

COMPREHENSIVE HOUSING MARKET ANALYSIS

Boston, Massachusetts

U.S. Department of Housing and Urban Development,
Office of Policy Development and Research

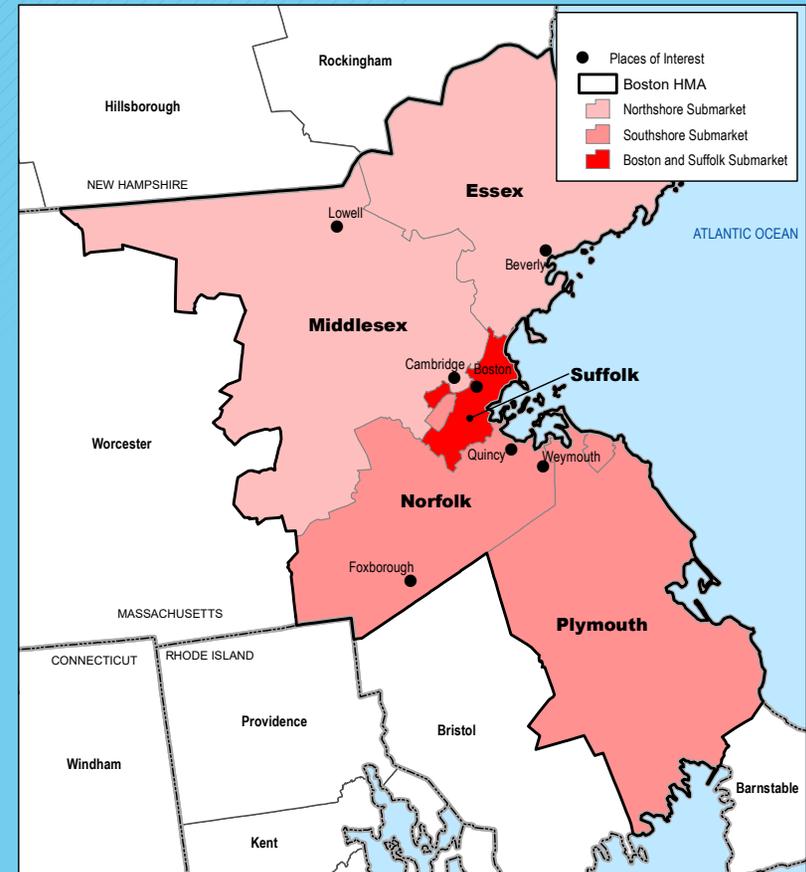
As of January 1, 2019



Executive Summary

Housing Market Area Description

The Boston Housing Market Area (HMA) includes Essex, Middlesex, Norfolk, Plymouth, and Suffolk Counties in Massachusetts. For the purposes of this analysis, the HMA is divided into three submarkets: the Boston-Suffolk submarket is coterminous with Suffolk County and includes the city of Boston; the North Shore submarket contains Essex and Middlesex Counties; and the South Shore submarket consists of Norfolk and Plymouth Counties. The HMA is home to 56 institutions of higher learning with more than 420,000 students living in the HMA. The population of the HMA is currently estimated at nearly 4.47 million.



Tools and Resources

Find interim updates for this metropolitan area, and select geographies nationally, at PD&R's [Market-at-a-Glance tool](#). Additional data for the HMA can be found in this report's [supplemental tables](#). For information on HUD-supported activity in this area, see the [Community Assessment Reporting Tool](#).



Market Qualifiers

Economy



Strong: Since 2010, nonfarm payrolls in the Boston New England city and town area (NECTA) have increased by an average of 43,900 jobs, or 1.7 percent, annually—a sharp turnaround from the previous decade when nonfarm payrolls declined by an average of 9,000 jobs, or 0.4 percent, annually (Figure 1).

During 2018, nonfarm payrolls averaged more than 2.78 million jobs, an increase of 45,200 jobs, or 1.7 percent, from 2017 when nonfarm payrolls increased by 32,400 jobs, or 1.2 percent. Eight out of the 10 employment sectors added jobs during 2018, and the remaining two sectors declined less than 1.0 percent. During the 3-year forecast period, nonfarm payroll growth is expected to remain positive, but is anticipated to slow from current levels, and average 1.3 percent annually.

Sales Market



Tight: The average new and existing home sales price increased 6 percent during 2018.

The home sales market in the Boston HMA is tight, with an estimated vacancy rate of 0.8 percent, down from 1.4 percent in 2010. The number of home sales in the Boston HMA declined more than 1 percent during 2018 as a lack of inventory constrained the market. During December 2018, there were 1.7 months of supply of single-family homes and 2.0 months of supply of condominiums for sale. The average sales price of a home in the Boston HMA during 2018 was \$594,300. During the 3-year forecast period, demand is estimated for 30,975 new homes; the 4,645 homes under construction will meet a portion of that demand.

Rental Market



Slightly tight: The average rent for an apartment increased nearly 5 percent during 2018.

The overall rental market is currently slightly tight with an estimated 3.9-percent vacancy rate, down from 5.8 percent in 2010. Similar conditions exist in all three submarkets with rental vacancy rates at or below 3.9 percent. The apartment market is also slightly tight with a 3.3-percent vacancy rate during the fourth quarter of 2018, down from 3.5 percent during the fourth quarter of 2017. During the 3-year forecast period, demand is estimated for 32,225 units. The 20,600 units currently under construction will satisfy a portion of that demand.

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3-Year Housing Demand Forecast

| | | Sales Units | Rental Units |
|-----------------------|--------------------|-------------|--------------|
| Boston-Suffolk | Total Demand | 3,925 | 12,100 |
| | Under Construction | 1,925 | 7,600 |
| North Shore | Total Demand | 16,450 | 14,500 |
| | Under Construction | 1,750 | 9,100 |
| South Shore | Total Demand | 10,600 | 5,625 |
| | Under Construction | 970 | 3,900 |
| Boston HMA | Total Demand | 30,975 | 32,225 |
| | Under Construction | 4,645 | 20,600 |

Notes: Total demand represents estimated production necessary to achieve a balanced market at the end of the forecast period. Units under construction as of January 1, 2019. The forecast period is January 1, 2019, to January 1, 2022.

Source: Estimates by the analyst



Economic Conditions

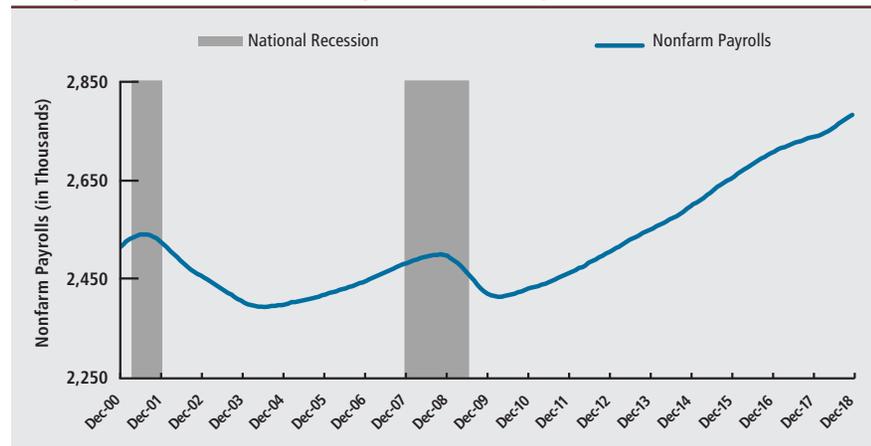
Largest sector: Education and Health Services

The Boston-Cambridge-Nashua, MA-NH metropolitan NECTA includes portions of New Hampshire and is somewhat larger than the Boston HMA (see Notes on Geography in the appendix). The education and health services sector accounts for 21 percent of all nonfarm payroll jobs in the NECTA and has been the fastest growing sector since 2001 (Figures 2 and 3).

Primary Local Economic Factors

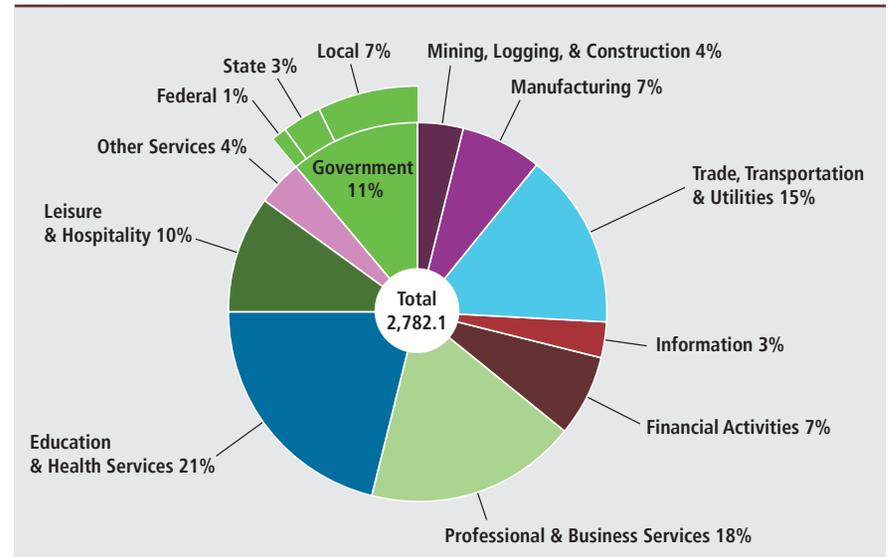
The city of Boston, founded in 1630, is one of the oldest cities in the United States. The city, with its location along the Atlantic Ocean that leads into the Boston Harbor at the mouth of the Charles River, began as a center for shipping and global commerce. By the early 1800s, a significant manufacturing presence, particularly associated with textiles, had developed in the city. Since 1990, the manufacturing sector has been in decline, however, and the HMA has become

Figure 1. 12-Month Average Nonfarm Payrolls in the Boston HMA



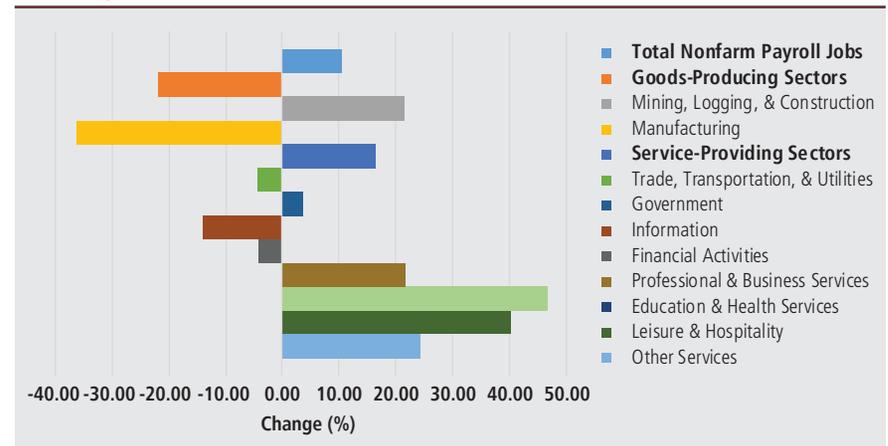
Note: 12-month moving average.
Source: U.S. Bureau of Labor Statistics

Figure 2. Current Nonfarm Payroll Jobs in the Boston HMA, by Sector



Notes: Total nonfarm payroll is in thousands. Percentages may not add to 100 percent due to rounding.
Source: U.S. Bureau of Labor Statistics

Figure 3. Sector Growth in the Boston HMA, 2001 to Current



Note: The current date is as of January 1, 2019.
Source: U.S. Bureau of Labor Statistics



increasingly known as a global center for education and health services. The HMA is home to 56 institutions of higher education that currently enroll more than 420,000 students combined, including Harvard University and the Massachusetts Institute of Technology, which were both ranked as top 10 universities by *U.S. News & World Report*. Other universities in the HMA include Tufts, Brandeis, Boston College, Boston University, and Northeastern, which were also ranked in the top 50 universities in the nation. The HMA also is home to highly regarded hospitals such as the Massachusetts General Hospital and the Brigham and Women’s Hospital, which were both ranked in the top 20 best hospitals in the nation in 2018 by *U.S. News & World Report*.

Current Conditions—Nonfarm Payrolls

Following a fast recovery from job losses in 2009, economic conditions remain strong in the HMA, supported by a highly educated and skilled labor force that attracts many employers. During 2018, nonfarm payrolls averaged more than 2.78 million, an increase of 45,200, or 1.7 percent, from 2017 when nonfarm payrolls increased by 32,400, or 1.2 percent (Table 1). Part of this strong growth is the result of increased construction activity in the Boston HMA, adding to employment

Table 1. 12-Month Average Nonfarm Payroll Jobs in the Boston HMA, by Sector

| | 12 Months Ending December 2017 | 12 Months Ending December 2018 | Absolute Change | Percentage Change |
|------------------------------------|--------------------------------|--------------------------------|-----------------|-------------------|
| Total Nonfarm Payroll Jobs | 2,736.8 | 2,782.0 | 45.2 | 1.7 |
| Goods-Producing Sectors | 299.3 | 308.8 | 9.5 | 3.2 |
| Mining, Logging, & Construction | 112.3 | 118.9 | 6.6 | 5.9 |
| Manufacturing | 187.0 | 189.9 | 2.9 | 1.6 |
| Service-Providing Sectors | 2,437.5 | 2,473.2 | 35.7 | 1.5 |
| Government | 310.7 | 310.4 | -0.3 | -0.1 |
| Trade, Transportation, & Utilities | 424.7 | 425.6 | 0.9 | 0.2 |
| Information | 79.7 | 80.3 | 0.6 | 0.8 |
| Financial Activities | 184.8 | 183.7 | -1.1 | -0.6 |
| Professional & Business Services | 482.5 | 503.6 | 21.1 | 4.4 |
| Education & Health Services | 580.5 | 589.3 | 8.8 | 1.5 |
| Leisure & Hospitality | 271.3 | 275.2 | 3.9 | 1.4 |
| Other Services | 103.3 | 105.1 | 1.8 | 1.7 |

Notes: Based on 12-month averages through December 2017 and December 2018. Numbers may not add to totals due to rounding.

