

COMPREHENSIVE HOUSING MARKET ANALYSIS

Worcester, Massachusetts- Connecticut

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

As of May 1, 2023



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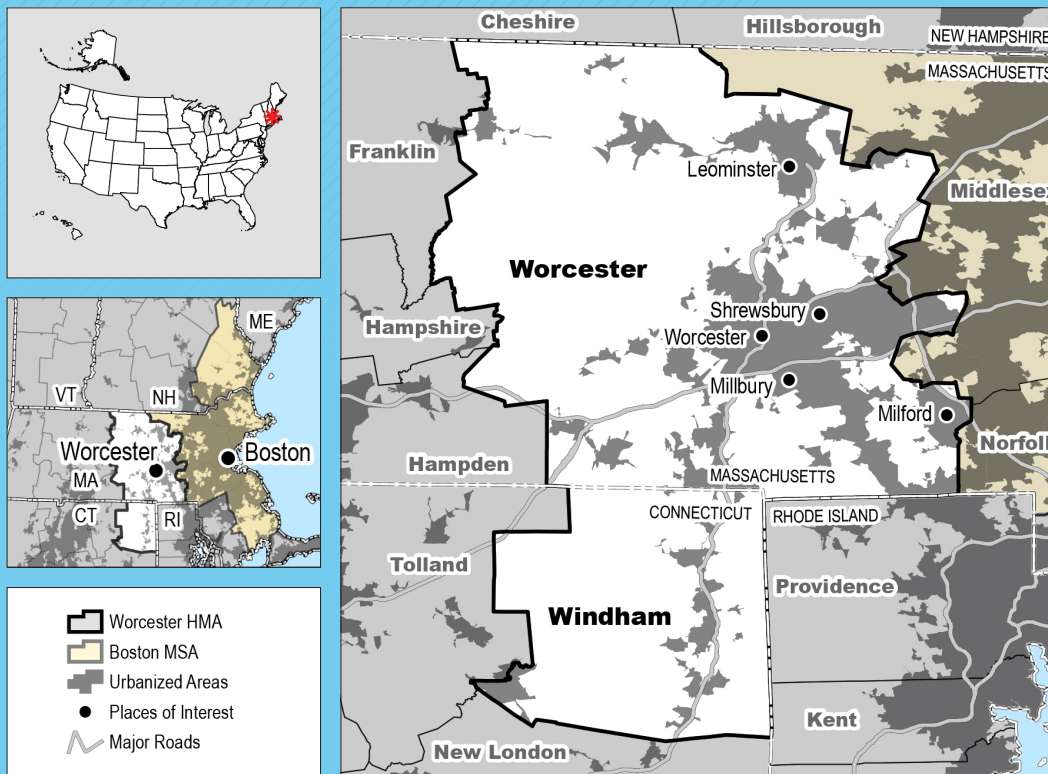
Executive Summary

Housing Market Area Description

The Worcester, MA-CT Housing Market Area (hereafter, the Worcester HMA) is coterminous with the Worcester, MA-CT Metropolitan Statistical Area (hereafter, Worcester MSA) and consists of Worcester County in central Massachusetts and Windham County in northeast Connecticut. The HMA is located approximately 40 miles west of the city of Boston. The HMA is a hub for education and health services, with nearly 37,400 students enrolled at eight major colleges and universities, and it is home to the University of Massachusetts (UMass) Chan Medical School.

The current population of the HMA is estimated at 984,800.

The Worcester MSA is the third most populous metropolitan area in Massachusetts, and the city of Worcester is the second most populous city in the state after Boston. The city was formerly a hub for manufacturing during the early 20th century. At the end of World War I in 1918, Worcester was declared the “most efficient war production zone” in the United States, with more than 30 manufacturing firms providing a variety of military products (Worcester Historical Museum). The expansion of jobs in the manufacturing sector encouraged strong international net in-migration, a trend that has persisted despite the decline of sector payrolls during the 1960s.



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: Nonfarm payrolls in the Worcester HMA have completely recovered from the losses incurred during 2020. During the 12 months ending April 2023, nonfarm payrolls averaged 345,100 and were 600 jobs higher than the peak 12-month-average before the onset of the COVID-19 pandemic.

During the 12 months ending April 2023, nonfarm payrolls increased year-over-year by 8,500 jobs, or 2.5 percent, compared with a gain of 6.3 percent during the previous 12 months. Job gains were largest in the government and the leisure and hospitality sectors, which account for 16 and 9 percent of jobs in the HMA, respectively. The average unemployment rate during the 12 months ending April 2023 was 3.8 percent, down from 4.9 percent a year earlier. Job growth is expected to continue during the 3-year forecast period, averaging 1.1 percent annually, despite a slowdown in growth during the first year due to the effects of interest rate increases on major industries.

Sales Market



Tight: During the 12 months ending April 2023, the average home sales price increased 8 percent year-over-year to \$414,200 (CoreLogic, Inc., with adjustments by the analyst).

The sales housing market has remained tight since late 2020. The vacancy rate of sales units is 0.8 percent as of May 1, 2023, down from 1.8 percent in 2010. During the 12 months ending April 2023, new and existing home sales in the HMA totaled 13,750 homes, representing a decrease of 17 percent from a year earlier (CoreLogic, Inc., with adjustments by the analyst). The inventory of available homes for sale in the HMA represented a 0.9-month supply in April 2023, similar to the 1.0-month supply during April 2022 (CoreLogic, Inc.). During the next 3 years, demand is estimated for 5,250 new homes. The 730 homes currently under construction will meet a portion of the demand during the first year of the forecast period.

Rental Market



Slightly Tight: As of May 1, 2023, the rental vacancy rate was 4.6 percent, below the 7.8-percent rate during 2010 when the market was slightly soft.

The apartment market is also slightly tight, with a 3.5-percent vacancy rate as of the first quarter of 2023 (CoStar Group). The average apartment rent in the Worcester HMA during the first quarter of 2023 was \$1,829, reflecting an increase of 6 percent, or approximately \$110, from the first quarter of 2022. The increase is below the 10-percent rise between the first quarter of 2021 and the first quarter of 2022. A lack of new rental construction during the past decade contributed to tightening rental market conditions. Construction of rental units has increased in recent years, however, rising 22 percent from a year earlier during the 12 months ending April 2023 to 1,525 units. During the forecast period, demand is estimated for 3,400 new rental units. The 1,050 rental units under construction will satisfy part of that demand.

TABLE OF CONTENTS

- Economic Conditions 4
- Population and Households 9
- Home Sales Market 13
- Rental Market 18
- Terminology Definitions and Notes 22

3-Year Housing Demand Forecast

	Sales Units	Rental Units
Worcester HMA		
<u>Total Demand</u>	5,250	3,400
<u>Under Construction</u>	730	1,050

Notes: Total demand represents estimated production necessary to achieve a balanced market at the end of the forecast period. Units under construction as of May 1, 2023. The forecast period is May 1, 2023, to May 1, 2026.
Source: Estimates by the analyst



Economic Conditions

Largest Sector: Education and Health Services

This report uses data for the Leominster-Gardner, MA and Worcester, MA-CT New England City and Town Areas (NECTAs) in the discussion of nonfarm payroll jobs in the Worcester HMA. The combined NECTAs exclude a portion of the rural areas of the HMA (see Notes on Geography in the Terminology Definitions and Notes section). All other data in this report relate to the HMA.

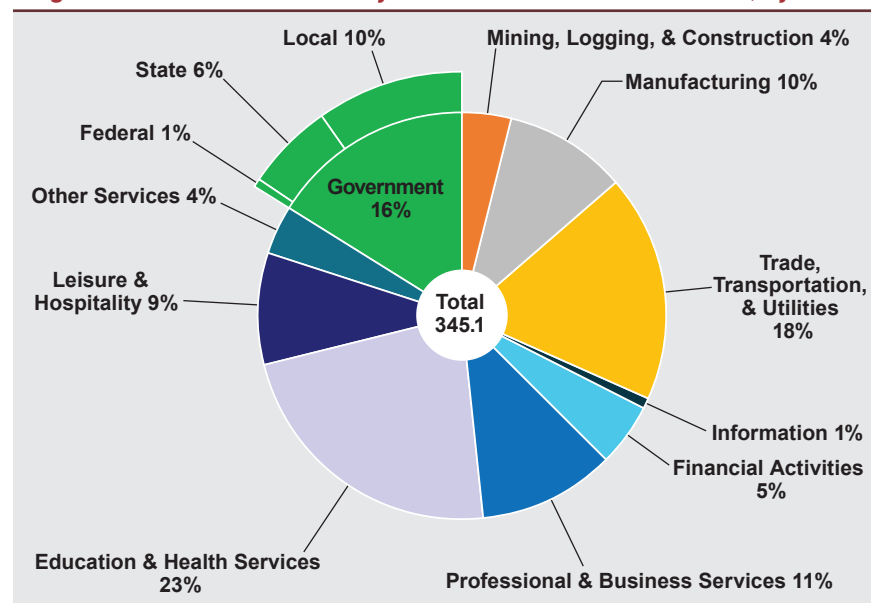
The education and health services sector is supported by UMass Memorial Health and the approximately 16,550 students enrolled at the four local private colleges and universities in the HMA.

