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The State of the Massachusetts

Housing Market: A Statewide and Regional Analysis

Produced by the Economic and Public Policy Research Unit, University of Massachusetts Donahue Institute, in conjunction with Bonnie Heudorfer, Housing and Planning Consultant

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Executive Summary

The Massachusetts Department of Housing and Community Development (DHCD) commissioned a study to assess the Commonwealth's current housing market and to project the likely demand for housing and housing unit production from 2008 through 2012, across the seven *MassBenchmarks* Regions of the state. The results of this extensive and detailed analysis of statewide and regional economic, demographic and housing market data find that:

- Slow population growth has led to similarly slow growth of housing demand since 2000. Nevertheless, decreases in household size and other recent demographic trends are changing the quantity and types of housing needed.
- Weak, and in many cases negative, job growth in many parts of the state may continue to discourage significant new migration and housing production in the near term. Meanwhile, inadequate housing supply in some regions could further exacerbate slow population and economic growth.
- Massachusetts faces serious housing affordability challenges, with nearly half of renters and fully one third of owners experiencing housing cost burdens in 2005/2006. Housing affordability presents serious difficulties for the most vulnerable populations — renters, families, the young and old, and especially the poor.
- Homeownership rates have increased across the state and among many demographic groups since 2000. The full effects of recent foreclosures and unrest in the housing market on these rates are not yet clear.
- Price inflation, subprime lending, and other problems that affected housing markets across the nation were also evident in Massachusetts. Even as prices decline, tightening lending requirements and uncertainty are likely keeping buyers out of the market.
- While Massachusetts outpaces the nation in the number of tenant subsidies it provides, the state's housing safety net has not met the need for housing assistance in a difficult environment.
- Statewide annual housing shortages have been in evidence since 2000. While slow population growth and increased construction narrowed the gap in the early 2000s, current and projected slowdowns in building will likely lead to continued housing shortages through 2012. Meanwhile, even in regions of net housing surpluses, affordability problems and other evidence indicate that the surplus housing may be poorly matched to the needs of the region's householders. Stagnant income growth and the expected continued supply shortfalls are likely to largely offset the affordability benefits of declining prices statewide, and in some regions may exacerbate existing affordability problems.

Introduction

In late 2007, the Massachusetts Department of Housing and Community Development (DHCD) commissioned a statewide housing market assessment that would include both an evaluation of the current housing market in each of seven regions of the state and a projection of likely demand for housing and housing unit production between 2008 and 2012.

The following analysis of current housing market conditions and projection of likely market trends was undertaken during a period of significant economic uncertainty. The national economy had experienced massive failures in the financial industry, and slipped toward recession in the wake of rising subprime mortgage defaults, a declining housing market, skyrocketing energy costs, and flagging consumer confidence.

It is not yet entirely clear what impact the deteriorating national and state economic climate, weakness in the residential real estate market, and rising foreclosures – a large number of which are concentrated in lower income urban communities of color – will have on the state's housing market. What is clear is that these factors pose challenges that were unanticipated as recently as a year ago.

Framework of the housing market assessment

Our assessment is based on an analysis of the demographics of each of seven regions of the state, the characteristics of each region's existing housing stock (including units available annually due to turnover) and recent development patterns, and each region's prospects for employment growth. It is designed to serve a dual purpose: 1) to assist DHCD in allocating resources and targeting initiatives to those areas of greatest unmet need, and 2) to estimate what existing housing stock will be available to

meet future demand and how much and what type of new development will be required to satisfy unmet demand over the next five years.

To conduct this analysis, the UMass Donahue Institute systematically evaluated an extensive array of social, demographic and economic data including employment and labor force trends in Massachusetts. This made it possible to assess the current employment growth patterns and evaluate their potential impact on statewide and regional housing needs. In some cases, data were aggregated in order to provide statistically useful sample sizes, for example as with the 2005 and 2006 American Community Surveys (ACS). Averaging these two years of data reduced error and allowed for examination of smaller segments of the population in many analyses.

This report uses as its framework the seven regions tracked in *MassBenchmarks*, the quarterly economic journal published by the University of Massachusetts in cooperation with the Federal Reserve Bank of Boston. The regions were defined by the UMass Donahue Institute in 1998, after careful analysis of the geographies used by the Massachusetts Office of Business Development (MOBD) and the state's Regional Planning Agencies, with modifications based on reviews by regional experts and entities. The seven regions, illustrated in the map below, are: Berkshire, Cape and Islands, Central, Greater Boston, Northeast, Pioneer Valley and Southeast. The same framework was used as the basis of the Commonwealth's *2005-2009 Consolidated Plan*.

Report organization

The remainder of this report is organized into the following chapters:

Chapter 1, *Population Trends*, examines the changing social and demographic features of the population of the state and its seven major regions.

Chapter 2, *Employment and Labor Force Trends*, explores recent job growth and its potential implications for statewide and regional housing demand and development.

Chapter 3, *Current Housing and Market Trends*, provides an overview of recent price and housing production trends in Massachusetts and the nation as a whole.

Chapter 4, *Housing Affordability*, examines the recent trend of growing cost burdens for residents and its implications for housing affordability in Massachusetts and its major regions.

Chapter 5, *The Housing Safety Net*, describes the changing numbers of persons and households eligible for state housing assistance and the resources available for this assistance.

Chapter 6, *Housing Supply and Demand*, presents a detailed forecast of the expected demand for housing and its supply at both the state and regional level.

Chapter 1: Population Trends

From 2000 to 2006, Massachusetts' largely stagnant population helped to ease existing housing shortages. Nonetheless, a dearth of affordable, desirably located housing stock has limited population growth or retention in many areas, and contributed to the decline in the state's younger population. This chapter discusses the demographic trends that contributed to or were influenced by the inadequacies or opportunities in Massachusetts' housing supply. How those demographic trends interacted with employment opportunities and other market forces to influence the state's housing market is the subject of the next three chapters of this report.

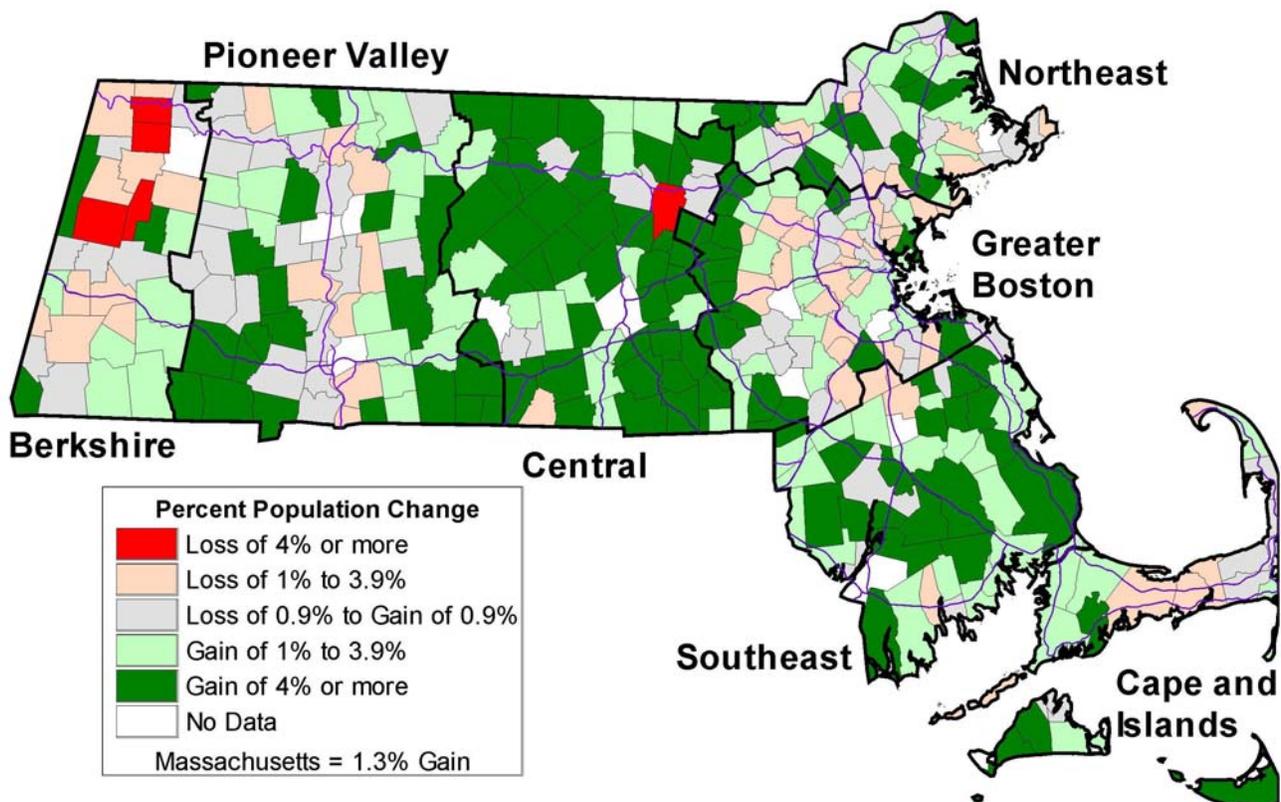
Figure 1-1 depicts that between 2000 and 2006, state population growth in Massachusetts grew 1.3 percent, and this slow growth was reflected in many of the state's regions. Notably, the Central and Southeast regions experienced faster growth, at 4.0 percent and 2.2 percent, while the Berkshire region shrank 3.5 percent. Many regions, including the Greater Boston region, saw declines in younger populations, a trend that played a pivotal role in generating housing demand. At the same time, regions across the board experienced increases in the numbers and proportions of people ages 50 to 64 as the state's population aged. Consequently, the median age of counties across the state increased during the same period. Reflecting the slow growth in the state population, household growth was also flat, with some increase in the number of one and two person households, but losses of larger households.

Weak population and household growth is likely to discourage new housing production in most regions in the near term, possibly further exacerbating preexisting housing shortages and slow population growth in many regions. Housing supply and demand predictions for 2008 through 2012 are presented in Chapter Six of this report.

Population trends

Recent changes in the state's population are derived from a comparison of the population counts from the U.S. Census Bureau's 2000 Decennial Census and the 2006 Census Bureau's population estimates, which provide municipal-level population estimates based on reported housing units permitted and assumptions about housing unit loss. A comparison of the 2006 Population Estimates to the 2000 Census shows that Massachusetts experienced slow population growth since 2000 (1.3 percent). This slow growth is likely driving the very slow pace of household formation in the state. While gaining only 85,292 in population, the Commonwealth experienced growth of only 4,280 households since 2000; a relatively flat rate of 0.2 percent. Figure 1-1 illustrates the percent change in population across the state from 2000 to 2006.

Figure 1-1. Change in Population by Town, 2000–2006



Source: US Census Bureau Population Estimates, UMDI analysis

Statewide, population losses and stagnation were concentrated in the Berkshires, along the I-91 corridor in the Pioneer Valley, and inside the I-495 loop in Greater Boston. The Berkshire region was the only one to lose population from 2000 to 2006, with a 3.5 percent loss. Population gains were concentrated in the Central and Southeast regions, where widespread gains led to overall regional gains despite population stagnation or loss in some of the regions' largest cities. The Central region had the fastest population growth at 4.0 percent, followed by the Southeast region at 2.2 percent. In most regions, hotspots of population growth roughly balanced losses elsewhere in the region.

Table 1-1. Massachusetts Population Change by Region, 2000–2006

Region	Population 2000	Population 2006	Absolute change 2000-2006	Percent change 2000-2006
Berkshire	134,953	130,219	-4,734	-3.5%
Cape and Islands	246,737	249,312	2,575	1.0%
Central	746,485	776,152	29,667	4.0%
Greater Boston	2,594,685	2,614,833	20,148	0.8%
Northeast	930,380	942,822	12,442	1.3%
Pioneer Valley	680,014	683,233	3,219	0.5%
Southeast	1,015,843	1,037,818	21,975	2.2%
Total	6,349,097	6,434,389	85,292	1.3%

Sources: U.S. Census and MA State Data Center Population Estimates

Table 1-1 shows the absolute changes in population from 2000 to 2006. The following describes population gains and losses within regions:

- **Berkshire.** Within Berkshire County, the three largest municipalities all experienced significant estimated population losses, contributing to the region's losses overall. Pittsfield, with an estimated 2006 population of 43,100, experienced a six percent loss. Adams, with a 2006 estimated population of 8,270, experienced a six percent loss, and

North Adams, with a 2006 estimated population of 13,700, experienced a seven percent loss.

- **Central.** The Central Massachusetts region experienced the most significant estimated population growth, at 3.8 percent. The growth was concentrated along the MassPike (I-90) and I-495 corridors, as well as in the suburbs around Worcester. The city of Worcester, the largest city in the region and second-largest in the state, with an estimated population of 174,282 in 2006, experienced an estimated slight population growth of one percent. The other major cities in the region had slow growth or slight losses: Fitchburg, with 39,700 people in 2006, grew by an estimated two percent, and Leominster, with 41,200 people in 2006, remained steady. Along the I-495 corridor, there was significant estimated growth in towns including Grafton, with a 2006 estimated population of 17,300 after 16 percent growth since 2000, as well as the towns of Groton, Shirley, Shrewsbury, Northbridge, Millbury, and Upton. Worcester suburbs Holden and Rutland, and the towns of Sturbridge and Charlton along the MassPike, also experienced significant estimated population growth. Population losses by municipalities in the region were uncommon, and when they occurred, they were small.
- **Southeast.** The Southeast region was second only to the Central region in terms of population growth, increasing its overall population by an estimated 2.2 percent. The region's three largest cities, Brockton (estimated 2006 population 93,200), New Bedford (estimated 2006 population 92,500), and Fall River (estimated 2006 population 91,000) experienced significant population losses, at one, two, and one percent, respectively. However, significant growth occurred in the towns surrounding Taunton, with Raynham (2006 estimated population 13,600 and 16 percent growth) leading the region, and strong estimated growth in Norton, Attleboro, Dighton, Berkley, Lakeville, Middleborough, and

Rehoboth. Taunton itself had a stable population, with an estimate of 55,800 people in 2006. Significant growth also occurred in the eastern part of the region, roughly along Route 3 (Pilgrims Highway) in Plymouth, Kingston, Pembroke, Hanover, Norwell, East Bridgewater and Abington.

- **Greater Boston.** The Greater Boston region experienced overall population growth, but at 0.8 percent growth the region's population grew at a slower rate than the state average. The cities of Boston and Quincy – the first and third largest cities in the region – both grew slowly. Boston experienced growth of one percent to reach an estimated population 595,698 by 2006, while Quincy grew an estimated three percent to 90,700. Cambridge, the region's second-largest city, experienced zero growth. The fastest rates of population growth occurred in the suburbs northeast of the City of Boston, in Revere (estimated 2006 population 55,400; 17 percent growth), Chelsea (2006 estimated population 38,700; 10 percent growth) and Winthrop (20,343, 11 percent). Regions in the I-495 corridor also experienced population growth, including the towns of Southborough, Hudson, Bolton, and Ashland. Outer suburbs including Hingham and Canton south of Boston, and Burlington to the north, also experienced growth. Despite growth in some areas, more than half of the region's towns and cities experienced population losses. Significant population losses occurred in some inner Boston suburbs, including Newton (2006 estimated population 82,800; one percent loss), Somerville (2006 estimated population 74,500; four percent loss), Framingham (2006 estimated population 64,800; three percent loss), Belmont (2006 estimated population 23,303; four percent loss), Brookline (2006 estimated population 55,000; four percent loss), and Everett (2006 estimated population 37,000; three percent loss). Significant losses also occurred in the North Shore city of Lynn, the

fourth largest city in the region, with a 2006 estimated population of 87,500 and an estimated two percent population loss.

- ***Northeast.*** The Northeast region kept pace with the state in population growth (1 percent). Growth within the region varied considerably. The region's two largest cities, Lowell (2006 estimated population 103,209) and Lawrence (2006 estimated population 70,229), lost population at rates of two percent and three percent, respectively. The outer Boston suburbs of Peabody (2006 estimated population 51,400) and Billerica (2006 estimated population 41,400) both gained population, at rates of seven and six percent, respectively. The town of Andover also experienced estimated growth of seven percent since 2000, with a 2006 population of 33,300.
- ***Pioneer Valley.*** The Pioneer Valley grew more slowly than the state overall, with growth of 0.5 percent since 2000. Springfield, the region's largest city and the third largest city in the state, lost an estimated one percent of its population resulting in an estimate of 150,432 people. Chicopee, the region's second largest city, also lost one percent of its population, resulting in a 2006 population of 54,200. The city of Holyoke had zero population growth, with 40,000 people. Most towns grew slowly, with the most substantial growth in Belchertown (population 13,900; seven percent growth) and Southampton (population 5,900; ten percent growth). Northampton and Greenfield experienced the highest rates of population loss in the region, at two percent each.
- ***Cape and Islands.*** While the Cape and Islands region outpaced the state's population growth during the 1990s, between 2000 and 2006, the region's population growth measured just one percent, trailing behind the state average. The population on Nantucket grew an estimated nine percent, to 10,400. On the mainland, the population in Mashpee

grew an estimated ten percent to 14,300. The mid-Cape towns of Barnstable (population 47,100), Yarmouth (24,200), and Dennis (15,600) experienced losses of two percent each.

Racial distribution, 2000–2006

Racial distribution has implications for diversity, equal access to housing, income distribution, and as is discussed in Chapter 3, local lending practices and foreclosure activity. Since 2000, the Commonwealth has become slightly more diverse, racially and ethnically. As shown in Table 1-2, estimates from the U.S. Census Bureau’s 2006 American Community Survey indicate that the black population was 5.7 percent of the state’s total population. In the same year, the Asian population represented 4.8 percent, and Hispanic or Latino people (of any race) made up 7.9 percent of the population. White non-Hispanics comprised 79.3 percent in 2006.

Table 1-2. Massachusetts Racial Distribution as Share of Population, 2000 and 2006

Race/Ethnicity	2000	2006
White	81.9%	79.3%
Black	5.0%	5.7%
Asian	3.7%	4.8%
Hispanic of any race	6.8%	7.9%
Other race	2.6%	2.3%

Sources: US Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

As shown in Tables 1-3 and 1-4, Census 2000 provides a glimpse into the regional racial makeup as of 2000, however regional data from the U.S. Census Bureau’s 2006 American Community Survey are not reliable, due to sampling variability.

Table 1-3. Racial Distribution by Share of Total, Massachusetts and its Regions, 2000

Race/Ethnicity (share of total)	Berkshire	Greater Boston	Cape and Islands	Central	Northeast	Pioneer Valley	Southeast	MA
White	94.1%	75.7%	92.9%	86.4%	85.0%	79.9%	88.3%	81.9%
Black	1.9%	8.2%	2.0%	2.5%	1.2%	5.5%	3.1%	5.0%
Asian	1.0%	6.1%	0.6%	2.6%	3.7%	1.7%	1.1%	3.7%
Hispanic of any race	1.7%	7.1%	1.4%	6.8%	8.7%	11.2%	3.1%	6.8%
Other race	1.4%	2.9%	3.1%	1.7%	1.4%	1.7%	4.3%	2.6%

Source: US Bureau of Census, 2000

Note: These categories are shorthand for white non-Hispanic, black non-Hispanic, Asian non-Hispanic and other non-Hispanic.

Table 1-4. Racial Distribution by Total Population, Massachusetts and its Regions, 2000

Race/Ethnicity	Berkshire	Greater Boston	Cape and Islands	Central	Northeast	Pioneer Valley	Southeast	MA
White	126,961	1,965,322	229,282	644,976	790,972	543,462	897,384	5,198,359
Black	2,570	211,630	4,977	18,790	11,127	37,368	31,867	318,329
Asian	1,312	157,363	1,489	19,197	34,247	11,727	11,451	236,786
Hispanic of any race	2,286	185,080	3,367	50,551	80,545	75,834	31,066	428,729
Other race	1,824	75,290	7,622	12,971	13,489	11,623	44,075	166,894
Total	134,953	2,594,685	246,737	746,485	930,380	680,014	1,015,843	6,349,097

Source: U.S. Census Bureau 2000

Note: These categories are shorthand for white non-Hispanic, black non-Hispanic, Asian non-Hispanic and other non-Hispanic.

In 2000, Greater Boston was the most diverse region of the state, with whites accounting for 76 percent of the population of Greater Boston, blacks at eight percent, Asians at six percent, and Hispanics of any race at seven percent. The share of the Greater Boston population who were black or Asian was higher in Greater Boston than in any other region of the state. However, Hispanics of any race made up a greater share of the population in both the Pioneer Valley (11 percent) and the Northeast region (nine percent). The Pioneer Valley was also the second most diverse region, with whites accounting for 80 percent of the population, blacks at six percent, Asians at two percent, and Hispanics of any race at 11 percent.

Altogether, a majority (62 percent) of the Commonwealth's black residents resided in the cities of Boston, Springfield, Brockton, and Cambridge. Almost a quarter (23.8 percent) of Boston residents and nearly one in five of Springfield's residents were black in 2000.

Boston and Quincy (19 percent and 5.7 percent, respectively) had the highest percentages of Massachusetts' Asian residents. The city of Lowell, located in the Northeast region, had the second highest percentage of the state's Asian residents and in 2000, nearly 16.5 percent of the city's population overall was Asian. This constitutes the highest concentration of Asian residents in the state.

The highest numbers of Hispanic residents lived in the cities of Boston (85,089; 19.8 percent of the state's Hispanic population), Lawrence (43,019; 10 percent of the state's Hispanic population) and Springfield (41,343; 9.6 percent of the state's Hispanic population). Together, these cities account for nearly 40 percent of the Hispanic population in Massachusetts. Data from the 2000 Census indicate that nearly 60 percent of Lawrence residents, 27.2 percent of Springfield residents, and 14.4 percent of Boston residents were Hispanic of any race.

The Berkshire and Cape and Islands regions have the greatest percentages of white people, with whites accounting for over 90 percent of the population of those regions.

Change in age distribution, 2000–2006

Age demographics and housing demand

If age is a predictor of housing needs, then the shifting demographics in the Commonwealth in the coming years will largely determine housing demand. The age distribution of the population is important because the housing choices most people make have remained fairly predictable over time. Household formation is the most significant contributor to new housing demand, and young people starting out on their own for the first time typically represent the largest share of new household growth. Younger people also have a tendency to start families and purchase first homes. Finally, demographic shifts resulting from the aging of the state's population will exert their influence on local housing markets for years to come. For the past thirty years, it has been the baby boomers (1.78 million in Massachusetts) who have

defined the housing market as they established their own households, bought starter homes, traded up to bigger homes, and bought vacation and investment properties.² Within the next twenty years, if past trends continue, this is the group most likely to retire and ‘downsize’ from their existing homes, purchase smaller homes or possibly move out of state entirely.

Key age groups for the real estate and homebuilding industry

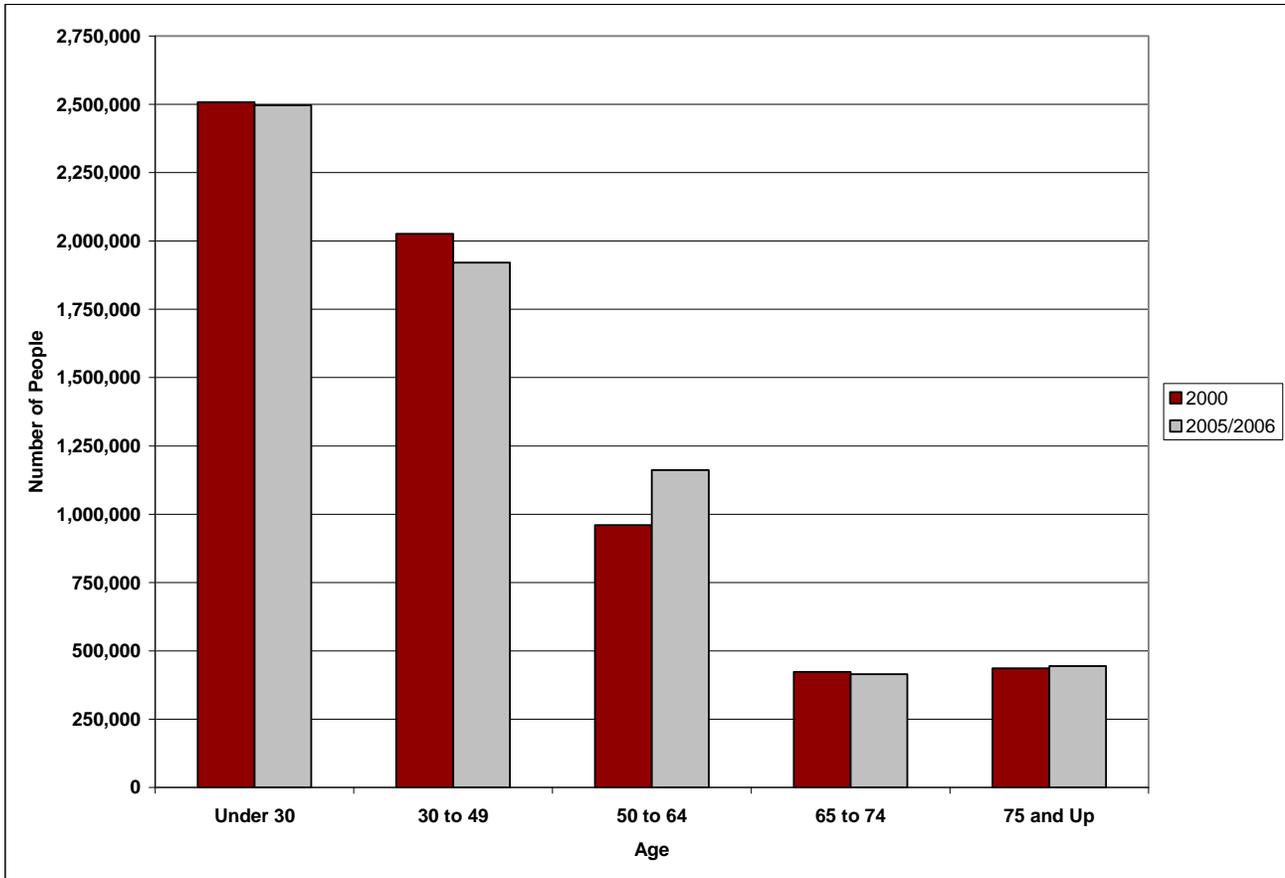
Examining the rates at which people of differing ages buy and sell homes provides insight into what is likely to happen to the housing market as the demographic profile of the nation changes. The real estate and homebuilding industry understand this and have focused on housing “decision points” for some time, but it has come onto many policymakers’ radar screens only recently. Key age cohorts watched by the industry are as follows:³

- *Pre-World War II generation.* Currently ages 63 and over.
- *Baby Boomers.* Born 1946-1964, currently ages 44-62. Over the past three decades the baby-boomers helped push home prices up as they formed households, bought starter homes, traded up to bigger homes, and bought vacation homes and investment properties. The housing choices this generation (the largest demographic cohort) makes as it enters traditional retirement age are being carefully anticipated by both the nation’s homebuilders and policymakers.
- *Baby Bust generation.* Born 1965-1978, currently ages 30-43.
- *Echo Boomers.* Born 1979-1994, currently ages 14-29. The Echo Boomers are already being targeted by the nation’s apartment developers.

² The sums by region in this section vary slightly from the sums by region appearing in the discussion of total population in the first part of this chapter which used 2000 Census data and MA State Data Center Population Estimates from 2006. In this latter discussion, in order to obtain population detail by age, we use 2000 Census data and aggregated American Community Survey data from 2005 and 2006.

³ According to interviews of property owners, brokers and public officials done by Bonnie Heudorfer, Spring 2008.

Figure 1-2. Massachusetts Population by Age, 2000–2005/2006



Source: US Census Bureau 2000, American Community Survey (ACS) 2005/2006

Population growth by age group

Between 2000 and 2005/2006, the state population showed little change by age, except for the 50 to 64-year-old group, which grew by about 200,000 people or 20.9 percent. This change reflects the aging of the baby boom generation, and accordingly this age group makes up a slightly larger share of all residents in 2005/2006 than they did in 2000 (from 15.1 to 18 percent). In contrast, the number of 30 to 49-year-old residents declined by 106,004 (5.2 percent) during this period. This statewide pattern of increased numbers of 50 to 64 years olds and decreased numbers of 30 to 49 year olds was consistent across all regions.

Table 1-5. Massachusetts Population by Age Cohort, 2005/2006

Age group	Number of people	Share of MA age group in 2005/2006	Share of MA age group in 2000	Numeric change 2000-2005/2006	Percent change 2000-2006
Under 30	2,496,776	38.8%	39.5%	-10,686	-0.4%
30 to 49	1,920,519	29.8%	31.9%	-106,004	-5.2%
50 to 64	1,161,388	18.0%	15.1%	201,030	20.9%
65 to 74	414,204	6.4%	6.7%	-8,319	-2.0%
75 and Up	444,306	6.9%	6.9%	7,898	1.8%
Total	6,437,193	100.0%	100.0%	83,919	1.32%

Source: U.S. Census Bureau, 2000; American Community Survey (ACS), 2005/2006

Growth trends for the youngest group, the population under 30, were not as consistent across regions. Overall, this age group declined by 10,686 people (0.4 percent) since 2000. Growth trends for this group across regions ranged from decline in both the Berkshires (3.1 percent) and in Greater Boston (2.6 percent), to growth ranging from 1.5 percent in the Southeast to 4.2 percent in the Central region and 7.0 percent on the Cape.⁴

Age group distribution by region⁵

In 2005/2006, just as in 2000, 41 percent of the state's population (2,612,340 people) lived in the Greater Boston region. Greater Boston was home to the highest number and share of people in every age group: 1,011,541 (40.5 percent) of the Commonwealth's residents under 30; 806,697 (42 percent) of residents between the ages of 30 and 49; 456,064 (39.3 percent) of residents ages 50 to 64; 164,430 (39.7 percent) of residents ages 65 to 74 and 173,610 (39.1 percent) of residents 75 and older.

For the most part, the distribution of age groups within each region followed a similar pattern to the distribution of the population as a whole. However, while the Cape and Islands region was home to only four percent of the state population, it had a larger share of older residents: six percent of people 65 and 74 years of age and seven percent of people 75 years and over. Likewise, the Pioneer Valley had a

⁴ Percentage changes in the Cape may be higher than in other regions simply because the population base is smaller.

larger share of younger people. While the Greater Boston region had more older residents overall than the other regions of the Commonwealth, only 39 percent of the Greater Boston region's residents were 75 years of age and over.

Median age by county

An examination of median ages by county both reinforces the regional age distribution described above and provides greater geographical detail. The growth of the 50 to 64-year-old age cohort has helped to drive up the median age in Massachusetts since 2000. On the whole, Massachusetts is getting older, and the median age of residents increased in every county of the state between 2000 and 2006. In keeping with the age distribution by region described above, Barnstable and Dukes counties in the Cape and Islands region had some of the oldest residents in both 2000 and 2006. The median age in Barnstable County rose from 44.6 to 45.6 and in Dukes County from 40.8 to 43. However, Nantucket County, also in the Cape and Islands region, had one of the lowest median ages in the state. Like all Massachusetts counties, it experienced a slight increase in median age from 36.7 to 37.2 between 2000 and 2006.

Suffolk County in the Greater Boston region possesses some of the state's youngest residents, and the county is growing at a faster rate than some other counties. In 2000, the median age in Suffolk County was 31.7; in 2006 that figure rose to 34.1. On the whole, the Pioneer Valley region is also considerably younger than the rest of the state, due largely to the presence of a number of higher educational institutions. Hampshire County, where 20 percent of all residents were enrolled in an undergraduate institution in 2006, had by far the largest proportion of students in the state, followed by Suffolk County, where nine percent of all residents were enrolled in an undergraduate institution,

⁵ Numbers in this section differ slightly from those in the overall population section due to updates of Census population data that were implemented at the level of total population, but not at the level of breakdown by age. Nonetheless, the Donahue Institute believes that the Census updates have little or no bearing on the age group patterns described here.

compared to a statewide average of six percent. Franklin County, however, has older residents, with a median age change from 39.5 years in 2000 to 41.2 years in 2006.

Table 1-6. Median Age by Massachusetts County, 2000 and 2006

County	2000	2006
Barnstable	44.6	45.6
Dukes	40.8	43
Berkshire	40.5	42.3
Franklin	39.5	41.2
Norfolk	38.1	40.1
Essex	37.5	39.2
Plymouth	36.9	38.8
Middlesex	36.4	38.5
Bristol	36.8	38.1
Worcester	36.4	37.6
Hampden	36.4	37.4
Nantucket	36.7	37.2
Hampshire	34.4	35.6
Suffolk	31.7	34.1

Source: Population Division, U.S. Census Bureau, 2007

Change in household composition

As discussed in the previous sections, the Commonwealth saw little overall population growth between 2000 and 2005/2006. Gaining fewer than 90,000 residents, the Commonwealth experienced growth of only 4,280 households since 2000. At the same time, composition of various types of households within the state by age, tenure, size of family, and family status displayed some noteworthy changes, which are discussed in this section.

Household growth by region

Household growth in the Commonwealth has increased by less than one percent since 2000, and household growth across most regions has been similarly slow. The U.S. Census Bureau released updated population estimates for the state for 2006; however, similar updates were not made available for

household estimates. Due to these differences in data, and in the Greater Boston region in particular, it is likely that the estimates presented here overstate the loss of households.

As would be expected based on the population growth trends in the regions, the most substantial household growth from 2000 to 2006 occurred in the Southeast region, which grew by 8,505 households (2.2 percent), and the Central region, which grew by 4,369 households (1.5 percent). The Cape and Islands region experienced the highest rate of household growth among Massachusetts regions, gaining 3,586 households since 2000, a growth rate of 3.4 percent. In contrast, since 2000, the Berkshire region lost 902 households (-1.6 percent), and Greater Boston decreased by 10,405 households (-1.0 percent). The Northeast and Pioneer Valley regions remained essentially stable: the Northeast decreased by 632 households (-0.2 percent), and the Pioneer Valley decreased by 288 households (-0.1 percent).

Table 1-7. Massachusetts Household Growth by Region, 2000–2005/2006

Region	2006 total households	Percent of all MA households 2005/2006	Numeric change 2000-2005/2006	Percent change 2000-2005/2006
MA	2,448,878	100.0%	4,280	0.2%
Berkshire	55,310	2.3%	-902	-1.6%
Cape and Islands	108,899	4.4%	3,586	3.4%
Central	286,723	11.7%	4,369	1.5%
Greater Boston	1,006,655	41.1%	-10,405	-1.0%
Northeast	343,735	14.0%	-632	-0.2%
Pioneer Valley	260,588	10.6%	-288	-0.1%
Southeast	386,970	15.8%	8,505	2.2%

Sources: US Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

Households by age and ownership

From 2000 to 2005/2006, the number of householders between the ages of 50 to 64 and 75 and over increased, while the number of householders in all other age groups decreased, in keeping with the general population trends described above. There were widespread increases in homeownership across regions and age groups during this period. Statewide, the number of owner households increased by 4.6

percent, while the number of renter households declined by -7.0 percent. Rates of homeownership increased across all age groups from 61.7 percent to 64.5 percent, with the strongest growth among those under 30 (from 19.5 to 22.8 percent ownership) and those 75 years and over (from 63.3 to 67.3 percent ownership).

Statewide, there were fewer householders in the under-30 age group in 2005/2006 than there had been in 2000. But among this age group, there was a 10.5 percent increase in owners and a 9.4 percent decrease in renters. Householders aged 30 to 49 also had an overall decline, with a stable group of owners and 8.9 percent fewer renters. Overall increases in the number of householders 50 to 64 years old, as well as a 17.2 percent increase in the number of owners and a 9.8 percent increase in renters, reflected the overall growth in that segment of the state’s population. Householders 65 to 74 declined overall – owners by 8.3 percent and renters by 12.6 percent. Householders 75 and over declined overall, with a fairly stable number of owners and a 13.5 percent decrease in renters.

Shifts in household tenure by age group, 2000–2005/2006

Table 1-8. Percentage Change in Owners by Region, 2000–2005/2006

Householder Age	Berkshire	Greater Boston	Cape and Islands	Central	Northeast	Pioneer Valley	Southeast	MA
Under 30	36.8%	-2.5%	57.5%	27.5%	20.8%	1.0%	9.1%	10.5%
30 - 49	-7.3%	2.1%	5.7%	2.6%	-2.2%	-4.8%	-0.6%	0.2%
50 - 64	17.9%	16.6%	7.5%	21.9%	17.1%	19.6%	17.2%	17.2%
65 - 74	-14.4%	-6.9%	-14.2%	-10.3%	-4.7%	-17.1%	-2.7%	-8.3%
75 and over	3.0%	2.3%	19.0%	0.9%	-1.0%	-2.0%	5.8%	3.1%
Total	2.1%	4.9%	6.0%	7.1%	3.8%	0.9%	5.4%	4.6%

Source: US Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

*The shaded data denotes statistically significant changes.

Note: Percent changes in the Cape and Islands may appear larger simply to due their small absolute numbers.

Table 1-9. Percentage Change in Renters by Region, 2000–2005/2006

Householder Age	Berkshire	Greater Boston	Cape and Islands	Central	Northeast	Pioneer Valley	Southeast	MA
Under 30	16.5%	-15.7%	13.4%	-9.7%	-4.5%	2.6%	-4.0%	-9.4%
30 - 49	-26.8%	-7.7%	-17.8%	-7.0%	-17.1%	-8.0%	-3.2%	-8.9%
50 - 64	9.5%	8.3%	26.2%	2.2%	15.9%	18.0%	5.7%	9.8%
65 - 74	-11.8%	-14.2%	-8.1%	-17.4%	-9.7%	-7.6%	-10.4%	-12.6%
75 and over	-14.1%	-10.8%	-18.4%	-17.2%	-15.1%	-12.3%	-17.0%	-13.5%
Total	-8.6%	-8.2%	-5.1%	-8.3%	-8.5%	-1.8%	-4.2%	-7.0%

Source: US Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

*The shaded data denotes statistically significant changes.

An analysis of householders by age shows that every region in the state experienced statistically significant growth in the number of homeowners, ranging from a 0.9 percent increase in the Pioneer Valley to a 7.1 percent increase in the Central region. Every region, except the Cape and Islands, had statistically significant growth of homeowners in the 50 to 64 year age cohort. Growth rates for this group range from 16.6 percent in the Greater Boston region to 21.9 percent in the Central region. The Cape and Islands region lost a significant percentage of homeowners in the 65 to 74 age cohort (14.2 percent) but increased its percentage of homeowners aged 75 and over (19.0 percent). The Pioneer Valley experienced a decline in homeowners aged 65 to 74 (17.1 percent). In the Central region, there were almost 2,000 more new owner occupied households under 30, an increase of 27.5 percent.

At the same time that the numbers of owners increased, all regions experienced statistically significant declines in the numbers of renters, ranging from a 1.8 percent decline in the Pioneer Valley to greater than eight percent declines in the Berkshire, Greater Boston, Central and Northeast regions. The Berkshire region experienced a significant decline in renters in the 30-to-49-year age group (26.8 percent). Greater Boston experienced considerable decreases in the percentage of renters in most age groups, although renters aged 50 to 64 increased by 8.3 percent. In the Greater Boston region, renters under 30, those aged 30 to 49, 65 to 74, and 75 and over decreased by 15.7 percent, 7.7 percent, 14.2 percent and 10.8 percent respectively. The Northeast region saw a significant decline in renters aged 30

to 49 (-17.1 percent), with a corresponding increase of 15.9 percent in renters ages 50 to 64. The Southeast and Central regions saw 17 percent decreases in the number of renters 75 years of age and over. In the Pioneer Valley, the number of renters ages 50 to 64 increased by 18 percent despite the decrease in renters overall.

Homeownership rates by age and region

Homeownership rates increased from 2000 to 2005/2006 in Massachusetts overall as well as in each of the seven regions. Massachusetts experienced a nearly three percentage point increase in homeownership rates, from 61.7 percent to 64.5 percent of all householders. The Central, Greater Boston, and Northeast regions mirrored the state with ownership rate increases of three percentage points, while the Berkshire, Cape and Islands, and Southeast regions increased homeownership at a slightly lower rate (two percentage points). The Pioneer Valley experienced a one percentage point increase in homeownership. From 2000 to 2005/2006, Massachusetts experienced increases in the rate of homeownership among householders of all ages, with the greatest increases among householders under 30 (three percentage points) as well as householders aged 75 and older (four percentage points).

As shown in Table 1-10, overall, in 2005/2006 the Cape and Islands region had the highest homeownership rate in the Commonwealth (78.8 percent) as well as the highest rates in each age category. Homeowners under 30 in this region had particularly high ownership rates (38.9 percent) compared to the overall state rate (22.8 percent). The Central and Southeast regions had the next highest rate for this age group with 30 percent ownership.

The Greater Boston and Pioneer Valley regions had the lowest homeownership rates overall with 58.1 percent and 63.8 percent respectively. Greater Boston had the lowest rate of homeownership among every age group. After Greater Boston, the Pioneer Valley region had the next-lowest under-30 homeownership rate. The lower ownership rate among householders under 30 in the Pioneer Valley was

likely due to the high proportion of students, who were fully 20 percent of the region’s population. This may also be a factor in other areas with high concentrations of students, such as the City of Boston and Cambridge in Greater Boston.

Table 1-10. Homeownership Rates by Region, 2005/2006

Homeowner age	Berkshire	Greater Boston	Cape and Islands	Central	Northeast	Pioneer Valley	Southeast	MA
Under 30	26.7%	15.9%	38.9%	30.5%	31.1%	20.5%	30.1%	22.8%
30 - 49	70.1%	57.2%	74.6%	68.4%	71.9%	64.3%	69.2%	64.2%
50 - 64	79.7%	72.1%	84.1%	79.4%	78.2%	75.9%	79.7%	76.2%
65 - 74	74.7%	70.3%	87.3%	74.1%	76.5%	73.6%	76.3%	74.0%
75 and over	70.1%	62.3%	87.3%	66.0%	66.8%	70.4%	69.6%	67.3%
Total	68.1%	58.1%	78.8%	67.6%	70.2%	63.8%	69.4%	64.5%

Source: American Community Survey (ACS), 2005/2006

Household size

As shown in Table 1-11, one- and two-person households make up sixty percent of all households in Massachusetts, and overall the number of single person households increased from 2000 to 2005/2006 across the state (3.1 percent). The change included a significant increase in single person owner occupied households (12 percent) and a corresponding decline in single person rental households (-3.8 percent). All of the state’s regions, except the Cape and Islands and the Berkshire regions, experienced statistically significant increases in one-person owner households. The Northeast and Greater Boston regions saw the largest percentage increases in this category with 15.7 and 13.8 percent respectively.

The number of renter households in Massachusetts experienced decreases in almost all size categories. The most significant decreases took place for 5-person and 6-plus person households with declines of 20.6 and 26.3 percent respectively. Cape and Islands, Greater Boston and the Pioneer Valley regions experienced similar trends in renter households in these size categories. Greater Boston also lost significant renters in one- and two-person households (-5.9 percent and -13.5 percent). Additionally, the

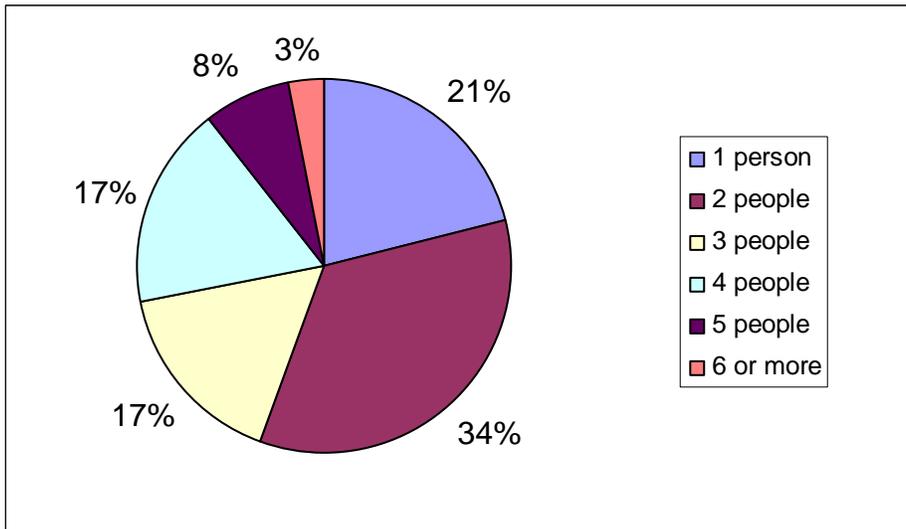
Central region experienced a significant drop in two- and three- person renter households (-13.5 percent and -21.9 percent).

Table 1-11. Massachusetts Households by Size, 2000–2005/2006

People in unit	2000 total	Percent of 2000 total	2005/2006 total	Percent of 2005/2006 total	Numeric change 2000-2005/2006	Percent change 2000-2005/2006
1 person	683,255	28%	704,343	29%	21,088	3%
2 people	776,217	32%	783,617	32%	7,400	1%
3 people	402,717	16%	382,508	16%	-20,209	-5%
4 people	352,122	14%	360,553	15%	8,431	2%
5 people	158,372	6%	151,824	6%	-6,548	-4%
6 or more	71,915	3%	66,034	3%	-5,881	-8%
Total	2,444,598	100%	2,448,878	100%	4,280	0%

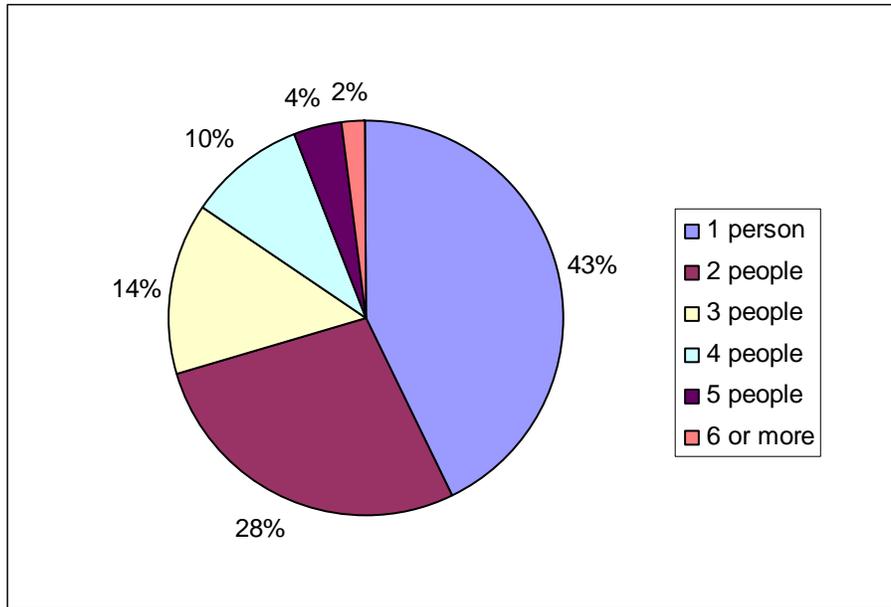
Source: U.S. Census Bureau, 2000; American Community Survey (ACS), 2005/2006
 Additional statistical significance testing for percentage changes was not done.

Figure 1-3. Size of Owner Households in Massachusetts, 2005/2006



Source: American Community Survey (ACS), 2005/2006

Figure 1-4. Size of Renter Households in Massachusetts, 2005/2006



Source: American Community Survey (ACS), 2005/2006

Households by family status

Throughout the Commonwealth, there were statistically significant declines in the number of households with children. Specifically, total households (owners and renters) in Massachusetts with children under the age of eighteen decreased by -5.2 percent and households with children under the age of six declined by -5.7 percent. There was a slight increase in households with children ages six to seventeen (2.7 percent). These changes may reflect demographic changes such as the increase in the number of residents under 30 years of age and older than 50 (many of whom either have no children yet or have older children) and the decline in the number of residents between 30 and 49 years of age, when people are most likely to have young children.

The Greater Boston region had statistically significant growth in households with children ages six to seventeen only (9,025 households and 5.5 percent). The Northeast region experienced significant declines in households with children under six as well as children under eighteen overall (3,756 fewer households and -11.6 percent, and 3,386 fewer households and -13.7 percent, respectively). In the

Pioneer Valley, households without children increased by 7,388 households and 4.2 percent, and the number of households with children ages six to seventeen declined by 4,374 households, or -8.8 percent. Like the Pioneer Valley, the Southeast region saw statistically significant growth in households with no children (8,134 households 3.4 percent).

Table 1-12. Change in Households with Children, 2000–2005/2006

Presence and age of children	Berkshire	Greater Boston	Cape and Islands	Central	Northeast	Pioneer Valley	Southeast	MA
Under 6 only	24	-5,534	2,050	-445	-3,756	-2,267	-1,586	-11,512
Ages 6 to 17 only	-522	9,025	-719	3,308	2,324	-4,374	3,030	12,083
Under 6 and 6 to 17	-353	-992	566	-1,880	-3,386	-1,036	-1,074	-8,153
No Children	-51	-12,904	1,689	3,386	4,187	7,388	8,134	11,862
All	-902	-10,405	3,586	4,369	-632	-288	8,505	4,280

Sources: US Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

*The shaded data denotes statistically significant changes.

Table 1-13. Percentage Change in Households with Children, 2000–2005/2006

Presence and age of children	Berkshire	Greater Boston	Cape and Islands	Central	Northeast	Pioneer Valley	Southeast	MA
Under 6 only	0.7%	-6.8%	34.6%	-1.8%	-11.6%	-11.9%	-4.8%	-5.7%
Ages 6 to 17 only	-5.2%	5.5%	-4.3%	6.0%	3.3%	-8.8%	3.9%	2.7%
Under 6 and 6 to 17	-12.1%	-1.7%	11.4%	-9.5%	-13.7%	-6.0%	-3.9%	-5.2%
No Children	-0.1%	-1.8%	2.2%	1.9%	1.9%	4.2%	3.4%	0.7%
All	-1.6%	-1.0%	3.4%	1.5%	-0.2%	-0.1%	2.2%	0.2%

Sources: US Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

*Additional statistical significance testing for percentage changes was not done.

Conclusion

Despite anemic growth in the overall Massachusetts population, the state's housing needs are not being adequately met in most regions. Moreover, demographic trends are changing not only the quantity, but the types of housing that are likely to be required in the future. Increases in smaller one- and two-person households, and the decrease in larger households, suggests that housing demand will increase at a rate faster than population growth. Past trends suggest that growing older populations may choose to downsize to smaller, more affordable homes. At the same time, in the coming years the large population of current under-thirty householders may choose whether to remain in the state or relocate elsewhere based in part on the availability of affordable and desirable housing. If they stay in large numbers, and if the number of households with young children rises again as they establish families, the state is likely to see increased demand for housing that meets the needs and budgets of young families. Of course, local and regional economic and employment trends also affect peoples' choices of where and how to live, and therefore have important implications for housing demand. These economic and employment trends are the subject of the next chapter.

Chapter 2: Employment and Labor Force Trends

In 2007, a little over 50 percent of all “covered employment” (the number of workers covered by unemployment insurance) was located in the Greater Boston region while only 41 percent of the state’s employed workforce lived there.⁶

The presence of job centers has long had an influence on patterns of housing demand and development. Traditional manufacturing was at one time, the driver of economic development in the Commonwealth, and whole cities grew up around this industry. In more recent years, a variety of knowledge-based industry sectors have developed and firms in these sectors have located in metropolitan areas to take advantage of key resources like universities, sophisticated business support services, and important infrastructure like airports. This chapter explores recent job growth and its potential implications for statewide and regional housing demand and development.

For many, commuting to job centers is a necessity, not a choice, and prior research has suggested that high housing prices within Greater Boston, the state’s largest and most densely settled employment center, are at least partially responsible for this trend. Even though the majority of jobs are located in the Boston metro area, a large number of households have had to move outside of Greater Boston in order to purchase housing. Due to the intense pattern of workers commuting in for work, roadways leading into the Boston Metropolitan area have become increasingly congested. In fact, this dynamic is visible around many of the dense job centers in the state, resulting in driving commutes that have become increasingly crowded and difficult in recent years.⁷

⁶ The data for these calculations come the Massachusetts Division of Unemployment Assistance ES-202 series (covered employment data) and LAUS series (laborforce data).

⁷ Goodman, Michael, Dana Ansel and Robert Nakosteen, with James Palma, John Gaviglio, Greg Leiserson, Rebecca Loveland and Rachel Deyette Werkema. “MASS.commuting.” *A joint project of the UMass Donahue Institute and MassINC (for MassHousing)*. October, 2004. <<http://www.massbenchmarks.org/publications/studies/pdf/masscomm04.pdf>>. Accessed August 19, 2008.

Employment centers in the Commonwealth

Total 'covered' employment by region, 2007

A variety of economic trends have resulted in a pattern of job concentration in the state's key employment centers with a relative paucity of employment outside of these job centers. The data in this section represent the number of covered workers:⁸ workers covered by unemployment insurance that are on the payrolls of firms and public agencies in a given community.⁹ In this way, the data are a proxy for the total number of jobs in a community. As Table 2-1 and the map in Figure 2-1 show, the job base in the Commonwealth is especially concentrated in the Greater Boston region, with the cities of Boston (548,831 jobs) and Cambridge (105,311 jobs) accounting for more than 40 percent of that region's employment. Many of the surrounding cities also provide substantial numbers of jobs. The Greater Boston region is by far the most critical employment center in the Commonwealth, comprising a little over 50 percent of "covered employment" in the Commonwealth, 43 percent of establishments and 61 percent of total wages in the state.

Areas outside of the Greater Boston region contain far smaller shares of total state employment. The Northeast and Southeast regions, with 12.8 percent and 12.7 percent of "covered employment" in the Commonwealth respectively, contain the next largest regional shares of employment. Employment in the Northeast region is dispersed over many towns but the largest job centers are Lowell (33,164 jobs) and Andover (31,843 jobs). Large employment centers in the Southeast region include Brockton (39,155 jobs), New Bedford (37,223 jobs) and Fall River (36,989 jobs). Additionally, very large job centers include the city of Worcester (98,955 jobs) in the Central region and the city of Springfield (75,822 jobs) in the Pioneer Valley region. The dense concentration of jobs within these relatively large communities

⁸ Completely or partially excluded from covered employment are: wage and salary agricultural workers, self-employed farmers, self-employed non-agricultural workers, domestic workers, unpaid family workers, state and local government workers, and railroad workers. <<http://www.bls.gov/cew/cewbultn02.htm>>

contributes to substantial regional shares of state employment for the Central and Pioneer Valley regions as well. As can be seen in the table below, the remaining regions, Berkshire and the Cape and Islands contain relatively small shares of total state employment.

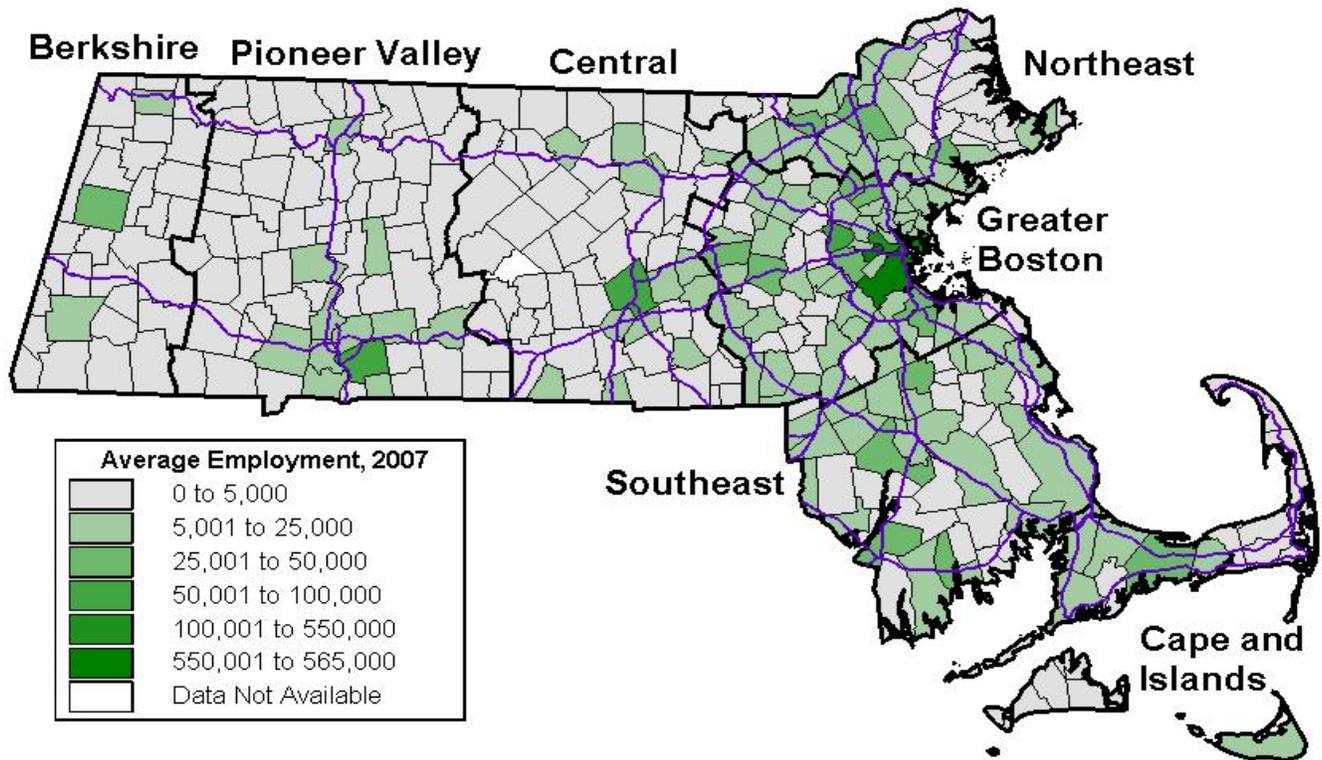
Table 2-1. Total Covered Employment by Region, 2007

Region	Establishments	% of state total	Employment	% of state total	Total wages	% of state total
Berkshire	4,761	2.4%	62,836	2.0%	\$2,390,932,521	1.4%
Pioneer Valley	20,478	10.3%	284,552	8.9%	\$11,230,689,581	6.4%
Central	20,241	10.2%	313,073	9.8%	\$13,543,038,624	7.7%
Northeast	27,064	13.6%	410,146	12.8%	\$21,237,537,070	12.1%
Greater Boston	85,438	42.9%	1,612,645	50.5%	\$106,595,429,403	60.7%
Southeast	29,867	15.0%	406,150	12.7%	\$16,436,846,677	9.4%
Cape and Islands	11,352	5.7%	107,010	3.3%	\$4,099,518,438	2.3%
Total	199,201	100.0%	3,196,412	100.0%	\$175,533,992,314	100.0%

Source: MA Division of Unemployment Assistance, ES-202 series

⁹ The data in this section are from the MA DUA's ES-202 series, a series representing unemployment insurance-covered jobs.

Figure 2-1. Total Covered Employment by Town, 2007



Sources: ES-202 Average Monthly Employment by town 2007, MassGIS, UMass Donahue Institute

Job growth, 2001–2007

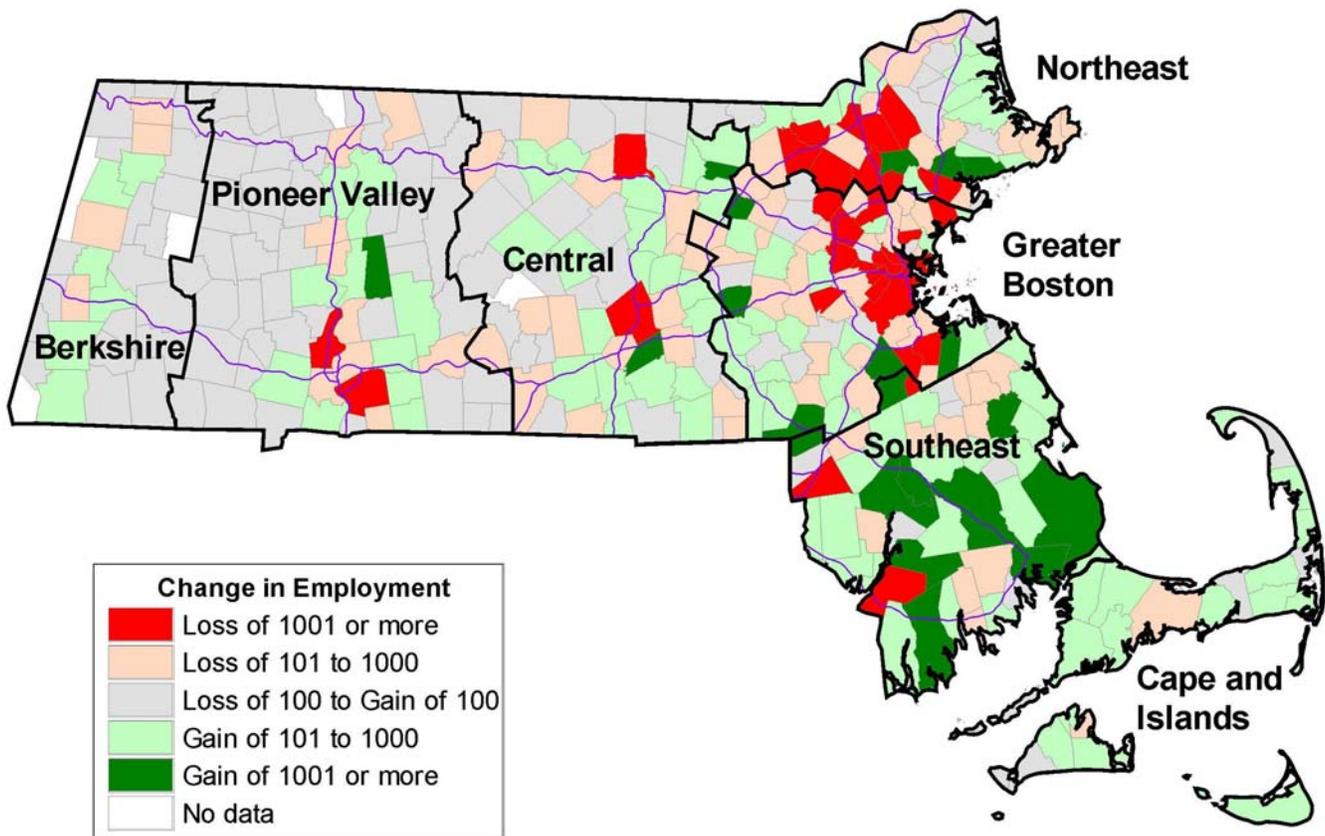
According to Table 2-2 and Figure 2-2, Massachusetts as a whole has experienced a 1.5 percent decline in its job base – down nearly 50,000 jobs – since 2001. Both the Southeast and Cape and Island regions added jobs between 2001 and 2007 while other regions experienced either minimal or negative growth. The greatest percentage increase in employment by region took place in the Cape and Islands region, where covered employment increased by 4.4 percent, or over 4,400 jobs. The greatest growth in absolute terms took place in the Southeast region, which gained 11,295 jobs, (2.9 percent growth) between 2001 and 2007. In contrast, covered employment barely increased in the Berkshire and Central regions and decreased in all of the other regions of the Commonwealth.