Source: U.S. Bureau of Labor Statistics

growth. The mining, logging, and construction sector had the largest percentage increase of any sector, expanding by 5.9 percent and adding 6,600 jobs. Some of the current large-scale construction developments ongoing in the Boston HMA include the Encore Boston Harbor, a \$2.5 billion casino and resort, and a \$1 billion expansion of Boston Children’s Hospital.

During 2018, 8 of the 10 employment sectors added jobs, with the largest increase occurring in the professional and business services sector, which added 21,100 jobs, or 4.4 percent. The Boston HMA is a world-renowned center for education and research that attracts many businesses to the area and creates many small startup firms that create jobs in the professional and business services sector. Since 2010, the professional and business services sector has been the fastest growing sector with the start of the most recent expansion, adding an average of 13,600 jobs, or 3.1 percent, annually.

The largest employment sector in the NECTA is the education and health services sector, with 589,300 nonfarm payroll jobs during 2018, an increase of 8,800 jobs, or 1.5 percent, from 2017. From 2001 to current, this sector has been the fastest growing sector in the NECTA, increasing by an average of 10,400 jobs, or 2.1 percent, annually. There are many major employers in this sector, and 6 out of the 10 largest employers in the HMA are in this sector, including the top 3: Partners Healthcare, Harvard University, and Massachusetts Institute of Technology, which each have more than 10,000 employees (Table 2). According to a 2012 study titled “Metroversity,” authored by Evan Dobbelle and Michael Konig, the universities in the HMA have more than a \$31 billion annual economic impact on the HMA.

Table 2. Major Employers in the Boston HMA

| Name of Employer | Nonfarm Payroll Sector | Number of Employees |
|---|----------------------------------|---------------------|
| Partners HealthCare | Education & Health Services | 10,000+ |
| Harvard University | Education & Health Services | 10,000+ |
| Massachusetts Institute of Technology | Education & Health Services | 10,000+ |
| Raytheon | Manufacturing | 10,000+ |
| Boston University | Education & Health Services | 5,000–9,999 |
| Dell EMC | Professional & Business Services | 5,000–9,999 |
| Beth Israel Deaconess Medical Center | Education & Health Services | 5,000–9,999 |
| Massachusetts General Hospital for Children | Education & Health Services | 5,000–9,999 |
| John Hancock Life Insurance Company | Financial Activities | 5,000–9,999 |
| Liberty Mutual Group | Financial Activities | 5,000–9,999 |

Note: Excludes the government sector.

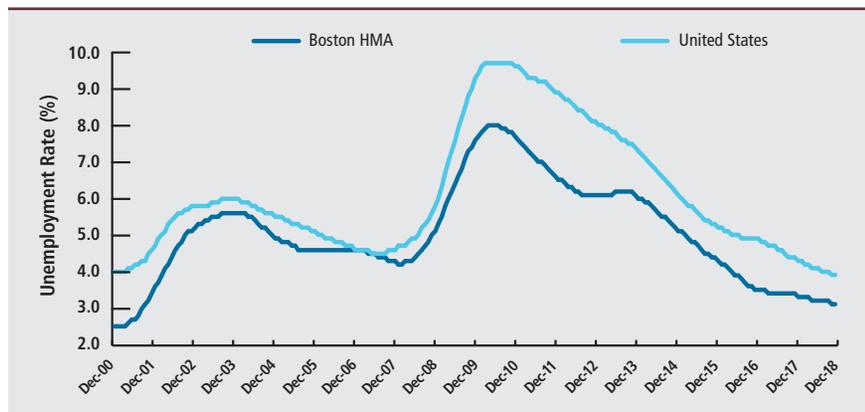
Source: Massachusetts Department of Labor



Current Conditions—Unemployment

The unemployment rate in the Boston HMA is currently 3.1 percent, down from 3.4 percent 1 year earlier. The unemployment rate in the Boston HMA has declined significantly from the 7.7-percent rate in 2010 but is still not as low as the 2.5 percent unemployment rate in 2000. The unemployment rate in the nation is currently 3.9 percent. The unemployment rate in the Boston HMA has been lower than the national unemployment rate every year since 2000 except for 2006 when they both had an unemployment rate of 4.6 percent (Figure 4).

Figure 4. 12-Month Average Unemployment Rate in the Boston HMA and the United States



Source: U.S. Bureau of Labor Statistics

Economic Periods of Significance

Overview

The 2000s were a period of change in the HMA, as the local economy withstood two national recessions and continued to transition to a more knowledge-based economy. The total number of nonfarm payroll jobs declined overall during the

decade, spurred in part by significant declines in the manufacturing sector. From 2000 through 2009, nonfarm payrolls declined by an average of 11,200, or 0.5 percent, annually. Manufacturing employment during this time declined by an average of 11,200, or 4.5 percent, annually. During the 2000s, only 4 of the 10 employment sectors added jobs, with the education and health services sector leading job growth, increasing by an average of 9,900, or 2.2 percent, annually. In the year 2000, the education and health services sector was the third largest employment sector in the NECTA, but, by 2009, it had become the largest.

2001 through 2004

The late 1990s was a period of nonfarm payroll growth in the Boston NECTA, as the dot-com boom increased the demand for highly skilled workers; that demand spilled over into 2000, when nonfarm payrolls increased by 62,900 jobs, or 2.6 percent, but job growth slowed during 2001 to just 100 jobs. During 2001, the dot-com bust limited overall job growth and led to many job losses in the professional and business services sector, which declined by 6,600 jobs, or 1.6 percent. From 2002 through 2004, job losses became more widespread, partly from the lingering effects of the dot-com bust, and led to an overall reduction in nonfarm payroll jobs, which declined by an average of 40,300, or 1.6 percent, annually. The professional and business services and the information sectors were affected, declining by an average of 10,300 and 6,700 jobs, or 2.6 and 7.7 percent, respectively.

2005 through 2009

From 2005 through 2008, nonfarm payrolls in the Boston NECTA expanded by an average of 24,300 jobs, or 1.0 percent, annually. The education and health services sector, which increased by an average of 12,300 jobs, or 2.7 percent, annually, led job growth. Employment in the professional and business services sector began to recover previous losses and expanded by an average of 9,600 jobs, or 2.5 percent, annually during those years. In 2009, the national recession resulted in a loss of 77,200 jobs, or 3.1 percent. The professional and business

services sector had the most job losses, declining by 23,700 jobs, or 5.7 percent. The financial activities sector also had a significant number of job losses during 2009, with payrolls in the sector declining by 5,800 jobs, or 3.1 percent. The largest job cuts occurred at Citigroup, which reduced its workforce in the Boston NECTA by 1,500 people.

2010 through 2017

In 2010, the local economy began to turn around and started to add jobs again. Nonfarm payrolls expanded every year from 2010 through 2017 increasing by an average of 39,600, or 1.5 percent, annually. Since 2010, there have been job gains in 9 out of the 10 employment sectors, with only manufacturing employment being down since 2010 by an average of 1,200 jobs, or 0.6 percent, annually. On a percentage basis, employment in the mining, logging, and construction sector had the biggest increase, up an average of 4.1 percent, or 3,900 jobs, per year, as the influx of jobs and people to the HMA increased demand for new residential and commercial buildings. The professional and business services sector had the largest increase of jobs from 2010 through 2017,

adding an average of 11,400, or 2.7 percent, annually. Many of these jobs were in scientific research as employers moved to the area to take advantage of the large pool of highly educated residents from the high concentration of local universities. Education and health services was the second fastest growing employment sector in the NECTA, adding an average of 11,200 jobs, or 2.1 percent, annually. The expansion in this sector was, in part, a result of the increasing student population in the HMA and many jobs providing health care to the increasing population since 2010.

Employment Forecast

During the 3-year forecast, nonfarm payroll growth is expected to remain positive, but slow from the current levels and average 1.3. percent annually, with the strongest growth in the first year, declining each year thereafter. The professional and business services and education and health services sectors are likely to continue to be leading growth sectors. The leisure and hospitality sector is also likely to have strong growth with the opening of the new Encore Boston Harbor in mid-2019 that is expected to add more than 2,000 jobs.



Population and Households

Current population: 4.47 million

Since 2010, net in-migration has accounted for more than 60 percent of all population growth in the HMA, which is a sharp turnaround from the 2000s, when there was net out-migration and all the population growth was the result of net natural change.

Population Trends

The population of the Boston HMA is currently estimated at nearly 4.47 million, an increase of 38,050, or 0.9 percent, annually since 2010 (Table 3). Net in-migration to the Boston HMA has averaged 23,050 people annually and accounted for more than 60 percent of population growth since 2010 (Figure 5). A significant factor in the population growth in the HMA since 2010 is from international net in-migration. It is estimated that since 2010 international net in-migration has averaged 32,200 people annually; whereas domestic net out-migration averaged 9,150 people annually. This pattern of migration is partly because of the large number of colleges and universities, which attracts in-migration from international students; many of those students leave the HMA after graduation to seek employment elsewhere in the country, resulting in domestic out-migration. During 2017, there were more than 420,000 graduate and undergraduate students living in the HMA, up from more than 362,000 during 2006 (American Community Survey [ACS], 1-year data). Figure 6 shows annual student enrollment in the HMA from 2005 through 2017. From 2000 through 2010, population growth averaged 13,250, or 0.3 percent, annually, with net out-migration from the HMA averaging 5,500 people annually. From 2000 through 2007, population growth averaged 4,175, or 0.1 percent, annually, with net out-migration that averaged 14,850 people annually. From 2007 through 2010, population growth surged to an average of 37,100, or 0.9 percent, annually, with net in-migration that averaged 19,000 people annually. Part of this increase for in-migration to the HMA was the result of increased enrollment at local universities, which grew an average of 14,600, or 3.8 percent, annually between 2006 and 2010.

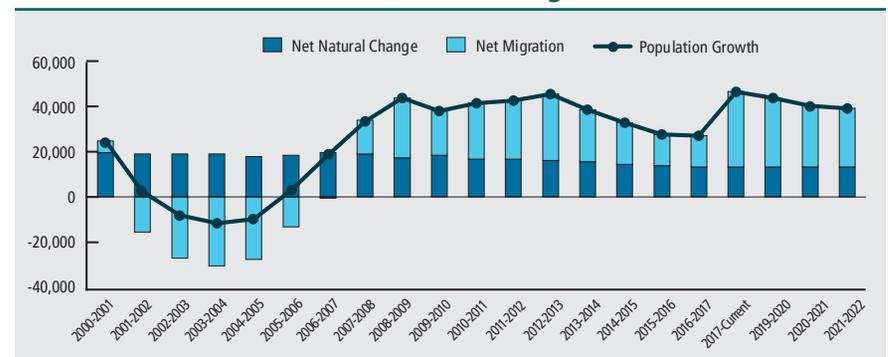
Table 3: Boston HMA Population and Household Quick Facts

| | 2010 | Current | Forecast | |
|-------------------------------|-----------------------|-----------|-----------|-----------|
| Population Quick Facts | Population | 4,134,036 | 4,467,000 | 4,593,000 |
| | Average Annual Change | 13,250 | 38,050 | 41,950 |
| | Percentage Change | 0.3% | 0.9% | 0.9% |
| Household Quick Facts | Households | 1,598,451 | 1,727,000 | 1,778,000 |
| | Average Annual Change | 6,600 | 14,700 | 16,850 |
| | Percentage Change | 0.4% | 0.9% | 1.0% |

Note: Average annual changes and percentage changes are based on averages from 2000 to 2010, 2010 to current, and current to forecast. The current date is January 1, 2019. The forecast period is January 1, 2019, to January 1, 2022.

Sources: 2000 and 2010—2000 Census and 2010 Census; current and forecast—estimates by the analyst

Figure 5. Components of Population Change in the Boston HMA, 2000 Through the Forecast

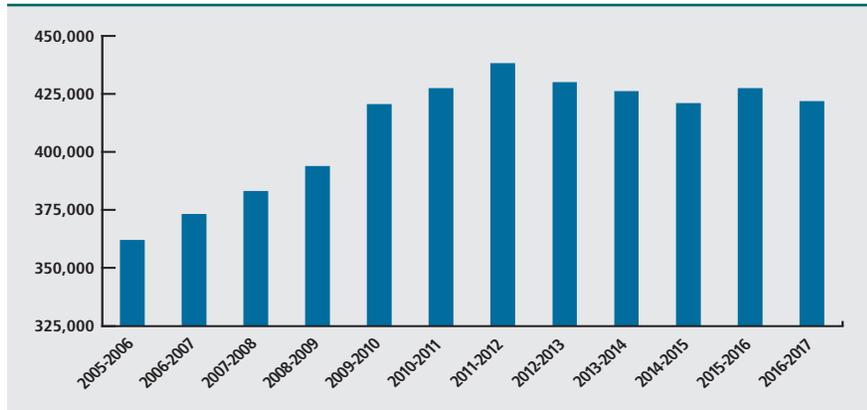


Notes: Net natural change and net migration totals are average annual totals over the time period. The current date is January 1, 2019. The forecast period is January 1, 2019, to January 1, 2022.