Primary Local Economic Factors

During the 12 months ending April 2023, the education and health services sector accounted for 23 percent of all nonfarm payrolls (Figure 1). The colleges and universities in the higher education industry have an economic impact of \$3.8 billion on the HMA and support 18,800 jobs (Association of Independent Colleges and Universities in Massachusetts). In 2007, Worcester Polytechnic Institute invested more than \$110 million in the Gateway Park initiative, which included the construction of several academic buildings and student dormitories (Worcester Polytechnic Institute). The initiative attracted approximately \$40 million in hotel, office, and infrastructure development. More recently, the College of the Holy Cross completed a \$420 million project in 2020, part of the “Become More” campaign, which included the construction of a \$107 million performing arts center, renovation of campus facilities, and investment in expanded academic positions and program offerings (College of the Holy Cross).

Firms in the healthcare industry similarly play an essential role in the economy of the Worcester HMA. With more than 780 beds and 16,350 employees, UMass Memorial Health is the third largest hospital system in the state and the largest employer in the HMA (Table 1). The UMass Chan Medical School

Figure 1. Share of Nonfarm Payroll Jobs in the Worcester HMA, by Sector



Notes: Total nonfarm payroll is in thousands. Percentages may not add to 100 percent due to rounding. Based on 12-month averages through April 2023. Source: U.S. Bureau of Labor Statistics

Table 1. Major Employers in the Worcester HMA

Name of Employer	Nonfarm Payroll Sector	Number of Employees
UMass Memorial Health Care	Education & Health Services	16,350
UMass Chan Medical School	Government	6,000
Reliant Medical Group, Inc.	Education & Health Services	2,800
Milford Regional Medical Center Inc	Education & Health Services	2,400
Saint Vincent Medical Group	Education & Health Services	1,850
Waters Corporation	Manufacturing	1,800
Heywood Healthcare	Education & Health Services	1,700
Seven Hills Foundation and Affiliates	Education & Health Services	1,650
The Hanover Insurance Group, Inc.	Financial Activities	1,600
Worcester State University	Government	1,250

Note: Excludes local school districts. Source: Worcester Business Journal



has approximately 6,000 employees and had a \$1.8 billion impact on the Worcester economy in 2018 (University of Massachusetts).

The Effect of the COVID-19 Pandemic on Economic Conditions

Economic conditions deteriorated beginning in March 2020, following the onset of the COVID-19 pandemic. Nonfarm payrolls decreased 15.9 percent from 342,000 jobs in February 2020 to 287,500 jobs in April 2020 (monthly data; not seasonally adjusted). The largest payroll losses occurred in the leisure and hospitality sector and the other services sector, which declined by 17,200 and 4,000 jobs, or 56.0 and 32.8 percent, respectively, from February 2020 to April 2020 and accounted for a combined 39 percent of all jobs lost. The rate of decline in leisure and hospitality sector jobs was 8.8 percentage points greater than the nationwide decline of 47.2 percent, due in large part to the reduction in travel that occurred following the onset of the COVID-19 pandemic, particularly among college students and their families traveling to the area. Worcester Polytechnic Institute, the largest college in the HMA, was one of the first universities nationwide to announce that it would move to online instruction and require students to leave campus in the spring of 2020. The decline in tourism in 2020 was evident in hotel occupancy, which was down by more than

50 percent from 2019 (Worcester Regional Chamber of Commerce). Likewise, approximately 21 percent of food and beverage establishments in the state of Massachusetts permanently closed during the first 6 months following the onset of the COVID-19 pandemic (Massachusetts Restaurant Association).

Current Conditions—Nonfarm Payrolls

Economic conditions in the HMA are currently stable. COVID-19 transmission levels have fallen, and as of the 12 months ending March 2023 the HMA had recovered all the jobs lost since the onset of the pandemic. During the 12 months ending April 2023, nonfarm payrolls averaged 345,100 jobs, representing an increase of 8,500, or 2.5 percent, from a year earlier (Table 2). By comparison, payrolls increased by 20,000 jobs, or 6.3 percent, during the previous 12 months. Nonfarm payrolls during the past 12 months in the HMA exceeded the prepandemic peak that occurred during the 12 months ending March 2020 by approximately 600 jobs, or 0.2 percent.

The leisure and hospitality sector and the government sector led job growth during the 12 months ending April 2023, expanding by 1,600 and 2,200 jobs, or 5.6 and 4.2 percent, respectively. Firms in the leisure and hospitality sector have benefited from an increase in leisure and business travel in the HMA. The

Table 2. 12-Month Average Nonfarm Payroll Jobs (1,000s) in the Worcester HMA, by Sector

	12 Months Ending April 2022	12 Months Ending April 2023	Absolute Change	Percentage Change
Total Nonfarm Payroll Jobs	336.6	345.1	8.5	2.5
Goods-Producing Sectors	47.6	48.8	1.2	2.5
Mining, Logging, & Construction	14.1	14.6	0.5	3.5
Manufacturing	33.6	34.2	0.6	1.8
Service-Providing Sectors	289.0	296.4	7.4	2.6
Trade, Transportation, & Utilities	62.7	63.6	0.9	1.4
Information	3.1	3.0	-0.1	-3.2
Financial Activities	16.0	15.8	-0.2	-1.3
Professional & Business Services	35.9	37.1	1.2	3.3
Education & Health Services	78.9	79.9	1.0	1.3
Leisure & Hospitality	28.7	30.3	1.6	5.6
Other Services	11.6	12.3	0.7	6.0
Government	52.1	54.3	2.2	4.2

Notes: Based on 12-month averages through April 2022 and April 2023. Numbers may not add to totals due to rounding. Data are in thousands.
Source: U.S. Bureau of Labor Statistics



total number of passengers at Boston Logan International Airport, the largest airport near the HMA, increased by 376,200, or 12 percent, during April 2023 compared with a year earlier (Massachusetts Port Authority). Likewise, the daily average number of travelers at the smaller Worcester Regional Airport increased 47 percent during March 2023 compared with a year earlier (Transportation Security Administration). The 2021 construction of Polar Park, a baseball stadium that is home to the Worcester Red Sox minor league baseball team, has similarly contributed to the increase in leisure and hospitality spending in the HMA. The Worcester Red Sox had the second highest attendance of all 120 Minor League Baseball teams during the 2022 season and has had more than 1 million fans in attendance since opening day in May 2021 (Minor League Baseball). The government sector benefitted from improved public finances during the economic recovery following the onset of the COVID-19 pandemic. Worcester Public Schools hired 100 new teachers for the 2022–23 school year (Worcester Public Schools).

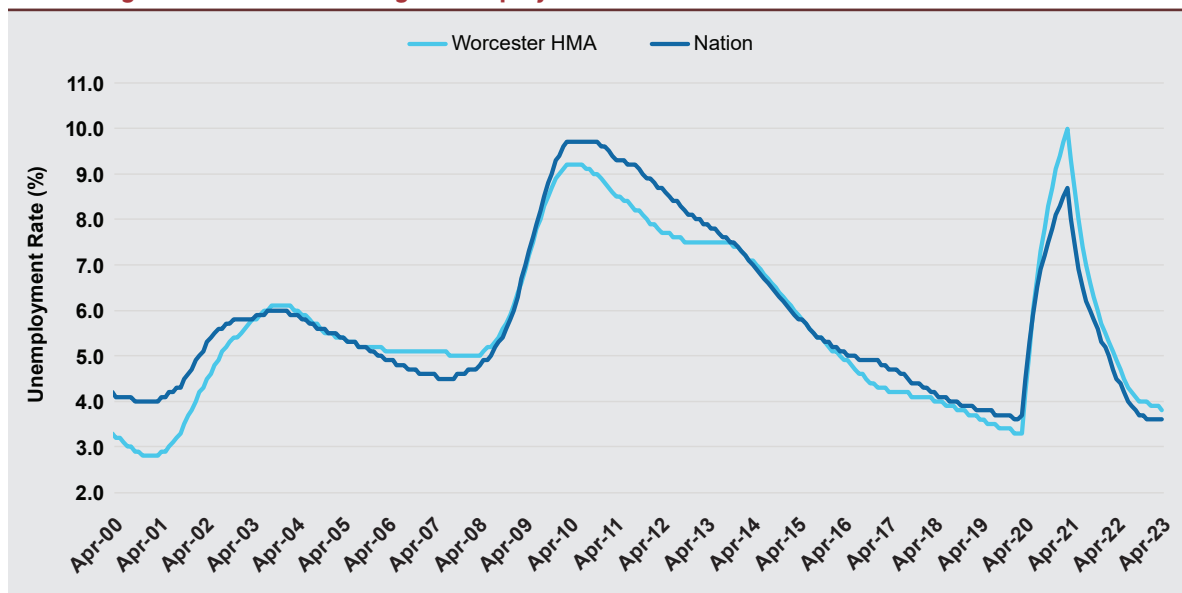
Despite overall nonfarm job growth, payrolls in the information sector and the financial activities sector declined by 100 jobs and 200 jobs, or 3.2 percent and 1.3 percent, respectively, during the 12 months ending April 2023. Poor financial performance at the largest newspaper chain in the nation, Gannett Co., Inc., resulted in approximately 2,100 layoffs nationwide and

affected staff levels in many newsrooms in the HMA, including the Worcester *Telegram & Gazette*, *Milford Daily News*, and *The Gardner News (Worcester Business Journal)*. Job losses in the financial activities sector were partially due to a decline in home mortgage applications and refinances caused by rising interest rates driven by monetary policy intended to slow the rate of inflation.

Current Conditions—Unemployment

During the 12 months ending April 2023, the unemployment rate in the Worcester HMA averaged 3.8 percent, down from 4.9 percent a year earlier and less than one-half of the recent peak of 10.0 percent during the 12 months ending March 2021 (Figure 2). The decline in the unemployment rate coincided with the economic recovery in the HMA. The unemployment rate in the HMA remained below the national average from 2010 through 2019 but rose above the national average following the onset of the COVID-19 pandemic, due in part to greater job losses in the leisure and hospitality sector and the slower rate of recovery of jobs in the education and health services sector compared with the nation.