Table 2-2. Change in Covered Employment, 2001–2007

Region	2001 Employment	2006 Employment	2007 Employment	Numeric change	Percent change
Berkshire	62,192	62,794	62,836	644	1.0%
Pioneer Valley	288,367	284,092	284,552	-3,815	-1.3%
Central	312,000	311,904	313,073	1,073	0.3%
Northeast	425,742	405,053	410,146	-15,596	-3.7%
Greater Boston	1,660,085	1,584,496	1,612,645	-47,440	-2.9%
Southeast	394,855	406,035	406,150	11,295	2.9%
Cape and Islands	102,534	106,645	107,010	4,476	4.4%
Total	3,245,775	3,161,019	3,196,412	-49,363	-1.5%

Source: MA Division of Unemployment Assistance, ES-202 series

Figure 2-2. Change in Covered Employment by Town, 2001–2007



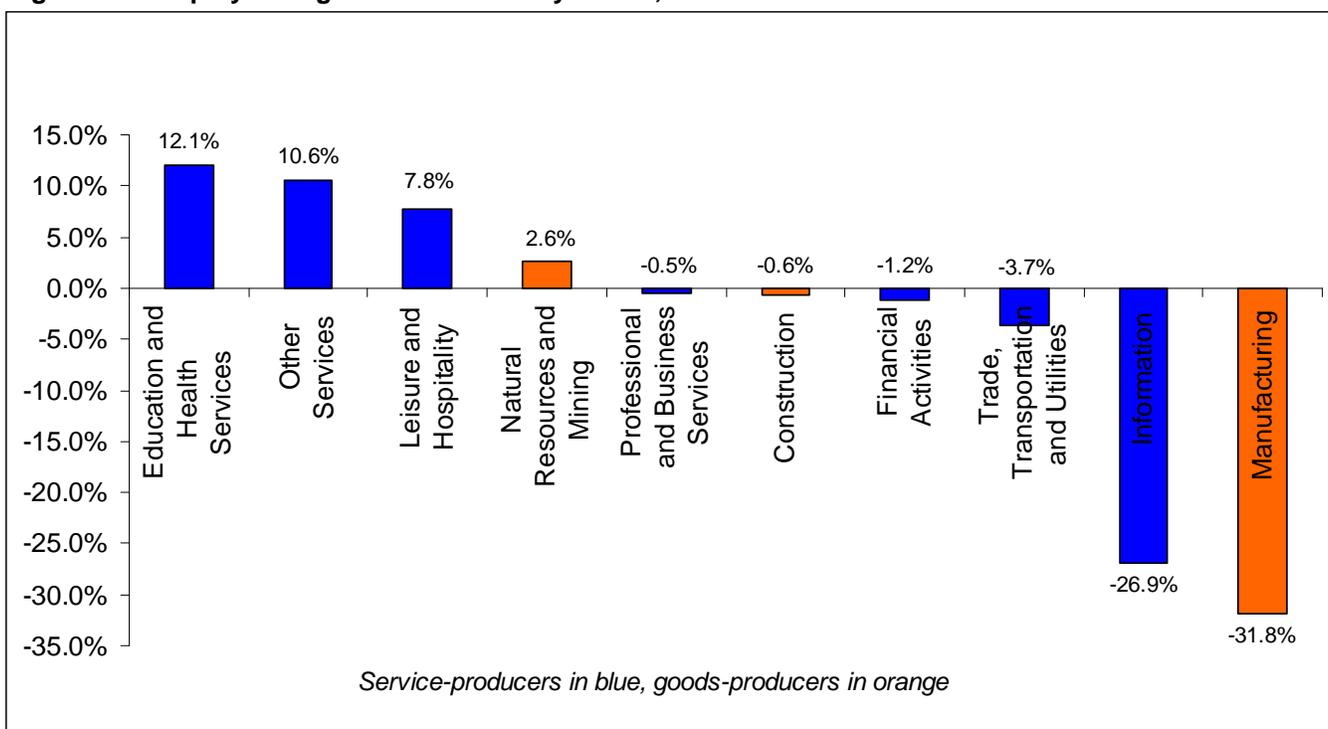
Sources: Massachusetts Executive Office of Labor and Workforce Development ES-202 Data: 2001-2007, MassGIS, UMass Donahue Institute

Note: This map represents unemployment insurance (U.I.) covered jobs within each town.

Employment growth: Sector detail

Between 2001 and 2007, the Commonwealth experienced a 1.3 percent decline in average monthly employment overall. Goods-producing sectors saw an average monthly employment decline of 21.5 percent. Service-providing sectors, on the other hand, had a 2.5 percent increase in average monthly employment over the course of this period. Despite these trends, these numbers only tell part of the story for these sectors, leaving out the variation within the two domains, shown below in Figure 2-3.

Figure 2-3. Employment gains and losses by sector, 2001–2007



Source: MA Division of Unemployment Assistance, May 2008

The majority of the losses within the goods-producing domain came from the manufacturing sectors, which saw a 31.8 percent decline in employment over the period, representing nearly 100,000 jobs. The hardest hit sub-sectors were textile mills and apparel manufacturing, which experienced job losses of 120 percent and 107 percent, respectively. The largest manufacturing sub-sector, computer and electronic product manufacturing, shed 43 percent of its jobs, over 30,000 positions. Chemical

manufacturing was the only sub-sector which added jobs, adding 450 positions from 2001 to 2007. The construction sector is the largest employer within the goods-producing domain, and it remained relatively unchanged, declining -0.6 percent in average monthly employment. Within construction, employment by heavy and civil engineering construction operations declined by 32 percent, losing over 7,000 jobs. Specialty trade construction and building construction added jobs, at 4.7 and 5.3 percent, respectively. Natural resources and mining operations also added jobs, but these sectors comprise a very small percentage of the domain as a whole, and could not offset the losses in manufacturing and construction.

The service-providing domain also experienced variability among its sectors. Average monthly employment within the retail trade sector declined by over 10,000 jobs (2.8 percent decline), led by losses in the food and beverage stores sub-sector of over 2,500 positions (2.9 percent decline). Also within this sector, building materials and garden supply stores added jobs, adding over 1,500 positions. Information technology experienced a 26.9 percent decline, shedding over 7,500 jobs within the internet service provider, search portal, and data processing sub-sector, over 7,000 jobs from the publishing sub-sector, and over 7,500 jobs from telecommunications. Education and health added positions, with educational services adding over 10,000 positions, and hospitals adding over 22,000 positions. Food services and drinking places added over 18,000 jobs, and amusement, gambling and recreation operations added nearly 5,000 jobs.

Labor force trends in the Commonwealth, 2001–2007

Household employment growth

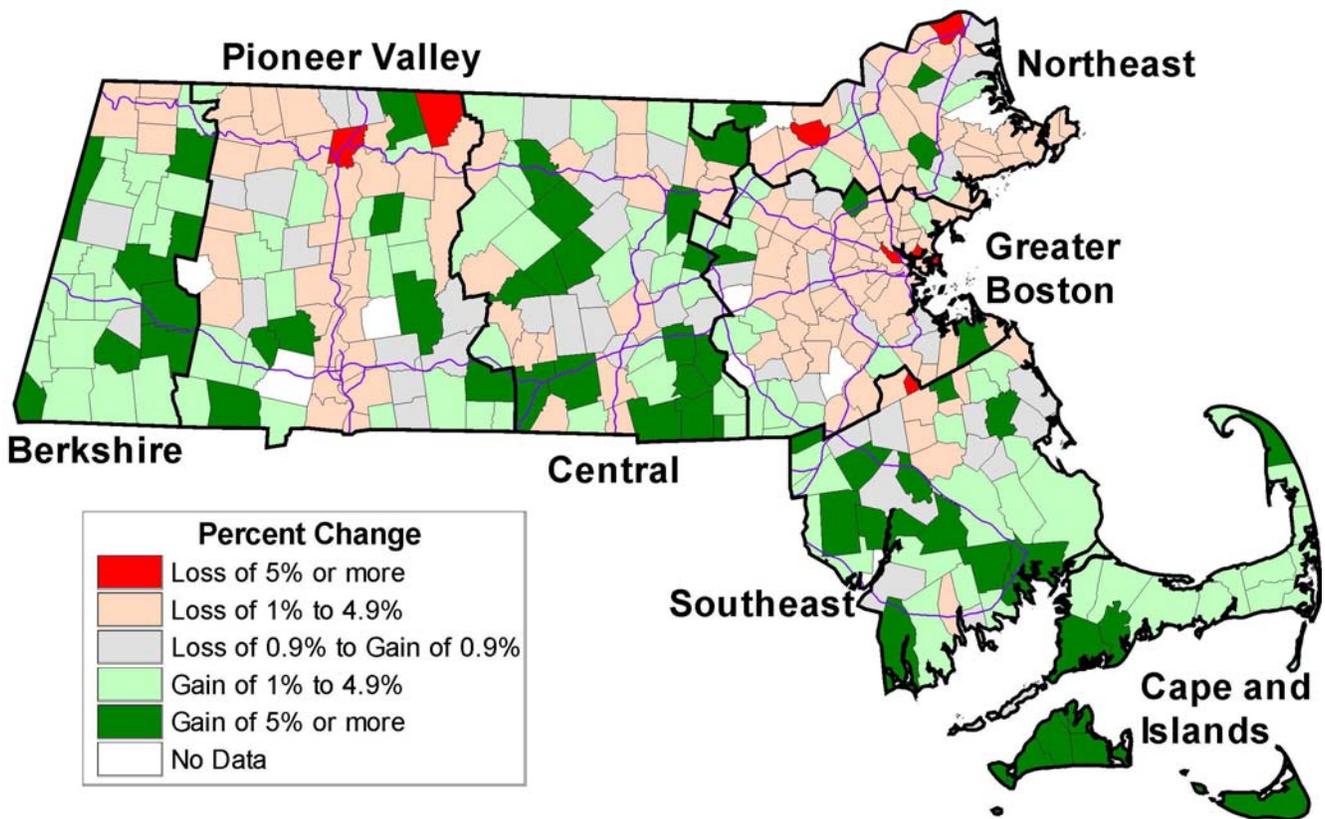
Labor force data (including household employment) is another good indicator of economic activity in a region. In contrast to the *payroll employment* data discussed in the previous section, representing the number of workers on the payrolls of firms and public agencies in a given community, the data discussed in this section are estimates of *household employment*: the numbers of employed individuals in the

households located within a given community. These workers may or may not work in the same community in which they live.¹⁰ The behavior of the labor force in a given community in an important sense reflects the economic prospects of the surrounding region. Over time, the labor force in general, tends to be concentrated in and around the areas with the greatest job concentrations, and the labor force tends to grow in a region when economic prospects are good as prospective workers move into the region to take advantage of available opportunities. Conversely, a decline in household employment within a given community or region typically indicates: 1) employed people have become unemployed or there are fewer earners in a household, and/or 2) employed people have moved away.

The accompanying map, Figure 2-4, illustrates the percent change in household employment growth at the town level between 2001 and 2007. Massachusetts as a whole has experienced a decline in household employment since 2001 (a 0.6 percent decline or nearly 20,000 employed workers). The map illustrates stagnation or actual decline in a large number of Massachusetts communities in the number of people who are working. These household employment numbers show that in some communities the decline has been very modest, but in many cases towns have seen very little growth in working householders.

¹⁰ There are methodological reasons for why household and covered employment data appear inconsistent. For a discussion of these differences see: Sum, Andrew. Employment developments since the end of the recession: conflicting tales from two national surveys. *MassBenchmarks Journal* 6 (4). <<http://www.massbenchmarks.org/publications/issues/vol6i4/7.pdf>>. Accessed August 19, 2008.

Figure 2-4. Change in Household Employment, 2001–2007



Sources: U.S. Bureau of Labor Statistics, LAUS series 2001, 2007, <http://data.bls.gov/PDQ/outside.jsp?survey=la>, MassGIS, UMass Donahue Institute
Note: This map represents people in the labor force who are employed, by town.

Household employment has declined in absolute terms in 162 Commonwealth municipalities since 2001. As shown in the map in Figure 2-4, long swaths of contiguous towns, located along major roads in the Pioneer Valley and Berkshire regions, experienced declining household employment between 2001 and 2007. Household employment has also decreased in parts of the Central Region, especially in the older industrial cities and towns such as the immediate Worcester area, as well as in Fitchburg/Leominster. Household employment losses in the Greater Boston and Northeast regions have affected the majority of towns in each region: 56 out of 75 Greater Boston towns and 29 out of 42 towns in the Northeast have lost household employment. Notably, aside from trends in and around the cities of Brockton, New Bedford and Fall River, the Southeast region along with the Cape and Islands region

appears to have been spared much of the dramatic household employment losses experienced in all other regions of the state.

The cumulative regional effect of labor force growth and decline is illustrated in Table 2-3. While Massachusetts as a whole has experienced a slight decline in household employment since 2001 (a 0.6 percent decline of a little more than 19,700 employed workers), various regions within the Commonwealth are changing at significantly different paces and the growth within regions varies considerably as well.

Table 2-3. Change in Household Employment by Region, 2001–2007

Region	Employment 2001	Employment 2007	Numeric change	Percent change
Berkshire	68,591	69,351	760	1.1%
Greater Boston	1,371,970	1,346,891	-25,079	-1.8%
Cape and Islands	127,712	133,838	6,126	4.8%
Central	375,663	377,226	1,563	0.4%
Northeast	479,438	471,272	-8,166	-1.7%
Pioneer Valley	334,606	332,003	-2,603	-0.8%
Southeast	517,381	525,047	7,666	1.5%
Total	3,275,361	3,255,628	-19,733	-0.6%

Source: U.S. Bureau of Labor Statistics, LAUS series 2001, <<http://data.bls.gov/PDQ/outside.jsp?survey=la>>

Regional household employment growth patterns across the Commonwealth have echoed regional covered employment growth patterns. Both the Southeast and Cape and Islands regions saw increased household employment growth since 2001. The greatest percentage increase in household employment by region took place in the Cape and Islands region, where household employment increased by 4.8 percent, representing over 6,000 workers. The greatest absolute increase took place in the Southeast region, which gained 7,666 household employees (1.5 percent) between 2001 and 2007. In contrast, household employment barely increased in the Central region and decreased in all of the other regions of the Commonwealth. These trends indicate that both the Southeast and the Cape and Islands regions are

indeed growing in terms of regional employment, while all of the other regions are staying level or are experiencing employment decline.

Unemployment patterns

While the Massachusetts unemployment rate has remained relatively low, the unemployment rate has, in fact, increased in the last year from 4.4 percent in July 2007 to 5.1 percent in July 2008. The state rate remained lower than the national rate of 5.7 percent in July 2008.

The unemployment picture becomes more complex when examined at the level of the individual community. Unemployment levels within towns reflect the economic prospects of individual towns and their economic relationships with the larger region. Town-level unemployment typically moves in tandem with employment growth and losses in the town as well as in the closest major job centers. In this regard, increasing and/or high levels of unemployment in a town are an important and reliable indicator of local economic distress or lack thereof.

The map and table that follow (Table 2-4 and Figure 2-5) illustrate that current unemployment rates vary widely among Massachusetts communities, in much the same way that job growth varies by town and region. As the map below shows, as of June 2008, 239 municipalities in the state had unemployment rates at or below the state rate. The remaining 112 communities had unemployment rates higher than the state rate.

Among Massachusetts communities the most recent seasonally unadjusted unemployment rates range from a low of 1.9 percent in Nantucket (reflecting the highly seasonal nature of the economy in that town) to highs of 10.0 percent in urban Lawrence and 10.7 percent in rural Monroe. Given the economic composition of these municipalities, these high rates are less likely to be related to seasonal variation than to general economic distress and economic development challenges. Table 2-4 documents the very high rates of unemployment that exist in a number of Massachusetts cities and towns. In every case, as with

the state rate, these municipal-level unemployment rates have increased over the year since May 2008. Clearly, the Commonwealth's communities and households are contending with an increasingly challenging economic environment.

Table 2-4. Highest Town-Level Unemployment Rates, June 2007–June 2008

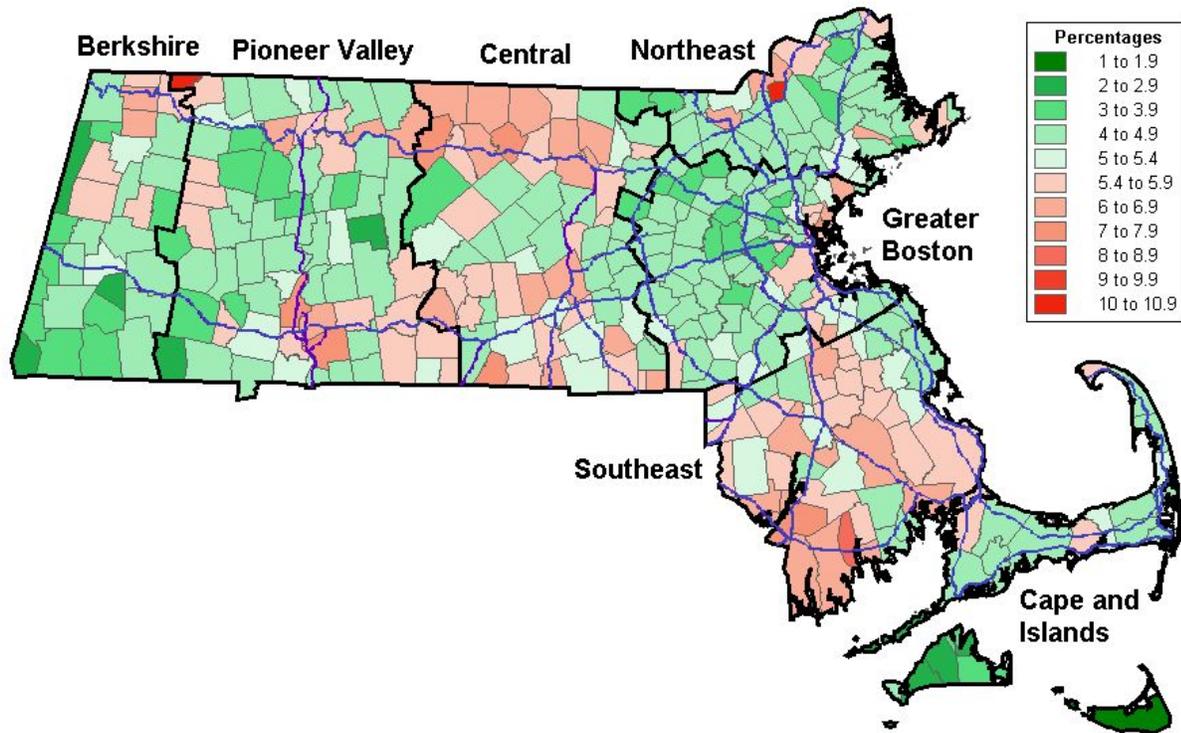
Town	June 2007	June 2008
Monroe	10.7 %	10.7 %
Lawrence	9.2 %	10.0 %
New Bedford	6.9 %	8.3 %
Fall River	6.5 %	7.9 %
Holyoke	6.7 %	7.7 %
Springfield	7.1 %	7.7 %
Gardner	5.9 %	7.3 %
Chelsea	6.5 %	7.1 %
Southbridge	6.0 %	7.1 %
Athol	6.9 %	7.0 %
Lowell	5.9 %	6.9 %
Brockton	6.1 %	6.8 %
Fitchburg	6.3 %	6.8 %
Webster	5.7 %	6.8 %
Fairhaven	5.1 %	6.7 %
Worcester	5.9 %	6.7 %
Lynn	5.8 %	6.6 %
Orange	5.1 %	6.6 %

Source: MA Division of Workforce Development, LAUS series, August 2008 (Data not seasonally adjusted)

Sub-regional unemployment 'hotspots'

Often higher municipal-level rates of unemployment appear throughout entire subregions, highlighting geographic clusters of economic distress, which have persisted over the past several decades. In June 2008, clusters of communities with higher unemployment rates could be found in several subregions including: Northern Berkshire County; the area around Greenfield in the Pioneer Valley; the area in and around Springfield and Holyoke in the southern Pioneer Valley; Northern Worcester County; Southern Worcester County; the area around Lawrence in the Northeast region; and in the Southeast region around New Bedford and Fall River. These areas have never fully recovered from the loss of traditional manufacturing industries.

Figure 2-5. Massachusetts Unemployment Rates by Town, June 2008



Sources: Massachusetts Division of Unemployment Assistance, LAUS Series June 2008, MassGIS
Note: Data are not seasonally adjusted.

Conclusion

This review of recent employment and labor force trends illustrates some of the key components contributing to the current period of economic uncertainty in Massachusetts. The Commonwealth, like the nation as a whole, is experiencing a period of slower growth. As evidenced by the data discussed in this chapter, most regions and many communities are experiencing significant economic distress and difficult labor market conditions. Most regions and the state as a whole have fewer jobs and fewer employed householders in 2007 than in 2001.

These employment and labor force conditions alone will likely present serious challenges for many households in the Commonwealth. Additional factors (discussed in Chapters 4), like income stagnation, cost of living increases, growing housing cost burdens and the credit crunch, have further increased the level of financial pressure at the household level. These factors, combined with current housing market conditions will likely continue to negatively impact affordability. Furthermore, it is likely that weak, and in many case negative, job growth, together with sluggish population growth, will continue to discourage significant new housing production in the near term. In turn, inadequate housing supply in some regions could then further exacerbate slow economic and population growth.

Chapter 3: Current Housing and Market Trends

There are a number of factors weighing on the Massachusetts housing market, including the deterioration of state and national economic conditions and rising foreclosures, which are concentrated in lower income urban communities of color. What the ultimate impact of these evolving conditions will be on the housing market is not entirely clear. However, it is clear that the residential real estate slump will be more sustained than most economists had predicted only a year ago. This chapter describes recent and current market conditions and trends statewide and in the major regions of Massachusetts. It also examines how the condition and recent experience of the Massachusetts housing market compares to that of the nation.

The Massachusetts housing market in the national context

Until the early 1980s, housing prices in the Commonwealth mirrored those of the nation as a whole. Since that time, Massachusetts has been among the states with the highest housing costs, and has experienced the highest rate of home price appreciation of all 50 states. In 1983, the median home price in the Boston metro area was just 15 percent above the median for all metro areas, but four years later it was double the national median price.¹¹

Since 2000, housing markets in many states have experienced double-digit price inflation. The factors that fueled the Massachusetts market – low interest rates, easy credit, and widespread overconfidence that prices would rise indefinitely – were present in many other housing markets across the country. Nevada, California, Arizona, New York, Washington, D.C. and Florida all experienced similar inflation and are now experiencing a market correction.

¹¹ National Association of Realtors, median price of existing single family homes for metro areas.

Table 3-1 compares the price appreciation experienced in the Boston metro area between 2000 and August 2008, as measured by the S&P/Case-Shiller (CS) Home Price index, with a number of other high cost, high appreciation markets. The CS index, which uses a repeat sales pricing technique to assess housing market performance, is widely considered one of the most reliable measures of home price appreciation.¹²

Table 3-1. Home Price Changes January 2000 to August 2008; Boston and other High Cost, High Appreciation Markets

Metro area	Median price existing single family homes (1Q 2008)	Increase in Case Shiller Home Price Index, 2000 to August 2008	Price peak per Case Shiller Index	Percent change since peak
Washington, D.C.	\$371,800	94.9%	May-06	-22.4%
New York	\$445,800	92.8%	Jun-06	-10.7%
Los Angeles	\$459,400	89.2%	Sep-06	-30.9%
Miami	\$318,900	83.5%	Dec-06	-34.7%
San Diego	\$459,000	68.2%	Nov-05	-32.8%
Boston	\$357,700	62.8%	Sep-05	-10.8%
San Francisco	\$701,700	51.4%	May-06	-30.7%

Source: S&P/Case-Shiller Home Price Index, Standard and Poors and Fiserv

Another major index, the Office of Federal Housing Enterprise Oversight (OFHEO) Home Price Index, tracks price changes at the state level. According to OFHEO, the Commonwealth experienced a 66 percent appreciation in home prices for the five years ending December 31, 2005, the year the Massachusetts housing market peaked (ranking 14th among the states). The overall U.S. rate of appreciation for that period was 58 percent. During these years, Florida experienced price appreciation of 107 percent; California 117 percent; Nevada 104 percent; Rhode Island and Maryland 99 percent; Arizona 89 percent; Rhode Island 76 percent; New Jersey 86 percent; and Virginia 83 percent.

¹² The CS index tracks changes in the repeat sales values of residential properties in 20 metropolitan regions across the United States. The most common alternative, the median sales price, which we also report, will fluctuate depending on the mix of properties sold in a given period. It is a good gauge if there are sufficient sales that are representative of the market, less so if a particular type of sale – foreclosure deeds, for example, or a single high-end condominium development – is disproportionately represented.

As shown in Figure 3-1, which compares the year-over-year change in home prices in the Boston metropolitan area with the Case-Shiller composite index of 20 large metro areas, many metropolitan areas continued to experience double digit housing price appreciation for a full year after the Massachusetts housing markets had begun to cool in 2005. By the time the broader composite index turned negative in January 2007, Boston had already registered the steepest year-over-year price decline (5.5 percent) of any of the tracked metro areas except for Detroit. Since then, Boston's rate of decline has hovered between 3.0 and 6.4 percent. Market conditions in many metro areas have continued to deteriorate, and the composite index overall reached its lowest level yet in August 2008 with a 16.6 percent year-over-year drop. By comparison Boston registered its biggest drop – 6.4 percent – in April, and has declined at a slower rate in the months since, with an August year-over-year decline of just 4.7 percent.

**Figure 3-1. Year Over Year Change in Home Prices;
Boston and S&P/Case-Shiller 20-City Composite Index through August 2008**



Source: S&P/Case-Shiller Home Price Index, Standard and Poors and Fiserv

The overheating of the Commonwealth's housing market

It took a number of years for the state's housing markets to recover from the recession of the early 1990s, but once they did, prices escalated rapidly. Greater Boston was the first to recover, posting double-digit price increases from 1998–2002. The Northeast and Southeast regions climbed into the double-digits in 1999, the Central region in 2001 and Pioneer Valley in 2003. Prices in the Berkshire region, a small sales market that has a larger than average second home component, have exhibited greater volatility year to year. The Cape and Islands region, where approximately one third of units are second homes, was exceptional in that home prices there rose by more than 10 percent each year for nine years, from 1997 through 2005.¹³

There were two sets of factors that influenced this dramatic run-up in housing prices. During the mid-to-late 1990s, it was largely local conditions that led to the dramatic increases in rents and home prices. From 2001 to 2006, however, conditions and practices in the broader financial and mortgage markets – including low interest rates, easily available credit, a proliferation of exotic new mortgage instruments and their derivatives, and an expanded secondary market for mortgage-backed securities – that fueled home-buying and price escalation here and elsewhere.

The legacy of lagging production

Between 1995 and 2000, Massachusetts added more than 423,000 new jobs. This economic growth boosted incomes and attracted new workers to the state. Although the state entered the 1990s in a recession, by the end of the decade the number of households had increased by nearly nine percent. The number of net new housing units, however, increased by only six percent.

To accommodate the new household growth while maintaining optimal vacancy rates of 7.4 percent for rental and 1.5 percent for owner housing, Massachusetts would have needed to create about

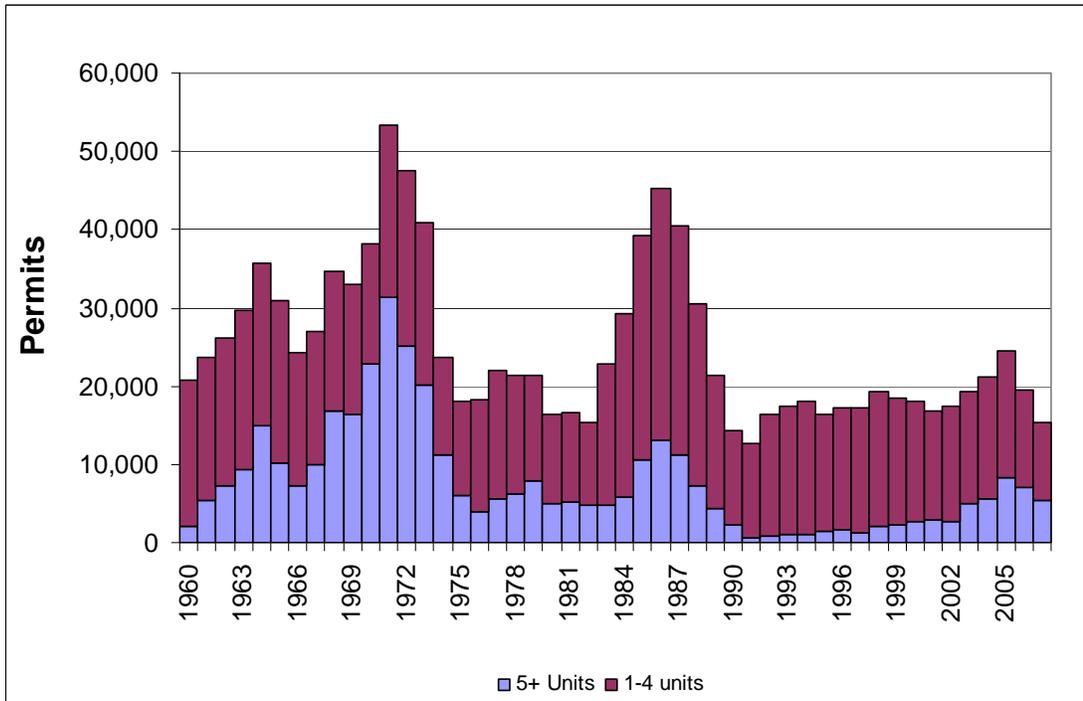
200,000 net new units between 1990 and 2000. It took a long time for production to ramp up following the recession of the early 1990s, however, and the state only gained 150,000 net new units, or 75 percent of what was needed to maintain an adequate supply of housing during this period. *The Massachusetts 2005-2009 Consolidated Plan* identified the following as barriers to new housing development:

- High construction costs, including high labor costs;
 - High cost and relative scarcity of land available for development, especially in the eastern part of the state, and the higher costs associated with building on the marginal sites that are available;
 - Limited infrastructure in many of the Commonwealth’s communities and little incentive for improving roads, water and sewer systems;
 - The elimination of deep federal subsidy programs for low-income housing development, and their replacement by a number of smaller, shallow subsidies, and increases in time delays and transaction costs;
 - Complex or restrictive local zoning and land use controls and processes;
 - Limited planning and organizational capacity at the local level; and
 - Reluctance of communities to allow new residential development, especially affordable housing, because of concerns related to fiscal impact, property values and “community character.”
- Massachusetts’ municipalities have control over most land use decisions, *and* they are responsible for providing and paying for essential public services – including education – largely through local property tax.

Figure 3-2, which shows the number of new housing units permitted annually in Massachusetts, underscores how slow – and limited – the supply-response to rising demand was during the market run-up. While household demand was increasing, new production remained below 20,000 units annually from 1990 through 2003, with only a brief, modest recovery in 2004 and 2005.

¹³ Second home data are from the American Community Survey PUMS 2005/2006.

Figure 3-2. Massachusetts Housing Units Authorized by Building Permits, 1960–2007

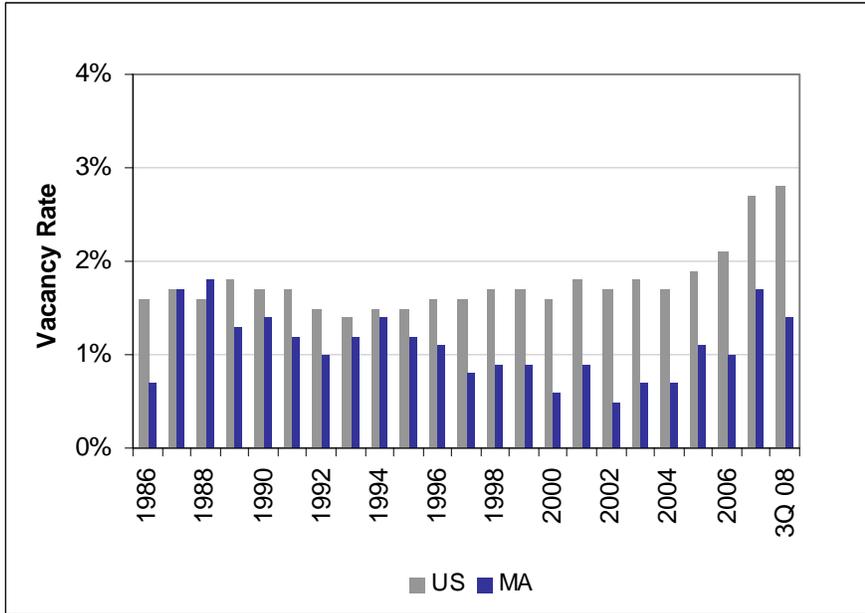


Source: U.S. Census Bureau Survey of Building Permits

Along with building trends, vacancy rates provide a valuable indicator of unmet demand. Vacancy rates fell to the lowest levels in the nation (See Figures 3-3 and 3-4) and home prices and rents, already among the highest, escalated rapidly in the early 2000s. Massachusetts’ rental vacancy rate in 2000 and 2001 fell below four percent, compared to almost eight percent nationally, while the state’s owner vacancy rate hovered between 0.5 and 1.0 percent, compared to the national rate of around 1.5 to 2.0 percent. A study by Harvard’s Joint Center for Housing Studies identified natural vacancy rates – the market equilibrium rates at which real prices can be expected to neither rise nor fall – at around 7.4 percent for rental units and 1.5 percent for owner units.¹⁴

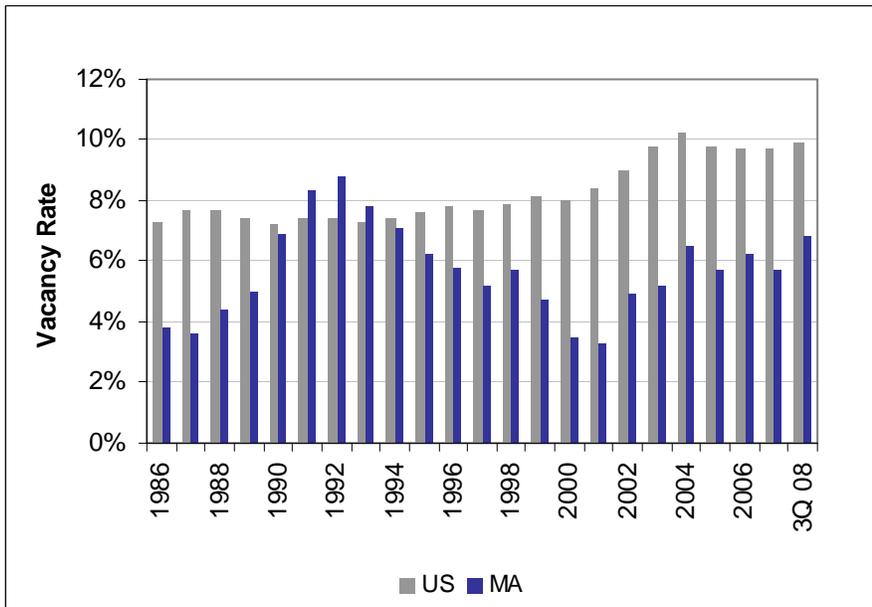
¹⁴ Belsky, et. al. “Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future.”

Figure 3-3. Owner Vacancy Rates, US versus Massachusetts, 1996–3Q 2008



Source: U.S. Census Bureau Survey Annual Vacancy Survey

Figure 3-4. Renter Vacancy Rates, US versus Massachusetts, 1996–3Q 2008



Source: U.S. Census Bureau Survey Annual Vacancy Survey

Slow growth and a weak economy allowed Massachusetts to make up some of its shortfall

Given the state's relatively lackluster economic performance during this first decade of the new century, it is not surprising that households grew by only one tenth of one percent between 2000 and 2006. To accommodate even this modest growth and eliminate the shortfall with which the state entered the 21st century, about 104,000 additional units were required. In fact, Massachusetts netted 87,000 additional housing units (83 percent of what was required) between 2000 and 2006. With production outpacing household growth, vacancy rates in 2006 had risen to 5.3 percent for rental and 1.5 percent for owner housing, still well below the comparable national figures, as Figures 3-3 and 3-4 illustrate.¹⁵ By the third quarter of 2008, they had risen to 6.8 and 1.4 percent, still well below 9.9 and 2.8 percent nationally.¹⁶ The figures underscore how much tighter the Massachusetts market – both rental and ownership – has been compared to the nation as a whole for nearly fifteen years.

After a decade-long run-up, which saw rents in the eastern part of the state increase by 85 percent,¹⁷ rent levels finally moderated between 2001 and 2004. Still, the 2006 American Community Survey (ACS) reported that Massachusetts continued to have the fourth highest median monthly rent in the continental U.S. in 2006 at \$933. The only states with higher median rents were California (\$1029), New Jersey (\$974), and Maryland (\$953). The national median rent in 2006 was \$763.

Loose mortgage lending practices buoy prices for ownership market

Home prices, on the other hand, continued to escalate through the first half of the decade despite the weak economic conditions and slow population growth. Among the reasons for rising prices were that it had become easier to purchase a home, notwithstanding the high and rising prices, and the state faced

¹⁵ UMDI analysis of 2000 Census, American Community Survey 2006, and Bureau of Labor Statistics employment data.

¹⁶ U.S. Census, Current Population Survey/ Housing Vacancy Survey, <<http://www.census.gov/hhes/www/housing/hvs/hvs.html>>. Accessed 11/5/08. Massachusetts second quarter rates are available by request from U.S. Census CPS/HVS.

¹⁷ Reis, Inc. Data are based on rents in professionally managed apartment complexes of 40 or more units in Essex, Middlesex, Norfolk, Suffolk, and Plymouth Counties.

continuing tight housing supply. Affordability is a function of three factors: income, sales price, and financing terms. Even though incomes were stagnant, and home prices were appreciating by double digits annually, low interest rates combined with lax underwriting rules enabled more families to purchase a home than ever before. As was true across the country, families stretched to acquire their first home, or trade up to a more desirable home. An increasing number of borrowers also purchased investment properties with easy credit that was readily available from 2002 through 2006.¹⁸

It is important to understand the impact that different mortgage products had on the income required to qualify for a mortgage. While a homebuyer purchasing at the peak of the market in 2005 would have required an income of nearly \$90,000 to afford the median priced single family home (\$370,000) under conventional underwriting standards – ten percent down payment, debt-to-income ratios of 33 and 38 percent – there were a growing number of alternative mortgage options that would lower the income required, some quite substantially:

- an adjustable 5-1 ARM, for example, would lower the income required to \$84,000;
- an Option ARM, or a 2/28 ARM at a three percent teaser rate, would allow a buyer earning \$68,000 to qualify; and
- the same product but with a 50 percent income allowance for principal and interest – and no escrow requirement for taxes or insurance – could get a buyer into a home with an income of just \$34,000.

¹⁸ Investors and speculators in the housing market increased substantially over the past decade as prices rose. In many markets, their participation fueled the rising prices. Data collected and reported under the Home Mortgage Disclosure Act (HMDA) reveals that lending to non-owner-occupants nationwide rose from about five percent of home-purchase loans in the mid-1990s to about 17 percent in 2005 and 2006. While states such as Florida and Nevada witnessed much greater investor-driven speculation than Massachusetts, a similar trend played out here as the share of home-purchase loans going to investors and second home buyers rose from 5.2 percent to 10.7 percent. *The 2006 HMDA Data*, Avery, Brevoort, and Canner, <<http://www.federalreserve.gov/pubs/bulletin/2007pdf/hmda06final.pdf>>.

Massachusetts, as it turned out, did not need additional households to drive prices up; it just needed additional buyers. It found them among its existing renters and investors for whom real estate was a more attractive option than the stock market.

The role of subprime lending

This extraordinary expansion of credit was the result of a major restructuring of the nation's mortgage delivery system. Between 1996 and 2006 the mortgage industry underwent a dramatic transformation, one made possible by advances in technology, improved access to individual credit histories, increased competition, and the development of a secondary market with an appetite for loans representing the full spectrum of credit risks. The widespread use of risk-based pricing and the associated increase in subprime lending were among the most significant changes. The new products and delivery system enabled individuals – including those with poor or non-existent credit – to buy homes, or to borrow against the equity they had accumulated in their existing homes.¹⁹

Originally subprime lending was confined to the home equity and refinance markets, but by 2003 such loans constituted a larger share of home purchase loans than of refinancings. There were more than 59,000 “high cost” loans made in Massachusetts in 2005 and 40,000 in 2006. These loans accounted for about 20 percent of the state's home purchase loans and 25 percent of refinancings in those years. Subprime lenders originated 19.4 percent of all home-purchase loans made in the state in 2005, up from 12.5 percent in 2004 and just 3.3 percent in 1999. Traditionally underserved markets – low-income census tracts and minority borrowers – were aggressively targeted by many of these lenders.²⁰

¹⁹ Up until that point, consumers had relatively little choice when it came to the terms of their home mortgage. For the most part, they could choose a fixed rate, or an adjustable rate; if they had only a small down payment, they would be required to buy private mortgage insurance. Pricing varied, not by the creditworthiness of the borrower, but by considerations such as the type of loan type requested, the type of structure securing the loan, or whether the borrower intended to occupy the property. Borrowers who met the underwriting criteria for a particular product were approved and generally paid the same price; those who did not, were denied credit.

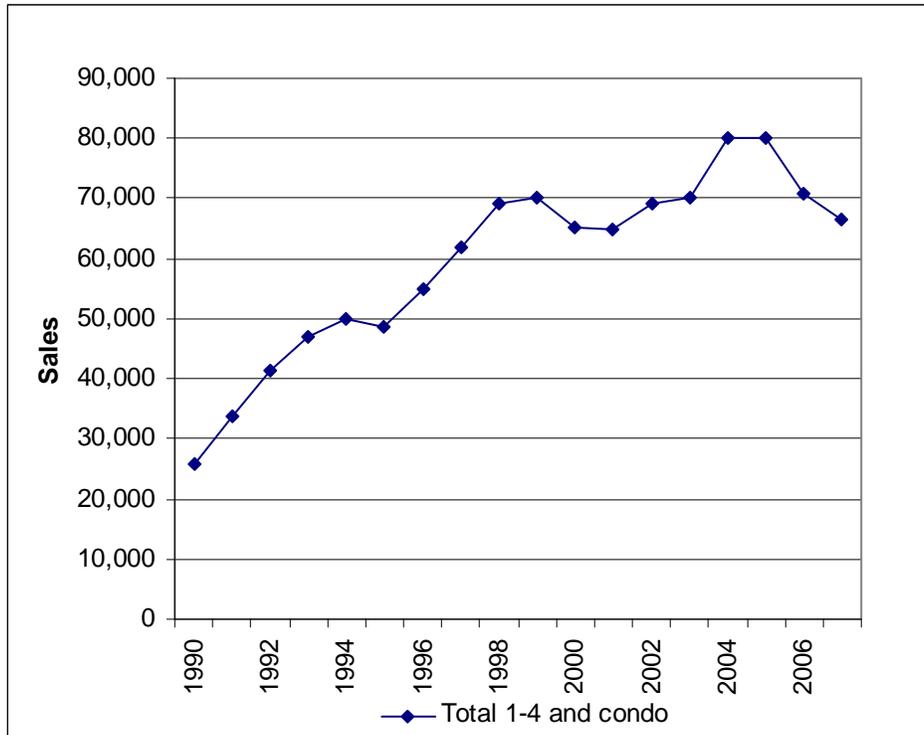
²⁰ *Changing Patterns XIII* and *Changing Patterns XIV*, James Campen, published by the Massachusetts Community and Banking Council, 2006 and 2008.

Between 2001 and 2006 an average of more than 21,000 low-income households per year purchased homes in Massachusetts, representing more than 24 percent of all home purchases during this period; very low-income purchasers alone accounted for five percent of home purchases. Many more low-income homeowners refinanced, often taking cash out at closing, as the value of their homes rose. During 2006 – even after prices had peaked – nearly 104,000 homeowners of all income levels obtained mortgages to refinance, while 77,000 obtained home purchase loans. Nineteen percent of these home purchase loans and 25 percent of the refinancings involved subprime loans.²¹

Middle and upper-income households and investors were able to buy more expensive properties – or buy them sooner than they otherwise could – with the new mortgage instruments, contributing to the rising prices. The number of one to four family homes and condominiums selling annually, which had fallen to below 40,000 per year during the 1991 recession before recovering to nearly 50,000 in 1995, climbed to nearly 80,000 in 2005 (see Figure 3-5).

²¹ *Changing Patterns XIII* and *Changing Patterns XIV*, James Campen, University of Massachusetts Boston, for the Massachusetts Community and Banking Council, 2006 and 2008. These reports are the most recent in a series of detailed annual analyses of Massachusetts mortgage lending patterns based on data reported under the Home Mortgage Disclosure Act.

Figure 3-5. Total Home Sales Reported by the Massachusetts Association of Realtors, 1991–2007



Source: Massachusetts Association of Realtors (MAR)

Falling prices

By the time prices in Massachusetts peaked in the third quarter of 2005, the rate of appreciation had been slowing for more than two years. Single family sales had crested a year earlier, and the supply of available units had risen to its highest level in a decade. Home prices had increased by double digits every year from 1999 to 2004; over a seven year period, they appreciated 113 percent.²² The Commonwealth's 2006 median home value remained second only to California among the 48 continental states (\$370,400 compared to California's \$535,700, and a national median value of \$185,200). The median monthly cost for homeowners with a mortgage (\$1,925) trailed only California (\$2,142) and New Jersey (\$2,130).²³

²² Massachusetts Association of Realtors.

²³ ACS 2006.

As shown in Table 3-2, in most parts of the state, the number of sales peaked in the third quarter of 2004 while prices peaked a year later. The median price of a single family home in Greater Boston, the state's most expensive region, reached \$515,000; in the Berkshires, it topped out at \$216,500.

Table 3-2. Statewide Sales and Price Peaks, September 2005–May 2008

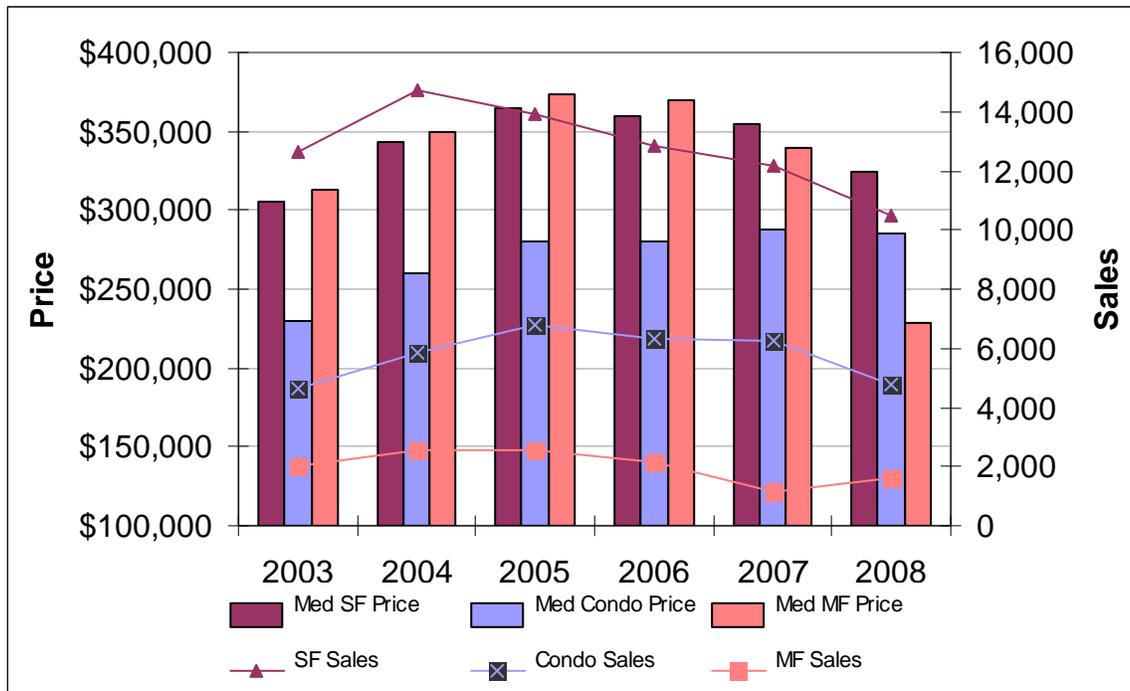
MAR region	Sales peaked	Price peaked	Peak price	2Q 2008 price	Change, peak to 2Q 2008
Cape and Islands	2Q 2004	4Q 2005	\$407,000	\$350,000	-14.0%
Central	3Q 2004	3Q 2005	\$303,500	\$250,000	-17.6%
Greater Boston	3Q 2004	3Q 2005	\$515,000	\$466,000	-9.5%
Northeast	3Q 2004	3Q 2005	\$408,000	\$345,000	-15.4%
Southeast*	3Q 2004	3Q 2005	\$353,465	\$228,869	-35.2%
Pioneer Valley	3Q 2005	3Q 2005	\$218,988	\$209,450	-4.4%
Berkshire	3Q 2005	2Q 2005	\$216,500	\$216,000	-0.2%
MA	3Q 2004	3Q 2005	\$370,000	\$325,000	-12.2%
Case Shiller Index for Greater Boston between September 2005 and May 2008					-12.1%

Source: Massachusetts Association of Realtors (MAR)

*Notes: This table combines the MAR South Shore and Southeast regions into a single region that more closely approximates the MassBenchmarks Southeast region. The MAR Western region is disaggregated into its two sub-regions — Berkshire and Pioneer Valley — to approximate the MassBenchmarks regions. The second quarter 2008 median price for the combined Southeast and South Shore MAR regions reflected a disproportionate number of lower priced sales from the Southeast area; in 2005, sales in the more expensive South Shore area predominated. If the two regions were reported separately here, South Shore would have posted a 16.1 percent decline and Southeast a 13.1 percent decline.

Figure 3-6 shows that the drop in sales and prices has affected all property types: single family, condominium and multi-family (two to four unit) homes.

Figure 3-6. Massachusetts Home Prices and Sales, 2Q2003–2Q2008



Source: Massachusetts Association of Realtors (MAR)

The current market

Today, prices continue to slide as potential homebuyers remain on the sidelines, and homeowners remain unwilling to lower their prices to a point that would clear the market. Twenty-four percent fewer single family homes sold in the second quarter of 2008 than had during the same period in 2005.²⁴ Slow sales also serve to depress new housing starts, which helps to explain why the number of new homes authorized by building permits is down as well. Through the first six months of 2008, 23 percent fewer units had been permitted than had been during the same period a year earlier. This is relatively less weak than the nation, where permits declined by 33 percent during the same period.²⁵

²⁴ The Warren Group Publications.

²⁵ U.S. Census Bureau Building Permit Survey.

Production overhang

Unlike parts of the country that experienced overbuilding, Massachusetts does not have a glut of unsold inventory of newly built homes. Still, its homebuilding industry has been impacted by the downturn. A detailed review of building permit and other public records reveals that much of the state's recent housing production was concentrated in three market segments: market rate condominiums, age restricted (55 and over) housing, and high-end rentals. At least some recent developments in all three categories have struggled in the current market to match demand to the supply.²⁶ Age restricted developments can only succeed if purchasers are able to sell their existing homes, and declining prices in the single family market have meant that first time homebuyers and others for whom a condominium was a less desirable route to homeownership now have more choices. In any case, few are buying. With so many on the sidelines, many developers have found it difficult to move their inventory. A number of mortgage defaults and distress sales of permitted or partially completed projects have been recorded in the past year, and buyers are being sought for many others.

That it is taking longer for new homes to sell is a national phenomenon. According to the Census and HUD the amount of time required to sell a newly constructed home nationally rose from 4.3 months in 2006 to 6.2 months in 2007 to 8.4 months in June 2008.²⁷ In light of continuing housing shortages in many parts of the state and in many market segments, it can be expected that the Massachusetts housing market may recover more quickly than in states where overproduction of new units was a factor. The National Association of Realtors 2007 Homebuyer profile (a summary of which is included in Appendix 2-1) reported that just 11 percent of Massachusetts homebuyers purchased a newly constructed home compared to 23 percent nationally.

²⁶ "Market rate" in this context is a relative term. Among the newly constructed condominiums in downtown Boston that are experiencing sluggish sales are units in the \$400-700,000 range. In many outlying areas, it could include those priced in the \$300,000 range.

²⁷ *U.S. Market Conditions*, Spring 2008.

An analysis of building permits and other public records reveals that on the rental side, approximately 28,000 new units were built or started since 2000. While most of these include a sizable (15 to 25%) affordable component as a condition of their permitting, generally they represent the high end of the market. While the market fundamentals remain strong for rental housing, demand has yet to catch up with supply in markets to the north and west of Boston, and many of the new properties are carrying higher levels of vacancy than the market overall. Adding to the current Class A rental inventory are units in properties that were undertaken as condominiums that have been repositioned as rentals because of softness in the mid-priced (\$300,000 to \$600,000) market. The rental market is discussed in more detail later in this chapter.

Paralysis in the existing market

Rather than an overproduction of new homes, which has occurred in many of the nation's housing markets, real estate observers say that what has stalled sales in Massachusetts is the continuing standoff between would-be buyers who think that the market will drop further, and would-be sellers with inflated expectations of their property's value. The prolonged real-estate slump, along with higher fuel prices and a shrinking job market, is keeping many consumers on the sidelines. Compounding the problem, interest rates and credit standards have risen.

For most of the Commonwealth's long term owners, the current market downturn is unlikely to erode the substantial gains they have enjoyed over the term of their ownership, but the psychological impact is enormous. (A price decline of 22 percent would drop prices back to their 2000 level.) Many homeowners, who had contemplated selling, are unwilling to lower their asking price because they believe their property is worth what similar properties fetched in the summer of 2005. Rather than reduce their asking price, they may take the house off the market or let it languish with an unattainable price tag.

Recent prices and sales, shown in Table 3-3, suggest that the market has yet to bottom out. Prices and sales were down year-over-year in June, while the number of days properties were staying on the market was up. The number of listings declined somewhat but, because there are fewer buyers in the market, the months of supply (representing how long it would take to sell the current inventory) has risen. Real estate professionals consider the Massachusetts market to be in balance when there is a 7.5 to 8.5 month supply.

Table 3-3. Changing Market Conditions Statewide, June 2003–June 2008

Single Family	Median Price	# of Listings	Monthly Sales	Monthly Supply	Days on Market
Jun-03	\$319,100	31,108	4,851	6.4	NA
Jun-04	\$360,000	29,712	6,051	4.9	NA
Jun-05	\$373,500	35,820	6,115	5.9	84
Jun-06	\$370,000	44,175	5,276	8.7	111
Jun-07	\$364,000	37,498	4,963	7.6	126
Jun-08	\$334,900	35,516	4,225	8.4	129

Condominium	Median Price	# of Listings	Monthly Sales	Monthly Supply	Days on Market
Jun-03	\$234,700	10,348	1,612	6.4	NA
Jun-04	\$265,000	11,662	2,329	5.0	NA
Jun-05	\$287,000	15,362	2,781	5.5	66
Jun-06	\$283,500	21,150	2,440	8.9	98
Jun-07	\$296,000	16,999	2,355	7.2	124
Jun-08	\$295,000	15,189	1,876	8.1	140

Source: Massachusetts Association of Realtors (MAR)

When economists say that home prices in a declining market are “sticky downward” it means that it takes a while for sellers to adjust their expectations to conform to the realities of a declining housing market. It is not uncommon for sellers who have overpriced their home relative to prevailing conditions to let it languish on the market for an extended period, or take it off the market in the hope that conditions will improve. Table 3-4 shows the number of single family homes sold in 2007 in the Massachusetts counties covered by the Multiple Listing Service Property Information Network – the state’s largest multiple listing service – by price range, comparing the original asking price and final sales price. As this table indicates, at least through last year, most of the homes that sold did so at prices that were within

eight percent of their original asking prices. The exceptions were properties at the very lowest and very highest price points.

Table 3-4. Original Asking Price versus Selling, Homes Sold Through the MLS 2007

Price range	Greater Boston			Southeast			Central			Pioneer Valley			Northeast		
	# Sales	Avg selling price	Selling price: orig price	# Sales	Avg selling price	Selling price: orig price	# Sales	Avg selling price	Selling price: orig price	# Sales	Avg selling price	Selling price: orig price	# Sales	Avg selling price	Selling price: orig price
Under \$150K	70	\$123,541	66%	127	\$119,889	77%	292	\$117,139	81%	880	\$116,243	89%	52	\$125,934	78%
\$150 - \$199.9	230	\$178,163	84%	411	\$179,482	86%	788	\$178,024	90%	1,334	\$174,357	94%	165	\$176,428	86%
\$200 - \$249.9	707	\$228,631	88%	1,097	\$226,232	90%	1,305	\$225,481	92%	1,004	\$223,266	93%	419	\$226,923	89%
\$250 - \$299.9	1,535	\$275,855	90%	1,448	\$273,640	91%	1,020	\$272,115	93%	637	\$272,800	93%	633	\$275,975	91%
\$300 - \$349.9	2,351	\$324,793	93%	1,178	\$322,555	93%	698	\$322,918	93%	382	\$322,389	93%	753	\$323,313	91%
\$350 - \$399.9	2,177	\$372,873	93%	813	\$371,188	93%	486	\$372,991	93%	271	\$371,064	94%	586	\$373,020	92%
\$400 - \$449.9	1,679	\$421,838	93%	575	\$422,425	91%	323	\$422,301	94%	147	\$420,834	94%	412	\$421,818	92%
\$450 - \$499.9	1,195	\$472,822	93%	383	\$471,835	92%	237	\$473,111	95%	81	\$474,333	93%	337	\$473,721	92%
\$500 - \$599.9	1,697	\$544,588	93%	442	\$542,009	92%	303	\$544,232	94%	86	\$542,387	90%	485	\$545,432	91%
\$600 - \$699.9	1,157	\$643,731	94%	256	\$642,758	91%	160	\$644,687	93%	51	\$640,348	91%	302	\$643,324	92%
\$700 - \$799.9	746	\$747,201	94%	128	\$740,012	92%	73	\$747,281	93%	10	\$729,126	96%	193	\$744,341	93%
\$800 - \$899.9	538	\$845,879	94%	93	\$846,394	92%	43	\$846,977	94%	8	\$844,375	95%	97	\$841,720	92%
\$900 - \$999.9	309	\$942,958	92%	61	\$944,029	76%	24	\$938,836	89%	1	\$900,000	70%	63	\$940,009	89%
\$1M and Over	1,270	\$1,661,084	89%	161	\$1,428,516	89%	32	\$1,339,287	87%	4	\$1,118,750	80%	191	\$1,761,609	88%

Source: MLS Property Information Network

Note: Counties were aggregated to approximate Benchmark Regions. Comparable MLS data were not available for the Berkshire and Cape and Islands regions.

No area of the state has escaped the current market downturn, but some regions and property classes are experiencing greater softness than others, as illustrated by Table 3-5. This table, also based on information provided by MLS Property Information Network, shows how key market indicators changed between April 2005 and April 2008. In all three categories – single family, condominium, and multi-family (two to four unit) properties – the number of *listings* and the number of days on the market are up

and the median price is down from the same period three years earlier. The steepest price declines have occurred in multi-family (two to four unit) properties, with the exception of the Pioneer Valley.

Table 3-5. Changing Market Conditions Based on MLS Listings, by County, 1Q 2005 versus 1Q 2008

April 2005	Single family			Condominiums			Multi-family*		
	# Listings	Median asking price	Days on market	# Listings	Median asking price	Days on market	# Listings	Median asking price	Days on market
Northeast	2,187	\$489,900	111	1,366	\$294,900	119	616	\$387,750	100
Pioneer Valley	1,652	\$249,900	116	313	\$194,995	101	382	\$184,000	92
Central	2,951	\$334,900	125	801	\$259,900	92	547	\$299,900	93
Greater Boston	5,408	\$509,900	97	4,119	\$369,900	88	1,302	\$529,000	78
Southeast	3,867	\$399,900	125	882	\$284,900	109	638	\$354,900	102
April 2008	Single Family			Condominiums			Multi-Family*		
	# Listings	Median asking price	Days on market	# Listings	Median asking price	Days on market	# Listings	Median asking price	Days on market
Northeast	3,048	\$419,900	167	1,951	\$254,900	207	1,128	\$269,000	161
Pioneer Valley	2,974	\$235,950	167	595	\$209,900	205	837	\$173,000	183
Central	4,919	\$287,000	190	1,616	\$209,900	206	977	\$224,900	185
Greater Boston	7,812	\$429,900	151	7,261	\$325,000	146	2,334	\$399,000	144
Southeast	6,078	\$349,900	182	1,610	\$244,900	230	1,152	\$269,900	195
Change	Single Family			Condominiums			Multi-Family*		
	# Listings	Median asking price	Days on market	# Listings	Median asking price	Days on market	# Listings	Median asking price	Days on market
Northeast	39.4%	-14.3%	50.5%	42.8%	-13.6%	73.9%	83.1%	-30.6%	61.0%
Pioneer Valley	80.0%	-5.6%	44.0%	90.1%	7.6%	103.0%	119.1%	-6.0%	98.9%
Central	66.7%	-14.3%	52.0%	101.7%	-19.2%	123.9%	78.6%	-25.0%	98.9%
Greater Boston	44.5%	-15.7%	55.7%	76.3%	-12.1%	65.9%	79.3%	-24.6%	84.6%
Southeast	57.2%	-12.5%	45.6%	82.5%	-14.0%	111.0%	80.6%	-24.0%	91.2%

* Multi-Family includes 2-4 unit properties

Source: MLS Property Information Network

Note: Counties were aggregated to approximate Benchmark Regions. Comparable MLS data were not available for the Berkshire and Cape and Islands regions.

Table 3-6 presents data from the Massachusetts Association of Realtors on properties *sold* during the first quarters of 2005 and 2008. These data reveal a similar trend: the number of sales was down in all property classes and all regions, while prices dropped in most. An exception was Western Massachusetts where the median sales prices rose, most likely reflecting the mix of properties sold and/or the fact that prices there were never as inflated to begin with.

