

Socioeconomic Indicators for Massachusetts

March 18, 2025

UMassAmherst

Donahue Institute
Economic and
Public Policy Research

Prepared by the UMass Donahue Institute's Economic & Public Policy Research Group

This report was prepared by the UMass Donahue Institute and the information in text, tables, charts, and graphs are the most recently available information as of January 31st, 2025.

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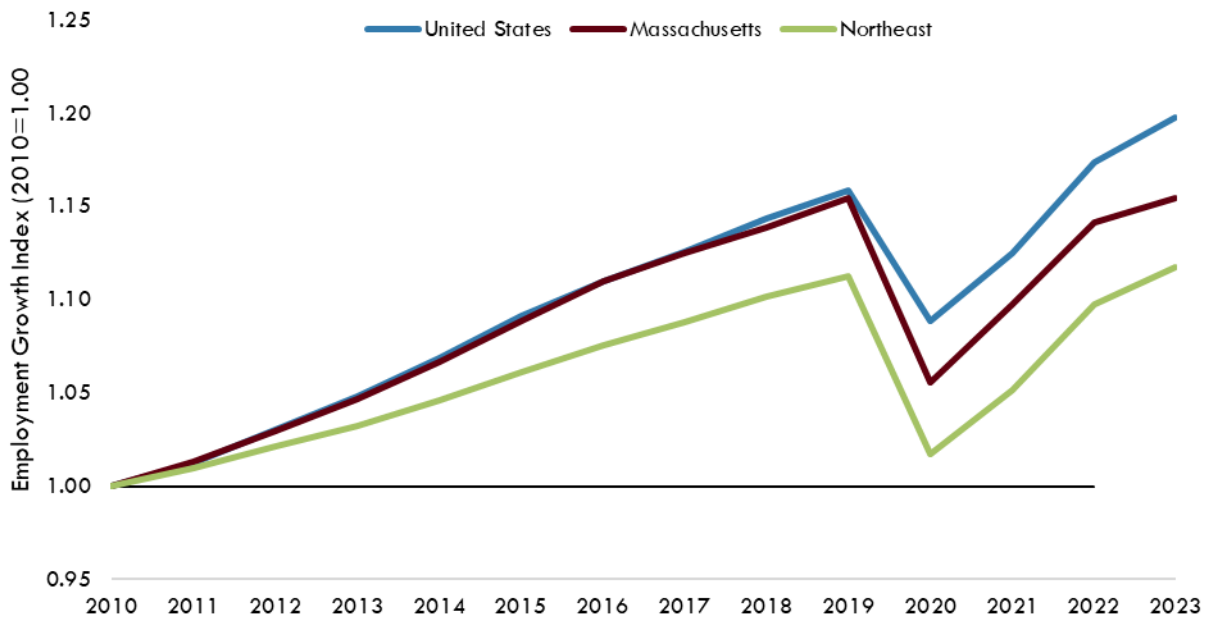
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Economy

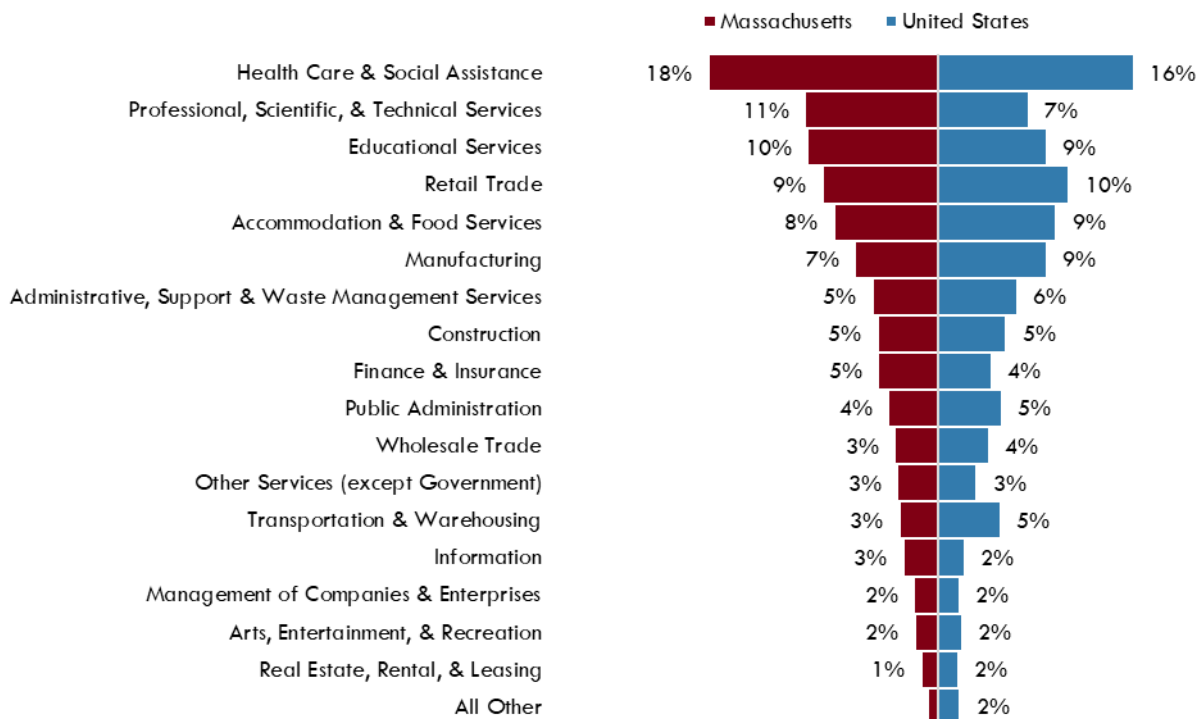
Over the past decade, Massachusetts has been a leader in job growth in the Northeast (Figure 1), driven largely by the state’s highly-educated workforce, the overall diversity of industries, and strengths in knowledge-based industries, such as health care, education, and professional services (Figure 2). Professional and technical services have been increasingly important in the state, both as a share of employment and in terms of its contribution to state gross domestic product (GDP). During the pandemic, professional and technical services moved from being fourth in the state in terms of employment, to second. In 2023, the industry accounted for 11 percent of jobs and the sector was first in the state as a share of GDP, making up 15 percent of the state GDP. While the sector includes everything from legal services to veterinary services, in Massachusetts the two leading subsectors in terms of employees are computer systems design and related services, and scientific research and development services. These subsectors benefit from the Commonwealth’s well-established higher education and health care sectors.

Figure 1. Employment Growth Index in Massachusetts, the Northeast, and the United States, 2010-2023 (2010=1.00)



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW); UMDI analysis

Figure 2. Industry Mix in Massachusetts and the United States, 2023 (Percent of Total Jobs)



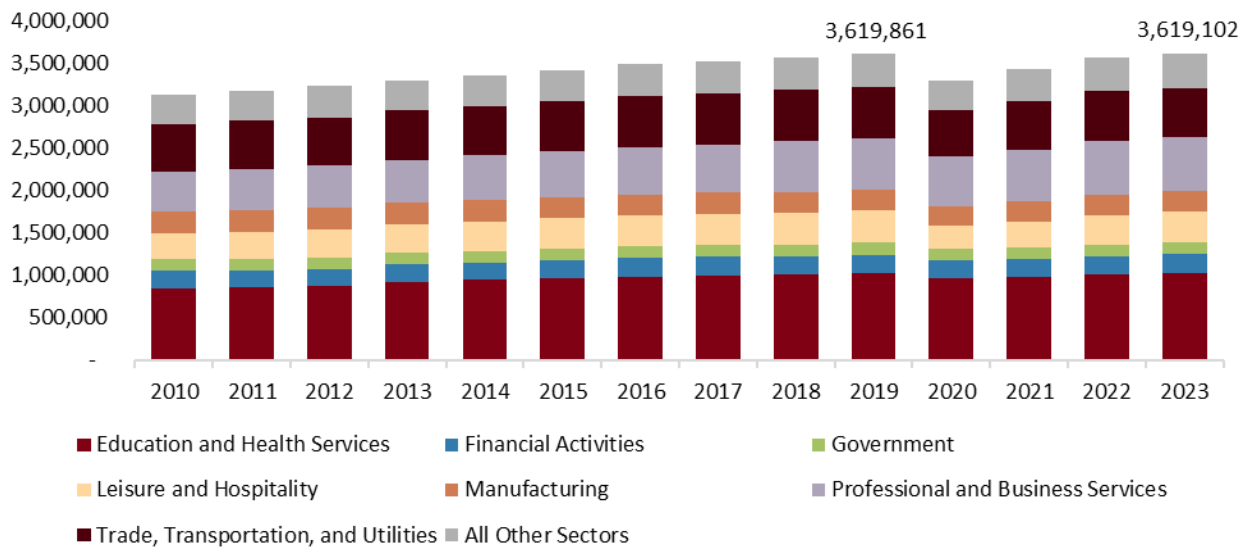
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), UMDI analysis.

Note: All Other includes: Utilities; Agriculture, Forestry, Fishing, & Hunting; and Mining, Quarrying, and Oil & Gas Extraction. QCEW divides government jobs between Public Administration (jobs directly related to public programs and governmental bodies) and all other industries where local, state, and federal employment could be categories, i.e. public school teachers will be categorized as Educational Services. Not seasonally adjusted.

The clusters of colleges, universities, and teaching hospitals contribute to Massachusetts being a hub for technology and research. Educational services and health care and social assistance have consistently been among the top industries in the state. Finance and insurance have played an important role in the Massachusetts economy, making up roughly 5 percent of jobs but contributing 8 percent to the state GDP. At sixth in terms of employment in 2023 the Commonwealth’s share of manufacturing employment remained lower than the share of employment in the United States as a whole.

Looking at Bureau of Labor Statistics supersectors, education and health services, professional and business services, and leisure and hospitality continue to drive the Massachusetts economy and account for almost half of total payroll employment, while financial activities, government, information, and trade, transportation and utilities have remained relatively level or declined in share (Figure 3).

Figure 3. Annual Average Employment in Massachusetts by NAICS Supersector, 2010-2023



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW); UMDI analysis. For purposes of analysis, the Bureau of Labor Statistics aggregates NAICS sectors into groupings called supersectors.
 *Includes the supersectors: Mining & Natural Resources, Construction, Information, and Other Services.

The COVID-19 pandemic interrupted the trajectory of the state's economic growth and had short- and long-term ramifications for the state's economy. Over 690,000 jobs were lost in spring 2020. By the third quarter of 2024, the Commonwealth has recovered the jobs lost during the pandemic. As of December 2024, Massachusetts had nearly the same number of jobs as the February 2020 peak (Figure 4). The growth of professional and technical services during the pandemic occurred during a period when retail trade, other services (which includes equipment repair, laundry and drycleaning, barbershops, and pet care among others), and accommodations and food services all suffered losses in terms of jobs. These generally lower-paying industries remain among the slowest sectors to recover in terms of absolute number of jobs lost and as a share of jobs lost compared to levels prior to the pandemic (Figure 4). The higher paying industries of construction and professional and technical services have both exceeded their pre-pandemic levels (Figure 4). Since the onset of the pandemic through December 2024, professional and technical services saw the largest gains in employment, this includes growth in scientific research and development services.

Figure 4. Jobs Deficit in Massachusetts Relative to February 2020 Peak by 2-Digit NAICS Industry

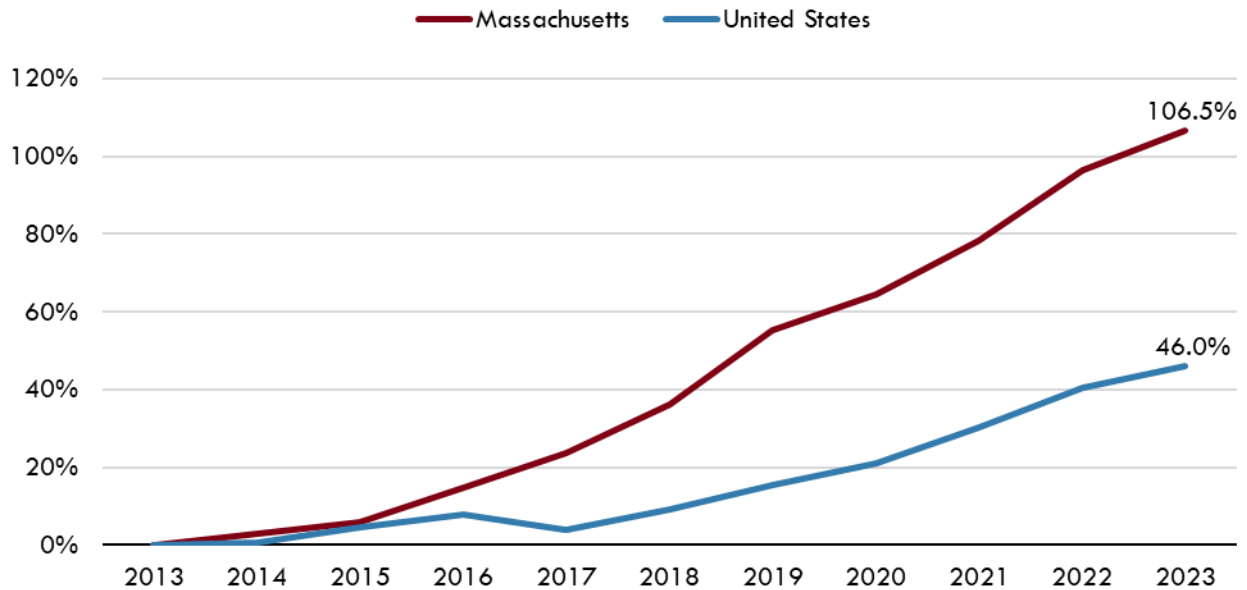
Industry	Massachusetts				U.S.
	Feb-20	Dec-24	Change (N)	Change (%)	Change (%)
Retail trade	350	326	(24)	(6.8%)	1.1%
Accommodation and food services	324	306	(18)	(5.6%)	(0.0%)
Manufacturing	243	232	(11)	(4.7%)	0.7%
Information	96	90	(6)	(6.3%)	3.3%
Arts, entertainment, and recreation	63	61	(3)	(4.4%)	8.2%
Other services	142	141	(1)	(0.8%)	(0.1%)
Wholesale Trade	123	123	(0)	(0.3%)	5.1%
Government	466	466	0	0.0%	2.8%
Mining and logging	1	1	0	0.0%	(7.3%)
Management of companies and enterprises	73	74	0	0.1%	3.5%
Real estate and rental and leasing	49	51	2	3.5%	6.3%
Finance and insurance	178	180	2	1.2%	4.1%
Administrative and waste services	185	188	3	1.7%	1.2%
Transportation, warehousing and utilities	105	110	5	4.4%	14.7%
Educational services	185	190	5	2.6%	3.0%
Construction	166	176	10	6.0%	9.2%
Health care and social assistance	646	664	19	2.9%	10.2%
Professional and technical services	351	370	20	5.6%	13.9%
Total nonfarm	3,746	3,747	1	0.03%	4.7%