Sources: U.S. Census Bureau, Bureau of Labor Statistics; current to forecast—estimates by the analyst



Figure 6. Student Enrollment in the Boston HMA



Source: U.S. Census Bureau

Boston-Suffolk

The Boston-Suffolk submarket is the smallest submarket in the HMA in terms of population, with an estimated 813,800, accounting for 18 percent of the total population in the HMA (Figure 7). The population of the submarket has increased by an average of 10,500, or 1.4 percent, annually since 2010. The rate of growth is significantly faster than the rate from 2000 through 2010 when the population increased by an average of 3,225, or 0.5 percent, annually. The recent increase in the rate of population growth is attributable to higher levels of net in-migration. Since 2010, net in-migration has averaged 5,950 people annually, a reversal of the trend from 2000 through 2010, when net out-migration averaged 1,125 people annually. Net in-migration to the submarket has increased since 2010 as job growth has picked up, and more young professionals, particularly recent college graduates, have opted not to relocate. There is also strong international net in-migration to this submarket that is estimated to have averaged nearly 9,900 people annually offsetting the domestic net out-migration of 4,050 people annually.

North Shore

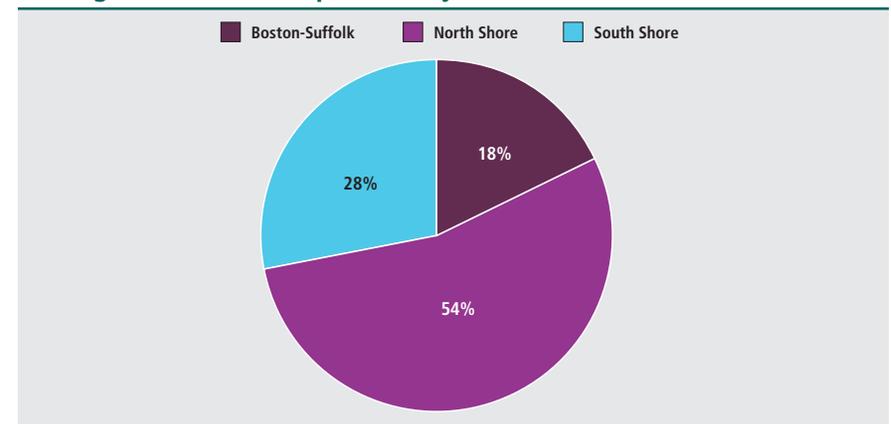
The North Shore submarket is the most populated of the three submarkets in the HMA, and Middlesex County, with nearly 1.6 million people, is the most

populated county in the entire New England region. The population of the North Shore submarket is currently estimated at nearly 2.42 million, an average increase of 19,850, or 0.9 percent, annually since 2010. From 2000 to 2010, the population of the submarket increased by an average of 5,750, or 0.3 percent, annually. Changing patterns of migration contributed to the recent increase in population growth. From 2000 to 2010, net out-migration from the submarket averaged 4,200 people annually. Since 2010, strong economic conditions have attracted more people to the HMA, and net in-migration has averaged 11,750 people annually. International net in-migration to this submarket is estimated to have averaged 17,000 people annually, offsetting the net domestic out migration of 5,250 people annually. The North Shore submarket is home to Harvard University and the Massachusetts Institute of Technology, which together have more than 22,250 postgraduate students and 11,300 undergraduate students.

South Shore

The population of the South Shore submarket currently is estimated at more than 1.23 million, an average increase of 7,700, or 0.6 percent, annually since 2010. Net in-migration has averaged 5,475 people annually and accounted for more than 71 percent of all population growth in the submarket since 2010.

Figure 7. Current Population by Submarket in the Boston HMA



Source: Estimates by the analyst



International net in-migration to this submarket is estimated to have averaged 5,500 people per year, while domestic net out-migration has averaged just 25 people per year. Plymouth County is the only county in the HMA that has had domestic net in-migration since 2010, which has averaged 750 people a year. Plymouth County has the lowest number of students enrolled in college of any of the counties in the HMA, which limits the number of students who move away from the county after graduation and contributes to domestic net in-migration. The rate of population growth in the submarket since 2010 is higher than the average increase of 4,275 people, or 0.4 percent, annually from 2000 to 2010, when net out-migration averaged 150 people annually during the period.

Household Trends

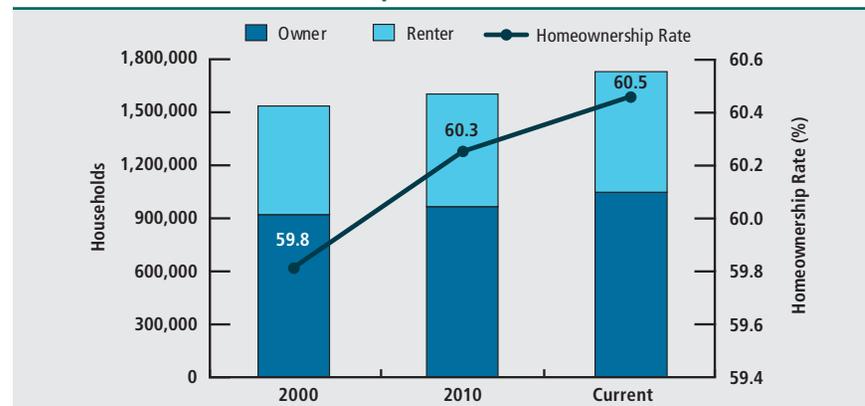
There are currently nearly 1.73 million households in the Boston HMA, up by an average of 14,700, or 0.9 percent, annually since 2010. The homeownership rate in the HMA is currently estimated at 60.5 percent, up from 60.3 percent in 2010 (Figure 8). Currently, an estimated 329,700 households live in the Boston-Suffolk submarket, an average increase of 4,225, or 1.4 percent, annually since 2010, which is well above the average increase of 1,400, or 0.5 percent, annually from 2000 through 2010. Currently, 931,700 households live in the North Shore submarket, an average increase of 7,450, or 0.8 percent, annually since 2010. That growth is much stronger than the growth that occurred from 2000 to 2010, which averaged 3,000 households, or 0.4 percent, annually. Currently, 465,800 households live in the South Shore submarket, an average increase of 3,050, or 0.7 percent, annually since 2010, which is much higher than the average household growth of 2,175, or 0.5 percent annually from 2000 through 2010.

Forecast

During the 3-year forecast period, the population of the Boston HMA is expected to increase by an average of 41,950, or 0.9 percent, annually. Net in-migration is likely to continue during the next 3 years, as people are attracted to the HMA for work and educational opportunities. International net in-migration is also likely to remain a significant component of population growth in the HMA as students from around the world are attracted to the world-class universities in the HMA. On a percentage basis, population and household growth in the Boston-Suffolk submarket should be the strongest, with each expected to increase 1.3 percent annually. Population growth in the South Shore submarket should average 0.9 percent annually, while the slowest rate of growth is likely to be in the North

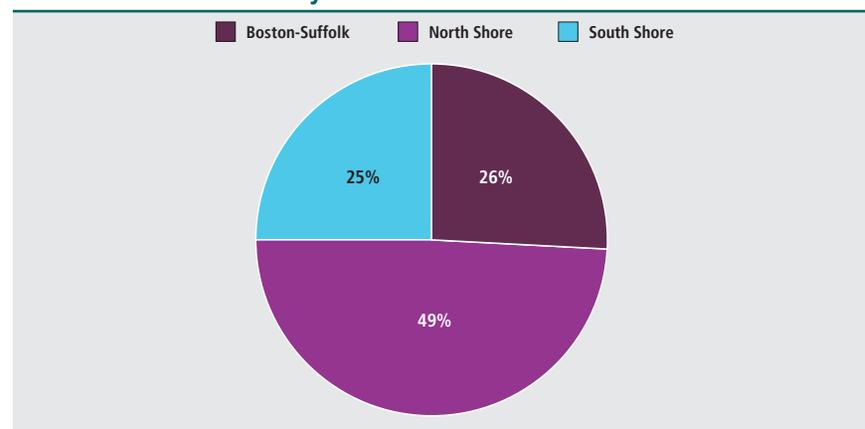
Shore submarket, at 0.8 percent annually. Household growth in both the North Shore and South Shore submarkets is expected to average 0.9 percent annually during the next 3 years. Even though the North Shore submarket is expected to have the slowest rate of population growth, it is estimated to continue to have the largest numerical gain of the three submarkets (Figure 9).

Figure 8. Households by Tenure and Homeownership Rate in the Boston HMA



Note: The current date is January 1, 2019.
Sources: 2000 and 2010—2000 Census and 2010 Census; current—estimates by the analyst

Figure 9. Share of Forecast Population Growth by Submarket in the Boston HMA



Source: Estimates by the analyst



Home Sales Market Conditions

Market Conditions: Tight

The sales housing market in the HMA has tightened since 2010, when conditions were balanced, due to stronger population growth.

Current Conditions

The home sales market in the Boston HMA is currently tight, with an estimated 0.8 percent vacancy rate, down from 1.4 percent in 2010 (Table 4). During December 2018, there was a 1.7-months' supply of single-family homes and a 2.0-months' supply of condominiums for sale in the HMA, up from 1.6 and 1.5 months, respectively, in December 2017 (Greater Boston Association of Realtors® [GBAR]). During 2018, single-family home sales received more than 99 percent of the original asking price, whereas condominium sales received, on average, more than 100 percent of asking price. The Boston HMA is one of the most expensive housing markets in the nation and as such during 2017, 51.4 percent of owner households spent more than 20 percent of income on housing, significantly higher than the national average of 43.4 percent (Table 5).

Home Sales

Home sales, including new and existing single-family homes, townhomes, and condominiums, totaled 59,650 during 2018, which was a decline of 850 sales, or more than 1.0 percent from 2017 (Metrostudy, A Hanley Wood Company). Figure 10 shows home sales by type in the HMA. Sales activity has been constrained in the Boston HMA recently due to significantly fewer new homes being permitted since 2010. From 2000 through 2006, before the Great Recession and national housing crisis, an average of 7,875 new homes was permitted annually, but this declined to an average of 4,000 sales units permitted from 2007 through 2009 (Figure 11). Since 2010, building activity for sales units has increased slightly, to an average of 5,225 homes permitted annually. Significantly lower building activity compared with previous periods, combined with faster population growth since 2010, has contributed to tight sales market conditions throughout the HMA.

Table 4. Home Sales Quick Facts in the Boston HMA

| | Boston HMA | United States |
|----------------------------------|------------|---------------|
| Vacancy Rate | 0.8% | NA |
| Months of Inventory | NA | 0 |
| Total Home Sales | 59,650 | 6,060,000 |
| 1-Year Change | -1.4% | -3.0% |
| New Home Sales | \$772,500 | \$381,400 |
| 1-Year Change | 14% | 0% |
| Existing Home Sales | \$584,600 | \$288,700 |
| 1-Year Change | 5% | 3% |
| Mortgage Delinquency Rate | 1.2% | 1.7% |

NA = data not available.

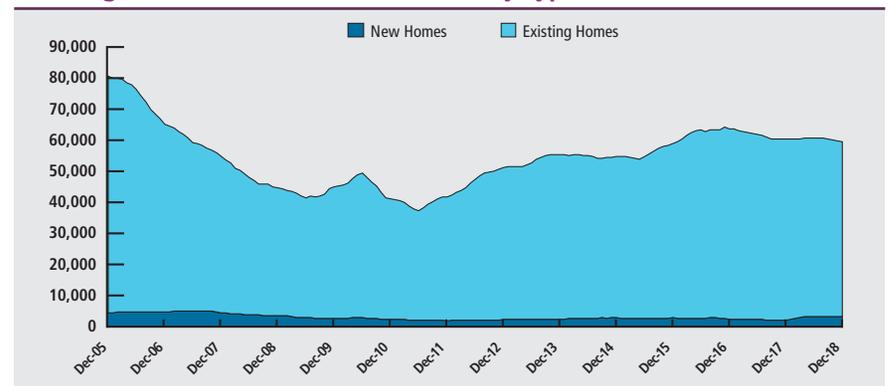
Notes: Vacancy rate is as of the current date, January 1, 2019. Home sales prices are for the 12 months ending December 2018. Months of inventory and mortgage delinquency data are as of December 2018. Sources: Sales prices—Metrostudy, A Hanley Wood Company; delinquency rate—CoreLogic, Inc.