Table 3-6. Sales and Median Prices, by Region, 1Q 2005–1 Q 2008

1st Quarter 2005 Sales Reported by the MA Association of Realtors						
Region	Median selling price			# Properties sold		
	Single family	Condo	2-4 Family	Single family	Condo	2-4 Family
Cape and Islands	\$385,000	\$261,100	\$430,000	773	188	29
Central	\$283,000	\$196,900	\$287,200	1,615	453	282
Greater Boston	\$465,000	\$339,000	\$500,000	1,813	1,737	634
Northeast	\$380,000	\$229,800	\$365,500	1,639	967	364
Southeast*	\$332,002	\$240,154	\$350,464	1,601	551	291
Berkshire	\$210,000	\$195,000	\$125,000	186	20	45
Pioneer Valley	\$188,500	\$135,000	\$165,000	977	171	263
1st Quarter 2008 Sales Reported by the MA Association of Realtors						
Region	Median selling price			# Properties sold		
	Single family	Condo	2-4 Family	Single family	Condo	2-4 Family
Cape and Islands	\$357,500	\$263,750	\$240,000	595	147	11
Central	\$250,000	\$187,500	\$180,000	959	247	160
Greater Boston	\$433,250	\$345,000	\$380,000	1,350	1,336	321
Northeast	\$340,000	\$222,750	\$218,500	1,177	530	224
Southeast*	\$295,254	\$217,829	\$225,919	1,258	339	185
Berkshire	\$215,000	\$235,000	\$167,500	159	15	4
Pioneer Valley	\$196,750	\$143,900	\$165,000	684	153	128
Percent Change, 1st Quarter 2005 - 1st Quarter 2008						
Region	Median selling price			# Properties sold		
	Single family	Condo	2-4 Family	Single family	Condo	2-4 Family
Cape and Islands	-7.1%	1.0%	-44.2%	-23.0%	-21.8%	-62.1%
Central	-11.7%	-4.8%	-37.3%	-40.6%	-45.5%	-43.3%
Greater Boston	-6.8%	1.8%	-24.0%	-25.5%	-23.1%	-49.4%
Northeast	-10.5%	-3.1%	-40.2%	-28.2%	-45.2%	-38.5%
Southeast*	-11.1%	-9.3%	-35.5%	-21.4%	-38.5%	-36.4%
Berkshire	2.4%	20.5%	34.0%	-14.5%	-25.0%	-91.1%
Pioneer Valley	4.4%	6.6%	0.0%	-30.0%	-10.5%	-51.3%

Source: Massachusetts Association of Realtors (MAR)

*Notes: This table combines the MAR South Shore and Southeast regions into a single region that more closely approximates the *MassBenchmarks* Southeast region. The MAR Western region is disaggregated into its two sub-regions — Berkshire and Pioneer Valley — to approximate the *MassBenchmarks* regions. The second quarter 2008 median price for the combined Southeast and South Shore MAR regions reflected a disproportionate number of lower priced sales from the Southeast area; in 2005, sales in the more expensive South Shore area predominated. If the two regions were reported separately here, South Shore would have posted a 16.1 percent decline and Southeast a 13.1 percent decline.

Compared with those on the market three years earlier, the distribution of properties listed with the MLS in the Spring of 2008 by type *and price range* underscores how broad-based the market deterioration has been. It also illustrates the impact of the growing number of distress sales in most markets. While Table 3-6 shows comparisons of sales and median prices by region, more detailed figures are included in Appendix 2-2 for the Boston, Northeast, Southeast, Central, and Pioneer Valley markets. The surge in listings under \$200,000, shown in this appendix, is likely evidence of increasing distress sales. Several of the real estate professionals and housing practitioners interviewed for this report cautioned that many of these properties are in poor repair and will require substantial investment to return them to habitability.²⁸

Even taking into account that many of the most affordable offerings may need substantial improvements, opportunities have improved considerably for buyers who are able to line up financing. This includes opportunities to purchase newly-constructed single family homes and moderately priced townhouses. A soft market generally brings opportunities for ready buyers; however, in the current market, more restrictive lending requirements are making it more difficult for some buyers to capitalize on those opportunities. In addition, examination of current listings revealed that a significant share of the moderately priced inventory (\$300,000 to \$400,000), particularly in the Central and Southeastern regions, is restricted to households where one or more member is aged 55 or over. Prior research has shown that communities have been more willing to approve development of age restricted housing than family housing.²⁹ Some observers believe the age restricted active adult housing was over built, for even the most optimistic market conditions.³⁰ In any case, since most of those who would purchase a new home in an age restricted development must first sell their existing home, they too have become ensnared in the market downturn. As a result, this market segment has become log-jammed.

²⁸ Key informant interviews with author, B. Heudorfer.

The state of the Commonwealth's rental market

Fifty-four percent of Massachusetts tenants live in one to four unit family properties, and nearly half of the remaining renters live in public or subsidized housing. The particular challenges faced by these tenants are discussed in Chapter 5, The Housing Safety Net. This section looks at the conditions and market forces that influence private rental developments. Unless otherwise noted, the rental trends in this section are based on industry surveys of professionally managed properties of forty or more units in eastern Massachusetts, a region that consists of Essex, Middlesex, Norfolk, Suffolk, and Plymouth counties. This region represents a major component of the state's new residential construction in recent years, bringing new investor capital to Massachusetts. According to ACS estimates, fifty or more unit buildings represent roughly between 17 to 28 percent of rental units in the Greater Boston Benchmarks region.

Rental trends in eastern Massachusetts

Between 1994 and 2001, an increase in renter households, a loss of rental units through condominium conversion and very little new multi-family construction contributed to a dramatic rise in rent levels in eastern Massachusetts. By 2001, rental vacancy rates in eastern Massachusetts had fallen to between two and three percent compared to the natural 7.4 percent rate, and rents climbed by nearly 70 percent.³¹ Figure 3-7 illustrates these trends. The figure documents a slight decline in effective rent levels in 2002 and 2003, but the declines were extremely modest compared to the earlier escalation in prices. Effective rents, which this figure presents along with asking – or stated – rents, take into account

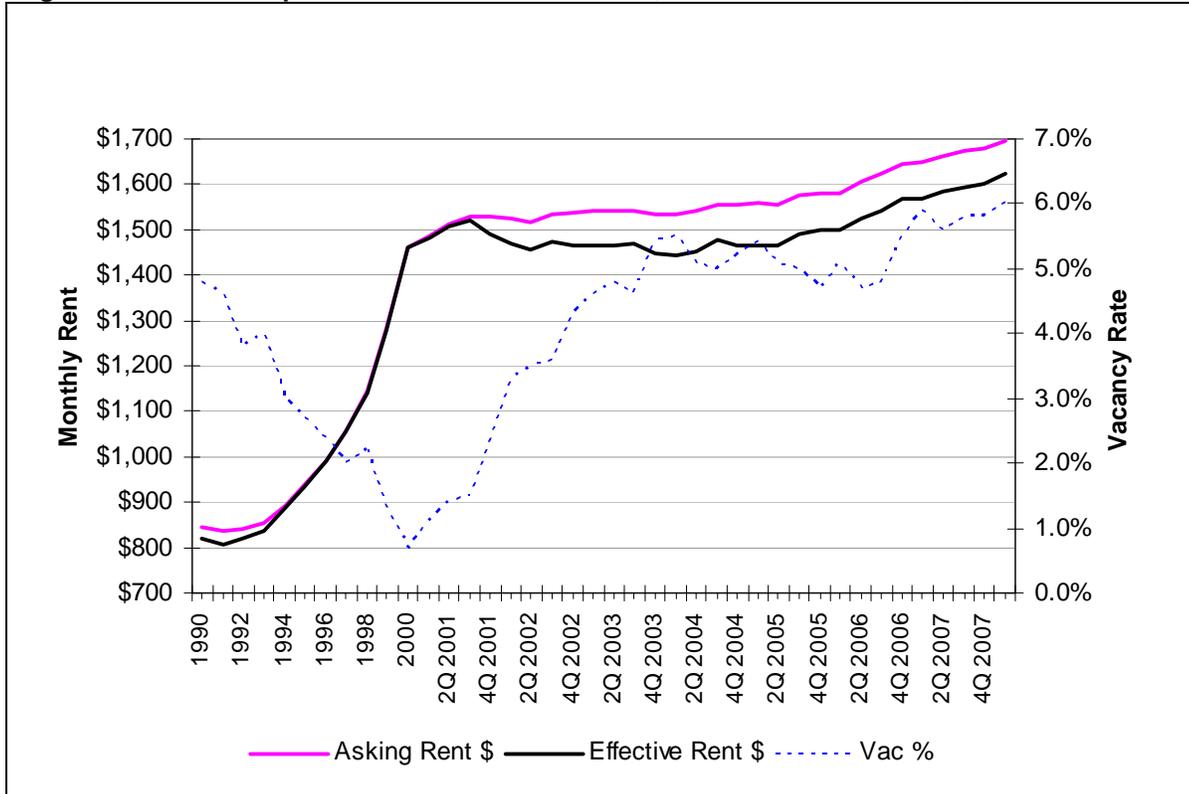
²⁹ B. Heudorfer for *Citizens Housing and Planning Association, Age Restricted Active Adult Housing in Massachusetts: A Review of the Factors Fueling its Explosive Growth and the Public Policy Issues it Raises.* June 2005. <<http://www.chapa.org/pdf/AgeRestrictedHousinginMA.pdf>>. Accessed 10/7/08.

³⁰ Key informant interviews with author, B. Heudorfer.

³¹ Data provided by Reis, Inc., a market research firm that analyzes commercial real estate trends nationwide, by metropolitan area. The Reis database for the Boston metro area includes competitive apartment rental properties in complexes of 40 or more units in Essex, Middlesex, Norfolk, Suffolk, and Plymouth counties.

any concessions provided by the landlord, such as a month's free rent.³² Rents began to pick up again by the end of 2004. While prices remain very high, since 2005 the multi-family housing market in eastern Massachusetts has moved closer to equilibrium, with vacancies in the five to six percent range and rents increasing at a moderate two to three percent per year.

Figure 3-7. Historic Apartment Rent and Vacancies, Eastern Massachusetts, 1990–2008



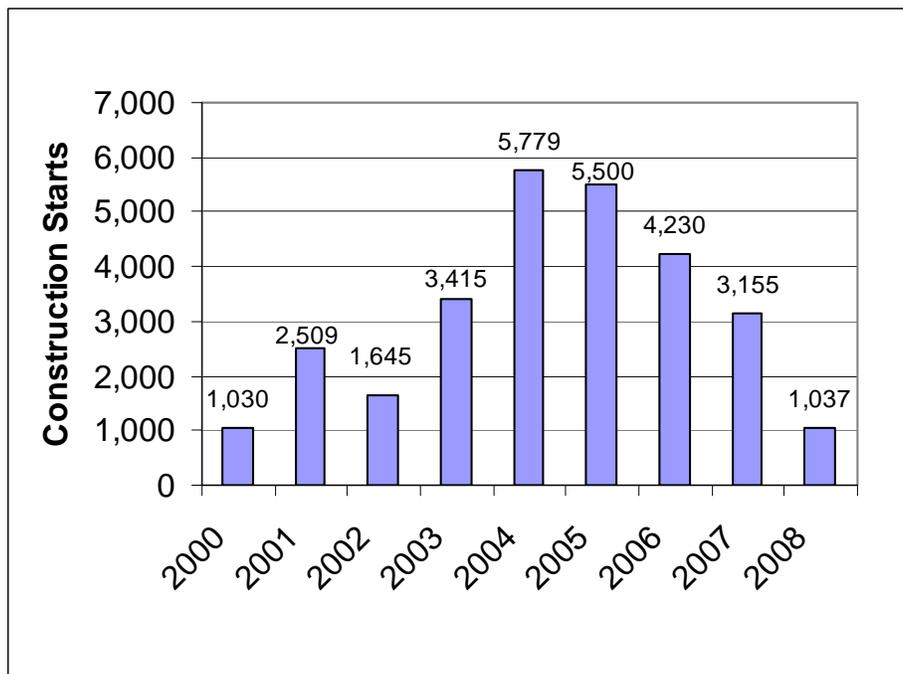
Source: Reis, Inc.

³² In tight markets asking rents and effective rents are typically the same. When the market is softer, as in 2002 and 2003, or when substantial new inventory is being delivered as has been the case since, there is about a five percent differential between asking and effective rents. During the initial lease-up of new developments prospective tenants may be offered inducements such as one or two months of free rent. While such concessions are quite common in properties being offered for the first time, several owners and rental agents we spoke with noted there is less room for negotiation now in the existing inventory.

New production

Since 2000, more than 28,000 new multi-family (5 plus unit) rental units have been created in Massachusetts,³³ a remarkable turnaround from the decade of the 1990s when fewer than 1,000 new units statewide were produced each year. The new construction has invigorated what had been one of the nation's oldest multi-family rental housing inventories. By 2004, multi-family rental production was at its highest level since 1987. Figure 3-8 illustrates the rapid rise and fall of the state's short-lived rental boom.

Figure 3-8. Rental Unit Starts, 2000–June 2008



Source: B. Heudorfer Database of building permits, public records; B. Heudorfer Interviews

³³ B. Heudorfer analysis of data from Census Building Permit Survey, municipal planning departments, 40B permits, developers and housing organizations. Includes units currently under construction.

The substantial new multi-family rental development was concentrated in eastern Massachusetts – the Greater Boston and Northeast regions, in particular, and Southeast and Central to a lesser degree. Thirty percent of the new construction occurred in Boston, Cambridge and Quincy, with substantial production as well in other inner core communities.

Offsetting conversions

Since 2000, the competitiveness of the Commonwealth’s existing rental stock also benefited from an infusion of new capital. Much, though by no means all, of the investment was made with an eye toward conversion into condominiums. The price of rental properties (including small two to four unit buildings) soared between 2003 and 2005 as condominium converters paid substantial premiums for properties that could be quickly upgraded and sold to investors and homebuyers who were otherwise priced out of the ownership market. In Greater Boston, it is likely that the conversion of nearly 4,000 existing rentals to condominiums during the middle of the decade buoyed rental occupancy rates at a time when thousands of new units were coming on the market and the number of renters was declining.³⁴

By the end of 2006, most of the converters had exited the business, but because of the current weakness in the condo market, there are now numerous partially sold condominiums, including many in Class B and C (lesser condition, fewer amenities) properties. Some converters and investors who paid a premium for apartment projects are trying, with varying levels of success, to unload them and/or manage them as rentals.³⁵

While condo conversions have waned, industry analysts consulted for this study report that investment in rental properties is still strong. According to these industry analysts, those seeking to purchase existing apartments today, for the most part, are looking for tenanted properties with a

³⁴ Northeast Apartment Advisors, *Market Trends*, Spring 2006.

³⁵ Key informant interviews with author, B. Heudorfer.

reasonable cash flow and potential for appreciation or properties to which they can make some improvements, or otherwise add value, and increase rental income. Even with substantial new production still to be absorbed, Massachusetts remains an attractive market for investors of existing rental property, as permitting approval processes make building difficult. Long term owners still find receptive buyers, often large national players, willing to pay top dollar for existing properties.

Condo conversions are now adding to the rental inventory

Just as the conversion of existing properties removed apartments from the rental inventory between 2003 and 2006, the conversion of recently completed projects – and some still under construction – are now adding to the supply. Because of the downturn in the homeownership market, some multi-family developments that were intended to be condominiums are now being repositioned as rentals, at least in the short term. Particularly hard hit were projects offering moderate or mid-priced units that commenced construction in 2006. Public records and interviews with developers and realtors provide evidence of hundreds of such units that are now being offered for rent in all four major eastern Massachusetts regions, from Boston to Brockton and Abington, Everett and Peabody, and as far west as Westborough and Worcester. The price range of the units most affected varies by market. In the Boston condominium market, a moderately priced new unit can run anywhere from \$400,000 to \$700,000; in a suburban location, it might include units in the \$300,000 range. A typical scenario would be one where a unit with an intended sales price of \$300,000 is offered for rent at \$1,600 to \$1,700.³⁶

³⁶ Key informant interviews with author, B. Heudorfer.

Rental market outlook for eastern Massachusetts

The Greater Boston rental market – generally defined by the industry as Suffolk, Middlesex, Norfolk, Essex, and Plymouth Counties – continues to exhibit good apartment fundamentals. Among its attractions for apartment developers are a well balanced economy and large college, graduate student, and young professional populations that turn over regularly. This turnover enables landlords to reset rents frequently. In addition, high home purchase prices and barriers to entry suggest that the potential for long-term appreciation will continue. There remains a substantial inventory in the production pipeline, most of it high-end product, but it is notoriously difficult to bring projects to fruition, even under advantageous economic conditions.³⁷

Comparing rents in the Boston, Worcester and Springfield markets

Although the Massachusetts apartment market is dominated by the concentration of renters in the Greater Boston region, rent trends were analyzed in the other regions as well. Rent levels and shifts in the market of each of the seven regions are included in Appendix 2-3. This section highlights current similarities and differences among the Boston, Worcester and Springfield markets.

Data from several sources were compiled to evaluate market conditions in the regions. Reis, Inc., a national source of commercial real estate trends and analytics, provided rent and vacancy data for the Greater Boston, Worcester and Springfield rental markets. Reis' quarterly surveys of professionally managed apartment complexes of 40 or more units provide a highly credible overview of the market in these three areas. Reis tracking for Worcester and Springfield are only available from 2005 forward. HUD fair market rents (FMRs) were also tracked over time. HUD calculates its FMRs based on regional surveys of recent movers. The HUD FMRs reflect a broader range of housing options including one to

³⁷ Ibid.

four family dwellings, and have the advantage of estimating rents by bedroom size. The drawback to the HUD data is that when the market is moving sharply up or down, they tend to lag – and then lurch ahead.³⁸ The regional data presented in Appendix 2-3 utilize these HUD fair market rents, which represent the industry standard for small market areas.

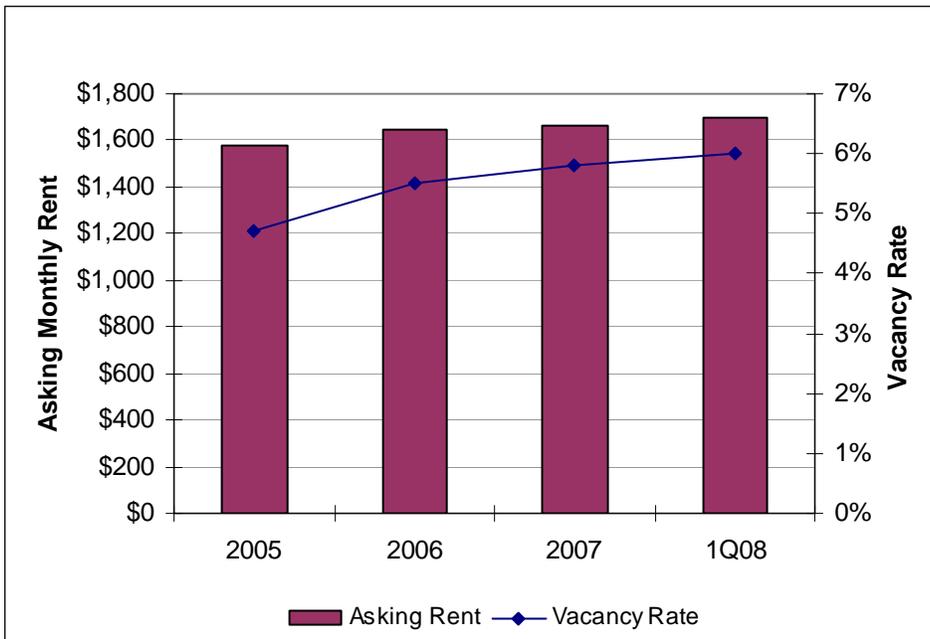
Between 2005 and the first quarter of 2008, asking rents increased by 7.3 percent in the Greater Boston market, 7.1 percent in Greater Springfield and 4.0 percent in the Greater Worcester.³⁹ Vacancy rates have been dropping in Worcester and Springfield – areas that have not benefited from new production in recent years – and may be a harbinger of rising rents. See Figures 3-9, 3-10, and 3-11 below for detail.

Knowing that the foreclosure problems were disproportionately impacting two to four unit properties – and likely to be adding to the number of low and moderate income renters seeking housing – special attention was paid to trends that might indicate that this was in fact occurring, such as higher rent increases in Class B and C apartments, falling vacancy rates, increases in requests for housing assistance or shelter placements, and/or evidence of families doubling up. It is not yet clear whether, or to what extent, any of these potential consequences of rising foreclosures have occurred, but the tightening market in the Springfield area warrants careful monitoring.

³⁸ The HUD FMRs represent the rent below which 40 percent of recent movers pay for a standard apartment.

³⁹ The Reis Worcester and Springfield markets approximate the Benchmark regions with the exception that the Springfield market area does not include Franklin County.

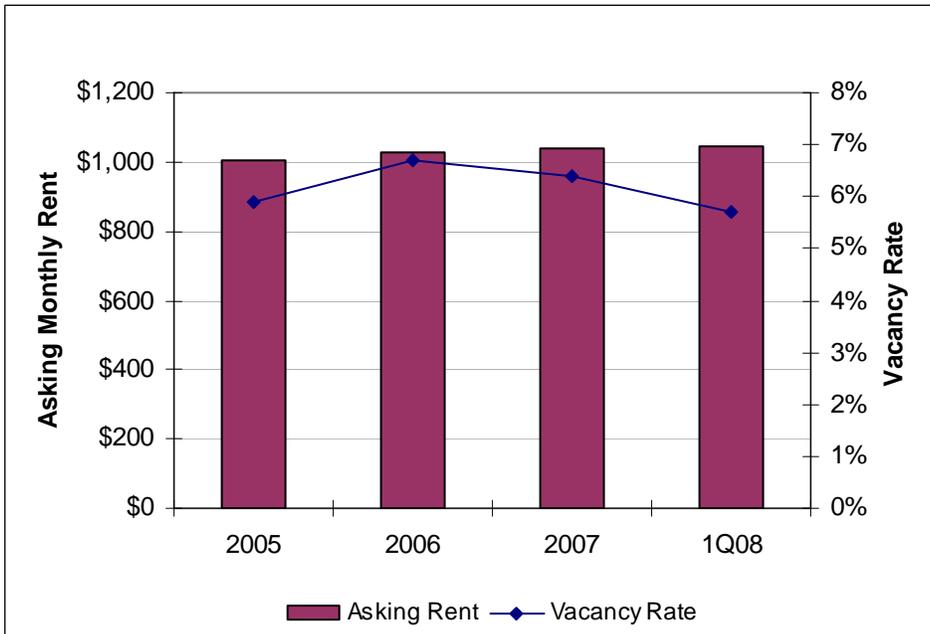
Figure 3-9. Boston Area Rents (Reis, Inc. 1Q 2008)



Source: Reis, Inc.

Note: Quarterly data for 2005 and 2006 is unavailable.

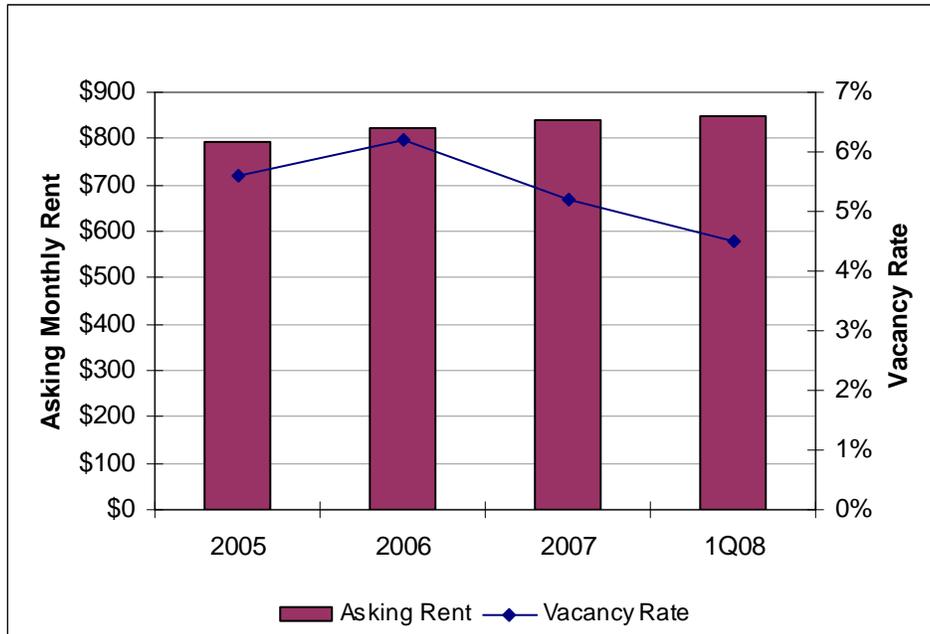
Figure 3-10. Worcester Area Rents (Reis, Inc. 1Q 2008)



Source: Reis, Inc.

Note: Quarterly data for 2005 and 2006 is unavailable.

Figure 3-11. Springfield Area Rents (Reis, Inc. 1Q 2008)



Source: Reis, Inc.

Note: Quarterly data for 2005 and 2006 is unavailable.

Special challenges facing owners in the housing market

Rising delinquencies and foreclosures are creating special challenges for many of the Commonwealth's residents and communities. Much, though not all, of the problem can be traced to the rise in subprime lending during the first half of the decade. While responsible subprime lending can play an important role in expanding credit to traditionally underserved borrowers, much of the lending undertaken in recent years was neither responsible nor prudent.⁴⁰ Some recently available loans posed greater risks not only because the borrowers who received them had weaker credit profiles, but because the loans themselves had features that were known to pose a higher risk of default. Examples of such features include adjustable interest rates, balloon payments, prepayment penalties, and loans with little or no documentation of borrowers' loan qualifications. In many cases, borrowers were sold loans that were unsuited to their needs and/or ability to pay by mortgage brokers driven by a commission structure that

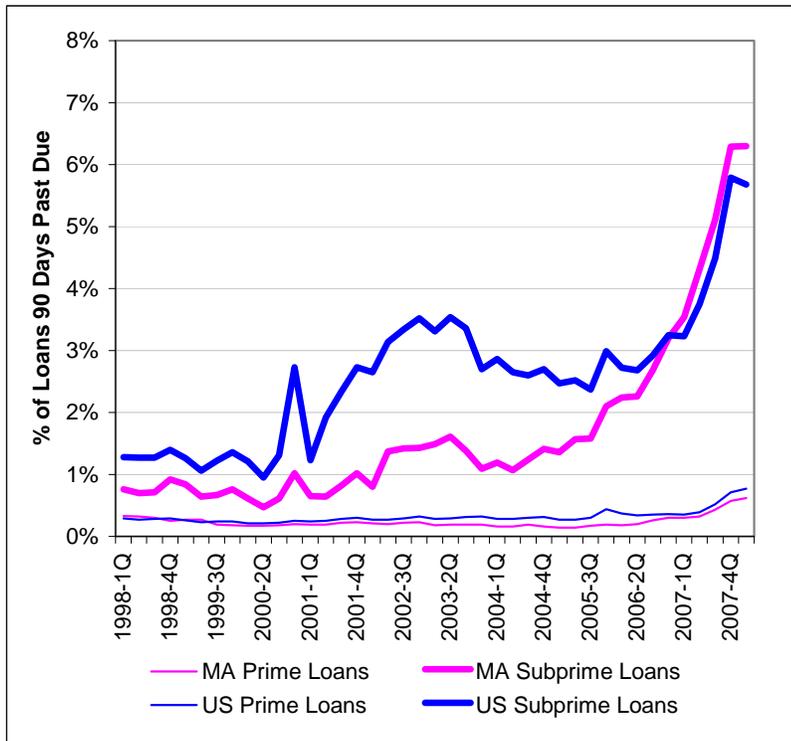
⁴⁰ *Expanding Fair Access to Lending*, Bonnie Heudorfer, published by the Massachusetts Fair Lending Coordinating Committee, 2008.

rewarded the origination, not the sustainability, of the loan. Predictably, high levels of mortgage delinquency and default have resulted.

Mortgage delinquencies, subprime loans and the risk of foreclosure

Figure 3-12 illustrates the spike in mortgage delinquencies for Massachusetts subprime loans, beginning just after prices crested in the fourth quarter of 2005. In the first quarter of 2005, the Massachusetts 90-day delinquency rate stood at 1.36 percent, well below the national rate of 2.47 percent. By the first quarter of 2008, it had reached 6.3 percent, compared to a national rate of 5.68 percent. Delinquency rates have increased on conventional prime mortgages also, but they remain far below the rates for subprime loans, particularly subprime adjustable rate loans. The Massachusetts 90-day delinquency rate on conventional loans has increased from 0.14 percent in the first quarter of 2005 to 0.62 percent in the first quarter of 2008, compared to 0.27 and 0.77 percent nationally.

Figure 3-12. Percent of Prime and Subprime Home Loans 90-days Past Due, 1Q1998–1Q2008



Source: Mortgage Bankers Association

During the first half of the decade, the state’s rapidly escalating home prices masked the fact that many homeowners were experiencing financial distress. Because they had built up substantial equity during the housing boom, many struggling homeowners were able to refinance their mortgages with subprime loans despite being delinquent on their monthly payments. In some cases, one subprime loan replaced another; in many cases, though, homeowners refinanced a fixed rate loan or a favorably priced first-time homebuyer loan with a high risk, high cost adjustable loan.

Falling home prices are often cited as a major cause of the subprime crisis, and studies show that home equity is a major predictor of the likelihood of default. When sales began to slump and housing values started to drop, selling or refinancing were no longer viable options for the borrowers who were unable to repay their loans.⁴¹

⁴¹ Many studies and industry statistics over the years have documented the correlation between negative equity and mortgage default. In a recent Federal Reserve Bank of Boston Public Policy Discussion Paper (No. 08-3, *Negative Equity and Foreclosure: Theory and Evidence*),

Rising foreclosures

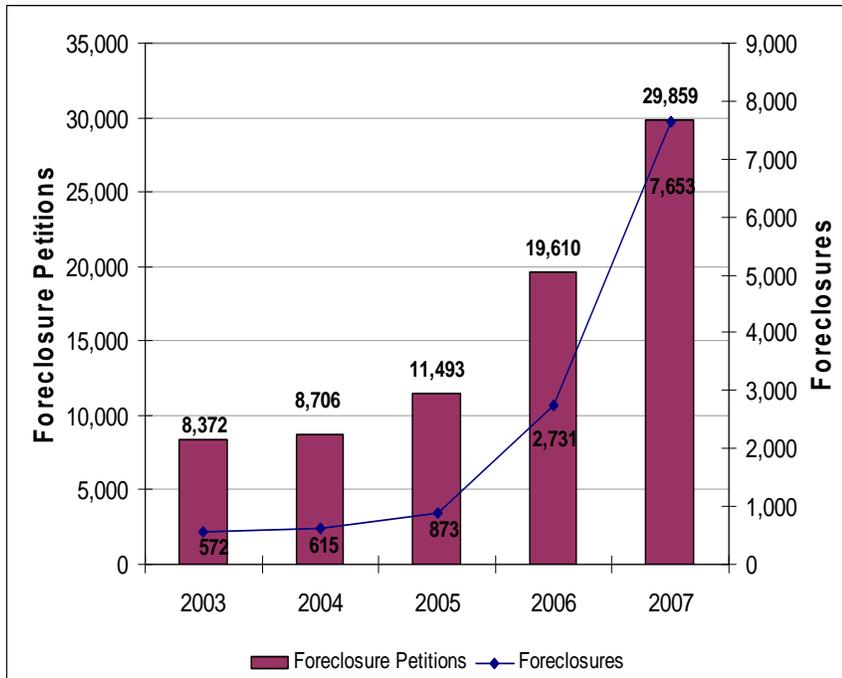
The rise in serious mortgage delinquencies has led to skyrocketing foreclosures. Petitions to foreclose – the first step in the foreclosure process – rose sharply in 2006 and 2007. A 90-day “right to cure” provision took effect in April 2008, making direct year-to-year comparisons difficult, but there is no indication that the problem has abated.⁴² According to ForeclosuresMass Corporation, a Boston-based foreclosure tracking company, lenders filed 29,859 petitions to foreclose on Massachusetts properties in 2007, an increase of more than 53 percent over the number initiated in 2006. While not all petitions end in foreclosure, the filing is an indicator of financial distress on the part of the homeowner.

The number of foreclosure deeds, signifying that the lender has consummated the foreclosure and repossessed the property, rose at an even faster pace than petitions during the past year. In 2007, 7,653 foreclosure deeds were recorded – more than double the number recorded in 2006. Figure 3-13 documents the dramatic jump in both petitions to foreclose and foreclosures since 2005.

authors Christopher L. Foote, Kristopher Gerardi, and Paul S. Willen reiterate the connection. They note, however, that although negative equity is a necessary condition, it is not usually sufficient by itself to cause result in default.

⁴² “Right to cure” refers to a mandatory time period (90-days) in which lenders must foreclose on a property. Previous to this provision, lenders could wait longer and negotiate with a homeowner, making it hard to compare how long properties were in default.

Figure 3-13. Foreclosures Initiated and Consummated in MA, 2003–2007



Source: ForeclosuresMass.com

The Commonwealth’s “Gateway cities” – eleven historic mill cities that have struggled in the transition to a knowledge-based economy – and a handful of low-income rural communities are among those most impacted by the rising tide of foreclosures.⁴³ Within the City of Boston, foreclosures are heavily concentrated in Dorchester, Roxbury, Hyde Park, and Mattapan. Typically, those who purchased homes in these locations had lower incomes and fewer resources to buffer them against an economic downturn or change in personal circumstances. They were also more likely to have purchased or refinanced with subprime mortgages at, or near, the peak of the market. Table 3-7, based on information provided to the author by the Federal Reserve Bank of Boston, identifies the high-risk communities for future foreclosures within each region.

⁴³ “Reconnecting Massachusetts Gateway Cities.” Mass INC. <http://www.massinc.org/index.php?id=216&pub_id=2061>. Accessed October 6, 2008.

Table 3-7. High Risk Communities for Foreclosures, as of December 2007

Region	# Subprime loans	# Non-owner occupied subprime loans	# Owner occupied subprime loans	# Owner occupied subprime ARMs	# Owner occupied subprime ARMs resetting in 2008-2009	# Owner occupied subprime ARMs in REO 12/31/07
Berkshire	760	92	668	418	225	34
% in Pittsfield, N. Adams, Adams	64.3%	78.3%	62.4%	67.0%	64.4%	76.5%
Greater Boston	19,080	1,274	17,806	12,788	6,714	1,228
% in Boston, Lynn, Revere	38.0%	52.7%	37.0%	38.8%	39.7%	54.0%
Cape and Islands	2,712	315	2,397	1,695	873	178
% in Barnstable, Falmouth, Yarmouth	46.4%	37.5%	47.6%	49.7%	47.1%	60.1%
Central	9,526	587	8,939	6,260	3,336	630
% in Worcester, Fitchburg, Leominster	39.6%	58.1%	38.4%	40.8%	40.7%	51.9%
Northeast	8,657	421	8,236	5,910	3,030	538
% in Lawrence, Lowell, Haverhill	43.8%	57.0%	43.1%	46.7%	45.6%	65.4%
Pioneer Valley	7,714	747	6,967	4,604	2,607	331
% in Springfield, Chicopee, Holyoke	57.6%	74.7%	55.8%	58.8%	57.8%	72.5%
Southeast	12,856	719	12,137	8,221	4,280	750
% in Brockton, New Bedford, Taunton	36.0%	44.4%	35.5%	38.0%	37.2%	53.6%
Total	61,305	4,155	57,150	39,896	21,065	3,689

Source: First American Loan Performance. Table prepared by B. Heudorfer based on data provided by the Federal Reserve Bank of Boston

Notes: ARM – Adjustable Rate Mortgage; REO – Real Estate Owned, property currently owned by the government. Statistics include first-lien loans securitized by issuers other than Fannie Mae or Freddie Mac in securities marketed as "subprime." The data covers about 70 percent of the subprime securities.

Implications: the subprime fallout

The long-term impact of the collapse of the subprime market remains unclear, but some effects are already evident. The post-2006 mortgage environment is a very different one than existed between 2002 and 2006. Since the subprime market began to fail in 2007, most of the major lenders have exited the business. Eight of the top 10 subprime lenders are no longer operating in Massachusetts.⁴⁴ While the need to rid the industry of the “bad” products and players was long overdue, rising credit standards and the departure of responsible subprime lenders have made it more difficult for borrowers with less than perfect credit to take advantage of new opportunities that exist in the current market.

⁴⁴ Eric Rosengren, Federal Reserve Bank of Boston, *Early Lessons from Recent Financial Turmoil*, March 6, 2008.

Also evident is the impact of concentrated foreclosures, which often precipitate neighborhood decline and a reduction in property values. Declining property values create fiscal problems for municipalities, particularly those with little commercial or industrial development. Rising foreclosures often turn owner-occupants into renters, put existing tenants at risk of eviction and increase the pool of tenants seeking low cost rentals. On a national level, the U.S. Census Bureau reported that the number of renter households increased by nearly one million households (2.8 percent) in 2007, the biggest increase since 1985.⁴⁵

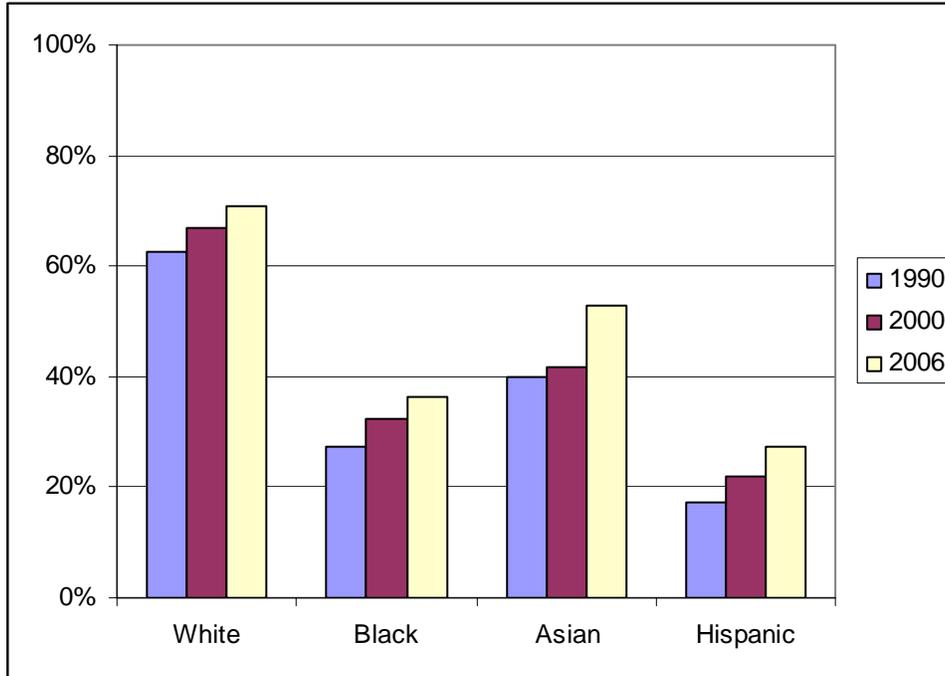
Impact on racial and ethnic minorities

Recent trends may begin to reverse more than a decade of gains in minority homeownership and wealth accumulation. Many racial and ethnic minorities became homeowners in large numbers during the 1990s, and have continued to do so since 2000, many taking advantage of first-time homebuyer programs offered by the State's lenders and quasi-public agencies. According to the 1990 and 2000 Censuses and the 2006 American Community Survey, homeownership rates rose for whites, blacks, Asians and Hispanics during the 1990s and from 2000 to 2006. Between 1990 and 2000, the non-Hispanic black ownership rate rose from 27 to 33 percent, the Hispanic ownership rate (for people of any race who identified as ethnically Hispanic) rose from 17 to 22 percent, the non-Hispanic white ownership rate rose from 63 to 67 percent, and the non-Hispanic Asian ownership rate rose from 40 to 42 percent. This was an increase of 123,000 new white homeowners, over 10,000 new black owners, over 15,000 new Asian owners, and over 13,000 new Hispanic owners.⁴⁶ As shown in Figure 3-15, by 2006, white ownership rates rose to 71 percent, black ownership rates rose to 36 percent, Hispanic ownership rates rose to 27 percent, and Asian ownership rates grew to 53 percent by 2006. This represented an additional 30,000

⁴⁵ The same Census report notes that the number of units held off the market "for other reasons," a catchall that excludes units available for rent, seasonal rentals, those held for occasional use or for use by a resident whose home is elsewhere jumped by 12 percent in 2007.

white owners, nearly 9,000 new black owners, over 26,000 new Asian owners, and over 16,000 new Hispanic owners. Changes in ownership rates by race and ethnicity are shown in Figure 3-14.

Figure 3-14. Homeownership Rate by Race and Ethnicity, 1990–2006



Sources: 1990 and 2000 Decennial Census, 2006 American Community Survey PUMS

Despite their widespread gains in ownership from 2000 to 2006, the state’s minority homeowners – particularly the black population – remain geographically concentrated in a handful of municipalities. Between 2000 and 2006:⁴⁷

- 74.4 percent of black home buying took place in just six municipalities (Boston, Brockton, Springfield, Worcester, Randolph, and Lynn)
- 52.2 percent of Latino home buying took place in just six municipalities (Boston, Lawrence, Springfield, Lynn, Worcester, and Revere)

⁴⁶ According to the 2006 American Community Survey, 44 percent of Hispanics identified their race as white alone, 43 percent as some other race (unidentified) alone, five percent as black alone, and six percent as two or more races.

⁴⁷ B. Heudorfer analysis of HMDA data provided by James Campen, University of Massachusetts Boston Gaston Institute.

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- 30.7 percent of Asian home buying took place in just six municipalities (Boston, Quincy, Lowell, Worcester, Malden, and Newton)
 - By contrast, the top six white (non-Latino) home buying communities accounted for only 17.5 percent of all white purchases (Boston, Worcester, Springfield, Plymouth, Haverhill, and Lowell)⁴⁸

There may be many reasons for this clustering, including personal choice. However, research by The Civil Rights Project at Harvard University on race and concentrated poverty concluded that blacks and Hispanics, in particular, are far more likely to live in high poverty areas than whites with the same incomes. That study noted that while there are many poor white families in Massachusetts, they do not live in the communities where poor blacks and Hispanics live, for the most part. And, while the state has a growing number of relatively affluent blacks and Hispanics, they have located in significant numbers in only a handful of suburban communities. The study's authors observed that high poverty neighborhoods often offer weaker opportunities than non-poverty neighborhoods in a number of respects, including access to better services, schools, safety, and increasing property values, the primary source of family wealth.

The high incidence of subprime mortgages among minority homeowners threatens to undo recent gains in ownership. In Massachusetts – and across the nation – higher-cost subprime loans were much more prevalent in neighborhoods with lower income levels and higher percentages of minority residents. In Massachusetts, subprime loans accounted for 47 percent of originations in low-income, predominantly minority neighborhoods in 2006, more than three times the 13 percent share in upper-income white communities. The comparable national figures were similar: 45 percent in low-income minority communities compared to 15 percent in upper-income white areas.⁴⁹ *Changing Patterns XIV*, the

⁴⁸ *Beyond Poverty: Race and Concentrated-Poverty Neighborhoods in Metro Boston*, Nancy McArdle et al., December 2003.

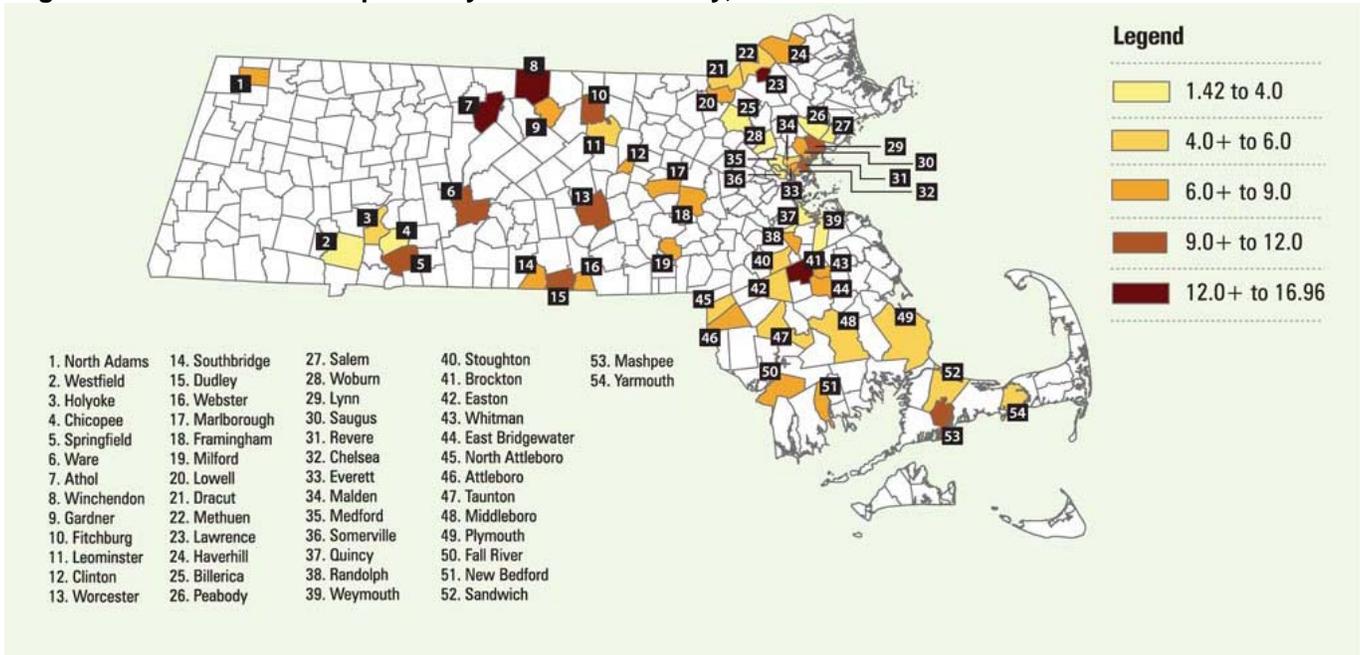
⁴⁹ Campen, *Changing Patterns XIV* and Avery, Brevoort, and Canner, *The 2006 HMDA Data*, published in the Federal Reserve Bulletin, December.

Massachusetts Community and Banking Council's most recent annual assessment of mortgage lending in the state, reported that when borrowers are grouped by both race/ethnicity and income, the high APR loan share (also called HAL loans, a proxy for subprime) for blacks and Latinos was substantially higher than the HAL loan share for whites in the same income category. In fact, the disparities tended to be greater at the higher income levels – a pattern that is repeated in national trends.

Overall, subprime lenders accounted for 19.4 percent of total home-purchase loans in Massachusetts in 2005, but accounted for more than one-third of all loans in Chelsea, Lowell, Lynn, New Bedford, Randolph, Revere, Springfield, Worcester, and in certain Boston neighborhoods. These communities all include substantial percentages of black and/or Latino households, many with relatively low median family incomes. In Brockton, Everett and Lawrence one-half of all home purchases in 2005 were made using subprime loans. Across the state, as the number of home purchase loans to white and Asian borrowers dropped in 2005, loans to black and Latino homebuyers continued to rise sharply (loans to blacks rose 24 percent and loans to Latinos rose by 16 percent; loans to all other borrowers⁵⁰ fell by four percent). Subprime loans accounted for almost all of the increase. The following map, Figure 3-15, details foreclosures by municipality from January through March 2008.

⁵⁰ *Changing Patterns XIII: Mortgage Lending to Traditionally Underserved Borrowers and Neighborhoods in Boston, Greater Boston and Massachusetts, 1990-2005*, prepared by James Campen, Mauricio Gaston Institute, University of Massachusetts/Boston for the Massachusetts Community and Banking Council. Includes all loans for which borrower race/ethnicity is available.

Figure 3-15. Homeownership Rate by Race and Ethnicity, 1990–2006



Source: MassBenchmarks, vol.8, issue 2, 2008

Conclusion

Massachusetts was vulnerable to price inflation, subprime lending, and other problems that affected housing markets across the country during the early part of the decade. Now a number of the Commonwealth’s cities are grappling with the fallout from those excesses and abuses. Even as prices decline, tightening lending requirements and their own lack of confidence and uncertainty about the market direction are keeping buyers out of the market.

Chapter 4: Housing Affordability

Between the years 2000 and 2004–2006 household incomes in Massachusetts were largely stagnant, and many households experienced a decline in real income.⁵¹ During this same period housing prices rose significantly in spite of the accelerated rate of construction and the concurrent easing of the statewide housing shortage. The effect of these two trends has been growing housing cost burdens across the Commonwealth. This chapter explores these trends and their implications for housing affordability in Massachusetts and its major regions. Despite declining housing prices since late 2005, stagnant and in some cases negative income growth, rising utility prices and property taxes, additional debt and other expenses have almost certainly diminished the extent to which Massachusetts residents can afford housing. This chapter presents an analysis of income trends and the resulting trends in housing affordability.

⁵¹ The income analysis presented as 2004-2006 is based on the three-year period from 2004 through 2006. Data from these years were aggregated to create a statistically large enough sample. ACS “total income,” used in this report, is defined as “wage or salary income; net self-employment income; interest, dividends, or net rental or royalty income or income from estates and trusts; social security or railroad retirement income; Supplemental Security Income (SSI); public assistance or welfare payments; retirement, survivor, or disability pensions; and all other income. Receipts from the following sources are not included as income: capital gains, money received from the sale of property (unless the recipient was engaged in the business of selling such property); the value of income ‘in-kind’ from food stamps, public housing subsidies, medical care, employer contributions for individuals, etc.; withdrawal of bank deposits; money borrowed; tax refunds; exchange of money between relatives living in the same household; gifts and lump-sum inheritances, insurance payments, and other types of lump-sum receipts.”

State and regional trends in median household incomes

Statewide income trends

In the past twenty-five years, the gap between the incomes of the most and least well-off households in Massachusetts has widened considerably.

Table 4-1. Statewide Household Real Median Income (2006\$), 1979, 1989, 1999, 2004–2006

Year	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile
1979	\$13,487	\$33,374	\$53,977	\$76,546	\$120,450
1989	\$13,824	\$38,467	\$62,869	\$91,075	\$145,278
1999	\$15,085	\$38,409	\$63,634	\$96,212	\$165,043
2004-2006	\$12,188	\$34,464	\$58,909	\$91,319	\$154,890

Source: U.S. Bureau of the Census, PUMS

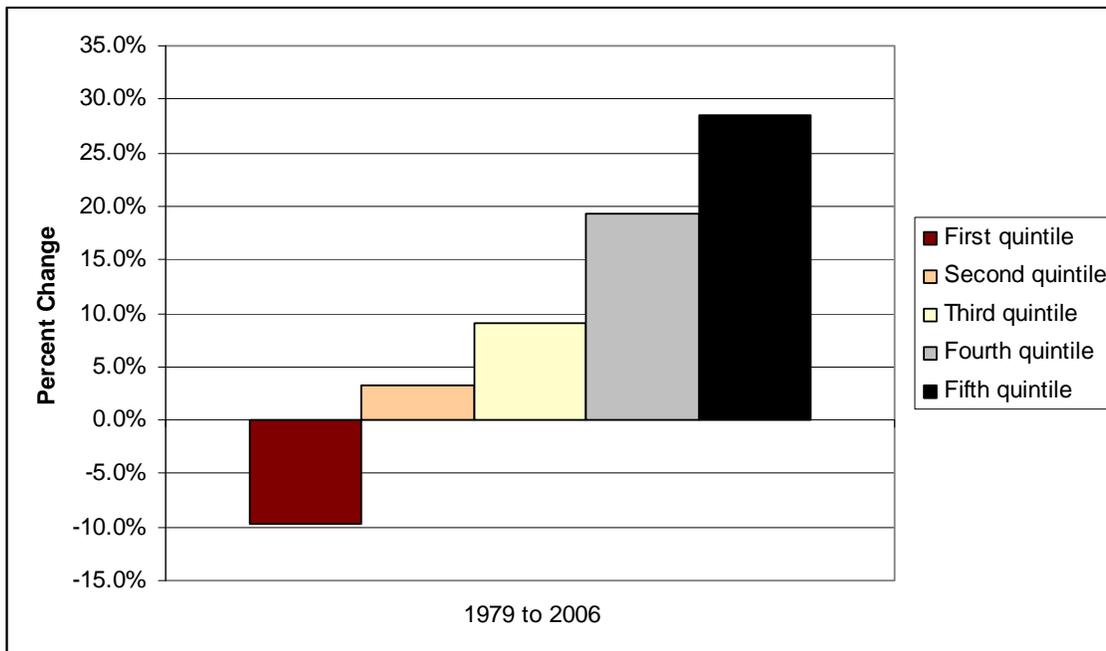
Table 4-2. Statewide Percent Change in Real Median Household Income (2006\$), 1989, 1999, 2004–2006

Year range	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile
1979 to 1989	2.5%	15.3%	16.5%	19.0%	20.6%
1989 to 1999	9.1%	-0.2%	1.2%	5.6%	13.6%
1999 to 2004-2006	-19.2%	-10.3%	-7.4%	-5.1%	-6.2%
1979 to 2004-2006	-9.6%	3.3%	9.1%	19.3%	28.6%

Source: U.S. Bureau of the Census, PUMS

As can be seen in Table 4-1, in 1979 the median household income for the top quintile was nearly nine times as high as the lowest quintile. By 2004–2006, it was over twelve times as high. While the widening gap between rich and poor over the past twenty-five years is striking, between 2000 and 2004–2006 the trend shifted, with real income levels decreasing for many of the state’s most affluent households, too.

Figure 4-1. Statewide Percent Change in Real Median Household Income by Quintile (2006 dollars), 1979 to 2004–2006



Source: U.S. Bureau of the Census, PUMS

However, despite a 6.2 percent decrease in real median household income between 2000 and 2004–2006 for those at the top, those households in the highest quintile saw their real median incomes rise by 28.6 percent between 1979 and 2004–2006. The lowest income households, on the other hand, saw their purchasing power decline by nearly 20 percent since 2000 and had median household incomes that in 2006 were 9.6 percent lower than they were in 1979.

Regional income trends

Since 1979, income growth was disproportionately concentrated in the Greater Boston and Northeast regions, while household incomes in other regions lagged behind.

Table 4-3. Regional Household Real Median Income, by Quintile, 2004–2006

Region	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile	Absolute difference between first and fifth quintile	Ratio of fifth over first quintile
Berkshire	\$9,930	\$25,323	\$47,513	\$73,552	\$117,158	\$107,229	11.8
Cape and Islands	\$14,710	\$34,533	\$54,639	\$81,443	\$140,671	\$125,961	9.6
Central	\$12,493	\$33,624	\$56,065	\$84,795	\$136,608	\$124,115	10.9
Greater Boston	\$11,680	\$36,564	\$63,045	\$99,536	\$178,627	\$166,946	15.3
Northeast	\$13,450	\$39,088	\$66,019	\$101,502	\$164,547	\$151,097	12.2
Pioneer Valley	\$10,402	\$26,722	\$46,721	\$72,117	\$116,803	\$106,400	11.2
Southeast	\$12,391	\$33,517	\$57,284	\$85,531	\$137,116	\$124,725	11.1

Source: U.S. Bureau of the Census, PUMS

The period since 1979 saw a continued increase in regional income disparities in absolute terms among households, particularly at higher income levels. The biggest winners in this regard were middle- and upper-income households in the Greater Boston and Northeast regions of the state. The differences between the incomes of these households and those of their peers in other regions were in some cases substantial. For example, in 2004–2006, the highest-income households in the Pioneer Valley region made approximately 65 cents for every dollar of income received by their counterparts in the Greater Boston region (\$116,803 versus \$178,627).

Table 4-4. Percent Change in Median Household Income, by Region, 1979 to 2004–2006

Region	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile
Berkshire	-24%	-16%	-2%	6%	9%
Cape and Islands	3%	13%	19%	22%	31%
Central	-7%	2%	7%	16%	24%
Greater Boston	-13%	8%	14%	23%	38%
Northeast	-9%	7%	12%	23%	33%
Pioneer Valley	-20%	-12%	-5%	2%	9%
Southeast	-7%	6%	10%	18%	25%

Source: U.S. Bureau of the Census, PUMS

Higher income households in the Greater Boston and Northeast regions also received a disproportionate share of household income growth – real median household incomes for the highest quintile increased by 38 percent in Greater Boston since 1979, while the median incomes of their peers in the Pioneer Valley grew a meager nine percent in real terms during this same period.

Income growth among the lowest-income households also varied regionally. Household incomes for the first quintile were highest in 2004–2006 in the Cape and Islands region (\$14,710) and lowest in the Berkshire region (\$9,930), a difference of over 48 percent. Real incomes for the lowest quintile on the Cape increased three percent since 1979 in contrast to the decline of 24 percent for the same group in the Berkshires, which experienced the largest decline during this period.

While low-income households in Western Massachusetts lost the most ground in percentage terms, conditions may have been worse for low-income households in the Greater Boston and Northeast regions, where the cost of living is notably higher and the absolute income levels are comparable.

Housing cost burden

In every region of the state, more households – both owners and renters – experienced moderate and severe housing cost burdens in 2005/2006 than in 2000.⁵² Renters in every region were more likely to experience cost burdens than owners, and the level of one’s housing cost burden varied with one’s income level. In fact, in both 2000 and 2005/2006, low-income households in Massachusetts carried disproportionately high levels of burden.

Analysis shows that from 2000 to 2005/2006, incomes lagged farther behind housing costs in some regions than in others, reflecting disproportionately inflated housing prices in some regions. For instance, despite the relatively higher incomes in the Greater Boston and Northeast regions compared to

⁵² The numbers of cost-burdened households represent averages of 2005 and 2006 data to improve statistical validity.

the rest of the state, higher housing costs and greater income disparity meant that residents of those regions were also among those most likely to be cost burdened. Likewise, rising housing costs outpaced real increases in income in the Cape and Islands, resulting in an increase in the region's share of cost-burdened residents. In contrast, plummeting real incomes among the lowest-income households in Western Massachusetts were accompanied by less dramatic increases in the number of burdened households, likely due to the lower cost of living in those places. Recent declines in housing prices have been paired with increases in unemployment as well as rising energy and other housing costs, leaving uncertainty as to whether these trends would result in more or fewer burdened households across the Commonwealth.

Definition of housing cost burden

A household whose total housing costs are greater than 30 percent of household income is considered by the Department of Housing and Urban Development (HUD) to be cost burdened. A severe cost burden is defined as spending more than 50 percent of household income on housing expenses. For the purposes of this analysis, housing costs for homeowners include mortgage, property tax, insurance and utilities. Housing costs for renters include only rent and utilities, though we can assume that, for most renters, taxes and insurance costs are factored into rental rates by their landlords. Tables 4-5 and 4-6 show numbers and percentages of householders experiencing housing cost burdens or severe cost burdens.

Burden status of all households, owner and renter

Table 4-5. Total Households Experiencing Housing Cost Burden, by Region, 2000–2005/2006

Region	Up to 30%		More than 30% to 50% Burden		More than 50%	
	2000	2005/2006	2000	2005/2006	2000	2005/2006
MA	1,759,471	1,509,255	387,513	512,205	297,614	427,419
Berkshire	41,811	38,829	7,901	8,524	6,499	7,957
Cape and Islands	75,605	65,359	16,720	22,381	12,988	21,159
Central	211,230	185,127	41,595	57,425	29,528	44,171
Greater Boston	712,938	593,319	166,971	218,181	137,151	195,155
Northeast	250,708	211,390	54,574	73,660	39,085	58,685
Pioneer Valley	190,599	170,811	39,481	48,976	30,796	40,801
Southeast	276,615	244,421	60,278	83,058	41,572	59,491

Sources: US Bureau of Census, 2000, American Community Survey (ACS) 2005/2006

Table 4-6. Percentages of All Households Experiencing Housing Cost Burden, by Region, 2000–2005/2006

Region	Up to 30%		More than 30% to 50% Burden		More than 50%	
	2000	2005/2006	2000	2005/2006	2000	2005/2006
MA	72.0%	61.6%	15.9%	20.9%	12.2%	17.5%
Berkshire	74.4%	70.2%	14.1%	15.4%	11.6%	14.4%
Cape and Islands	71.8%	60.0%	15.9%	20.6%	12.3%	19.4%
Central	74.8%	64.6%	14.7%	20.0%	10.5%	15.4%
Greater Boston	70.1%	58.9%	16.4%	21.7%	13.5%	19.4%
Northeast	72.8%	61.5%	15.8%	21.4%	11.3%	17.1%
Pioneer Valley	73.1%	65.5%	15.1%	18.8%	11.8%	15.7%
Southeast	73.1%	63.2%	15.9%	21.5%	11.0%	15.4%

Source: US Bureau of Census, 2000, American Community Survey (ACS), 2005/2006

In 2000, there were 2,444,598 households in Massachusetts. By 2005/2006, the overall number of households had increased by only 0.2 percent – a little over 4,000 households – but the number and share of burdened householders had increased substantially. The share of householders with housing costs that were more than 30 percent and up to 50 percent of household income increased by 4.6 percentage points for renters, and 5.5 percentage points for owners. The share of householders with a cost burden over 50 percent of household income increased by 8.7 percentage points, or 65,050 households, for renters and 3.7 percentage points, or 64,756 households, for owners. In 2005/2006, roughly 45 to 50 percent of renters faced housing costs above 30 percent of their incomes, compared to 32 to 35 percent of renters

with these same levels of burden in 2000. Thus, while homeownership expanded, and the overall number of renters decreased, both owners and renters faced greater cost burdens.