Source: Massachusetts Executive Office of Labor and Workforce Development, Current Employment Statistics (CES-790); UMDI analysis

Scientific research and development (R&D) is intensely clustered in Massachusetts compared to the U.S. and has become more concentrated over the past decade. This is true when we look at both jobs in the industry and establishments. The concentration of research universities, hospitals, research institutes, and private companies pursuing advances in biomedical research, life sciences, and other areas of research and development has contributed to the competitiveness of this industry. Over the past decade, employment in this area has nearly doubled in the Commonwealth with roughly 104,000 individuals working in scientific R&D (Figure 5). While these numbers are meaningfully large, they likely understate the significance of the industry in the Massachusetts economy, when considering employment in other industries supports research and development. R&D activity here also constitutes a large portion of national scientific activity: in 2023, more than one in every 10 scientific research and development jobs in the nation were in Massachusetts.

This is despite the Commonwealth being home to only one in every 40 jobs overall in the nation. Jobs in scientific R&D pay notably higher wages than average for both Massachusetts and the US.

Figure 5: Employment Growth in Scientific Research and Development, 2013-2023



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages. NAICS Code 5417, Scientific Research and Development Activities

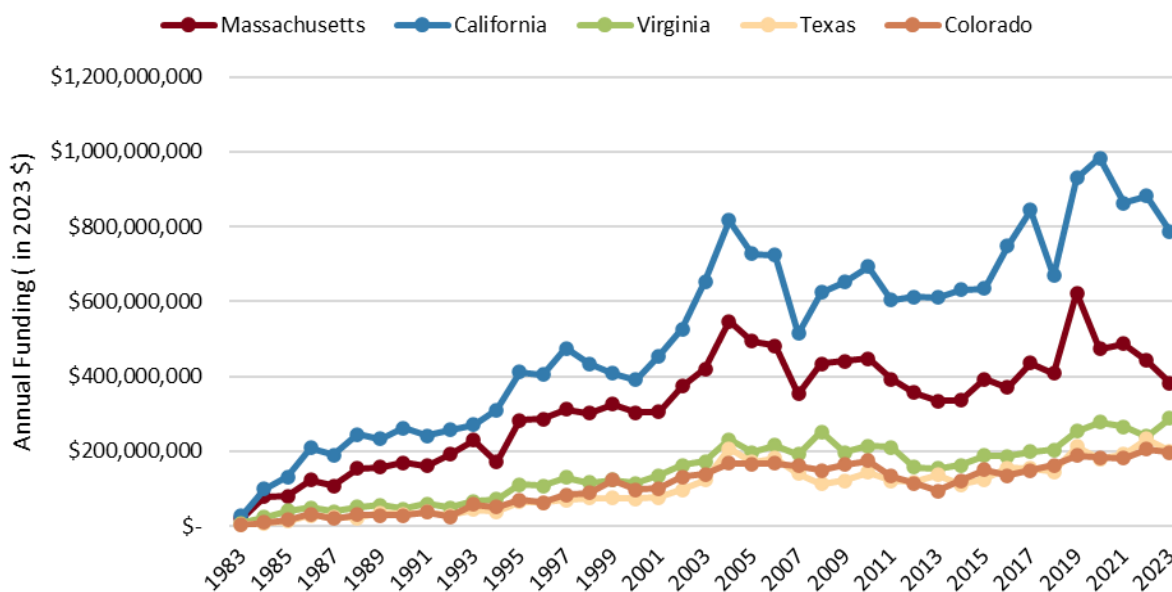
Much of the funding for research and development comes from the federal government. Trends in three prominent sources of this funding, National Institutes of Health, Small Business Administration, and National Science Foundation, illustrate the historic competitiveness of Massachusetts in research and development and the importance of these funding sources to the Massachusetts economy. Federal changes to these funding sources could have significant impacts on the Commonwealth.

The National Institutes of Health (NIH) has a budget of over \$47 billion.¹ Over 80 percent of that budget goes towards funding research through competitive grants. Researchers in Massachusetts have been successful at securing NIH awards at consistently high levels. In 2024, Massachusetts researchers were awarded over \$3.4 billion in funding from the NIH, behind only New York and California. When considered on a per capita level, Massachusetts has been first in the nation every year for the last decade. Within Massachusetts the majority of the funding is focused in the Greater Boston area, though Worcester (home of UMass Chan Medical School) and Western Massachusetts (home of UMass Amherst) have also received large shares of grants from the NIH.

¹ National Institutes of Health, www.nih.gov/about-nih/what-we-do/budget. Accessed 11 Feb. 2025.

Similar to NIH funding, Massachusetts also leads in the US Small Business Administration’s (SBA) innovation focused programs (Figure 6). The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, administered by SBA, are highly competitive award programs that encourage American small businesses to engage in federal R&D with the potential for commercialization. Focused on stimulating high-tech innovation, the purpose of the SBIR/STTR program is tech transfer and to bridge the gap between basic science and commercialization of the resulting innovations for small businesses while meeting federal research needs. Businesses must be owned and located in the US and have fewer than 500 employees. In addition, for the STTR program, small businesses are required to do at least 40 percent of the research, while formally collaborating with nonprofit research institutions. In FY2023 Massachusetts organizations and businesses received over \$383 million in SBIR and STTR funding, behind California in total awards, but first in the nation when considered on a per capita basis.

Figure 6: Annual SBIR and STTR Funding for Top 5 States with Highest Funding in 2023

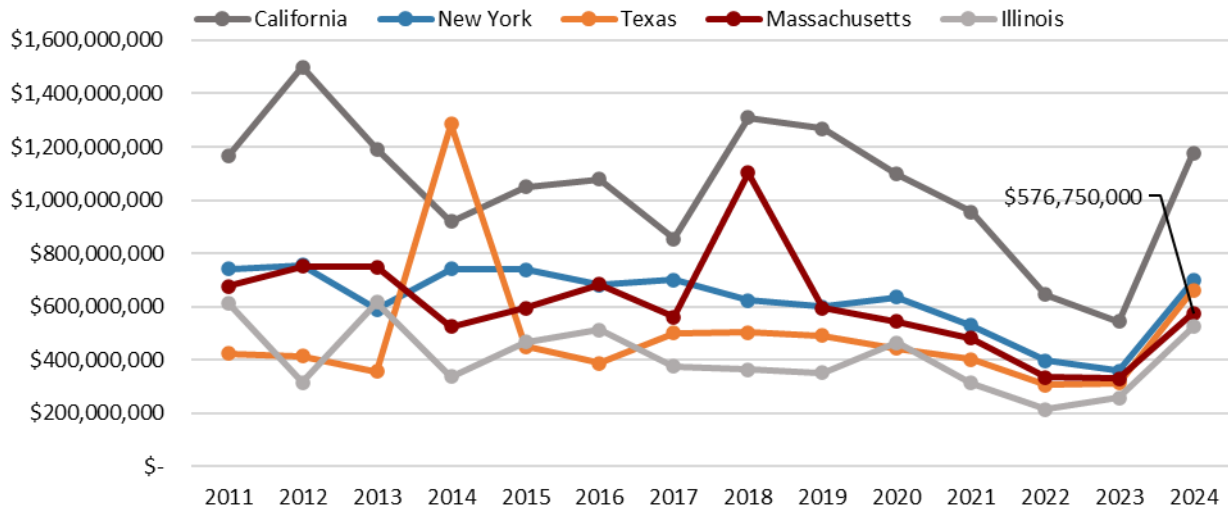


Source: Small Business Administration, Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs. Bureau of Labor Statistics Consumer Price Index, All Urban Consumers, U.S. City Average.

National Science Foundation (NSF) funding is another area where Massachusetts leads, among the top states in terms of overall funding, and first when funding is adjusted to reflect population size. In 2024, Massachusetts researchers were awarded over \$576 million in NSF funding (Figure 7), placing Massachusetts behind California, New York and Texas in terms of total funding, but first in the nation on a per capita basis. Within the state, the majority of funding is directed to universities in the Greater Boston area, though Woods Hole Oceanographic Institution on the Cape and University of Massachusetts in Western Massachusetts are consistently among the five top-funded institutions in the Commonwealth. NSF funds research in many disciplines. In the Commonwealth, geosciences, computer and information sciences, and mathematical physical sciences account for more than half of NSF funding (Figure 8).

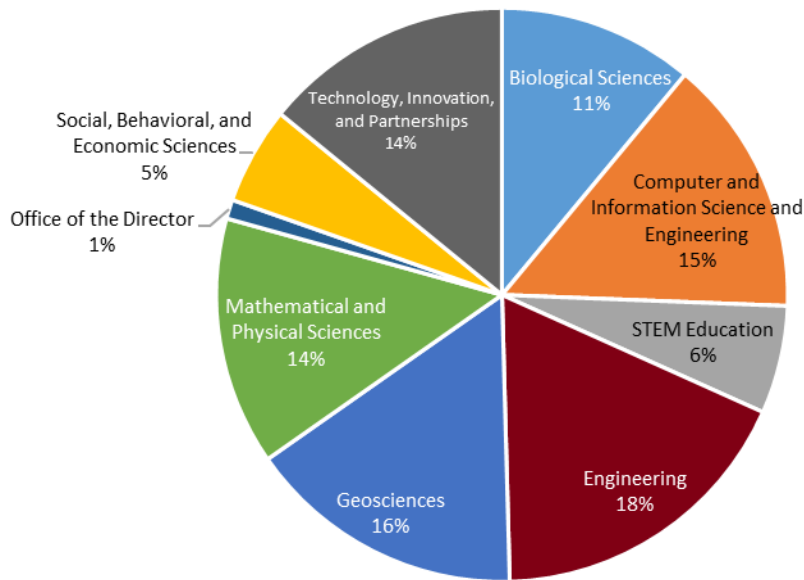
At more than \$5 billion dollars in university expenditures in 2023, Massachusetts is among the top states in university research and development spending, and the states whose universities outspend Massachusetts

Figure 7: Annual National Science Foundation Funding for Top 5 States with Highest Funding in 2024



Source: National Science Foundation. Bureau of Labor Statistics Consumer Price Index, All Urban Consumers, U.S. City Average.

Figure 8: Percent of State Funding by NSF Directorate for Massachusetts, 2024



Source: National Science Foundation

have much larger populations, these include California, New York, Texas, and Pennsylvania.² After adjusting for population size, Maryland and Massachusetts' per capita research spending at universities is noticeably higher than all other states in the U.S. Both states are home to large concentrations of urban research institutions.

The investment of federal funding for research may be a driving factor in Massachusetts' standing as leader in terms of patents. In 2020, 8,790 patents were awarded in Massachusetts, among the top five states in the country. California by far has the most, but again Massachusetts was nearly on par with California on a per capita basis.

The Commonwealth has also attracted venture capital funding. Though Greater Boston has been consistently behind San Francisco and Silicon Valley, the region has received similar levels of venture capital funding as the Los Angeles areas, despite that being the second most populous region in the country. In the third quarter of 2024, Greater Boston's venture capital deals totaled \$3.6 billion, compared to \$3.4 billion for the Los Angeles metro. Over several periods in the past ten years, Greater Boston has drawn similar levels of venture capital as the New York metro area.

