337	1,261	4,358	1,422
<b>Share of Householders (%)</b>												
<b>Family Type</b>												
Married Without Children	10	14	12	16	7	14	10	12	11	14	11	14
Married With Children	16	16	25	27	9	5	14	19	17	22	17	23
Single Parent	12	12	15	17	12	25	17	17	15	17	16	17
Other Family	8	9	8	10	3	2	6	3	6	8	6	7
Single Person	37	34	30	22	47	46	40	36	36	28	36	28
Other Nonfamily	17	16	11	9	21	8	13	12	14	11	14	11
<b>Number of Bedrooms</b>												
0-1	38	41	53	52	59	60	40	44	40	40	37	37
2	39	36	34	34	33	22	44	31	40	38	41	38
3+	23	22	14	13	9	18	16	25	21	22	22	24
<b>Structure Type</b>												
Single Family	15	13	28	31	8	17	25	39	27	27	31	31
2-4 Units	46	48	13	13	17	22	17	9	23	23	23	22
5+ Units	40	40	59	56	75	61	58	52	51	51	45	47
<b>Rent as Share of Income</b>												
0-30%	65	74	65	62	68	63	61	68	67	71	68	72
30-50%	19	17	22	25	22	16	25	25	20	18	19	18
50%+	15	9	13	12	10	21	13	7	13	11	13	11

Source: JCHS tabulations of the 2000 Census PUMS 1% sample.

**Table D-7** Recent Movers by Rental Segment and Primary Reason for Moving

	Lower Market	Middle Market	Upper Market
<b>All Recent Movers (000s)</b>	5,156	6,673	3,623
<b>Reason for Move [Percent of total]</b>			
New Job or Job Transfer	7	12	20
To Establish Own Household	15	12	8
To Be Closer to Work/School/Other	10	12	14
Other	13	12	13
Needed A Larger House or Apartment	10	11	10
Other, Family/Personal Related	10	8	6
Wanted a Better-Quality House (Apartment)	8	8	7
Wanted Lower Rent or Less Expensive House to Maintain	8	5	4
Married, Widowed, Divorced, or Separated	6	6	6
Other Housing-Related Reasons	5	5	5
Other, Financial/Employment-Related	4	4	3
Private Company or Person Wanted to Use It	1	2	2
All Reasons of Equal Importance	2	1	2
Change From Owner to Renter OR Renter to Owner	1	1	1
Disaster Loss (Fire, flood, etc.)	0	1	0
Forced to Leave by the Government	1	0	0

Source: JCHS tabulations of the 2001 American Housing Survey.

**Table D-8 Common Characteristics of Investment Grade A Properties by Market Segment**

	Units Built 1990 or Later	Units Built 1990 or Later: Unsubsidized	Units Built 1990 or Later: Structurally Adequate	Units Built 1990 or Later: Unsubsidized and Structurally Adequate
<b>Share of Market (%)</b>				
<b>US Total</b>				
Lower Market	6	3	5	3
Middle Market	10	9	9	7
Upper Market	21	19	16	14
<b>Boston</b>				
Lower Market	3	2	2	1
Middle Market	2	1	1	1
Upper Market	3	3	2	2
<b>Los Angeles</b>				
Lower Market	5	4	5	3
Middle Market	8	7	7	6
Upper Market	9	8	7	6
<b>Minneapolis</b>				
Lower Market	2	1	1	1
Middle Market	3	2	3	2
Upper Market	9	5	9	5
<b>Tampa</b>				
Lower Market	4	3	4	3
Middle Market	6	4	5	3
Upper Market	26	21	19	15

Source: JCHS tabulations of the American Housing Survey 2001, the AHS Metro Survey 1998 for Boston, Minneapolis and Tampa, and the AHS 1999 National Survey for Los Angeles.

## Endnotes

### Characteristics of the Middle Market Housing Stock

1. Unfortunately, building size is only a rough proxy for property size because some larger properties are comprised of multiple buildings with only a few units each. Hence, the figures on the distribution of units by structure size are only suggestive of the distribution of units by property size.
2. Census tracts average about 1700 households. In thinly settled areas, they can span large spaces. In densely settled areas they are often smaller units of geography than what are commonly thought of as towns or neighborhoods.
3. Though suggestive, this does not support the conclusion that middle markets are “tighter” in places where their vacancy rates are lower. This would require modeling natural vacancy rates in each market segment across many metropolitan areas (Belsky 1995, Rosen and Smith 1983).
4. Among renters stating a reason for moving in the 2001 AHS, 20 percent of those in upper market units moved for job related reasons versus 12 percent of middle market renters.
5. While this suggests the middle market may be more stable than the upper market, the evidence is nonetheless weak. The analysis using the American Housing Survey was based on equal thirds of the national rent distribution and did not aggregate up from the metropolitan or regional level. As a result, part of the difference in the performance across segments may reflect a stronger market for rental housing in lower-cost metro areas relative to higher-cost areas in 1989–91. Given the severe contractions in the Northeast and California, these differences may well have played a role. As for the REIS statistics, they are for larger apartment properties in 50 metropolitan areas, and are not representative of broader rental markets. In addition, the REIS grades do not directly correspond to the middle market definition used here. See Appendix B for a discussion of the comparisons between market segments defined by rents and industry investment grading systems.