Figure 2. 12-Month Average Unemployment Rate in the Worcester HMA and the Nation



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



Economic Periods of Significance

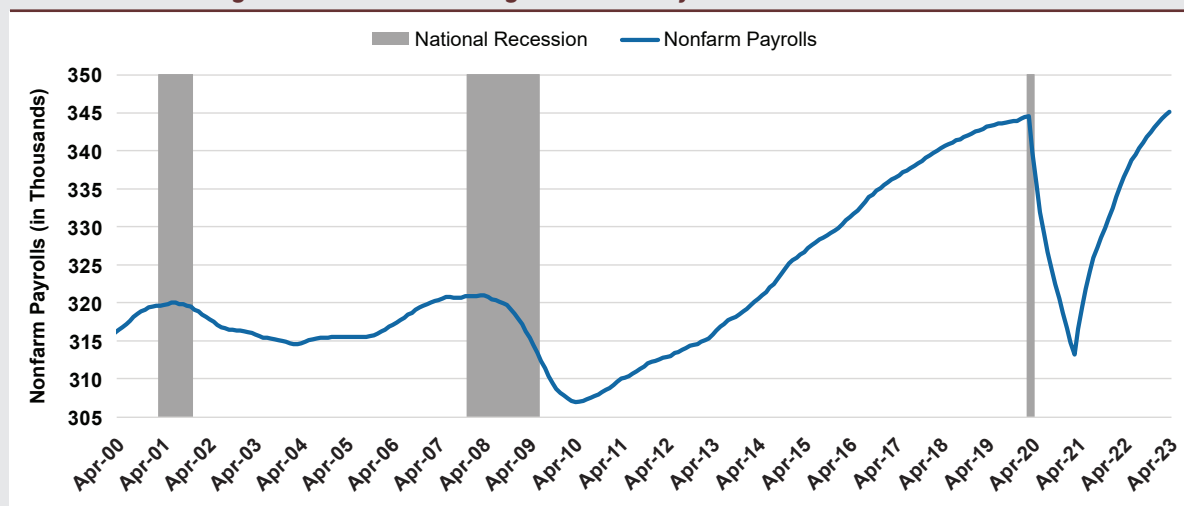
2004 Through 2007

Following the 2001 recession, economic conditions in the Worcester HMA strengthened moderately from 2004 through 2007, when nonfarm payrolls increased by an average of 1,500 jobs, or 0.5 percent, annually (Figure 3). Growth occurred largely because of the expansion of the education and health services sector, which grew by 1,200 jobs, or 2.1 percent, annually during the period. In 2005, a \$200 million investment by UMass Memorial Health in infrastructure, medical technology, and staff retention contributed to the growth (*The Boston Globe*). Job growth in this sector was partially offset by job losses in the manufacturing sector of approximately 900 jobs, or 2.0 percent, annually. Rising input costs to manufacturing, particularly steel, which almost doubled in price between October 2003 and October 2006, contributed to job losses in the HMA (U.S. Bureau of Labor Statistics).

2008 Through 2010

Job losses were widespread among nonfarm payroll sectors in the HMA during the Great Recession. From 2008 through 2010, nonfarm payrolls decreased by an average of 4,100 jobs, or 1.3 percent, annually to 308,600 jobs. The manufacturing sector, which fell by an average of 2,300 jobs, or 5.8 percent, annually, had the largest decline during the period. The mining,

Figure 3. 12-Month Average Nonfarm Payrolls in the Worcester HMA



Note: 12-month moving average.
Sources: U.S. Bureau of Labor Statistics; National Bureau of Economic Research

logging, and construction sector also had large losses, down by an average of 1,000 jobs, or 8.1 percent a year. The declines in both sectors were partially due to the deterioration in residential construction activity and consumer spending that occurred during the Great Recession. Saint-Gobain Corporation, which was once the largest manufacturing firm in the HMA, specializing in manufacturing abrasives used on construction job sites and in other manufacturing applications, cut 4,000 jobs, primarily in its U.S. facilities, in response to falling housing construction activity (Saint-Gobain Corporation). Job gains in the education and health services sector, which increased by an average of 2,000 jobs, or 3.2 percent, annually, partially offset the job losses.

2011 Through 2019

The economy in the HMA began to recover from the Great Recession in 2011 and continued to grow through 2019. Nonfarm payrolls increased by an average of 3,900 jobs, or 1.2 percent, annually to 343,900. Nonfarm payrolls in all sectors grew during the period except for the information sector, which fell by an average of 40 jobs, or 1.1 percent, annually, and the manufacturing sector, which shed an average of 20 jobs, or 0.1 percent, annually. The education and healthcare services sector had the largest increase

in nonfarm payrolls, increasing by an average of 1,600 jobs, or 2.1 percent, annually. Contributing to the expansion of this sector was the development of administrative facilities at UMass Memorial Health in downtown Worcester, which added approximately 500 jobs in 2015 (*Telegram & Gazette*). Similarly, the acquisition of Reliant Medical Group, Inc. by Optum, Inc. resulted in a

\$250 million investment in new facilities in the HMA, including an 87,550-square-foot facility in the town of Auburn. The rate of increase in nonfarm payrolls was strongest in the mining, logging, and construction sector, which averaged 3.2 percent annually, partially due to the more than nearly three-fold increase in residential construction activity from 2011 to 2019.

Forecast

Nonfarm payrolls in the Worcester HMA are expected to increase an average of 1.1 percent a year during the 3-year forecast period. Growth is expected to slow in the first year, compared with the past 12 months, partly because of the effects of recent interest rate increases, but growth will accelerate in the second and third years.

Job growth is expected in the manufacturing sector throughout the forecast period, particularly among firms in the healthcare products industry. Firms in this industry are comparatively resilient to economic headwinds. WuXi Biologics (Cayman) Inc., a pharmaceutical research and manufacturing company in the

HMA, expects to hire 250 employees by 2024 to staff a recently completed 200,000-square-foot biotech facility (*Telegram & Gazette*).

Job growth is also expected to continue in the government sector because expenses related to COVID-19 have fallen. The recently proposed 2024 Worcester Public School budget reflects an approximately \$28 million increase above the current budget and includes plans for an additional 230 positions (Worcester Public Schools). The UMass Chan Medical School is similarly planning to add 70 researchers and additional support staff in conjunction with the construction of a new 350,000-square-foot education and research building that is scheduled to open in 2024.



Population and Households

Current Population: 984,800

Population growth has remained positive during the past decade and is largely reliant on international net in-migration, which surged from 2016 to 2018.

Population Trends

As of May 1, 2023, the population of the Worcester HMA is estimated at 984,800, reflecting an increase of 5,175, or 0.5 percent, annually since 2010, compared with an annual gain of 5,700, or 0.6 percent, from 2000 to 2010 (Table 3). The city of Worcester is the population center in the HMA, accounting for 21 percent of the HMA population (U.S. Census Bureau population estimates as of July 1, 2022). Population growth has been sustained through international migration and net natural change; however, both of these population change components have declined in the past 5 years.

Population growth slowed through the 2000s, partially because of falling nonfarm payrolls during the Great Recession in the latter portion of the decade. From 2000 to 2006, population growth averaged 6,750 people, or 0.8 percent, annually, slowing to an average of 3,750 people, or 0.4 percent, annually from 2006 to 2009.

Table 3. Worcester HMA Population and Household Quick Facts

Population Quick Facts	2010	Current	Forecast	
	Population	916,980	984,800	998,500
	Average Annual Change	5,700	5,175	4,550
	Percentage Change	0.6	0.5	0.5

Household Quick Facts	2010	Current	Forecast	
	Households	347,890	383,900	390,500
	Average Annual Change	2,275	2,750	2,200
	Percentage Change	0.7	0.8	0.6

Notes: Average annual changes and percentage changes are based on averages from 2000 to 2010, 2010 to current, and current to forecast. The forecast period is from the current date (May 1, 2023) to May 1, 2026. Sources: 2000 and 2010–2000 Census and 2010 Census; current and forecast—estimates by the analyst

The slowdown occurred because the period from 2006 to 2009 included the initial economic effects of the Great Recession, resulting in many people leaving the area in search of better opportunities elsewhere. Net in-migration averaged 130 people a year from 2006 to 2009, accounting for 3 percent of the overall population increase, compared with 3,225 people a year, or 48 percent of the population growth, from 2000 to 2006.

Although job losses continued in the HMA through 2010, net in-migration increased during 2009, partly because falling home prices and low average monthly rents attracted people from outside the HMA and encouraged existing residents to remain in the HMA. As the economy recovered from the Great Recession and expanded, rising net in-migration—particularly among international migrants from 2016 to 2018—more than compensated for slower net natural change and led to an increasing rate of population growth. From 2009 to 2018, population growth averaged 6,700 people, or 0.7 percent, annually, with net in-migration accounting for 71 percent of the increase.

From 2018 to 2021, population growth in the HMA slowed significantly due to several headwinds. Restrictions on international migration, stemming from changes in federal policies in the late 2010s, followed by the COVID-19 pandemic in the early 2020s, contributed to population growth slowing to an average of 1,600 people, or 0.2 percent, annually during the period. Net in-migration accounted for 91 percent of the population increase, despite slowing to approximately 1,450 people a year, because increased deaths during the COVID-19 pandemic contributed to net natural change slowing to an average of 140 people a year. When economic conditions improved and travel restrictions were lifted, population growth increased from 2021 to the current date.