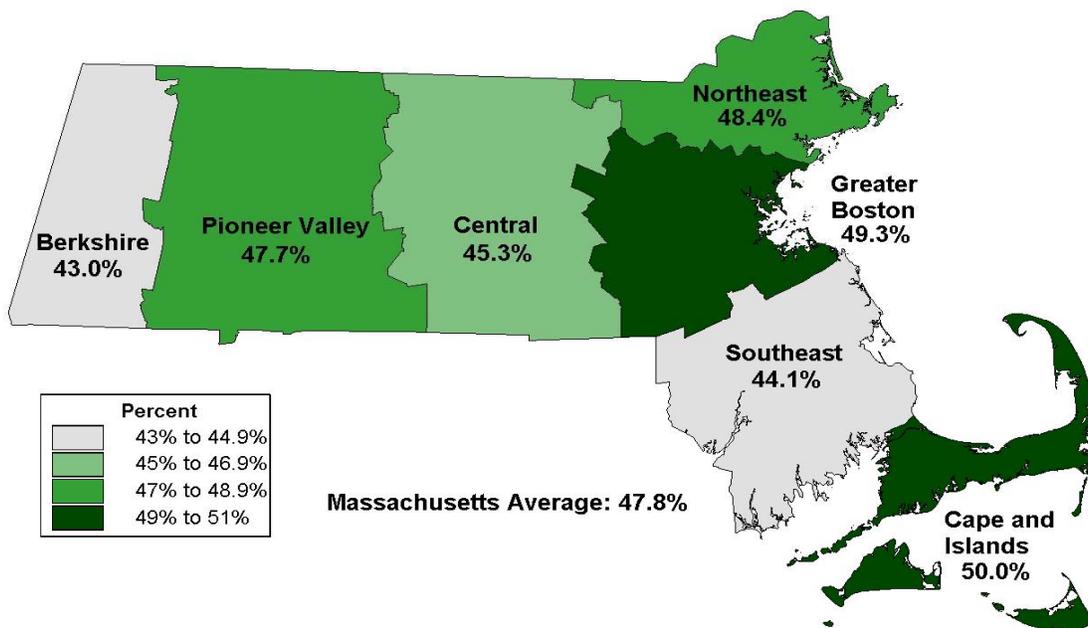
In 2000, households were most likely to face housing cost burdens in the Cape and Islands and Greater Boston regions and less likely to face burdens in Western Massachusetts. This was also true in 2005/2006, but regional variation also became more stark. In 2000, the percentage of cost burdened owners ranged from 21.4 percent in the Berkshire region to 25.9 percent in Cape and Islands region, a spread of 4.5 percentage points. By 2005/2006, the percentage of burdened owners had risen in every region, but the gap between regions had also grown: the percentage of burdened owners was 23.6 in the Berkshire region and 37.3 percent in the Cape region – a spread of 13.7 percentage points. Likewise, among renters, the differences between regions grew. In 2000, the share of burdened renters ranged from 31.6 percent in the Central region to 35.9 in the Pioneer Valley, a difference of 4.3 percentage points. By 2005/2006, the share of burdened renters was 43 percent in the Berkshire region and 50.0 percent in the Cape region, a spread of seven percentage points.

In 2005/2006, owners in the Cape and Islands region had the highest percentage of households facing cost burdens, with 18.3 percent of owners paying more than 50 percent of income and 19.0 percent paying between 30 and 50 percent of income. Owners in Greater Boston were the next most likely to be burdened, with 14.5 percent of owners paying more than 50 percent of income for housing and 20.6 percent paying between 30 and 50 percent. The Berkshire and Pioneer Valley regions had the lowest share of owners facing cost burdens. In the Berkshire region, 14.5 percent of owners paid between 30 and 50 percent of income for housing, and 9.1 percent paid more than 50 percent. In the Pioneer Valley, 17.0 percent of owners paid between 30 and 50 percent of income for housing, and 9.9 percent paid more than 50 percent of income.

Renters were more likely to face both moderate and severe cost burdens than owners. In 2005/2006, 23.6 percent of renters faced severe cost burdens, and 24.6 percent faced moderate cost

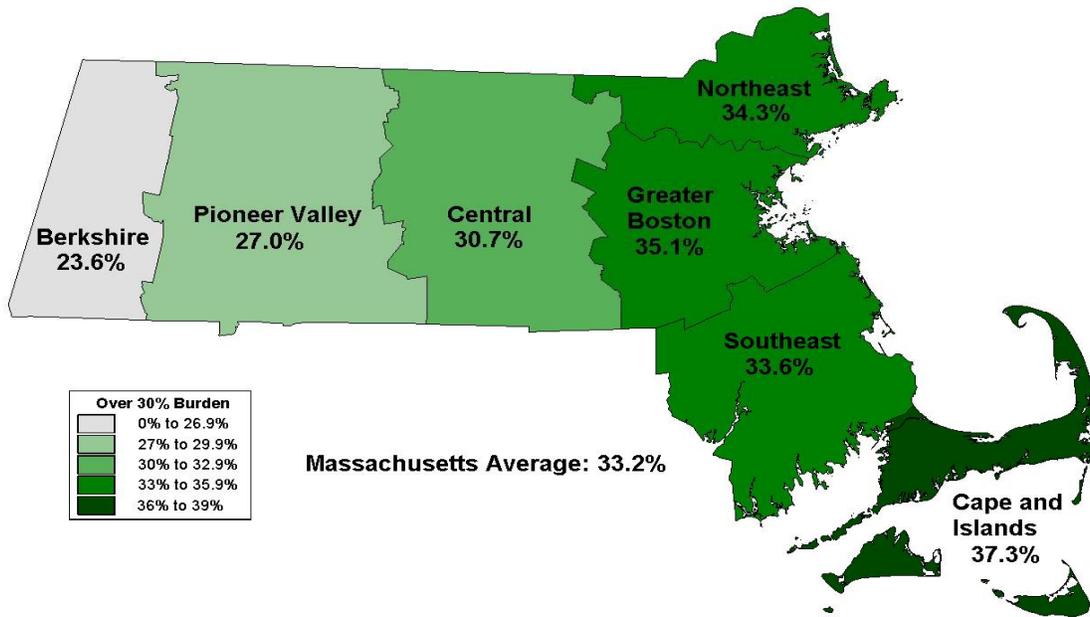
burdens. Renters were most likely to be severely burdened – that is, to pay more than 50 percent of their income in housing costs – in the Northeast (26.2 percent) and Greater Boston (26.1 percent), followed closely Western Massachusetts (25.8 percent in the Pioneer Valley and 25.6 percent in the Berkshire region). Renters were most likely to be moderately burdened – that is, to pay more than 30 percent but not more than 50 percent of their incomes for housing costs – in the Cape and Islands region (26.4 percent), followed by the Greater Boston region (23.2 percent). While the Berkshire region had a high rate of renters who faced severe cost burdens, the region had the state’s lowest percentage of renters who faced moderate cost burdens, at only 17.4 percent. The Cape and Islands was the only region where fully half of renters (50.0 percent) faced housing cost burdens, followed closely by the Greater Boston region (49.3 percent). Renters in the Southeast were less likely to face cost burdens than in any other region except the Berkshire region. Regional variation in cost burdens is shown in Figures 4-2 and 4-3.

Figure 4-2. Percent of Renters Burdened by Housing Cost by Region, 2005/2006



Source: American Community Survey (ACS) 2005/2006

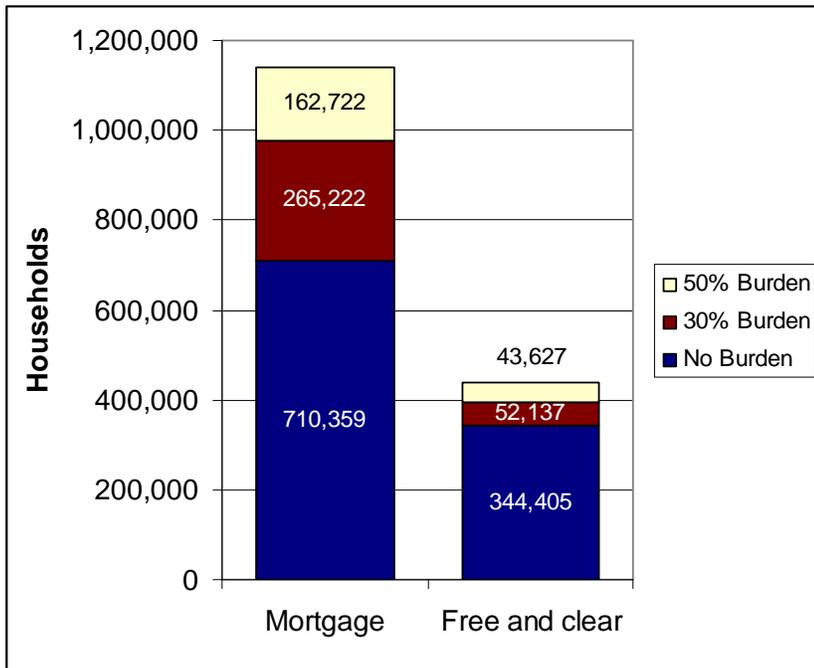
Figure 4-3. Percent of Owners Burdened by Housing Cost by Region, 2005/2006



Source: American Community Survey (ACS) 2005/2006

Mortgage burden

Figure 4.4. Massachusetts Households by Mortgage Status and Cost Burden, 2005/2006



Source: American Community Survey (ACS), 2005/2006

As shown in Figure 4-4, in 2005/2006, most Massachusetts homeowners had one or more loans with which they financed their homes, including first and second mortgages and home equity loans. Among owners with one or more loans, over one third were cost burdened or severely cost burdened. Over one quarter of homeowners owned their homes “free and clear.” Homeowners with mortgages clearly carry a greater cost burden than those who own their homes free and clear. Despite this, housing cost burden for homeowners does not only affect those with mortgages, as housing costs includes taxes, insurance and utilities. Even among free and clear owners, over one in five were cost burdened or severely cost burdened.

Table 4-7.1. Absolute Change in Mortgage Burden, by Mortgage Status and Region, 2000–2005/2006

With Mortgage			
Region	Up to 30%	More than 30% to 50% Burden	More than 50%
MA	-64,282	84,137	52,021
Berkshire	796	1,005	0
Cape and Islands	-3,154	3,205	5,144
Central	-5,765	11,497	5,641
Greater Boston	-25,304	31,591	20,132
Northeast	-14,327	14,792	8,608
Pioneer Valley	-4,187	4,360	2,777
Southeast	-12,358	17,683	9,717
Free and Clear			
Region	Up to 30%	More than 30% to 50% Burden	More than 50%
MA	-27,478	12,499	12,735
Berkshire	-1,026	-99	84
Cape and Islands	-3,022	961	1,694
Central	-1,898	1,615	1,731
Greater Boston	-10,649	5,503	5,979
Northeast	-3,943	1,321	2,378
Pioneer Valley	-3,448	1,592	333
Southeast	-3,503	1,605	535

Sources: US Bureau of Census, 2000, American Community Survey (ACS), 2005/2006

Note: The shaded data denotes statistically significant change.

Table 4-7.2. Percent Change in Mortgage Burden, by Mortgage Status and Region, 2000–2005/2006

With Mortgage			
Region	Up to 30%	More than 30% to 50% Burden	More than 50%
MA	-8.3%	46.5%	47.0%
Berkshire	4.7%	29.8%	0.0%
Cape and Islands	-9.2%	33.3%	73.2%
Central	-5.8%	56.0%	50.5%
Greater Boston	-9.0%	45.8%	43.8%
Northeast	-11.5%	50.0%	51.2%
Pioneer Valley	-5.0%	24.3%	27.2%
Southeast	-9.2%	56.8%	57.4%
Free and Clear			
Region	Up to 30%	More than 30% to 50% Burden	More than 50%
MA	-7.4%	31.5%	41.2%
Berkshire	-8.4%	-8.4%	11.2%
Cape and Islands	-11.8%	38.3%	92.1%
Central	-4.4%	35.3%	62.7%
Greater Boston	-8.0%	38.3%	46.6%
Northeast	-7.6%	25.3%	58.3%
Pioneer Valley	-7.5%	35.6%	10.5%
Southeast	-5.8%	21.9%	9.8%

Sources: US Bureau of Census, 2000, American Community Survey (ACS), 2005/2006
 Additional statistical significance testing for percent changes was not done.

As shown in Tables 4-7.1 and 4-7.2, from 2000 to 2005/2006, more homeowners across the state have experienced cost burdens. In 2000, 27.4 percent of all Massachusetts mortgaged homeowners faced a cost burden, compared to 15.9 percent of all free and clear homeowners. Between 2000 and 2005/2006, burden escalated for both types of homeowners, although it was worse for those with mortgages, increasing 10.2 percentage points to 37.6 percent, compared to free and clear homeowners whose burden increased 5.8 percentage points to 21.8 percent. In 2005/2006, 47 percent more households with mortgages faced a severe cost burden of over 50 percent and 46.5 percent more households faced a burden of more than 30 and up to 50 percent compared with 2000. In addition, 41.2 percent more households who own their homes outright also faced this severe burden.

Change in debt burden for owner-occupied households

In 2005/2006, 27.9 percent of homeowners experiencing housing cost burden had both a first mortgage and a second loan, such as a second mortgage and/or a home equity line. This highlights the extent to which homeowners in the state have over-leveraged the equity in their homes. As Table 4-8 illustrates, Massachusetts homeowners have taken on second mortgages and utilized home equity lines of credit in large numbers since 2000. In 2005/2006, 135,809 more owner-occupied households in Massachusetts struggled with the additional cost burden of repaying a home equity loan. Low interest rates along with loose credit approval standards during the early 2000s are undoubtedly part of the reason for the rise in debt-related components of burden. The number of households with home equity lines increased 91 percent (135,809 households) from 2000 to 2005/2006, while the number of households with both a second mortgage and home equity line increased by 282.2 percent (10,129 households) during the same period.

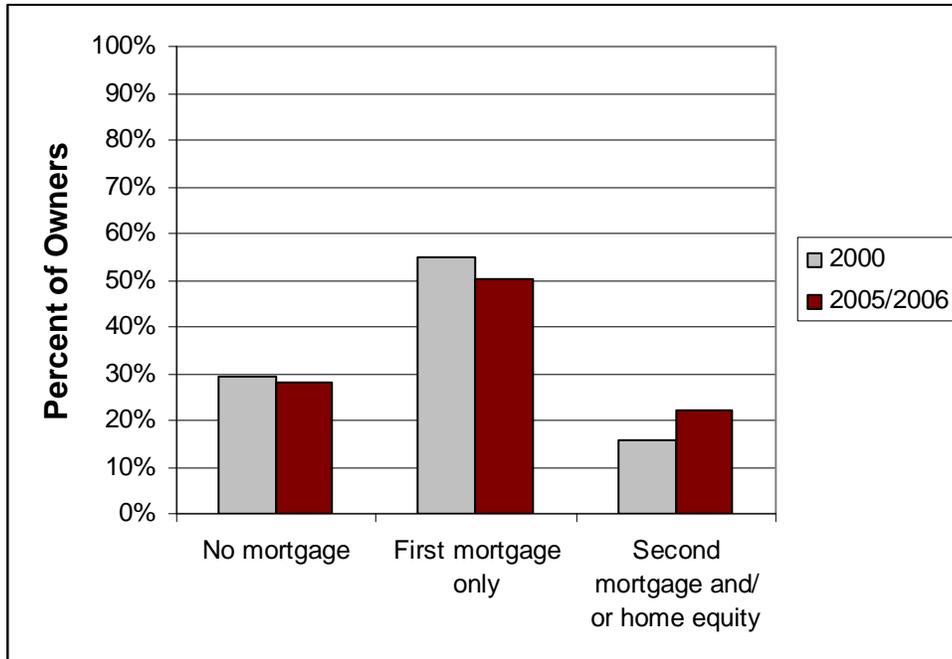
Table 4-8. Statewide Mortgage Status Detail for Owner Households, 2000–2005/2006

Mortgage status	2000			2005/2006			2000-2005/2006	
	Households	Percent	Margin of Error	Households	Percent	Margin of Error	Change	% Change
First mortgage only	827,800	54.9%	7,928	791,985	50.2%	11,611	-35,815	-4.3%
First and Second mortgage	85,875	5.7%	3,095	47,629	3.0%	5,259	-38,247	-44.5%
First mortgage and home equity loan	149,162	9.9%	4,023	284,971	18.1%	6,067	135,809	91.0%
First and Second mortgage and home equity loan	3,589	0.2%	644	13,718	0.9%	1,634	10,129	282.2%
No mortgage	442,412	29.3%	6,464	440,168	27.9%	7,181	-2,245	-0.5%
All	1,508,838	100.0%	11,438	1,578,470	100.0%	15,923	69,632	4.6%

Source: U.S. Bureau of Census, 2000, American Community Survey (ACS), 2005/2006

Note: The shaded data denotes statistically significant absolute changes. Separate statistical significance tests for percent changes were not performed.

Figure 4-5. Statewide Mortgage Status for All Owner Households, 2000–2005/2006



Source: U.S. Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

The rise in additional loans occurred across all regions, but the trend in increased debt burden was most striking in Greater Boston, which saw a 94.7 percent increase (52,038 households) in households with home equity loans, and a 395.9 percent increase (5,205 households) in households with second mortgage and home equity loans. Similar regional jumps in debt-related household financing are as follows: the Northeast region had a 96.9 percent increase (23,543 households) in households with home equity loans and a 225.4 percent increase (1,373 households) in households with second mortgage and home equity loans, the Southeast region witnessed a 96.5 percent increase (24,546 households) in households with home equity loans and a 158.6 percent (1,082 households) increase in households with second mortgage and home equity loans, and the Central region had an 82.4 percent increase (14,536 households) in households with home equity loans and 357.3 percent increase (1,364 households) in households with second mortgage and home equity loans. See Appendix Three for further detail by region.

Housing cost burdens for families with children

Families with children make up an increasingly smaller share of all households in the Commonwealth, though they are among the most cost-burdened demographics. In 2005/2006, 32.4 percent of all Massachusetts households (793,166 households) were families with children. There were 19,895 fewer rental households with children, but 12,313 more owner households with children in 2005/2006 than in 2000. Table 4-9 shows cost burden levels for households with and without children.

Table 4-9. Statewide Number of Households Facing Burdens, With and Without Children, 2000–2005/2006

Households	Up to 30%		More than 30% to 50 % Burden		More than 50%	
	2000	2005/2006	2000	2005/2006	2000	2005/2006
No children	1,187,080	1,041,028	247,907	322,917	208,863	291,768
Children	572,391	468,227	139,606	189,288	88,751	135,652

Source: US Bureau of Census, 2000, American Community Survey (ACS), 2005/2006

Table 4-10. Statewide Change in Household Cost Burdens, With and Without Children, 2000–2005/2006

Households	Up to 30%		More than 30% to 50 % Burden		More than 50%	
	Change	Percent Change	Change	Percent Change	Change	Percent Change
No children	-146,053	-12.3%	75,010	30.3%	82,905	39.7%
Children	-104,164	-18.2%	49,682	35.6%	46,901	52.8%

Source: US Bureau of Census, 2000, American Community Survey (ACS), 2005/2006

Note: The shaded data denotes statistically significant absolute changes. Separate statistical significance tests for percent changes were not performed.

Table 4-11. Statewide Households with Children Facing Burden, 2000–2005/2006

Households with children	Rent		Owners	
	2000	2005/2006	2000	2005/2006
Up to 30%	163,083	109,847	409,308	358,380
More than 30% to 50 % Burden	49,455	59,319	90,151	129,969
More than 50%	46,460	69,937	42,291	65,715
Total	258,998	239,103	541,750	554,063

Source: US Census Bureau, 2000, American Community Survey (ACS), 2005/2006

Table 4-10 shows absolute and percent changes in the burden statuses of families with and without children. Between 2000 and 2005/2006, the total number of cost-burdened households with children increased by 96,583 households. Although they are a smaller share of all households, families that rent are among the most cost burdened. About 54 percent of all renting families in 2005/2006 faced cost burden, compared to 37 percent in 2000. Of all owning families in 2005/2006 about 35 percent faced cost burdens, compared to about 24 percent in 2000.

Table 4-11 shows the differing cost burdens of renter and owner households with children. Of the 239,103 families that rented in 2005/2006, close to 30 percent faced severe burdens. This level increased from 2000 by 11 percentage points. Of the total 554,063 families that owned their home in 2005/2006, only 11 percent faced severe cost burden, although this is also up from 2000 by four percentage points.

Age and burden

Table 4-12. Statewide Renter and Owner Burden, by Age, 2000–2005/2006

Massachusetts renters % share					Massachusetts renters absolute households				
Age	No burden		Burden		Age	No burden		Burden	
	2000	2005/2006	2000	2005/2006		2000	2005/2006	2000	2005/2006
Under 30	64.3%	49.4%	35.7%	50.6%	Under 30	139,857	97,245	77,493	99,636
30 to 49	69.8%	55.1%	30.2%	44.9%	30 to 49	278,987	200,319	120,426	163,526
50 to 64	65.8%	52.9%	34.2%	47.1%	50 to 64	93,592	82,673	48,709	73,505
65 to 74	58.8%	51.1%	41.2%	48.9%	65 to 74	42,630	32,337	29,817	31,000
75 and over	55.5%	46.5%	44.5%	53.5%	75 and over	57,883	41,919	46,366	48,251
Total	65.5%	52.2%	34.5%	47.8%	Total	612,949	454,492	322,811	415,917
Massachusetts owners % share					Massachusetts owners absolute households				
Age	No burden		Burden		Age	No burden		Burden	
	2000	2005/2006	2000	2005/2006		2000	2005/2006	2000	2005/2006
Under 30	71.1%	52.7%	28.9%	47.3%	Under 30	37,378	30,601	15,213	27,520
30 to 49	76.0%	64.5%	24.0%	35.5%	30 to 49	496,071	421,853	156,252	231,741
50 to 64	79.4%	72.8%	20.6%	27.2%	50 to 64	339,031	364,587	87,939	135,949
65 to 74	74.5%	68.7%	25.5%	31.3%	65 to 74	146,581	124,067	50,222	56,484
75 and over	70.8%	61.2%	29.2%	38.8%	75 and over	127,461	113,656	52,690	72,014
Total	76.0%	66.8%	24.0%	33.2%	Total	1,146,522	1,054,763	362,316	523,707

Source: US Bureau of Census, 2000; American Community Survey (ACS), 2005/2006

Across all age and tenure categories, burden increased between 2000 and 2005/2006. Although the elderly are often seen as bearing the greatest brunt of housing cost burden, in fact, burden increased most dramatically for owners and renters under 30 years of age (18.4 and 14.9 percent, respectively) between 2000 and 2005/2006. Likely, this is partially due to renters who have moved into homeownership situations beyond their means. Renters between the ages of 50 to 64 fared almost twice as badly as owners of the same age with regard to an increase in burden (12.8 percentage points as compared to 6.6 percentage points).

Income and burden

Table 4-13. Statewide Housing Cost Burden by Income Quartile for Owner and Renter Households, 2000–2005/2006

Housing Cost Burden	First quartile	Second quartile	Third quartile	Fourth quartile	First quartile	Second quartile	Third quartile	Fourth quartile
	2000 owner households				2000 % of owners in quartile			
Up to 30%	145,248	272,470	408,573	510,012	66.4%	80.1%	94.2%	98.7%
More than 30% to 50%	20,773	52,360	21,990	6,218	9.5%	15.4%	5.1%	1.2%
More than 50%	52,585	15,189	3,011	409	24.1%	4.5%	0.7%	0.1%
	2005/2006 owner households				2005/2006 % of owners in quartile			
Up to 30%	52,734	184,904	317,735	499,391	24.0%	52.4%	68.7%	91.9%
More than 30% to 50%	53,102	100,922	122,086	41,249	24.1%	28.6%	26.4%	7.6%
More than 50%	114,250	67,044	22,361	2,695	51.9%	19.0%	4.8%	0.5%
	2000 renter households				2000 % of renters in quartile			
Up to 30%	153,674	209,331	160,290	89,654	38.1%	76.4%	95.4%	98.9%
More than 30% to 50%	103,366	55,261	7,200	963	25.6%	20.2%	4.3%	1.1%
More than 50%	146,226	9,313	461	*	36.3%	3.4%	0.3%	*
	2005/2006 renter households				2005/2006 % of renters in quartile			
Up to 30%	103,009	146,165	138,197	67,121	26.0%	57.2%	91.5%	98.9%
More than 30% to 50%	92,823	89,100	12,176	749	23.4%	34.8%	8.1%	1.1%
More than 50%	200,048	20,405	618	0	50.5%	8.0%	0.4%	0.0%

Source: US Census Bureau, 2000; American Community Survey (ACS), 2005/2006

* Number suppressed due to lack of statistical significance

Note: In 2005/2006, first quartile income was up to \$28,438; second quartile income was up to \$58,939; third quartile was up to \$101,567; fourth quartile was incomes about \$101,567.

Since 2000, more households across all income quartiles have experienced housing cost burdens. However, owners in the first and second quartiles have had the most striking increase. The low and moderate-income owner households facing the most severe cost burden increased from 24.1 to 51.9 percent, and from 4.5 to 19.0 percent respectively between 2000 to 2005/2006; in absolute numbers this was an increase from 52,585 to 114,250 low-income households and from 15,189 to 67,044 moderate-income households. Low-income owners with burden between 31 and 50 percent of household income increased from 9.5 to 24.1 percent in the same time period. In contrast, the majority of owners and renters in the top quartile have no housing cost burden.

Regional variation in burden by income follows a similar trajectory to the variation in income inequality across regions. While the lowest quartiles in all regions saw increases in owner and renter housing cost burden, the Northeast and Greater Boston regions, the areas of the state where income inequality is the greatest, were home to some of the greatest increases in severe cost burden for the lowest income households. In the Northeast region, low-income households with burden greater than 51 percent rose 32.6 percentage points from 2000 to 2005/2006. During the same period, the number of low-income households with severe burden rose in Greater Boston 29.2 percentage points. The Cape and Islands also saw an increase of 33.7 percentage points in low-income households with severe cost burden.

Pricing trends and affordability

Mortgage and home price affordability

Table 4-14. Mortgage and Home Price Affordability, by Median Family Income (MFI) and County, 2006 and 2007

County	Amount of mortgage affordable at 6.41%**		Home price affordable with 10% down payment		2007 median single family home price
	80% county MFI	100% county MFI	80% county MFI	100% county MFI	
Barnstable	\$196,468	\$245,584	\$218,297	\$272,872	\$436,900
Berkshire	\$172,049	\$215,061	\$191,165	\$238,956	\$184,000
Bristol	\$181,657	\$227,071	\$201,841	\$252,301	\$296,000
Dukes	\$182,809	\$228,511	\$203,121	\$253,901	\$776,830
Essex	\$206,555	\$258,193	\$229,505	\$286,881	\$340,000
Franklin	\$176,435	\$220,543	\$196,038	\$245,048	\$180,000
Hampden	\$158,016	\$197,520	\$175,573	\$219,466	\$190,000
Hampshire	\$198,348	\$247,935	\$220,386	\$275,483	\$261,000
Middlesex	\$244,851	\$306,064	\$272,057	\$340,071	\$398,000
Nantucket	\$221,908	\$277,385	\$246,565	\$308,206	\$1,690,000
Norfolk	\$246,834	\$308,542	\$274,260	\$342,825	\$385,000
Plymouth	\$220,635	\$275,793	\$245,149	\$306,437	\$300,000
Suffolk	\$147,355	\$184,194	\$163,728	\$204,660	\$329,999
Worcester	\$203,797	\$254,746	\$226,441	\$283,051	\$240,000

Sources: Income - 2006 ACS; median single family home price - The Warren Group Publications; real estate taxes and insurance are estimated at 1.5 percent of purchase price; interest rate from Freddie Mac primary mortgage market survey.

Notes: Incomes are for 2006; home prices are for 2007. It is assumed that affordable mortgage payments are 26 percent of income. An estimated additional seven percent of income would be spent on taxes, insurance, etc.

*Median Family Income (MFI) for Dukes and Nantucket is estimated at 20 percent above 1999 MFI, consistent with statewide increase between 1999 and 2006.

**Annual principal and interest at 6.41 percent is (June 2008 average rate, 30 year fixed) is \$75.12 per \$1,000 borrowed; a 5/1 ARM would carry a lower interest rate of 5.87 percent, requiring an annual payment per \$1,000 of \$70.92. The effect of the lower rate adjustable mortgage would be to increase the amount affordable to a Barnstable family earning 80 percent of AMI to \$231,225 instead of \$218,299.

As seen in the table above, home prices across the state would have to drop significantly in order for households with the median family income (MFI) to be able to afford to buy even a median priced single family home. The disconnect between median income and affordability includes not only the interest rate, but also the amount of down payment a household can afford to make. In most counties, even the median single family home price in 2007 was a far cry from being affordable, given prevailing mortgage rates and 10 percent down payments. Not surprisingly, prices in counties comprising the Cape

and Islands region are the most expensive, while the counties in the Pioneer Valley and Berkshire regions have median home prices in line with 100 percent of the county MFI. Counties in Greater Boston, Central, Northeast and Southeast continue to have homes priced beyond the reach of many households.

Rent affordability

Table 4-15. Median Rent Affordability, by Region (2006\$), 2000–2005/2006⁵³

Region	Median gross rent 2000	Median gross rent 2005/2006	Percent change 2000 - 2005/2006	Median renter income 2000	Median renter income 2005/2006	Percent change 2000 - 2005/2006
MA	\$763	\$898	17.7%	\$34,530	\$32,298	-6.5%
Berkshire	\$544	\$575	5.7%	\$26,045	\$20,556	-21.1%
Cape and Islands	\$794	\$940	18.4%	\$34,350	\$37,123	8.1%
Central	\$660	\$789	19.5%	\$32,435	\$31,120	-4.1%
Greater Boston	\$939	\$1,088	15.8%	\$41,324	\$38,309	-7.3%
Northeast	\$772	\$910	17.9%	\$34,601	\$31,740	-8.3%
Pioneer Valley	\$624	\$682	9.3%	\$27,254	\$24,457	-10.3%
Southeast	\$649	\$764	17.9%	\$30,105	\$30,024	-0.3%

Sources: U.S. Census Bureau, 2000; American Community Survey (ACS), 2005/2006

Note: Gross rent includes rent and utilities. All figures are in 2006 dollars.

Statistical significance testing was not done.

Just as home prices are out of step with income for many Massachusetts households, so too are rents. The number of renters decreased from 2000 to 2005/2006, in part because many renters with higher incomes became owners over this period, lowering the median renter income across the state. During this same period, as discussed above, the incomes of the lowest quintiles declined as well, particularly in the two Western Massachusetts regions.

Median gross rent, which includes utilities, increased across the state between 2000 and 2005/2006. While median gross rent in the Pioneer Valley and Berkshire regions increased at a relatively modest pace, this was offset by the lack of income growth. As a result, there were, in fact, further declines in affordability. The Southeast region saw relatively flat renter income change over the period,

while median gross rent increased over 17 percent in the region. The Central region had the highest percentage of growth in median gross rent (an increase of just over 19 percent), while its median renter income decreased four percent over the same period. Greater Boston continued to have the highest median gross rent in the state, even as the median income for renters in this region declined in real terms.

Other indicators

In addition to the costs that are directly related to housing, other economic factors are placing strains on household budgets and by extension the housing market. Skyrocketing heating costs, rising property taxes, increased difficulty in accessing mortgages and credit lines, and inflation in the costs of other necessities have all contributed to making housing less affordable for many Massachusetts households.

Property taxes

Increases in the average property tax bill in Massachusetts have outpaced any increases in median income and, more recently, the average assessed value of homes.⁵⁴ According to a 2007 report from the Massachusetts Budget and Policy Center (MBPC), the average property tax bill increased 16 percent between 2001 and 2006, in 2006 dollars, rising from \$3,212 to \$3,725. During the same time period, the median household income decreased by approximately two percent, from \$59,386 in 2001 to \$55,625 in 2006.⁵⁵

⁵³ The U.S. Census and American Community Survey data do not allow us to distinguish whether reported rent payments reflect any housing subsidies that some low-income renters receive. Accordingly, these data may overstate the extent to which renters that are eligible for and receiving these subsidies are experiencing rental cost burden.

⁵⁴ Carroll, Matt. 2008. Property tax climbs as values dip. *Boston Globe*, August 17, Local News section. http://www.boston.com/news/local/articles/2008/08/17/property_tax_bills_climb_as_values_dip?2_campaign=8315 Accessed August 18, 2008. Massachusetts Budget and Policy Center. 2007. Property taxes in Massachusetts: Trends and options. <http://www.massbudget.org/Property_Taxes_in_Massachusetts.pdf>. Accessed August 18, 2008.

⁵⁵ These numbers are lower than the medians that appeared in this report, primarily because the MBPC report did not include either Boston or Cambridge as these communities offer residential exemption on property taxes. Despite these methodological issues, the MBPC numbers nevertheless support the claim that property taxes have increased more rapidly than income.

Property taxes in Massachusetts have continued to rise even as the average value of homes in Massachusetts has slumped. Recent data released by the Massachusetts Department of Revenue indicate that the average property tax bill increased almost four percent over the last year, with at least thirty communities facing an increase of over five percent. At the same time, the average assessed value of homes dropped almost \$3,000 dollars between 2007 and 2008.⁵⁶ Since property taxes vary from town to town, the impact of property tax increases varies by community and region. What is clear, however, is that property taxes, in both absolute dollars and percentage terms, have increased even as income and home values have stagnated or even decreased. Financial pressures such as these may further impair the ability of the average Massachusetts citizen to afford a home.

The credit crunch

The most recent Senior Loan Officer Opinion Survey on Bank Lending Practices produced by the Federal Reserve Board in July 2008 suggests that banks across the nation are tightening their qualification requirements for residential mortgages.⁵⁷ At the same time, about 30 percent of U.S. banks that responded reported weaker demand for prime residential mortgage loans. Furthermore, banks reported that the number of applications for mortgages had also decreased, though it is unclear whether this decrease in applications is due to perceptions that it is hard to get a loan or to perceptions that buying a home is simply too expensive. Overall, these survey results indicate that fewer people may be able to obtain the mortgage they require to purchase a home.

In addition to mortgages, there are indications that it may be harder to qualify for credit cards. Just over 65 percent of the banks surveyed stated that the standards for approving credit card applications

⁵⁶ Carroll, Matt. 2008. Property tax climb as values dip. *Boston Globe*, August 17, Local News section. <http://www.boston.com/news/local/articles/2008/08/17/property_tax_bills_climb_as_values_dip?s_campaign=8315>. Accessed August 18, 2008.

had been tightened. These tightening standards may not be only for new credit card accounts; forty-five percent of the respondents suggested that their banks had tightened standards for existing credit cards as well. Like mortgage applications, credit card applications have also decreased at approximately 40 percent of the banks surveyed. While issuing fewer credit cards may help ease the number of households experiencing credit card debt in the long run, in the short term, greater difficulty accessing consumer credit will likely place further financial pressure on Massachusetts households.⁵⁸

Consumer goods inflation

The Consumer Price Index for all Urban Consumers (CPI-U) measures the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.⁵⁹ The goods and services that are a part of this measure include housing, transportation, education and communication, food, recreation, medical costs, and apparel. In recent years, the average CPI-U for all items in New England has been about 6.5 percent higher than the rest of the United States.⁶⁰ Within New England, prices for transportation have increased more than 11 percent over the past year, and the cost of food in New England has increased almost five percent between June 2007 and June 2008.⁶¹ In fact, the only item in the CPI-U that has not increased in New England over the past year is the cost of apparel.

According to a recent release from the U.S. Department of Labor, the CPI-U for the Greater Boston Metropolitan Statistical Area (MSA) rose 6.3 percent between July 2006 and July 2007, and was

⁵⁷ Federal Reserve Board. 2008. The July 2009 Senior loan officer opinion survey on bank lending practices. <<http://www.federalreserve.gov/boarddocs/snloansurvey/200808/?>>. Accessed August 18, 2008.

⁵⁸ For an analysis of changes in the finances of American Households between 2001 and 2004: Bucks, Brian, Kennickell, Arther, Moore, Kevin, Fries, Geyhard, Neal, Michael. 2008. Recent changes in U.S. family finances: Evidence from the 2001 and 2004 Survey of Consumer Finances. *Federal Reserve Bulletin*. <<http://www.federalreserve.gov/PUBS/oss/oss2/2004/bull0206.pdf>>. Accessed August 18, 2008.

⁵⁹ Bureau of Labor Statistics. *Frequently Asked Questions*. <http://www.bls.gov/cpi/cipfaq.htm#Question_1>. Accessed August 18, 2008.

⁶⁰ New England Information Office. *New England – Consumer Prices*. Bureau of Labor Statistics. <http://bls.gov/xg_shells/ro1xg01.htm> Accessed August 18, 2008.

⁶¹ Bureau of Labor Statistics News. 2008. *Northeast Consumer Price Index. June 2008*. <<http://www.bls.gov/ro1/cpine/pdf>>. Accessed August 18, 2008.

“the highest annual increase recorded since November 1990.”⁶² When these CPI-U increases are more closely examined, energy costs account for a large portion of the increase. Between June 2007 and June 2008, energy costs increased just over 33.5 percent, “the highest annual increase since October 2005 during the aftermath of Hurricane Katrina.”⁶³ The cost of groceries in Boston increased three percent over the last year, a smaller though still significant increase, than New England in general.⁶⁴ The price inflation in both the Greater Boston MSA and New England more broadly, indicates that even as real income falls for most residents, the cost of everyday living is increasing. Not only does this suggest that the purchasing power of the average Massachusetts citizen is decreasing, but also that energy costs have become a larger and more expensive factor when considering the purchase of a home.

Heating costs⁶⁵

Substantial increases in the cost of heating a home will also impact housing affordability. Between 2003 and 2008, the regional retail price of home heating oil rose more than 100 percent, from \$1.43 per gallon to an annual average price of \$2.97 per gallon.⁶⁶ During the same period, residential prices for natural gas rose by 41 percent, and household electric utility customers saw a 50 percent increase.⁶⁷ While energy prices have been highly volatile for the last six months with significant recent declines associated with the economic slowdown, the U.S. Energy Information Administration is still

⁶² Bureau of Labor Statistics News. 2008. Boston area Consumer Price Index up 2.5 percent in July: Rose 6.3 percent over the year. <<http://www.bls.gov/ro1/cpibos.pdf>>. Accessed August 18, 2008.

⁶³ Bureau of Labor Statistics News. 2008. *Consumer Price Index for food and energy Boston-Brockton-Nashua, MA-NH-ME-CT June 2008*. <<http://www.bls.gov/ro1/cpibosfe.pdf>>. Accessed August 18, 2008.

⁶⁴ Ibid.

⁶⁵ The first paragraph of this section is taken verbatim from a report entitled, “Heat Rises: The growing burden of residential heating costs on Massachusetts Households,” issued by the Donahue Institute, July 31, 2008.

⁶⁶ 2003 oil price based on U.S. Energy Information Administration regional residential retail heating oil price data for Northeast, 2008 annual data based on Massachusetts Department of Energy Resources Heating Oil Price survey, October 28, 2008.

⁶⁷ U.S. Energy Information Administration regional residential retail utility gas and electricity energy price data for New England, 2008 data based on EIA Short-Term Energy Outlook projections published October 7, 2008.

projecting modest increases in the price of home heating oil, utility gas and electricity for New England consumers in 2009.⁶⁸

Energy prices will continue to have a significant effect on the cost of home ownership. Ninety-five percent of Massachusetts' 2.7 million households heated their homes with oil, gas or electricity in 2005/2006.⁶⁹ Because the price of heating oil has risen much more than other fuels, and because homeowners are twice as likely to heat with oil as renters, homeowners who heat with oil will experience a disproportionate share of the increase in heating costs.⁷⁰ According to a recent study by the UMass Donahue Institute, 82 percent of those households burdened by heating oil costs in 2009 will be homeowners.⁷¹ The average oil-heated Massachusetts household spent just under \$1,800 to heat their home in 2006; the same quantity of fuel is projected to cost just under \$2,195 in 2009.⁷²

Two groups will be disproportionately affected by these rising fuel costs: low-to-moderate income households and the elderly. Oil-heated households identified as burdened in the study noted above have household incomes that place them in the bottom two quintiles in the Commonwealth. Moreover, of those households projected to be severely burdened by their oil heat costs in 2009, more than half (51 percent) are headed by householders over the age of 70. This is particularly striking when one notes that fewer than 15 percent of all households in the Commonwealth are headed by householders in this age group.⁷³

⁶⁸ U.S. Energy Information Administration Short-Term Energy Outlook projections published October 7, 2008.

⁶⁹ U.S. Census Bureau, American Community Survey 2005 and 2006.

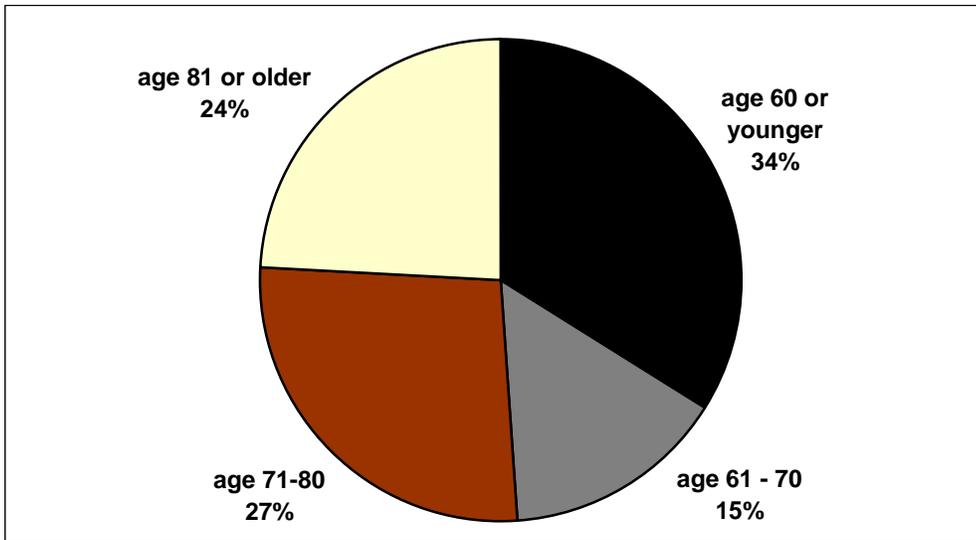
⁷⁰ Ibid.

⁷¹ Sherman, Robin, Wolf, Jeremy, Curtis, Anna, Goodman, Michael, Koshgarian, Lindsay, Modzelewski, Kathleen. 2008. *Heat Rises: The growing burden of residential heating costs on Massachusetts Households*. University of Massachusetts Donahue Institute. Due to the fact that household-level data on heating costs was only available for households that heat with oil, this report understated the burden of increases in the cost of heat for renters, and for homeowners who heat with gas and electricity.

⁷² U.S. Census Bureau, American Community Survey 2006 and UMDI estimates based on fuel prices as of October 2008. Projections assume that the average annual retail price of heating oil in 2009 will be \$3.04 per gallon, which is 20 percent below the October Short Term Energy Outlook forecast.

⁷³ Ibid.

Figure 4-6. Severely burdened oil heat households by age of householder, 2009⁷⁴



Source: U.S. Census Bureau, American Community Survey, 2005/2006, Energy Information Administration and UMDI projections

These increases in the cost of home heating could create significant stress on the housing market. Elderly homeowners may begin to find it difficult to keep their homes, particularly if they are still making mortgage payments. Younger, low-to-moderate income buyers may see rising heating costs as an additional barrier to home ownership. It is also worth noting that these rising costs will affect rent prices as well, providing an additional obstacle for first-time buyers to overcome in the effort to save for a down payment.

⁷⁴ UMDI defined “severe burden” as households in the lowest income quintile with oil heat cost exceeding five percent of income, and households in the second-lowest income quintile with oil heat cost exceeding 10 percent of income.

Conclusion

Although home prices have been declining since late 2005 across the state, increased housing cost burden in the form of higher property taxes, rising utility costs, and additional housing debt in the form of second mortgages and home equity loans, has made these lower prices helpful only to those prospective homeowners who have adequate savings, incomes and credit to buy in the current market. Housing cost burden hits the most vulnerable populations the hardest — renters, families, the young and old, and the poor. In addition, housing affordability affects the state's ability to retain and attract young residents. As households see their income eaten up by greater debts, housing and otherwise, housing affordability will continue to erode across the Commonwealth.

Chapter 5: The Housing Safety Net

Public and subsidized housing represents the safety net for many of the Commonwealth's most vulnerable low-income residents, and Massachusetts has been a national leader in providing the resources to create and maintain that safety net. As the supply of low cost unsubsidized units has declined, public and publicly assisted housing has become an increasingly important affordable housing resource.

One of the objectives of this housing market assessment was to provide the Department of Housing and Community Development (DHCD) with information to help guide its housing investment strategies for serving low-income families and individuals (those earning less than 80 percent of the Area Median Income, or AMI). In particular, DHCD sought to establish the current number of individuals or households that qualify for certain housing types by region, and to identify where there were unmet needs. This section identifies existing resources and estimates the unmet needs in each of the seven *MassBenchmarks* regions.

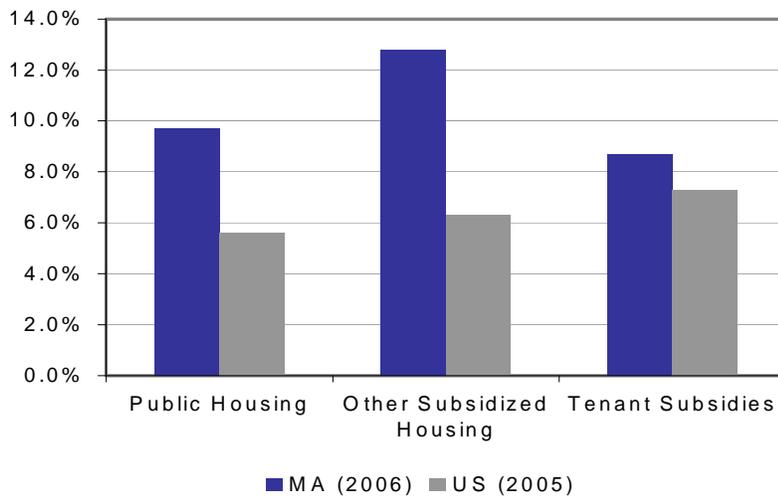
The existing inventory of subsidized housing

Over the years the Commonwealth has provided housing resources to support the development of both rental and ownership housing for its low-income households. DHCD maintains a Subsidized Housing Inventory (SHI) to monitor progress toward its goal of having 10 percent of the year round housing stock in every municipality qualify as subsidized. The following is an overview of subsidized housing resources.

Rental assistance

A range of rental programs are in place to support the housing needs of Massachusetts' low-income households. More than 22 percent of the state's rental stock is subsidized (public housing plus other privately owned, publicly assisted housing), which is nearly twice the national average.⁷⁵ As shown in Figure 5-1, Massachusetts outpaces the nation in the number of tenant subsidies, or voucher programs, per overall rental unit (8.7 percent versus 7.3 percent).

Figure 5-1. Percentage of Public Assistance for Rental Housing, Massachusetts versus U.S.



Source: MA figures are from authors' calculations based on estimated data provided by DHCD; U.S. figures are from the 2005 Annual Housing Survey

Based on an analysis of the Massachusetts Subsidized Housing Inventory (SHI) and other public records provided by DHCD,⁷⁶ estimates of the state's publicly assisted rental housing inventory include the following, shown in Table 5-1.

⁷⁵ U.S. Census Bureau, *2005 American Housing Survey*. A housing unit is classified as having a subsidy if the household pays a lower rent because a federal, state, or local government program pays part of the cost of construction, mortgage, or operating expenses. These programs include rental assistance programs where part of the rent for low-income families is paid by HUD, and direct loan programs of HUD and the Department of Agriculture for reduced cost housing. Units requiring income verification are usually subsidized. The Census Bureau offers the following important caveat: many households in these programs apply through the public housing authority, and misreport themselves in public housing. Others do not think of their units as subsidized, and misreport themselves as unsubsidized. Subsidies for homeowners, including HUD subsidies for cooperatives, are not counted.

⁷⁶ These numbers are estimates based on the authors' analysis of the State Subsidized Housing Inventory (SHI) and other public records, including data provided by DHCD, regional non-profits and local housing authorities, municipal documents, and testimony of local officials

Table 5-1. Subsidized Rental Housing in Massachusetts, 2008

Type of rental housing	# of units
State funded public housing	49,000
Federally funded public housing	34,000
Privately owned, publicly subsidized housing	110,000
Total	193,000

Source: Massachusetts State Subsidized Housing Inventory, 2008

In addition to state and federally funded public housing and privately owned subsidized housing, over 78,000 households receive assistance with their rental payments under the federal Section 8 Housing Choice Voucher Program and the Massachusetts Rental Voucher Program (see Table 5-2).⁷⁷ Vouchers enable renters to secure housing in the private market, including in some cases, subsidized developments. In addition, there are approximately 11,000 units for consumers with specialized housing needs. These are predominantly group homes under contract with the state's Departments of Mental Retardation and Mental Health.⁷⁸

Counting these tenant-based subsidies, more than 30 percent of the state's renter households benefit from some form of housing assistance. Still, Massachusetts renters face a serious housing affordability problem that has only grown worse in recent years as the supply of low cost unsubsidized housing (the traditional source of housing for most low-income households) has dwindled.

Tables 5-2 and 5-3 provide an overview of rental resources, by region, currently being utilized to address the problems of housing affordability and quality.

and community development key informants. Many projects use multiple subsidy sources, and the number of units restricted to low-income occupancy may change over time.

⁷⁷ The 110,000 units of privately owned publicly subsidized housing include units financed, subsidized or insured by HUD, MassHousing, Rural Housing Services, Low-income Housing Tax Credits, etc. They include approximately 72,000 units built/subsidized mid-60s to mid-80s; 8,000 units built/subsidized between the mid-80s to 1990; and 30,000 units built/subsidized since early 90s. According to the quasi-public Community Economic Development Assistance Corporation's December 2008 tally, about 19,000 of these older subsidized units may be at risk of being lost to the subsidized inventory between now and December 2010, either because the expiration of their use restrictions or rental assistance.

⁷⁸ Excludes special needs units built under the state's public housing programs

Table 5-2. Income-Restricted, Subsidized Rental Units by Region and its Share of Public Housing, 2008

Region	Region's share of all housing	Region's share of public housing	# of subsidized rental units*	Public housing as % of subsidized units
Berkshire	2%	2%	3,528	45.2%
Greater Boston	41%	47%	98,194	40.1%
Cape and Islands	4%	2%	3,714	38.2%
Central	12%	10%	19,080	43.5%
Northeast	14%	14%	22,270	50.4%
Pioneer Valley	11%	10%	22,618	37.1%
Southeast	16%	15%	23,969	52.8%
MA	100%	100%	193,373	42.9%

Source: B. Heudorfer analysis of 3/14/08 Subsidized Housing Inventory

*Excludes DMR, DMH; includes public housing. **Includes only units restricted to occupancy by low-income households.**

In Massachusetts overall, almost 43 percent of all subsidized housing is made up of public housing units. Public housing's share of subsidized rental units varies by region, from nearly 53 percent in the Southeast region to 38 percent in the Cape and Islands region.

Table 5-3. Tenant Based Subsidies by Region, 2008

Region	Tenant based subsidies (vouchers)	Percent of all tenant based subsidies
Berkshire	1,619	2.1%
Greater Boston	39,362	50.0%
Cape and Islands	2,261	2.9%
Central	5,587	7.1%
Northeast	9,080	11.5%
Pioneer Valley	10,913	13.9%
Southeast	9,932	12.6%
MA	78,754	100.0%

Source: B. Heudorfer analysis of 3/14/08 Subsidized Housing Inventory

Half of all tenant-based subsidies in the state are utilized in the Boston Metro region (50.0 percent). The Berkshire and Cape and Islands regions utilize only 2.1 and 2.9 percent respectively. The other regions range from 7.1 percent in the Central region to 13.9 percent in the Pioneer Valley region.

Homeownership assistance

In addition to its long record of producing subsidized rental housing, Massachusetts is one of a handful of states that uses its financial resources and regulatory powers to expand homeownership opportunities for low-income families. Since the mid-1980s, the Commonwealth has supported the development of new homes for sale to households earning no more than 80 percent of the area median income with its own resources as well as federal funds that flow through DHCD. The availability of subsidy programs to expand homeownership enabled developers of such housing, beginning in the 1980s, to use the comprehensive permit provisions of MGL Chapter 40B. At first only developments with public subsidies, administered by public or quasi-public agencies, were eligible to apply for a comprehensive permit, but a landmark 1999 Housing Appeals Committee decision expanded eligibility to include projects financed under the Federal Home Loan Bank of Boston's (FHLBB) New England Fund program provided they comply with established income, affordability, and affirmative marketing requirements.⁷⁹ More than 4,700 deed-restricted ownership units have been created under 40B, and since 2000 much of the expansion of the state's subsidized inventory has resulted from this type of development.⁸⁰

The utilization of homeowner assistance resources varies by region. In addition to affordable, deed-restricted homes built using subsidies or regulatory relief such as 40B, homeowner assistance may also take the form of below market rate financing for the purchase or repair of residences. Table 5-4 provides an overview by region of these resources.

⁷⁹ Massachusetts Department of Housing and Community Development. "Guidelines for Housing Programs in Which Funding is Provided Through a Non-Governmental Entity." 2003.

⁸⁰ Heudorfer, B. "Update on 40B Housing Production." March 2007, Citizens' Housing and Planning Association. <http://www.chapa.org/files/f_122089067040BUpdate2007.pdf>.

Data are collected from state agencies, municipalities, funders, developers, and public records.

The 40B inventory is continually being updated. Errors or omissions are corrected as identified, and great care is taken to ensure its accuracy. However, there are no mandatory reporting requirements and projects often fall behind schedule. Changes in the number of units, financing, and even tenure do sometimes occur. Figures presented here are the author's best estimate of current activity.

Table 5-4. Homeowner Resources by Region, 2005-2007

Region	Affordable ownership units*	Average # of Mass Housing home purchase mortgages+	Average # of Mass Housing home improvement loans+	Average # of soft second loans+
Berkshire	102	97	15	0
Greater Boston	2,806	432	93	545
Cape and Islands	702	48	2	21
Central	838	218	72	79
Northeast	1,549	240	35	123
Pioneer Valley	413	274	67	92
Southeast	786	343	65	77
Total	7,196	1,651	347	937

Sources: B. Heudorfer analysis of 3/14/08 Subsidized Housing Inventory, MassHousing, Massachusetts Housing Partnership

*Excludes homeowner rehab, accessory dwelling and amnesty units, first time homebuyer, etc.

+ Annual Average, 2005-2007

While soft second mortgages are disproportionately concentrated in the Boston Metro region, MassHousing mortgages are used disproportionately by homebuyers in the Pioneer Valley and Berkshire regions. MassHousing home improvement loans see disproportionately high activity in the Pioneer Valley, Central, Southeast and Berkshire regions.

Massachusetts eligibility for housing assistance

To identify trends in the number of households eligible for assistance, the UMass Donahue Institute applied Housing and Urban Development (HUD) income limits for Massachusetts areas in 2000 and 2005/2006 to estimate the numbers of senior, family, and individual households that qualified for housing assistance in 2000 and 2005/2006.⁸¹ This measurement is intended to estimate income-based eligibility for housing assistance rather than housing burden, so it is distinct from the affordability analysis presented in Chapter Four. HUD eligibility income limits are defined for HUD Metro FMR (Fair Market Rent) Areas (HMFAs). In addition to geographic areas, HUD controls income limits for

⁸¹ HUD income limits are based on median family income in HUD-defined areas, and are adjusted to meet certain minimum thresholds as defined by federal statute and regulation. Senior households are identified here as households where the householder is 65 years of age or

household size. Ranges of HUD income limits for households of one and four people for Massachusetts HMFAs in FY2006 appear in Table 5-5. Typically, higher income eligibility limits are found in the Greater Boston area, while lower income eligibility limits are found in Western and Central Massachusetts.

Table 5-5. Range of FY2006 HUD Income Limits across Massachusetts Areas, by Household Size

Income category	Definition	One person household	Four-person household
Extremely Low-Income	0-30% of Area Median Income	\$15,050 - \$17,700	\$21,500 - \$25,250
Very Low-Income	31-50% of Area Median Income	\$25,100 - \$29,450	\$35,850 - \$42,050
Low-Income	51-80% of Area Median Income	\$40,150 - \$46,300	\$57,350 - \$66,150
Moderate-Income	81-120% of Area Median Income	\$60,225 - \$69,450	\$86,025 - \$99,225

Source: HUD Data Sets, <<http://www.huduser.org/datasets/il.html>>

These data provide estimates of the number of households eligible for assistance in 2005/2006. These estimates are conservative, since they employ lower income thresholds for eligibility in cases where American Community Survey geographies do not align with the HUD HMFAs.

In this section, we present estimates for family/group, senior and individual owner and renter households by HUD income category. Definitions for family/group, senior and individual households are as follows:

Families/Groups. These are households of more than one person, where the householder is under 65 years of age. Persons in the household may or may not be related.

Seniors. These are households of one or more persons where the householder is 65 years of age, or older.

Individuals. These are households of only one person, where the person is under 65 years of age.

older. Family households are multiple-person households where the householder is less than 65 years of age, and individual households are those with one person, who is under 65 years of age.

The estimates show that in 2005/2006, renters of all household types were more likely to meet HUD eligibility income thresholds than owners of any household type. Within renter or owner groups, seniors were the most likely to meet eligibility thresholds, followed by individuals under the age of 65, then families or groups living together.

Family households

In 2005/2006, an estimated 140,000 family households, or 10 percent of all family households, would be considered Extremely Low-Income (ELI) according to HUD eligibility thresholds. Nearly one-third of all family households had incomes at or below the Low-Income (LI) threshold. Tables 5-6 and 5-7 show family owner and renter households in each income eligibility category. Fully 59 percent of family owner households and 80 percent of family renter households were at or below the Moderate-Income limit of 120 percent of AMI.

Table 5-6. Massachusetts Family Owner Households by HUD Income Threshold, 2005/2006

Income level	Family owners	Percent	Margin of Error
Extremely Low-Income	28,950	2.9%	1,186
Very Low-Income	42,174	4.2%	1,451
Low-Income	113,231	11.2%	1,282
Moderate-Income	229,793	22.6%	1,290
Above Moderate-Income	601,322	59.2%	1,309
Total	1,015,468	100.0%	

Sources: ACS PUMS 2005, ACS PUMS 2006, HUD FY2006 Income Limits

Renters were far more likely than owners to have low-income levels. Nearly one quarter of family renter households were Extremely Low-Income, compared to only three percent of family owners. Sixty-two percent of family renter households were at or below the Low-Income threshold, compared to eighteen percent of family owner households. While family owners are predominantly Moderate-Income

or above, family renters are divided more equally across the range of incomes, with each income category accounting for between one in four and one in six family renters.

Table 5-7. Massachusetts Family Renter Households by HUD Income Threshold, 2005/2006

Income level	Family renters	Percent	Margin of Error
Extremely Low-Income	112,510	24.4%	1,554
Very Low-Income	72,361	15.7%	816
Low-Income	98,621	21.4%	684
Moderate-Income	87,017	18.9%	979
Above Moderate-Income	89,970	19.5%	606
Total	460,478	100.0%	4,638

Sources: ACS PUMS 2005, ACS PUMS 2006, HUD FY2006 Income Limits

A regional analysis of family/group households for 2005/2006 reveals that Greater Boston had a smaller share of the state’s Moderate- (31 percent) and Low-Income (33 percent) family/group owner households compared to Extremely Low- (36 percent), Very Low- (35 percent), or Above Moderate-Income family households (38 percent), supporting findings of widespread income inequality in the region. In contrast, Greater Boston’s share of the state’s family renter households was highest among Above Moderate-Income (59 percent) compared to Extremely Low-Income (45 percent). The Pioneer Valley had a greater share of the state’s Extremely Low-Income family/group renters, at 15 percent, compared to only five percent of Above Moderate-Income family or group renters, likely reflecting the high numbers of student renters in the region. Most other regions had shares of family households in each income category that were in line with their overall shares of those groups in the state. Appendix Four presents tables for income levels by household type and region.

Senior households

In 2005/2006, 29 percent of all households led by people 65 years of age or older were Extremely Low-Income. Over 69 percent of all senior households had incomes at or below the Low-Income threshold. Tables 5-8 and 5-9 show senior owner and renter households in each income eligibility category. Fully 79 percent of senior owner households and 96 percent of senior renter households were at or below the Moderate-Income limit of 120 percent AMI.

Table 5-8. Massachusetts Senior Owner Households by HUD Income Threshold, 2005/2006

Income level	Senior owners	Percent	Margin of Error
Extremely Low-Income	63,771	17.4%	486
Very Low-Income	76,014	20.8%	669
Low-Income	83,445	22.8%	131
Moderate-Income	66,393	18.1%	553
Above Moderate-Income	76,599	20.9%	279
Total	366,220	100.0%	

Sources: ACS PUMS 2005, ACS PUMS 2006, HUD FY2006 Income Limits

Senior renters were more likely than owners to be low-income. Fifty-five percent of senior renter households were Extremely Low-Income, compared to 17 percent of senior owner households. Eighty-nine percent of senior renter households were at or below the Low-Income threshold, compared to 61 percent of senior owner households. Senior owner households had a wide distribution of incomes, while senior renter households were predominantly Extremely Low-Income or Very Low-Income.

Table 5-9. Massachusetts Senior Renter Households by HUD Income Threshold, 2005/2006

Income level	Senior renters	Percent	Margin of Error
Extremely Low-Income	84,841	55.3%	338
Very Low-Income	31,868	20.8%	516
Low-Income	19,212	12.5%	290
Moderate-Income	10,762	7.0%	109
Above Moderate-Income	6,826	4.4%	64
Total	153,507	100.0%	1,316

Sources: ACS PUMS 2005, ACS PUMS 2006, HUD FY2006 Income Limits

A regional analysis of senior households in 2005/2006 revealed no major differences in income by region among senior owners. Eligibility rates for seniors were high in all regions. However, Greater Boston had a greater share of the state's Above Moderate-Income senior renters (55 percent), compared to 48 percent of the state's Extremely Low-Income senior renters and 40 percent of the state's Very Low-Income senior renters. The Southeast region had only nine percent of the state's Above Moderate-Income senior renters, compared to 14 percent of the state's Extremely Low-Income renters and 14 percent of the state's senior renters overall.

Individual households

In 2005/2006, 24 percent of all individual householders under 65 years of age were Extremely Low-Income. Fifty-seven percent of all individuals under 65 had incomes at or below the Low-Income threshold. Tables 5-10 and 5-11 show individual owner and renter households in each income eligibility category. Fully 67 percent of individual owner households and 88 percent of individual renter households were at or below the Moderate-Income limit of 120 percent of AMI.

Table 5-10. Massachusetts Individual Owner Households by HUD Income Threshold, 2005/2006

Income level	Individual owners	Percent	Margin of Error
Extremely Low-Income	20,600	10.5%	948
Very Low-Income	17,799	9.0%	1,067
Low-Income	39,167	19.9%	1,965
Moderate-Income	55,023	28.0%	2,621
Above Moderate-Income	64,194	32.6%	3,998
Total	196,782	100.0%	

Sources: ACS PUMS 2005, ACS PUMS 2006, HUD FY2006 Income Limits

Renters were more likely than owners to have low-income levels. Thirty-four percent of individual renter households were Extremely Low-Income, compared to 10 percent of individual owners. Seventy percent of individual renter households were at or below the Low-Income threshold, compared to

39 percent of individual owner households. More than half of individual owner households were of Moderate or Above Moderate-Income, while more individual renter households were Extremely Low-Income, Very Low-Income, or Low-Income.