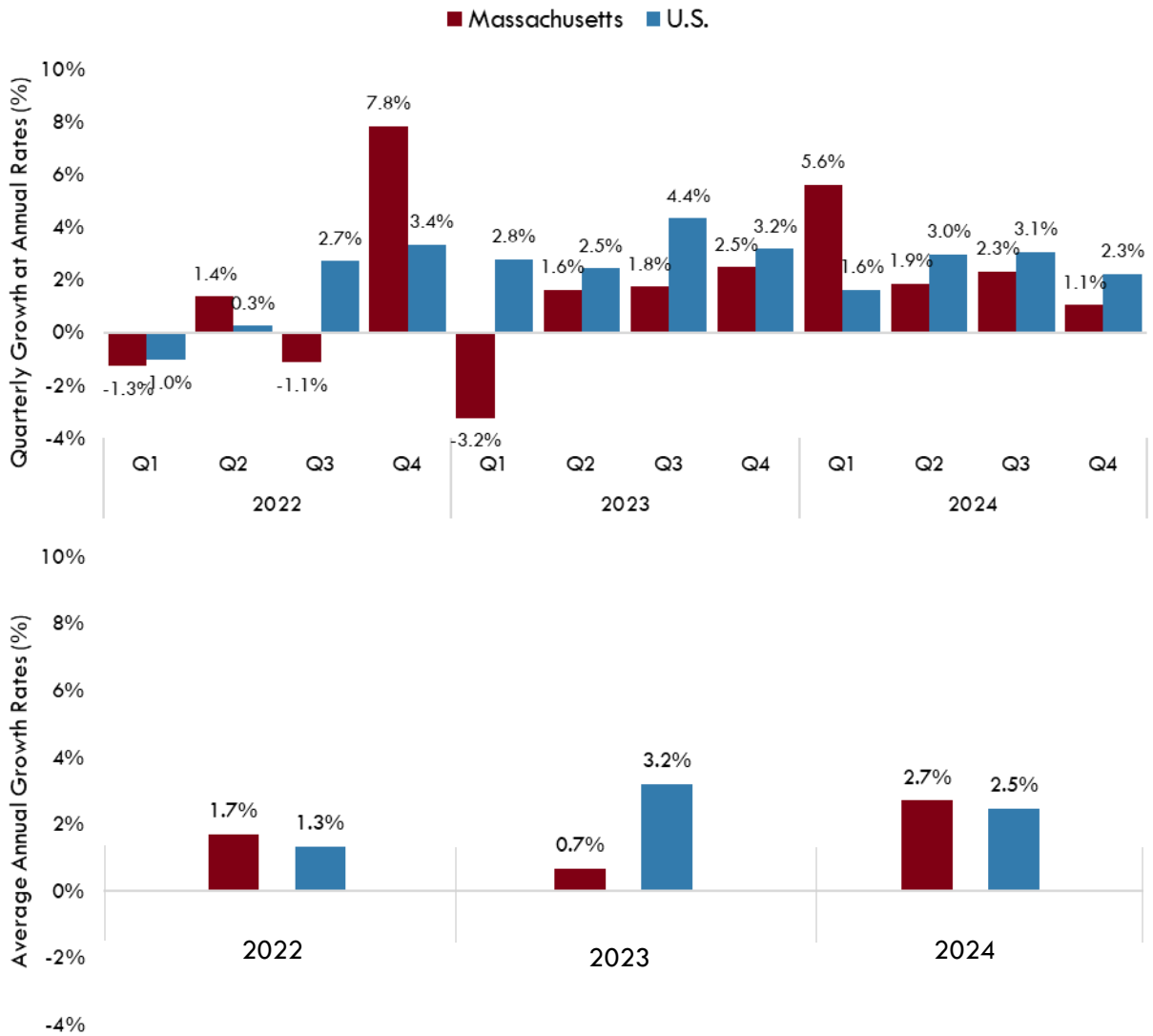
Investment in research and development has also attracted talent from around the globe. Over the past two decades H-1B approvals in Massachusetts have increased dramatically, peaking in 2019 at almost 20,000 before retreating to 17,000 in 2020 and 2021 at the height of the COVID-19 Pandemic. After a resurgence in 2022 to nearly 19,000 approvals, H1-Bs further sank to 16,000 in 2024. Boston is dominant in Massachusetts for H1-B visas, and the overall decline in the state can be mostly attributed to a fall in approvals in Boston, particularly in 2023. From 2009 to 2024, the number of approvals in Cambridge, Waltham, and Somerville more than doubled, though these cities combined account for about half as many H1-B visas as Boston.

According to MassBenchmarks, the journal of the Massachusetts economy produced by the University of Massachusetts Donahue Institute (UMDI) and Federal Reserve Bank of Boston, in the fourth quarter of 2024, Massachusetts real gross state product (GDP) increased at an annual rate of 1.1 percent, while U.S. GDP increased at an annual rate of 2.3 percent, according to the U.S. Bureau of Economic Analysis (BEA). The overall higher growth for Massachusetts in 2004 was due to a 5.6 percent annualized growth for Massachusetts in the first quarter of 2024 versus only 1.6 percent or the U.S. In each of the last three quarters of the year, the Massachusetts economy grew more slowly than that of the U.S.³

² The National Center for Science & Engineering Statistics conducts an annual Higher Education R&D survey which solicits responses directly from all universities and colleges that generate at least \$150,000 in R&D expenditures in a year. This survey accounts for R&D funding from all sources, including federal, state, and local governments; businesses and non-profit foundations; and the institution's own funding.

³ The current and historic quarterly estimates for state domestic product growth include adjustments for changes in productivity growth. These adjustments are estimates of the quarterly deviations from the 1978-2023 trend in the growth of the ratio of output to employment. In the fourth quarter of 2024, these adjustments subtracted 0.9 percentage points from growth. In the third quarter of 2024, these adjustments subtracted 0.0 percentage points from growth. In the first and second quarters of 2025, these adjustments are expected to subtract 0.8 and 0.9 percentage points respectively.

Figure 9. Growth in Real Product, Massachusetts and the United States, 2024 Q4



Source: U.S. Bureau of Economic Analysis, MassBenchmarks calculations by Dr. Alan Clayton-Matthews. U.S. projections from Wall Street Journal. Note: average annual growth is calculated by averaging the four quarters of annual growth rates for the calendar year.

Payroll employment in Massachusetts fell at a 0.3 percent annual rate in the fourth quarter from 0.7 percent annualized growth in the third quarter. This contrasts with U.S. employment, which grew at

The current and historical quarterly estimates also include “cyclical” adjustments, as the relationship between the growth in the current indicators and that of gross domestic product changes over the course of the business cycle. In the fourth quarter of 2024, these adjustments added 0.5 percentage points to growth. In the third quarter of 2024, these adjustments added 0.3 percentage points to growth. In the first and second quarters of 2025, these adjustments are expected to add 0.7 and 0.5 percentage points to growth respectively.

annualized rates of 1.1 percent in the third quarter and 1.2 percent in the fourth quarter. The Massachusetts economy appears to have shifted into low gear, with stagnant employment growth, rising unemployment, and tepid spending on items subject to regular sales taxes. This contrasts with the U.S. economy, which may be decelerating, but is still growing at a moderate pace.

Spending on items subject to the Massachusetts regular and motor vehicle sales taxes declined at a 2.3 percent annual rate in the fourth quarter, after rising by a 9.9 percent rate in the third quarter (seasonally adjusted). Compared to the fourth quarter of 2023, spending in the fourth quarter of 2024 was up only 2.7 percent. This spending reflects business and household spending on (taxable) goods – almost all services are exempt. It has been a reliable indicator of the current state of the Massachusetts economy, so the tepid growth in spending is consistent with other indicators such as employment. Interestingly, the motor vehicles portion of this spending was robust in the fourth quarter of 2024, rising at a 23.8 percent annual rate. The implied automobile purchases rose in each month throughout the quarter, consistent with anecdotes of pre-emptive purchases to avoid tariff-based increases in prices.

MassBenchmarks estimates that wage and salary income in Massachusetts, based on state personal income withholding taxes, rose at an annual rate of 9.4 percent in the fourth quarter. In contrast, U.S. wage and salary income growth was 5.9 percent on an annual basis in the fourth quarter. The state's new surtax on incomes over \$1 million have increased quarterly fluctuations in earnings growth estimates due to the fact that high earning individuals have more variation in their incomes on a monthly and annual basis. Thus, it is important to focus on longer term trends. Relative to the fourth quarter of 2023, earnings were up 6.5 percent in the Commonwealth slightly higher than the U.S. where wage and salary income grew 5.7 percent from the fourth quarter of 2023 to the fourth quarter of 2024.

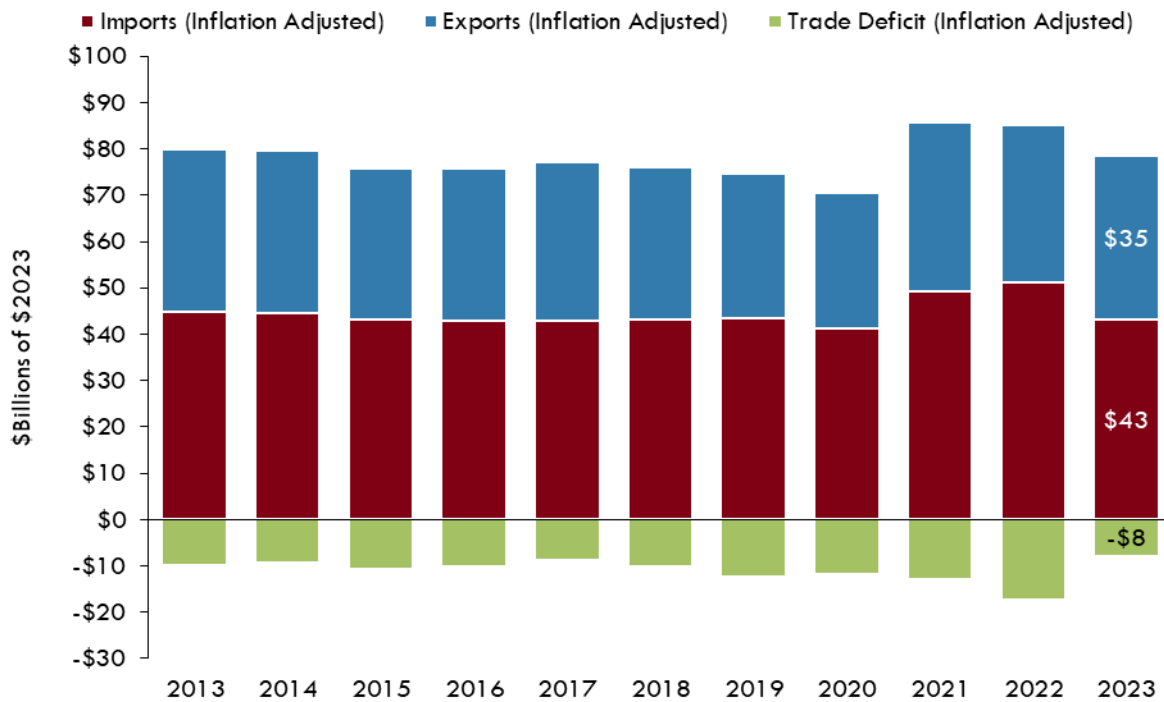
Inflation in the Boston metropolitan area according to the BLS's CPI-U headline measure was subdued in the third and fourth quarters of 2024, with overall prices rising at an annual rate of 1.0 percent in the fourth quarter and falling by 0.2 percent in the third quarter. Core inflation – excluding food and energy – in the Boston area was 0.6 percent on an annual basis in the fourth quarter and minus 0.1 percent in the third quarter. These rates were lower than corresponding rates for the “all cities” measure for the U.S., consistent with a weaker state economy in the last half of 2024. On a year-over-year basis, inflation rates in Boston and the U.S. were similar. From the fourth quarter of 2023 to the fourth quarter of 2024, overall prices rose 3.0 percent and core prices rose 3.6 percent in Boston, versus corresponding rates of 2.7 percent and 3.3 percent for the U.S.

The leading index is projecting that the rate of growth in the Massachusetts economy will continue to be slow and trail that of the U.S. economy. Massachusetts' real GDP is expected to grow at an annual rate of 0.7 percent in the first quarter and 1.0 percent in the second quarter of this year. The Wall Street Journal forecast of economists from early January is for U.S. GDP to grow 2.2 percent in the first quarter and 2.0 percent in the second quarter.

Massachusetts trade has fluctuated since the pandemic declines in 2020 and after a large rebound in 2021. The Commonwealth's total trade volume (exports and imports) fell 7.9 percent from 2022-2023; the total trade volume was \$78.5 billion in 2023 (Figure 10). Canada was by far our most valuable trading partner, with a trade volume of \$14.6 billion, 18.6 percent of the total state trade (Figure 11).

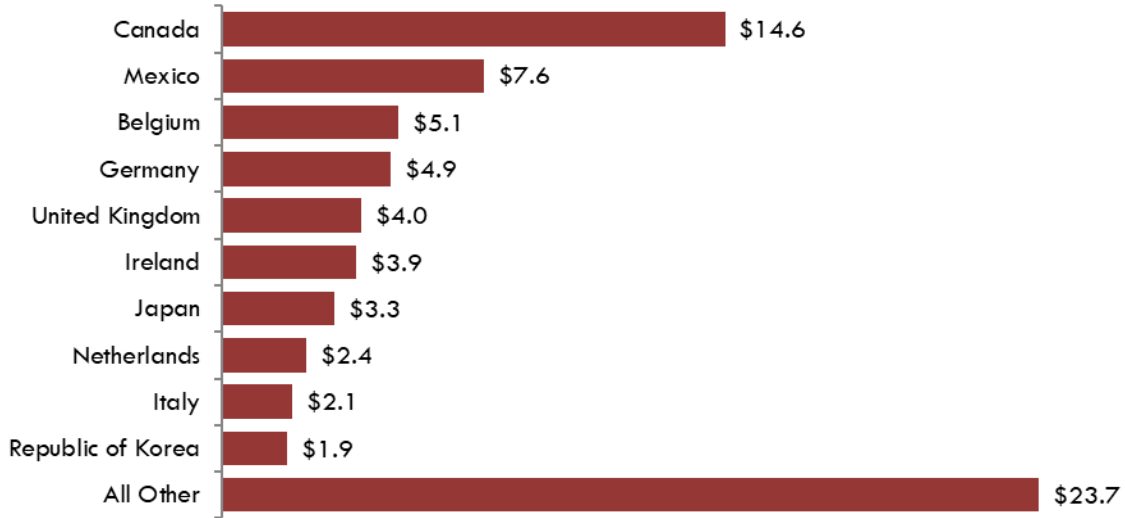
Massachusetts' trade deficit, \$8 billion, decreased roughly by half from 2022 to 2023. Massachusetts ranked 18th in the U.S. in 2023 and first in New England with \$35.3 billion in exports. This was a 3.8 percent increase from the previous year's export value, while national exports decreased by 6.2 percent and total exports from New England were little changed (Figure 12). Belgium and China were our top two export destinations in 2023 with \$4.8 and \$3.3 billion each, respectively. Belgium is notable on this, as Massachusetts only exported \$784 million to the country in 2022. This change seems primarily driven by a roughly \$4 billion increase in pharmaceutical products export to Belgium between 2022 and 2023. Future data will show whether this is the start of a new trend or a one-year outlier. Imports decreased 15.7 percent year-over-year to \$43.2 billion in 2023. Canada was the largest source for Massachusetts imports in 2023, from which we imported \$11.3 billion, or 26.2 percent, of our total.