Net Natural Change and Age Cohort Trends

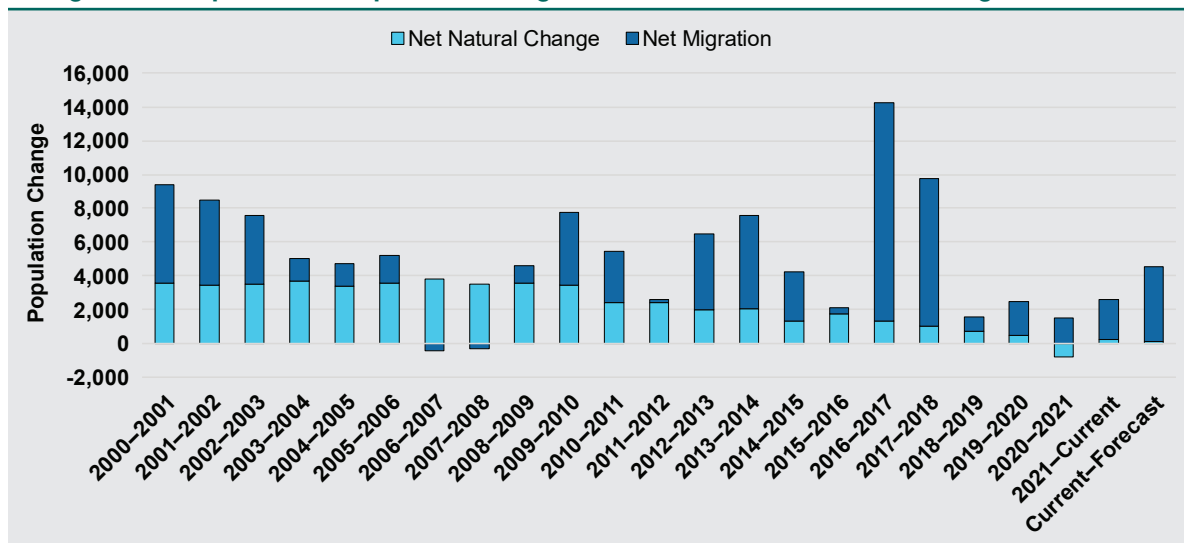
Net natural change slowed in the HMA during the past decade, largely because of growth in the share of senior residents and a falling birth rate. Net natural change declined from an average of 3,550 people annually from 2000 to 2010 to an average of 1,325 people annually from 2010 to 2020. Net natural change has continued to fall further to an average decrease of 130 people since 2020 (Figure 4), partially because of increased mortality during the COVID-19 pandemic.

Growth of the population aged 65 years and older in the HMA has exceeded overall population growth, contributing to the decline in net natural change. From 2010 to 2021, the number of residents of the HMA aged 65 years and older grew at an average annual rate of 4.3 percent, 2.5 percentage points higher than the overall population growth rate (American Community Survey [ACS] 1-year data). The proportion of the population aged 65 years and older in the HMA increased from 12.8 percent in 2010 to 16.7 percent in 2021 (Figure 5).

International Migration

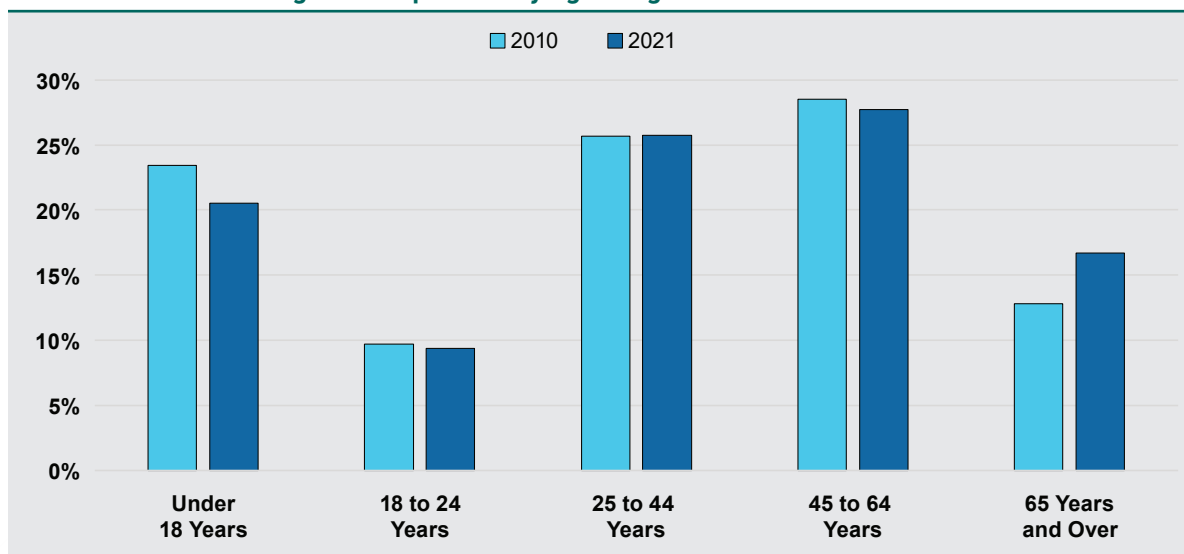
International migration accounted for nearly all net in-migration during the past two decades because of domestic net out-migration every year since 2004. International migrants primarily live in the city of Worcester, where approximately 22 percent of the population is foreign-born, compared with

Figure 4. Components of Population Change in the Worcester HMA, 2000 Through the Forecast



Notes: Data displayed are average annual totals. The forecast period is from the current date (May 1, 2023) to May 1, 2026.
Sources: U.S. Census Bureau; current to forecast—estimates by the analyst

Figure 5. Population by Age Range in the Worcester HMA



Source: American Community Survey 1-year data



14 percent nationally (2021 ACS 1-year estimates). Accordingly, the changes in population mirrored international migration. A surge in international migration from 2016 to 2018 contributed to net in-migration rising to an average of 10,850 people a year. International migration subsequently declined significantly from 2019 through 2021. The decline was partially due to changes in federal immigration policy, some of which were specific to immigrants from Latin America, where one-third of international immigrants in the Worcester HMA were born. Part of the surge of net in-migration before 2019 was likely due to international migrants obtaining visas before this policy change went into effect.

Household Trends

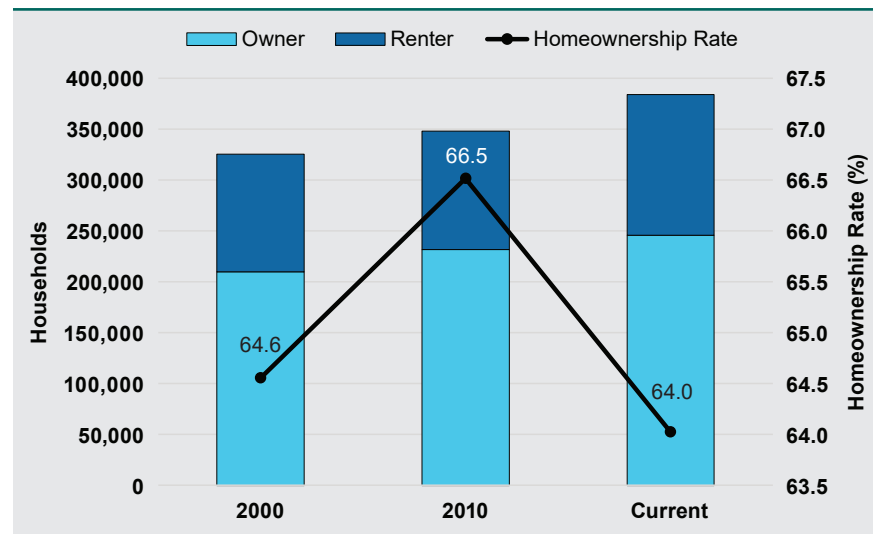
An estimated 383,900 households reside in the Worcester HMA as of May 1, 2023, representing an average annual increase of 2,750, or 0.8 percent, since April 2010. The rate of household growth has been slightly higher than population growth since 2010, due in part to the growing share of seniors in the HMA, who tend to have fewer persons per household, leading to a decline in the average household size. The rapid uncoupling of millennial households across the nation—many of whom had previously lived with roommates to reduce housing expenses—has contributed to new household formation since 2010 (Harvard University Joint Center for Housing Studies). The average household size in the HMA from 2010 to the current period decreased from 2.54 to 2.48 persons.

The homeownership rate is currently estimated at 64.0 percent, down from 66.5 percent in 2010 and 64.6 percent in 2000 (Figure 6). From 2010 to current, subdued demand for sales housing following the Great Recession and an influx of international immigrants seeking rental housing contributed to faster growth in renter households and declining homeownership rates. During the period, owner household growth averaged 0.5 percent annually and was outpaced by renter household growth, which averaged 1.3 percent annually.

Student Households

Students at the eight local colleges and universities are a significant share of the population of the HMA. Student enrollment has remained flat since

Figure 6. Households by Tenure and Homeownership Rate in the Worcester HMA



Note: The current date is May 1, 2023.
Sources: 2000 and 2010—2000 Census and 2010 Census; current—estimates by the analyst

2010 at approximately 37,400 students (Integrated Postsecondary Education Data System). Alongside the increasing overall population, the steady enrollment has led to student households being a smaller portion of rental households in the HMA. In 2010, students living off-campus accounted for 4.4 percent of rental households, compared with 3.4 percent in 2023. Since 2000, the largest increase in student enrollment occurred from 2006 to 2010. The average annual growth in student enrollment was 1,600 students, or 4.9 percent, during this period. Rising unemployment during the Great Recession contributed to increased enrollment during these years by making higher education a more attractive option than joining the struggling job market (National Bureau of Economic Research).