Table 5-11. Massachusetts Individual Renter Households by HUD Income Threshold, 2005/2006

Income level	Individual renters	Percent	Margin of Error
Extremely Low-Income	87,223	34.0%	1,800
Very Low-Income	38,087	14.9%	1,677
Low-Income	53,732	21.0%	1,855
Moderate-Income	45,982	17.9%	1,623
Above Moderate-Income	31,402	12.2%	1,642
Total	256,425	100.0%	8,598

Sources: ACS PUMS 2005, ACS PUMS 2006, HUD FY2006 Income Limits

A regional analysis of individual households for 2005/2006 reveals that Greater Boston had a greater share of the state’s Above Moderate-Income individual owner households, with 53 percent, compared to 39 percent of the state’s Extremely Low-Income individual owner households and 43 percent of the state’s individual owner households across all income categories. Similarly, Greater Boston had 61 percent of the state’s Above Moderate-Income individual renter households, with only 46 percent of the state’s Extremely Low-Income individual renter households and 49 percent of the state’s individual renter households overall. The Pioneer Valley and Southeast regions had smaller shares of the state’s Above Moderate-Income individual renters (five percent and eight percent respectively), compared to 11 and 13 percent of all individual renters, respectively.

Geographic distribution of housing assistance need

There were low-income households as well as households with cost burdens and unmet housing needs in every corner of the Commonwealth in 2000, the most recent date for which data are available at the municipal level. In general, most of the housing needs were roughly proportional across regions, that

is, each region's share of the state's total unmet needs was about the same as its share of the state's households. Within regions, however, many housing problems impacted the large cities – and a handful of poor, smaller cities – disproportionately. The preponderance of housing needs in 2000 existed in the state's 25 largest cities, and the other 11 municipalities considered “entitlement communities” by HUD.⁸² While there were important shifts in tenure between 2000 and 2006, there is little evidence that the distribution among regions has changed significantly. The state's poorest residents continued to lose “purchasing power” as housing costs increased faster than income levels.

These entitlement communities, which were home to 64 percent of the state's renters in 2000 and 35 percent of homeowners, exist across all seven regions. They provided nearly 70 percent of all public and subsidized low-income housing.⁸³ They were home to two-thirds of the foreign born population (72 percent of those who had been here less than ten years) and 95 percent of the state's black and Hispanic residents. They comprised over 80 percent of the severely overcrowded units. Two-thirds of the state's multi-family (5+ units) rental housing — and 80 percent of the multi-family rental units built prior to 1950 — were located in these communities but less than 30 percent of the owner occupied housing.

Entitlement communities represented a proportionate 46 percent share of all households with housing problems and cost burdens, but a disproportionate share of minority households with such problems: 85 percent of black households, 78 percent of Hispanic households, and 71 percent of Asian households, but only 37 percent of white (non-Hispanic) households. They also accounted for the vast majority of the state's homeless needs, HIV/AIDS cases, and incidences of lead poisoning.⁸⁴

⁸² These are cities that can apply directly to HUD for certain types of housing and community development funding on an annual basis. They include the state's 25 largest cities, and another 11 that are among the largest: Arlington, Attleboro, Barnstable, Boston, Brockton, Brookline, Cambridge, Chicopee, Fall River, Fitchburg, Framingham, Gloucester, Haverhill, Holyoke, Lawrence, Leominster, Lowell, Lynn, Malden, Medford, New Bedford, Newton, Northampton, Peabody, Pittsfield, Plymouth, Quincy, Salem, Somerville, Springfield, Taunton, Waltham, Westfield, Weymouth, Worcester, and Yarmouth.

⁸³ Identified as those subsidized units where occupancy is restricted to populations earning no more than 80 percent of area median income.

⁸⁴ *Massachusetts 2005-2009 Consolidated Plan*

Adequacy of subsidized housing resources by region

In an effort to compare the estimated available housing resources to the number of low-income renters in each region, an analysis based on HUD’s 2000 Comprehensive Housing Affordability Strategy (CHAS) data and the 2008 SHI was conducted by combining the number of rental units reserved for low-income occupancy in public and private subsidized housing with 80 percent of the available tenant based subsidies. This analysis estimates that the state had the resources to serve less than half of the income eligible renters: 256,000 units for 571,000 income eligible renters identified in HUD’s 2000 CHAS analysis. The Boston Metro and Pioneer Valley regions, the areas of greatest need, have resources sufficient to meet the needs of approximately half of their low-income renter households (not all of whom want, or need, assistance) and the other regions have the resources to serve between 36 and 40 percent.

Table 5-12. Housing Needs and Affordable Housing Resources by Region

Region	Total low-income (<80% AMI) renter households	Available resources (units plus 80% of vouchers)^	Rental resources per low-income renter households
Berkshire	12,957	4,853	37.5%
Greater Boston	259,377	129,684	50.0%
Cape and Islands	14,416	5,531	38.4%
Central	64,168	23,550	36.7%
Northeast	72,776	29,534	40.6%
Pioneer Valley	65,218	31,483	48.3%
Southeast	82,305	31,915	38.8%
Total	571,217	256,549	44.9%

Source: B. Heudorfer analysis of 3/14/08 Subsidized Housing Inventory
 ^Some Section 8 voucher holders may rent units in subsidized developments. To avoid double counting, it was assumed that 80 percent of vouchers were used in the private market. The actual number may be higher or lower. Housing resources are estimated as of 2008, while need is as of 2000.

Table 5-13 shows housing needs and resources by high need municipality. Boston, the city with the greatest number of low-income households, provides one of the highest levels of resources along with Springfield, the city with the third highest low-income renter population. Worcester, the city with the second highest percentage of low-income renters, has resources available to serve about 41 percent of

those households. Holyoke, with resources to serve 71 percent of its low-income renters, is providing the highest level of subsidies per low-income household.

Table 5-13. Housing Needs and Subsidized Housing Resources by High Need Municipality

Municipality	Total low-income (<80% AMI) renter households	Available resources (units plus 80% of vouchers)^	Rental resources per low-income renter households
Boston	101,050	60,715	60.1%
Springfield	21,814	13,287	60.9%
Worcester	26,460	10,935	41.3%
Holyoke	6,652	4,731	71.1%

Source: B. Heudorfer analysis of 3/14/08 Subsidized Housing Inventory

^Some Section 8 voucher holders may rent units in subsidized developments. To avoid double counting, it was assumed that 80 percent of vouchers were used in the private market. The actual number may be higher or lower. Housing resources are estimated as of 2008, while need is as of 2000.

Are there enough affordable rental units?

Housing mismatch, or affordability gaps, analysis is a technique commonly used to ascertain whether a housing market has an *absolute* shortage of units in the size and price range required to house its residents, regardless of whether it has a *current* shortfall. In the latter case, there may be an appropriate supply of units, but the units are not occupied by those who need them. While it is never possible to simply reallocate existing (occupied) resources, the gaps analysis provides a useful context for other measures of housing need. The distinction between absolute shortfalls of units versus a shortfall arising from a mismatch in the current occupancy is an especially important consideration if and where the demographic profile of the population is in transition. For example, if elderly individuals are aging in the units in which they raised their families (whether in private or public housing), they may be occupying a unit that is not appropriate for their needs or desires and may be well suited for a younger household.

In 2007, the National Low-Income Housing Coalition prepared an affordability gaps analysis using data from the 2005 American Community Survey. That analysis, performed at the state level, concluded that nationwide the shortage of affordable units was greatest for Extremely Low-Income renters, but that there was significantly greater access to affordable rental units for renters in the Low-

Income range. That study included state-by-state shortfalls as a ratio of supply to demand. With 51 units of *available and affordable* housing available per 100 Extremely Low-Income households, Massachusetts had a smaller mismatch at the lowest income level than all but five other mostly low-cost states, a likely reflection of the high level of housing assistance that is provided. The corresponding figure for the nation overall was 43 units.⁸⁵ Massachusetts was one of only five states, however (the others being New Jersey, New York, Florida, and California), that had fewer than 100 available and affordable units per 100 renters in all three low-income categories with incomes below 80 percent of AMI. With the exception of these high housing cost states, renter households earning 50-80 percent of the area median income could access an adequate supply of affordable units in most of the country.

Massachusetts and regional gaps analysis

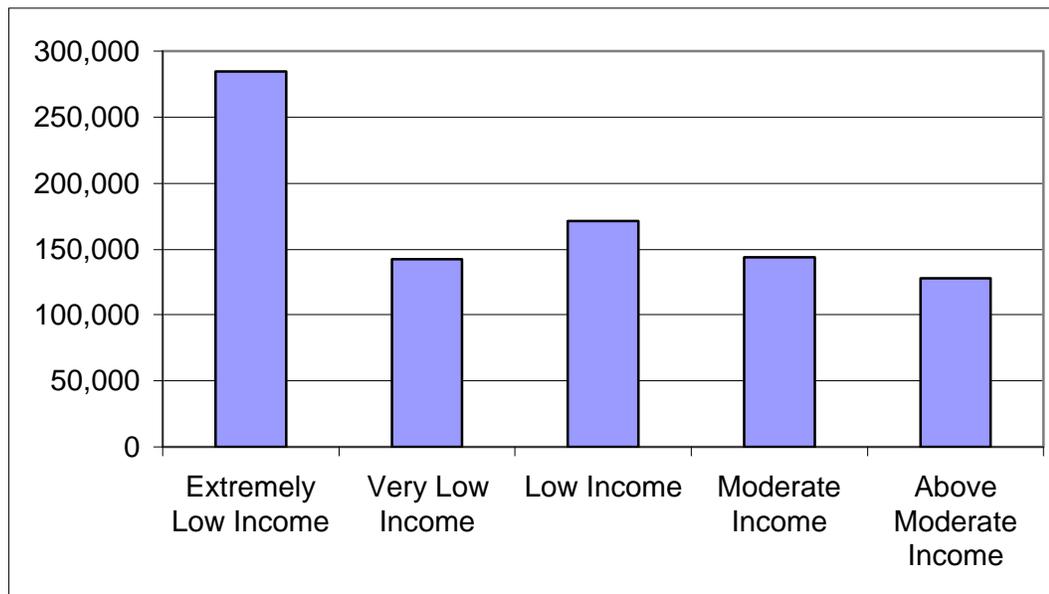
UMDI replicated a gaps analysis for rental units by *MassBenchmarks* regions and for the state. This analysis was based on FY2006 HUD Income limits and the 2005 and 2006 American Community Surveys, which provides household incomes as well as rental costs for occupied and vacant units. Household income limits were estimated as discussed earlier in this chapter. For the sake of the analysis, it was assumed that 30 percent of income for rental costs, including heat and utilities, constitutes affordability. The income at which a given unit was deemed affordable was based on the number of rooms in the unit as well as the unit's location based on PUMA and HMFA designation. While the state-level gaps analysis performed by the National Low Income Housing Coalition presented the number of affordable and available units, the analysis presented here presents the absolute number of affordable, but not necessarily available, units for each income category in order to assess the state's potential for

⁸⁵ National Low-income Housing Coalition, Research Note #07-01, revised August 2007 <<http://nlihc.org/template/page.cfm?id=21>>.

housing these residents. The estimates provided here also differ from those of the NLIHC study in that they control for different HUD income limit geographies within the state, allowing for a regional analysis.

Figure 5-2 shows the number of households in Massachusetts that were judged eligible according to the HUD Income Limits described earlier in this chapter. Nearly one-third of all renters were estimated to be Extremely Low-Income.

Figure 5-2. Massachusetts Eligible Rental Households, 2005/2006



Source: ACS PUMS 2005/2006, HUD FY2006 Income Limits.

As shown in Table 5-14, absolute shortfalls of units statewide existed only for Extremely Low-Income renters.

Table 5-14. Massachusetts Shortage of Units by Income Category, 2005/2006

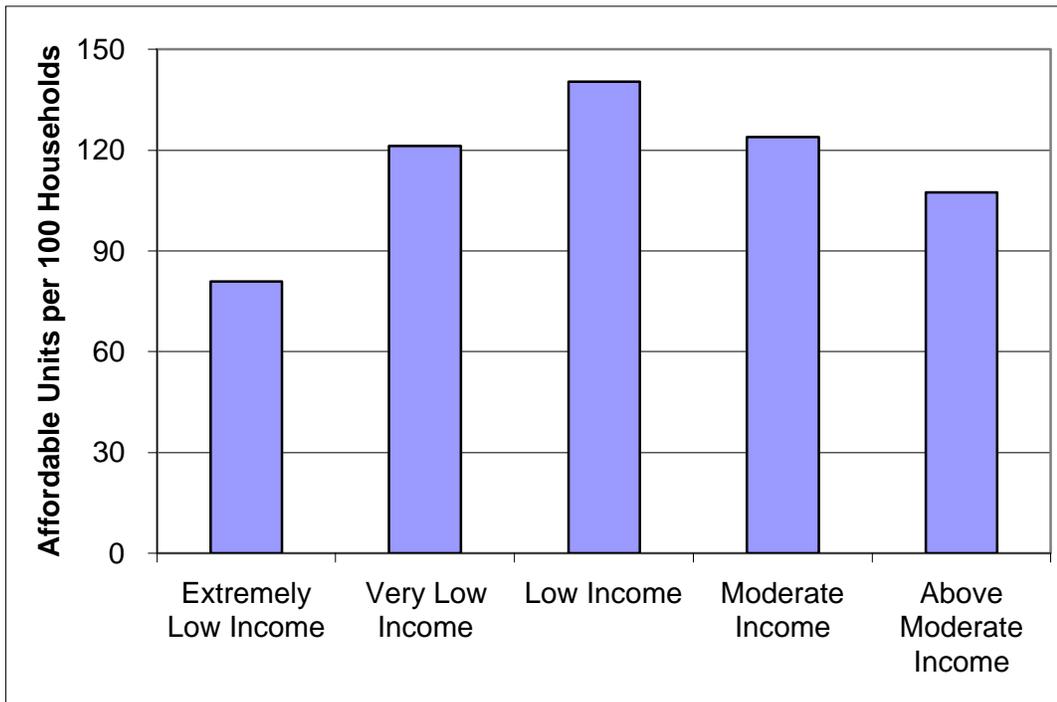
Income level	Households in income category	Cumulative households at or below income limit	Units affordable at or below income limit	Surplus/deficit of affordable units
Extremely Low-Income	284,574	284,574	229,939	-54,635
Very Low-Income	142,315	426,888	517,642	90,754
Low-Income	171,565	598,453	840,074	241,622
Moderate-Income	143,760	742,212	920,502	178,290
Above Moderate-Income	128,197	870,409	934,622	64,214
Total	870,409			

Source: ACS PUMS 2005/2006 and HUD Income Limits FY2006

Note: Deficits are shown in red.

Figure 5-3 shows the number of affordable rental units per 100 tenants. For Extremely Low-Income renters, there were only 81 affordable rental units for every 100 tenants (compared to the NLIHC study which found 51 *available* and affordable units per 100 tenants). All other income groups had 100 or more affordable, though not necessarily available, rental units per 100 renters statewide, although this was not true of all regions.

Figure 5-3. Massachusetts Affordable Rental Units per 100 Tenants, 2005/2006



Source: ACS PUMS 2005/2006, HUD Income Limits FY2006

Table 5-15 shows the regional breakdowns of affordable unit surpluses or deficits. The statewide shortage of Extremely Low-Income units was driven by shortages in the Central, Greater Boston, Northeast, and Pioneer Valley regions. Greater Boston has the largest shortage of affordable units for Extremely Low-Income renters, and is the only region with an absolute shortage of affordable rental units for Very Low-Income renters, though this shortage is modest. The surplus or deficit of units presented here exclude seasonal or second homes, and do not allow for any vacant units that allow proper market functioning. These issues are addressed for state and regional total housing stock in Chapter Six.

Table 5-15. Massachusetts Shortage of Units for ELI and VLI Households by Region, 2005/2006

Region	Income level	Households in income category	Cumulative households at or below income limit	Units affordable at or below income limit	Surplus/deficit of affordable units
Berkshire	Extremely Low-Income	6,806	6,806	7,757	951
	Very Low-Income	3,653	10,459	17,231	6,772
	Total	17,644	17,644	18,942	1,298
Cape and Islands	Extremely Low-Income	5,112	5,112	6,044	932
	Very Low-Income	4,022	9,134	10,459	1,325
	Total	23,127	23,127	25,882	2,755
Central	Extremely Low-Income	29,330	29,330	22,415	-6,915
	Very Low-Income	14,412	43,742	65,577	21,835
	Total	92,962	92,962	103,668	10,706
Greater Boston	Extremely Low-Income	132,358	132,358	99,221	-33,137
	Very Low-Income	62,424	194,782	192,407	-2,375
	Total	421,690	421,690	450,710	29,020
Northeast	Extremely Low-Income	34,502	34,502	24,984	-9,518
	Very Low-Income	17,970	52,471	66,122	13,651
	Total	102,488	102,488	110,380	7,892
Pioneer Valley	Extremely Low-Income	36,580	36,580	29,446	-7,134
	Very Low-Income	17,761	54,341	78,566	24,225
	Total	94,249	94,249	99,918	5,669
Southeast	Extremely Low-Income	39,886	39,886	40,072	186
	Very Low-Income	22,073	61,958	87,282	25,324
	Total	118,247	118,247	125,124	6,877

Source: ACS PUMS 2005/2006, HUD Income Limits FY06.

Note: Deficits are shown in red. Very Low-Income households in the “cumulative” column include Extremely Low-Income households and Very Low-Income households, so income categories in this column do not add to totals.

Are we expanding the subsidized housing safety net?

More than 300 Massachusetts communities are now credited with providing some form of subsidized housing, and most of those that do not are small towns served by regional housing authorities. Still, the housing “safety net” remains heavily concentrated in the 15 cities that have provided the greatest share of public and subsidized units for the past 25 years.⁸⁶ The greatest need exists in these cities as well. As part of this assessment of the state’s housing market, the state Subsidized Housing Inventory

⁸⁶ The state’s first subsidized housing inventory (1972) counted nearly 85,000 public, or subsidized housing units statewide, nearly three-quarters of them located in Boston, Springfield, Worcester, Cambridge, New Bedford, Lowell, Brockton, Fall River, Lynn, Quincy,

was analyzed over the past three and a half years to determine what was being produced, where, and with what tools or resources. During this period, 15 municipalities attained the state-mandated 10 percent threshold for designated affordable housing and four dropped below, bringing the number of communities at or above 10 percent in March 2008 to 51.

More than 24,000 units reserved for occupancy by low-income households were added to the inventory between September 2004 and February 2008, excluding an estimated 3,332 units added in the City of Boston and another 616 units that represented edits, corrections, or the addition of new subsidized units in existing developments. Thirty-nine percent of the gain came from qualifying existing group homes serving clients of the Massachusetts Departments of Mental Health and Mental Retardation (DMR/DMH) in 242 municipalities. Another 18 percent were qualified as a result of low-income homeowners (or landlords, on behalf of low-income tenants) making improvements to their properties with Community Development Block Grant funding, or other similar funding.⁸⁷ Most programs such as these include “recapture” provisions, not long-term deed restrictions.

Tables 5-16 and 5-17 identify the tools used to produce, or preserve, subsidized housing. The first figure includes the DMR/DMH units and the units gained as the result of homeowner repair programs. The second figure does not include these units and illustrates how dependent the Commonwealth has become on 40B, and to a lesser extent other inclusionary mandates (e.g., negotiation, inclusionary or incentive zoning, Chapter 40R, etc.) to grow its affordable housing inventory. Over 3,400 of the low-income rental units added to the SHI, and almost 2,400 of the new low-income owner units, were permitted under Chapter 40B (700 of these rental units also used traditional subsidies). Nearly 3,000 rental and 400 owner units were added through other means, including traditional subsidies, low-income housing tax credits, inclusionary zoning, local action units, etc.

Lawrence, Holyoke, Somerville, Framingham, and Malden. These 15 communities remain the top providers of public and subsidized housing in 2008, accounting for 55 percent of the state total. Framingham is the only one that is a town, not a city.

This trend reflects both the scarcity of public subsidies to support the development of low-income housing and increasing local barriers to the production of new housing in general. More than 57 percent of the newly created units used 40B either alone or in addition to other subsidies (seven percent). Another 38 percent employed traditional subsidies, including nearly nine percent that were reserved for populations with special needs.

Table 5-16. Additions to the Subsidized Housing Inventory, 2004–2008 (Including DMR/DMH Units and Units Gained as a Result of Homeowner Repair Units)

Unit type	Percentage
DMR/DMH	39.2%
Homeowner repair	17.9%
New rental units (40B; no additional subsidy)	11.6%
New 40B homeownership units	10.0%
All other non-40B; non- Low-Income Housing Tax Credit (LIHTC) rental units	7.9%
LIHTC rental units (no 40B)	4.7%
New rental units for special populations	3.7%
New rental units (40B; additional subsidy)	3.0%
New non-40B homeownership units	2.1%

Source: B. Heudorfer analysis of September 2004 and March 2008 Subsidized Housing Inventory

Notes: Excludes City of Boston additions and affordable or subsidized units added at existing developments, edits and corrections. Total number analyzed = 23,675. Estimated number of SHI-eligible units added in the City of Boston during this period = 3,332, including 1,016 DMR/DMH units.

Table 5-17. Additions to the Subsidized Housing Inventory, 2004–2008 (Excluding DMR/DMH Units and Units Gained as a Result of Homeowner Repair Units)

Unit Type	Percentage
New rental units (40B; no additional subsidy)	27.0%
New 40B homeownership units	23.3%
All other non-40B; non- Low-Income Housing Tax Credit (LIHTC) rental units	18.3%
LIHTC rental units (no 40B)	11.0%
New rental units for special populations	8.6%
New rental units (40B; additional subsidy)	6.9%
New non-40B homeownership units	4.8%

Source: B. Heudorfer analysis of September 2004 and March 2008 Subsidized Housing Inventory

Notes: Excludes City of Boston additions and affordable or subsidized units added at existing developments, edits and corrections. Total number analyzed = 23,675. Estimated number of SHI-eligible units added in the City of Boston during this period = 3,332, including 1,016 DMR/DMH units.

⁸⁷ Also included with the homeowner repair units are accessory dwelling units that have been qualified for inclusion, almost all of which are located in the Town of Barnstable.

Chapter 40B production represented 85 percent of the income restricted new homeowner units and 54 percent of the income restricted renter units. In the current environment, a number of projects have stalled or been postponed. Others, particularly homeownership projects, are struggling, as are many new market rate developments. The drop off in new 40B requests has been quite dramatic, as Table 5-18 illustrates. Given the protracted process required to bring affordable housing developments to fruition – even under the expedited permitting provided for under Chapter 40B – the sharp drop in requests for site approval suggests there will be fewer gains to the affordable inventory in future years.⁸⁸

Table 5-18. Requests for Site Approval for 40B Development, 2005–2008

Jan - June	# of projects applying for site approval letter	Total development units	Affordable units	# of homeownership projects	Total development units in homeownership projects	Affordable units in homeownership projects
2005	101	6,492	1,688	85	5,164	1,425
2006	68	3,721	1,045	51	2,241	596
2007	54	3,852	1,023	38	1,487	454
2008	34	1,860	554	18	716	241

Source: B. Heudorfer analysis of DHCD Tracking Reports, 2008

While Chapter 40B boosted production of low-income units from 2000 through 2005, new subsidized production fell by an estimated 30 percent in 2007 largely due to the drop in 40B starts, even though housing needs, particularly among the lowest income households (less than 30 percent of AMI), continued to increase.

⁸⁸ Without deep production subsidies, the affordability in new mixed-income developments, whether permitted under 40B or through inclusionary mandates, must be achieved by any density bonus and the internal cross-subsidy of affordable units by the market rate ones.

How adequate is the safety net?

While there were fewer renters in 2005/2006 than in 2000, the number of renters with housing costs of more than 50 percent of their household income increased by over 50,000. Waiting lists for housing assistance across the state reflect the growing needs of these low-income renters. As shown in Table 5-19, between 2004 and 2007, the number of households on the statewide Section 8 waiting list increased by more than 14 percent. Nearly two-thirds of those on the waiting list are families with children, and more than 30 percent are families with a household member who has a disability. The largest increase was among elderly families.

Table 5-19. Comparison of Statewide Section 8 Waiting List, 2004–2007

Category	FY 2004		FY 2007 Annual Plan		Change	
	#	Share of total**	#	Share of total**	#	%
Waiting list total	48,537	100%	55,384	100%	6,847	14.1%
Extremely Low-Income	41,896	88.5%	47,895	86.5%	5,999	14.3%
Very Low-Income	4,949	10.5%	4,752	8.6%	-197	-4.0%
Low-Income	504	1.1%	596	1.1%	92	18.3%
Families with children	33,534	66.4%	36,410	64.9%	2,876	8.6%
Elderly families	1,986	3.9%	2,326	4.1%	340	17.1%
Families with disabilities	14,977	29.7%	17,357	30.9%	2,380	15.9%
White*			19,657	37.6%		
Black*			12,500	23.9%		
Hispanic, all races			18,837	36.1%		
Asian*			1,258	2.4%		
Other/Unspecified			4,415			

Source: Commonwealth of Massachusetts Housing Choice Voucher Program Public Housing Plan, March 2004 DRAFT and FY07 Annual Plan

*Non-Hispanic

** Percent of those where category (race, income, ethnicity, household type) is known

Note: Applicants may specify more than one race. FY2007 Annual Plan by race and ethnicity does not add to total. FY 2007 race could not be compared to FY 2004 race due to reporting changes.

The housing requirements of populations with special needs

While the primary housing challenge faced by most low-income households in Massachusetts is one of affordability, many other residents require supportive services and/or adaptations to their homes to live independently. Among those with special housing needs and/or requiring support services are the

elderly and frail elderly, others with mobility or self-care limitations, and people with disabilities (psychiatric, physical, and cognitive). This section briefly summarizes the nature and extent of those needs. While not all Massachusetts residents with disabilities require special housing assistance, many do. The 2006 American Community Survey reported that the median income of working-age individuals with disabilities in Massachusetts was just 55 percent that of non-disabled individuals: \$18,822 versus \$34,335.⁸⁹ Additionally, there was a 17 percentage point difference in the poverty rate between working-age people with and without disabilities: 23 percent versus six percent.

The tables below identify the prevalence and nature of disabilities experienced by Massachusetts residents in 2006. Because many people experience more than one disabling condition the total number of disabled individuals is considerably less than the number of disabilities reported. Both the number of individuals and the nature of their disabilities are documented in Tables 5-20 and 5-21. The final table in the series illustrates where those individuals reporting self-care disabilities live by county approximations of the *MassBenchmarks* regions.

Table 5-20. People with Disabilities by County, 2006

County	People with disabilities	Percent of disabled population	Percent of total population
Barnstable	32,295	4%	4%
Berkshire	23,869	3%	2%
Bristol	85,346	10%	9%
Essex	95,983	12%	11%
Franklin	11,668	1%	1%
Hampden	74,727	9%	7%
Hampshire	19,250	2%	2%
Middlesex	149,674	18%	23%
Norfolk	70,523	9%	10%
Plymouth	63,063	8%	8%
Suffolk	97,386	12%	11%
Worcester	100,171	12%	12%
Total (12 counties)	823,955	100%	100%

Source: U.S Census Bureau, 2006 American Community Survey

⁸⁹ 2006 American Community Survey, Tables B18040 and B18030

The following sections describe estimates of housing needs for the various subpopulations. Unless otherwise noted, they were provided by the state agencies that serve these residents.

Psychiatric disabilities

The Department of Mental Health (DMH) currently houses nearly 8,000 adult clients through its Residential Services Program, but there are another 3,000 people on its waiting list. The Department's service areas do not precisely align with the *MassBenchmarks* regions, but the agency advises that 872 adults in its Metropolitan Boston region are eligible for services, 735 in the Northeast region, 416 in Southeast region (including the Cape and Islands), 299 in Central Massachusetts, and 397 in the Western part of the state. Almost all those eligible for services have housing needs as well.

Cognitive disabilities

Like DMH, the Department of Mental Retardation (DMR) works with housing providers to develop community-based housing for its clients. The agency assists over 23,000 low-income, developmentally disabled adults. Currently about 11,000 individuals receive residential supports through state and private providers in homes in the community, ranging from group homes to independent apartments. DMR estimates that over the next five years it will require a total of just over 2,000 units (beds). Demand for services continues to grow as almost 200 young adults a year become eligible for residential services and caregivers for family members living at home continue to age.⁹⁰ DMR must secure placements for over 600 clients who remain inadequately housed as the result of earlier court decisions.⁹¹

⁹⁰ *Affordable Housing Guidebook for Massachusetts*, July 2008, prepared by Citizens' Housing and Planning Association

Other special needs

Other groups requiring housing and support services are people living with HIV/AIDS, children who are involved in the court system through the Department of Youth Services, women and children who are victims of domestic violence, substance abusers, and ex-offenders. The Commonwealth's 2005-2009 Consolidated Plan estimated that there were nearly 12,000 people with HIV/AIDS, alcohol, drug or other addictions, and "other" special needs populations.

In its 2005-2009 Consolidated Plan, the state estimated that there were more than 123,000 individuals or households whose specialized housing needs were unmet. Those needs are illustrated in the table below.

Table 5-21. Housing Needs of Special Populations

Special Needs Subpopulation	Unmet Need
Elderly	20,235
Frail Elderly	34,312
Severe Mental Illness	2,500
Developmentally Disabled	2,700
Physically Disabled	51,976
Persons with Alcohol/Other Drug Addictions	2,000
Persons with HIV/AIDS	3,700
Other	6,000
Total	123,423

Source: Massachusetts 2005-2009 Consolidated Plan

⁹¹ *Rolland v Cellucci and Boulet v Cellucci*

Conclusion

While Massachusetts outpaces the nation in the number of tenant subsidies it provides, low-income households still face affordability challenges with not enough aid to go around. The state is estimated to have the resources to serve less than half of the income eligible renters needing housing, at a time when subsidized housing needs are increasing. At the same time, the housing market has not met the need for affordable rental units for the lowest-income households. Inadequate affordable market-rate units as well as stagnant and falling incomes present serious challenges for the housing safety net in assisting the state's neediest residents.

Chapter 6: Housing Supply and Demand

One of the Department of Housing and Community Development's primary purposes in initiating this housing market assessment was to understand whether and how the Commonwealth's housing needs were likely to change in the coming years, and to determine whether there would be adequate supply to meet those needs. This chapter estimates how much housing Massachusetts is likely to need between 2008 and 2012, and identifies those regions and housing types most likely to be over- or undersupplied given current and projected supply and demand.

The Commonwealth entered the 21st century with housing shortfalls in many regions, which contributed to rising prices and falling vacancy rates. To accommodate the new household growth while maintaining natural vacancy rates of 7.4 percent for rental and 1.5 percent for owner housing, Massachusetts would have needed to create about 200,000 net new units between 1990 and 2000. With just 75 percent of that requirement met by the year 2000, vacancy rates fell to the lowest in the nation. Home prices and rents, already among the nation's highest, escalated still further. Since that time, however, the overall imbalance of supply and demand has improved somewhat as household growth stalled and housing production increased. In 2007, the state faced a net housing unit shortage of over 18,000 units.

Housing outlook through 2012

While shortfalls have decreased, the UMass Donahue Institute forecast suggests that most of the Commonwealth's regions are likely to face continued annual housing shortages through 2012, with notable exceptions in the Central and Cape and Islands regions. This forecast suggests that the projected

slow recovery of construction after the current slump will be inadequate to redress the shortages of 2007 and meet modestly growing future demand. While shortages do not imply that every available housing unit will be occupied, they do imply that vacancy rates will be lower than optimal, placing upward pressure on prices and stressing the supply of affordable units. Similarly, net surpluses may mask mismatches between housing demand and supply with regard to affordability, location, or other factors.

Regional supply shortfalls vary considerably by housing type. Projected low production of multi-family units (nearly 70 percent of which are rental units) can be expected to lead to a shortage of these units in every region of the state except Greater Boston. Underproduction of single-family units, on the other hand, can be expected to result in significant shortages in Greater Boston, and small shortfalls in the Pioneer Valley. This is in contrast with expected overproduction of single-family units in the Cape and Islands, Southeast and Northeast regions, and possibly in the Central region. Projected shortages and surpluses of single- and multi-family units partially offset each other in some regions, so overall housing shortages or surpluses may mask the fact that the types of available units might not correspond to what is needed. In particular, net surpluses in the Central and Cape and Islands regions mask shortages in multi-family housing compensated by larger surpluses in single-family housing.

Methodology

To project the Commonwealth's housing needs through 2012, three major components of *demand* were considered: (1) permanent housing needs based on population growth or decline; (2) units that are unavailable for permanent housing because they are second homes, uninhabitable, or otherwise unavailable; and (3) units that should remain vacant to allow proper functioning of owner and rental markets.

For the projection period from 2008 through 2012, housing supply gaps were projected using the following three scenarios for population growth:

1. baseline population growth trends as forecasted by the New England Economic Partnership (NEEP);
2. worst-case population growth, with zero growth; and
3. best-case population growth, in which population grows faster than expected.⁹²

The three major components of projected housing *supply* are current housing stock, production of new housing units, and the demolition or conversion of existing units.

The methodology is partially adapted from the Harvard Joint Center study, “Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future.”⁹³

Predicting housing supply in Massachusetts: Assumptions

Housing supply is projected as the number of current units, plus the number of new forecasted units, less the number of converted or demolished units. The following assumptions reflect the expectation that geographical distribution of development and demolition will remain similar to recent trends.

The supply assumptions are:

- ***Existing housing units.*** American Community Survey estimates, which are controlled to Intercensal Population Estimates, are accurate estimates of existing housing units in each region.

⁹² For the 2007 forecast, historical (not forecasted) state-level population estimates were available. For this reason, total population did not vary for the three projection scenarios for 2007, but the 2007 population was allocated regionally according to the most recent 2005/2006 data. For the high population growth scenario, we applied the relatively high population growth rates predicted by the Census in 2000 to the estimated population from 2007, allowing the projected population to grow at roughly double the rates of the NEEP projection.

⁹³ Belsky, E., Drew, R., and McCue, D. “Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future.” Joint Center for Housing Studies, Harvard University. November 2007. In this study, Belsky et al. describe a method for projecting national housing supply and demand and discuss the suitability of various data sources for making national projections. Our study similarly identifies the major components of supply and demand and makes use of some of the same assumptions and methods. Our methods differ from those of this study principally in that we make additional assumptions to provide greater detail about likely future housing needs by type of housing unit, and we use alternative data sources to allow us to make reliable projections at the state and regional, rather than national, levels.

-
- **Annual building permits.** NEEP forecasts of annual building permits will be accurate, and all or nearly all of the projected units will be built in the year they are permitted.
 - **Regional new construction.** Each region's share of the state's annual new housing construction will remain the same as reported by the Census of Construction from 2000 through 2007. The state's annual shipments of new mobile homes will be the same as the annual average of shipments from 2000 to 2007.
 - **Demolition and conversion.** Housing units built prior to 1990 will exhibit demolition and conversion rates in accordance with their rate of unit loss as calculated from the 2000 and 1990 Decennial Censuses. Housing units built in 1990 or later will have negligible rates of demolition or conversion.

Predicting housing demand in Massachusetts: Assumptions

For each of the three population growth scenarios, a series of assumptions were made about population growth and the likely behavior of householders in the near future. Assumptions reflect the likelihood that in the near term, until 2012, people's housing choices will be similar to those they made in 2005/2006, the most recent years for which reliable data were available. We assume that the most important, though certainly not the only, predictors of housing choices are age of householder and region.

Baseline, worst-case and best-case population growth scenarios for demand reflect the following assumptions:

- **Population.** NEEP population forecasts for 2008 through 2012 are reasonable. NEEP forecasts provide the foundation for the baseline demand projection and consider the aging of the population.
- **Age-based preferences.** Population age groups will continue to exhibit similar behaviors that affect housing needs as those they currently exhibit. This includes the region in which

people choose to live, marriage or cohabitation, births, number of roommates, and size and type of housing unit. We assume that each region maintains its share of each population age group relative to the state.

- ***Regional preferences.*** Residents of each region make similar choices about the type of unit — single detached, multi-unit or other (including mobile homes and RVs) — in which to live. For instance, more people will continue to live in multi-unit buildings in Greater Boston than in other regions.
- ***Units not for primary residence.*** The share of second homes, sold or rented but unoccupied, uninhabitable dwellings, and otherwise unavailable housing units will remain constant in each region.
- ***Vacancy rates.*** A vacancy rate of 7.4 percent for rental units and 1.5 percent for owner units is required for proper functioning of the market.⁹⁴ These natural, or market equilibrium vacancy rates — that is, vacancy rates when real prices are neither rising nor falling — are from the 1990s, as determined by the Joint Center for Housing Studies. These rates should provide for optimal market function.
- ***Ownership rates.*** The rate of homeownership in each region does not change drastically between 2005/2006 and 2012. This assumption allows a prediction of the vacant units that will be required to allow housing churn and maintain functioning markets. The regions analyzed are geographically large enough that recent rises in foreclosures should have a minimal change in the rate of ownership across an entire region.

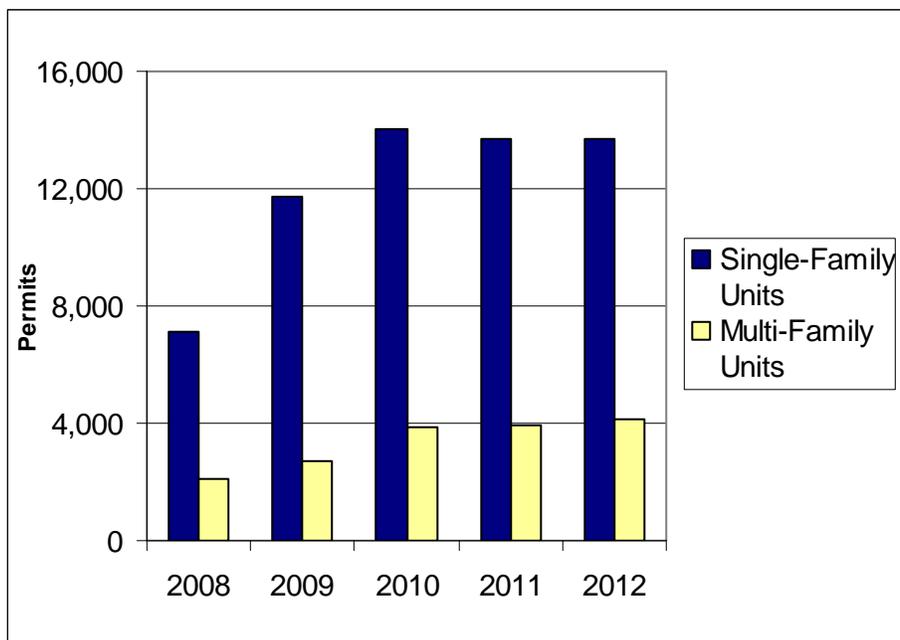
Using the assumptions above and the most recent household statistics from the American Community Survey, 2005 and 2006, we projected statewide demand by age group and housing type, and allocated demand to the regions. A more detailed methodology can be found in Appendix Five.

Housing supply gap: Statewide & regional housing shortages & surpluses

Statewide shortages

The state enters the forecast period with widespread housing shortages in 2007. Increases in construction from 2003 through 2006 may have contributed to an easing of the statewide shortage in 2005/2006.⁹⁵ After a decrease in permits in 2007, NEEP projections show that permitted units will continue to decrease in 2008 before partially recovering from a low of 9,000 permitted units in 2008 to more than 17,000 annually in the years from 2010 through 2012 as the housing market recovers from its current slump.

Figure 6-1. NEEP Forecasts for Permitted Units, 2008–2012



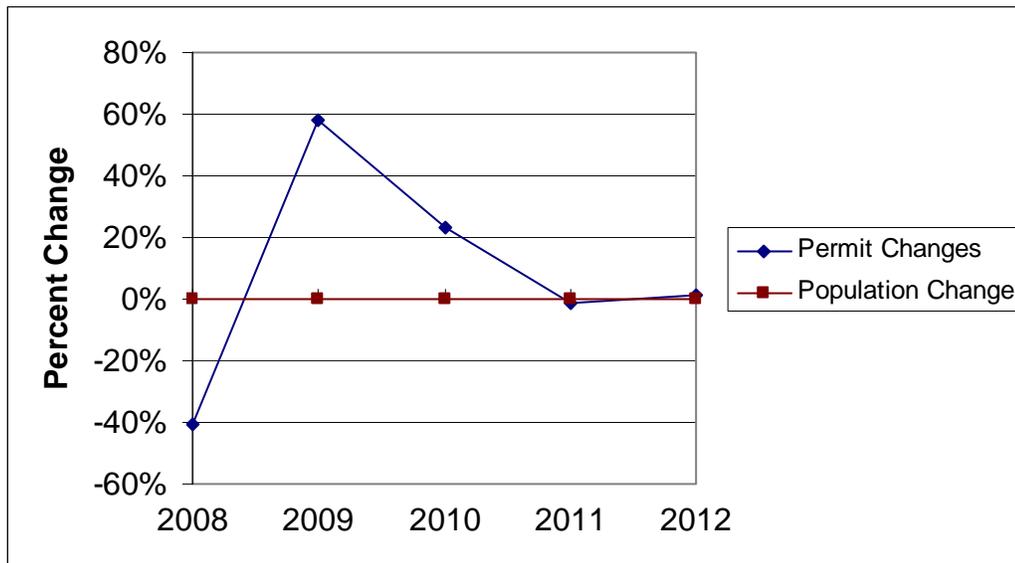
Source: NEEP Forecasts, May 2008

The slow rate of projected housing production is unlikely to be sufficient to accommodate even the very slow projected population growth, given the preexisting housing shortage. Our baseline scenario,

⁹⁴ Belsky, E., Drew, R., and McCue, D. "Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future." Joint Center for Housing Studies, Harvard University. November 2007.

which we believe is the one most likely to occur, is that the population of Massachusetts will grow slowly in accordance with NEEP population forecasts. NEEP projects a population growth rate of 0.2 percent annually between 2008 and 2012. This slow population growth is similar to that seen in 2006 and 2007, compared to the net population losses seen in the early 2000s.⁹⁶ NEEP projected permit and population trends appear in the chart below. Additional NEEP projection tables can be found in Appendix 5-1.

Figure 6-2. NEEP Projected Year-over-Year Change in Population and Permits, 2008–2012



Source: NEEP Forecasts, May 2008

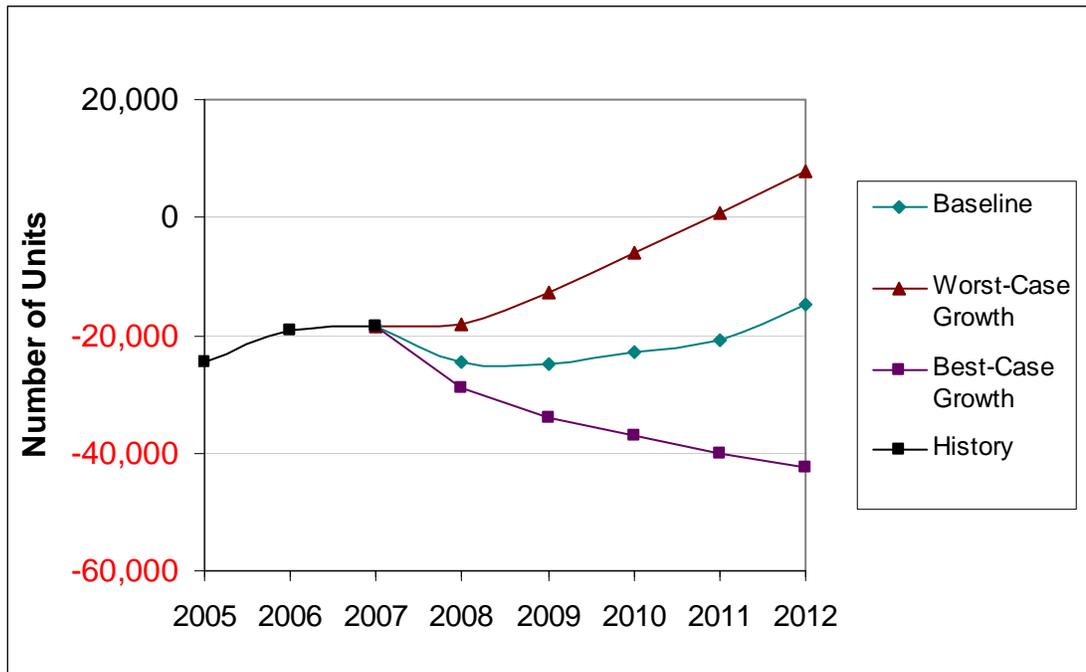
- **Baseline projection.** Under this slow-growth scenario, the Commonwealth faces continued net supply shortages in each year through the projection period of 2008 through 2012. However, the net shortage decreases from a high of 24,000 units in 2008 and 2009 to 14,000 units in 2012 as projected construction activity recovers from the current slump.
- **Worst-case projection.** The worst-case population growth scenario assumes that the state experiences no population growth through 2012. Under this scenario, projected statewide net housing shortages continue through 2010, but new construction combined with no growth leads to

⁹⁵ NEEP Forecasts May 2008.

projected adequate supply in 2011 and an estimated net surplus of nearly 8,000 units in 2012. This scenario's projected statewide net surplus obscures expected regional shortages in Greater Boston and parts of Western Massachusetts.

- **Best-case projection.** The best-case population growth scenario assumes that the state grows at roughly twice the recent and NEEP-forecasted rate. Under this scenario, the state faces projected worsening net supply shortages in each year of the forecast period, resulting in a projected net shortage of more than 40,000 units statewide by 2012.

Figure 6-3. Massachusetts Housing Supply Gaps History and Forecast, 2005–2012



Sources: NEEP, US Census, ACS 2005/2006

⁹⁶ NEEP Forecasts May 2008.

Regional supply gaps

Net regional supply shortages can be expected throughout the projection period in every region except in the Central region and in the Cape and Islands region. Table 6-1 below highlights housing surpluses (numbers in black) or shortages (numbers in red) for the baseline projection scenario.

Table 6-1. Housing Supply Gaps – History and Baseline Prediction, 2005–2012

Region	History			Forecast				
	2005	2006	2007	2008	2009	2010	2011	2012
MA	-24,461	-19,294	-18,630	-24,389	-24,832	-22,984	-20,896	-14,909
Greater Boston	-13,113	-11,973	-6,508	-9,497	-11,315	-12,461	-13,628	-13,407
Pioneer Valley	-5,832	-1,284	-3,755	-4,773	-5,296	-5,645	-5,915	-5,779
Northeast	-1,472	-3,282	-4,830	-5,526	-5,468	-5,009	-4,440	-3,181
Southeast	-7,531	-4,185	-5,680	-6,271	-5,794	-4,953	-4,076	-2,462
Berkshire	-721	-1,081	-978	-1,294	-1,440	-1,531	-1,580	-1,557
Cape and Islands	120	376	1,513	1,122	1,378	1,879	2,387	2,962
Central	1,827	-640	1,608	1,851	3,103	4,736	6,356	8,515

Sources: NEEP, US Census, ACS 2005/2006

Regional supply surpluses

All three forecast scenarios suggest that the Central and the Cape and Islands regions will experience net housing surpluses from 2008 through 2012. In the baseline scenario, the Cape is forecasted to experience a net surplus of nearly 3,000 units in 2012, while the Central region is forecasted to have a net surplus of 8,500 units. However, in both of these regions, a large surplus of single-family units masks an expected shortage of multi-family units.

Each population growth scenario results in projected surpluses, but the sizes of the surpluses vary by scenario. The Cape is projected to have between 1,120 and 4,500 surplus units, while the Central region is projected to have between 5,300 and 11,100 surplus units.

From 2000 to 2006, the Central region's population grew faster than that of other regions of the state. If we assume that Central Massachusetts will continue to gain share at the same rate it did between 2000 and 2006, the region's projected surplus would decline from 8,515 units to 338 units in 2012. In the

unlikely event that the Massachusetts population grows at nearly twice its expected rate, and Central Massachusetts continues to gain share, the region would likely experience a shortage of nearly 3,000 units by 2012.

As we discuss below, the apparent supply shortage in the Berkshire region may become a surplus if the region continues to lose share of the state's population.

Regional supply shortages

Five of the state's regions — Greater Boston, the Southeast, the Northeast, the Pioneer Valley and the Berkshires — are forecasted to experience net housing shortages in each year through 2012. However, the projected shortage in the Berkshires is small and may not materialize if current population trends continue.

Shortages are likely to be most acute in Greater Boston, which is projected to have 13,000 fewer net units than will be required to meet demand based on our baseline forecast. The next most affected region is the Pioneer Valley, projected to have a net shortage of nearly 6,000 units by 2012. Net shortages do not distinguish between demand for single and multi-family units, which we discuss in greater detail in the next section.

In most cases, worst-case and best-case population growth affects only the sizes of the housing shortages and surpluses. In the best-case growth scenario, Greater Boston alone is projected to be 24,000 units short, while the Pioneer Valley is projected to be nearly 8,700 units short. In this scenario, the Northeast and Southeast are projected to have shortages of nearly 7,000 units each.

Under the worst-case growth scenario, Greater Boston's shortage is projected at 4,300 units, and the Pioneer Valley is projected to have a shortage of 3,300 units. The Northeast ends the period nearly in equilibrium, with a projected deficit of only 87 units. Notably, under this scenario, the Southeast is projected to recover from shortages in 2008 through 2011 with a small 1,000 unit surplus in 2012.

During the period from 2000 to 2006, the Berkshire region lost population faster than any other region in the state. If we assume that the Berkshire region will continue to lose population share at the same rate, the projected housing shortage of 1,557 units could become a surplus of 1,454 units in 2012. In the unlikely event that the Massachusetts population experiences no growth, and the Berkshires continue to lose share, the region could experience a surplus of 1,981 units in 2012.

Statewide housing demand: The needs of an aging population

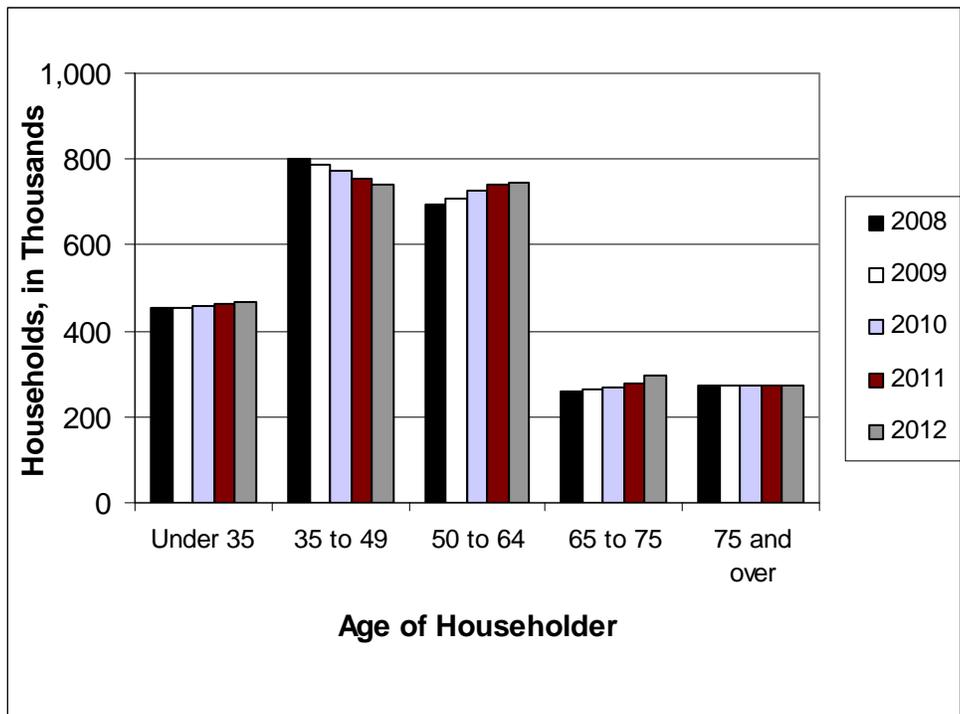
Household formation is the most significant contributor to new housing demand, and young people starting out on their own for the first time typically represent the largest share of new household growth. It is the housing choices made by existing residents (or in-migrants) with the resources and inclination to move that determines *how* the housing stock gets allocated. Even if the number of householders remained constant over time, demand would exist due to households trading up and trading places.

For the past thirty years, it has been the nation's 78 million baby boomers (1.78 million in Massachusetts) who have defined the housing market as they established their own households, bought starter homes, traded up to bigger homes, and bought vacation and investment properties. The demographic shift resulting from the aging of the state's population will exert its influence on local housing markets for years to come. Between 2008 and 2012, however, the effect on aggregate regional demand will be more modest, as an aging population affects the types of housing and housing related support services that are required.

If age is a predictor of housing needs, then the shifting demographics from 2008 to 2012 will largely determine housing demand. From 2008 through 2012, the number of householders under the age of 35 will likely increase by 16,000, or four percent. Households led by people ages 50 to 64 will

increase by 53,000 households, or eight percent, while households led by people ages 65 to 74 will increase by 37,000 households, or 14 percent. Households led by people ages 35 to 49 will decrease by an estimated 62,000, or eight percent. Households led by people ages 75 or older will remain close to constant, losing only 3,000 households, or one percent.

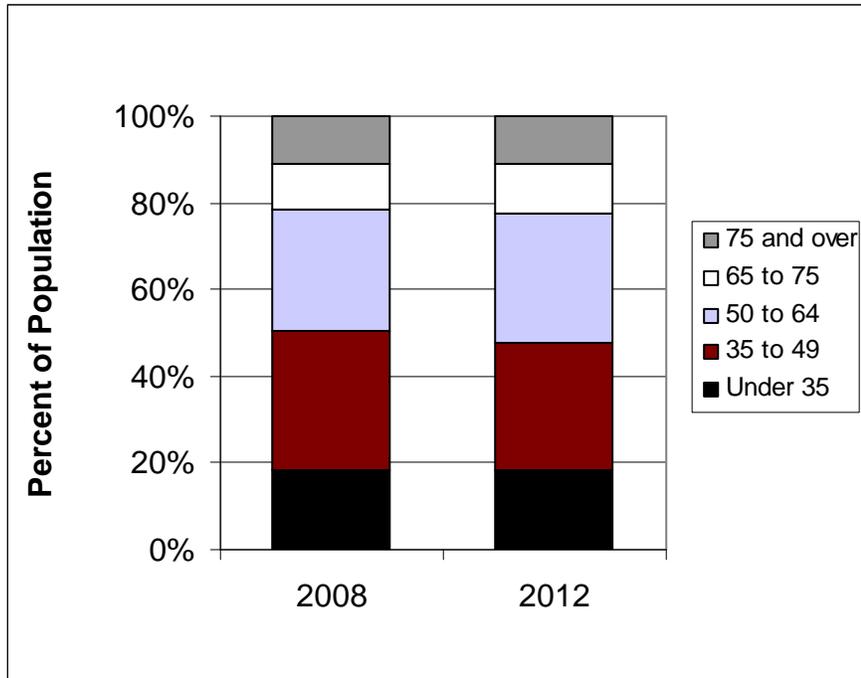
Figure 6-4. Aging of Massachusetts Householders, 2008–2012



Sources: NEEP, US Census

As shown in Figure 6-4, the majority of householders will continue to be in the 35 to 64-year old range, with 35 to 49-year-olds accounting for 32 percent of all householders in 2008 and 29 percent in 2012. The growing 50 to 64-year-old demographic will account for 30 percent of all households in 2012, up from 28 percent in 2008. Householders under the age of 35 will account for 19 percent of all households, up from 18 percent in 2008. Householders ages 65 to 74 will account for 12 percent of all householders, up from 10 percent in 2008, while householders 75 and older will remain a constant 11 percent of all householders.

Figure 6-5. Share of Massachusetts Householders by Age, 2008 and 2012



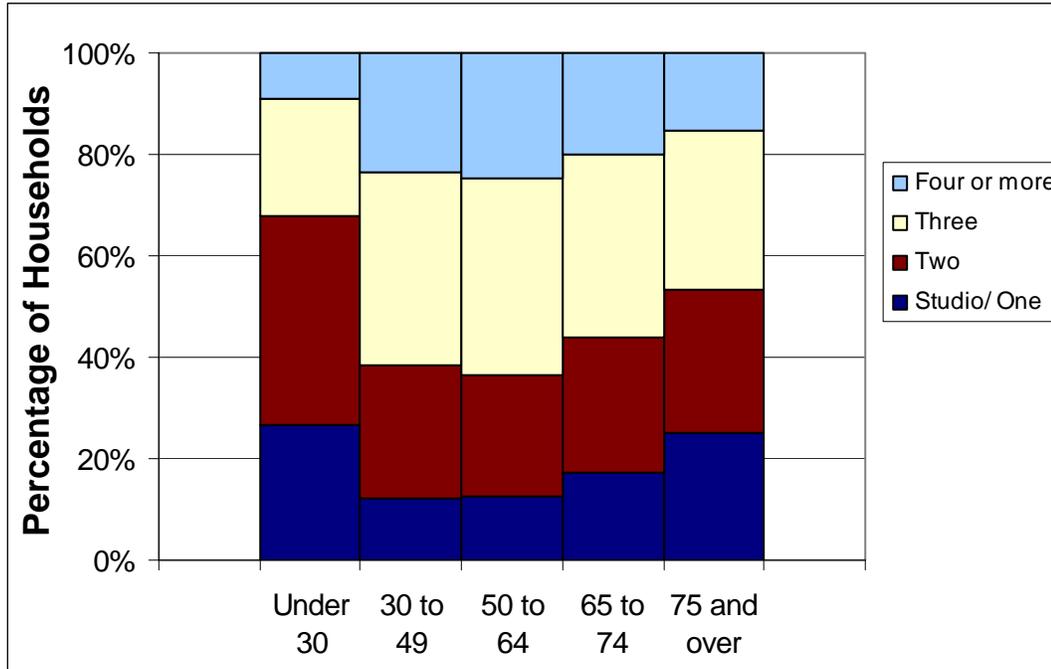
Sources: NEEP Projections May 2008, US Census

While the population of older householders is not expected to reach its maximum during the projection period from 2008 to 2012, the aging of the state's 1.78 million baby boomers means that inevitably, the housing choices of older people will play a growing role in the state's housing market in the decades to come. An analysis of housing choices among older householders from 2000 to 2005/2006 suggests that some, though not most, older householders choose to downsize as they age. Limited signs of a downsizing trend begin to appear after the age of 65, and more widespread downsizing trends appear after the age of 75. Beginning around 2020, the first members of the baby boom generation will turn 75. If baby boomers make similar choices to those of older generations, substantial effects of their downsizing choices on the housing market are likely to appear considerably after the end of the projection period in 2012.

As shown in Figure 6-6, older householders in 2005/2006 were more likely than their younger counterparts to live in smaller one or two-bedroom units. Twenty-five percent of householders 75 or

older lived in studio or one-bedroom units, compared with 12 to 13 percent of 30 to 64 year-olds and 17 percent of 65 to 74-year-olds.

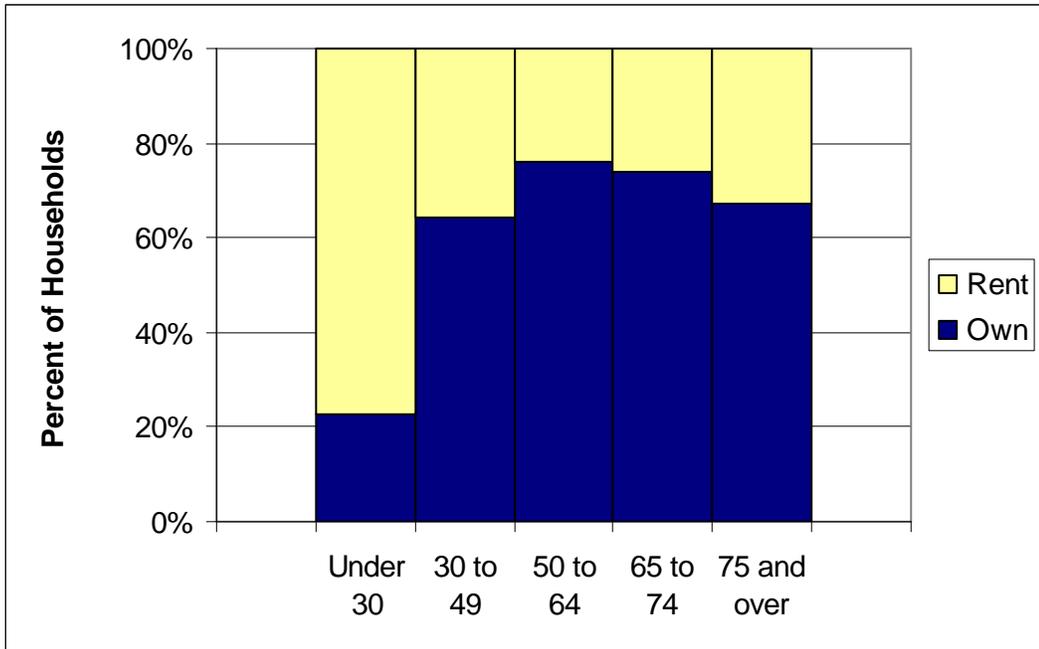
Figure 6-6. Massachusetts Number of Bedrooms by Age of Householder, 2005/2006



Sources: American Community Survey, 2005/2006

As shown in Figure 6-7, older householders were also more likely to rent than their counterparts under the age of 65, though most maintain their ownership status. Among householders over the age of 75, 67 percent still own their home. However, this is a significantly lower proportion than among 50 to 64-year olds, of whom fully 76 percent own their homes, or even among 65 to 74-year-olds, among whom 74 percent own their homes. While these percentages, which are for 2005/2006, reflect statewide increases in homeownership since 2000, an analysis of ownership by age in 2000 shows similar patterns. As with the size of the housing unit, the largest shifts occur after the age of 75.

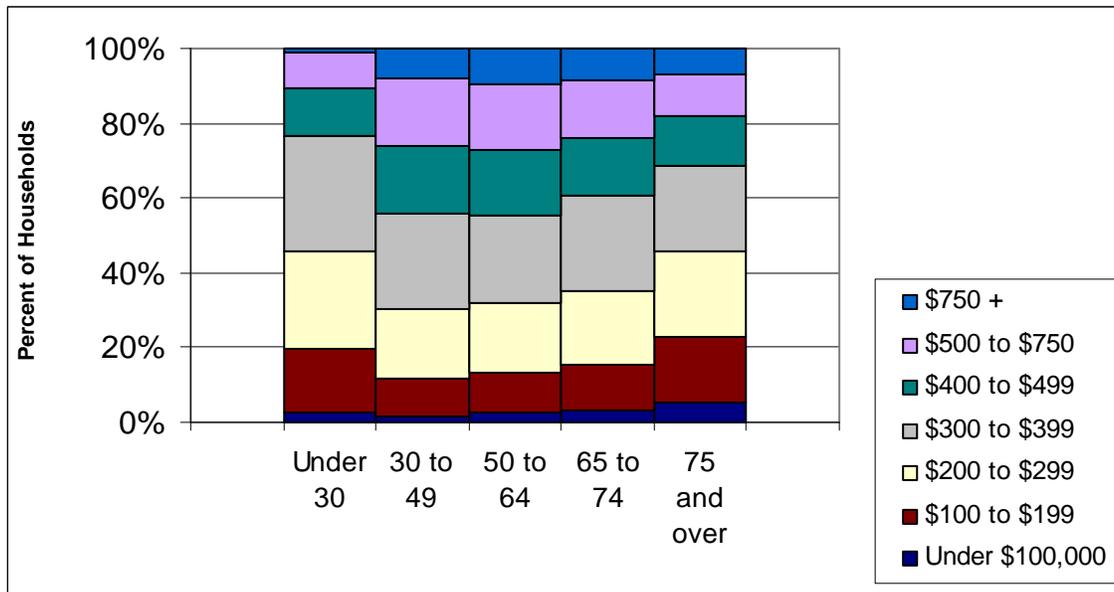
Figure 6-7. Massachusetts Ownership by Age of Householder, 2005/2006



Sources: American Community Survey, 2005/2006

As shown in Figure 6-8, older homeowners are also more likely to own homes valued below \$300,000. Among homeowners 75 years of age or older, 46 percent value their home at less than \$300,000. In comparison, only 30 percent of homeowners ages 30 to 49, 32 percent of homeowners ages 50 to 64, and 35 percent of homeowners 65 to 74 value their home at below \$300,000. This may suggest that older householders downsize, or that they live in more affordable homes to begin with, which could result in an influx of relatively affordable homes to the market as older homeowners make other housing choices.