Table 5. Percent of Income Owner Households Spent on Housing in the Boston HMA in 2017

| | Boston HMA (%) | United States (%) |
|--------------------------------|----------------|-------------------|
| Less than 20 Percent | 48.6 | 56.6 |
| 20 to 29 Percent | 24.2 | 20.4 |
| 30 Percent or More | 26.6 | 22.1 |
| Zero or Negative Income | 0.6 | 0.9 |

Source: 2017 American Community Survey, 1-year data

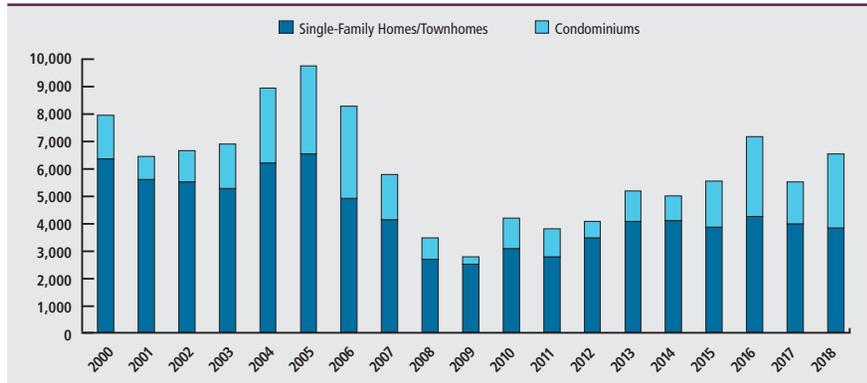
Figure 10. 12-Month Sales Totals by Type in the Boston HMA



Source: Metrostudy, A Hanley Wood Company



Figure 11. Average Annual Sales Permitting Activity in the Boston HMA



Notes: Includes single-family homes, townhomes, and condominiums. 2018 includes data through December 2018. Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

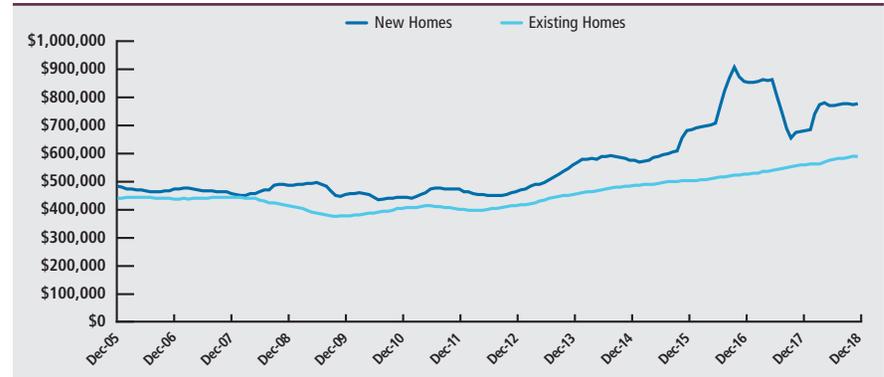
Home Sales Prices

The average sales price of a home in the Boston HMA during 2018 was \$594,300, an increase of \$35,900, or more than 6.0 percent from a year ago (Figure 12). The average sale price of homes in the Boston HMA has been steadily increasing since 2012 and, between 2012 and 2017, the average home sales price increased by \$27,000, or nearly 6.0 percent annually. Approximately 42 percent of all home sales in the Boston HMA were in the \$250,000 to \$499,999 price range, and only 11 percent were below \$250,000. Homes priced at more than \$1 million accounted for 10 percent of all sales, as did home sales in the \$750,000 to \$1 million price range (Figure 13). During 2018 approximately 27 percent of all home sales were priced between \$500,000 and \$749,999.

Forecast

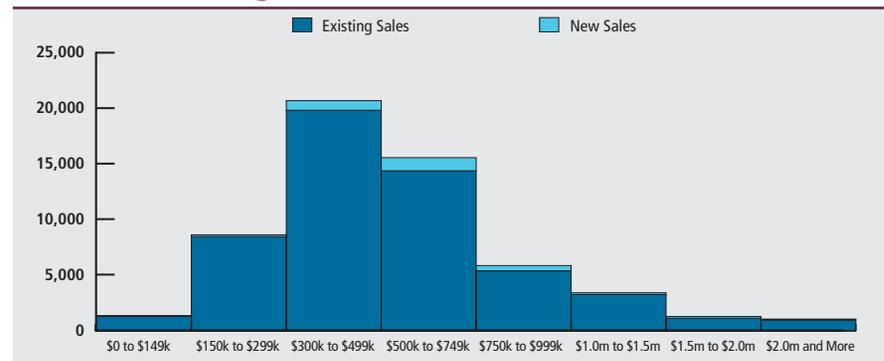
During the 3-year forecast period, demand is estimated for 30,975 new single-family homes, townhomes, and condominiums in the HMA (Table 6). The 4,645 homes under construction will satisfy some of this demand. Demand is expected to slightly decrease each year because of a slowdown in the previous robust rate of population and job growth in the HMA. Demand is estimated to be strongest in the North Shore submarket because of a larger percentage of total population and expansion in the northern suburbs of Boston.

Figure 12. 12-Month Average Sales Price by Type of Sale in the Boston HMA



Source: Metrostudy, A Hanley Wood Company

Figure 13. Sales by Price Range During the 12 Months Ending December 2018 in the Boston HMA



Note: Sales include single-family homes, townhomes, and condominiums. Source: Metrostudy, A Hanley Wood Company

Table 6. Demand for New Sales Construction Units in the Boston HMA, During the Forecast Period

| Sales Units | |
|---------------------------|--------------|
| Demand | 30,975 Units |
| Under Construction | 4,645 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022. Source: Estimates by the analyst



Sales Market—Boston-Suffolk Submarket

Current Conditions

The sales housing market in the Boston-Suffolk submarket is tight, with an estimated sales vacancy rate of 0.8 percent, which is down significantly from 2.2 percent in 2010 (Table 7). The submarket, with only 58 square miles of land area, is almost completely built out, with very little land available for new, large-scale, single-family residential developments; hence, new development primarily occurs on the footprint of previously developed land. Many new sales units are created via adaptive reuse of existing nonresidential structures, or conversion and remodeling of buildings that previously had rental units. The homeownership rate has been increasing as former rental units are converted to sales units. The homeownership rate in this submarket is currently estimated at 37.0 percent, up from 35.3 percent in 2010 and 33.9 percent in 2000. Home prices can vary greatly depending on the location and the structure type of the home. The median sales price for a home (including new and existing single-family homes, townhomes, and condominium units) in the neighborhoods of Back Bay and Beacon Hill is \$1.3 million, whereas, in the neighborhoods of Dorchester, Jamaica Plain, and Roxbury, the median sales price is \$554,600 (GBAR). In the cities of Chelsea, Revere, and Winthrop, in Suffolk County, the median sales price is less than \$449,300.

Home Sales

Existing home sales (which include the sales of condominiums, townhomes, and single-family homes) in the Boston-Suffolk County submarket totaled 7,600 during 2018, a decline of 530 sales, or 6 percent, from 2017 compared with a decline of 460, or more than 5 percent from 2016 to 2017 (Metrostudy, A Hanley Wood Company). Figure 14 shows home sales by type in the Boston-Suffolk submarket. Existing home sales had fluctuated recently, which was due to a lack of available inventory rather than an underlying weakness in the market. Existing home sales had previously peaked in 2005, with 13,100 sales but then declined for 6 consecutive years after 2005. By 2011, existing home sales totaled only 6,425, an average decline of 1,100, or 11 percent, annually from sales in 2005. In 2012, the number of existing home sales began to increase and, by 2013,

Table 7. Home Sales Quick Facts in the Boston-Suffolk Submarket

| | Boston-Suffolk | Boston HMA |
|----------------------------------|----------------|------------|
| Vacancy Rate | 0.8% | 0.8% |
| Months of Inventory | NA | NA |
| Total Home Sales | 8,400 | 59,650 |
| 1-Year Change | 0.0% | -1.4% |
| New Home Sales | \$1,009,000 | \$772,500 |
| 1-Year Change | -1% | 14% |
| Existing Home Sales | \$779,400 | \$584,600 |
| 1-Year Change | 7% | 5% |
| Mortgage Delinquency Rate | 1.1% | 1.2% |

NA = data not available.

Notes: Vacancy rate is as of the current date, January 1, 2019. Home sales prices are for the 12 months ending December 2018. Months of inventory and mortgage delinquency data are as of December 2018.

Sources: Sales prices—Metrostudy, A Hanley Wood Company; delinquency rate—CoreLogic, Inc.

Figure 14. 12-Month Sales Totals by Type in the Boston-Suffolk Submarket



Source: Metrostudy, A Hanley Wood Company

totaled 8,550, an average increase of 1,075, or 15 percent, annually during the 2-year period. During 2014, the number of existing home sales declined by 750, or nearly 9 percent, to 7,800, partly because of a lack of available inventory. Existing home sales then ticked upwards again in 2015 and, by 2016, had reached the highest level of sales since 2007 with 8,600 sales, an average increase of 390, or 5.0 percent, annually since 2014.

During 2018, new home sales in the Boston-Suffolk submarket totaled 800 sales, up significantly from 270 during 2017 and the highest level recently recorded. The increase in new home sales is the result of demand that had already been strong, but the number of homes being constructed was previously low and has now recently picked up to meet demand, causing a rise in new home sales. In 2006, the number of new home sales totaled 750 before declining during the next 6 years, as the impacts from the Great Recession and the national housing downturn limited demand and sales housing development. By 2012, new home sales had declined to only 170 sales, an average decline of nearly 95 sales, or 21 percent, annually from 2006. New home sales took longer to recover in the Boston-Suffolk submarket than elsewhere in the country because of the high percentage of demand being met by condominiums, particularly those in mid- to high-rise buildings, which take longer to deliver to the market than single-family homes. In addition, because many condominiums are in larger buildings, most units will pre-sell while the development is still under construction. After 2012, the number of new home sales increased during the next 4 years to 550 sales during 2016, an average increase of 90 sales, or more than 31 percent, annually.

Sales Price

During 2018, the average sales price of an existing home in the Boston-Suffolk submarket was \$779,400, an increase of \$52,150, or more than 7 percent, from 2017 (Figure 15). The average sales price of an existing home in the Boston-Suffolk County submarket was \$454,600 in 2005 but, by 2009, the average sales price had reached a low of \$381,900, an average decline of \$18,200, or more than 4 percent, annually. Since 2009, the average sales price of an existing home has increased each year and in 2016, averaged \$685,200, representing an average increase of \$43,350, or nearly 9 percent, annually.

During 2018, the average sales price of a new home in the Boston-Suffolk submarket was more than \$1 million, which was down by \$15,100, or nearly 2 percent. The average sales price is below the peak price from 2016 when the average sales price of a new home in the Boston-Suffolk submarket was slightly less than \$1.6 million. The surge in the average sales price in this submarket during 2016 was the result of sales for the 422-unit Millennium Tower condominiums, where a one-bedroom unit started at \$895,000, two-bedroom units started at \$1.28 million, three-bedroom units started at \$2.5 million, and

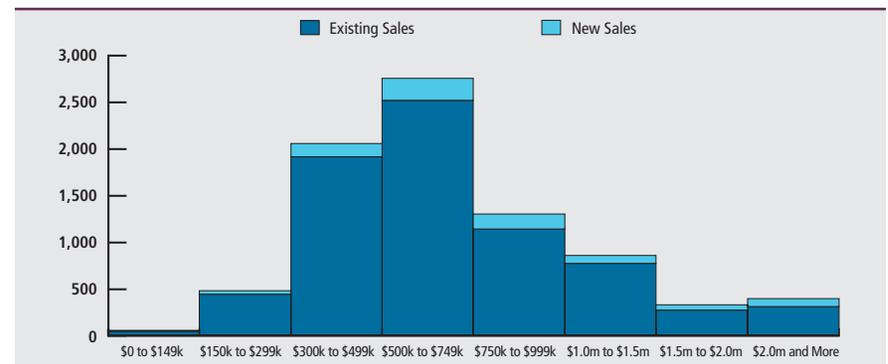
penthouse units were priced at \$6.4 million and more. With a small volume of new home sales in this submarket, the average sales price dramatically increased during 2016, which was up by \$503,200, or 45 percent, from 2015. More than 27 percent of all new home sales during 2018 were priced at more than \$1 million (Figure 16). Although new home sales began to decline after peaking in 2006, the average sales price, which was \$513,000 in 2006, continued to

Figure 15. 12-Month Average Sales Price by Type of Sale in the Boston-Suffolk Submarket



Source: Metrostudy, A Hanley Wood Company

Figure 16. Sales by Price Range During the 12 Months Ending December 2018 in the Boston-Suffolk Submarket



Note: Sales include single-family homes, townhomes, and condominiums.

Source: Metrostudy, A Hanley Wood Company



increase until 2008, when the average sales price was \$717,900, an average increase of \$102,500, or more than 18 percent, annually, as home sales in the less-expensive neighborhoods of the submarket declined first. During 2009, the average sales price of a new home declined by \$131,200, or more than 18 percent, to \$586,600, as the economic downturn limited demand and builders reduced prices of many previously built owner units to liquidate unsold inventory. With an improving economy and increasing population growth contributing to increased demand, new home prices began to increase again in 2010, and by 2014, the average sales price of a new home was up to \$981,800, an average increase of \$79,050, or 11 percent, annually from 2009.

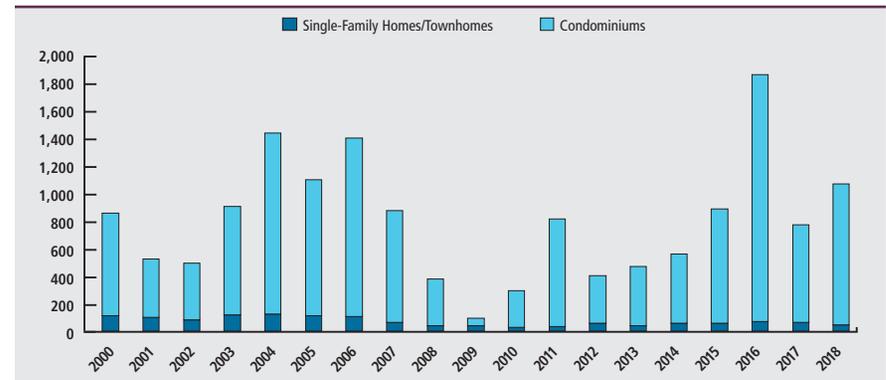
Construction Activity

Single-family home construction is extremely limited in the submarket, with most new sales units consisting of condominiums. During 2018, 1,075 sales units, comprising single-family homes, townhomes, and condominiums, were permitted, up by 300, or nearly 40 percent, from 2017. The peak year for new sales units being permitted was 2016 when 1,850 sales units were permitted. That was nearly 28 percent higher than the previous peak year of 2004 when 1,450 sales units were permitted. The number of units permitted for sale has fluctuated greatly over time. From 2000 through 2003, an average of 690 sales units was permitted annually, but that increased to an average of 1,200 per year from 2004 through 2007. With the start of the housing crisis, the permitting of sales units declined significantly with an average of 250 units permitted annually from 2008 through 2010. In 2011, production began to increase again, and from 2011 through 2015, an average of 620 units was permitted annually. From 2000 through 2009, just under 11 percent of all sales units permitted were for single-family homes, but since 2010, that has dropped further with only 6 percent of sales units permitted in this submarket being single-family homes. Figure 17 shows the number of sales units permitted annually in the Boston-Suffolk submarket.