Figure 10. Massachusetts Imports, Exports, and Trade Deficit, 2013-2023 (in Billions of \$2023)



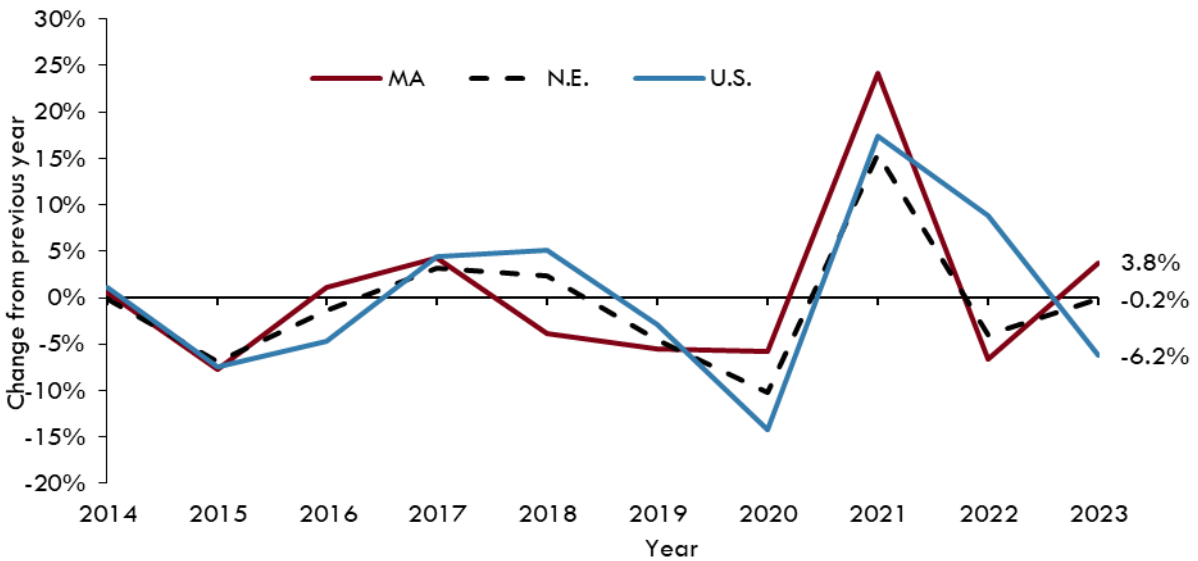
Source: WISERTrade.org; UMDI analysis

Figure 11. Massachusetts Top 10 Trade Partners in 2023 (in Billions of \$2023)



Source: WISERTrade.org; UMDI analysis

Figure 12. Export Growth for Massachusetts, the United States, and New England, 2014-2023

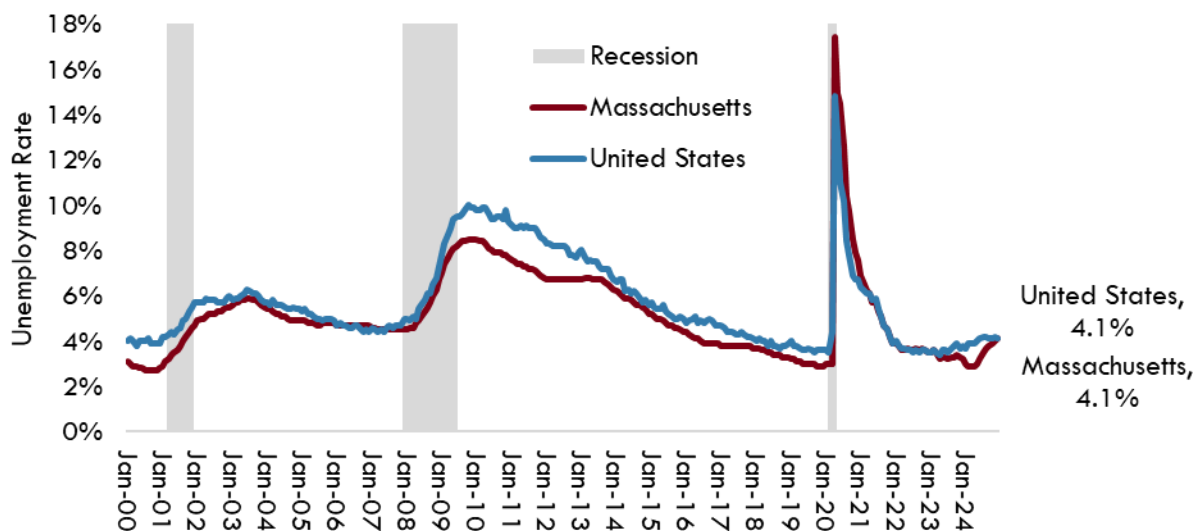


Source: WISERTrade.org; UMDI analysis

Workforce

In recent history, the Massachusetts economy has generally outperformed the U.S., with the state unemployment rate typically below the nation. This was especially the case during and the period following the Great Recession. The Commonwealth's mix of knowledge-based industries and well-educated workforce led to high levels of labor force participation and low levels of unemployment in the state overall. The tightness of the current labor market is reflected in the unemployment rate, which has recently reached historically low levels. During the post-pandemic recovery, the Massachusetts unemployment rate tended to follow historical trends and registered lower than the U.S. This has changed recently, and the headline (U-3) unemployment rate for Massachusetts in December 2024 matched the U.S. at 4.1 percent, up from 3.2 percent in December 2023 (Figure 13). Initial unemployment claims, as measured by the number of persons receiving a first week of payments, have seasonally fluctuated at pre-pandemic levels since 2022.

Figure 13. Unemployment Rates in Massachusetts and the United States as of December 2024 (Seasonally Adjusted)



Source: Massachusetts Executive Office of Labor and Workforce Development, Local Area Unemployment (LAU) Statistics; UMDI analysis

The U-6 unemployed rate, which counts as unemployed part-time workers who want full-time jobs and workers who have not looked in the past four weeks but who sought work in the past year, followed a similar pattern. The U-6 rate was 7.2 percent in Massachusetts as an annual average for 2024, up from 6.1 percent in September 2023. For the U.S., the U-6 rate in December was 7.5 percent, down from 7.7 percent in November and up from 7.2 percent in December 2023.

The rise in unemployment in Massachusetts does not appear to be due to an increase in layoffs, as for example first-time unemployment claims, do not exhibit a consistent, rising trend. Instead, unemployment has risen in hand with increases in the labor force, which grew at an annual rate of 1.6 percent in the

fourth quarter, following a rise of 5.9 percent in the third quarter. Given the small size of the Bureau of Labor Statistics (BLS) household survey for Massachusetts, which leads to “noisy” measures, it is difficult to discern the source of the increased number of persons looking for work, but it is clear that jobs are becoming more difficult to find.

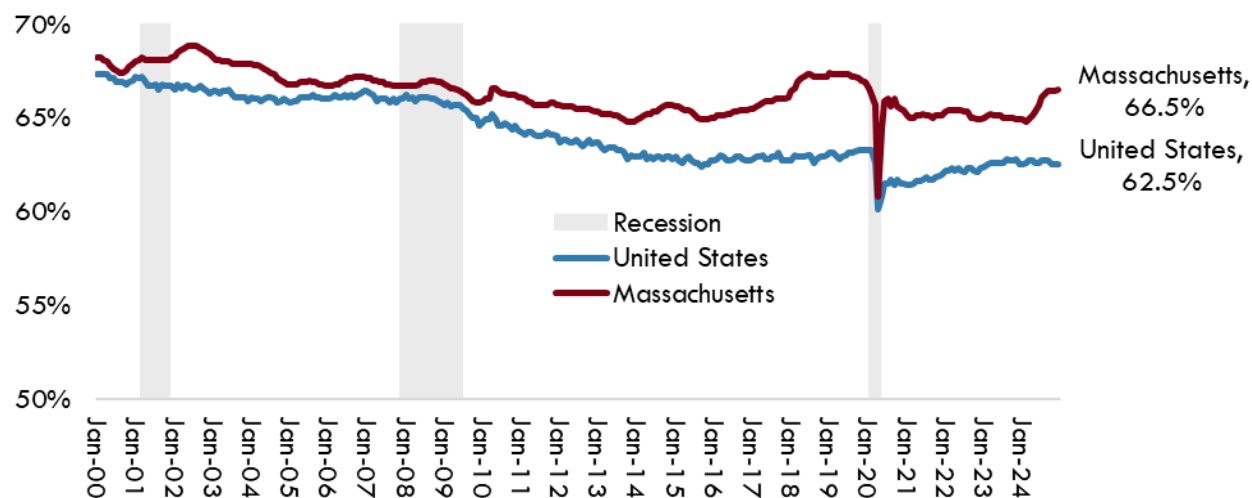
The size of the labor force had remained relatively stable since Fall 2020 through early 2024 (Figure 14). Since March 2024, the labor force has increased by 103,000, or 2.8 percent. At the same time, Massachusetts has consistently maintained higher rates of labor force participation than the U.S.; the difference had narrowed considerably until the recent increase in the Massachusetts labor force. The labor force participation rate rose from 64.9 percent in March to 66.5 percent in December 2024. In December 2023, the state’s labor force participation rate was 64.9 percent. (Figure 15). The rate is up and close to the pre-pandemic level of 66.6 percent in January 2020.

Figure 14. Massachusetts Labor Force, January 2000-December 2024 (Seasonally Adjusted)



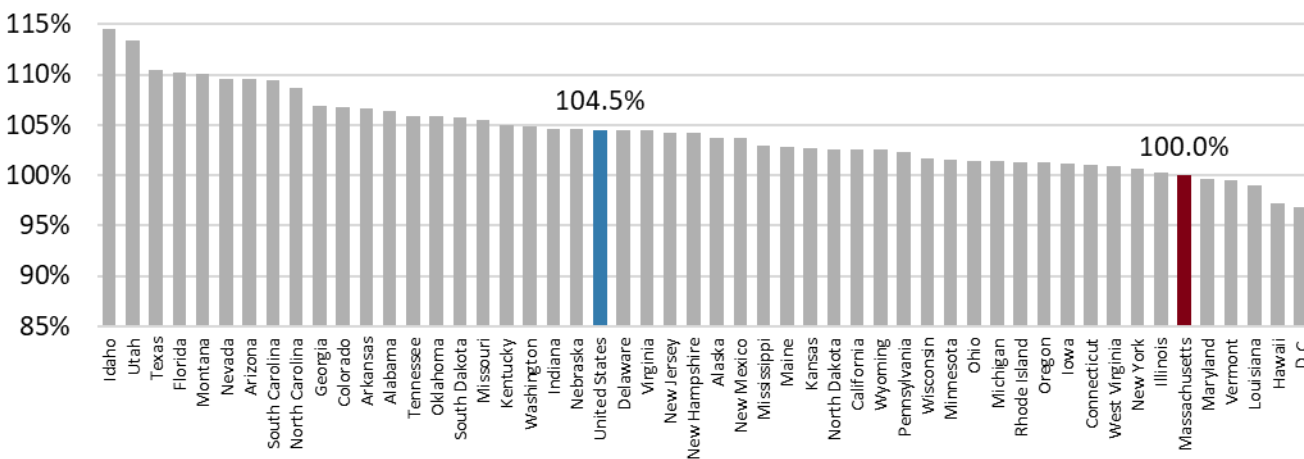
Source: Massachusetts Executive Office of Labor and Workforce Development, Local Area Unemployment (LAU) Statistics; UMDI analysis

Figure 15. Labor Force Participation Rates in Massachusetts and the United States, January 2000-December 2024 (Seasonally Adjusted)



Source: Massachusetts Executive Office of Labor and Workforce Development, Local Area Unemployment (LAU) Statistics; UMDI analysis

Figure 16. Job recovery rates in Massachusetts and all states, February 2020 and December 2024 (Seasonally adjusted)

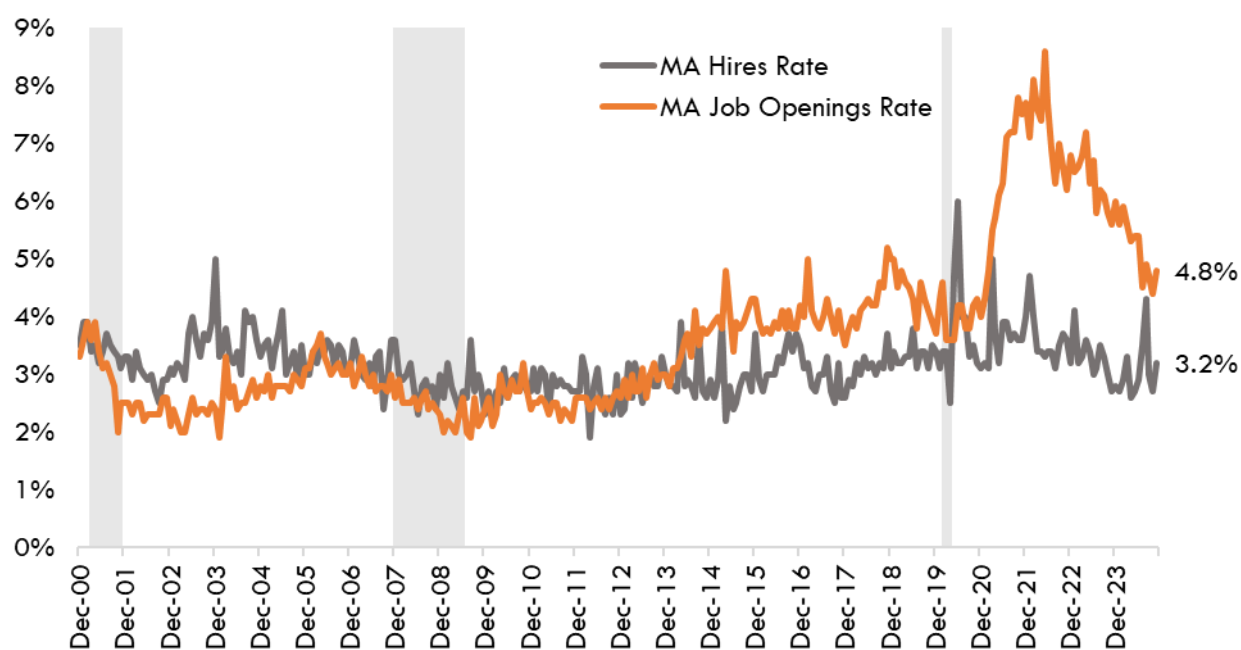


Source: Massachusetts Executive Office of Labor and Workforce Development, Current Employment Statistics (CES-790); UMDI analysis

As of December 2024, jobs in Massachusetts have mostly recovered to their pre-pandemic levels, but the recovery has been slower than in many states (Figure 16).⁴

The labor market has changed from the era of post-pandemic “Big Quit” when a combination of uneven job losses and recovery, and an overall decline in the total labor force size led to hiring and staffing challenges for employers. The gap between Massachusetts job openings and hire rates is still greater than it was before the pandemic but shrinking (Figure 17). The gap between job openings and hires in the state is an indicator that employers are having a hard time filling current openings. As the measures move closer together it suggests that the employers are regaining power in the labor market.