Forecast

During the 3-year forecast period, the population of the Worcester HMA is expected to increase by an average of 4,550, or 0.5 percent, annually to



998,500. Population growth is expected to remain relatively slow initially and then accelerate during the second and third years of the forecast period in response to job growth. Net in-migration is expected to average 4,400 people annually, accounting for 97 percent of population growth during the forecast period. Net natural change is anticipated to continue to slow, partly because

of a continued decline in birth rates and the aging of the population. These factors will also result in a continued decline in the average household size, causing household growth to remain slightly higher than population growth. The number of households in the HMA is anticipated to increase by an average of 2,200, or 0.6 percent, annually to approximately 390,500.



Home Sales Market

Market Conditions: Tight

Relatively low levels of new home construction since 2008 and rising home sales volume during the past decade contributed to tightening conditions, with the months of supply of homes for sale remaining below 1.5 since 2020 (CoreLogic, Inc.).

Current Conditions

Sales housing market conditions in the Worcester HMA are tight, with an estimated vacancy rate of 0.8 percent, down from 1.8 percent in April 2010 (Table 4) when the market was balanced. Strong net in-migration from 2010 to 2018 and low levels of residential construction following the Great Recession contributed to the decline in the vacancy rate. The available for-sale inventory in the HMA decreased from 8.5 months in 2010 to 2.6 months in 2019 (CoreLogic, Inc.). Following the onset of the COVID-19 pandemic, the home sales market continued to tighten. Supply chain bottlenecks affecting building materials and labor shortages constrained new home construction. Historically low mortgage interest rates, an improving job market, and increased adoption of remote work caused increased demand for sales housing. From April 2019 to April 2022, the available for-sale inventory continued to decline, from 2.5 to 1.0 months, with the supply of homes

Table 4. Home Sales Quick Facts in the Worcester HMA

	Worcester HMA	Nation
Vacancy Rate	0.8%	NA
Months of Inventory	0.9	2.2
Total Home Sales	13,750	5,718,000
1-Year Change	-17%	-25%
New Home Sales Price	\$530,300	\$496,000
1-Year Change	14%	11%
Existing Home Sales Price	\$411,300	\$394,000
1-Year Change	8%	2%
Mortgage Delinquency Rate	1.3%	1.1%

NA = data not available.

Notes: The vacancy rate is as of the current date; home sales and prices are for the 12 months ending April 2023; and months of inventory and mortgage delinquency data are as of April 2023. The current date is May 1, 2023.

Sources: Vacancy rate—estimates by the analyst; months of inventory and mortgage delinquency rate—CoreLogic, Inc.; home sales and prices—CoreLogic, Inc., with adjustments by the analyst

for sale remaining below 1.5 months since 2020 (CoreLogic, Inc.). The 12-month average new and existing home prices from April 2019 to April 2022 increased at an annual rate of 9 percent (CoreLogic, Inc., with adjustments by the analyst).

Since early 2022, the sales market in the HMA has eased slightly from very tight conditions. Relative to the onset of the COVID-19 pandemic, lending standards have tightened. These conditions have contributed to slowing home purchase activity and slowed the rate of home price increases. Likewise, increases in mortgage interest rates from 3.1 percent in December 2021 to 6.3 percent in April 2023, coupled with rising home prices, caused the payment on a 30-year mortgage for an average-priced home in the HMA to rise 62 percent, reducing sales demand (CoreLogic, Inc.; Freddie Mac). On the supply side, the recent increase in interest rates has also contributed to a decrease in the number of home listings, partly because many owners refinanced their homes at lower interest rates, discouraging some households from moving. Several ongoing developments in the HMA, however, including the 700-unit Del Web Chauncy Lake condominiums, are partially offsetting the decline.

Current Home Sales and Prices

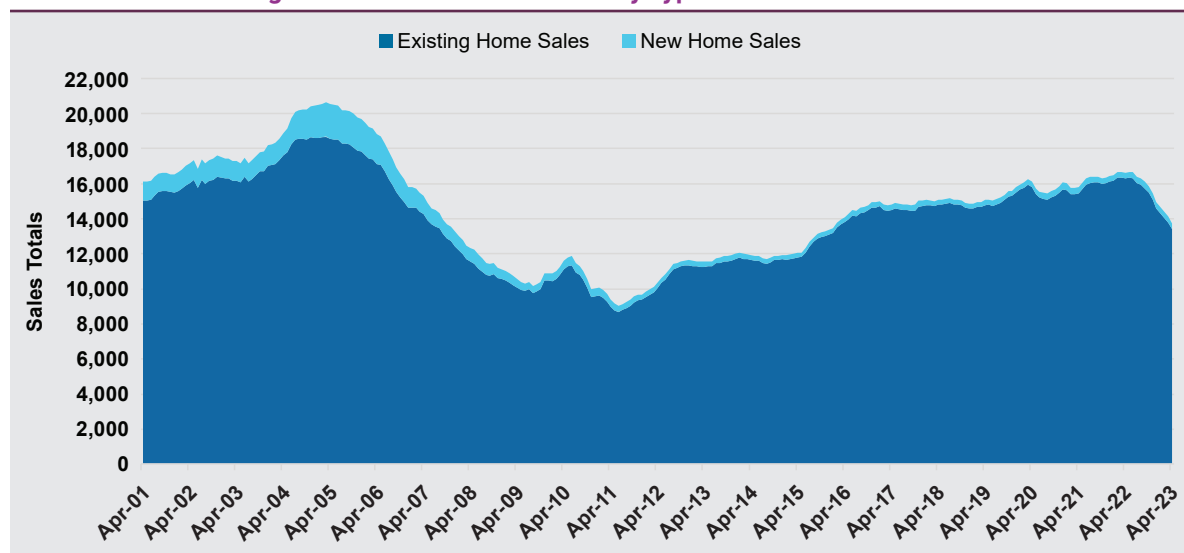
During the 12 months ending April 2023, new and existing home sales in the HMA decreased by 2,875 homes, or 17 percent, to 13,750 homes sold, compared with a 5-percent year-over-year increase during



the previous 12 months (CoreLogic, Inc. with adjustments by the analyst; Figure 7). The decrease has been more pronounced in recent months, with new and existing home sales declining 24 percent during the 3 months ending April 2023 compared with the same period a year earlier. During the 12 months ending April 2023, the average price of new and existing homes increased by \$31,850, or 8 percent, to \$414,200, which was below the 13 percent year-over-year increase during the 12 months ending April 2022. Comparing the 3 months ending April 2023 with the same period a year earlier, the price growth slowed further to a 6-percent increase.

New home sales rose by 20 homes, or 6 percent, to 340 homes sold during the 12 months ending April 2023 compared with the previous year. Interest rates have continued to increase recently, however, raising the average monthly mortgage payment. New home sales during the 3 months ending April 2023 declined by 25 homes, or 35 percent, compared with the 3 months ending April 2022. Existing home sales, which include resales and distressed sales, decreased by 2,900 homes, or 18 percent, to 13,400 homes during the 12 months ending April 2023 compared with a year earlier. Distressed sales are a negligible share of home sales in the HMA, accounting for less than 2 percent of existing home sales since 2022. The decline in existing home sales was more pronounced recently, with a 29-percent year-over-year decrease during the 3 months ending

Figure 7. 12-Month Sales Totals by Type in the Worcester HMA



Source: CoreLogic, Inc., with adjustments by the analyst

April 2023. During the 12 months ending April 2023, the average price of a new home increased by \$63,700, or 14 percent, to \$530,300. The average price of an existing home during the 12 months ending April 2023 increased by \$30,550, or 8 percent, compared with the previous year, to \$411,300.

Historical Home Sales Trends

Historically, home sales have mirrored trends in economic growth and net in-migration to the HMA. From 2006 through 2011, when economic conditions were weak due to the Great Recession, new and existing home sales decreased by an average of 1,675 homes, or 11 percent, annually, reaching a low of 9,700 homes sold in 2011. From 2012 through 2019, new and existing home sales accelerated as the economy in the HMA recovered and continued expanding following the Great Recession, with net in-migration exceeding prerecession levels. New and existing home sales increased by an average annual rate of 760 homes, or 6 percent, during the period. From 2020 through 2022, despite a very limited for-sale inventory, low mortgage rates and the economic recovery in the HMA, following the brief recession at the onset of the COVID-19 pandemic, contributed to sustained new and existing home sales, which averaged 15,800 annually during the period.