Recently Completed Developments

Some recent developments in this submarket include the Boulevard on the Greenway, which converted an existing four-story office building and warehouse space into a 36-unit condominium building in 2018. Sales prices start at \$1.6

Figure 17. Average Annual Sales Permitting Activity in the Boston-Suffolk Submarket



Notes: Includes single-family homes, townhomes, and condominiums. 2018 includes data through December 2018. Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

million for a two-bedroom unit. The 67-unit Archer Condominiums, which is a conversion of a building previously owned by Suffolk University, was also completed in 2018. Sales prices start at \$1.3 million for a one-bedroom unit.

Forecast

During the 3-year forecast period, demand is estimated for 3,925 new sales units (Table 8). Demand is likely to be strongest in the first year and decline slightly each subsequent year. The 1,925 units currently under construction will satisfy a portion of this demand.

Table 8. Demand for New Sales Construction Units in the Boston-Suffolk Submarket, During the Forecast Period

| Sales Units | |
|--------------------|-------------|
| Demand | 3,925 Units |
| Under Construction | 1,925 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022. Source: Estimates by the analyst

Sales Market—North Shore Submarket

Current Conditions

The sales housing market in the North Shore submarket currently is tight, as a prolonged period of economic and population growth has resulted in the absorption of previously vacant homes. The sales vacancy rate is estimated at 0.8, down from 1.3 percent in 2010 (Table 9). The price of a home in the submarket varies significantly depending on location and proximity to the city of Boston. The median sales price of a home in Cambridge was more than \$1 million during 2018, but less than 20 miles away, in the city of Billerica, the median sales price was \$415,000.

Home Sales

New home sales during 2018 totaled 1,325, an increase of 330, or more than 33 percent, from 2017 (Figure 18). This is the first year of an increased level of new home sales in the North Shore submarket since 2014 when new home sales totaled 1,425. New home sales declined each year since 2015 by an average of 150 homes, or 12 percent, annually before reaching a low of 990 homes sold during 2017. The increase during 2018 was mostly because the number of multifamily sales units that were completed, compared with previous years, put more inventory on the market. New home sales are currently 50 percent lower than in 2007 when sales peaked at 2,650. Following the peak in 2007, new home sales declined during each of the next 4 years, as economic conditions deteriorated, and totaled only 1,075 sales during 2011, an average drop of 400 sales, or 20 percent, annually from 2007. The housing market began to improve again as the HMA had strong economic growth, which helped increase demand for new housing. New home sales began to increase again in 2012 and reached the most recent high in 2014 of 1,425, an average increase of 120 sales, or 10 percent, annually from 2011.

There were 30,800 existing home sales in the North Shore submarket during 2018, a decline of 990 sales, or more than 3 percent from 2017. Existing home sales remain below the previous high of 40,800, recorded in 2005. After the

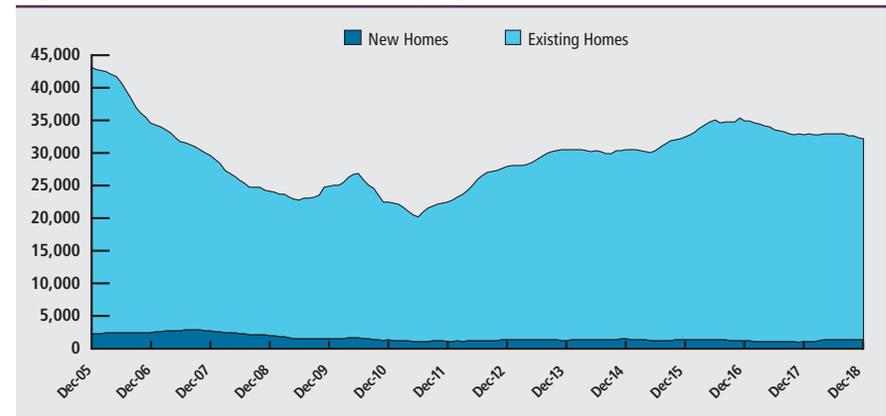
Table 9. Home Sales Quick Facts in the North Shore Submarket

| | North Shore | Boston HMA |
|----------------------------------|-------------|------------|
| Vacancy Rate | 0.8% | 0.8% |
| Months of Inventory | NA | NA |
| Total Home Sales | 32,150 | 59,650 |
| 1-Year Change | -2.0% | -1.4% |
| New Home Sales | \$714,900 | \$772,500 |
| 1-Year Change | 14% | 14% |
| Existing Home Sales | \$571,500 | \$584,600 |
| 1-Year Change | 6% | 5% |
| Mortgage Delinquency Rate | 1.6% | 1.2% |

NA = data not available.

Notes: Vacancy rate is as of the current date, January 1, 2019. Home sales prices are for the 12 months ending December 2018. Months of inventory and mortgage delinquency data are as of December 2018. Sources: Sales prices—Metrostudy, A Hanley Wood Company; delinquency rate—CoreLogic, Inc.

Figure 18. 12-Month Sales Totals by Type in the North Shore Submarket



Source: Metrostudy, A Hanley Wood Company

peak, existing home sales declined for 5 consecutive years and totaled only 21,200 by 2010, an average decline of 3,925 sales, or 12 percent, annually, from 2005. In 2011, the sales market for existing homes began to improve, and existing home sales totaled 33,750 by 2016, an average increase of 2,100 sales, or 8 percent, annually from 2010.

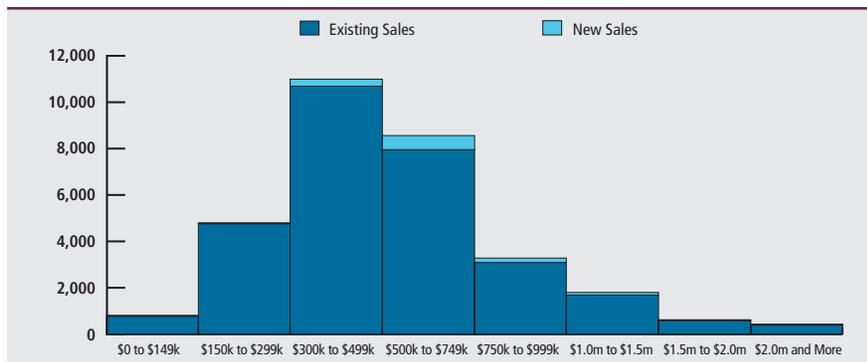


Sales Price

The average sales price of a new home in the North Shore submarket during 2018 was \$714,900, an increase of \$84,800, or 13 percent, from 2017. During 2018, nearly 13 percent of all new homes sold in this submarket were priced above \$1 million (Figure 19). The current average sales price of a new home is nearly 56 percent higher than the previous high of \$458,300 in 2005, prior to the national housing crisis. Following this previous high, new home prices declined by an average of \$18,350, or 4 percent, a year for the next 5 years, to a low of \$366,500 during 2010. With an improving economy and increasing population growth contributing to increased demand, new home prices began to increase again in 2011, and the average sales price of a new home was up to \$608,100 by 2016, an average increase of \$40,300, or 9 percent, annually from 2010. Figure 20 shows the trend for the average sales price for both a new and existing home from 2005 through 2018.

During 2018, the average sales price of an existing home was \$571,900, an increase of \$34,500 or more than 6 percent, from 2017. The average sales price of an existing home in the submarket was \$431,900 from 2005 through 2007. During the next 2 years, the average sales price declined as a result of the impacts from the national housing crisis and by 2009 was \$370,200, an average

Figure 19. Sales by Price Range During the 12 Months Ending December 2018 in the North Shore Submarket



Note: Sales include single-family homes, townhomes, and condominiums.
Source: Metrostudy, A Hanley Wood Company

decline of \$31,200, or 7 percent, annually. The average sales price of an existing home has increased each year since 2010 and by 2016 averaged \$504,600, an average increase of \$19,200, or nearly 5 percent, annually from 2009.

Construction Activity

Despite the increase in the rate of household formation in the submarket, single-family home construction, as measured by the number of homes permitted, is lower than in previous periods. During 2018, 3,375 sales units were permitted in the North Shore submarket, an increase of 875, or 35 percent, from 2017. This large increase is the result of an increased number of multifamily sales units permitted. The number of multifamily sales units permitted during 2018 totaled 1,375, up from 390, during 2017. From 2000 through 2003, an average of 3,575 sales units was permitted, with an average of 3,100, or nearly 87 percent, being single-family homes. From 2003 through 2006, production increased with an average of 4,825 sales units permitted annually; single-family homes averaged 3,300, or 68 percent of all sales units permitted annually in the submarket. Sales unit production began to decline in 2007 and averaged just 2,125 sales units annually through 2011, with single-family homes accounting for nearly 84 percent of all sales units permitted. Construction has trended upward in the

Figure 20. 12-Month Average Sales Price by Type of Sale in the North Shore Submarket



Source: Metrostudy, A Hanley Wood Company

submarket since 2012, with the production of sales units increasing by an average of 290 units, or 13 percent, annually to 3,250 sales units permitted during 2016. From 2012 through 2016, single-family homes accounted for 80 percent of all sales units permitted in this submarket. Figure 21 shows the number of sales units, including single-family homes, townhomes, and condominiums, permitted annually since 2000.

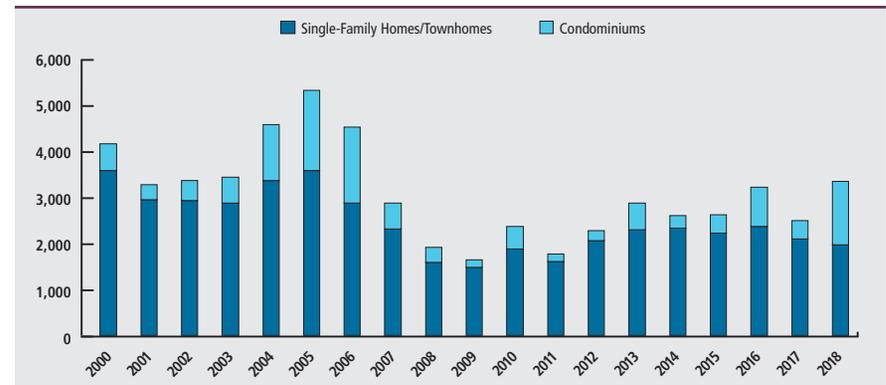
Recently Completed Developments

Some recent developments include Stone Ridge Heights in Middlesex County. This development, which started construction in the fall of 2018, consists of eight single-family homes with the sales price starting at \$1.15 million for a four-bedroom home. Elliot Landing is a 73-unit condominium development in the city of Beverly in Essex County that was completed in 2018. Prices start at \$539,000 for a two-bedroom unit.

Forecast

During the 3-year forecast period, demand is estimated for 16,450 sales units (Table 10). The 1,750 units currently under construction will satisfy part of this demand. Demand for multifamily sales units will be strongest on the inside of the Interstate 95 corridor, whereas on the outside, there will be a higher concentration of single-family homes built because there is more available land for development.

Figure 21. Average Annual Sales Permitting Activity in the North Shore Submarket



Notes: Includes single-family homes, townhomes, and condominiums. 2018 includes data through December 2018. Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

Table 10. Demand for New Sales Construction Units in the North Shore Submarket, During the Forecast Period

| Sales Units | |
|--------------------|--------------|
| Demand | 16,450 Units |
| Under Construction | 1,750 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022. Source: Estimates by the analyst

Sales Market—South Shore Submarket

Current Conditions

The sales housing market in the South Shore submarket is currently tight, with an estimated 0.9-percent vacancy rate, down from 1.3 percent in 2010. The submarket has the highest percentage of owner-occupied, single-family homes in the Boston HMA, at nearly 83 percent (2017 ACS, 1-year data). This submarket is the least urbanized of the three and has more land available to build single-family homes whereas the other submarkets have higher population density and thus higher proportions of condominium units. The number of multifamily units intended for owner occupancy has increased in the submarket recently, however, because of rising costs that make denser development more cost effective. From 2000 through 2013, approximately 90 percent of all owner units permitted in the submarket were for single-family homes, compared with 85 percent since 2014. The homeownership rate in the submarket is estimated at 72.1 percent, up from 72.0 percent in 2010 (Table 11).