Figure 17. Job openings rate and hire rate in Massachusetts, December 2000 – November 2024 (Seasonally adjusted)

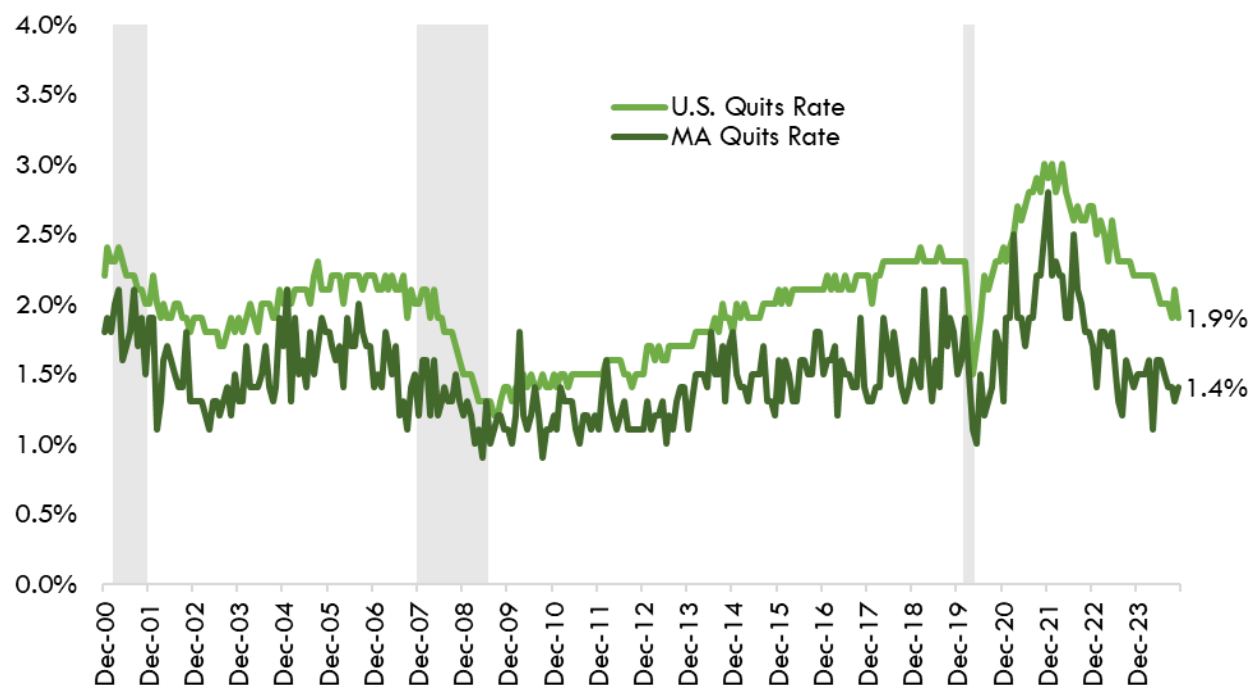


Source: U.S. Bureau of Labor Statistics, Job Openings and Labor Turnover Survey (JOLTS); UMDI analysis

Another indicator of this trend is that the spike in voluntary job changes has subsided (Figure 18). The monthly job quit rate for Massachusetts and the U.S. have returned to pre-pandemic rates. As one would expect, quits tend to go down during recessionary periods in the economy and increase when labor demand is stronger. The quit rate for the U.S. tends to be a bit higher than Massachusetts historically. This is likely due to the high education attainment of Massachusetts workers coupled with the state’s industry mix.

⁴ Note the BLS issues revisions to its state employment figures in March of every year. March 2024 revisions significantly changed estimates of Massachusetts jobs recovery rates. This revisions extended back to 2019 and covered the period of the pandemic.

Figure 18. Job quits rate in Massachusetts and the United States, December 2000 – November 2024 (Seasonally adjusted)



Source: U.S. Bureau of Labor Statistics, Job Openings and Labor Turnover Survey (JOLTS); UMDI analysis

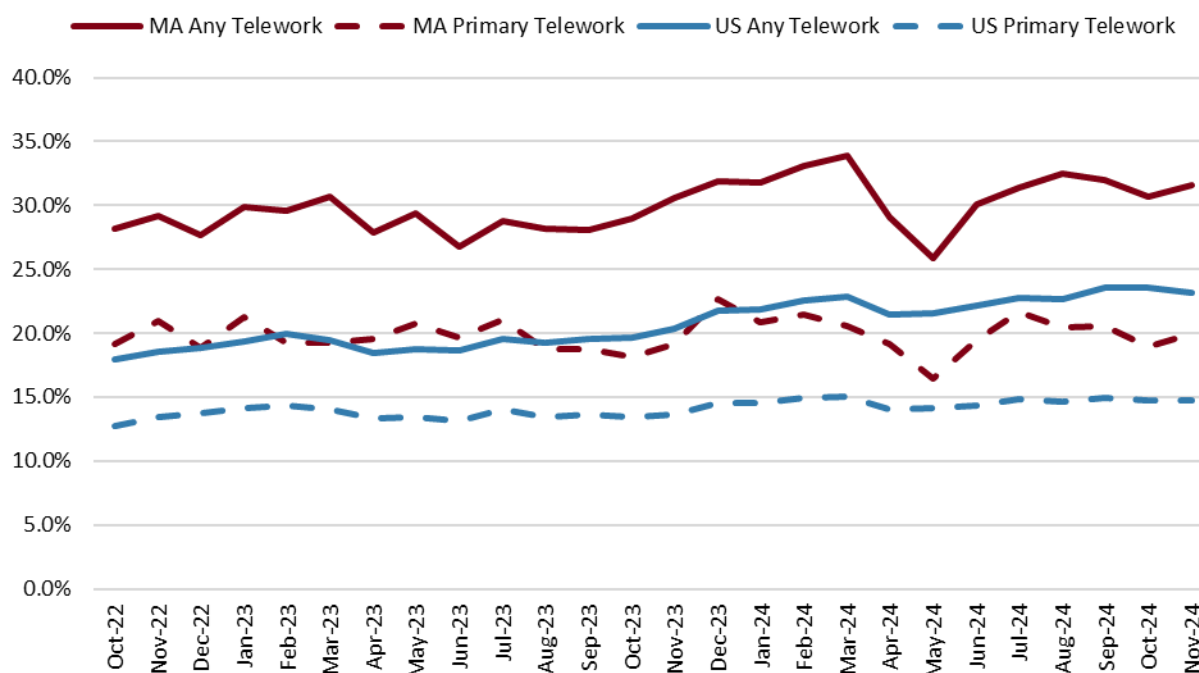
Competition for workers in a tight labor market has led to wage increases across the Massachusetts economy. According to the BLS, year-over-year wages increased 11 percent from 2019 to 2020 and 5 percent from 2020 to 2021. In contrast, wage growth from 2021 to 2022 moderated to 2.3 percent, and only 1.9 percent between 2022 to 2023. Despite the wage gains experienced by many workers in the economic recovery period, those gains have largely failed to keep up with the rate of inflation, leading to households having reduced spending power, despite any wage gains experienced over the economic recovery period.

One way the pandemic appears to have permanently altered the workforce is by increasing the prevalence of teleworking. Prior to the pandemic the technology to work remotely existed, however uptake among firms was limited. Then, nearly overnight in March 2020, employers and employees across industries and occupations were forced to adopt new ways of doing business and working. Analysis of American Community Survey data on commuting patterns estimate that, in 2019, less than 6 percent of working adults worked from home in the week prior to responding to the survey. In contrast in 2023, 16 percent of respondents in Massachusetts reported working from home, three times the rate prior to the pandemic, but down from 2021 and 2022. While the share of workers primarily working from home has declined since 2020, telework, remote work, hybrid work, and flexible schedules are unlikely to return to pre-pandemic levels. Nearly one in three employees in Massachusetts reported working remotely at least some of the time since the U.S. Census Current Population Survey incorporated remote work into their

questionnaire in October 2022 (Figure 19). The embrace of remote and hybrid work has implications for employers, employees, businesses that cater to commuters in downtowns, and regions centered on dense urban cores.

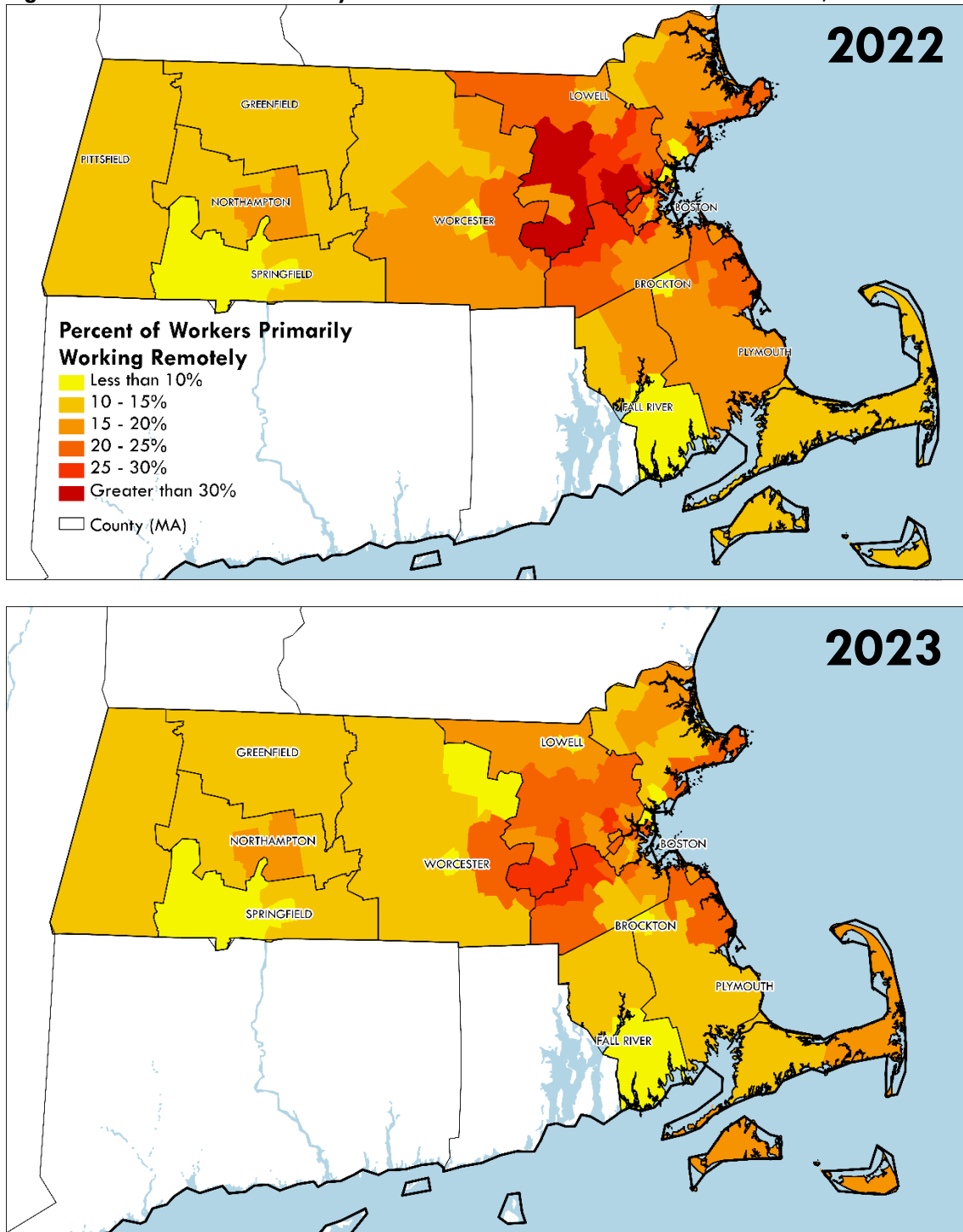
Throughout the nation and the Commonwealth, rates of telework vary geographically. Massachusetts has higher rates of teleworking than the nation. Over 30 percent of workers in Massachusetts are working remotely at least part of the time and 20 percent are working from home primarily (Figure 19). While rates of remote work have declined somewhat since 2021 in the state, teleworking remains concentrated in the suburbs just west of Boston (Figure 20).