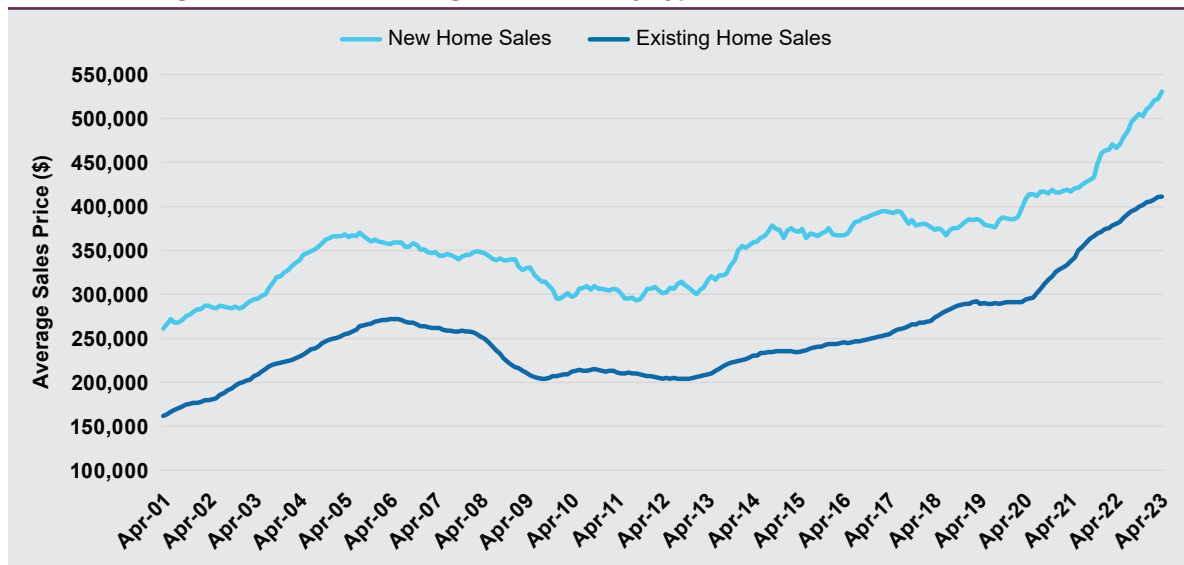


Limited new construction after the Great Recession constrained the growth in supply, and the market became tight, as evidenced by price increases during the period. During the past two decades, the new home share of total home sales has fallen from a peak of 9.6 percent during the 12 months ending June 2005 to 2.5 percent during the 12 months ending April 2023. The existing housing stock includes three-story condominiums known as “triple-deckers” that are prevalent in the area and have been preserved during the past decades, rather than being demolished or redeveloped. Consequently, the Worcester HMA has some of the oldest housing in the country, with a median age for housing units of 55 years, compared with 43 years nationally (ACS 1-year data). Likewise, approximately 61 percent of structures in the city of Worcester were built before 1940 (Worcester City Assessor). In addition to efforts to preserve the existing housing stock, the high cost of home construction in Massachusetts has limited new construction, with the price per square foot of a new home estimated to be 22 percent higher than the national average (Today’s Homeowner).

Historical Home Prices Trends

New and existing home prices in the HMA were similarly affected by changes in home demand and economic growth. From 2006 through 2011, during generally weak economic conditions, new and existing home prices decreased by an average of \$11,300, or 5 percent, annually to \$209,900 (Figure 8). Similar to home sales, new

Figure 8. 12-Month Average Sales Price by Type of Sale in the Worcester HMA



Source: CoreLogic, Inc., with adjustments by the analyst

and existing home prices began to increase in 2012 and continued to rise through 2019 in conjunction with improving economic conditions and strong net in-migration. During this period, home prices rose by \$10,400, or 4 percent, annually to \$293,000. From 2020 through 2022, historically low interest rates, increased adoption of remote work, and the economic recovery following the onset of the COVID-19 pandemic elevated home sales demand. Coupled with limited supply, the increase in demand contributed to new and existing home prices increasing by an average of \$37,950, or 12 percent, annually, nearly three times greater than the growth rate from 2012 through 2019.

Sales Construction

During the 12 months ending April 2023, new home construction in the Worcester HMA, as measured by the number of single-family homes, townhomes, and condominiums permitted (building permits), totaled 930 units, down 25 percent from the 1,250 units permitted during the previous 12 months (preliminary data and adjustments by the analyst), largely in response to rising interest rates and slowing home purchase activity. Aside from a surge in condominium construction in 2019, when the 700-unit Del Web Chauncy Lake condominiums were permitted, construction activity has remained relatively flat since 2009,



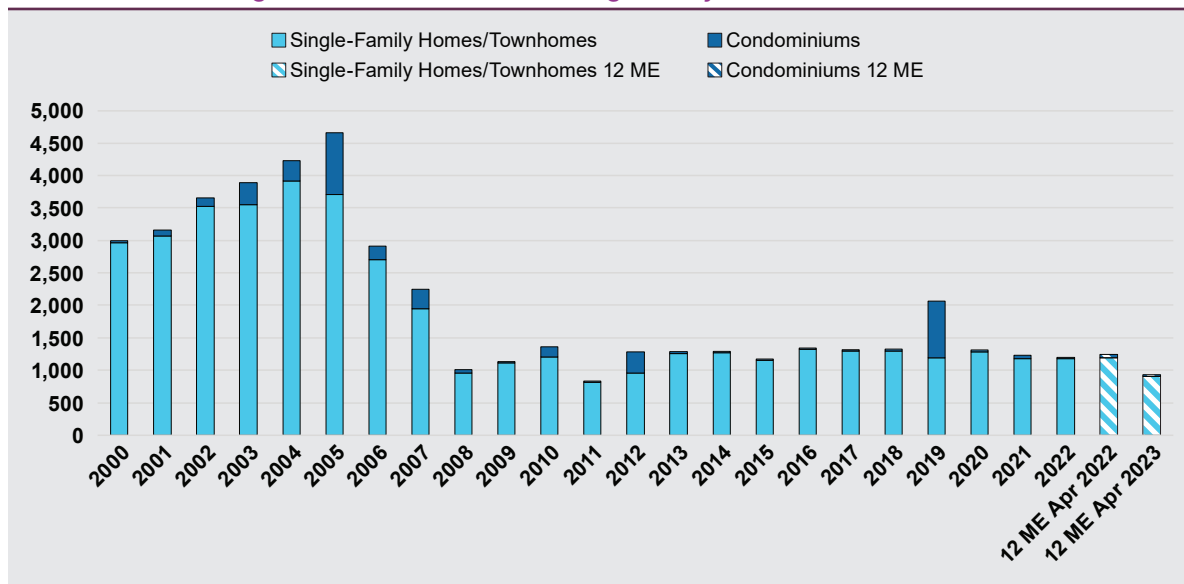
partially because of the high cost of new home construction in the HMA. From 2009 through 2022, home construction averaged 1,300 homes annually (Figure 9). New home construction in the HMA was strongest before the Great Recession. From 2001 through 2005, home construction rose by an average of 340 units, or 9 percent, annually, from 3,150 to 4,675 units. Home construction fell significantly from 2006 through 2008, declining by an average of 1,225, or 40 percent, annually to 1,000 homes in 2008.

Recent Developments

New home construction in the HMA has gradually shifted from the city of Worcester into suburban jurisdictions during the past two decades. In 2004, the share of new sales construction in the city of Worcester reached a high of 12 percent and has gradually declined to 8 percent in 2022. Development has shifted into jurisdictions including Shrewsbury, Milford, and Millbury.

As mentioned, the largest development currently underway in the HMA, the Del Web Chauncy Lake, is in the city of Westborough. Construction began in 2019, and completion of the approximately 700 condominiums is expected in the first quarter of 2025. The units will be restricted to households aged 55 or older, and the prices will range from the low \$300,000s to the high \$400,000s (PulteGroup, Inc.). Another notable development currently underway in the HMA is the Clearview Homes subdivision in the town of Millbury.

Figure 9. Annual Sales Permitting Activity in the Worcester HMA



12 ME = 12 months ending.
Sources: U.S. Census Bureau, Building Permits Survey; 2000–22—final data and estimates by the analyst; past 12 months of data—preliminary data and estimates by the analyst

When complete later this year, the development will consist of 71 duplexes with 142 units (McGraw-Hill Construction Pipeline database). Prices will range from the mid \$400,000s to the low \$600,000s (Eastland Partners Inc.).

Housing Affordability: Sales

Sales housing in the HMA is generally expensive. The affordability of owning a home declined significantly during the past year because of increases in home prices and mortgage interest rates. The median income in the HMA increased 7 percent during the past year, which was outpaced by the 10-percent rise in the median home sales price (National Association of Home Builders [NAHB]). The average interest rate for a 30-year fixed-rate mortgage increased from 3.1 percent during December 2021 to 6.3 percent during April 2023, similarly causing the average monthly payment of a recently purchased home to increase at a faster pace than income. The NAHB/Wells Fargo Housing Opportunity Index for the HMA, which represents the share of homes sold that would have been affordable to a household earning the local median

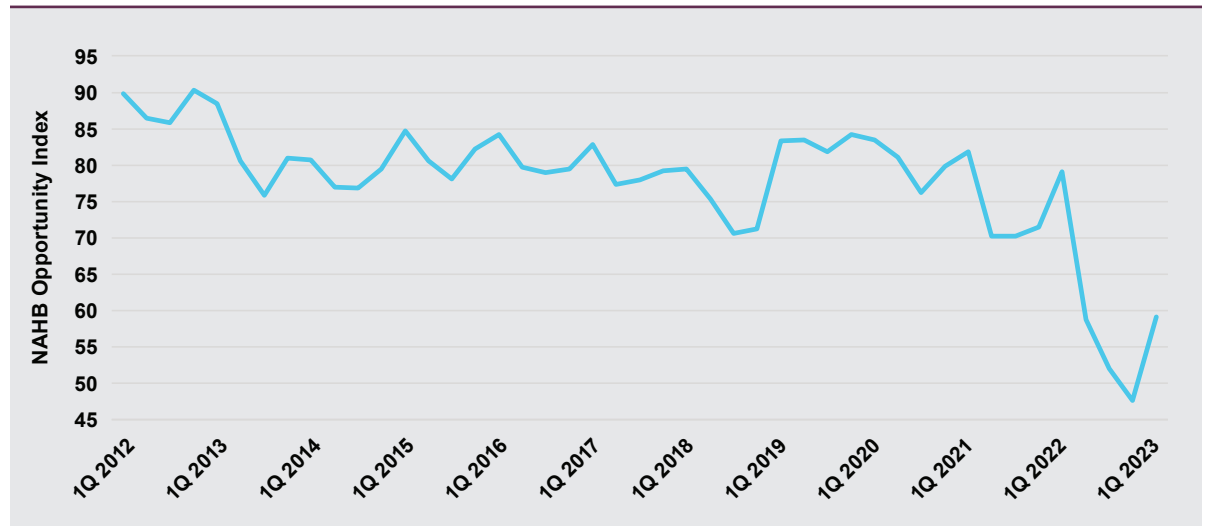


income, was 59.1 during the first quarter of 2023, down significantly from 79.1 during the first quarter of 2022 and from 84.2 during the fourth quarter of 2019 (Figure 10).