Home Sales

New home sales in the South Shore submarket totaled 950 during 2018, an increase of 170 sales, or 22 percent, from 2017 when there were 780 new home sales (Figure 22). The recent increase in new home sales is due to the delivery of more condominiums and an increase in single-family construction in 2016 in the submarket, which has helped to increase sales as these new homes have met greater demand. Although new home sales increased recently, they are well below the levels seen during the mid-2000s. New home sales peaked at 1,525 in 2005 but decreased during each of the next 6 years, with an average decline of 180 homes sold, or nearly 18 percent, annually to reach a low of 480 during 2011. The new home housing market began to improve again in 2012, and sales increased by an average of 170 homes sold, or more than 27 percent, annually until reaching 970 homes sold by 2014. New home sales began to decline again in 2015 and 2016 by an average of 180 homes, or 21 percent, annually, reaching

Table 11. Home Sales Quick Facts in the South Shore Submarket

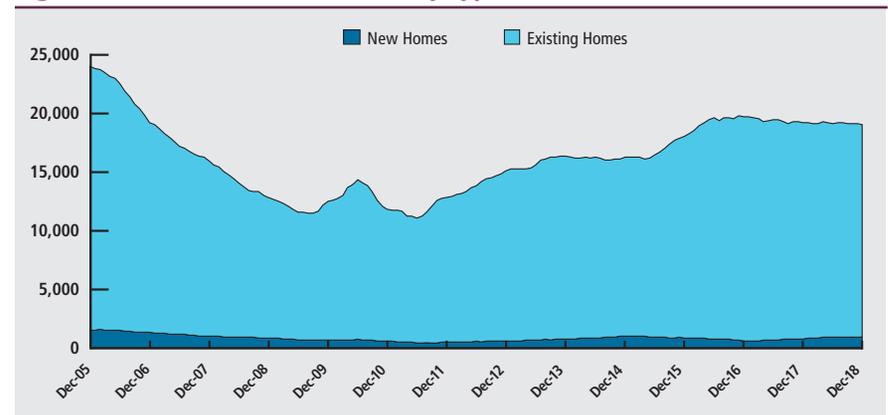
| | North Shore | Boston HMA |
|-------------------------------|-------------|------------|
| Home Sales Quick Facts | | |
| Vacancy Rate | 0.9% | 0.8% |
| Months of Inventory | NA | NA |
| Total Home Sales | 19,100 | 59,650 |
| 1-Year Change | -1.0% | -1.4% |
| New Home Sales | \$651,700 | \$772,500 |
| 1-Year Change | 6% | 14% |
| Existing Home Sales | \$524,700 | \$584,600 |
| 1-Year Change | 3% | 5% |
| Mortgage Delinquency Rate | 1.0% | 1.2% |

NA = data not available.

Notes: Vacancy rate is as of the current date, January 1, 2019. Home sales prices are for the 12 months ending December 2018. Months of inventory and mortgage delinquency data are as of December 2018.

Sources: Sales prices—Metrostudy, A Hanley Wood Company; delinquency rate—CoreLogic, Inc.

Figure 22. 12-Month Sales Totals by Type in the South Shore Submarket



Source: Metrostudy, A Hanley Wood Company

610 homes sold in 2016. The decline in new home sales in 2015 was partly the result of a harsh winter during 2015, delaying construction of homes and limiting deliveries to the market. Another factor limiting sales during 2015 and 2016 was the increase in condominium units being built during these years, which take longer to deliver to market.

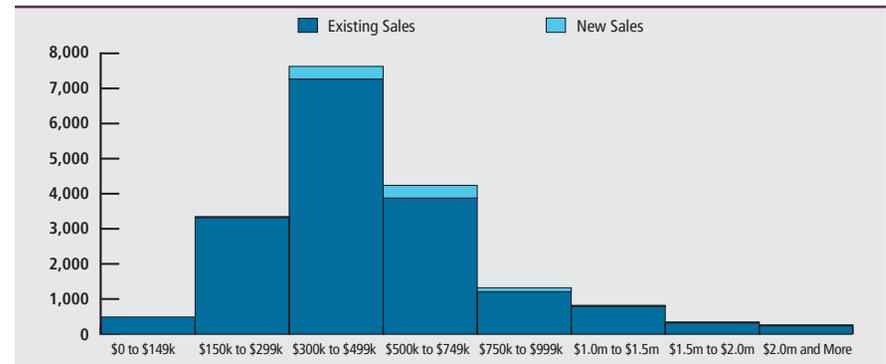
The sales of existing homes (which include condominiums, townhomes, and single-family homes) in the South Shore submarket totaled 18,150 during 2018, a decline of 370 homes, or 2 percent, from 2017. This was the second consecutive year of declining sales of existing homes in the submarket, as the inventory for sale limits sales growth. During 2017, existing home sales declined by 680 sales or nearly 4 percent. Existing home sales are below the previous high of 22,600 recorded in 2005. After peaking in 2005, existing home sales declined for 5 consecutive years to a low of 11,300 sales during 2010, an average decline of more than 2,250 sales, or 13 percent, annually. In 2011, the housing market began to recover and by 2016, the number of sales had risen to the most recent high of 19,200, an average increase of 1,325 sales, or more than 9 percent, annually from levels recorded during 2010.

Sales Price

During 2018, the average sales price of a new home in the South Shore submarket was \$651,700, an increase of \$38,900, or more than 6 percent, annually (Figure 24). This is a turnaround from 2017 when the average sales price of a new home declined by \$5,625, or less than 1 percent to \$612,900. The drop in price was the result of the location of the sales. In most years, a small majority of the new home sales occur in Norfolk County, which has a slightly higher average price, but, during 2017, the majority of the new home sales occurred in Plymouth County, which has slightly lower home prices and caused the average sales price in this submarket to decline. This submarket had the lowest percentage of new home sales over \$1 million, with just under 9 percent of all new home sales exceeding this price (Figure 23). When new home sales began to decline after peaking in 2005, the average sales price, which was \$487,200 in 2005, also began to decrease and, by 2009, had declined to \$459,900, an average decline of \$6,825, or slightly more than 1 percent, annually. With an improving economy and increasing population growth contributing to increased demand, new home prices began to increase again in 2010, and, by 2016, the average sales price of a new home was up to \$618,500, an average increase of \$22,650, or more than 4 percent, annually from 2009.

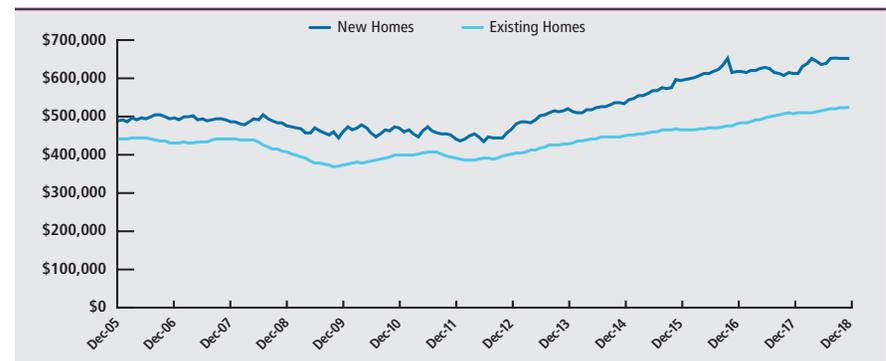
During 2018, the average sales price of an existing home was \$524,700, an increase of \$17,250, or more than 3 percent. In 2005, the average sales price

Figure 23. Sales by Price Range During the 12 Months Ending December 2018 in the South Shore Submarket



Note: Sales include single-family homes, townhomes, and condominiums.
Source: Metrostudy, A Hanley Wood Company

Figure 24. 12-Month Average Sales Price by Type of Sale in the South Shore Submarket



Source: Metrostudy, A Hanley Wood Company

of an existing home in the submarket was \$440,200, but by 2009, the average sales price had dropped to \$372,000, an average decline of \$17,050, or more than 4 percent, annually. During 2010, home prices started to rise again, and by 2016, the average sales price of an existing home was \$449,800, an average increase of \$15,400, or nearly 4 percent, annually from 2009.

Construction Activity

Construction activity, as measured by the number of sales units permitted, totaled 2,125 during 2018, a decline of 130, or 6 percent, from 2017. The decline in sales units during the past year was the result of a decline in the number of multifamily sales units permitted, while the number of single-family homes permitted remained essentially unchanged and accounted for 85 percent of all sales units permitted. Construction activity is below earlier periods. From 2000 through 2005, an average of 2,875 sales units was permitted annually, with single-family homes accounting for 90 percent of all sales units permitted. During 2006, construction activity began to slow in this submarket, and an average of just 2,200 sales units was permitted annually from 2006 through 2007, with single-family homes accounting for 85 percent of all sales units permitted during those years. Production further decreased during 2008 with the onset of the economic downturn, and from 2008 through 2012, an average of just 1,250 sales units was permitted annually, with 90 percent of those being single-family homes. Production began to pick up during 2013, and through 2016, an average of 1,950 sales units was permitted annually. During these years single-family homes accounted for 87 percent of all sales units permitted. Figure 25 shows annual sales permits in the South Shore submarket.

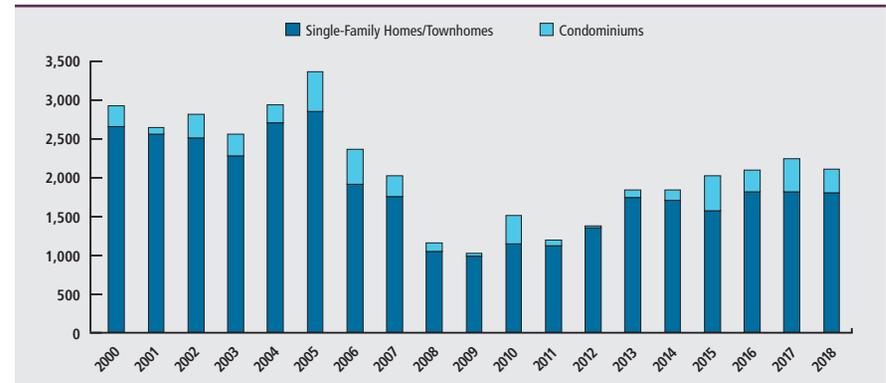
Recently Completed Developments

Some recent developments include the Estates at Lebaron Hills in Plymouth County, a 77 single-family home development that began construction in 2018 with home prices starting at \$434,000 for a three-bedroom 1,600-square-foot home. In the city of Foxborough in Norfolk County, the 36-unit condominium development of Nadia Estates is in the process of closing out its sales. Home prices here start at \$455,000 for a two-bedroom unit.

Forecast

During the 3-year forecast period, demand is estimated for 10,600 sales units (Table 12). The 970 homes currently under construction will satisfy a portion of this demand. Multifamily sales developments are expected to be concentrated closer to the city of Boston and mass transportation, whereas most single-family development is expected to occur farther away from the city of Boston.

Figure 25. Average Annual Sales Permitting Activity in the South Shore Submarket



Notes: Includes single-family homes, townhomes, and condominiums. 2018 includes data through December 2018. Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

Table 12. Demand for New Sales Construction Units in the South Shore Submarket, During the Forecast Period

| Sales Units | |
|--------------------|--------------|
| Demand | 10,600 Units |
| Under Construction | 970 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022. Source: Estimates by the analyst

Rental Market Conditions

Market Conditions: Tight

Boston is the third most expensive rental market in the nation (Zumper).

Current Conditions and Recent Trends

The overall rental market is slightly tight with an estimated 3.9-percent vacancy rate, down from 5.8 percent in 2010 when conditions were balanced. According to the 2017 ACS, 13 percent of all renter households live in single-family homes, unchanged from 2010 (Table 13). Additionally, 36 percent of all renter households in the HMA live in buildings with 2 to 4 units. In the Boston HMA, 47.7 percent of households spent 30 percent or more of income on housing, which is more than the national average of 45.9 percent (Table 14). The apartment market is also slightly tight, with a 3.3-percent vacancy rate during the fourth quarter of 2018, down from 3.5 percent during the fourth quarter of 2017 and 4.6 percent during the fourth quarter of 2016 (RealPage, Inc., with adjustments by the analyst). The 4.6-percent vacancy rate during 2016 was the highest vacancy rate in the HMA since reaching 6.8 percent in 2009 during the last economic downturn. The average rent for an apartment in the HMA is currently \$2,344, an increase of \$108, or 5 percent, from 2017. Figure 26 shows apartment rents and vacancy rates since 2008.