Figure 19: Rate of Telework (all teleworkers and primary teleworkers) in Massachusetts and United States, 2022-2024



Source: U.S. Census Bureau, Current Population Survey Microdata Massachusetts

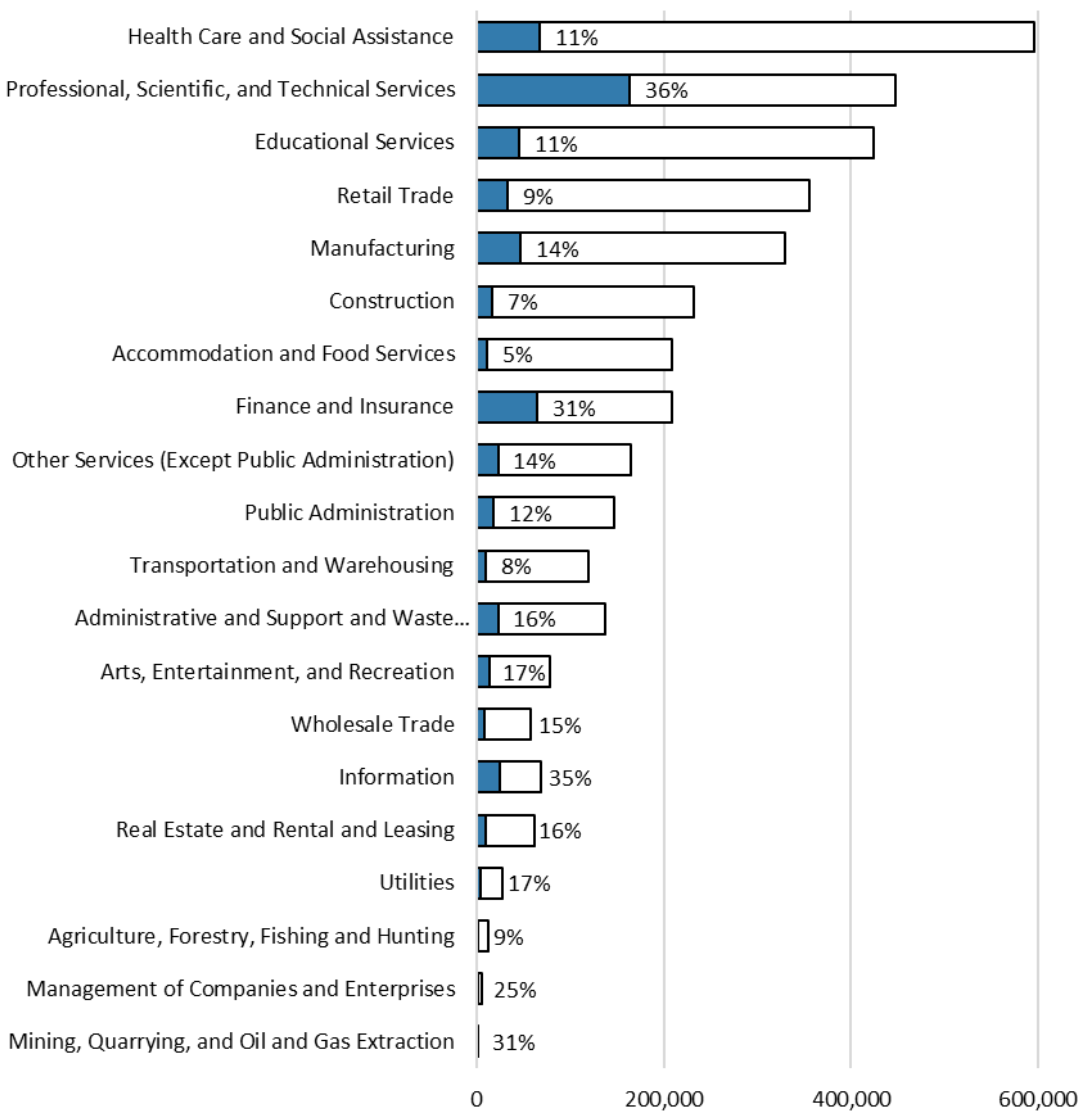
Figure 20: Remote Work Rates by Public Use Microdata Areas in Massachusetts, 2022 and 2023



Source: U.S. Census American Community Survey Microdata via IPUMS. Calculations by UMDI.

Teleworking is also concentrated in certain industries: information, professional, scientific and technical services, finance and insurance, and management are all above the state average in terms of telework (Figure 21). Related to the industries where remote work is concentrated, it is not surprising that the advantages of flexible work arrangements are disproportionately accruing to workers who are relatively well-off. Remote workers are more likely to be college educated; more likely to be white or AAPI; and more likely to be high-wage earners. They are slightly more likely to be native born, to have children under the age of 18 in their household, and 35-44 years old. While changes in federal policy may reduce rates of teleworking among federal workers in the future, it is uncertain whether other employers will follow the federal government’s lead.

Figure 21: Remote Work Rates by Industry in Massachusetts, 2023



Source: U.S. Census American Community Survey Microdata via IPUMS. Calculations by UMDI.

For employers, remote work offers advantages and disadvantages. Remote work or hybrid work is an amenity for many workers, so offering flexibility means that businesses may have an easier time attracting workers. If employees only work in person once or twice a week or are completely remote, they can potentially live farther from the office, and the employer can search for new workers in a wider labor pool. Businesses that employ more remote or hybrid workers do not need to maintain as much physical office space and can save money on downtown office building leases. The productivity implications of a workforce that is primarily or partially working from home are still unclear and may depend on industry and other factors. It is also unknown to what extent remote and hybrid work will impact downtowns and office parks. Commercial real estate markets have been strained by the rise in vacancies and interest rates. While some see the potential to transform commercial real estate into much needed housing, the feasibility of such transformations in the short-term is limited. The decline in commercial real estate markets could have negative impacts on Boston's and other cities' revenues. Long-term declines in office space values could lead to revenue shortfalls in the future, which may, in turn, impact city services.

In addition to upending the labor market, the pandemic has had lasting impacts on transportation in the Commonwealth. Transportation and mobility are essential to the economy and workforce. On one side, the industry sectors – transportation, warehousing, and wholesale trade – are indicative of the activities related to the movement of people and freight in Massachusetts and can be measured by jobs and contribution to the state's GDP. On the other side, indicators like congestion levels, vehicle miles traveled (VMT), public transit ridership, and air passengers have traditionally served as proxy measures of how the economy is performing. It remains to be seen to what extent employees will resume commuting to work and how the relationship between mobility and employment will evolve.

For many workers, the transition to remote or hybrid work has been beneficial as it reduced or eliminated commuting. Leading up to the pandemic, the delays that Massachusetts drivers faced for their commutes had risen dramatically. The typical driver in Boston sat in traffic for nearly 90 hours per year as compared to just over 30 in the early 1980s. Nationally, the Boston urban area has consistently ranked among the highest in the nation in terms of annual hours of delay and Boston's traffic congestion has outpaced other areas of the Commonwealth for this period, at times, more than doubling the hours of delay incurred by Worcester or Springfield area drivers.

Freeway daily vehicle miles traveled (VMT) throughout the three most populous regions of the state thoroughly outpaced population growth for the period of 1982-2019, increasing roughly 120 percent for the Boston, Springfield, and Worcester urban areas, regardless of the varying changes in population growth that each area experienced. This points potentially to statewide changes in driving behavior (e.g., more cars taking more and longer-distance trips) independent of population growth as well as land use patterns potentially favoring vehicle-focused types of development. Traffic volumes across the state have largely reversed and almost fully recovered from the significant dip in VMT that occurred in 2020 due to

the pandemic, with average weekday and weekend traffic volume in January 2025 hovering between 85-115 percent of their pre-pandemic January 2019 levels.⁵

In contrast to daily VMT, total public transit ridership has lagged economic recovery in Massachusetts following the beginning of the COVID-19 pandemic in spring 2020 (Figure 22). Immediately following the emergence of COVID-19 and subsequent “stay at home” orders, transit authorities uniformly experienced a sharp decline in ridership. Total public transit ridership across the state has since started recovering, showing signs of seasonal variation with dips in the winters and relative peaks in summers.

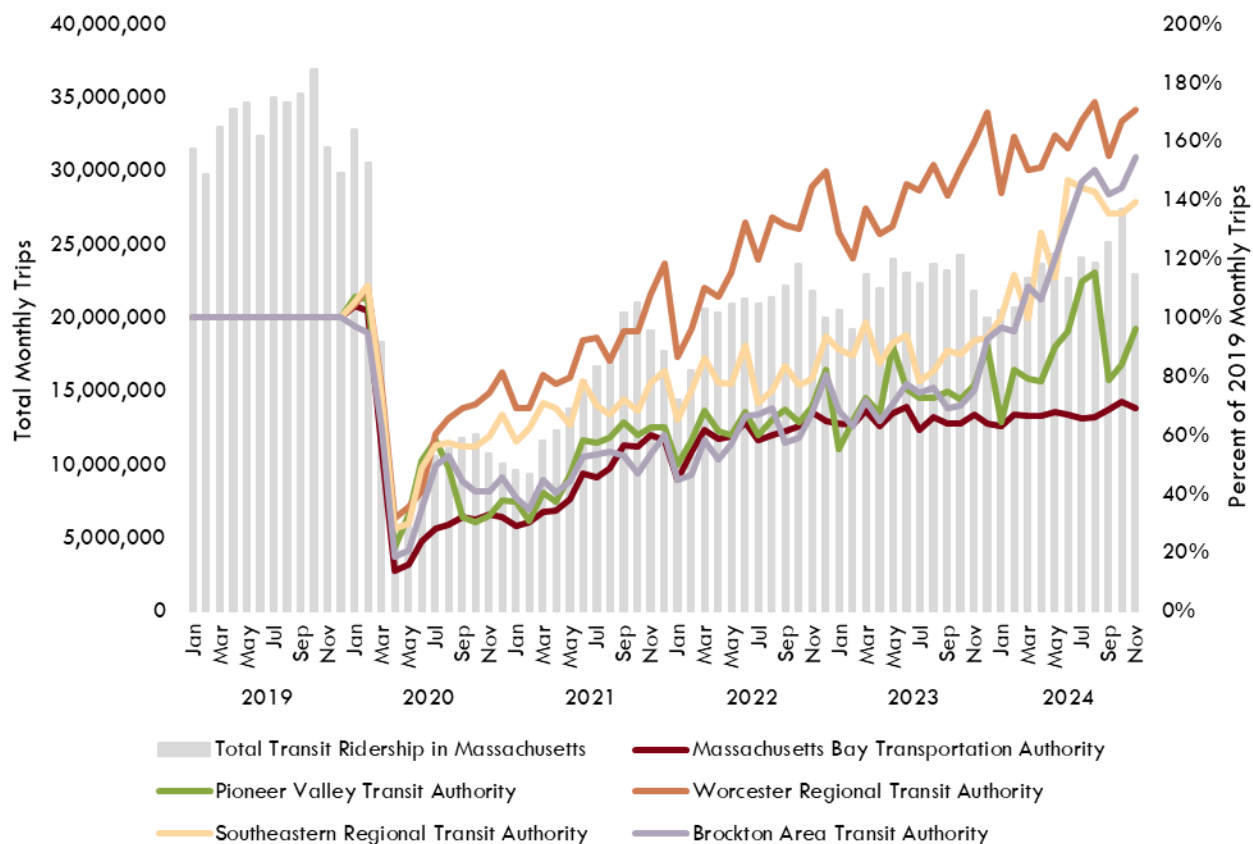
The Massachusetts Bay Transportation Authority (MBTA) and the Commonwealth’s regional transit authorities (RTAs) have seen highly variable rates of recovery. Among the top five largest transit authorities in the state measured by February 2020 ridership, the four RTAs have exceeded pre-pandemic ridership and are experiencing strong ridership growth especially over the course of 2024. The Worcester RTA was among the first RTAs to suspend fare collection on its buses since the beginning of the pandemic, and this is one possible explanation for why the region has consistently had the state’s best ridership recovery overall. Various funding was made available through 2023 and 2024 to extend fare free transit in Worcester and other regions of the state. The Fiscal Year 2025 state budget includes funding to allow all of Massachusetts’s Regional Transit Authorities to offer fare-free services.⁶ The MBTA, however, has experienced relatively little ridership growth over the past several years.

Industry mix may explain some variation in ridership recovery across the Commonwealth as well. Worcester, with its emphasis on health care jobs, likely has many commuters who must still travel to their place of work. Boston, on the other hand, has a greater share of financial, tech, and professional services jobs - employees who are much more likely to work from home at least part of the time. Incomes may play a role as well. Low-income residents of Worcester may still rely on buses, whereas the MBTA serves different income groups across its commuter rail, rapid transit rail lines, and bus network. High-income workers may be less likely to return to transit if they have easier access to a personal vehicle.

⁵ Massachusetts Department of Transportation Mobility Dashboard, Average Traffic Volumes at Select Count Locations. <https://mobility-massdot.hub.arcgis.com/>

⁶ MassBudget, “2025 Massachusetts Budget Showcases Accomplishments of Fair Share Amendment”. July 29, 2024. <https://massbudget.org/2024/07/29/fy2025-budget-showcases-fsa/>

Figure 22. Monthly Transit Ridership, 2019-2024



Source: National Transit Database. Note: total ridership is the sum of MBTA and Regional Transit Authority ridership per month. Top five transit authority by February 2020 ridership are shown as a share of their monthly ridership relative to the comparable month in 2019, e.g. September 2020 / September 2019.