Figure 6-8. Massachusetts Home Value by Age of Homeowner, 2005/2006



Sources: American Community Survey, 2005/2006

Downsizing appears to be more common among householders over 75, though it begins as early as 65. Older homeowners also appear to live in smaller, more affordable homes. If current trends continue, the most dramatic effects of baby boomers’ downsizing choices would begin to appear as baby boomers turn 75, starting around 2020. The youngest baby boomers, now 44, will turn 75 in 2039.

As these demographic changes occur, they will contribute to shifting housing needs according to the housing preferences of the growing age groups. If these age groups continue to hold similar housing preferences to earlier householders at the same stage in their lives, this will contribute to shifts in regional demand and demand for different types of housing.

Implications of demographic aging: Regional growth and needs

Householders of all ages are more likely to live in Greater Boston than in any other region, but this regional preference is strongest for householders under the age of 35. Forty-nine percent of householders under 35 currently live in Greater Boston, compared to 40 percent for those ages 35 to 64, and 41 percent for those ages 65 and over. We project that between 2008 and 2012, the state will gain over 16,000 new householders under the age of 35, nearly half of whom will likely make their homes in Greater Boston. At the same time, the state will lose over 62,000 householders between the ages of 35 and 49 as the tail end of the baby boom ages into the 50 to 64-year old age group.

Of the growing group of householders ages 50 to 64, about 39 percent are likely to live in Greater Boston, 17 percent in the Southeast, and 15 percent in the Northeast, if their current preferences continue. In many respects, these householders show largely similar preferences to 35 to 49-year-old householders, so the decline of the 35 to 49-year-old age group will largely offset the increase among 50 to 64-year old householders.

Table 6-2 below summarizes projected changes in householders by age for each region from 2008 to 2012.

Table 6-2. Baseline Forecast of Change in Age of Householders, 2008–2012

Age	Region							
	Berkshire	Cape and Islands	Central	Greater Boston	Northeast	Pioneer Valley	Southeast	MA
Under 35	277	467	1,869	7,309	1,908	1,385	2,313	15,528
35 to 49	-1,175	-2,256	-7,728	-25,800	-9,301	-4,624	-9,992	-60,876
50 to 64	1,286	2,432	5,976	20,889	7,945	4,093	8,901	51,522
65 to 74	972	2,304	3,791	14,918	5,084	3,095	6,011	36,176
75 or over	-101	-272	-320	-1,266	-329	-197	-536	-3,020
Total	1,259	2,676	3,589	16,051	5,306	3,752	6,697	39,331

Sources: NEEP, US Census, ACS 2005/2006

Regional supply gaps in single and multi-family units

While population growth in the baseline scenario is projected to be a modest 0.2 percent annually through 2012, the state entered 2008 with a housing shortage. Together with low projected production during the period – reflecting the current weak and uncertain real estate market and economic climate – the existing shortages contribute to continued shortages in many of the state’s regions.

Recent housing production highs in 2003 through 2005, when annual housing permits were over 20,000 statewide and household growth was minimal, gave way to lower production in 2007, with only 15,000 permits issued. NEEP data project the permit nadir in 2008, with 9,000 permits, and a permit recovery beginning in 2009, but projected permits do not reach pre-2006 levels by 2012.⁹⁷

A projected allocation of permits by region suggests that overall production will be greatest in Greater Boston, the Southeast and Central regions, compared to projected population growth that is expected to be greatest in the Greater Boston, Southeast, Northeast and Pioneer Valley regions.

The demand for single-family units versus multi-family units varies significantly by region, as shown in the table below. Production of single-family units is expected to predominate over multi-family unit production everywhere in the state except in Greater Boston. Projected low production of multi-family units will lead to a shortage of these units in every region of the state except Greater Boston, while production of single-family units will be adequate in every region except Greater Boston and parts of Western Massachusetts. Our projections show significant surpluses of multi-family units in Greater Boston and of single-family units in the Cape and Islands, Southeast and Northeast regions.

⁹⁷ The most recent data available are for 2007.

Table 6-3. Housing Unit Supply Gaps by Unit Type, Baseline, 2012

Region	Single	Multi	Other	Net
MA	38,461	-54,138	768	-14,909
Greater Boston	-38,344	24,363	575	-13,407
Pioneer Valley	-601	-6,459	1,281	-5,779
Northeast	11,778	-15,190	231	-3,181
Southeast	18,447	-20,433	-476	-2,462
Berkshire	-783	-751	-23	-1,557
Cape and Islands	18,895	-14,982	-952	2,962
Central	11,203	-2,683	-6	8,515

Sources: NEEP, US Census, ACS 2005/2006

*Other units include mobile homes, RVs, houseboats, etc.

Supply gaps: Single-family units

Householders ages 50 to 64 are the most likely age group to own their homes (76 percent) and the most likely to live in a single-family unit (62 percent). This cohort is expected to increase by 53,000 households, or eight percent, by 2012, as the state's residents age. The housing needs and desires of the state's older householders will determine in large part whether they move or age in place.

If regional production continues at current rates, the greatest share of projected new single-family units will be produced in the Southeast region, with 13,000 expected cumulative new units by 2012. The Central region and Greater Boston are not far behind, at 12,668 and 11,267 units respectively. Production in the Berkshire region is projected at only 1,602 new single-family units cumulatively through 2012.

If current regional construction trends continue as expected, single-family units will be overproduced in the Cape and Islands, Southeast and Northeast regions, and under-produced in the Greater Boston region. At least forty percent of all age groups choose to live in the Greater Boston region. If the state's residents continue to exhibit this trend, the Greater Boston region will require more than 38,000 new single-family units in addition to projected development by 2012. The Cape and Islands region faces a projected surplus of 18,895 single-family units by 2012.

Table 6-4. Baseline Forecast for Unmet Demand for Single-Family Units, 2008–2012

Region	2008	2009	2010	2011	2012
Greater Boston	-39,805	-39,805	-39,557	-39,313	-38,344
Berkshire	-1,166	-1,133	-1,048	-941	-783
Pioneer Valley	-2,354	-2,138	-1,745	-1,311	-601
Central	2,635	4,410	6,574	8,714	11,203
Northeast	8,553	9,052	9,786	10,576	11,778
Southeast	11,677	12,972	14,636	16,305	18,447
Cape and Islands	16,227	16,704	17,416	18,125	18,895
MA	13,210	17,609	23,722	29,921	38,461

Sources: NEEP, US Census, ACS 2005/2006

Supply gaps: Multi-family units

We project shortages for multi-family units in every region except Greater Boston. The projections anticipate that statewide new production of 16,721 multi-family units from 2008 to 2012 will likely be offset by a loss of 7,730 units to demolition or conversion, for a net gain of only 8,991 units. Implied by these projections is the projected shortage of rental units, since approximately 70 percent of multi-family units are rentals. With a natural vacancy rate of 7.4 percent for rental units, more units need to be supplied to maintain an adequate level of vacancies. The anticipated growth in the number of householders under the age of 35 can be expected to contribute to the increased demand for multi-family units, since currently 72 percent of householders in this age group live in multi-family units.

Greater Boston is expected to lead production of new multi-family units from 2008 through 2012, with a projected 10,011 cumulative new multi-family units. The Northeast is projected to gain the next greatest number of multi-family units, with 3,316 cumulative new units. The Cape and Islands and the Berkshires will see the lowest levels of multi-family production.

Notwithstanding its greater demand for multi-family units – 58 percent of households in Greater Boston lived in multi-unit housing in 2005/2006 – Greater Boston is projected to have declining multi-family surpluses throughout the forecast period. The Southeast, Northeast and Cape and Islands regions

are also projected to have shortages despite relatively high production in the Northeast and relatively low demand in the Cape and Islands.

Table 6-5. Baseline Forecast for Unmet Demand for Multi-Family Units, 2008–2012

Region	2008	2009	2010	2011	2012
MA	-38,426	-43,255	-47,496	-51,584	-54,138
Southeast	-17,500	-18,312	-19,124	-19,905	-20,433
Northeast	-14,319	-14,756	-15,029	-15,246	-15,190
Cape and Islands	-14,134	-14,359	-14,575	-14,781	-14,982
Pioneer Valley	-3,738	-4,467	-5,198	-5,892	-6,459
Central	-765	-1,291	-1,825	-2,346	-2,683
Berkshire	-124	-298	-468	-619	-751
Greater Boston	29,730	27,913	26,519	25,110	24,363

Sources: NEEP, US Census, ACS 2005/2006

Conclusion

In the near-term (2008–2012), an aging population is expected to make subtle differences to the state’s housing needs, which may be a harbinger of greater changes to come. Likewise, a growing number of younger householders will place new demands on the state’s housing supplies.

Housing production is expected to be slow from 2008 through 2012, and this will contribute to projected supply shortages in most of the state’s regions, with notable exceptions of supply surpluses in the Central region, the Cape and Islands, and possibly the Berkshires if it is able to buck recent trends and maintain its share of the state’s population during the forecast period. However, even surpluses do not guarantee that the supply will meet demand for housing units by type or price range.

Substantial mismatches of housing supply and demand by type – single-family or multi-family – are expected in nearly every region, with a dearth of single-family homes in Greater Boston and of multi-family homes nearly everywhere else.

Appendix 1: Population Trends

Appendix 1-1. Owner Households by Age of Householder and Region, 2000–2005/2006

Region	Age	Owners 2000	Owners 2000 Margin of Error	Owners 2005/2006	Owners 2005/2006 Margin of Error	Owner change 2000-2005/2006	Margin of Error of change in owners
MA	Under 30	52,591	3,253	58,120	431	5,529	3,282
	30 to 49	652,323	9,918	653,594	1,188	1,271	9,988
	50 to 64	426,970	8,513	500,536	564	73,566	8,532
	65 to 74	196,803	6,100	180,551	166	-16,252	6,103
	75 and over	180,151	5,858	185,669	972	5,518	5,938
	Total	1,508,838		1,578,470		69,632	
Berkshire	Under 30	1,309	513	1,791	643	482	822
	30 to 49	13,975	1,470	12,950	1,176	-1,025	1,882
	50 to 64	10,644	1,332	12,546	1,144	1,902	1,756
	65 to 74	5,333	996	4,565	527	-769	1,127
	75 and over	5,644	1,022	5,814	654	170	1,213
	Total	36,905		37,665		760	
Cape and Islands	Under 30	1,870	615	2,946	793	1,076	1,004
	30 to 49	26,030	2,008	27,523	2,104	1,493	2,908
	50 to 64	22,985	1,922	24,706	1,543	1,721	2,465
	65 to 74	15,575	1,652	13,367	988	-2,209	1,925
	75 and over	14,484	1,603	17,231	1,170	2,747	1,984
	Total	80,944		85,772		4,828	
Central	Under 30	7,081	1,191	9,029	1,266	1,949	1,739
	30 to 49	84,069	3,484	86,249	3,283	2,180	4,788
	50 to 64	48,726	2,880	59,384	2,039	10,658	3,528
	65 to 74	20,878	1,994	18,724	1,164	-2,154	2,309
	75 and over	20,185	1,963	20,374	1,277	189	2,342
	Total	180,939		193,760		12,821	
Greater Boston	Under 30	18,909	1,954	18,428	1,732	-481	2,611
	30 to 49	238,107	6,124	243,044	5,723	4,937	8,382
	50 to 64	159,674	5,261	186,107	4,416	26,433	6,869
	65 to 74	74,302	3,764	69,163	2,712	-5,139	4,639
	75 and over	66,721	3,581	68,223	2,550	1,502	4,396
	Total	557,713		584,965		27,252	
Northeast	Under 30	7,545	1,232	9,118	1,124	1,573	1,667
	30 to 49	108,662	3,911	106,251	3,318	-2,411	5,129
	50 to 64	65,634	3,305	76,845	2,864	11,211	4,374
	65 to 74	27,436	2,279	26,133	1,530	-1,303	2,745
	75 and over	23,141	2,107	22,899	1,604	-242	2,648
	Total	232,419		241,246		8,828	
Pioneer Valley	Under 30	6,400	1,133	6,463	1,041	63	1,539
	30 to 49	67,946	3,215	64,694	2,215	-3,253	3,904
	50 to 64	45,583	2,781	54,508	2,166	8,925	3,525
	65 to 74	22,613	2,061	18,757	1,130	-3,856	2,350
	75 and over	22,367	2,051	21,916	1,263	-451	2,409
	Total	164,910		166,338		1,428	
Southeast	Under 30	9,478	1,379	10,345	1,364	867	1,940
	30 to 49	113,548	4,043	112,883	3,689	-665	5,473
	50 to 64	73,734	3,494	86,441	2,837	12,706	4,501
	65 to 74	30,670	2,408	29,843	1,564	-827	2,871
	75 and over	27,614	2,294	29,211	1,536	1,598	2,761
	Total	255,044		268,723		13,679	

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change.

Appendix 1-2. Renter Households by Age of Householder and Region, 2000–2005/2006

Region	Age	Renters 2000	Renters Margin of Error 2000	Renters 2005/2006	Renters Margin of Error 2005/2006	Renter change 2000-2005/2006	Margin of Error of change in renters
MA	Under 30	217,350	6,382	196,881	684	-20,470	6,418
	30 to 49	399,413	8,290	363,844	553	-35,569	8,308
	50 to 64	142,301	5,250	156,178	905	13,877	5,327
	65 to 74	72,447	3,802	63,337	310	-9,111	3,815
	75 and over	104,249	4,530	90,170	153	-14,079	4,533
	Total	935,760		870,409		-65,352	
Berkshire	Under 30	4,213	895	4,910	1,048	696	1,378
	30 to 49	7,540	1,159	5,517	1,000	-2,023	1,531
	50 to 64	2,922	755	3,199	766	277	1,075
	65 to 74	1,752	591	1,545	532	-207	795
	75 and over	2,880	750	2,474	443	-406	871
	Total	19,306		17,644		-1,662	
Cape and Islands	Under 30	4,089	899	4,636	1,003	547	1,347
	30 to 49	11,381	1,445	9,361	1,567	-2,021	2,131
	50 to 64	3,701	857	4,671	1,008	970	1,323
	65 to 74	2,120	654	1,948	617	-173	899
	75 and over	3,078	784	2,513	535	-565	949
	Total	24,369		23,127		-1,242	
Central	Under 30	22,789	2,076	20,576	1,829	-2,212	2,767
	30 to 49	42,907	2,736	39,906	2,824	-3,000	3,932
	50 to 64	15,100	1,714	15,425	1,702	326	2,416
	65 to 74	7,919	1,258	6,543	971	-1,376	1,589
	75 and over	12,701	1,579	10,512	1,003	-2,189	1,871
	Total	101,415		92,962		-8,452	
Greater Boston	Under 30	115,673	4,592	97,494	3,967	-18,179	6,068
	30 to 49	196,734	5,713	181,573	5,560	-15,161	7,972
	50 to 64	66,524	3,576	72,057	3,661	5,532	5,118
	65 to 74	34,131	2,605	29,271	2,284	-4,860	3,464
	75 and over	46,285	3,014	41,296	2,425	-4,990	3,869
	Total	459,348		421,690		-37,657	
Northeast	Under 30	21,105	2,018	20,155	2,231	-950	3,009
	30 to 49	50,007	2,965	41,442	2,733	-8,565	4,033
	50 to 64	18,527	1,899	21,473	1,974	2,946	2,739
	65 to 74	8,898	1,335	8,038	1,058	-860	1,703
	75 and over	13,411	1,628	11,381	1,257	-2,030	2,057
	Total	111,948		102,488		-9,460	
Pioneer Valley	Under 30	24,457	2,135	25,084	1,949	628	2,891
	30 to 49	39,018	2,612	35,881	2,357	-3,138	3,518
	50 to 64	14,696	1,689	17,338	1,572	2,642	2,307
	65 to 74	7,272	1,206	6,716	1,007	-556	1,571
	75 and over	10,523	1,441	9,231	973	-1,292	1,739
	Total	95,966		94,249		-1,717	
Southeast	Under 30	25,028	2,192	24,027	2,174	-1,001	3,088
	30 to 49	51,832	3,033	50,164	3,108	-1,668	4,342
	50 to 64	20,833	2,012	22,015	2,163	1,182	2,954
	65 to 74	10,356	1,439	9,277	1,124	-1,079	1,826
	75 and over	15,372	1,742	12,764	1,280	-2,608	2,161
	Total	123,421		118,247		-5,174	

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change.

Appendix 1-3. Owner Households by Presence and Age of Children and Region, 2000–2005/2006

Region	Presence and age of related children	2000, Owners			2005/2006, Owners			Owner Change		
		Households	Percent	Margin of Error	Households	Percent	Margin of Error	Change	% Change	Margin of Error of change in owners
MA	Under 6 years only	126,002	8.4%	4,956	117,819	7.5%	4,988	-8,184	-6.5%	7,031
	Ages 6 to 17 years only	316,248	21.0%	7,517	335,609	21.3%	7,864	19,361	6.1%	10,878
	Under 6 and 6 to 17 years	99,500	6.6%	4,429	100,636	6.4%	4,522	1,136	1.1%	6,330
	None	967,088	64.1%	10,911	1,024,407	64.9%	11,299	57,319	5.9%	15,707
	All	1,508,838	100.0%	14,823	1,578,470	100.0%	15,324	69,632	4.6%	21,320
Berkshire	Under 6 years only	2,128	5.8%	649	1,594	4.2%	454	-534	-25.1%	792
	Ages 6 to 17 years only	7,570	20.5%	1,159	7,435	19.7%	998	-135	-1.8%	1,529
	Under 6 and 6 to 17 years	1,741	4.7%	589	1,810	4.8%	570	69	3.9%	820
	None	25,465	69.0%	1,677	26,826	71.2%	1,594	1,360	5.3%	2,314
	All	36,905	100.0%	2,219	37,665	100.0%	2,017	760	2.1%	2,999
Cape and Islands	Under 6 years only	4,106	5.1%	900	5,270	6.1%	1,107	1,164	28.3%	1,427
	Ages 6 to 17 years only	12,722	15.7%	1,514	13,026	15.2%	1,535	304	2.4%	2,156
	Under 6 and 6 to 17 years	3,852	4.8%	873	4,732	5.5%	1,124	880	22.8%	1,423
	None	60,264	74.5%	2,264	62,744	73.2%	2,499	2,480	4.1%	3,372
	All	80,944	100.0%	2,998	85,772	100.0%	3,330	4,828	6.0%	4,481
Central	Under 6 years only	15,623	8.6%	1,741	16,892	8.7%	1,562	1,268	8.1%	2,339
	Ages 6 to 17 years only	40,365	22.3%	2,664	44,475	23.0%	2,344	4,110	10.2%	3,548
	Under 6 and 6 to 17 years	12,819	7.1%	1,586	12,732	6.6%	1,375	-87	-0.7%	2,099
	None	112,132	62.0%	3,712	119,662	61.8%	3,322	7,529	6.7%	4,981
	All	180,939	100.0%	5,140	193,760	100.0%	4,567	12,821	7.1%	6,876
Greater Boston	Under 6 years only	49,921	9.0%	3,123	45,058	7.7%	2,767	-4,863	-9.7%	4,173
	Ages 6 to 17 years only	111,210	19.9%	4,510	121,651	20.8%	3,883	10,441	9.4%	5,951
	Under 6 and 6 to 17 years	35,363	6.3%	2,649	37,834	6.5%	2,902	2,471	7.0%	3,929
	None	361,219	64.8%	6,896	380,422	65.0%	5,886	19,203	5.3%	9,066
	All	557,713	100.0%	9,201	584,965	100.0%	8,112	27,252	4.9%	12,266
Northeast	Under 6 years only	22,610	9.7%	2,083	19,329	8.0%	1,705	-3,280	-14.5%	2,692
	Ages 6 to 17 years only	52,131	22.4%	3,013	55,193	22.9%	2,647	3,063	5.9%	4,011
	Under 6 and 6 to 17 years	16,889	7.3%	1,817	15,389	6.4%	1,676	-1,500	-8.9%	2,472
	None	140,789	60.6%	4,119	151,334	62.7%	4,753	10,545	7.5%	6,290
	All	232,419	100.0%	5,804	241,246	100.0%	5,943	8,828	3.8%	8,307
Pioneer Valley	Under 6 years only	10,539	6.4%	1,442	9,236	5.6%	1,072	-1,304	-12.4%	1,796
	Ages 6 to 17 years only	34,568	21.0%	2,480	32,907	19.8%	1,851	-1,660	-4.8%	3,095
	Under 6 and 6 to 17 years	9,897	6.0%	1,399	10,015	6.0%	1,141	118	1.2%	1,805
	None	109,906	66.6%	3,592	114,180	68.6%	3,169	4,275	3.9%	4,790
	All	164,910	100.0%	4,805	166,338	100.0%	3,990	1,428	0.9%	6,245
Southeast	Under 6 years only	21,076	8.3%	2,022	20,440	7.6%	1,594	-637	-3.0%	2,575
	Ages 6 to 17 years only	57,691	22.6%	3,167	60,921	22.7%	3,034	3,230	5.6%	4,386
	Under 6 and 6 to 17 years	18,941	7.4%	1,923	18,123	6.7%	1,491	-818	-4.3%	2,433
	None	157,335	61.7%	4,327	169,239	63.0%	4,058	11,904	7.6%	5,932
	All	255,044	100.0%	6,045	268,723	100.0%	5,517	13,679	5.4%	8,184

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change.

Appendix 1-4. Renter Households by Presence and Age of Children and Region, 2000–2005/2006

Region	Presence and age of related children	2000, Renters			2005/2006, Renters			Renter Change		
		Households	Percent	Margin of Error	Households	Percent	Margin of Error	Change	% Change	Margin of Error of change in renters
MA	Under 6 years only	74,726	8.0%	3,860	71,398	8.2%	331	-3,328	-4.5%	3,874
	Ages 6 to 17 years only	128,024	13.7%	4,995	120,746	13.9%	379	-7,279	-5.7%	5,009
	Under 6 and 6 to 17 years	56,248	6.0%	3,362	46,960	5.4%	496	-9,289	-16.5%	3,398
	None	676,762	72.3%	10,032	631,306	72.5%	670	-45,457	-6.7%	10,055
	All	935,760	100.0%		870,409	100.0%		-65,352	-7.0%	
Berkshire	Under 6 years only	1,419	7.4%	533	1,977	11.2%	726	558	39.4%	901
	Ages 6 to 17 years only	2,416	12.5%	690	2,029	11.5%	667	-387	-16.0%	960
	Under 6 and 6 to 17 years	1,182	6.1%	488	760	4.3%	440	-422	-35.7%	657
	None	14,289	74.0%	1,480	12,878	73.0%	1,321	-1,411	-9.9%	1,984
	All	19,306	100.0%		17,644	100.0%		-1,662	-8.6%	
Cape and Islands	Under 6 years only	1,822	7.5%	607	2,708	11.7%	849	886	48.6%	1,043
	Ages 6 to 17 years only	3,844	15.8%	873	2,821	12.2%	1,023	-1,023	-26.6%	1,345
	Under 6 and 6 to 17 years	1,111	4.6%	475	797	3.4%	439	-314	-28.3%	647
	None	17,592	72.2%	1,736	16,802	72.6%	1,512	-791	-4.5%	2,302
	All	24,369	100.0%		23,127	100.0%		-1,242	-5.1%	
Central	Under 6 years only	9,422	9.3%	1,369	7,708	8.3%	1,502	-1,714	-18.2%	2,032
	Ages 6 to 17 years only	14,695	14.5%	1,693	13,892	14.9%	1,644	-802	-5.5%	2,359
	Under 6 and 6 to 17 years	7,063	7.0%	1,190	5,269	5.7%	979	-1,793	-25.4%	1,541
	None	70,236	69.3%	3,294	66,093	71.1%	2,998	-4,143	-5.9%	4,454
	All	101,415	100.0%		92,962	100.0%		-8,452	-8.3%	
Greater Boston	Under 6 years only	31,968	7.0%	2,523	31,297	7.4%	3,212	-671	-2.1%	4,084
	Ages 6 to 17 years only	53,682	11.7%	3,234	52,267	12.4%	3,202	-1,416	-2.6%	4,551
	Under 6 and 6 to 17 years	23,155	5.0%	2,157	19,691	4.7%	1,985	-3,464	-15.0%	2,931
	None	350,542	76.3%	6,873	318,436	75.5%	6,978	-32,107	-9.2%	9,795
	All	459,348	100.0%		421,690	100.0%		-37,657	-8.2%	
North east	Under 6 years only	9,877	8.8%	1,405	9,401	9.2%	1,896	-476	-4.8%	2,360
	Ages 6 to 17 years only	17,605	15.7%	1,854	16,866	16.5%	1,808	-739	-4.2%	2,589
	Under 6 and 6 to 17 years	7,827	7.0%	1,254	5,940	5.8%	951	-1,887	-24.1%	1,574
	None	76,639	68.5%	3,501	70,282	68.6%	3,128	-6,358	-8.3%	4,695
	All	111,948	100.0%		102,488	100.0%		-9,460	-8.5%	
Pioneer Valley	Under 6 years only	8,453	8.8%	1,297	7,490	7.9%	1,094	-963	-11.4%	1,697
	Ages 6 to 17 years only	15,331	16.0%	1,723	12,617	13.4%	1,307	-2,714	-17.7%	2,162
	Under 6 and 6 to 17 years	7,375	7.7%	1,214	6,221	6.6%	1,132	-1,154	-15.6%	1,660
	None	64,808	67.5%	3,165	67,921	72.1%	3,287	3,113	4.8%	4,563
	All	95,966	100.0%		94,249	100.0%		-1,717	-1.8%	
Southeast	Under 6 years only	11,766	9.5%	1,531	10,817	9.1%	1,503	-949	-8.1%	2,146
	Ages 6 to 17 years only	20,453	16.6%	1,995	20,253	17.1%	2,115	-200	-1.0%	2,907
	Under 6 and 6 to 17 years	8,537	6.9%	1,310	8,281	7.0%	1,319	-256	-3.0%	1,859
	None	82,665	67.0%	3,645	78,895	66.7%	3,631	-3,770	-4.6%	5,145
	All	123,421	100.0%		118,247	100.0%		-5,174	-4.2%	

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change.

Appendix 1-5. Size of Owner Households by Region 2000–2005/2006

Region	People in unit	Owners 2000	Percent	Margin of Error	Owners 2005/2006	Percent	Margin of Error	Change 2000 - 2005/2006	% Change	Margin of Error of change
MA	1 person	297,392	19.7%	7,322	333,075	21.1%	7,696	35,683	12.0%	10,623
	2 people	509,701	33.8%	9,091	542,046	34.3%	7,390	32,345	6.3%	11,716
	3 people	273,103	18.1%	7,057	260,648	16.5%	6,150	-12,456	-4.6%	9,360
	4 people	263,174	17.4%	6,943	274,928	17.4%	6,663	11,754	4.5%	9,623
	5 people	117,634	7.8%	4,797	119,478	7.6%	4,439	1,844	1.6%	6,535
	6 or more	47,834	3.2%	3,105	48,296	3.1%	2,942	462	1.0%	4,278
	Total	1,508,838	100.0%		1,578,470	100.0%		69,632	4.6%	
Berkshire	1 person	8,227	22.3%	1,199	8,292	22.0%	13,776	65	0.8%	13,828
	2 people	14,291	38.7%	1,475	16,002	42.5%	7,054	1,711	12.0%	7,207
	3 people	6,205	16.8%	1,064	5,488	14.6%	4,048	-717	-11.6%	4,186
	4 people	5,236	14.2%	987	5,461	14.5%	2,156	225	4.3%	2,372
	5 people	2,070	5.6%	640	1,968	5.2%	483	-103	-5.0%	802
	6 or more	876	2.4%	421	456	1.2%	54	-421	-48.0%	425
	Total	36,905	100.0%		37,665	100.0%		760	2.1%	
Cape and Islands	1 person	20,876	25.8%	14,708	21,878	25.5%	1,875	1,002	4.8%	14,827
	2 people	33,887	41.9%	10,433	36,458	42.5%	1,925	2,571	7.6%	10,609
	3 people	11,362	14.0%	5,182	10,972	12.8%	1,475	-391	-3.4%	5,388
	4 people	9,488	11.7%	3,162	10,078	11.7%	1,575	590	6.2%	3,532
	5 people	3,941	4.9%	1,731	4,901	5.7%	1,110	960	24.3%	2,056
	6 or more	1,390	1.7%	637	1,487	1.7%	548	97	7.0%	840
	Total	80,944	100.0%		85,772	100.0%		4,828	6.0%	
Central	1 person	32,731	18.1%	2,437	36,590	18.9%	2,241	3,860	11.8%	3,311
	2 people	62,087	34.3%	3,150	65,886	34.0%	2,584	3,799	6.1%	4,074
	3 people	33,353	18.4%	2,457	34,691	17.9%	2,176	1,338	4.0%	3,282
	4 people	33,341	18.4%	2,457	35,091	18.1%	1,818	1,750	5.2%	3,056
	5 people	14,022	7.7%	1,655	15,787	8.1%	1,610	1,765	12.6%	2,309
	6 or more	5,406	3.0%	1,044	5,716	2.9%	893	309	5.7%	1,374
	Total	180,939	100.0%		193,760	100.0%		12,821	7.1%	
Greater Boston	1 person	117,234	21.0%	4,615	133,427	22.8%	4,623	16,193	13.8%	6,532
	2 people	181,308	32.5%	5,527	190,214	32.5%	3,904	8,905	4.9%	6,767
	3 people	100,661	18.0%	4,316	95,505	16.3%	3,336	-5,157	-5.1%	5,455
	4 people	96,525	17.3%	4,236	102,406	17.5%	3,737	5,881	6.1%	5,649
	5 people	43,861	7.9%	2,937	43,777	7.5%	2,530	-84	-0.2%	3,876
	6 or more	18,122	3.2%	1,913	19,636	3.4%	1,842	1,513	8.4%	2,656
	Total	557,713	100.0%		584,965	100.0%	0	27,252	4.9%	
Northeast	1 person	40,405	17.4%	2,706	46,760	19.4%	2,831	6,355	15.7%	3,917
	2 people	75,599	32.5%	3,477	79,888	33.1%	2,844	4,289	5.7%	4,492
	3 people	43,431	18.7%	2,791	41,279	17.1%	2,348	-2,153	-5.0%	3,648
	4 people	44,888	19.3%	2,831	45,209	18.7%	2,679	321	0.7%	3,898
	5 people	19,746	8.5%	1,956	21,300	8.8%	1,595	1,554	7.9%	2,524
	6 or more	8,350	3.6%	1,294	6,812	2.8%	937	-1,538	-18.4%	1,598
	Total	232,419	100.0%		241,246	100.0%		8,828	3.8%	
Pioneer Valley	1 person	34,464	20.9%	2,477	37,899	22.8%	2,072	3,435	10.0%	3,229
	2 people	58,682	35.6%	3,050	60,755	36.5%	2,298	2,072	3.5%	3,819
	3 people	29,420	17.8%	2,314	26,322	15.8%	1,436	-3,098	-10.5%	2,724
	4 people	26,489	16.1%	2,210	26,124	15.7%	1,703	-365	-1.4%	2,790
	5 people	11,285	6.8%	1,489	10,878	6.5%	1,151	-407	-3.6%	1,882
	6 or more	4,569	2.8%	961	4,361	2.6%	730	-208	-4.5%	1,206
	Total	164,910	100.0%		166,338	100.0%		1,428	0.9%	
Southeast	1 person	43,462	17.0%	2,810	48,230	17.9%	2,692	4,768	11.0%	3,892
	2 people	83,860	32.9%	3,657	92,845	34.6%	3,249	8,985	10.7%	4,892
	3 people	48,676	19.1%	2,951	46,392	17.3%	2,506	-2,284	-4.7%	3,871
	4 people	47,213	18.5%	2,912	50,559	18.8%	2,530	3,346	7.1%	3,858
	5 people	22,711	8.9%	2,094	20,868	7.8%	1,798	-1,843	-8.1%	2,760
	6 or more	9,122	3.6%	1,353	9,829	3.7%	1,319	707	7.8%	1,889
	Total	255,044	100.0%		268,723	100.0%		13,679	5.4%	

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change.

Appendix 1-6. Size of Renter Households by Region, 2000–2005/2006

Region	People	Renters 2000	Percent	Margin of Error	Renters 2005/2006	Percent	Margin of Error	Change 2000-2005/2006	% Change	Margin of Error of change
MA	1 person	385,863	41.2%	8,175	371,268	42.7%	2,790	-14,596	-3.8%	8,638
	2 people	266,516	28.5%	6,988	241,571	27.8%	2,181	-24,945	-9.4%	7,321
	3 people	129,614	13.9%	5,024	121,861	14.0%	1,293	-7,754	-6.0%	5,188
	4 people	88,948	9.5%	4,198	85,625	9.8%	1,376	-3,323	-3.7%	4,418
	5 people	40,738	4.4%	2,870	32,347	3.7%	506	-8,392	-20.6%	2,915
	6 or more	24,081	2.6%	2,214	17,738	2.0%	171	-6,343	-26.3%	2,221
	Total	935,760	100.0%		870,409	100.0%		-65,352	-7.0%	
Berkshire	1 person	9,626	49.9%	1,281	8,948	50.7%	1,015	-678	-7.0%	1,634
	2 people	5,025	26.0%	970	4,498	25.5%	1,017	-527	-10.5%	1,406
	3 people	2,262	11.7%	668	2,536	14.4%	626	273	12.1%	916
	4 people	1,445	7.5%	538	1,321	7.5%	615	-125	-8.6%	817
	5 people	662	3.4%	367	308	1.7%	204	-355	-53.5%	420
	6 or more	285	1.5%	242	34	0.2%	49	-251	-88.0%	247
	Total	19,306	100.0%		17,644	100.0%		-1,662	-8.6%	
Cape and Islands	1 person	10,185	41.8%	1,376	9,901	42.8%	1,396	-285	-2.8%	1,960
	2 people	7,056	29.0%	1,164	7,313	31.6%	1,249	257	3.6%	1,707
	3 people	3,549	14.6%	840	2,824	12.2%	827	-726	-20.4%	1,179
	4 people	2,077	8.5%	647	1,730	7.5%	807	-348	-16.7%	1,034
	5 people	1,110	4.6%	475	1,236	5.3%	556	126	11.4%	732
	6 or more	392	1.6%	283	125	0.5%	107	-268	-68.2%	303
	Total	24,369	100.0%		23,127	100.0%		-1,242	-5.1%	
Central	1 person	41,496	40.9%	2,698	42,400	45.6%	2,676	905	2.2%	3,800
	2 people	28,452	28.1%	2,294	24,618	26.5%	2,057	-3,834	-13.5%	3,081
	3 people	14,190	14.0%	1,665	11,083	11.9%	1,573	-3,108	-21.9%	2,290
	4 people	9,863	9.7%	1,399	9,027	9.7%	1,343	-836	-8.5%	1,939
	5 people	5,036	5.0%	1,009	3,776	4.1%	1,002	-1,260	-25.0%	1,421
	6 or more	2,378	2.3%	696	2,059	2.2%	654	-319	-13.4%	955
	Total	101,415	100.0%		92,962	100.0%		-8,452	-8.3%	
Greater Boston	1 person	189,641	41.3%	5,633	178,489	42.3%	5,449	-11,151	-5.9%	7,837
	2 people	138,059	30.1%	4,954	119,469	28.3%	4,561	-18,590	-13.5%	6,733
	3 people	61,893	13.5%	3,457	60,133	14.3%	3,258	-1,760	-2.8%	4,751
	4 people	40,187	8.7%	2,817	40,152	9.5%	2,988	-36	-0.1%	4,107
	5 people	17,969	3.9%	1,905	15,230	3.6%	2,297	-2,739	-15.2%	2,984
	6 or more	11,598	2.5%	1,536	8,216	1.9%	1,535	-3,381	-29.2%	2,171
	Total	459,348	100.0%		421,690	100.0%		-37,657	-8.2%	
Northeast	1 person	45,423	40.6%	2,848	41,159	40.2%	2,390	-4,264	-9.4%	3,717
	2 people	30,015	26.8%	2,374	28,644	27.9%	2,647	-1,371	-4.6%	3,555
	3 people	15,808	14.1%	1,761	14,826	14.5%	1,795	-982	-6.2%	2,515
	4 people	11,922	10.6%	1,539	11,435	11.2%	1,805	-488	-4.1%	2,371
	5 people	5,423	4.8%	1,048	4,077	4.0%	858	-1,346	-24.8%	1,355
	6 or more	3,356	3.0%	827	2,347	2.3%	1,016	-1,009	-30.1%	1,310
	Total	111,948	100.0%		102,488	100.0%		-9,460	-8.5%	
Pioneer Valley	1 person	39,726	41.4%	2,632	39,932	42.4%	2,458	206	0.5%	3,601
	2 people	24,550	25.6%	2,139	26,842	28.5%	2,281	2,292	9.3%	3,126
	3 people	13,751	14.3%	1,637	13,100	13.9%	1,442	-651	-4.7%	2,181
	4 people	9,780	10.2%	1,391	9,065	9.6%	1,286	-715	-7.3%	1,895
	5 people	4,674	4.9%	972	3,247	3.4%	825	-1,426	-30.5%	1,275
	6 or more	3,486	3.6%	841	2,064	2.2%	634	-1,422	-40.8%	1,053
	Total	95,966	100.0%		94,249	100.0%		-1,717	-1.8%	
Southeast	1 person	49,772	40.3%	2,982	50,438	42.7%	3,372	665	1.3%	4,501
	2 people	33,362	27.0%	2,501	30,187	25.5%	2,719	-3,175	-9.5%	3,694
	3 people	18,162	14.7%	1,886	17,359	14.7%	1,938	-802	-4.4%	2,704
	4 people	13,674	11.1%	1,646	12,897	10.9%	1,712	-777	-5.7%	2,375
	5 people	5,865	4.8%	1,090	4,472	3.8%	1,014	-1,393	-23.7%	1,489
	6 or more	2,586	2.1%	727	2,893	2.4%	858	307	11.9%	1,124
	Total	123,421	100.0%		118,247	100.0%		-5,174	-4.2%	

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change.

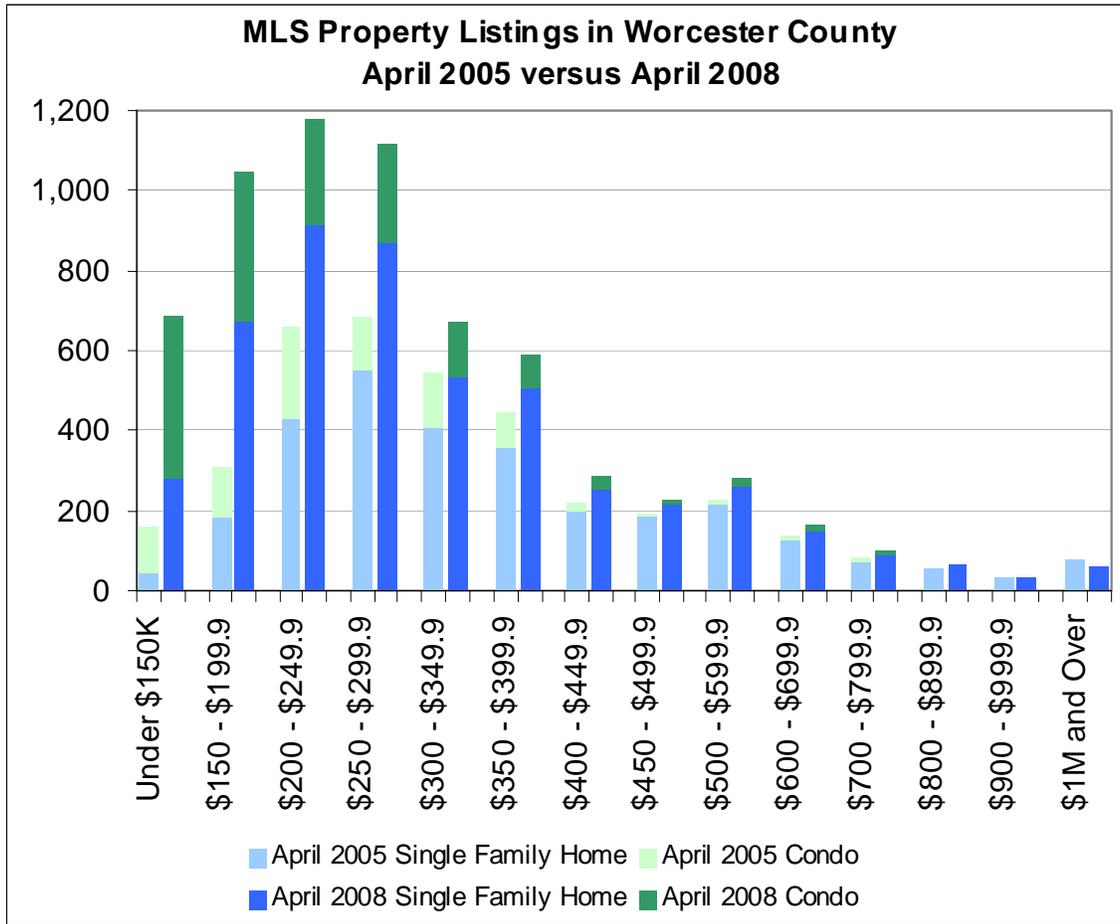
Appendix 2: Current Housing and Market Trends

Appendix 2-1. National Association of Realtors Homebuyer Profile, 2005, 2006 and 2007

	2005		2006		2007	
	MA	US	MA	US	MA	US
All Homebuyers						
Median Income*	\$87,700	\$71,600	\$82,600	\$71,800	\$84,400	\$74,000
% with Incomes <\$45,000	12%	21%	12%	21%	9%	20%
% with Incomes <\$55,000	19%	32%	19%	31%	18%	31%
% with Incomes <\$75,000	37%	53%	41%	52%	40%	51%
Median Age	38	40	38	41	39	39
% of Homebuyers Aged 55+	18%	18%	19%	21%	15%	20%
Median Price of Home Purchased	\$352,000	\$195,000	\$325,000	\$214,000	\$306,000	\$215,000
% Purchasing Newly Constructed Home	11%	23%	11%	22%	11%	23%
Median Price of a Newly Constructed Home	\$418,500	\$226,300	\$400,000	\$250,000	\$360,000	\$260,000
Of Newly Constructed Home Buyers, % Paying <\$200,000	0%	41%	0%	32%	18%	29%
Of Newly Constructed Home Buyers, % Paying <\$300,000	25%	70%	16%	62%	40%	59%
Of Newly Constructed Home Buyers, % Paying >\$500,000	32%	9%	37%	13%	14%	12%
Median Price - Previously Owned Home	\$344,000	\$185,000	\$319,900	\$200,000	\$305,000	\$199,000
Median % Financed	81%	87%	86%	91%	85%	91%
% Purchasing Homes Price <\$150,000	4%	33%	6%	28%	7%	28%
% Purchasing Homes Price <\$200,000	14%	52%	18%	46%	21%	46%
% Purchasing Newly Constructed Home	11%	23%	11%	22%	11%	23%
% Purchasing Detached Single Family Home	69%	75%	65%	75%	63%	74%
% Purchasing Townhouse/Row House	7%	9%	8%	9%	8%	9%
% Purchasing Unit in Building with 2-4 Units	7%	7%	12%	3%	9%	2%
% Purchasing Unit in Building with 5 or More Units	11%	2%	13%	8%	18%	9%
Size (in Square Feet)	1,767	1,816	1,688	1,815	1,570	1,810
Price per Square Foot by Type of Home	\$211	\$109	\$200	\$118	\$200	\$116
Detached Single Family	\$206	\$106	\$200	\$112	\$193	\$110
Townhouse	\$224	\$124	\$176	\$136	\$204	\$138
Unit in 2-4 Unit Structure	\$277	\$100	\$202	\$129	\$287	\$112
Unit in Structure with 5 or More Units	\$252	\$163	\$224	\$189	\$213	\$199
% Buyers with no children residing at home	59%	61%			63%	60%
First Time Home Buyers						
First Time Buyers as % of All Home Buyers	43%	40%	45%	36%	45%	39%
Median Age of First Time Buyers	32	32	32	32	32	31
% < Age 25	5%	14%	7%	12%	6%	13%
% Between 25-34	63%	50%	66%	51%	49%	52%
Median Price of Home Purchased	\$296,000	\$150,000	\$269,000	\$165,000	\$243,000	\$165,000
Median % Financed					96%	98%
Size (in Square Feet) First Time Homebuyers	1,432	1,546	1,483	1,516	1,270	1,510
Median Income	\$80,200	\$57,200	\$75,800	\$58,300	\$73,500	\$58,600
% with Incomes <\$45,000	12%	32%	10%	32%	13%	30%
% with Incomes <\$55,000	19%	47%	25%	46%	25%	44%
% with Incomes <\$75,000	27%	16%	47%	70%	52%	68%
% Purchasing Detached Single Family Home	65%	69%	63%	66%	53%	67%
% Purchasing Townhouse/Row House	5%	11%	9%	13%	9%	12%
% Purchasing Unit in Building with 2-4 Units	7%	3%	13%	3%	14%	3%
% Purchasing Unit in Building with 5+ Units	16%	9%	13%	11%	21%	13%
% Purchasing Home Costing < \$150,000	5%	49%	5%	44%	11%	43%
% Purchasing Home Costing < \$200,000	22%	68%	22%	64%	32%	63%
Repeat Home Buyers						
Median Price of Home Purchased	\$405,000	\$235,000	\$370,000	\$249,000	\$383,000	\$250,000
Median Income Repeat Buyers	\$96,700	\$83,200	\$91,900	\$81,900	\$106,800	\$85,663
% with Incomes <\$45,000	12%	14%	12%	15%	7%	14%
% with Incomes <\$55,000	19%	23%	13%	23%	13%	22%
% with Incomes <\$75,000	34%	42%	32%	43%	30%	39%
Median Age of Repeat Buyers	44	46	47	47	43	46
% Repeat Buyers 35-54	51%	61%	48%	50%	57%	50%
% Over 55	28%	30%	31%	30%	25%	31%
% Purchasing Detached Single Family Home	72%	79%	66%	80%	71%	79%
% Purchasing Townhouse/Row House	9%	8%	7%	7%	6%	7%
% Purchasing Unit in Building with 2-4 Units	8%	2%	11%	3%	5%	2%
% Purchasing Unit in Building with 5 or More Units	8%	5%	13%	6%	16%	7%
Size (in Square Feet) Repeat Homebuyers	2,092	2,015	1,851	1,993	1,880	2,015

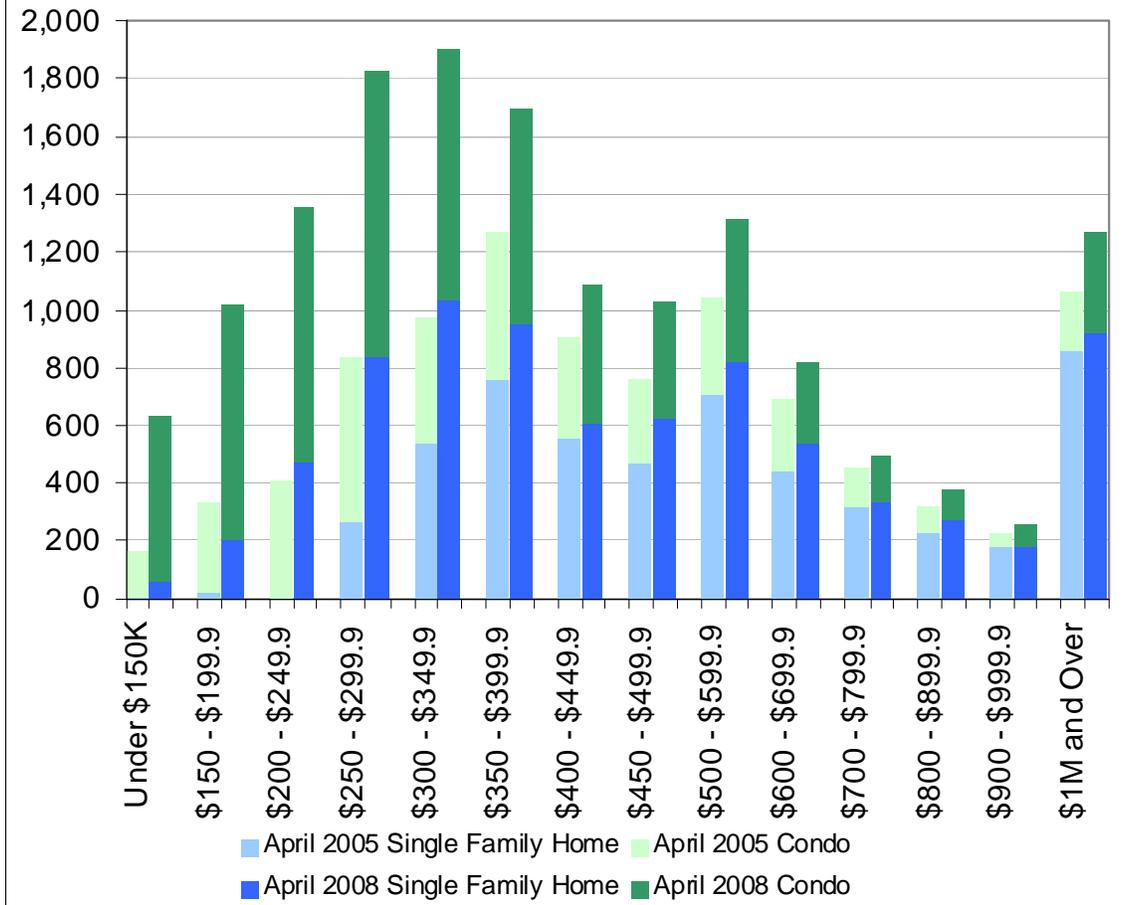
Source: 2007 Profile of Home Buyers and Sellers, prepared by the National Association of Realtors Research Division for the Massachusetts Association of Realtors, December 2007. *Income is income reported for the prior year.

Appendix 2-2. MLS Property Listings by County, April 2005 versus April 2008



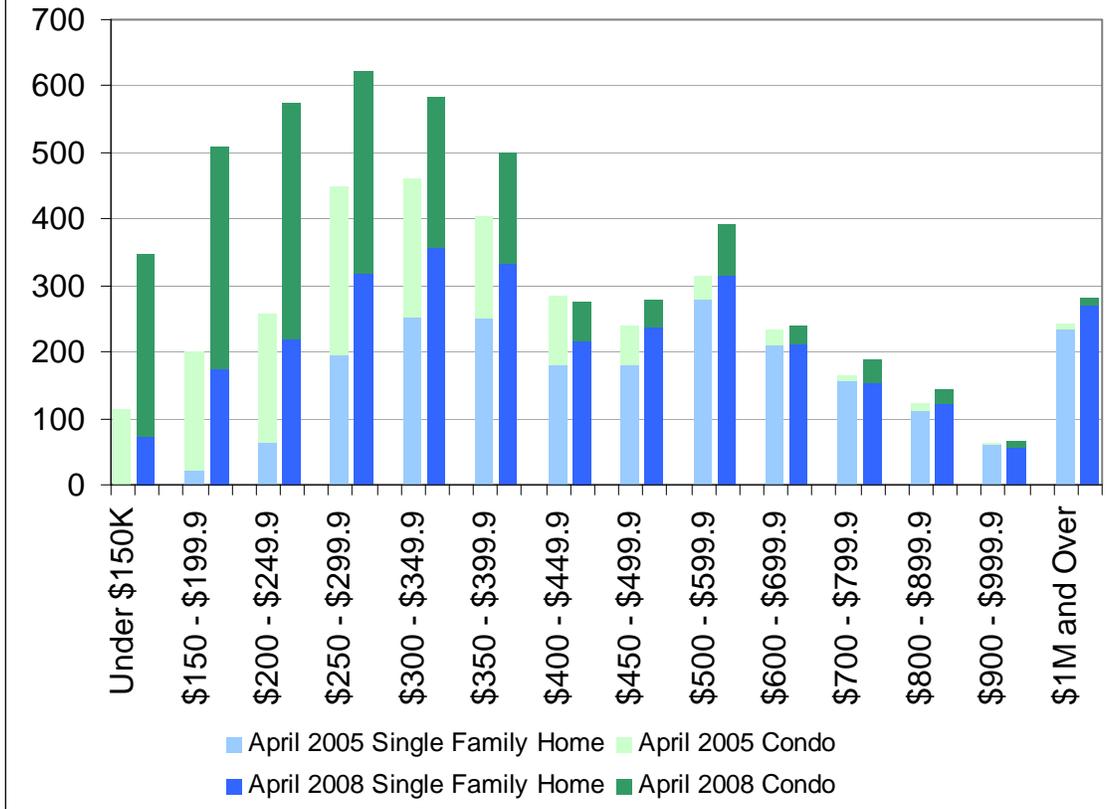
Source: MLS Property Service

**MLS Property Listings in Suffolk, Middlesex and Norfolk Counties
April 2005 versus April 2008**



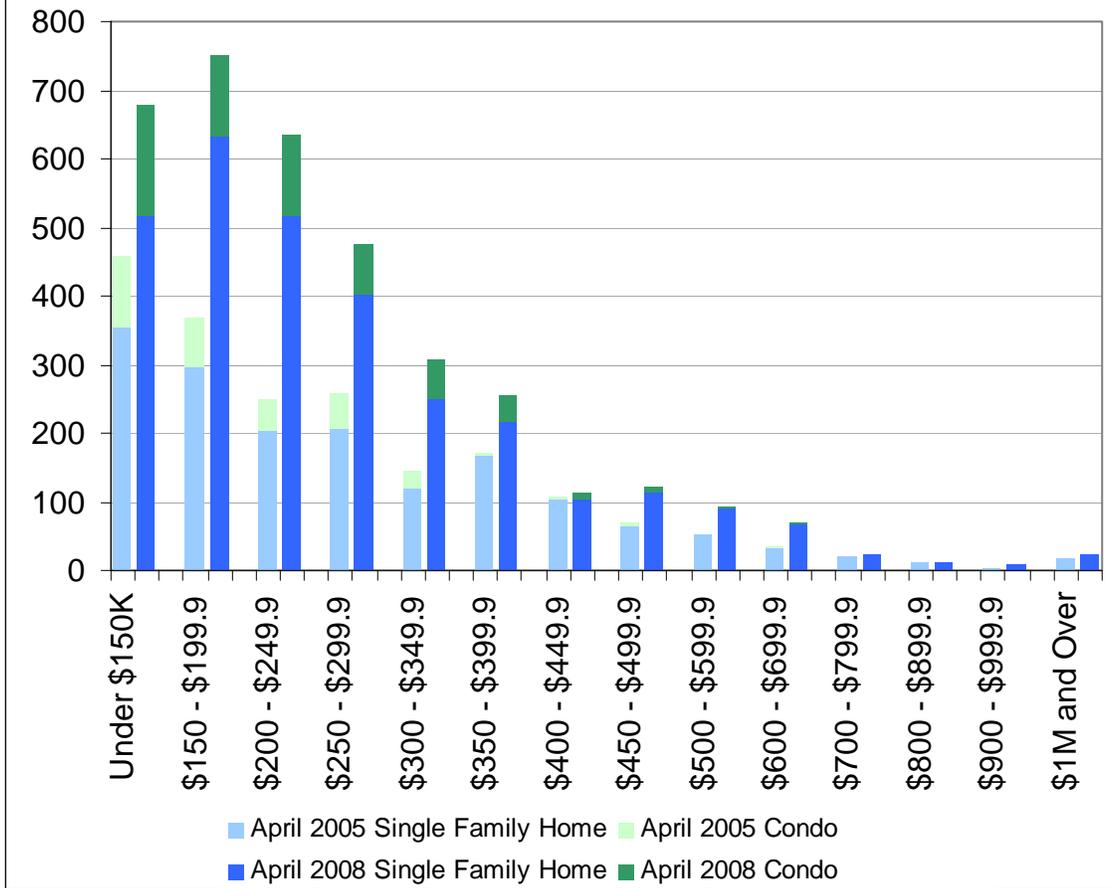
Source: MLS Property Service

MLS Listings in Essex County April 2005 versus April 2008

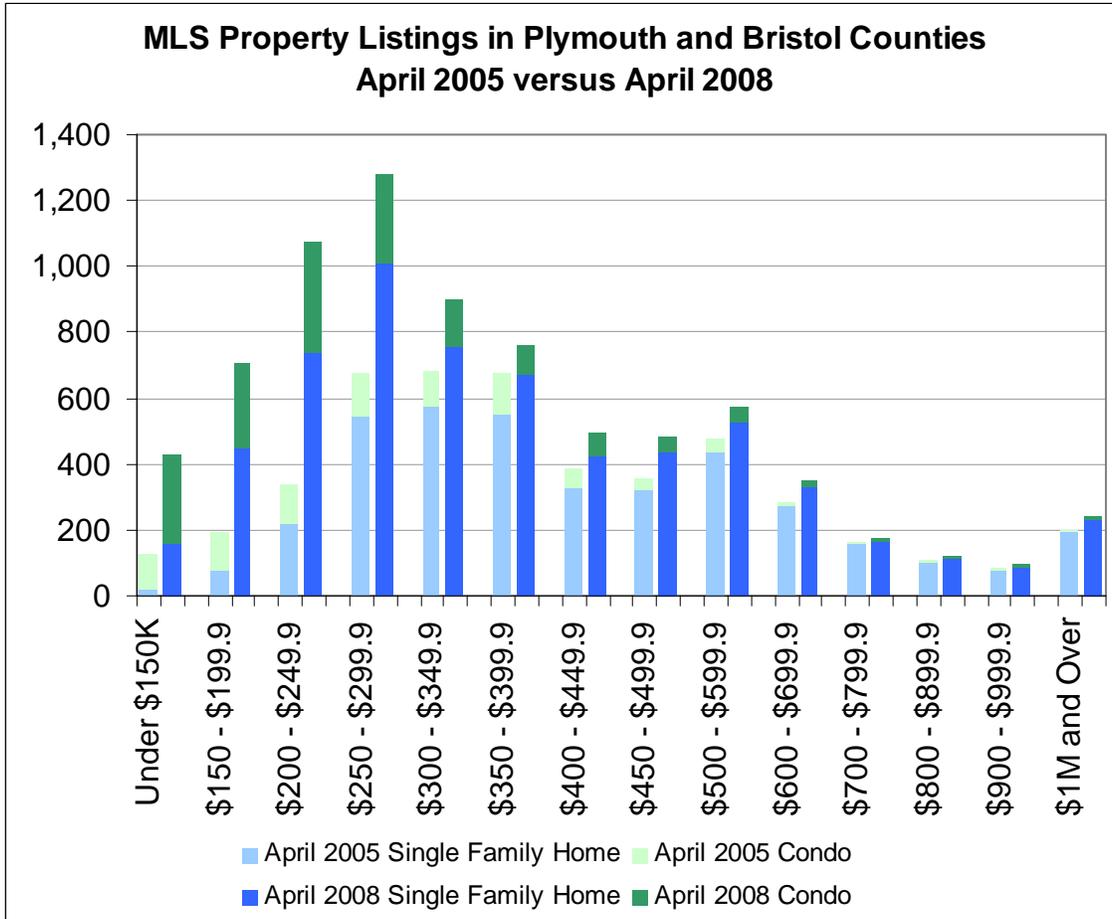


Source: MLS Property Service

MLS Listings Pioneer Valley April 2005 versus April 2008

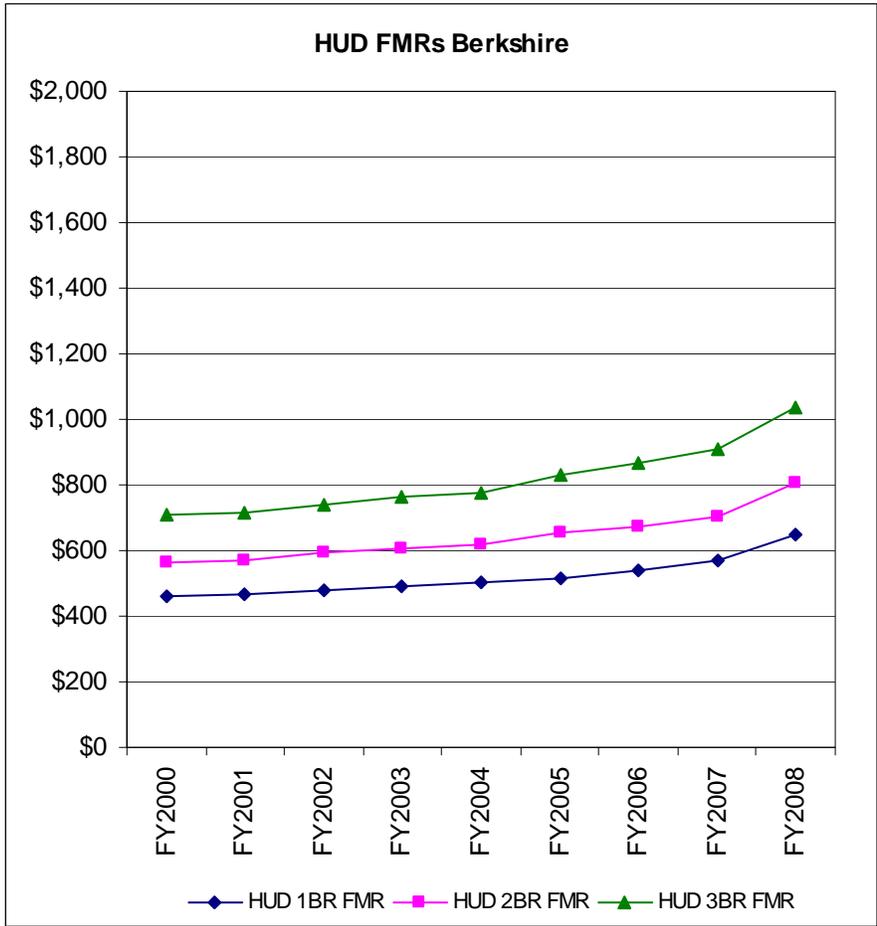


Source: MLS Property Service

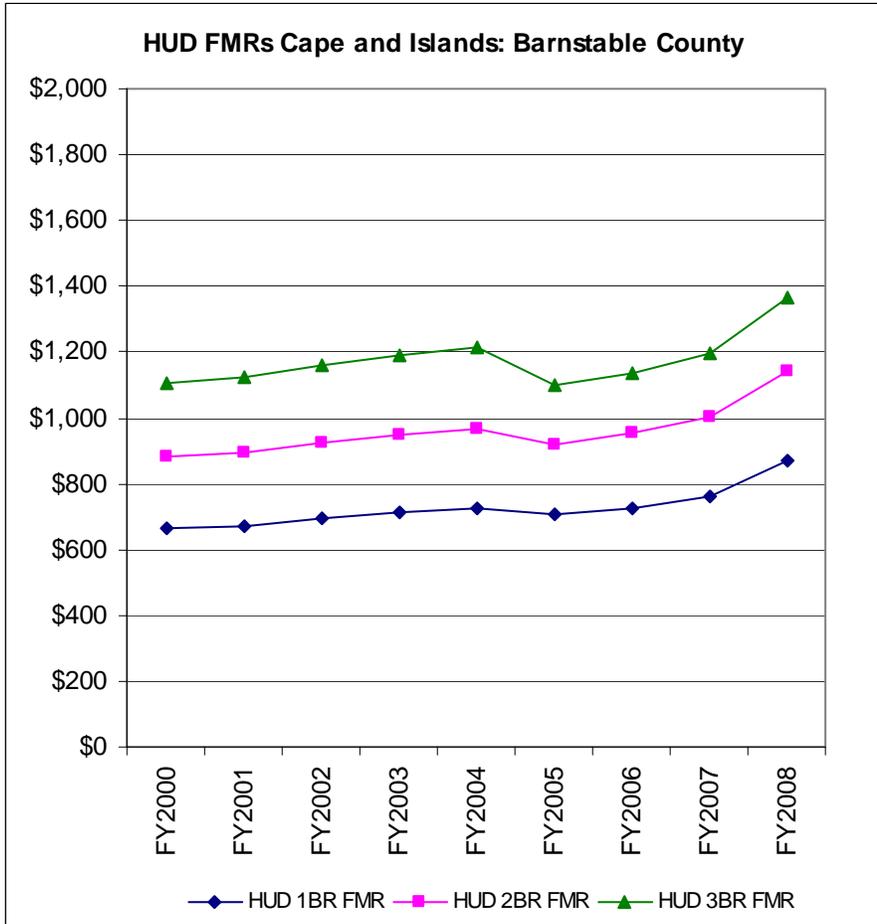


Source: MLS Property Service

Appendix 2-3. Department of Housing and Urban Development (HUD) Fair Market Rents by Region, 2000-2008