Rental Construction Activity

During 2018, 14,650 rental units were permitted, up by 4,000 units, or nearly 38 percent, from 2017. From 2015 through 2017, an average of 11,200 rental units was permitted annually, up from the average of 8,775 rental units permitted annually from 2012 through 2014. This level of rental activity in the HMA is above previous peak levels of activity as developers try to accommodate strong

Table 13. Rental Market Quick Facts in the Boston HMA

| | 2010 | Current |
|--|------|---------|
| Rental and Apartment Market Quick Facts | | |
| Rental Vacancy Rate | 5.8% | 3.9% |
| Occupied Rental Units by Structure | | |
| Single-Family Homes Attached & Detached | 13% | 13% |
| Multifamily (2–4 units) | 39% | 36% |
| Multifamily (5+ units) | 48% | 50% |
| Other (including Mobile Homes) | 0% | 0% |

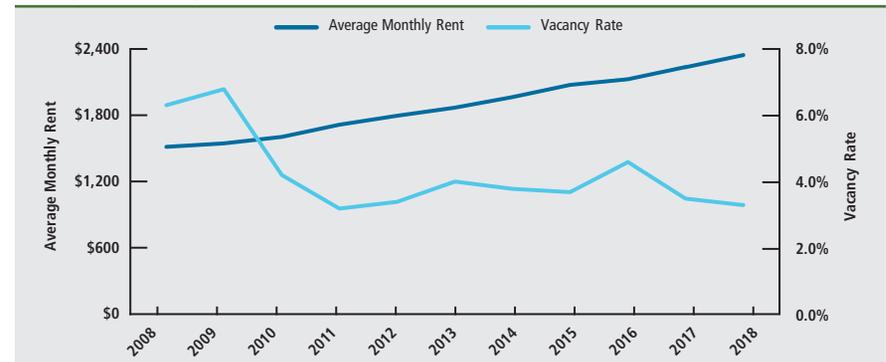
Notes: The current date is January 1, 2019. Current data for “rental units by structure” is 2017 American Community Survey, 1-year data.
Sources: American Community Survey, 1-year data

Table 14. Percent of Income Renter Households Spent on Housing in 2017

| | Boston HMA (%) | United States (%) |
|--------------------------------|----------------|-------------------|
| Percent of Income Spent | | |
| No Cash Rent | 2.6 | 4.9 |
| Less Than 20 Percent | 24.3 | 24.2 |
| 20 to 29 percent | 24.2 | 22.7 |
| 30 Percent or More | 47.7 | 45.9 |
| Zero or Negative Income | 2.2 | 2.3 |

Source: 2017 American Community Survey, 1-year data

Figure 26. Apartment Rents and Vacancy Rates in the Boston HMA

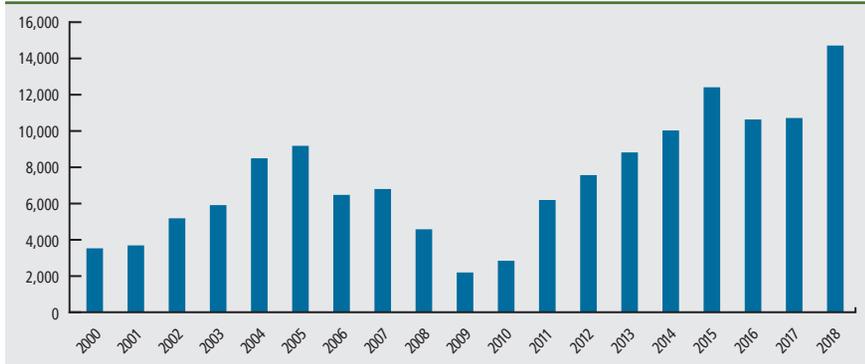


Source: RealPage, Inc.



population growth in the HMA. The previous peak levels of production in the HMA were from 2004 through 2006 when an average of 8,025 rental units was permitted annually in the HMA. Figure 27 shows the average annual rental permitting activity in the Boston HMA.

Figure 27. Average Annual Rental Permitting Activity in the Boston HMA



Notes: Includes apartments and units designed for rental occupancy. 2018 includes data through December 2018. Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

Forecast

During the 3-year forecast period, demand is estimated for 32,225 new rental units; the 20,600 units currently under construction will satisfy a portion of that demand (Table 15). Significant rental development is likely to occur near existing mass-transportation corridors during the next 3 years.

Table 15. Demand for New Rental Construction Units in the Boston HMA, During the Forecast Period

| Sales Units | |
|---------------------------|--------------|
| Demand | 32,225 Units |
| Under Construction | 20,600 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022.
Source: Estimates by the analyst

Rental Market—Boston-Suffolk Submarket

Current Conditions and Recent Trends

The rental housing market in the Boston-Suffolk County submarket is currently slightly tight with an estimated 3.8-percent vacancy rate, down from 5.3 percent in April 2010. Low levels of apartment construction from 2008 through 2010 and increasing rates of population growth in the submarket since 2010 have contributed to a tightening of the market. Only 8 percent of all renter households in the submarket live in single-family homes, whereas 40 percent of all renter households live in buildings with two, three, or four units and 52 percent live in buildings with five or more units (Table 16).

Apartment Market Conditions

The apartment market in the Boston-Suffolk submarket is also slightly tight, with a 3.6-percent vacancy rate during the fourth quarter of 2018, down from 4.4 percent a year earlier (RealPage, Inc., with adjustments by the analyst) (Figure 28). During the fourth quarter of 2008, the apartment market was also slightly tight, with a 4.9-percent vacancy rate but increased quickly to 7.7 percent during the fourth quarter of 2009 during the national recession. Conditions improved quickly in 2010 as the economy began to expand, and the apartment vacancy rate declined to 3.5 percent during the fourth quarter of 2010. The market continued to tighten through 2012 when the vacancy rate was 2.6 percent. With increased construction, the vacancy rate rose slightly to 3.0 percent by 2014. An increase in apartment completions continued through 2016 as the vacancy rate reached 5.7 percent during the fourth quarter of 2016, but has been trending down since then due to greater population and job growth.

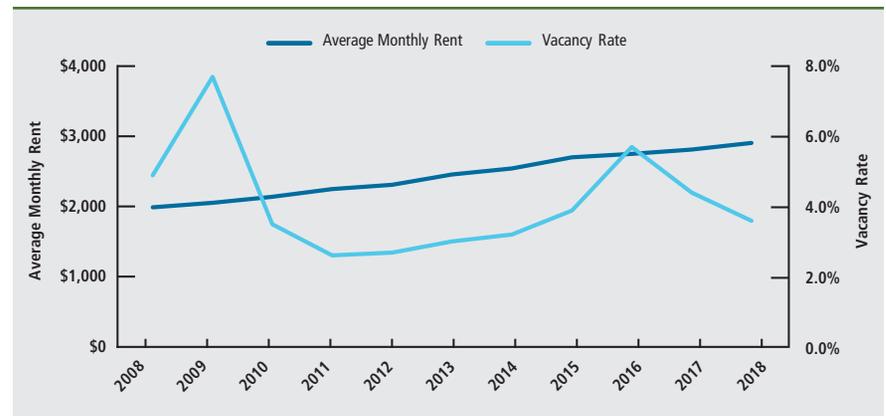
Table 16. Rental Market Quick Facts in the Boston-Suffolk Submarket

| Rental and Apartment Market Quick Facts | 2010 | Current |
|--|---------------------|---------|
| | Rental Vacancy Rate | 5.3% |
| Occupied Rental Units by Structure | | |
| Single-Family Homes, Attached & Detached | 8% | 8% |
| Multifamily (2–4 Units) | 40% | 40% |
| Multifamily (5+ Units) | 52% | 52% |
| Other (Including Mobile Homes) | 0% | 0% |

Notes: The current date is January 1, 2019. Current data for “rental units by structure” is 2017 American Community Survey, 1-year data.

Sources: American Community Survey, 1-year data

Figure 28. Apartment Rents and Vacancy Rates in the Boston-Suffolk Submarket



Source: RealPage, Inc.

Rents

During the fourth quarter of 2018, the average rent for an apartment in the submarket was \$2,902, an increase of \$91, or 3 percent from the fourth quarter of 2017. In 2008, the average rent for an apartment in this submarket was

\$1,989 and increased by an average of \$87, or 4 percent, annually to \$2,249 in 2011. During the next 2 years, rent growth slowed slightly as the vacancy rate started to slowly increase, and by 2013, the average rent was \$2,373. Beginning in 2014, the average rent began to increase more quickly again, partly the result of the increased delivery of newer higher priced units, and by 2017, the average rent for an apartment was \$2,811, an average increase of \$110, or 4 percent, annually.

Rental Construction Activity

During 2018, rental construction activity, as measured by the number of rental units permitted, totaled 4,675, a decline of 1,150 units, or 20 percent from 2017. Even with the sharp decline in permitting during the past year, 2018 was the second highest year for rental permitting in this submarket since 2000. From 2011 through 2016, an average of 3,625 units was permitted annually. In comparison, from 2000 through 2008, an average of 1,450 rental units was permitted annually, which dropped to an average of 440 units from 2009 through 2010. The increase in rental production with the start of the most recent economic expansion is fairly significant. From 2000 through 2010, 13,950 rental units were permitted in this submarket but from 2011 through 2018, 32,250 rental units have been permitted. Figure 29 shows the average annual rental permitting activity in the Boston-Suffolk submarket.

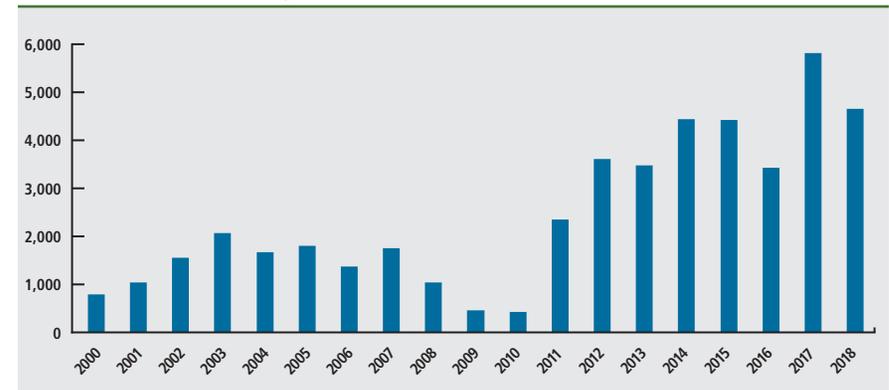
Recent Developments

Some recent completions include the 345 Harrison in the South End neighborhood of Boston, a 585-unit building that was completed in 2018 with rents starting at \$2,780 for a 395-square-foot efficiency apartment. The 503-unit Avalon North Station apartment complex, a 38-story high-rise building adjacent to the North Station transportation hub and TD Gardens, was completed in 2018. Efficiency, one-, and two-bedroom units start at \$2,596, \$2,860, and \$4,085 a month, respectively.

Forecast

During the 3-year forecast period, demand is estimated for 12,100 units (Table 17). The 7,600 units under construction will satisfy a portion of this demand. Demand is expected to decline during each subsequent year of the forecast period.

Figure 29. Average Annual Rental Permitting Activity in the Boston-Suffolk Submarket



Notes: Includes apartments and units designed for rental occupancy. 2018 includes data through December 2018.

Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

Table 17. Demand for New Rental Construction Units in the Boston-Suffolk Submarket, During the Forecast Period

| Rental Units | |
|---------------------------|---------------------|
| Demand | 12,100 Units |
| Under Construction | 7,600 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022.

Source: Estimates by the analyst

Rental Market—North Shore Submarket

Current Conditions and Recent Trends

The rental housing market in the North Shore submarket is currently slightly tight, with an estimated 3.9-percent vacancy rate, down from 5.9 percent during April 2010. A substantial portion of the rental market in the submarket consists of rental units in buildings with two, three, or four units. Those types of units are more common in the cities that are closest to the city of Boston because they are the older areas of the submarket with much denser housing and were built before the automobile was widely owned. More than 36 percent of all renter households live in that type of building, whereas about 14 percent live in single-family homes and 49 percent live in buildings with five or more units (Table 18).

Apartment Market Conditions

The apartment market in the North Shore submarket is currently tight with a 2.9-percent vacancy rate during the fourth quarter of 2018, up from 2.7 percent 1 year earlier (RealPage, Inc., with adjustments by the analyst) (Figure 30). During 2008, apartment market conditions were slightly soft with a 6.2-percent vacancy rate, which increased to 6.4 percent during 2009. With the start of the economic recovery, the apartment market began to tighten, and the vacancy rate reached 3.3 percent during 2011. With developers increasing production, the vacancy rate ticked up and by 2013 was up to 4.6 percent. Production slowed slightly during 2014, enabling the vacancy rate to decline once again and by 2015, it was back down to 3.7 percent. During 2016, a surge in apartment deliveries temporarily pushed up the vacancy rate to 4.2 percent but as units were absorbed, the vacancy rate in this submarket dropped to 2.7 percent during 2017.

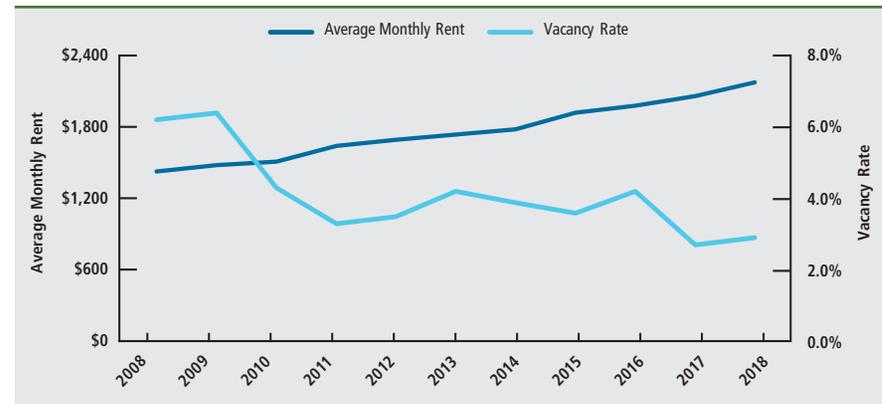
Table 18. Rental Market Quick Facts in the North Shore Submarket

| Rental and Apartment Market Quick Facts | 2010 | Current |
|--|---------------------|---------|
| | Rental Vacancy Rate | 5.9% |
| Occupied Rental Units by Structure | | |
| Single-Family Homes, Attached & Detached | 14% | 14% |
| Multifamily (2–4 Units) | 40% | 36% |
| Multifamily (5+ Units) | 46% | 49% |
| Other (Including Mobile Homes) | 0% | 1% |

Notes: The current date is January 1, 2019. Current data for “rental units by structure” is 2017 American Community Survey, 1-year data.

Sources: American Community Survey, 1-year data

Figure 30. Apartment Rents and Vacancy Rates in the North Shore Submarket



Source: RealPage, Inc.