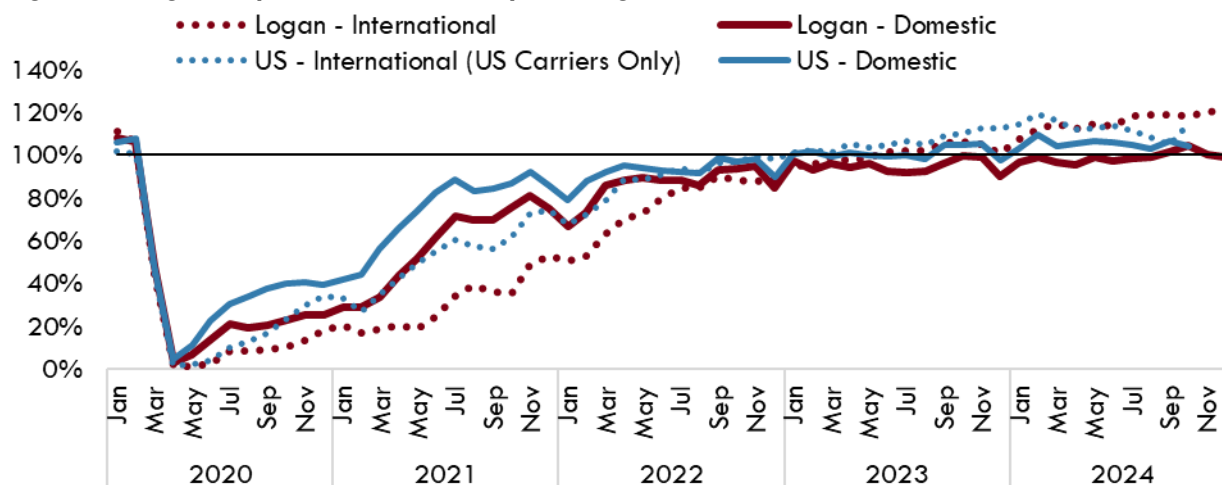
Public transportation continues to make progress in Massachusetts but still faces delays and headwinds. Through its Track Improvement Program, the MBTA removed all slow zones from the rail system by the end of 2024. However, the plan to expand Commuter Rail service to New Bedford and Fall River, both Gateway Cities, through the South Coast Rail project has faced delays and is now planned to open March 24th, 2025. In October 2023, the Massachusetts Department of Transportation released details on Compass Rail, an initiative that combines East-West Rail, a plan to connect Boston, Worcester, Springfield, and Pittsfield by passenger rail, with improvements in other rail routes particularly in Western Mass.⁷ The effects of these expansion and redesign plans remain to be seen considering the uncertainty of future travel patterns from the pandemic.

⁷ Compass Rail: Passenger Rail for the Commonwealth. October 18, 2023. <https://www.mass.gov/doc/compass-rail-passenger-rail-for-the-commonwealth-presentation-to-the-board-on-october-18-2023/download>

Logan International Airport, like the state’s transit agencies, logged a significant decline in passenger volume in 2020 and 2021 below record numbers seen in 2019 (Figure 23). After reaching over 42 million domestic and international passengers in the calendar year before the COVID-19 pandemic, passenger volumes collapsed to less than 13 million in 2020. Many air carriers expanded service to Asian, European, Middle Eastern, South American, and African destinations from Logan during the 2010s, but with the onset of COVID-19 and its travel restrictions, international passenger volumes were still only a fraction of the 2019 peak.

Logan initially lagged the U.S. overall in passenger recovery throughout 2020 and 2021 for both domestic flights and international flights carried out by U.S. carriers. Throughout 2022, resumption in overseas service and resurgent domestic travel helped passenger levels at Logan and across the country to continue their recovery. By October 2024, domestic passenger recovery had matched that of the U.S. and international passenger growth at Logan exceeded that of the US compared to pre-pandemic levels. As a global hub of education, technology, finance, medicine, and tourism, Massachusetts benefits from higher service levels and the passengers they bring into the state via Logan Airport.

Figure 23. Logan Airport and U.S. Monthly Passenger Volumes as a Percent of 2019



Source: MassPort; Bureau of Transportation Statistics, T-100 Domestic & International Market Note: U.S. International passenger data are from U.S. carriers only.

In June 2024, the Healey-Driscoll Administration released the FY25 – FY29 Capital Investment Plan (CIP).⁸ This document, in addition to the MassDOT and MBTA CIPs, as well as those from Massachusetts Municipal Planning Organizations (MPOs) steer significant funding toward transportation priorities in the Commonwealth. The Commonwealth’s CIP includes a commitment to replacing the aging Cape Cod Bridges, supporting local pedestrian and bike infrastructure, funding repair and modernization efforts at the MBTA, and building out electric vehicle charging facilities across the state, in addition to many other projects.

⁸ Five-Year Capital Investment Plan FY2025–FY2029. (2024). Commonwealth of Massachusetts Executive Office for Administration and Finance. <https://budget.digital.mass.gov/capital/fy25/static/90cd6e3d3d243127ce8abd4617b4ce07/fy25capitalplanma.pdf>

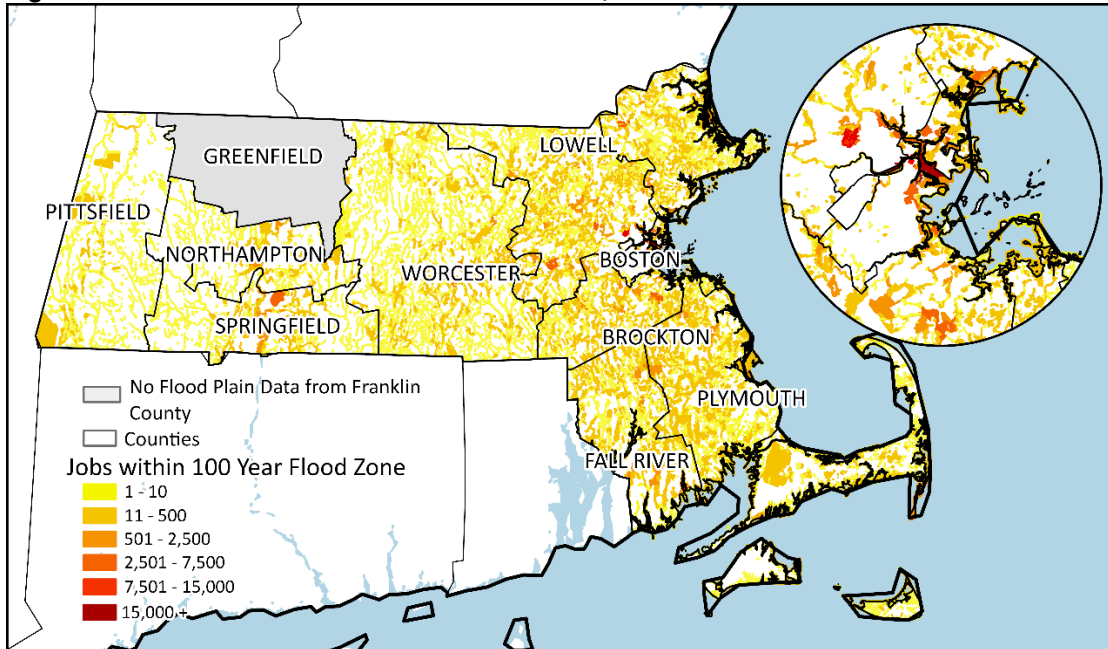
Environment

Massachusetts faces diverse risks related to climate change that will have broad economic impacts, depending on the extent to which adaptive measures are taken, at the state, national, and global levels. The threat posed by sea-level rise is of particular concern in Massachusetts because so much of the state's economic activity is concentrated along the coast, where the effects of climate change are already being felt. For example, in Boston the average number of flood days per year has increased from 2.8 days during the 1950s and 1960s to 13.8 days from 2010 through 2020. Furthermore, the 2022 Sea Level Rise Technical Report released by the National Oceanic and Atmospheric Administration estimated that sea levels along the East Coast will rise by 10-14 inches by 2050. The impact of coastal alteration, larger storm surges, and greater storm damage may be acutely felt where economic activity and residents are clustered. In 2022, approximately 1,100,000 jobs in Massachusetts were located in 100-year flood plains (Figure 24).⁹ Considering the economic recovery that has since occurred of jobs lost during the pandemic, the number of jobs in flood zones in 2024 is most certainly greater than this. With rising sea levels, flooding in these areas is likely to be more frequent and intense. The summer of 2023 illustrated that flooding can occur far from the coast, as Central and Western Massachusetts experienced flooding that endangered residents and resulted in the loss of crops. Hurricanes are expected to threaten the East Coast more frequently.¹⁰ The number of jobs potentially effected by hurricanes is significant in Massachusetts. There are almost 800,000 jobs in areas designated by the Army Corps of engineers as being in hurricane inundation zones (Figure 25).

⁹ This estimate excludes jobs located in Franklin County because flood maps for Franklin County were not available.

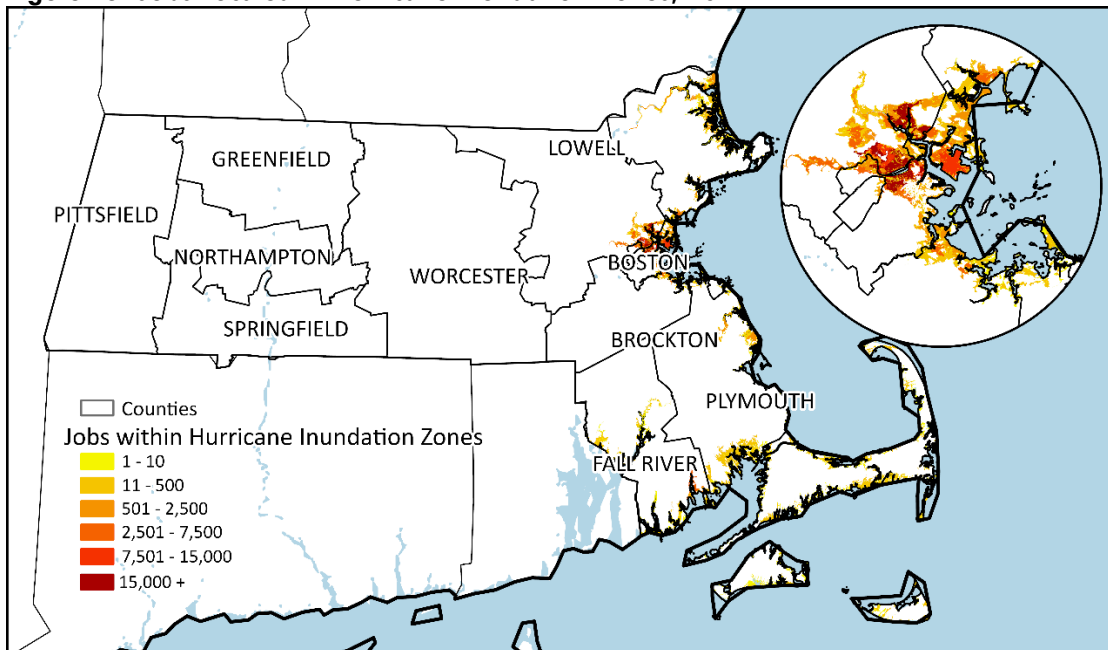
¹⁰ Gori, A., Lin, N., Xi, D. *et al.* Tropical cyclone climatology change greatly exacerbates U.S. extreme rainfall–surge hazard. *Nat. Clim. Chang.* 12, 171–178 (2022). <https://doi.org/10.1038/s41558-021-01272-7>

Figure 24. Jobs Located in 100-Year Flood Zones, 2022



Source: FEMA National Flood Hazard Layer via MA GIS, U.S. Census Bureau 2022 LODES data on Total Jobs; UMDI analysis
 Note: Counts of jobs in this table represent jobs in Census Blocks or parts of blocks that intersect or are fully contained within areas designated as 100 Year Flood Zones by FEMA and assumes an even distribution of jobs in those blocks. FEMA's current national flood hazard layer does not contain finalized flood data for Berkshire, Franklin or Hampshire counties; data from the previous flood map was used for Berkshire and Hampshire counties. Data for Franklin County was not available.

Figure 25. Jobs Located in Hurricane Inundation Zones, 2022



Source: U.S. Army Corps of Engineers Hurricane Surge Inundation Zones via MA GIS, U.S. Census Bureau 2022 LODES data on Total Jobs, Analysis by the Donahue Institute

There are also risks associated with rising temperatures. According to the 2022 National Oceanic and Atmospheric Administration National Centers for Environmental Information State Climate Summaries, temperatures in Massachusetts have risen by 3.5 degrees Fahrenheit since the beginning of the 20th century and are predicted to continue to rise to historically unprecedented levels.

While the full effects of climate change are hard to predict at this time, it is certain that some industries will bear more of the burden than others. Furthermore, while the magnitude of these impacts on the overall economy may be small, for those businesses and communities impacted the effects could be intense. For example, the winter tourism industry will likely be affected as there are more than a dozen ski areas in the Commonwealth that will face challenges as precipitation is expected to shift from snow to rain with warmer winter temperatures. Agriculture will be impacted by changes to the growing season and increased risk of both drought and flooding. For example, at the time of this report (January 2025) all regions of Massachusetts were experiencing drought with the Central and Northeast regions of the states experiencing “critical” drought. Fisheries will be impacted as increasing temperatures change the habitats of ocean species. The health of residents may be impacted by climate change. For example, changes in temperature will likely increase the risk or incidence of acute respiratory diseases, such as asthma, and increase the presence of ticks that carry Lyme disease and mosquitoes carrying West Nile Virus. The risks vary across the state, within communities, and from resident to resident. Vulnerability to climate change is a function of exposure, sensitivity, and adaptive capacity. The most vulnerable are often the young, old and medically vulnerable; those who live in areas with higher risk of extreme events and those without the resources to adapt.