Source: HUD



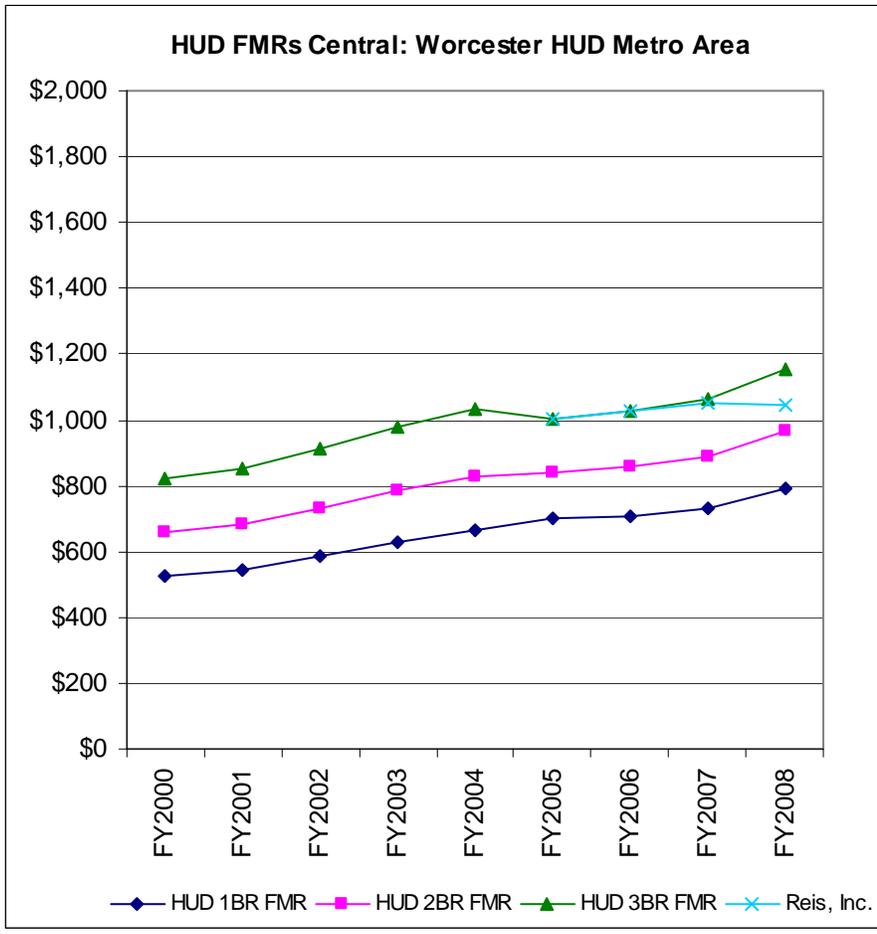
Source: HUD



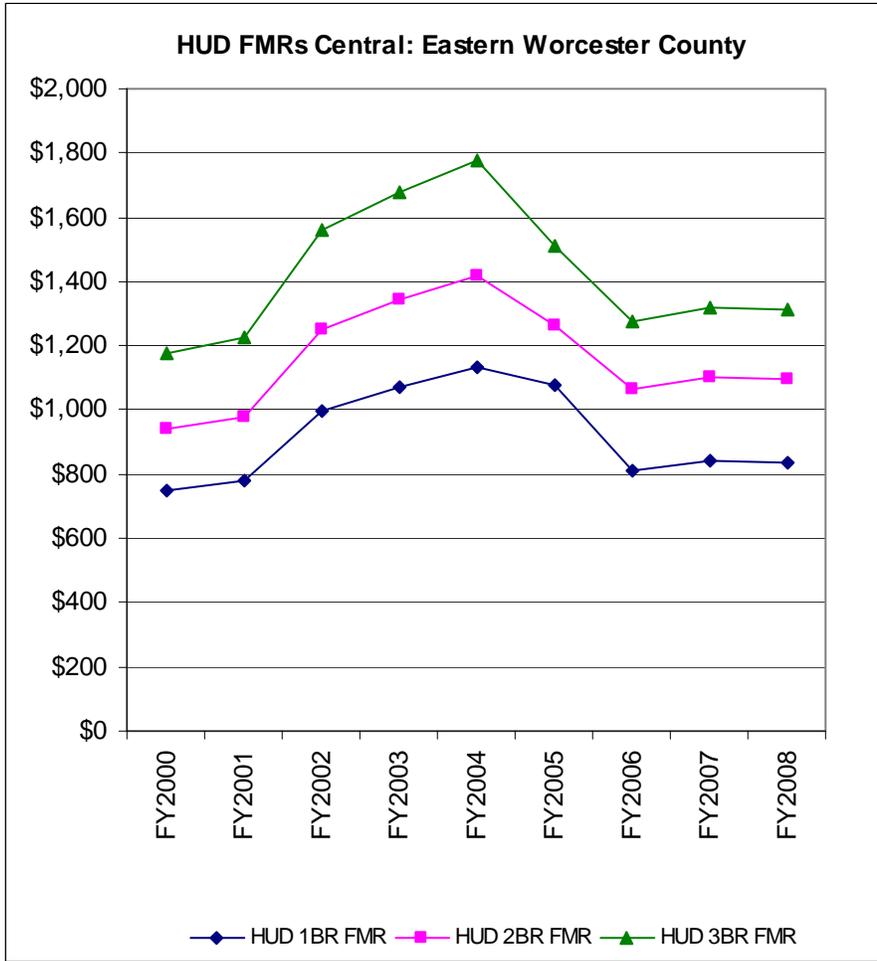
Source: HUD



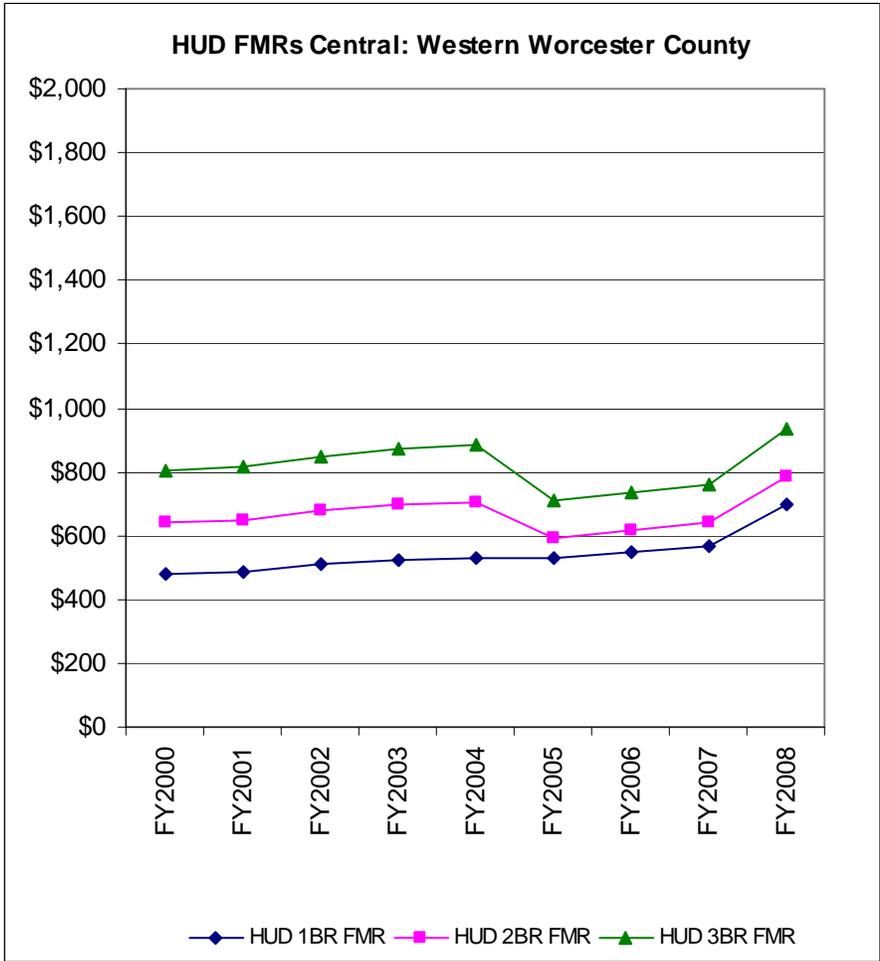
Source: HUD



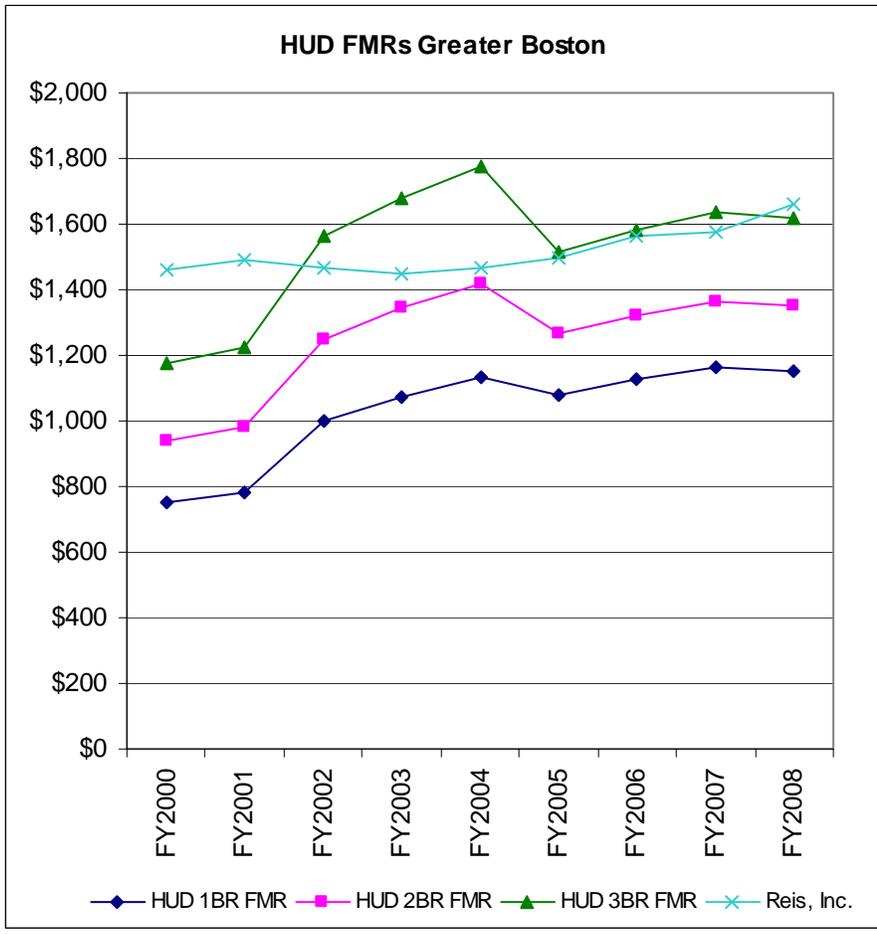
Source: HUD; Reis, Inc.



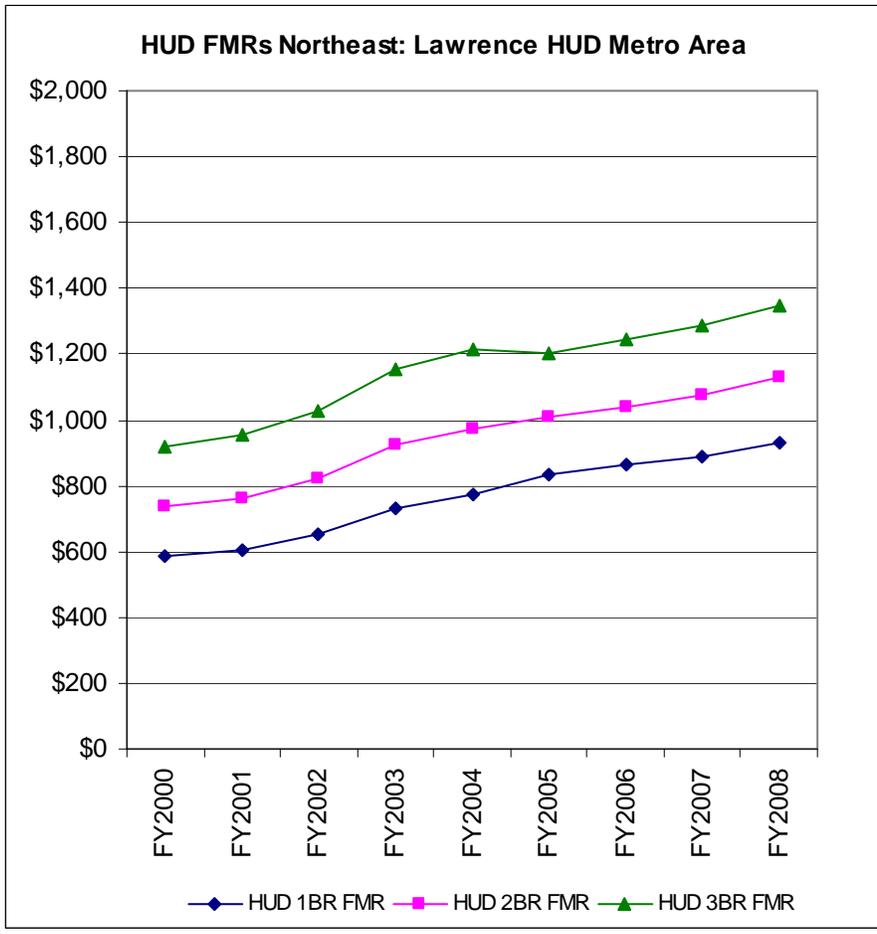
Source: HUD



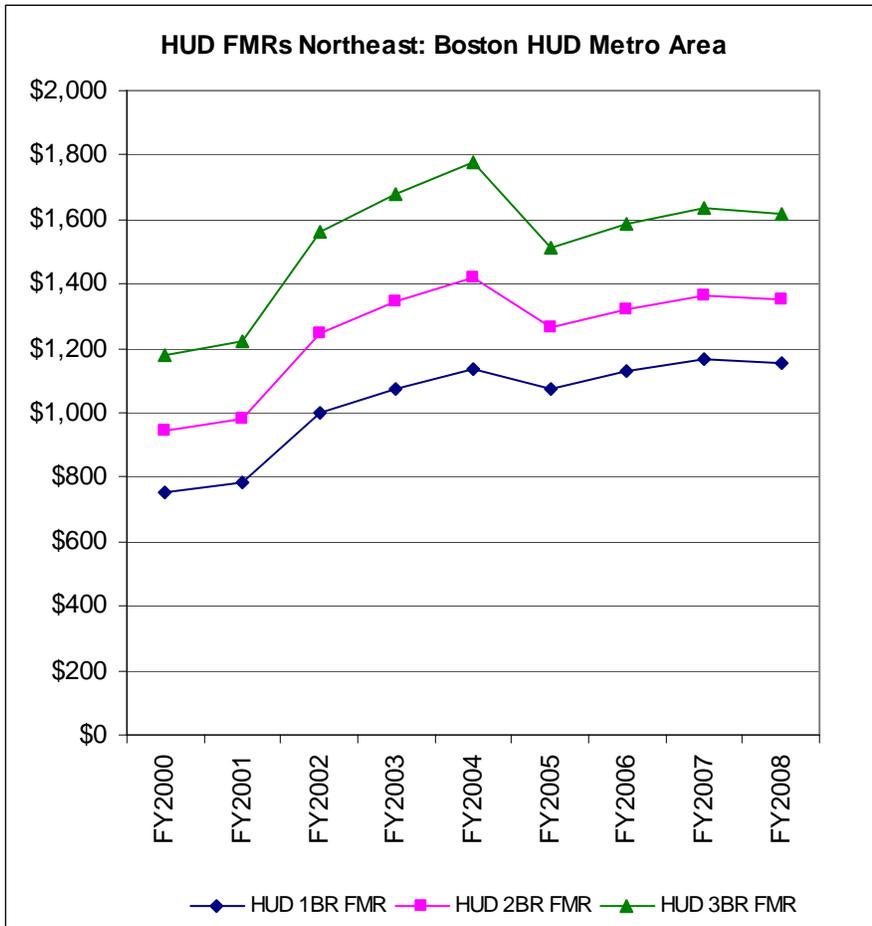
Source: HUD



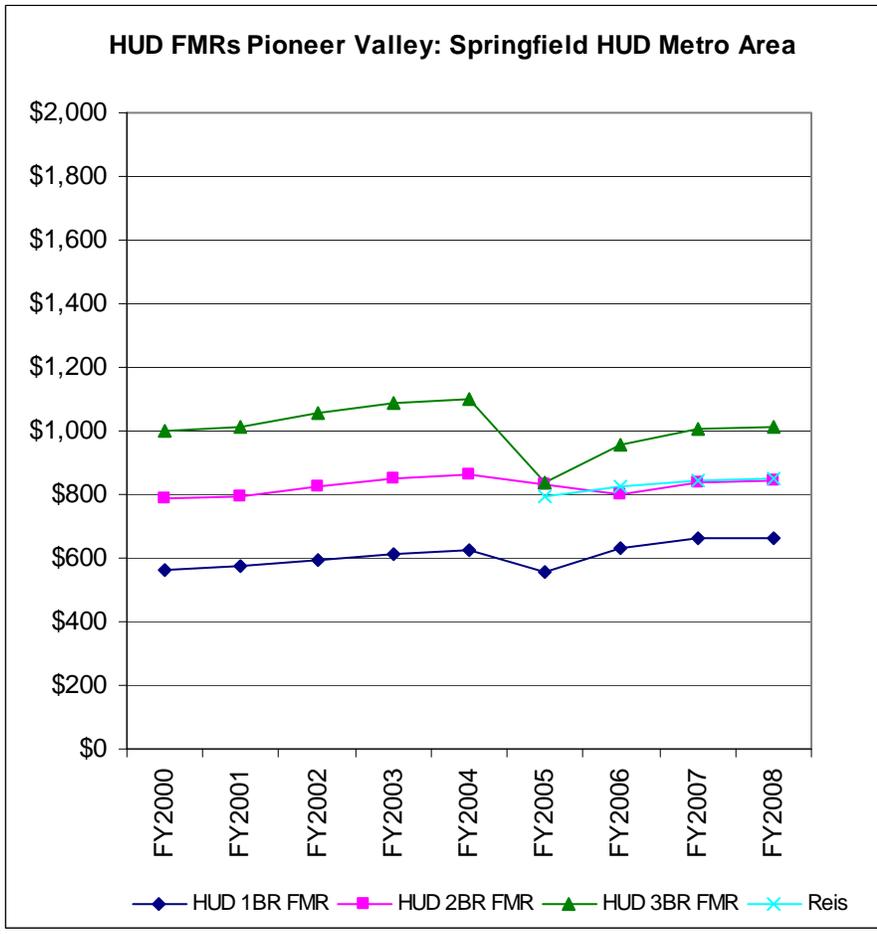
Source: HUD; Reis, Inc.



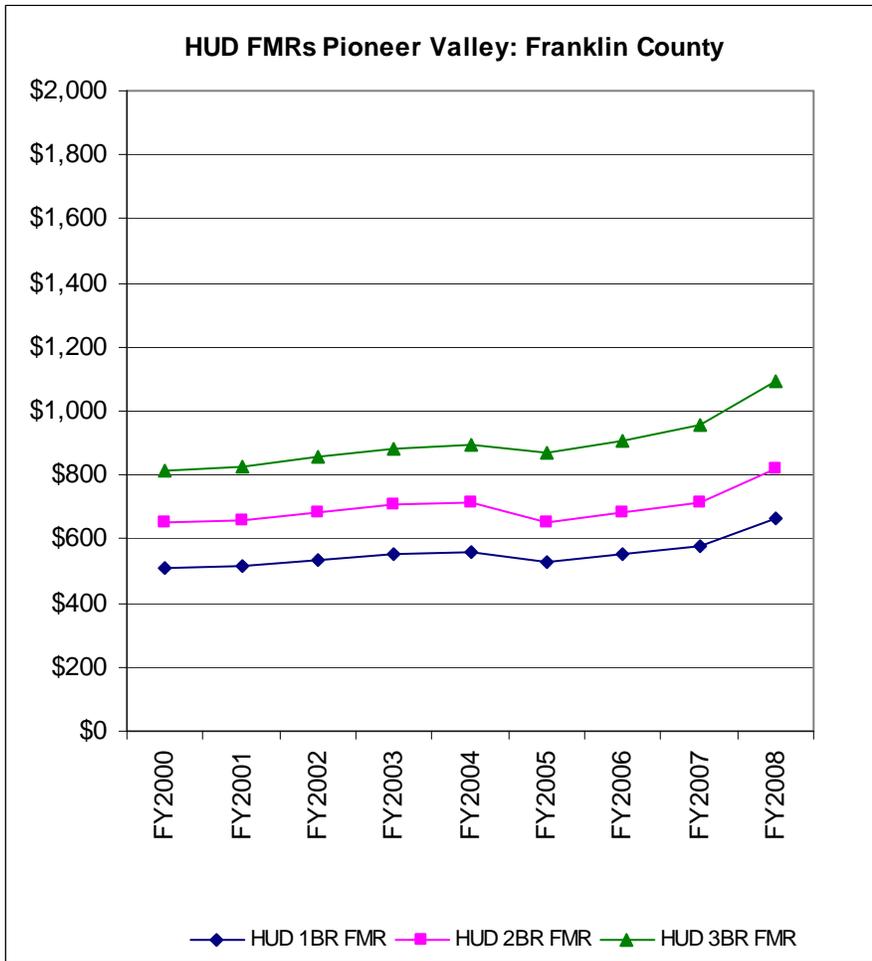
Source: HUD



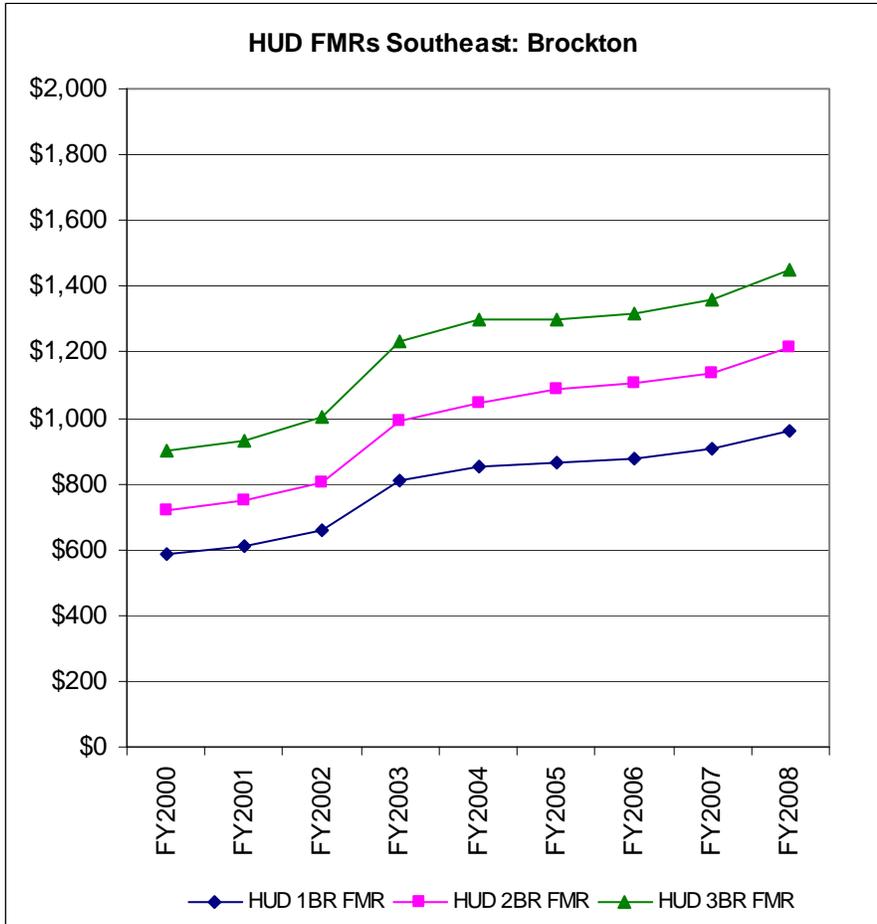
Source: HUD



Source: HUD; Reis, Inc.



Source: HUD



Source: HUD



Source: HUD

Appendix 3: Housing Affordability

Appendix 3-1. Mortgage Status by Region, 2000–2005/2006

Region	Mortgage status	2000			2005/2006			2000 - 2005/2006	
		Households	Percent	Margin of Error	Households	Percent	Margin of Error	Change	% Change
MA	First mortgage only	827,800	54.9%	7,928	791,985	50.2%	11,611	-35,815	-4.3%
	First & Second mortgage	85,875	5.7%	3,095	47,629	3.0%	5,259	-38,247	-44.5%
	First mortgage & home equity loan	149,162	9.9%	4,023	284,971	18.1%	6,067	135,809	91.0%
	First & Second mortgage and home equity loan	3,589	0.2%	644	13,718	0.9%	1,634	10,129	282.2%
	No mortgage	442,412	29.3%	6,464	440,168	27.9%	7,181	-2,245	-0.5%
	All	1,508,838	100.0%	11,438	1,578,470	100.0%	15,923	69,632	4.6%
Berkshire	First mortgage only	17,369	47.1%	1,172	16,231	43.1%	1,419	-1,138	-6.6%
	First & Second mortgage	1,556	4.2%	418	716	1.9%	271	-840	-54.0%
	First mortgage & home equity loan	3,880	10.5%	646	7,541	20.0%	1,041	3,661	94.4%
	First & Second mortgage and home equity loan	31	0.1%	60	150	0.4%	105	119	387.6%
	No mortgage	14,069	38.1%	1,101	13,027	34.6%	1,074	-1,042	-7.4%
	All	36,905	100.0%	1,784	37,665	100.0%	2,082	760	2.1%
Cape and Islands	First mortgage only	40,887	50.5%	1,687	40,849	47.6%	2,295	-038	-0.1%
	First & Second mortgage	3,493	4.3%	625	1,064	1.2%	337	-2,429	-69.5%
	First mortgage & home equity loan	6,479	8.0%	838	13,704	16.0%	1,329	7,225	111.5%
	First & Second mortgage and home equity loan	67	0.1%	88	504	0.6%	311	437	652.2%
	No mortgage	30,018	37.1%	1,568	29,651	34.6%	1,804	-368	-1.2%
	All	80,944	100.0%	2,531	85,772	100.0%	3,240	4,828	6.0%
Central	First mortgage only	102,032	56.4%	2,735	101,932	52.6%	3,556	-100	-0.1%
	First & Second mortgage	10,841	6.0%	1,098	6,413	3.3%	1,012	-4,428	-40.8%
	First mortgage & home equity loan	17,646	9.8%	1,383	32,183	16.6%	1,781	14,536	82.4%
	First & Second mortgage and home equity loan	382	0.2%	210	1,746	0.9%	510	1,364	357.3%
	No mortgage	50,039	27.7%	2,179	51,487	26.6%	2,217	1,449	2.9%
	All	180,939	100.0%	3,923	193,760	100.0%	4,692	12,821	7.1%
Greater Boston	First mortgage only	309,789	55.5%	4,977	291,775	49.9%	6,792	-18,014	-5.8%
	First & Second mortgage	31,123	5.6%	1,868	18,313	3.1%	1,668	-12,810	-41.2%
	First mortgage & home equity loan	54,970	9.9%	2,452	107,008	18.3%	3,335	52,038	94.7%
	First & Second mortgage and home equity loan	1,315	0.2%	390	6,519	1.1%	947	5,205	395.9%
	No mortgage	160,516	28.8%	3,950	161,349	27.6%	4,014	833	0.5%
	All	557,713	100.0%	7,073	584,965	100.0%	8,777	27,252	4.9%
Northeast	First mortgage only	132,513	57.0%	3,059	123,178	51.1%	3,897	-9,336	-7.0%
	First & Second mortgage	13,674	5.9%	1,232	7,165	3.0%	941	-6,508	-47.6%
	First mortgage & home equity loan	24,286	10.4%	1,615	47,829	19.8%	2,543	23,543	96.9%
	First & Second mortgage and home equity loan	609	0.3%	265	1,982	0.8%	692	1,373	225.4%
	No mortgage	61,336	26.4%	2,412	61,092	25.3%	2,593	-244	-0.4%
	All	232,419	100.0%	4,401	241,246	100.0%	5,454	8,828	3.8%
Pioneer Valley	First mortgage only	85,635	51.9%	2,568	82,184	49.4%	2,762	-3,451	-4.0%
	First & Second mortgage	8,529	5.2%	977	4,125	2.5%	703	-4,404	-51.6%
	First mortgage & home equity loan	16,471	10.0%	1,335	26,728	16.1%	1,469	10,257	62.3%
	First & Second mortgage and home equity loan	503	0.3%	241	1,052	0.6%	505	548	108.9%
	No mortgage	53,772	32.6%	2,217	52,250	31.4%	2,121	-1,522	-2.8%
	All	164,910	100.0%	3,782	166,338	100.0%	3,877	1,428	0.9%
Southeast	First mortgage only	139,593	54.7%	3,180	135,836	50.5%	4,310	-3,757	-2.7%
	First & Second mortgage	16,661	6.5%	1,357	9,833	3.7%	1,227	-6,829	-41.0%
	First mortgage & home equity loan	25,432	10.0%	1,656	49,978	18.6%	2,707	24,546	96.5%
	First & Second mortgage and home equity loan	682	0.3%	281	1,764	0.7%	540	1,082	158.6%
	No mortgage	72,675	28.5%	2,602	71,312	26.5%	2,646	-1,363	-1.9%
	All	255,044	100.0%	4,642	268,723	100.0%	5,890	13,679	5.4%

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Additional statistical significance testing on percent changes was not done.

Appendix 3-2. Housing Cost Burden by Mortgage Status and Region, 2000–2005/2006

2000							
Region	Mortgage Status	Up to 30%, No burden	>30% - 50% burden	>50% Burden	Margin of Error No Burden	Margin of Error >30 - 50% Burden	Margin of Error >50% Burden
MA	Mortgage	774,640	181,085	110,701	7,824	4,404	3,497
	Free and clear	371,882	39,638	30,892	6,040	2,124	1,878
Berkshire	Mortgage	16,852	3,378	2,605	1,168	606	536
	Free and clear	12,148	1,174	747	1,050	365	292
Cape and Islands	Mortgage	34,294	9,609	7,023	1,636	1,005	871
	Free and clear	25,671	2,508	1,839	1,499	532	457
Central	Mortgage	99,194	20,542	11,165	2,728	1,484	1,114
	Free and clear	42,705	4,574	2,760	2,048	722	562
Greater Boston	Mortgage	282,265	68,961	45,971	4,857	2,727	2,253
	Free and clear	133,328	14,366	12,822	3,661	1,280	1,210
Northeast	Mortgage	124,699	29,571	16,813	3,033	1,768	1,360
	Free and clear	52,048	5,211	4,078	2,261	770	683
Pioneer Valley	Mortgage	83,009	17,920	10,209	2,559	1,389	1,065
	Free and clear	46,109	4,471	3,191	2,096	713	604
Southeast	Mortgage	134,344	31,108	16,917	3,166	1,817	1,367
	Free and clear	59,884	7,335	5,456	2,415	912	789

2005/ 2006							
Region	Mortgage Status	Up to 30%, No burden	>30% - 50% burden	>50% Burden	Margin of Error No Burden	Margin of Error >30 - 50% Burden	Margin of Error >50% Burden
MA	Mortgage	710,359	265,222	162,722	751	255	1,312
	Free and Clear	344,405	52,137	43,627	388	856	17
Berkshire	Mortgage	17,649	4,384	2,606	1,529	711	569
	Free and Clear	11,122	1,075	831	1,035	364	353
Cape and Islands	Mortgage	31,141	12,814	12,167	2,096	1,376	1,459
	Free and Clear	22,650	3,469	3,533	1,556	791	822
Central	Mortgage	93,429	32,039	16,805	3,183	1,764	1,852
	Free and Clear	40,807	6,189	4,491	1,891	889	779
Greater Boston	Mortgage	256,961	100,551	66,103	5,183	4,932	2,998
	Free and Clear	122,679	19,869	18,801	3,817	1,682	2,066
Northeast	Mortgage	110,371	44,363	25,421	3,530	2,980	1,933
	Free and Clear	48,105	6,531	6,456	2,477	953	948
Pioneer Valley	Mortgage	78,822	22,280	12,986	2,910	1,723	1,396
	Free and Clear	42,662	6,064	3,524	2,063	818	605
Southeast	Mortgage	121,986	48,791	26,634	4,033	2,692	1,921
	Free and Clear	56,381	8,940	5,991	2,505	994	795

Change 2000 - 2005/2006							
Region	Mortgage Status	Up to 30%, No burden	>30% - 50% burden	>50% Burden	Margin of Error No Burden	Margin of Error >30 - 50% Burden	Margin of Error >50% Burden
MA	Mortgage	-64,282	84,137	52,021	7,860	4,412	3,735
	Free and Clear	-27,478	12,499	12,735	6,052	2,290	1,879
Berkshire	Mortgage	796	1,005	0	1,924	935	782
	Free and Clear	-1,026	-99	84	1,474	515	458
Cape and Islands	Mortgage	-3,154	3,205	5,144	2,658	1,704	1,699
	Free and Clear	-3,022	961	1,694	2,161	953	940
Central	Mortgage	-5,765	11,497	5,641	4,193	2,305	2,161
	Free and Clear	-1,898	1,615	1,731	2,787	1,145	961
Greater Boston	Mortgage	-25,304	31,591	20,132	7,103	5,636	3,751
	Free and Clear	-10,649	5,503	5,979	5,289	2,114	2,394
Northeast	Mortgage	-14,327	14,792	8,608	4,654	3,465	2,364
	Free and Clear	-3,943	1,321	2,378	3,354	1,226	1,168
Pioneer Valley	Mortgage	-4,187	4,360	2,777	3,875	2,213	1,756
	Free and Clear	-3,448	1,592	333	2,941	1,085	855
Southeast	Mortgage	-12,358	17,683	9,717	5,128	3,248	2,358
	Free and Clear	-3,503	1,605	535	3,479	1,349	1,120

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs include mortgage, insurance, tax and utilities.

Notes: Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-3. Housing Cost Burden for Owner Households by Region, 2000–2005/2006

Region	Burden status	Owner households 2000	Percent of region	Margin of Error 2000	Owner households 2005/2006	Percent of region	Margin of Error 2005/2006	Absolute change 2000-2005/2006	Change in percent of region 2000-2005/2006	Margin of Error of change
MA	Up to 30%, No Burden	1,146,522	76.0%	8,392	1,054,763	66.8%	1,052	-91,759	-9.20%	8,458
	>30% - 50% Burden	220,723	14.6%	4,820	317,358	20.1%	913	96,635	5.50%	4,905
	> 50% Burden	141,593	9.4%	3,928	206,349	13.1%	1,311	64,756	3.70%	4,141
Berkshire	Up to 30%, No Burden	29,000	78.6%	1,274	28,770	76.4%	1,729	-230	-2.20%	2,148
	>30% - 50% Burden	4,553	12.3%	696	5,459	14.5%	827	906	2.20%	1,081
	> 50% Burden	3,352	9.1%	604	3,436	9.1%	725	84	0.00%	943
Cape and Islands	Up to 30%, No Burden	59,965	74.1%	1,728	53,790	62.7%	2,525	-6,175	-11.40%	3,060
	>30% - 50% Burden	12,117	15.0%	1,114	16,282	19.0%	1,509	4,165	4.00%	1,876
	> 50% Burden	8,862	10.9%	969	15,700	18.3%	1,666	6,838	7.40%	1,927
Central	Up to 30%, No Burden	141,899	78.4%	2,858	134,236	69.3%	3,528	-7,663	-9.10%	4,540
	>30% - 50% Burden	25,116	13.9%	1,627	38,228	19.7%	2,078	13,113	5.80%	2,639
	> 50% Burden	13,924	7.7%	1,237	21,296	11.0%	2,048	7,372	3.30%	2,393
Greater Boston	Up to 30%, No Burden	415,593	74.5%	5,332	379,640	64.9%	5,839	-35,953	-9.60%	7,908
	>30% - 50% Burden	83,327	14.9%	2,975	120,420	20.6%	5,175	37,093	5.70%	5,969
	> 50% Burden	58,793	10.5%	2,531	84,904	14.5%	3,569	26,111	4.00%	4,376
Northeast	Up to 30%, No Burden	176,746	76.0%	3,155	158,476	65.7%	4,377	-18,270	-10.30%	5,395
	>30% - 50% Burden	34,781	15.0%	1,902	50,894	21.1%	3,138	16,112	6.10%	3,670
	> 50% Burden	20,891	9.0%	1,507	31,877	13.2%	2,032	10,986	4.20%	2,530
Pioneer Valley	Up to 30%, No Burden	129,118	78.3%	2,747	121,483	73.0%	3,543	-7,635	-5.30%	4,483
	>30% - 50% Burden	22,391	13.6%	1,539	28,344	17.0%	1,927	5,953	3.40%	2,466
	> 50% Burden	13,400	8.1%	1,213	16,511	9.9%	1,468	3,111	1.80%	1,904
Southeast	Up to 30%, No Burden	194,228	76.2%	3,307	178,368	66.4%	4,616	-15,860	-9.80%	5,678
	>30% - 50% Burden	38,443	15.1%	1,999	57,731	21.5%	2,870	19,288	6.40%	3,497
	> 50% Burden	22,373	8.8%	1,560	32,625	12.1%	2,087	10,252	3.30%	2,606

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Additional statistical significance testing for percent changes was not done. Housing costs include mortgage, insurance, tax and utilities.

Notes: Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-4. Housing Cost Burden for Renter Households by Region, 2000–2005/2006

Region	Burden status	Renter households 2000	Percent of region	Margin of Error 2000	Renter households 2005/2006	Percent of region	Margin of Error 2005/2006	Absolute change 2000-2005/2006	Change in percent of region 2000 - 2005/2006	Margin of Error of change
MA	Up to 30%, No Burden	612,949	65.5%	10,650	454,492	52.2%	549	-158,458	-13.3%	10,664
	>30% - 50% Burden	166,790	17.8%	5,776	194,847	22.4%	1,307	28,057	4.6%	5,922
	> 50% Burden	156,021	16.7%	5,592	221,071	25.4%	1,165	65,050	8.7%	5,712
Berkshire	Up to 30%, No Burden	12,811	66.4%	1,541	10,059	57.0%	1,296	-2,753	-9.3%	2,013
	>30% - 50% Burden	3,348	17.3%	819	3,065	17.4%	937	-284	0.0%	1,244
	> 50% Burden	3,147	16.3%	795	4,521	25.6%	977	1,374	9.3%	1,259
Cape and Islands	Up to 30%, No Burden	15,640	64.2%	1,734	11,569	50.0%	1,484	-4,072	-14.2%	2,282
	>30% - 50% Burden	4,603	18.9%	964	6,099	26.4%	1,418	1,496	7.5%	1,714
	> 50% Burden	4,126	16.9%	913	5,460	23.6%	1,151	1,334	6.7%	1,470
Central	Up to 30%, No Burden	69,331	68.4%	3,589	50,891	54.7%	2,493	-18,440	-13.6%	4,369
	>30% - 50% Burden	16,479	16.2%	1,820	19,197	20.7%	1,760	2,717	4.4%	2,532
	> 50% Burden	15,604	15.4%	1,772	22,875	24.6%	2,567	7,271	9.2%	3,119
Greater Boston	Up to 30%, No Burden	297,345	64.7%	7,337	213,679	50.7%	6,014	-83,667	-14.1%	9,487
	>30% - 50% Burden	83,644	18.2%	4,077	97,760	23.2%	4,420	14,116	5.0%	6,013
	> 50% Burden	78,358	17.1%	3,951	110,251	26.1%	5,309	31,893	9.1%	6,617
Northeast	Up to 30%, No Burden	73,962	66.1%	3,737	52,914	51.6%	2,954	-21,048	-14.4%	4,764
	>30% - 50% Burden	19,792	17.7%	1,995	22,766	22.2%	2,154	2,974	4.5%	2,936
	> 50% Burden	18,194	16.3%	1,915	26,808	26.2%	2,167	8,614	9.9%	2,892
Pioneer Valley	Up to 30%, No Burden	61,481	64.1%	3,383	49,327	52.3%	2,924	-12,153	-11.7%	4,472
	>30% - 50% Burden	17,090	17.8%	1,850	20,632	21.9%	2,066	3,542	4.1%	2,773
	> 50% Burden	17,395	18.1%	1,866	24,290	25.8%	2,009	6,895	7.6%	2,742
Southeast	Up to 30%, No Burden	82,387	66.8%	3,942	66,054	55.9%	3,336	-16,334	-10.9%	5,164
	>30% - 50% Burden	21,835	17.7%	2,096	25,327	21.4%	2,374	3,492	3.7%	3,167
	> 50% Burden	19,199	15.6%	1,968	26,866	22.7%	2,306	7,667	7.2%	3,031

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Additional statistical significance testing for percent changes was not done. Housing costs include rent and utilities.

Notes: Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-5. Housing Cost Burden for Owner Households With and Without Children by Region, 2000–2005/2006

Region	Owner housing cost burden	2000		2005/2006		Change 2000-2005/2006	
		Children	Margin of Error	Children	Margin of Error	Change	Margin of Error of change
MA	Up to 30%, No Burden	409,308	6,279	358,275	241	-51,034	6,283
	>30% - 50% Burden	90,151	3,169	129,969	667	39,818	3,239
	> 50% Burden	42,291	2,193	65,715	646	23,424	2,286
Berkshire	Up to 30%, No Burden	8,907	931	8,175	965	-732	1,341
	>30% - 50% Burden	1,697	436	1,743	372	45	573
	> 50% Burden	835	309	921	395	86	501
Cape & Islands	Up to 30%, No Burden	14,916	1,217	13,356	1,779	-1,560	2,155
	>30% - 50% Burden	3,629	637	5,231	920	1,602	1,119
	> 50% Burden	2,135	492	4,442	1,088	2,307	1,194
Central	Up to 30%, No Burden	54,086	2,249	50,390	2,409	-3,696	3,296
	>30% - 50% Burden	10,529	1,083	17,005	1,506	6,475	1,855
	> 50% Burden	4,191	691	6,704	1,151	2,513	1,343
Greater Boston	Up to 30%, No Burden	146,205	3,806	129,034	3,520	-17,171	5,184
	>30% - 50% Burden	32,621	1,911	48,784	2,809	16,163	3,397
	> 50% Burden	17,667	1,417	26,725	2,500	9,057	2,874
Northeast	Up to 30%, No Burden	69,209	2,529	57,209	2,427	-11,999	3,505
	>30% - 50% Burden	15,752	1,319	22,341	1,773	6,588	2,210
	> 50% Burden	6,669	870	10,362	1,263	3,693	1,534
Pioneer Valley	Up to 30%, No Burden	42,250	2,024	37,460	1,947	-4,790	2,808
	>30% - 50% Burden	8,812	992	9,485	1,120	673	1,496
	> 50% Burden	3,942	670	5,107	867	1,165	1,096
Southeast	Up to 30%, No Burden	73,745	2,621	62,650	2,736	-11,095	3,789
	>30% - 50% Burden	17,112	1,375	25,381	1,872	8,269	2,323
	> 50% Burden	6,852	882	11,453	1,434	4,602	1,684

Region	Owner housing cost burden	2000		2005/2006		Change 2000-2005/2006	
		No children	Margin of Error	No children	Margin of Error	Change	Margin of Error of change
MA	Up to 30%, No Burden	737,214	7,718	696,489	1,230	-40,726	7,815
	>30% - 50% Burden	130,572	3,781	187,390	270	56,818	3,791
	> 50% Burden	99,302	3,320	140,634	678	41,332	3,388
Berkshire	Up to 30%, No Burden	20,093	1,222	20,595	1,465	502	1,908
	>30% - 50% Burden	2,856	560	3,716	721	861	913
	> 50% Burden	2,517	527	2,515	597	-2	796
Cape & Islands	Up to 30%, No Burden	45,049	1,727	40,434	1,856	-4,615	2,535
	>30% - 50% Burden	8,488	950	11,052	1,263	2,564	1,581
	> 50% Burden	6,727	854	11,258	1,445	4,531	1,678
Central	Up to 30%, No Burden	87,813	2,646	83,846	2,753	-3,967	3,818
	>30% - 50% Burden	14,586	1,265	21,224	1,392	6,637	1,881
	> 50% Burden	9,733	1,043	14,592	1,540	4,859	1,860
Greater Boston	Up to 30%, No Burden	269,388	4,786	250,606	4,876	-18,782	6,833
	>30% - 50% Burden	50,706	2,361	71,637	3,577	20,931	4,286
	> 50% Burden	41,126	2,137	58,180	2,826	17,054	3,543
Northeast	Up to 30%, No Burden	107,538	2,925	101,267	3,788	-6,271	4,786
	>30% - 50% Burden	19,029	1,442	28,553	2,620	9,524	2,991
	> 50% Burden	14,222	1,256	21,514	1,673	7,292	2,092
Pioneer Valley	Up to 30%, No Burden	86,869	2,589	84,023	3,188	-2,845	4,107
	>30% - 50% Burden	13,579	1,220	18,859	1,464	5,280	1,906
	> 50% Burden	9,458	1,027	11,404	1,226	1,946	1,599
Southeast	Up to 30%, No Burden	120,483	3,082	115,718	3,511	-4,765	4,672
	>30% - 50% Burden	21,331	1,526	32,350	2,031	11,018	2,540
	> 50% Burden	15,521	1,312	21,172	1,633	5,650	2,095

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for owners include mortgage, taxes, insurance and utilities.

Notes: Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-6. Housing Cost Burden for Renter Households With and Without Children by Region, 2000–2005/2006

Region	Renter housing cost burden	2000		2005/2006		2000-2005/2006	
		Children	Margin of Error	Children	Margin of Error	Change	Margin of Error of change
MA	Up to 30%, No Burden	163,083	5,035	109,847	2,224	-53,236	5,505
	>30% - 50% Burden	49,455	2,841	59,319	1,572	9,864	3,247
	> 50% Burden	46,460	2,755	69,937	1,848	23,477	3,318
Berkshire	Up to 30%, No Burden	3,049	693	2,103	652	-946	951
	>30% - 50% Burden	1,058	416	994	678	-64	795
	> 50% Burden	910	386	1,670	674	759	777
Cape & Islands	Up to 30%, No Burden	4,117	812	2,991	878	-1,127	1,196
	>30% - 50% Burden	1,261	456	1,879	898	618	1,007
	> 50% Burden	1,399	480	1,457	602	58	770
Central	Up to 30%, No Burden	20,652	1,786	13,103	1,526	-7,549	2,349
	>30% - 50% Burden	5,245	926	6,600	1,153	1,355	1,479
	> 50% Burden	5,282	929	7,167	1,532	1,885	1,792
Greater Boston	Up to 30%, No Burden	68,309	3,258	45,846	3,162	-22,463	4,540
	>30% - 50% Burden	20,902	1,847	26,426	2,756	5,524	3,317
	> 50% Burden	19,595	1,789	30,983	2,518	11,389	3,089
Northeast	Up to 30%, No Burden	21,960	1,851	14,160	1,884	-7,800	2,641
	>30% - 50% Burden	6,970	1,067	7,182	1,271	213	1,660
	> 50% Burden	6,379	1,021	10,864	1,704	4,486	1,986
Pioneer Valley	Up to 30%, No Burden	18,611	1,697	11,347	1,293	-7,264	2,133
	>30% - 50% Burden	6,201	1,004	6,823	1,317	622	1,656
	> 50% Burden	6,346	1,016	8,158	1,250	1,811	1,611
Southeast	Up to 30%, No Burden	26,387	2,022	20,297	2,177	-6,090	2,972
	>30% - 50% Burden	7,819	1,129	9,416	1,500	1,596	1,878
	> 50% Burden	6,550	1,035	9,639	1,579	3,089	1,888

Region	Renter housing cost burden	2000		2005/2006		2000-2005/2006	
		No Children	Margin of Error	No Children	Margin of Error	Change	Margin of Error of change
MA	Up to 30%, No Burden	449,866	7,820	344,645	1,687	-105,222	8,000
	>30% - 50% Burden	117,335	4,314	135,528	1,431	18,193	4,545
	> 50% Burden	109,561	4,175	151,134	1,205	41,573	4,346
Berkshire	Up to 30%, No Burden	9,762	1,159	7,956	1,117	-1,807	1,610
	>30% - 50% Burden	2,290	605	2,071	569	-219	830
	> 50% Burden	2,236	598	2,851	758	615	965
Cape & Islands	Up to 30%, No Burden	11,523	1,307	8,578	1,212	-2,945	1,783
	>30% - 50% Burden	3,342	734	4,221	1,163	879	1,375
	> 50% Burden	2,727	665	4,003	896	1,276	1,116
Central	Up to 30%, No Burden	48,679	2,591	37,788	2,368	-10,891	3,510
	>30% - 50% Burden	11,235	1,341	12,597	1,578	1,362	2,070
	> 50% Burden	10,322	1,287	15,708	1,897	5,386	2,292
Greater Boston	Up to 30%, No Burden	229,037	5,437	167,833	5,433	-61,204	7,686
	>30% - 50% Burden	62,742	3,132	71,334	3,654	8,592	4,812
	> 50% Burden	58,763	3,037	79,268	4,468	20,505	5,402
Northeast	Up to 30%, No Burden	52,002	2,712	38,754	2,457	-13,248	3,659
	>30% - 50% Burden	12,822	1,434	15,584	1,633	2,762	2,173
	> 50% Burden	11,815	1,379	15,944	1,637	4,128	2,140
Pioneer Valley	Up to 30%, No Burden	42,870	2,443	37,980	2,564	-4,890	3,541
	>30% - 50% Burden	10,889	1,318	13,809	1,624	2,920	2,092
	> 50% Burden	11,049	1,328	16,132	1,667	5,083	2,131
Southeast	Up to 30%, No Burden	56,000	2,819	45,756	2,646	-10,244	3,866
	>30% - 50% Burden	14,016	1,499	15,911	1,672	1,896	2,246
	> 50% Burden	12,649	1,427	17,227	1,865	4,578	2,348

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for renters include rent and utilities.

Notes: Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-7. Housing Cost Burden for Owners by Age of Householder and Region, 2000–2005/2006

Region	Owner age	2000				2005/2006				Change 2000-2005/2006			
		Up to 30% no burden	> 30% burden	Margin of Error of no burden	Margin of Error of burden	Up to 30% no burden	> 30% burden	Margin of Error of no burden	Margin of Error of burden	Change in no burden	Margin of Error of change in no burden	Change in burden	Margin of Error of change in burden
MA	Under 30	37,378	15,213	2,063	1,322	30,601	27,520	231	654	-6,778	2,076	12,307	1,475
	30 to 49	496,071	156,252	6,763	4,113	421,853	231,741	1,130	1,141	-74,218	6,857	75,489	4,269
	50 to 64	339,031	87,939	5,812	3,132	364,587	135,949	120	556	25,556	5,813	48,010	3,181
	65 to 74	146,581	50,222	3,993	2,385	124,067	56,484	221	385	-22,514	3,999	6,262	2,416
	75 and over	127,461	52,690	3,738	2,442	113,656	72,014	426	857	-13,806	3,763	19,324	2,588
Berkshire	Under 30	1,008	301	338	186	1,318	473	588	318	310	679	172	368
	30 to 49	10,756	3,219	1,003	593	9,942	3,009	1,021	528	-814	1,431	-211	793
	50 to 64	8,694	1,949	922	467	9,879	2,666	1,009	630	1,185	1,367	717	784
	65 to 74	4,275	1,058	676	347	3,627	938	501	318	-648	841	-120	470
	75 and over	4,266	1,377	675	394	4,004	1,809	602	456	-262	904	432	603
Cape and Islands	Under 30	1,409	461	401	230	1,077	1,870	455	703	-333	606	1,409	740
	30 to 49	18,643	7,387	1,332	891	15,523	12,000	1,915	1,420	-3,120	2,333	4,613	1,677
	50 to 64	17,790	5,195	1,308	756	17,229	7,477	1,376	951	-562	1,898	2,282	1,215
	65 to 74	11,485	4,090	1,088	674	8,670	4,697	711	772	-2,816	1,300	607	1,025
	75 and over	10,638	3,846	1,052	655	11,293	5,939	955	819	655	1,420	2,093	1,048
Central	Under 30	5,264	1,817	773	457	4,963	4,066	814	887	-300	1,123	2,249	998
	30 to 49	66,323	17,746	2,423	1,387	58,268	27,982	2,542	1,905	-8,055	3,512	10,235	2,357
	50 to 64	39,697	9,029	1,987	1,006	44,592	14,792	1,781	1,375	4,895	2,668	5,763	1,703
	65 to 74	15,902	4,976	1,318	752	13,450	5,273	1,011	668	-2,452	1,661	297	1,006
	75 and over	14,713	5,472	1,270	788	12,962	7,412	1,144	879	-1,751	1,710	1,940	1,181
Greater Boston	Under 30	13,031	5,878	1,220	822	9,215	9,213	1,296	1,239	-3,817	1,780	3,335	1,487
	30 to 49	178,283	59,824	4,124	2,552	152,393	90,651	4,120	4,118	-25,890	5,830	30,826	4,845
	50 to 64	124,012	35,661	3,549	1,995	131,530	54,577	4,167	2,807	7,518	5,473	18,916	3,444
	65 to 74	54,048	20,254	2,433	1,515	46,595	22,568	2,412	1,647	-7,453	3,426	2,314	2,238
	75 and over	46,218	20,503	2,259	1,524	39,907	28,316	1,959	1,886	-6,311	2,990	7,813	2,425
Northeast	Under 30	5,188	2,357	769	520	4,526	4,592	879	846	-662	1,168	2,236	993
	30 to 49	81,976	26,686	2,688	1,688	68,089	38,162	2,885	2,635	-13,887	3,943	11,475	3,129
	50 to 64	52,690	12,945	2,272	1,200	55,285	21,560	2,582	1,708	2,596	3,439	8,615	2,087
	65 to 74	20,304	7,132	1,487	899	17,468	8,666	1,333	1,004	-2,836	1,997	1,533	1,348
	75 and over	16,589	6,552	1,352	862	13,107	9,792	1,226	1,076	-3,481	1,825	3,239	1,379
Pioneer Valley	Under 30	4,695	1,705	730	443	4,039	2,424	827	658	-656	1,104	719	793
	30 to 49	53,311	14,635	2,215	1,264	46,336	18,358	2,094	1,503	-6,975	3,048	3,723	1,964
	50 to 64	36,961	8,622	1,916	982	42,948	11,560	2,297	1,354	5,987	2,991	2,939	1,673
	65 to 74	17,925	4,688	1,390	730	13,747	5,010	1,150	725	-4,177	1,804	321	1,029
	75 and over	16,226	6,141	1,327	833	14,414	7,503	1,059	1,098	-1,813	1,698	1,362	1,378
Southeast	Under 30	6,783	2,695	878	556	5,462	4,883	1,165	1,206	-1,321	1,459	2,188	1,328
	30 to 49	86,792	26,757	2,782	1,696	71,302	41,581	3,217	2,233	-15,489	4,253	14,824	2,804
	50 to 64	59,194	14,541	2,403	1,272	63,124	23,317	2,401	2,078	3,930	3,398	8,777	2,436
	65 to 74	22,646	8,024	1,569	953	20,511	9,332	1,336	906	-2,135	2,061	1,308	1,315
	75 and over	18,814	8,800	1,438	997	17,969	11,243	1,385	941	-845	1,997	2,443	1,371

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for owners include mortgage, taxes, insurance and utilities.

Notes: Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-8. Housing Cost Burden for Renters by Age of Householder and Region, 2000–2005/2006

Region	Renter age	2000				2005/2006				Change 2000-2005/2006			
		Upto 30% no burden	> 30% burden	Margin of Error of no burden	Margin of Error of burden	Upto 30% no burden	> 30% burden	Margin of Error of no burden	Margin of Error of burden	Change in no burden	Margin of Error of change in no burden	Change in burden	Margin of Error of change in burden
MA	Under 30	139,857	77,493	4,687	3,536	97,245	99,636	347	669	-42,613	4,700	22,143	3,598
	30 to 49	278,987	120,426	6,416	4,367	200,319	163,526	469	814	-78,669	6,434	43,100	4,443
	50 to 64	93,592	48,709	3,872	2,820	82,673	73,505	805	489	-10,920	3,955	24,796	2,862
	65 to 74	42,630	29,817	2,642	2,215	32,337	31,000	85	204	-10,293	2,643	1,183	2,224
	75 and over	57,883	46,366	3,068	2,753	41,919	48,251	231	278	-15,964	3,077	1,885	2,767
Berkshire	Under 30	2,691	1,522	653	497	2,250	2,660	718	952	-441	971	1,138	1,074
	30 to 49	5,259	2,280	891	604	3,524	1,993	823	650	-1,735	1,213	-288	887
	50 to 64	1,917	1,005	555	405	1,942	1,257	597	453	25	815	252	608
	65 to 74	1,187	565	440	305	730	815	308	469	-457	537	250	560
	75 and over	1,758	1,122	533	428	1,614	860	369	350	-144	648	-262	553
Cape and Islands	Under 30	2,628	1,461	653	490	2,520	2,116	793	785	-108	1,027	655	925
	30 to 49	7,349	4,032	1,067	804	4,941	4,420	1,121	1,263	-2,409	1,548	388	1,497
	50 to 64	2,443	1,258	630	455	1,773	2,898	506	911	-670	808	1,640	1,019
	65 to 74	1,536	584	502	311	1,223	725	581	323	-313	768	141	449
	75 and over	1,684	1,394	525	479	1,112	1,401	441	428	-572	686	7	642
Central	Under 30	15,394	7,395	1,557	1,095	11,470	9,106	1,473	1,465	-3,924	2,143	1,711	1,829
	30 to 49	31,177	11,730	2,149	1,369	22,261	17,645	2,129	2,326	-8,916	3,025	5,916	2,699
	50 to 64	10,796	4,303	1,315	840	8,627	6,798	1,106	1,147	-2,169	1,718	2,494	1,422
	65 to 74	4,677	3,242	875	731	3,539	3,003	700	639	-1,138	1,121	-238	971
	75 and over	7,287	5,414	1,087	941	4,993	5,519	661	951	-2,294	1,273	105	1,338
Greater Boston	Under 30	73,092	42,580	3,362	2,607	44,922	52,571	2,786	3,394	-28,170	4,366	9,991	4,280
	30 to 49	137,070	59,665	4,445	3,059	100,220	81,354	4,234	4,794	-36,850	6,139	21,689	5,687
	50 to 64	43,143	23,382	2,623	1,951	36,293	35,764	2,329	2,881	-6,850	3,508	12,383	3,480
	65 to 74	19,510	14,621	1,785	1,549	14,241	15,030	1,399	1,663	-5,269	2,268	409	2,273
	75 and over	24,531	21,754	1,997	1,883	18,003	23,292	1,674	2,113	-6,528	2,606	1,538	2,830
Northeast	Under 30	14,170	6,935	1,504	1,064	9,356	10,798	1,545	1,880	-4,814	2,157	3,863	2,160
	30 to 49	34,717	15,290	2,280	1,560	22,860	18,582	2,206	2,047	-11,858	3,173	3,292	2,574
	50 to 64	12,051	6,476	1,392	1,029	12,338	9,135	1,541	1,312	287	2,076	2,659	1,667
	65 to 74	5,500	3,397	950	749	3,700	4,338	649	864	-1,800	1,150	940	1,143
	75 and over	7,523	5,888	1,107	982	4,660	6,721	733	938	-2,864	1,328	833	1,358
Pioneer Valley	Under 30	14,536	9,921	1,512	1,261	12,348	12,736	1,553	1,698	-2,188	2,171	2,815	2,115
	30 to 49	26,710	12,308	1,998	1,398	18,671	17,209	2,029	1,962	-8,039	2,848	4,901	2,409
	50 to 64	9,671	5,024	1,246	906	9,453	7,884	1,265	1,053	-218	1,776	2,860	1,389
	65 to 74	4,267	3,005	836	703	3,902	2,814	695	723	-365	1,087	-191	1,009
	75 and over	6,296	4,227	1,012	832	4,953	4,278	943	597	-1,344	1,383	51	1,024
Southeast	Under 30	17,348	7,680	1,661	1,120	14,378	9,649	1,576	1,477	-2,970	2,289	1,969	1,853
	30 to 49	36,709	15,123	2,360	1,555	27,842	22,322	2,217	2,302	-8,867	3,230	7,199	2,778
	50 to 64	13,572	7,261	1,476	1,089	12,247	9,769	1,429	1,560	-1,326	2,055	2,507	1,903
	65 to 74	5,954	4,402	988	851	5,003	4,274	787	774	-951	1,263	-128	1,151
	75 and over	8,805	6,567	1,197	1,037	6,585	6,179	954	923	-2,220	1,531	-388	1,388

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for renters include rent and utilities.