Rents

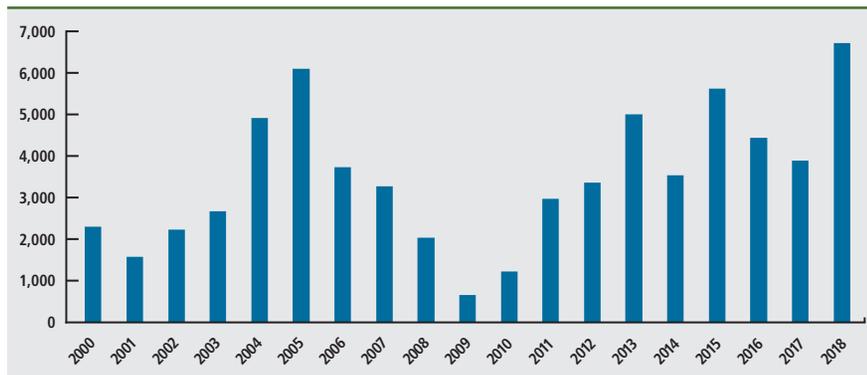
The average rent for an apartment in the North Shore submarket during the fourth quarter of 2018 was \$2,175, an increase of \$117 or 6 percent, from the fourth quarter of 2017. The rent in this submarket can vary greatly depending on

location. The Realpage, Inc.-defined Cambridge/Somerville market area, which is the closest to downtown Boston, has an average rent of \$3,002, whereas the north Essex market area, which is one of the farthest from downtown Boston, has an average rent of \$1,674. During 2008, the average rent for an apartment in the North Shore submarket was \$1,431, but that increased by an average of 4 percent, or \$70 annually to \$2,058 during 2017, as strong population and employment growth kept demand elevated.

Rental Construction Activity

During 2018, rental construction activity, as measured by the number of rental units permitted, totaled 6,700 units in the North Shore submarket, an increase of 2,800 units, or nearly 72 percent, from 2017 (Figure 31). The 6,700 units permitted in this submarket comprised the largest number for any year since 2000. From 2011 through 2016, an average of 4,150 rental units was permitted annually. From 2000 through 2003, an average of 2,200 rental units was permitted annually, and from 2004 through 2007, production more than doubled with an average 4,500 rental units permitted annually. With the national housing crisis and recession, production declined to an average of 1,300 rental units permitted annually from 2008 through 2010.

Figure 31. Average Annual Rental Permitting Activity in the North Shore Submarket



Notes: Includes apartments and units designed for rental occupancy. 2018 includes data through December 2018.

Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

Recent Developments

Some recent developments include the Proto Kendall Square in the city of Cambridge, an 18-story building with 280 apartment units that were completed in 2018. Rents range from \$2,450 for a 347-square-foot efficiency unit to \$4,190 for a two-bedroom unit. The 169-unit Pacific Mills Loft in the city of Lowell was converted from an old factory into new apartment units in late 2017. Rents range from \$1,400 for a one-bedroom unit up to \$2,950 for a three-bedroom unit.

Forecast

During the next 3 years, demand is estimated for 14,500 new rental units (Table 19). The 9,100 units currently under construction will satisfy a portion of that demand. Demand is likely to be greatest during the first year and slowly decline in each subsequent year.

Table 19. Demand for New Rental Construction Units in the North Shore Submarket, During the Forecast Period

| Rental Units | |
|---------------------------|---------------------|
| Demand | 14,500 Units |
| Under Construction | 9,100 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022.

Source: Estimates by the analyst

Rental Market—South Shore Submarket

Current Conditions and Recent Trends

The overall rental housing market in the South Shore submarket is currently slightly tight, with an estimated 3.9-percent vacancy rate, which is down from 6.2 percent in April 2010. The submarket has the lowest percentage of renter households of any submarket in the HMA, at 27.9 percent. This submarket is the least urbanized of the submarkets in the HMA, with land costs being lower, enabling more homeownership and less need for dense rental housing. This submarket also has the highest level of single-family homes occupied by renters of any submarket in the HMA, at 20 percent, and the lowest percentage of renter households in buildings with two, three, or four units, at 30 percent (Table 20).

Apartment Market Conditions

The apartment market in the South Shore submarket is currently slightly tight, with a 4.0-percent vacancy rate during the fourth quarter of 2018, down from 4.3 percent a year earlier (RealPage, Inc., with adjustments by the analyst). During 2008, apartment market conditions were soft with a 7.8-percent vacancy rate, and the rate started to decline before reaching a low of 3.7 percent during 2012. By 2013, the rate increased to 4.7 percent. During 2014 and 2015, as population growth increased in this submarket, the vacancy rate began to decline once more to reach 3.9 percent in 2015. The vacancy rate increased again in this submarket in 2016, to 4.2 percent, because of an increase in apartment completions.

Rents

The average rent for an apartment in this submarket was \$2,018 during the fourth quarter of 2018, up by \$90, or nearly 5 percent from a year earlier (Figure 32). In 2008, the average rent for an apartment in this submarket was \$1,324 and by 2017, was up to \$1,928, an average increase of \$70, or 5

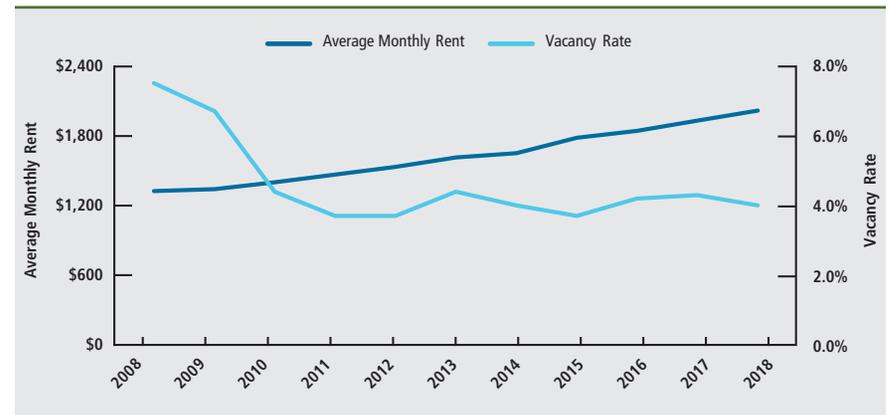
Table 20. Rental Market Quick Facts in the South Shore Submarket

| Rental and Apartment Market Quick Facts | 2010 | Current |
|--|---------------------|---------|
| | Rental Vacancy Rate | 6.2% |
| Occupied Rental Units by Structure | | |
| Single-Family Homes, Attached & Detached | 17% | 20% |
| Multifamily (2–4 Units) | 34% | 30% |
| Multifamily (5+ Units) | 49% | 49% |
| Other (Including Mobile Homes) | 0% | 1% |

Notes: The current date is January 1, 2019. Current data for “rental units by structure” is 2017 American Community Survey, 1-year data.

Sources: American Community Survey, 1-year data

Figure 32. Apartment Rents and Vacancy Rates in the South Shore Submarket



Source: RealPage, Inc.

percent, annually since 2008. There is much less variation in the average rent in this submarket, depending on location, compared with the North Shore submarket. The Quincy market area, which is located along several rail lines of the Boston subway system, has the highest average rent at \$2,063, whereas the Plymouth County market area has an average rent of \$1,899.



Rental Construction Activity

Rental construction activity, as measured by the number of rental units permitted, totaled 3,300 during 2018, a sharp increase from the 950 units permitted during 2017 (Figure 33). Construction during 2017 was likely just a 1-year dip in production as an average of 2,350 rental units that was permitted annually from 2014 through 2016 needed to be absorbed. Prior to 2014, construction levels were significantly lower. From 2000 through 2010, an average of 1,275 rental units was permitted annually, which dropped to an average of 580 from 2011 through 2013.

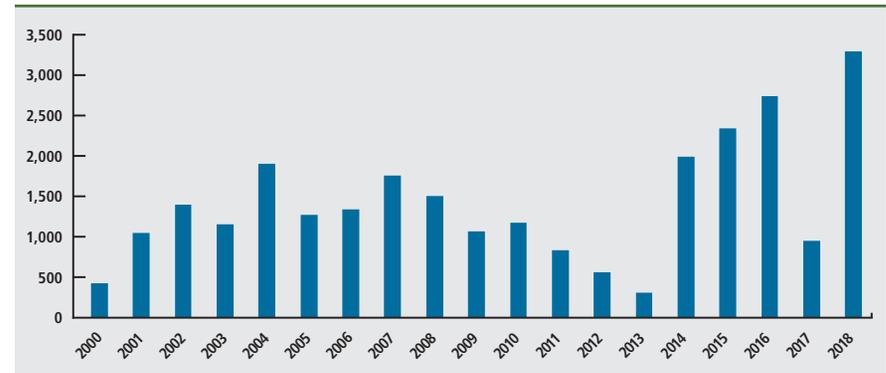
Recent Developments

Some recent developments include the 243-unit Gradient that was completed during 2018 in the city of Weymouth. Rents start at \$1,665 for a 524-square-foot efficiency unit. The 395-unit Avalon Quincy was completed in 2018 and has rents that range from \$1,840 to \$2,840 a month for one- and two-bedroom units, respectively.

Forecast

During the 3-year forecast period, demand is estimated for 5,625 new rental units (Table 21). The 3,900 units currently under construction will satisfy a significant portion of the demand. Demand is likely to remain steady during each year of the forecast period. Building activity is expected to be concentrated in Norfolk County, close to downtown Boston.

Figure 33. Average Annual Rental Permitting Activity in the South Shore Submarket



Notes: Includes apartments and units designed for rental occupancy. 2018 includes data through December 2018.
Sources: U.S. Census Bureau, Building Permits Survey; 2000 through 2017—final data and estimates by the analyst; 2018—preliminary data and estimates by the analyst

Table 21. Demand for New Rental Construction Units in the South Shore Submarket, During the Forecast Period

| Rental Units | |
|--------------------|-------------|
| Demand | 5,625 Units |
| Under Construction | 3,900 Units |

Note: The forecast period is January 1, 2019, to January 1, 2022.
Source: Estimates by the analyst

Terminology Definitions and Notes

A. Definitions

| | |
|---------------------------|---|
| Demand | The demand estimates in the analysis are not a forecast of building activity. They are the estimates of the total housing production needed to achieve a balanced market at the end of the 3-year forecast period given conditions on the as-of date of the analysis, growth, losses, and excess vacancies. The estimates do not account for units currently under construction or units in the development pipeline. |
| Other Vacant Units | In this analysis conducted by the U.S. Department of Housing and Urban Development (HUD), other vacant units include all vacant units that are not available for sale or for rent. The term therefore includes units rented or sold but not occupied; held for seasonal, recreational, or occasional use; used by migrant workers; and the category specified as "other" vacant by the U.S. Census Bureau. |
| Building Permits | Building permits do not necessarily reflect all residential building activity that occurs in an HMA. Some units are constructed or created without a building permit or are issued a different type of building permit. For example, some units classified as commercial structures are not reflected in the residential building permits. As a result, the analyst, through diligent fieldwork, makes an estimate of this additional construction activity. Some of these estimates are included in the discussions of single-family and multifamily building permits. |
| Distressed Sales | Short sales and real estate owned (REO) sales. |
| Net Natural Change | Resident births minus resident deaths. |



| | |
|---|--|
| Seriously Delinquent Mortgages | Mortgages 90+ days delinquent or in foreclosure. |
| Home Sales/ Home Sales Prices | Includes single-family home, townhome, and condominium sales. |
| Rental Market/ Rental Vacancy Rate | Includes apartments and other rental units such as single-family homes, multifamily homes, and mobile homes. |
| Forecast Period | 1/1/2019–1/1/2022—Estimates by the analyst |
| Cost Burdened | Spending more than 30 percent of household income on housing costs. |
| New England Region | Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. |

B. Notes on Geography

| | |
|----|---|
| 1. | The New England city and town area (NECTA) definition noted in this report is based upon the delineations established by the Office of Management and Budget (OMB) in the OMB Bulletin dated February 28, 2013. The Boston-Cambridge-Nashua MA-NH NECTA includes portions of New Hampshire and is somewhat larger than the Boston HMA. This analysis uses the Boston NECTA in the discussion of nonfarm payroll jobs because employment data for the Boston NECTA are readily available from the U.S. Bureau of Labor Statistics. |
|----|---|



| | |
|----|--|
| 2. | Urbanized areas are defined using the U.S. Census Bureau’s 2010 Census Urban and Rural Classification and the Urban Area Criteria. |
| 3. | The Census Tracts referenced in this report are from the 2010 Census. |

C. Additional Notes

| | |
|-------------|---|
| 1. | The National Association of Home Builders (NAHB) Housing Opportunity Index represents the share of homes sold in the HMA that would have been affordable to a family earning the local median income, based on standard mortgage underwriting criteria. |
| 2. | This analysis has been prepared for the assistance and guidance of HUD in its operations. The factual information, findings, and conclusions may also be useful to builders, mortgagees, and others concerned with local housing market conditions and trends. The analysis does not purport to make determinations regarding the acceptability of any mortgage insurance proposals that may be under consideration by the Department. |
| 3. | The factual framework for this analysis follows the guidelines and methods developed by the Economic and Market Analysis Division within HUD. The analysis and findings are as thorough and current as possible based on information available on the as-of date from local and national sources. As such, findings or conclusions may be modified by subsequent developments. HUD expresses its appreciation to those industry sources and state and local government officials who provided data and information on local economic and housing market conditions. |
| Cover Photo | iStock/Sean Pavone 2017 |

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