Forecast

During the next 3 years, demand for an additional 5,250 new homes is expected in the HMA (Table 5). The 730 homes currently under construction are expected to meet a portion of that demand during the first year of the forecast period. Demand is expected to be relatively weaker during the first year of the forecast period, coinciding with slower economic growth, and to increase during the second and third years.

Figure 10. Worcester HMA Housing Opportunity Index



NAHB = National Association of Home Builders. 1Q = first quarter.
Source: NAHB/Wells Fargo

Table 5. Demand for New Sales Units in the Worcester HMA During the Forecast Period

Sales Units	
Demand	5,250 Units
Under Construction	730 Units

Note: The forecast period is from May 1, 2023, to May 1, 2026.
Source: Estimates by the analyst



Rental Market

Market Conditions: Slightly Tight

Rental construction during the late 2010s failed to keep pace with renter household growth, including growth among international migrants, contributing to low vacancy rates and strong rent growth in the Worcester HMA since 2019.

Current Conditions and Recent Trends

Overall rental housing market conditions in the Worcester HMA are currently slightly tight, with a 4.6-percent vacancy rate, down from 7.8 percent during 2010 (Table 6) when rental market conditions were slightly soft. From 2010 to 2015, the rental market was balanced. Owner units shifting into the rental market, existing vacant units, and moderate rental construction accommodated renter household growth during this period. Following several years of heightened international net in-migration beginning in 2016, rental price growth accelerated, and vacancy rates declined. A falling number of owner units shifting into the renter market and limited new rental construction contributed to tightening rental market conditions. These trends have been magnified since the onset of the pandemic, with vacancy rates falling well below the average of the previous 10 years and rent growth far exceeding any level during the past decade.

Table 6. Rental and Apartment Market Quick Facts in the Worcester HMA

Rental Market Quick Facts	2010 (%)	Current (%)	
	Rental Vacancy Rate	7.8	4.6
Rental Market Quick Facts	2010 (%)	2021 (%)	
	Occupied Rental Units by Structure		
	Single-Family Attached & Detached	17	20
	Multifamily (2–4 Units)	48	44
	Multifamily (5+ Units)	35	36
Other (Including Mobile Homes)	0	0	
Apartment Market Quick Facts	1Q 2023	YoY Change	
	Apartment Vacancy Rate	3.5	0.3
	Average Rent	\$1,829	6%
	Studio	\$1,338	3%
	One-Bedroom	\$1,627	5%
	Two-Bedroom	\$1,965	6%
Three-Bedroom	\$2,158	6%	

1Q = first quarter. YoY = year-over-year.
 Notes: The current date is May 1, 2023. Percentages may not add to 100 due to rounding.
 Sources: 2010 vacancy rate—2010 Census; current vacancy rate—estimate by the analyst; occupied rental units by structure—2010 and 2021 American Community Survey 1-year data; apartment data—CoStar Group

Since 2021, however, developers have responded to tight market conditions by increasing new rental construction, including the number of commercial-to-residential conversions. As a result, multifamily structures with five or more units, typically apartments, made up 36 percent of renter-occupied housing in the HMA in 2021, up slightly from 35 percent in 2010 (ACS 1-year data).

Apartment Market Conditions

The apartment market is slightly tight, with a 3.5-percent vacancy rate as of the first quarter of 2023, up from 3.3 percent during the first quarter of 2022 (CoStar Group). Apartment demand was strong during the past year, partially because of strong economic growth and rising net in-migration. As of the first quarter of 2023, the average apartment rent increased 6 percent, compared with the first quarter of 2022, to \$1,829. This rate of increase is down from the 10-percent increase as of the first quarter of 2022, compared with the first quarter of 2021, which was the fastest rate of annual increase recorded since 2000 (Figure 11).

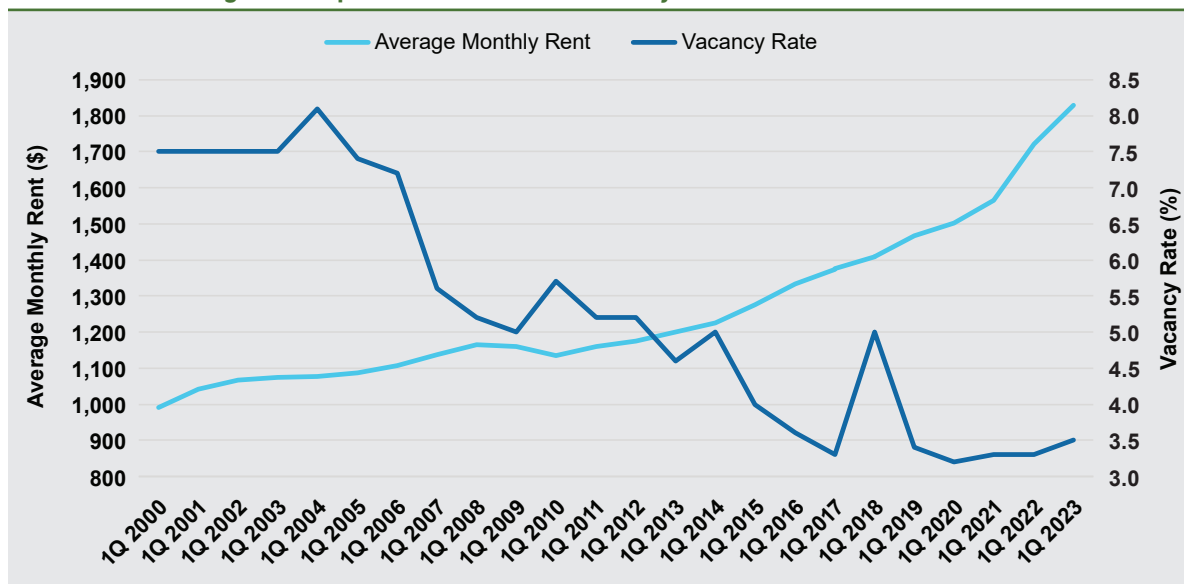


During the early- to mid-2010s, the apartment market was balanced as new rental construction and owner units that shifted into the rental market accommodated increases in rental households. From 2010 to 2014, the first quarter vacancy rate averaged 5.1 percent, and the average rent increased 2 percent a year. Rental construction declined from 2012 through 2015, however, and the market began to tighten in 2015. The apartment vacancy rate fell from 4.0 percent during the first quarter of 2015 to 3.4 percent during the first quarter of 2019, and rent growth accelerated to 4 percent annually. Apartment market conditions tightened further after 2020 as the economic recovery from the recession caused by the COVID-19 pandemic led to increased net in-migration, and supply chain disruptions constrained rental construction.

Small Multifamily Structure Rental Market

The plurality of renters in the HMA live in smaller multifamily buildings with two to four units. The share of rental units in those structures decreased from 48 percent in 2010 to 44 percent in 2021 (ACS 1-year data). Some of this inventory includes formerly owner-occupied units in two-to-four-unit triple-deckers that became available for rent. Market conditions among these smaller multifamily buildings are balanced, although the vacancies tend to be low. The average vacancy rate was 1.9 percent

Figure 11. Apartment Rents and Vacancy Rates in the Worcester HMA



1Q = first quarter.
Source: CoStar Group

as of the first quarter of 2023, compared with 1.8 percent a year earlier, and the average rent increased 2 percent year over year to \$1,018 (CoStar Group).

Student Housing

University students in the HMA live predominantly in the city of Worcester. Among the approximately 37,400 students enrolled during the 2022–23 academic year, an estimated 45 percent lived on campus in university-provided housing. Since 2010, approximately 1,475 beds in student dormitories were constructed in the HMA (McGraw-Hill Construction Pipeline database). The vacancy rate among student dormitories was estimated at 2.0 percent during the first quarter of 2023, the same as the vacancy rate a year earlier (CoStar Group). The average asking rent per bed among student dormitories increased 2 percent from a year earlier to \$2,046.

The largest on-campus student dormitory project underway in the HMA is the development of 148 beds in apartment-style units, with separate leases for each bedroom, at the College of the Holy Cross (College



of the Holy Cross). The project is anticipated to be complete by the start of the 2023–24 academic year.