### Components of Middle Market Stock Change

6. For more information on the filtering process see Grigsby 1963, Lowry 1960, Rydell 1976, and Somerville 2001.
7. The Census and other surveys do not cover the same units over time. Furthermore, differences in weighting and the exclusion of some units from the filtering analysis means that the total numbers of units observed in the two years is slightly lower than reported elsewhere in this report, and the counts of units in both years in the filtering analysis cannot be compared to each other.

### Attributes and Choices of Middle Market Renters

8. To learn more about duration of residency in rental housing see Deng et al. 2001.
9. The American Housing Survey is the only available dataset that asks renters about their reasons for moving and selecting particular units and neighborhoods. Only recent movers – that is, those who reported moving in the previous 12 months— are asked these questions. The sample sizes of recent movers in the metropolitan surveys are too small to have any reliability so only national information on motivations is reported.
10. Again, caution is warranted in treating these estimates as precise because the comparison spans surveys that were weighted to two different census totals, and some of the metros had adjustments to their metro boundaries between 1989 and 1998.

### Developing and Financing New Housing

11. The American Housing Survey estimates the share of middle market rentals built since 1990 at 10 percent while the Census micro data estimates it at 11 percent. The characteristics and location of new rental units, however, is consistent across the two surveys.
12. Caution is in order in interpreting the results for the Northeast because only 41 new units are sampled.
13. The required use of the micro data for this analysis does not permit central cities to be separately identified because primary micro-sample areas are not contiguous with central cities boundaries. Likewise, the Census does not ask about bathrooms so that comparison of rental units by number of bathrooms is not possible at the metro level.

14. Calculated as  $[(\$688 \times 12) \times 0.6] / 0.085$ . The assumed 40 percent of revenues spent on operating costs is based on results from various surveys, and the 8.5 percent cap rate was the going rate for multifamily developments in the late 1990s.
15. In recent years, FHA's basic, full coverage multifamily insurance program for rentals and co-ops has financed annually between 32,000 and 40,000 units of multifamily new construction or substantial rehabilitation. FHA's risk-sharing multifamily program adds about another 5 percent to those totals. Total construction of rental units in properties with five or more units has been averaging in the 260,000 to 290,000 range.
16. Tax credit properties with middle market rents are still a benefit to lower-income households by easing the competition for units in the lower, affordable, rent range. Also some tax credit units filter down into a lower rent range within ten years of construction, adding to the affordable supply at the time.

#### Financial Performance of Existing Properties

17. The model controlled for market segment, region, central city/suburb/non-metropolitan location, property age, subsidy status and rent regulation status, whether professionally managed or not, how well maintained as reported by respondents, whether or not there were problems with tenants, type of owner, and whether the property was bought or continues to be owned for tax shelter reasons. Although there are 5,754 respondents in the dataset only 753 responded to all these questions and also reported either yes made a profit or no had a loss.
18. Lenders typically require the cash generated by property operations to exceed the scheduled payments of mortgage interest and principal by 25 percent. The size of the mortgage relative to the price of the property governs how much equity an investor must invest in a property, and therefore how leveraged their equity is. Greater leverage magnifies returns on equity from a residual cash flow, all else equal, and hence influences profitability.
19. Springer and Waller (1996) also found maintenance expenditures per square foot increases with property age.
20. Underwriting for 1-to-4 unit investor loans factors in a portion of the income earned on units not occupied by owners into debt-to-income ratios.
21. Underserved areas as defined by HUD are to low-to-moderate income neighborhoods, minority neighborhoods, and central cities.
22. Looking at the stock instead of the flow of mortgages, similar results hold. Herbert (2001) reported that about two-thirds of outstanding multifamily mortgages on 5-to-49 unit properties in the Property Owners and Managers Survey are serviced by banks or thrifts while less than half of outstanding mortgages on 100+ unit properties are serviced by them.
23. Bradley, Nothaft, and Freund (1998) suggested that the increased participation of private conduits and Fannie Mae and Freddie Mac may have lowered large property capital costs. Over the 1993-1998 period when the secondary market for commercial mortgage backed securities took off, the spreads between 10-year rates on income-producing property rates and 10-year treasuries fell from about 2 percent to 1 percent. Later work by Nothaft and Freund (2003), however, did not find evidence that greater integration with capital markets drove those reductions. But they noted that data deficiencies leave open the question as to the extent to which capital market integration did or did not drive these reductions.
24. Additional upfront costs include higher origination, appraisal, and due diligence fees and required attorney's opinions, market studies, and rating agency reviews.
25. Recognizing the high upfront costs of FHA lending relative to the low fees returned to lenders, FHA introduced a small multifamily lending program (Small Projects Processing), but to date it has not generated that much business.
26. As examples, 27 percent of middle market property owners did not even report if they had a mortgage and of those that reported having a mortgage 22 percent did not report an interest rate and 38 percent did not report the type of mortgage insurance they had.



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