Notes: Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-9 Housing Cost Burden for Owners by Income Quartile and Region, 2000–2005/2006

Region	Income	Housing cost burden	Owners 2000	Margin of Error 2000	Owners 2005/2006	Margin of Error 2005/2006	Change 2000-2005/2006	Margin of Error of Change
MA	First Quartile	Up to 30%, No Burden	145,248	5,301	52,734	1,964	-92,515	5,653
		>30% - 50% Burden	20,773	2,058	53,102	1,857	32,329	2,772
		> 50% Burden	52,585	3,253	114,250	2,245	61,665	3,953
	Second Quartile	Up to 30%, No Burden	272,470	7,056	184,904	2,292	-87,566	7,419
		>30% - 50% Burden	52,360	3,246	100,922	1,678	48,562	3,654
		> 50% Burden	15,189	1,762	67,044	907	51,855	1,982
	Third Quartile	Up to 30%, No Burden	408,573	8,366	317,735	2,407	-90,839	8,705
		>30% - 50% Burden	21,990	2,117	122,086	526	100,096	2,181
		> 50% Burden	3,011	786	22,361	155	19,350	801
	Fourth Quartile	Up to 30%, No Burden	510,012	9,111	499,391	1,422	-10,621	9,221
		>30% - 50% Burden	6,218	1,129	41,249	405	35,031	1,200
		> 50% Burden	409	290	2,695	27	2,286	291
Berkshire	First Quartile	Up to 30%, No Burden	5,763	1,031	2,603	465	-3,161	1,131
		>30% - 50% Burden	956	440	1,631	428	675	613
		> 50% Burden	1,373	525	2,732	671	1,359	852
	Second Quartile	Up to 30%, No Burden	9,739	1,287	7,127	864	-2,612	1,550
		>30% - 50% Burden	779	397	2,596	470	1,818	616
		> 50% Burden	143	171	630	238	487	293
	Third Quartile	Up to 30%, No Burden	10,917	1,345	11,282	1,361	365	1,913
		>30% - 50% Burden	119	156	935	363	817	395
		> 50% Burden	43	94	73	95	31	133
	Fourth Quartile	Up to 30%, No Burden	7,064	1,127	7,758	969	695	1,486
		>30% - 50% Burden	11	47	297	177	286	183
		> 50% Burden	0	0	2	3	2	3
Cape and Islands	First Quartile	Up to 30%, No Burden	10,798	1,412	3,493	671	-7,306	1,563
		>30% - 50% Burden	1,608	571	3,391	756	1,783	947
		> 50% Burden	3,531	838	8,711	1,329	5,180	1,571
	Second Quartile	Up to 30%, No Burden	19,246	1,799	13,881	1,292	-5,366	2,214
		>30% - 50% Burden	2,832	753	5,716	908	2,884	1,179
		> 50% Burden	1,089	471	5,360	1,023	4,271	1,126
	Third Quartile	Up to 30%, No Burden	21,295	1,869	17,045	1,638	-4,250	2,485
		>30% - 50% Burden	1,064	465	5,971	972	4,907	1,077
		> 50% Burden	180	192	1,529	554	1,349	586
	Fourth Quartile	Up to 30%, No Burden	19,045	1,791	19,372	1,896	327	2,609
		>30% - 50% Burden	210	208	1,205	484	995	527
		> 50% Burden	46	97	101	111	55	148
Central	First Quartile	Up to 30%, No Burden	19,357	1,926	8,055	978	-11,302	2,160
		>30% - 50% Burden	2,682	739	6,944	1,029	4,262	1,267
		> 50% Burden	6,168	1,114	12,543	1,522	6,374	1,886
	Second Quartile	Up to 30%, No Burden	36,064	2,544	24,214	1,881	-11,850	3,164
		>30% - 50% Burden	5,463	1,050	14,300	1,335	8,837	1,698
		> 50% Burden	1,131	481	6,971	1,161	5,840	1,257
	Third Quartile	Up to 30%, No Burden	54,410	3,006	43,699	2,455	-10,712	3,881
		>30% - 50% Burden	1,501	554	13,992	1,393	12,491	1,499
		> 50% Burden	120	157	1,665	384	1,545	414
	Fourth Quartile	Up to 30%, No Burden	53,686	2,990	58,269	2,447	4,583	3,864
		>30% - 50% Burden	333	262	2,993	599	2,660	653
		> 50% Burden	24	71	118	93	93	117

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for owners include mortgage, taxes, insurance and utilities.

Note: In 2005/2006, first quartile income was up to \$28,438; second quartile income was up to \$58,939; third quartile was up to \$101,567; fourth quartile was incomes about \$101,567. Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-9 Housing Cost Burden for Owners by Income Quartile and Region, 2000–2005/2006 (continued)

Region	Income	Housing cost burden	Owners 2000	Margin of Error 2000	Owners 2005/2006	Margin of Error 2005/2006	Change 2000-2005/2006	Margin of Error of Change
Greater Boston	First Quartile	Up to 30%, No Burden	42,298	2,887	12,022	1,452	-30,277	3,232
		>30% - 50% Burden	5,561	1,067	17,534	1,669	11,973	1,981
		> 50% Burden	19,999	2,008	42,020	2,974	22,021	3,589
	Second Quartile	Up to 30%, No Burden	80,597	3,907	54,421	3,131	-26,176	5,006
		>30% - 50% Burden	19,757	1,996	30,526	2,572	10,769	3,256
		> 50% Burden	7,902	1,270	29,366	2,305	21,464	2,631
	Third Quartile	Up to 30%, No Burden	131,337	4,850	95,280	3,918	-36,057	6,235
		>30% - 50% Burden	11,516	1,530	49,846	2,894	38,330	3,274
		> 50% Burden	1,844	615	11,838	1,384	9,994	1,514
	Fourth Quartile	Up to 30%, No Burden	232,595	6,074	217,917	5,232	-14,678	8,017
		>30% - 50% Burden	4,071	913	22,515	2,202	18,444	2,384
		> 50% Burden	235	220	1,679	403	1,444	459
Northeast	First Quartile	Up to 30%, No Burden	18,142	1,880	5,867	969	-12,275	2,115
		>30% - 50% Burden	2,623	732	6,231	967	3,608	1,213
		> 50% Burden	7,511	1,229	17,521	1,454	10,010	1,904
	Second Quartile	Up to 30%, No Burden	36,288	2,584	23,856	1,856	-12,432	3,181
		>30% - 50% Burden	9,301	1,364	15,150	1,773	5,849	2,237
		> 50% Burden	2,347	692	10,400	1,299	8,053	1,472
	Third Quartile	Up to 30%, No Burden	62,093	3,235	44,734	2,834	-17,359	4,301
		>30% - 50% Burden	4,205	924	21,198	2,011	16,992	2,214
		> 50% Burden	452	305	3,617	686	3,165	751
	Fourth Quartile	Up to 30%, No Burden	88,323	3,675	84,018	2,895	-4,305	4,678
		>30% - 50% Burden	1,065	467	8,315	1,245	7,250	1,330
		> 50% Burden	67	117	339	156	272	196
Pioneer Valley	First Quartile	Up to 30%, No Burden	20,787	1,984	10,284	1,055	-10,503	2,247
		>30% - 50% Burden	3,461	838	7,196	884	3,735	1,218
		> 50% Burden	5,311	1,034	12,589	1,316	7,278	1,674
	Second Quartile	Up to 30%, No Burden	41,348	2,675	28,579	1,993	-12,768	3,336
		>30% - 50% Burden	5,064	1,011	14,092	1,239	9,028	1,599
		> 50% Burden	589	348	3,619	758	3,029	834
	Third Quartile	Up to 30%, No Burden	50,761	2,900	47,121	2,481	-3,640	3,816
		>30% - 50% Burden	900	429	6,143	927	5,243	1,021
		> 50% Burden	66	117	240	145	174	186
	Fourth Quartile	Up to 30%, No Burden	36,466	2,540	35,499	2,074	-966	3,279
		>30% - 50% Burden	136	167	913	307	777	350
		> 50% Burden	22	67	63	88	41	111
Southeast	First Quartile	Up to 30%, No Burden	28,108	2,313	10,411	1,383	-17,697	2,695
		>30% - 50% Burden	3,882	889	10,176	993	6,294	1,333
		> 50% Burden	8,692	1,322	18,134	1,599	9,441	2,075
	Second Quartile	Up to 30%, No Burden	49,198	2,967	32,827	2,231	-16,372	3,712
		>30% - 50% Burden	9,166	1,356	18,543	1,763	9,376	2,225
		> 50% Burden	1,989	638	10,699	1,165	8,710	1,328
	Third Quartile	Up to 30%, No Burden	77,769	3,565	58,573	3,093	-19,197	4,720
		>30% - 50% Burden	2,685	740	24,000	1,858	21,315	2,000
		> 50% Burden	307	251	3,399	743	3,092	784
	Fourth Quartile	Up to 30%, No Burden	72,840	3,478	76,557	3,429	3,717	4,884
		>30% - 50% Burden	393	284	5,012	814	4,619	862
		> 50% Burden	14	54	394	188	380	195

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for owners include mortgage, taxes, insurance and utilities.

Note: In 2005/2006, first quartile income was up to \$28,438; second quartile income was up to \$58,939; third quartile was up to \$101,567; fourth quartile was incomes about \$101,567. Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-10 Housing Cost Burden for Renters by Income Quartile and Region, 2000–2005/2006

Region	Income	Housing cost burden	Renters 2000	Margin of Error 2000	Renters 2005/2006	Margin of Error 2005/2006	Change 2000-2005/2006	Margin of Error of change
MA	First Quartile	Up to 30%, No Burden	153,674	4,898	103,009	720	-50,665	4,951
		>30% - 50% Burden	103,366	4,061	92,823	1,081	-10,544	4,202
		> 50% Burden	146,226	4,786	200,048	929	53,822	4,875
	Second Quartile	Up to 30%, No Burden	209,331	5,647	146,165	346	-63,167	5,657
		>30% - 50% Burden	55,261	3,000	89,100	561	33,839	3,052
		> 50% Burden	9,313	1,243	20,405	198	11,092	1,259
	Third Quartile	Up to 30%, No Burden	160,290	4,995	138,197	628	-22,093	5,034
		>30% - 50% Burden	7,200	1,094	12,176	364	4,976	1,153
		> 50% Burden	461	277	618	46	157	281
	Fourth Quartile	Up to 30%, No Burden	89,654	3,793	67,121	587	-22,533	3,838
		>30% - 50% Burden	963	400	749	15	-215	401
		> 50% Burden	21	59	0	0	-21	59
Berkshire	First Quartile	Up to 30%, No Burden	4,720	849	3,744	752	-976	1,134
		>30% - 50% Burden	2,887	675	2,601	897	-286	1,123
		> 50% Burden	3,071	695	4,484	974	1,412	1,196
	Second Quartile	Up to 30%, No Burden	5,596	916	3,523	810	-2,073	1,223
		>30% - 50% Burden	376	250	464	206	88	324
		> 50% Burden	48	90	37	56	-11	106
	Third Quartile	Up to 30%, No Burden	1,958	561	2,492	789	534	968
		>30% - 50% Burden	56	97	0	0	-56	97
		> 50% Burden	27	67	0	0	-27	67
	Fourth Quartile	Up to 30%, No Burden	538	298	300	164	-237	340
		>30% - 50% Burden	29	69	0	0	-29	69
		> 50% Burden	0	0	0	0	0	0
Cape and Islands	First Quartile	Up to 30%, No Burden	3,860	787	2,687	668	-1,173	1,033
		>30% - 50% Burden	2,495	637	2,119	672	-376	926
		> 50% Burden	3,848	786	4,398	937	550	1,223
	Second Quartile	Up to 30%, No Burden	5,964	968	4,164	999	-1,800	1,391
		>30% - 50% Burden	2,079	583	3,604	1,107	1,525	1,251
		> 50% Burden	264	209	1,062	531	798	571
	Third Quartile	Up to 30%, No Burden	4,034	804	3,659	1,108	-375	1,369
		>30% - 50% Burden	29	69	377	315	348	323
		> 50% Burden	14	48	0	0	-14	48
	Fourth Quartile	Up to 30%, No Burden	1,782	540	1,059	444	-724	699
		>30% - 50% Burden	0	0	0	0	0	0
		> 50% Burden	0	0	0	0	0	0
Central	First Quartile	Up to 30%, No Burden	17,863	1,670	10,229	1,285	-7,634	2,107
		>30% - 50% Burden	13,183	1,447	11,578	1,485	-1,605	2,074
		> 50% Burden	15,349	1,555	22,170	2,587	6,821	3,019
	Second Quartile	Up to 30%, No Burden	28,238	2,058	20,917	2,094	-7,321	2,936
		>30% - 50% Burden	3,217	728	7,223	1,314	4,006	1,502
		> 50% Burden	244	202	705	448	461	491
	Third Quartile	Up to 30%, No Burden	17,439	1,651	14,832	1,708	-2,607	2,375
		>30% - 50% Burden	58	98	395	298	337	314
		> 50% Burden	11	44	0	0	-11	44
	Fourth Quartile	Up to 30%, No Burden	5,792	972	4,912	1,032	-879	1,418
		>30% - 50% Burden	21	59	0	0	-21	59
		> 50% Burden	0	0	0	0	0	0

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for renters include rent and utilities.

Note: In 2005/2006, first quartile income was up to \$28,438; second quartile income was up to \$58,939; third quartile was up to \$101,567; fourth quartile was incomes about \$101,567. Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-10 Housing Cost Burden for Renters by Income Quartile and Region, 2000–2005/2006 (continued)

Region	Income	Housing cost burden	Renters 2000	Margin of Error 2000	Renters 2005/2006	Margin of Error 2005/2006	Change 2000-2005/2006	Margin of Error of change
Greater Boston	First Quartile	Up to 30%, No Burden	65,089	3,186	43,099	2,855	-21,990	4,278
		>30% - 50% Burden	39,721	2,522	36,404	2,716	-3,317	3,706
		> 50% Burden	70,411	3,304	95,496	5,095	25,084	6,073
	Second Quartile	Up to 30%, No Burden	83,849	3,580	52,355	3,532	-31,494	5,029
		>30% - 50% Burden	36,793	2,430	50,920	3,568	14,128	4,317
		> 50% Burden	7,693	1,128	14,208	1,917	6,515	2,224
	Third Quartile	Up to 30%, No Burden	86,304	3,627	71,833	4,255	-14,471	5,591
		>30% - 50% Burden	6,305	1,022	9,878	1,287	3,573	1,643
		> 50% Burden	232	197	547	253	315	320
	Fourth Quartile	Up to 30%, No Burden	62,103	3,117	46,391	3,425	-15,711	4,631
		>30% - 50% Burden	825	371	558	284	-267	467
		> 50% Burden	21	59	0	0	-21	59
Northeast	First Quartile	Up to 30%, No Burden	17,370	1,658	10,510	1,136	-6,860	2,010
		>30% - 50% Burden	13,379	1,464	10,243	1,300	-3,136	1,958
		> 50% Burden	17,730	1,674	24,865	2,154	7,135	2,728
	Second Quartile	Up to 30%, No Burden	27,701	2,060	18,085	1,817	-9,617	2,747
		>30% - 50% Burden	5,925	985	11,688	1,808	5,764	2,059
		> 50% Burden	389	254	1,873	651	1,484	699
	Third Quartile	Up to 30%, No Burden	19,195	1,738	17,333	1,826	-1,862	2,521
		>30% - 50% Burden	428	267	765	360	336	448
		> 50% Burden	75	112	70	83	-5	139
	Fourth Quartile	Up to 30%, No Burden	9,695	1,253	6,987	1,118	-2,709	1,679
		>30% - 50% Burden	60	100	71	84	11	130
		> 50% Burden	0	0	0	0	0	0
Pioneer Valley	First Quartile	Up to 30%, No Burden	20,202	1,762	15,319	1,620	-4,883	2,394
		>30% - 50% Burden	14,417	1,506	14,683	1,473	266	2,107
		> 50% Burden	16,979	1,626	23,597	1,913	6,619	2,510
	Second Quartile	Up to 30%, No Burden	26,004	1,975	21,734	2,150	-4,270	2,919
		>30% - 50% Burden	2,543	648	5,898	1,268	3,355	1,424
		> 50% Burden	368	247	693	334	325	415
	Third Quartile	Up to 30%, No Burden	11,824	1,371	10,006	1,281	-1,818	1,876
		>30% - 50% Burden	129	147	50	71	-79	163
		> 50% Burden	49	90	0	0	-49	90
	Fourth Quartile	Up to 30%, No Burden	3,450	753	2,268	679	-1,182	1,014
		>30% - 50% Burden	0	0	0	0	0	0
		> 50% Burden	0	0	0	0	0	0
Southeast	First Quartile	Up to 30%, No Burden	24,572	1,956	17,421	1,875	-7,151	2,710
		>30% - 50% Burden	17,285	1,658	15,193	1,739	-2,091	2,402
		> 50% Burden	18,839	1,727	25,039	2,089	6,200	2,711
	Second Quartile	Up to 30%, No Burden	31,983	2,209	25,387	2,265	-6,596	3,164
		>30% - 50% Burden	4,328	844	9,302	1,581	4,974	1,792
		> 50% Burden	307	226	1,827	662	1,520	700
	Third Quartile	Up to 30%, No Burden	19,537	1,757	18,042	2,274	-1,495	2,874
		>30% - 50% Burden	194	180	712	386	517	426
		> 50% Burden	52	93	0	0	-52	93
	Fourth Quartile	Up to 30%, No Burden	6,295	1,015	5,204	1,079	-1,091	1,482
		>30% - 50% Burden	28	68	120	183	92	195
		> 50% Burden	0	0	0	0	0	0

Source: U.S. Census Bureau 2000, American Community Survey (ACS) 2005 & 2006

The shaded data denotes statistically significant change. Housing costs for renters include rent and utilities.

Notes: In 2005/2006, first quartile income was up to \$28,438; second quartile income was up to \$58,939; third quartile was up to \$101,567; fourth quartile was incomes about \$101,567. Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

Appendix 3-11. Housing Cost Burden for Owners by Income Quartile and Region, 2005/2006

Region	Burden status	Total owner households	First quartile (up to \$28,438)	Second quartile (up to \$58,939)	Third quartile (up to \$101,567)	Fourth quartile (above \$101,567)	First quartile Margin of Error	Second quartile Margin of Error	Third quartile Margin of Error	Fourth quartile Margin of Error	
MA	Total Owner Households	1,578,470	220,086	352,869	462,181	543,335	3,514	2,982	2,468	1,479	
	Up to 30%, No Burden	1,054,763	52,734	184,904	317,735	499,391	1,964	2,292	2,407	1,422	
	>30% - 50% Burden	317,358	53,102	100,922	122,086	41,249	1,857	1,678	526	405	
	>50% Burden	206,349	114,250	67,044	22,361	2,695	2,245	907	155	27	
	30% - 100% Burden	33.2%	76.0%	47.6%	31.3%	8.1%					
	50% - 100% Burden	13.1%	51.9%	19.0%	4.8%	0.5%					
Berkshire*	Total Owner Households	37,665	6,966	10,353	12,290	8,057	921	1,012	1,412	985	
	Up to 30%, No Burden	28,770	2,603	7,127	11,282	7,758	465	864	1,361	969	
	>30% - 50% Burden	5,459	1,631	2,596	935	297	428	470	363	177	
	>50% Burden	3,436	2,732	630	73	2	671	238	95	3	
	30% - 100% Burden	23.6%	62.6%	31.2%	8.2%	3.7%					
	50% - 100% Burden	9.1%	39.2%	6.1%	0.6%	0.0%					
Cape and Islands*	Total Owner Households	85,772	15,594	24,956	24,545	20,678	1,670	1,881	1,983	1,960	
	Up to 30%, No Burden	53,790	3,493	13,881	17,045	19,372	671	1,292	1,638	1,896	
	>30% - 50% Burden	16,282	3,391	5,716	5,971	1,205	756	908	972	484	
	>50% Burden	15,700	8,711	5,360	1,529	101	1,329	1,023	554	111	
	30% - 100% Burden	37.3%	77.6%	44.4%	30.6%	6.3%					
	50% - 100% Burden	18.3%	55.9%	21.5%	6.2%	0.5%					
Central	Total Owner Households	193,760	27,541	45,484	59,356	61,379	2,081	2,583	2,849	2,521	
	Up to 30%, No Burden	134,236	8,055	24,214	43,699	58,269	978	1,881	2,455	2,447	
	>30% - 50% Burden	38,228	6,944	14,300	13,992	2,993	1,029	1,335	1,393	599	
	>50% Burden	21,296	12,543	6,971	1,665	118	1,522	1,161	384	93	
	30% - 100% Burden	30.7%	70.8%	46.8%	26.4%	5.1%					
	50% - 100% Burden	11.0%	45.5%	15.3%	2.8%	0.2%					
Greater Boston	Total Owner Households	584,965	71,576	114,313	156,965	242,111	3,707	4,661	5,064	5,691	
	Up to 30%, No Burden	379,640	12,022	54,421	96,280	217,917	1,452	3,131	3,918	5,232	
	>30% - 50% Burden	120,420	17,534	30,526	49,846	22,515	1,669	2,572	2,894	2,202	
	>50% Burden	84,904	42,020	29,366	11,838	1,679	2,974	2,305	1,384	403	
	30% - 100% Burden	35.1%	83.2%	52.4%	39.3%	10.0%					
	50% - 100% Burden	14.5%	58.7%	25.7%	7.5%	0.7%					
Northeast	Total Owner Households	241,246	29,619	49,406	69,549	92,672	1,997	2,876	3,542	3,155	
	Up to 30%, No Burden	158,476	5,867	23,856	44,734	84,018	969	1,856	2,834	2,895	
	>30% - 50% Burden	50,894	6,231	15,150	21,198	8,315	967	1,773	2,011	1,245	
	>50% Burden	31,877	17,521	10,400	3,617	339	1,454	1,299	686	156	
	30% - 100% Burden	34.3%	80.2%	51.7%	35.7%	9.3%					
	50% - 100% Burden	13.2%	59.2%	21.0%	5.2%	0.4%					
Pioneer Valley*	Total Owner Households	166,338	30,069	46,290	53,504	36,475	1,905	2,466	2,653	2,098	
	Up to 30%, No Burden	121,483	10,284	28,579	47,121	35,499	1,055	1,993	2,481	2,074	
	>30% - 50% Burden	28,344	7,196	14,092	6,143	913	884	1,239	927	307	
	>50% Burden	16,511	12,589	3,619	240	63	1,316	758	145	88	
	30% - 100% Burden	27.0%	65.8%	38.3%	11.9%	2.7%					
	50% - 100% Burden	9.9%	41.9%	7.8%	0.4%	0.2%					
Southeast*	Total Owner Households	268,723	38,721	62,068	85,971	81,963	2,336	3,073	3,684	3,530	
	Up to 30%, No Burden	178,368	10,411	32,827	58,573	76,557	1,383	2,231	3,093	3,429	
	>30% - 50% Burden	57,731	10,176	18,543	24,000	5,012	993	1,763	1,858	814	
	>50% Burden	32,625	18,134	10,699	3,399	394	1,599	1,165	743	188	
	30% - 100% Burden	33.6%	73.1%	47.1%	31.9%	6.6%					
	50% - 100% Burden	12.1%	46.8%	17.2%	4.0%	0.5%					

Source: American Community Survey, 2005/2006; Prepared by UMass Donahue Institute.

Notes: Housing costs for owners include mortgage, taxes, insurance and utilities.

Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households.

* Red text denotes a margin of error that is larger than the estimate. The Berkshire, Cape Cod and Pioneer Valley regions have some figures with large margins of error and therefore one should be cautious in drawing conclusions about these regions. In some cases the margin of error is larger than the difference. For instance, the number of households with >50% cost burden for the third quartile in the Berkshires (73), has a margin of error of 95, which means there may or may not be any households in this quartile with a cost burden >50%.

Appendix 3-12. Housing Cost Burden for Renters by Income Quartile and Region, 2005/2006

Region	Burden status	Total renter Households	First quartile (up to \$28,438)	Second quartile (up to \$58,939)	Third quartile (up to \$101,567)	Fourth quartile (above \$101,567)	First quartile Margin of Error	Second quartile Margin of Error	Third quartile Margin of Error	Fourth quartile Margin of Error	
MA	Total Renter Households	870,409	395,880	255,669	150,991	67,870	1,597	688	727	587	
	Up to 30%, No Burden	454,492	103,009	146,165	138,197	67,121	720	346	628	587	
	>30% - 50% Burden	194,847	92,823	89,100	12,176	749	1,081	561	364	15	
	>50% Burden	221,071	200,048	20,405	618	0	929	198	46	0	
	30% - 100% Burden	47.8%	74.0%	42.8%	8.5%	1.1%					
	50% - 100% Burden	25.4%	50.5%	8.0%	0.4%	0.0%					
Berkshire*	Total Renter Households	17,644	10,828	4,024	2,492	300	1,523	838	789	164	
	Up to 30%, No Burden	10,059	3,744	3,523	2,492	300	752	810	789	164	
	>30% - 50% Burden	3,065	2,601	464	0	0	897	206	0	0	
	>50% Burden	4,521	4,484	37	0	0	974	56	0	0	
	30% - 100% Burden	43.0%	65.4%	12.5%	0.0%	0.0%					
	50% - 100% Burden	25.6%	41.4%	0.9%	0.0%	0.0%					
Cape and Islands	Total Renter Households	23,127	9,204	8,830	4,036	1,059	1,333	1,583	1,152	444	
	Up to 30%, No Burden	11,569	2,687	4,164	3,659	1,059	668	999	1,108	444	
	>30% - 50% Burden	6,099	2,119	3,604	377	0	672	1,107	315	0	
	>50% Burden	5,460	4,398	1,062	0	0	937	531	0	0	
	30% - 100% Burden	50.0%	70.8%	52.8%	9.3%	0.0%					
	50% - 100% Burden	23.6%	47.8%	12.0%	0.0%	0.0%					
Central	Total Renter Households	92,962	43,978	28,845	15,227	4,912	3,249	2,513	1,733	1,032	
	Up to 30%, No Burden	50,891	10,229	20,917	14,832	4,912	1,285	2,094	1,708	1,032	
	>30% - 50% Burden	19,197	11,578	7,223	395	0	1,485	1,314	298	0	
	>50% Burden	22,875	22,170	705	0	0	2,587	448	0	0	
	30% - 100% Burden	45.3%	76.7%	27.5%	2.6%	0.0%					
	50% - 100% Burden	24.6%	50.4%	2.4%	0.0%	0.0%					
Greater Boston	Total Renter Households	421,690	174,999	117,484	82,258	46,949	6,441	5,374	4,452	3,437	
	Up to 30%, No Burden	213,679	43,099	52,355	71,833	46,391	2,855	3,532	4,255	3,425	
	>30% - 50% Burden	97,760	36,404	50,920	9,878	558	2,716	3,568	1,287	284	
	>50% Burden	110,251	95,496	14,208	547	0	5,095	1,917	253	0	
	30% - 100% Burden	49.3%	75.4%	55.4%	12.7%	1.2%					
	50% - 100% Burden	26.1%	54.6%	12.1%	0.7%	0.0%					
Northeast*	Total Renter Households	102,488	45,618	31,646	18,167	7,057	2,761	2,645	1,863	1,121	
	Up to 30%, No Burden	52,914	10,510	18,085	17,333	6,987	1,136	1,817	1,826	1,118	
	>30% - 50% Burden	22,766	10,243	11,688	765	71	1,300	1,808	360	84	
	>50% Burden	26,808	24,865	1,873	70	0	2,154	651	83	0	
	30% - 100% Burden	48.4%	77.0%	42.9%	4.6%	1.0%					
	50% - 100% Burden	26.2%	54.5%	5.9%	0.4%	0.0%					
Pioneer Valley*	Total Renter Households	94,249	53,600	28,325	10,057	2,268	2,907	2,518	1,283	679	
	Up to 30%, No Burden	49,327	15,319	21,734	10,006	2,268	1,620	2,150	1,281	679	
	>30% - 50% Burden	20,632	14,683	5,898	50	0	1,473	1,268	71	0	
	>50% Burden	24,290	23,597	693	0	0	1,913	334	0	0	
	30% - 100% Burden	47.7%	71.4%	23.3%	0.5%	0.0%					
	50% - 100% Burden	25.8%	44.0%	2.4%	0.0%	0.0%					
Southeast*	Total Renter Households	118,247	57,653	36,515	18,754	5,324	3,302	2,841	2,307	1,095	
	Up to 30%, No Burden	66,054	17,421	25,387	18,042	5,204	1,875	2,265	2,274	1,079	
	>30% - 50% Burden	25,327	15,193	9,302	712	120	1,739	1,581	386	183	
	>50% Burden	26,866	25,039	1,827	0	0	2,089	662	0	0	
	30% - 100% Burden	44.1%	69.8%	30.5%	3.8%	2.3%					
	50% - 100% Burden	22.7%	43.4%	5.0%	0.0%	0.0%					

Source: American Community Survey, 2005/2006; Prepared by UMass Donahue Institute.

Notes: Housing costs for renters include rent and utilities.

Due to data collection methods of the American Community Survey, it cannot be determined how many households are receiving housing assistance (subsidies, vouchers etc.) so burden may be overstated for some households

* Red text denotes a margin of error that is larger than the estimate. The Berkshire, Northeast, Pioneer Valley and Southeast regions have some figures with large margins of error and therefore one should be cautious in drawing conclusions about these regions. For instance, the number of households with >50% cost burden for the second quartile in the Berkshires (37), has a margin of error of 56. This means there may or may not be any households in this quartile with a cost burden >50%.

In reporting contract rent, the respondent is instructed to report the rent agreed to or contracted for even if paid by someone else such as friends or relatives living elsewhere, a church or welfare agency, or the government through subsidies or vouchers. The rent burden reported here, based on gross rent excluding any subsidy paid on the tenant's behalf, will be overstated for those tenants who received a government subsidy or voucher and (accurately) reported the full contract rather than his/her contribution to that rent. More than 78,000 tenants earning 80% or less of their area median income receive rental assistance in the form of vouchers. In subsidized housing developments a tenant may or may not know if the rent (s)he pays is the full agreed upon rent for the unit.

Appendix 3-13. Median Household Income for Owners and Renters by Region, 2000 and 2005/2006

Median Household Income for Owners and Renters, 2000 (2000\$)

Households	MA	Berkshire	Cape and Islands	Central	Greater Boston	Northeast	Pioneer Valley	Southeast
Owners	\$64,300	\$49,474	\$51,405	\$61,418	\$76,172	\$70,092	\$53,568	\$60,368
Renters	\$30,000	\$22,628	\$29,844	\$28,180	\$35,902	\$30,061	\$23,678	\$26,155

Source: U.S. Census 2000

Median Household Income for Owners and Renters, 2000 (2005/2006\$)

Households	MA	Berkshire	Cape and Islands	Central	Greater Boston	Northeast	Pioneer Valley	Southeast
Owners	\$74,009	\$56,944	\$59,167	\$70,692	\$87,674	\$80,675	\$61,656	\$69,484
Renters	\$34,530	\$26,045	\$34,350	\$32,435	\$41,324	\$34,601	\$27,254	\$30,105

Source: U.S. Census 2000

Median Household Income for Owners and Renters, 2005/2006 (2005/2006\$)

Households	MA	Berkshire	Cape and Islands	Central	Greater Boston	Northeast	Pioneer Valley	Southeast
Owners	\$77,598	\$62,377	\$61,772	\$76,084	\$90,827	\$83,958	\$63,640	\$74,877
Renters	\$32,298	\$20,556	\$37,123	\$31,120	\$38,309	\$31,740	\$24,457	\$30,024

Source: American Community Survey, 2005/2006

Appendix 4: The Housing Safety Net

Appendix 4-1. Eligibility of Owner Family, Individual, and Senior Households by Region, 2005/2006

Region	Income level	Family owners	Margin of Error families	Individual owners	Margin of Error individuals	Senior owners	Margin of Error seniors	Total owners	Margin of Error for total owners
MA	Extremely Low Income	28,950	1,186	20,600	948	63,771	486	113,320	1,594
	Very Low Income	42,174	1,451	17,799	1,067	76,014	669	135,986	1,921
	Low Income	113,231	1,282	39,167	1,965	83,445	131	235,842	2,350
	Moderate Income	229,793	1,290	55,023	2,621	66,393	553	351,208	2,973
	Above Moderate Income	601,322	1,309	64,194	3,998	76,599	279	742,114	4,216
	Total	1,015,468		196,782		366,220		1,578,470	
Berkshire	Extremely Low Income	463	210	684	305	1,634	371	2,781	524
	Very Low Income	1,458	495	463	235	2,343	491	4,265	736
	Low Income	3,189	725	789	279	2,311	533	6,289	942
	Moderate Income	5,971	938	1,280	442	2,021	394	9,271	1,109
	Above Moderate Income	11,935	1,203	1,054	396	2,070	396	15,059	1,327
	Total	23,016		4,270		10,378		37,665	
Cape and Islands	Extremely Low Income	1,461	695	1,222	520	4,674	797	7,356	1,178
	Very Low Income	1,985	548	1,356	504	4,557	793	7,897	1,088
	Low Income	6,150	1,205	2,468	709	7,609	875	16,226	1,649
	Moderate Income	10,512	1,427	2,408	645	6,159	749	19,079	1,735
	Above Moderate Income	24,827	1,949	2,788	538	7,600	848	35,215	2,192
	Total	44,934		10,240		30,598		85,772	
Central	Extremely Low Income	3,566	822	2,298	567	6,782	901	12,646	1,345
	Very Low Income	4,677	777	1,948	483	8,522	1,007	15,147	1,361
	Low Income	15,131	1,659	4,630	918	9,921	1,124	29,682	2,204
	Moderate Income	31,265	1,805	5,676	867	6,888	862	43,830	2,180
	Above Moderate Income	78,663	2,797	6,808	976	6,984	712	92,455	3,047
	Total	133,302		21,360		39,098		193,760	
Greater Boston	Extremely Low Income	10,469	1,691	8,130	1,205	22,162	1,803	40,760	2,750
	Very Low Income	14,940	1,726	6,069	934	27,562	2,087	48,570	2,864
	Low Income	37,641	2,599	14,660	1,790	30,199	1,950	82,500	3,709
	Moderate Income	72,351	3,530	21,196	2,077	25,184	1,762	118,731	4,459
	Above Moderate Income	228,200	4,371	33,924	2,546	32,280	1,898	294,403	5,403
	Total	363,600		83,978		137,386		584,965	
Northeast	Extremely Low Income	4,482	832	2,883	708	8,893	1,037	16,258	1,506
	Very Low Income	5,886	892	2,732	816	10,761	1,298	19,379	1,774
	Low Income	16,094	1,351	5,398	1,137	10,441	1,111	31,933	2,087
	Moderate Income	34,827	2,235	9,349	1,725	9,230	982	53,406	2,989
	Above Moderate Income	102,369	3,014	8,193	1,130	9,707	1,031	120,270	3,380
	Total	163,659		28,555		49,032		241,246	
Pioneer Valley	Extremely Low Income	3,688	676	2,317	526	7,936	1,011	13,940	1,325
	Very Low Income	5,564	893	1,962	640	8,678	1,001	16,203	1,486
	Low Income	13,207	1,324	5,090	741	9,769	1,030	28,066	1,834
	Moderate Income	27,836	1,792	6,964	1,007	7,475	818	42,274	2,213
	Above Moderate Income	54,376	2,421	4,662	829	6,816	802	65,855	2,682
	Total	104,670		20,995		40,673		166,338	
Southeast	Extremely Low Income	4,821	914	3,068	698	11,690	1,147	19,579	1,625
	Very Low Income	7,665	1,043	3,268	726	13,591	1,441	24,524	1,921
	Low Income	21,818	1,920	6,133	1,020	13,195	1,269	41,146	2,518
	Moderate Income	47,031	2,582	8,149	1,145	9,437	1,279	64,617	3,101
	Above Moderate Income	100,951	3,996	6,765	1,126	11,142	1,137	118,857	4,304
	Total	182,286		27,383		59,054		268,723	

Source: HUD Data Sets, American Community Survey (ACS) 2005/2006

Appendix 4-2. Eligibility of Renter Family, Individual, and Senior Households by Region, 2005/2006

Region	Income level	Family renters	Margin of Error families	Individual renters	Margin of Error individuals	Senior renters	Margin of Error seniors	Total renters	Margin of Error for total renters
MA	Extremely Low Income	112,510	1,554	87,223	1,800	84,841	338	284,574	2,402
	Very Low Income	72,361	816	38,087	1,677	31,868	516	142,315	1,935
	Low Income	98,621	684	53,732	1,855	19,212	290	171,565	1,998
	Moderate Income	87,017	979	45,982	1,623	10,762	109	143,760	1,898
	Above Moderate Income	89,970	606	31,402	1,642	6,826	64	128,197	1,752
	Total	460,478		256,425		153,507		870,409	
Berkshire	Extremely Low Income	2,445	809	2,451	701	1,909	562	6,806	1,209
	Very Low Income	1,356	689	1,142	469	1,156	358	3,653	907
	Low Income	1,567	622	1,169	511	563	272	3,299	850
	Moderate Income	1,866	636	627	323	208	159	2,701	731
	Above Moderate Income	683	317	320	233	182	125	1,186	412
	Total	7,916		5,709		4,019		17,644	
Cape and Islands	Extremely Low Income	1,424	528	1,942	755	1,747	445	5,112	1,023
	Very Low Income	1,483	638	1,162	555	1,377	415	4,022	942
	Low Income	3,460	1,177	1,783	635	469	227	5,711	1,357
	Moderate Income	2,686	796	1,320	541	596	519	4,602	1,093
	Above Moderate Income	2,883	838	526	409	273	213	3,681	956
	Total	11,935		6,732		4,461		23,127	
Central	Extremely Low Income	11,174	1,966	9,081	1,442	9,076	1,070	29,330	2,662
	Very Low Income	6,029	1,216	4,543	953	3,840	691	14,412	1,692
	Low Income	11,234	1,620	6,798	1,131	2,144	463	20,177	2,029
	Moderate Income	9,669	1,590	5,010	984	1,300	451	15,979	1,923
	Above Moderate Income	8,263	1,205	4,107	1,077	695	286	13,065	1,642
	Total	46,369		29,539		17,054		92,962	
Greater Boston	Extremely Low Income	50,942	3,253	40,513	3,076	40,903	3,033	132,358	5,408
	Very Low Income	32,448	2,567	17,296	2,134	12,680	1,484	62,424	3,653
	Low Income	45,520	3,338	25,611	2,678	8,901	1,008	80,032	4,396
	Moderate Income	42,736	3,353	23,517	2,249	4,358	807	70,612	4,117
	Above Moderate Income	53,252	3,072	19,288	2,168	3,725	687	76,265	3,822
	Total	224,900		126,224		70,567		421,690	
Northeast	Extremely Low Income	14,298	1,904	8,935	1,248	11,269	1,334	34,502	2,639
	Very Low Income	10,380	1,433	4,035	797	3,554	672	17,970	1,772
	Low Income	10,819	1,708	5,715	1,026	2,124	568	18,658	2,072
	Moderate Income	11,137	1,697	4,496	882	1,615	437	17,249	1,962
	Above Moderate Income	10,120	1,583	3,134	732	857	348	14,110	1,778
	Total	56,754		26,315		19,419		102,488	
Pioneer Valley	Extremely Low Income	17,367	1,554	11,482	1,666	7,731	964	36,580	2,474
	Very Low Income	9,468	1,337	4,224	977	4,069	769	17,761	1,826
	Low Income	10,458	1,489	6,346	1,098	2,654	571	19,457	1,936
	Moderate Income	8,199	1,306	4,456	986	986	419	13,640	1,689
	Above Moderate Income	4,777	1,010	1,526	451	508	237	6,811	1,131
	Total	50,269		28,033		15,947		94,249	
Southeast	Extremely Low Income	14,860	1,713	12,820	1,929	12,206	1,190	39,886	2,841
	Very Low Income	11,196	1,663	5,685	1,202	5,192	800	22,073	2,202
	Low Income	15,563	1,847	6,310	1,135	2,357	581	24,230	2,244
	Moderate Income	10,724	1,574	6,555	1,314	1,699	474	18,978	2,105
	Above Moderate Income	9,991	1,519	2,502	655	586	283	13,079	1,678
	Total	62,334		33,872		22,040		118,247	

Source: HUD Data Sets, American Community Survey (ACS) 2005/2006

Appendix 4-3. Gaps Analysis for Rental Markets by Region, 2005/2006

Region	Income level	Renter households	Units	Gap	Cumulative households below top income threshold	Cumulative units below top income threshold	Cumulative gap
Berkshire	Extremely Low Income	6,806	7,757	951	6,806	7,757	951
	Very Low Income	3,653	9,474	5,821	10,459	17,231	6,772
	Low Income	3,299	1,432	-1,867	13,758	18,663	4,905
	Moderate Income	2,701	52	-2,649	16,459	18,715	2,256
	Above Moderate Income	1,186	227	-959	17,644	18,942	1,298
	Total	17,644	18,942		17,644	18,942	1,298
Cape and Islands	Extremely Low Income	5,112	6,044	932	5,112	6,044	932
	Very Low Income	4,022	4,415	393	9,134	10,459	1,325
	Low Income	5,711	11,291	5,580	14,845	21,750	6,905
	Moderate Income	4,602	3050	-1,552	19,447	24,800	5,354
	Above Moderate Income	3,681	1082	-2,599	23,127	25,882	2,755
	Total	23,127	25,882		23,127	25,882	2,755
Central	Extremely Low Income	29,330	22,415	-6,915	29,330	22,415	-6,915
	Very Low Income	14,412	43,162	28,750	43,742	65,577	21,835
	Low Income	20,177	33,621	13,444	63,918	99,198	35,280
	Moderate Income	15,979	4044	-11,935	79,897	103,242	23,345
	Above Moderate Income	13,065	426	-12,639	92,962	103,668	10,706
	Total	92,962	103,668		92,962	103,668	10,706
Greater Boston	Extremely Low Income	132,358	99,221	-33,137	132,358	99,221	-33,137
	Very Low Income	62,424	93,186	30,762	194,782	192,407	-2,375
	Low Income	80,032	187,135	107,103	274,814	379,542	104,728
	Moderate Income	70,612	60538	-10,074	345,425	440,080	94,655
	Above Moderate Income	76,265	10630	-65,635	421,690	450,710	29,020
	Total	421,690	450,710		421,690	450,710	29,020
Northeast	Extremely Low Income	34,502	24,984	-9,518	34,502	24,984	-9,518
	Very Low Income	17,970	41,138	23,168	52,471	66,122	13,651
	Low Income	18,658	37,933	19,275	71,130	104,055	32,925
	Moderate Income	17,249	5711	-11,538	88,378	109,766	21,388
	Above Moderate Income	14,110	614	-13,496	102,488	110,380	7,892
	Total	102,488	110,380		102,488	110,380	7,892
Pioneer Valley	Extremely Low Income	36,580	29,446	-7,134	36,580	29,446	-7,134
	Very Low Income	17,761	49,120	31,359	54,341	78,566	24,225
	Low Income	19,457	18,164	-1,293	73,799	96,730	22,931
	Moderate Income	13,640	2653	-10,987	87,439	99,383	11,944
	Above Moderate Income	6,811	535	-6,276	94,249	99,918	5,669
	Total	94,249	99,918		94,249	99,918	5,669
Southeast	Extremely Low Income	39,886	40,072	186	39,886	40,072	186
	Very Low Income	22,073	47,210	25,137	61,958	87,282	25,324
	Low Income	24,230	32,856	8,626	86,189	120,138	33,949
	Moderate Income	18,978	4380	-14,598	105,167	124,518	19,351
	Above Moderate Income	13,079	606	-12,473	118,247	125,124	6,877
	Total	118,247	125,124		118,247	125,124	6,877

Source: HUD Data Sets, American Community Survey (ACS) 2005/2006

Appendix 5: Housing Supply and Demand

Appendix 5-1. Projected Production of New Units by Region, 2008–2012

Projected Production of Single-Family Units, 2008 through 2012						
Region	2008	2009	2010	2011	2012	Total
MA	7,096	11,733	14,015	13,674	13,699	60,218
Berkshire	189	312	373	364	364	1,602
Greater Boston	1,328	2,195	2,622	2,559	2,563	11,267
Cape and Islands	890	1,471	1,758	1,715	1,718	7,553
Central	1,493	2,468	2,948	2,877	2,882	12,668
Northeast	915	1,512	1,807	1,763	1,766	7,763
Pioneer Valley	724	1,197	1,430	1,395	1,398	6,143
Southeast	1,558	2,576	3,077	3,002	3,008	13,222

Projected Production of Multi-Family Units, 2008 through 2012						
Region	2008	2009	2010	2011	2012	Total
MA	2,071	2,739	3,832	3,931	4,149	16,721
Berkshire	17	22	31	32	34	136
Greater Boston	1,240	1,640	2,294	2,353	2,484	10,011
Cape and Islands	48	64	89	92	97	390
Central	110	145	203	209	220	888
Northeast	411	543	760	780	823	3,316
Pioneer Valley	68	90	125	129	136	547
Southeast	177	235	328	337	356	1,433

Total Projected New Units -- Single, Multi and Other, 2008 through 2012						
Region	2008	2009	2010	2011	2012	Total
MA	9,449	15,035	18,693	18,733	19,259	78,631
Berkshire	223	369	455	464	484	1,841
Greater Boston	2,596	3,892	5,001	5,025	5,189	21,448
Cape and Islands	953	1,565	1,892	1,866	1,889	8,032
Central	1,647	2,702	3,284	3,261	3,322	13,820
Northeast	1,353	2,111	2,649	2,652	2,727	11,244
Pioneer Valley	847	1,397	1,720	1,744	1,808	7,020
Southeast	1,831	3,001	3,691	3,720	3,840	15,226

Source: UMDI Analysis using NEEP May 2008 Forecasts and Census of Construction

Other units are projected mobile home shipments.

Appendix 5-2. Projected Households by Age of Householder by Region, 2008–2012

Projected Age of Householder by Region, Baseline Population Growth, 2008						
Region	Under 35	35 to 49	50 to 64	65 to 74	75 and over	Total
MA	452,187	799,880	694,967	257,993	274,150	2,479,177
Berkshire	9,232	15,586	16,656	6,486	8,229	56,190
Greater Boston	207,496	324,873	272,521	103,800	108,851	1,017,541
Cape and Islands	13,369	30,430	31,052	16,133	19,555	110,539
Central	53,041	100,276	78,906	26,608	30,757	289,588
Northeast	53,572	120,693	103,818	35,944	34,177	348,205
Pioneer Valley	51,192	77,981	77,446	27,691	30,943	265,253
Southeast	64,284	130,040	114,568	41,330	41,639	391,861

Projected Age of Householder by Region, Baseline Population Growth, 2012						
Region	Under 35	35 to 49	50 to 64	65 to 74	75 and over	Total
MA	467,716	739,004	746,489	294,169	271,130	2,518,508
Berkshire	9,509	14,411	17,943	7,458	8,128	57,449
Greater Boston	214,805	299,073	293,410	118,719	107,586	1,033,592
Cape and Islands	13,837	28,174	33,484	18,437	19,283	113,215
Central	54,911	92,549	84,882	30,399	30,437	293,178
Northeast	55,480	111,392	111,762	41,029	33,848	353,511
Pioneer Valley	52,577	73,358	81,539	30,787	30,746	269,005
Southeast	66,596	120,048	123,469	47,341	41,104	398,558

Projected Change in Households by Age of Householder, Baseline Population Growth, 2008 through 2012						
Region	Under 35	35 to 49	50 to 64	65 to 74	75 and over	Total
MA	15,528	-60,876	51,522	36,176	-3,020	39,331
Berkshire	277	-1,175	1,286	972	-101	1,259
Greater Boston	7,309	-25,800	20,889	14,918	-1,266	16,051
Cape and Islands	467	-2,256	2,432	2,304	-272	2,676
Central	1,869	-7,728	5,976	3,791	-320	3,589
Northeast	1,908	-9,301	7,945	5,084	-329	5,306
Pioneer Valley	1,385	-4,624	4,093	3,095	-197	3,752
Southeast	2,313	-9,992	8,901	6,011	-536	6,697

Source: UMDI Analysis using NEEP May 2008 Forecasts, U.S. Census Interim State Populations Projections and ACS 2005-2006.

Appendix 5-3. Projected Demand by Type of Unit and Region, 2008–2012

Projected Demand for Seasonal Homes and Other Uses, Baseline Population Growth, 2008 through 2012					
Region	2008	2009	2010	2011	2012
MA	179,303	180,188	181,142	182,054	182,785
Berkshire	8,233	8,283	8,335	8,380	8,417
Greater Boston	36,423	36,566	36,724	36,881	36,997
Cape and Islands	68,161	68,569	69,002	69,417	69,811
Central	14,838	14,886	14,942	14,994	15,022
Northeast	14,516	14,577	14,643	14,703	14,738
Pioneer Valley	14,805	14,880	14,961	15,036	15,091
Southeast	22,328	22,426	22,536	22,641	22,709

Projected Demand for Single Family Homes, Baseline Population Growth, 2008 through 2012					
Region	2008	2009	2010	2011	2012
MA	1,429,340	1,435,017	1,441,262	1,447,081	1,450,585
Berkshire	39,314	39,546	39,786	39,996	40,154
Greater Boston	478,585	480,249	482,092	483,875	484,939
Cape and Islands	139,907	140,733	141,611	142,448	143,228
Central	177,315	177,813	178,402	178,944	179,142
Northeast	202,817	203,589	204,419	205,150	205,472
Pioneer Valley	163,649	164,439	165,286	166,056	166,554
Southeast	245,196	246,195	247,327	248,379	248,963

Projected Demand for Multi-Family Homes, Baseline Population Growth, 2008 through 2012					
Region	2008	2009	2010	2011	2012
MA	1,299,471	1,305,492	1,312,019	1,318,492	1,323,649
Berkshire	25,558	25,721	25,889	26,039	26,171
Greater Boston	614,667	617,327	620,219	623,185	625,620
Cape and Islands	41,092	41,350	41,624	41,890	42,157
Central	134,386	134,896	135,472	136,040	136,435
Northeast	170,067	170,865	171,715	172,529	173,113
Pioneer Valley	121,285	121,957	122,666	123,342	123,898
Southeast	174,837	175,690	176,637	177,561	178,251

Projected Demand for Mobile Homes, RVs and Other Homes, Baseline Population Growth, 2008 through 2012					
Region	2008	2009	2010	2011	2012
MA	23,132	23,244	23,365	23,485	23,581
Berkshire	1,626	1,637	1,647	1,657	1,665
Greater Boston	1,971	1,979	1,988	1,998	2,005
Cape and Islands	1,243	1,251	1,259	1,266	1,274
Central	3,505	3,518	3,532	3,547	3,558
Northeast	2,304	2,314	2,325	2,336	2,343
Pioneer Valley	4,073	4,096	4,120	4,143	4,162
Southeast	8,546	8,586	8,632	8,677	8,712

Source: UMDI Analysis using NEEP May 2008 Forecasts, U.S. Census Interim State Populations Projections and ACS 2005-2006

Note: Other uses may include homes that are purchased or leased but unoccupied, unoccupied housing for migratory workers, or homes that are otherwise vacant but not available for sale or rent.

Appendix 5-4. Total Demand Based on Projected Population Growth by Region, 2008–2012

Projected Total Housing Unit Demand, Baseline Population Growth, 2008 through 2012					
Region	2008	2009	2010	2011	2012
MA	2,751,943	2,763,752	2,776,647	2,789,058	2,797,815
Berkshire	66,498	66,903	67,322	67,691	67,990
Greater Boston	1,095,222	1,099,555	1,104,299	1,109,057	1,112,564
Cape and Islands	182,242	183,334	184,493	185,605	186,658
Central	315,206	316,227	317,406	318,531	319,134
Northeast	375,188	376,768	378,459	380,015	380,928
Pioneer Valley	289,007	290,492	292,072	293,541	294,614
Southeast	428,579	430,472	432,596	434,617	435,927

Projected Total Housing Unit Demand, Worst-Case Population Growth, 2008 through 2012					
Region	2008	2009	2010	2011	2012
MA	2,745,553	2,751,607	2,759,500	2,767,532	2,775,094
Berkshire	66,343	66,609	66,906	67,169	67,438
Greater Boston	1,092,679	1,094,724	1,097,479	1,100,497	1,103,528
Cape and Islands	181,819	182,528	183,354	184,173	185,143
Central	314,474	314,837	315,446	316,073	316,542
Northeast	374,317	375,113	376,122	377,082	377,835
Pioneer Valley	288,336	289,216	290,268	291,276	292,221
Southeast	427,584	428,580	429,924	431,262	432,386

Projected Total Housing Unit Demand, Best-Case Population Growth, 2008 through 2012					
Region	2008	2009	2010	2011	2012
MA	2,756,399	2,772,803	2,790,632	2,808,339	2,825,418
Berkshire	66,606	67,122	67,661	68,159	68,661
Greater Boston	1,096,996	1,103,156	1,109,861	1,116,724	1,123,540
Cape and Islands	182,538	183,935	185,422	186,888	188,500
Central	315,716	317,262	319,005	320,733	322,283
Northeast	375,796	378,002	380,365	382,642	384,686
Pioneer Valley	289,475	291,444	293,543	295,570	297,520
Southeast	429,273	431,882	434,774	437,621	440,227

Source: UMDI Analysis using NEEP May 2008 Forecasts, U.S. Census Interim State Populations Projections and ACS 2005-2006

Appendix 5-5. Historical and Projected Housing Supply Gaps by Region, 2005–2012

Housing Supply Gaps -- History and Worst-Case Population Growth Prediction, 2005 though 2012								
Region	History			Forecast				
	2005	2006	2007	2008	2009	2010	2011	2012
MA	-24,461	-19,294	-18,630	-17,999	-12,687	-5,837	631	7,812
Berkshire	-553	-926	-978	-1,139	-1,146	-1,115	-1,058	-1,005
Greater Boston	-12,256	-10,847	-6,508	-6,954	-6,483	-5,642	-5,068	-4,371
Cape and Islands	120	376	1,513	1,545	2,184	3,019	3,820	4,478
Central	2,136	-286	1,608	2,583	4,493	6,696	8,814	11,106
Northeast	-1,242	-2,872	-4,830	-4,655	-3,812	-2,672	-1,507	-87
Pioneer Valley	-5,574	-956	-3,755	-4,102	-4,019	-3,841	-3,650	-3,386
Southeast	-7,094	-3,783	-5,680	-5,276	-3,903	-2,281	-721	1,078

Housing Supply Gaps -- History and Best-Case Population Growth Prediction, 2005 though 2012								
Region	History			Forecast				
	2005	2006	2007	2008	2009	2010	2011	2012
MA	-24,461	-19,294	-18,630	-28,845	-33,883	-36,969	-40,177	-42,512
Berkshire	-553	-926	-978	-1,401	-1,660	-1,870	-2,048	-2,228
Greater Boston	-12,256	-10,847	-6,508	-11,270	-14,916	-18,023	-21,295	-24,383
Cape and Islands	120	376	1,513	826	778	950	1,104	1,120
Central	2,136	-286	1,608	1,340	2,068	3,137	4,154	5,366
Northeast	-1,242	-2,872	-4,830	-6,134	-6,702	-6,915	-7,067	-6,939
Pioneer Valley	-5,574	-956	-3,755	-5,241	-6,247	-7,116	-7,944	-8,685
Southeast	-7,094	-3,783	-5,680	-6,965	-7,204	-7,132	-7,080	-6,763

Source: UMDI Analysis using NEEP May 2008 Forecasts, U.S. Census Interim State Populations Projections and ACS 2005-2006

Appendix 6: Projections Methodology

Definitions of supply and demand, and the major assumptions required to project future supply and demand for housing units, are outlined in Chapter Six. This appendix provides a description of the major data sources upon which the projections rely, as well as a more detailed methodology.

As noted in Chapter Six, supply and demand projections rely on the following components:

Supply:

- 1) Existing housing units
- 2) Projected unit loss due to demolitions or conversions
- 3) Projected construction of new units

Demand:

1. Permanent housing needs of the projected population
2. Seasonal, sold or rented but unoccupied, or otherwise unavailable units
3. Vacancies required for optimal market functioning.

This study's methodology was partially adapted from that of the Harvard Joint Center study, "Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future."⁹⁸ This report was also the source for the optimal market vacancy rates, or natural vacancy rates, used in this report.

⁹⁸ Belsky, E., Drew, R., and McCue, D. "Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future." Joint Center for Housing Studies, Harvard University. November 2007.

Data sources

The projections presented in this report rely on the accuracy of several key data sources. The UMass Donahue Institute believes these sources to be highly reliable for the purposes for which we have used them.

One such source is the Spring 2008 New England Economic Partnership (NEEP) economic forecast. NEEP publishes biannual, five-year forecasts of various macroeconomic indicators for Massachusetts and five other New England states, including projected population and building permits. NEEP projections are based on a macroeconomic forecasting model developed by Economy.com.

Several data sources produced by the U.S. Census Bureau were integral to the UMass Donahue Institute housing projections presented in this report:

- The U.S. Census Population Division's Interim Population Projections for 2005, based on the 2000 Decennial Census, provide detailed population projections by age.
- The Decennial Censuses of 1990 and 2000 provide counts of housing units, which are the basis for all Decennial Census population counts and detailed demographic data.
- The Census' American Community Survey (ACS), which was first fully implemented in 2005, provides an annual update to Decennial Census demographic and housing data by surveying approximately one percent of all United States households identified by the U.S. Census. ACS housing and population estimates are controlled to updated Decennial Census counts by the Census' Intercensal Population Estimates. The ACS provides a larger sample size and more recent data than comparable surveys. The ACS Public Use Microdata Sample (PUMS) allows data users to perform customized tabulations of

demographic and housing data rather than relying on prepared Census categories and tables.⁹⁹

- The Census of Construction, also implemented by the Census Bureau, provides the most comprehensive available data relating to residential construction and permitting.

The UMass Donahue Institute believes these data sources to be the most reliable ones available for the purposes of estimating projected housing supply and demand for the state and regions of Massachusetts.

Projecting supply

Steps for projecting the Commonwealth and regions' housing supplies were as follows:

1. Estimate current housing stock using the ACS PUMS 2005/2006, which is controlled to updated Decennial Census housing unit counts from the Census' Intercensal Population Estimates.
2. Use NEEP projected permits for single and multi-unit buildings, the Census Manufactured Housing Survey (<<http://www.census.gov/const/mhs/stship.html>>), and Census of Construction data for 2000 to 2007 to project construction of new units by region.
3. Project unit loss using historical unit loss rates for 1990 to 2000. We estimated rates of loss for mobile homes and for all other units by annualizing a loss rate for pre-1990 units between 1990 and 2000. We assumed that loss of units built after 1990 is negligible. While we considered age of unit as a predictor of unit loss, the lack of reliable state or regional data for age of unit would have introduced greater error than a method based solely on unit type.

⁹⁹ In some cases, ACS PUMS geographical areas (Public Use Microdata Areas or PUMAs) do not precisely match the UMass Donahue Institute Benchmarks regions. A population-based weighting system was devised to approximate Benchmarks regions based on ACS PUMAs.

This process gives rise to the supply assumptions outlined in Chapter Six, namely:

- **Existing housing units.** *American Community Survey estimates, which are controlled to Intercensal Population Estimates, are accurate estimates of existing housing units in each region.*
- **Annual building permits.** *NEEP forecasts of annual building permits will be accurate, and all or nearly all of the projected units will be built in the year they are permitted.*
- **Regional new construction.** *New construction will take place in the same regions and in the same proportions as during the period from 2000 through 2007 according to the Census of Construction.*
- **Demolition and conversion.** *Housing units built prior to 1990 will exhibit demolition and conversion rates in accordance with their rate of unit loss as calculated from the 2000 and 1990 Decennial Censuses.*

Projecting demand

Steps for projecting the Commonwealth and regions' housing supplies were as follows:

1. Allocate NEEP projected population growth according to one of the three population growth scenarios, and according to NEEP and Census Interim Population Projection age profiles.
2. Using householder age and household size profiles, regional household shares and regional prevalence of second homes and other unavailable units from the ACS PUMS 2005/ 2006:
 - a. Convert population to households.
 - b. Project demand for single and multi-family units.
 - c. Regionalize household demand.

-
- d. Add regional demand for second homes, sold or rented but not occupied units, and other unavailable units.
3. Using natural vacancy rates of 7.4 percent for rental units and 1.5 percent for owner units, based on the 2007 Joint Center for Housing study, and regional ownership rates from ACS PUMS 2005/2006, estimate the required number of vacant rental and owner units by region.¹⁰⁰

This process gives rise to the demand assumptions outlined in Chapter Six, namely:

- **Population.** *NEEP population forecasts for 2008 through 2012 are reasonable.*
- **Age-based preferences.** *Population age groups will exhibit similar behaviors that affect housing needs.*
- **Regional preferences.** *Residents of each region make similar choices about the type of unit – single detached, multi-unit or other (including mobile homes and RVs) – in which to live.*
- **Units not for primary residence.** *The share of second homes, sold or rented but unoccupied, uninhabitable dwellings, and otherwise unavailable housing units will remain constant in each region.*
- **Vacancy rates.** *A vacancy rate of 7.4 percent for rental units and 1.5 percent for owner units is required for proper functioning of the market.¹⁰¹*
- **Ownership rates.** *The rate of homeownership in each region does not change drastically between 2005/2006 and 2012.*

¹⁰⁰ Belsky, et al.

¹⁰¹ Belsky, E., Drew, R., and McCue, D. “Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future.” Joint Center for Housing Studies, Harvard University. November 2007.

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