Rental Construction

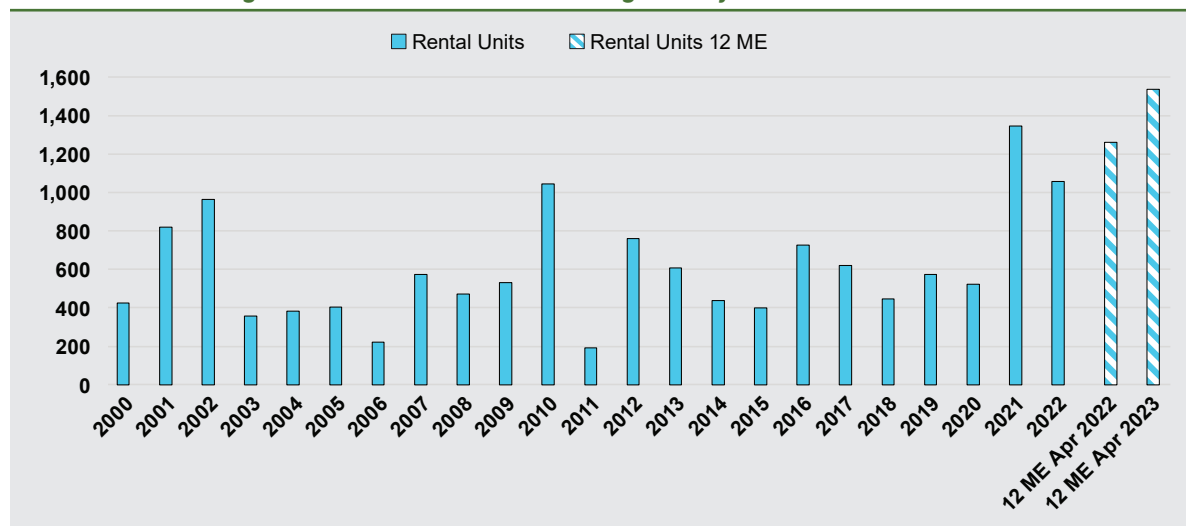
During the 12 months ending April 2023, approximately 1,525 rental units were permitted, up by approximately 280 units, or 22 percent, from the previous 12 months (Figure 12). Low vacancies and rapid rent growth during recent years, particularly in the apartment market, incentivized rental unit construction activity, as measured by the number of rental units permitted. The increase began in 2021, when rental construction increased nearly three-fold compared with a year earlier to 1,350 units and remained strong in 2022, with 1,050 units permitted.

Rental construction fluctuated from 2000 through 2010, averaging 560 units annually. In 2011, following a slight decrease in net immigration, construction decreased to a recent low of 190 units. Rental unit construction increased significantly during the following year and remained relatively constant, averaging 570 units from 2012 through 2020.

Recent Developments

Similar to sales housing construction, rental construction has shifted from the city of Worcester to suburban jurisdictions. From 2000 through 2010, the city of Worcester accounted for 20 percent of rental construction in the HMA. This figure fell to 9 percent from 2011 through 2021.

Figure 12. Annual Rental Permitting Activity in the Worcester HMA



12 ME = 12 months ending.

Note: Includes apartments and units intended for rental occupancy.

Sources: U.S. Census Bureau, Building Permits Survey; 2000–22—final data and estimates by the analyst; past 12 months of data—preliminary data and estimates by the analyst

Accordingly, among rental developments completed during the past year, the three largest were outside of the city of Worcester. The largest of these properties is the 250-unit Edgemere Crossing at Flint Pond apartments in the city of Shrewsbury. The development offers one-bedroom apartment units with rents averaging \$2,420 and two-bedroom apartment units with rents averaging \$2,972 (CoStar Group).

Although most new construction has been outside Worcester, the largest rental development currently underway in the HMA is the Alta on the Row apartment complex in the city of Worcester. Alta on the Row is a 370-unit community offering 120 one-bedroom units, 190 two-bedroom units, and 60 three-bedroom units and is expected to be complete in 2024 (CoStar Group). Another development currently underway in the city of Worcester is The Cove, a mixed-use development that will overlook Polar Park. In addition to approximately 175 market-rate apartments, the development will include ground-floor commercial space and a rooftop deck with views into the stadium. The project is expected to be complete in mid-2024.

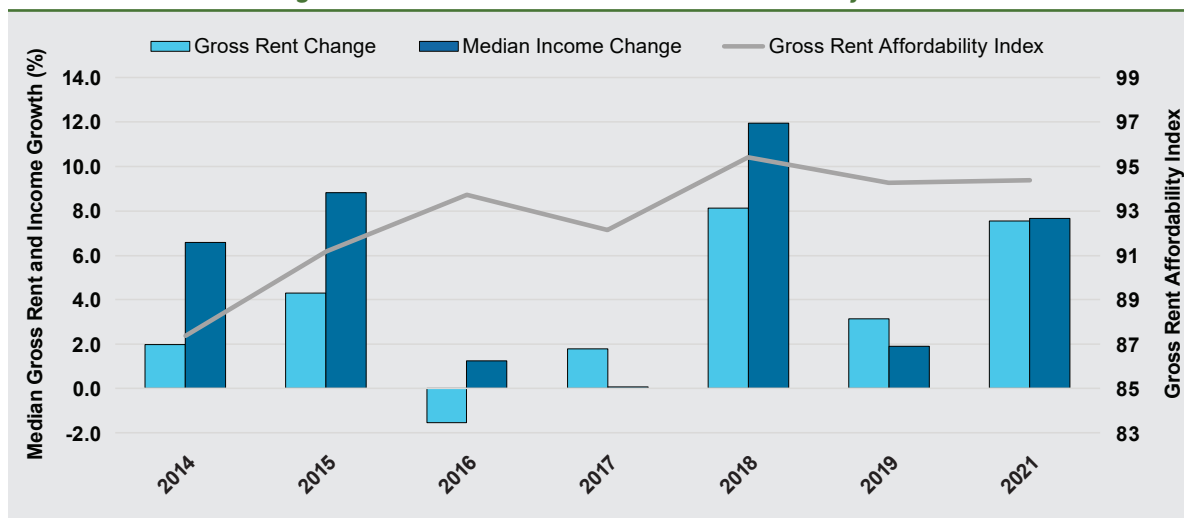
Commercial-to-residential conversions, often of schools and former factories, are common in the HMA and are an additional source of new rental inventory. Since 2010, there have been approximately 15 conversions of this type (McGraw-Hill Construction Pipeline database). One of the largest and most recent

conversions was the Julia Bancroft Apartments in the city of Auburn for residents aged 62 and over, which was completed during 2022. The development converted a former elementary school into 35 one-bedroom units with rents averaging \$1,191 and 25 two-bedroom units with rents averaging \$1,507 (CoStar Group).

Housing Affordability: Rental

Overall rental affordability in the HMA has generally improved since 2014. An increase in the number of completed affordable rental units and a rise in median renter income that exceeded rent growth contributed to the improvement. From 2014 to 2021, the median renter household income rose at an average annual rate of 5 percent, from \$32,550 in 2014 to \$44,100 in 2021; the median gross monthly rent increased only 4 percent during the same period (ACS 1-year data). Despite the improvement in rental affordability, median renter income remains below the annual qualifying income for a median-priced rental unit. The HUD Gross Rent Affordability Index has remained below 100, increasing from 87.4 in 2014 to 94.4 in 2021 (Figure 13). The index in the HMA as of 2021 is similar to the national rate of 94.3. Data beyond 2021 are not available for the HUD Gross Rent Affordability Index, but recent increases in rent from 2021 to current have likely caused the index to fall.

Figure 13. Worcester HMA Gross Rent Affordability Index



MSA = metropolitan statistical area.

Notes: Rental affordability is for the larger Worcester MSA. The Gross Rent Affordability Index differs from the HUD Rental Affordability Index published on the U.S. Housing Market Conditions website in that it is based on combined rent and utilities expenditure. Data for 2020 are not available.

Source: American Community Survey 1-year data

Forecast

During the next 3 years, demand is expected for 3,400 new rental units in the Worcester HMA (Table 7). Nearly one-third of the demand is expected to be met by the 1,050 units currently under construction, most of which will be complete in the first year of the forecast. Demand is expected to be relatively weaker in the first year but rise in the second and third years, parallel to economic and population growth.

Table 7. Demand for New Rental Units in the Worcester HMA During the Forecast Period

Rental Units	
Demand	3,400 Units
Under Construction	1,050 Units

Note: The forecast period is May 1, 2023, to May 1, 2026.

Source: Estimates by the analyst



Terminology Definitions and Notes



A. Definitions

Building Permits	Building permits do not necessarily reflect all residential building activity that occurs in a housing market area (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.
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.
Distressed Sales	Short sales and real estate owned (REO) sales.
Existing Home Sales	Include resale sales, short sales, and REO sales.
Forecast Period	5/1/2023–5/1/2026—Estimates by the analyst.
Home Sales/ Home Sales Prices	Includes single-family home, townhome, and condominium sales.
Net Natural Change	Resident births minus resident deaths.



Rental Market/ Rental Vacancy Rate	Includes apartments and other rental units such as single-family, multifamily, and mobile homes.
Resales	These are home closings that have no ties to either new home closings (builders) or foreclosures. They are homes that were previously constructed and sold to an unaffiliated third party.

B. Notes on Geography

1.	The metropolitan statistical area and the New England City and Town Area (NECTA) definitions noted in this report are based on the delineations established by the Office of Management and Budget (OMB) in the OMB Bulletin dated April 10, 2018. The Leominster-Gardner, MA NECTA and Worcester, MA-CT NECTA exclude a portion of the rural areas of the Worcester HMA. This analysis uses the combined Leominster-Gardner, MA NECTA and Worcester, MA-CT NECTA in the discussion of nonfarm payroll jobs in the Worcester HMA because employment data for the 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 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.	<p>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.</p>
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D. Photo/Map Credits

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