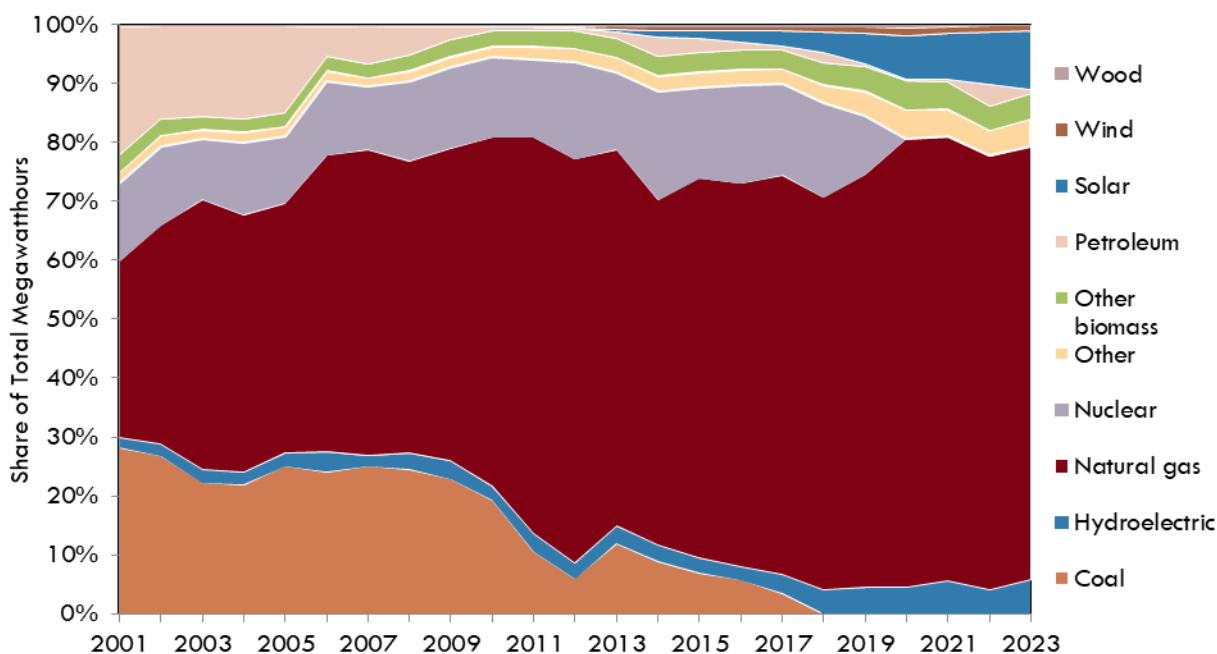
Changes to the environment, such as extreme weather events, do not respect political boundaries, therefore, policy makers have limited ability to mitigate the course of environmental change. However, local officials can prepare for natural disasters and plan for predicted changes in the environment, such as rising temperatures and sea-levels. To this end, in 2017 Massachusetts established the Municipal Vulnerability Preparedness (MVP) grant program. Funded through the state Capital Improvement Plan (CIP), the program supports city and towns through grants and technical assistance that fund and support local assessments of vulnerability to climate change and adaptation projects. Since its inception with an initial \$1 million in funding, the MVP has awarded \$125 million to 341 communities across the state. The program has grown each year, funding a wide-variety of projects that support different stages of adaptation, from the development of local climate action plans to construction projects related to river restoration. Today, over 97 percent of municipalities in the state have enrolled in the program.

There have been significant legislative efforts to address the environmental risks of climate change. In August 2022, legislation was passed and signed that, among other provisions focused on creating local clean energy economy and modernizing the grid, requires that all new vehicles in the state be zero-emission beginning in 2035. This builds on the March 2021 net-zero emissions law that set the goal of Massachusetts achieving net-zero emissions by 2050. In addition, the law sets interim emission targets and sets targets for six sectors: electricity, transportation, commercial and industrial buildings, residential buildings, industrial processes, and natural gas distribution. In October 2023, the state’s new Climate Chief released a set of recommendations to outline how the Commonwealth will meet its goals related to climate

change. The Governor’s 2023 Economic Development Plan also includes a strategy to support the growth of “climatetech” in the Commonwealth. In 2022, Massachusetts consumed twice as much electricity as the state produced. Overall, Massachusetts consumes about 17 times more energy than it produces and relies on the regional grid to meet demand. However, Massachusetts uses less energy to produce a dollar of GDP than all but one other state, New York. Furthermore, according to the U.S. Energy Information Administration, Massachusetts used less energy per capita than all but four other states in 2020.

Over the past 20 years, Massachusetts has increasingly been reliant on natural gas for electric power generation, with the share of electric power from natural gas more than doubling from 2001 to 2020; (Figure 26). The state receives most of its natural gas through pipelines that bring in natural gas from sources in Appalachia and offshore Nova Scotia in Canada. In addition, natural gas arrives in the state through liquefied natural gas import terminals in Everett and offshore in Massachusetts Bay. There is uncertainty as to whether potential changes in national tariff policies could lead to higher costs for consumers. The Commonwealth is generating less energy from coal, petroleum and nuclear; the last nuclear power plant in the state closed in 2019. Solar energy has steadily increased. Electricity prices in Massachusetts are higher than in the nation as a whole. As of April 2024, Massachusetts consumers faced the fourth highest electricity prices in the nation.

Figure 26. Electric Power Generation by Primary Energy Source, 2001-2023



Source: U.S. Dept. of Energy, <http://www.eia.doe.gov/>; state electricity profiles.

Note: Other includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, tire-derived fuels and misc. technologies. Pumped storage is omitted from the graph because it represents the storage of power generated elsewhere rather than newly generated power.

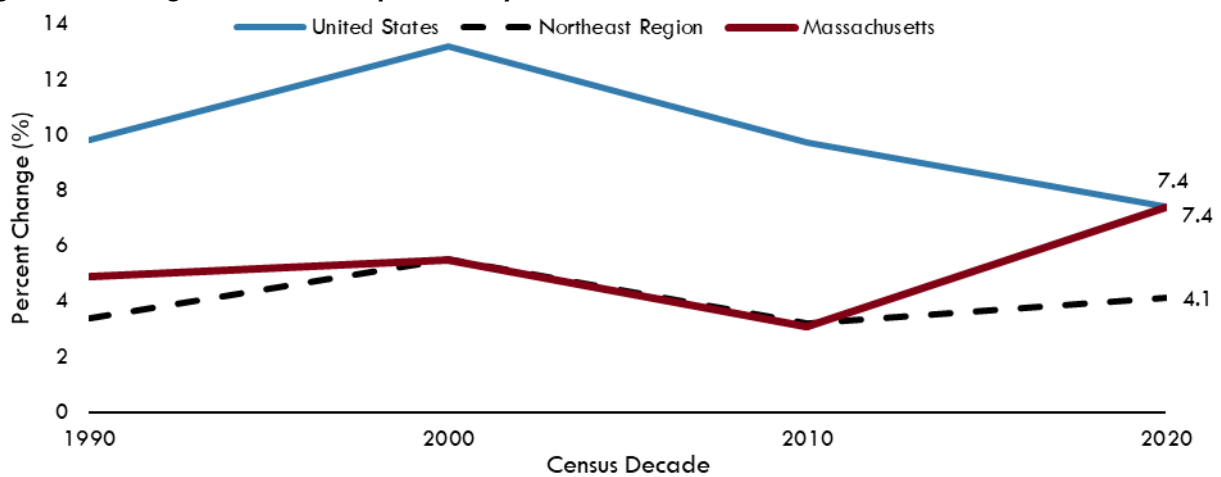
The state Capital Investment Plan (CIP)¹¹ for the five years of FY25 – FY29 plans to invest in decarbonization efforts through efforts toward promoting electric vehicles and making school buildings, housing, and public transportation more efficient. In November 2024, the Massachusetts legislature passed, and Governor Healey signed into law An Act promoting clean energy grid, advancing equity, and protecting ratepayers. This new legislation is intended to accelerate clean energy development by shifting energy generation to sources like wind and solar electrifying transportation systems, heating, and cooling in buildings. This advances the state's goals of net zero gas emissions by 2050. The bill requires distributors to provide discounts to low-income residents and eligible middle-income residents. Allows multistate energy procurements, promote non-gas heating, expands the electric vehicle charging network, and incentivizes battery storage. The legislation also includes environmental justice requirements for cumulative impact analysis for clean energy projects, establishing a site-suitable methodology to minimize or mitigate the social or environmental impacts of clean energy projects. The legislation also establishes a fund for under resourced organizations to engage in the siting process. The Commonwealth's focus on addressing climate change and promoting clean energy development stands in sharp contrast to federal policy initiatives that may hamper efforts by the state to move away from fossil fuels.

¹¹ *Five-Year Capital Investment Plan FY2025–FY2029*. (2024). Commonwealth of Massachusetts Executive Office for Administration and Finance.
<https://budget.digital.mass.gov/capital/fy25/static/90cd6e3d3d243127ce8abd4617b4ce07/fy25capitalplanma.pdf>

Residents

From 2010 through 2020, Massachusetts enjoyed a sustained period of population growth, driven largely by significant growth in the foreign-born population, that was followed by slower growth in the total population that occurred during the pandemic and due to increased domestic out migration, that alarmed economists and public policy makers alike (Figure 27). However, the latest population estimates from the U.S. Census Bureau, also known as the Vintage 2024 population estimates (V2024), show a reversal in recent population trends for both the U.S. and the Commonwealth. According to the V2024 estimates, the U.S. population grew by 1 percent since 2023 and Massachusetts grew at roughly the same rate, benefiting largely from the Census Bureau’s adjustment to the immigration estimates in this year’s vintage.¹² The state population increased by 69,603 over the year, from 7,066,568 to 7,136,171, representing a percentage increase of just under 1.0% (0.985%). This is the largest annual percentage increase that Massachusetts has experienced over a decade, since the 2012-2013 annual increase also rounded to 1%.

Figure 27. Change in Resident Population by Decade



Source: U.S. Census Bureau; UMDI analysis

¹² *Census Bureau Improves Methodology to Better Reflect Increase in Net International Migration*, Mark Gross, Jacqueline Lamas, Yeris H. Mayol-Garcia and Eric Jensen, U.S. Census Bureau, December 19, 2024. Accessed at: <https://www.census.gov/newsroom/blogs/random-samplings/2024/12/international-migration-population-estimates.html>

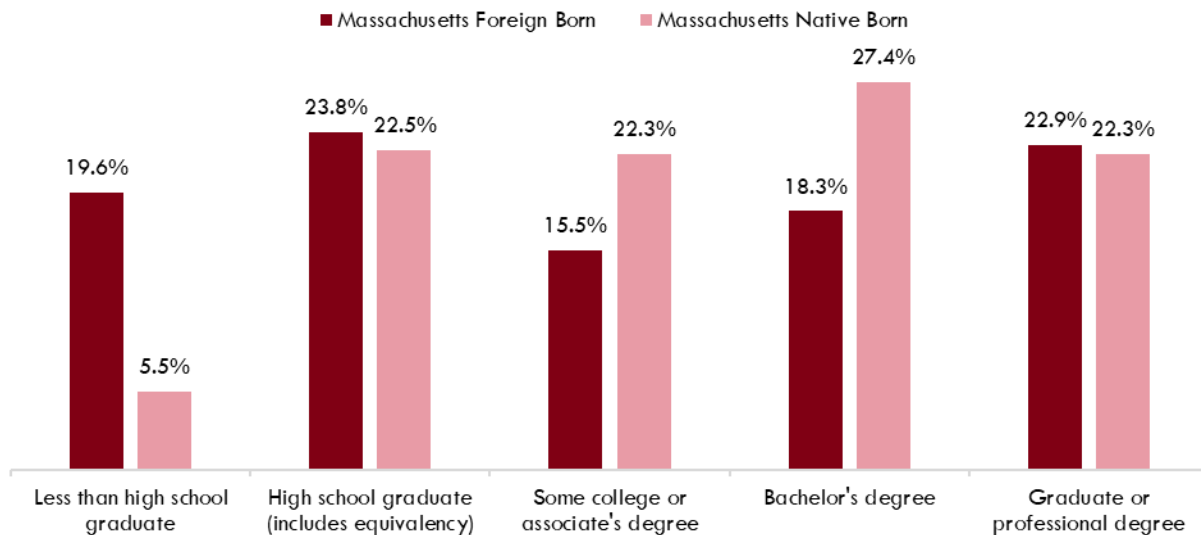
While New England has been a slow growth region for much of the last several decades, as higher numbers of people move to the southeast and western parts of the U.S., Massachusetts stands out as maintaining relatively strong population growth decade-to-decade among the New England states. Between the 2000 and 2010 census decennial enumerations, Massachusetts resident population grew at the same rate as the Northeast region. From 2010-2020, Massachusetts experienced considerable resident population growth, from approximately 6.5 million to 7.0 million residents, placing it well above the average population change throughout the Northeast region (Figure 27).¹³ This marked a 7.4 percent increase in the state's population, in line with the U.S. overall growth and making the Bay State the fastest growing state in the Northeast. In contrast, the average population growth in the Northeast was 4.1 percent.

According to the V2024 estimates, Massachusetts' annual growth from 2023 to 2024 was just slightly higher than the U.S. growth. Massachusetts also grew more rapidly than the Northeast average (0.76%) and the Midwest and Western regions of the U.S. (0.59% and 0.87%, respectively.) Within the Northeast Region, it was the second fastest growing state after New Jersey, which grew by 1.3%, and it was the fastest growing out of all New England states this year. The state ranked 13th in total population change and 15th in percent population change from July 1, 2023 to July 1, 2024. Cumulatively since the 2020 Census, Massachusetts, ranks 18th in population change and 33rd in percent population change. In 2024, the state maintained its rank as the 16th most populous state in the U.S. (out of 50 states plus District of Columbia).

Annual population estimates from the Census Bureau build on the enumerations generated by the decennial census. The Census Bureau compiles data on the various components of population change (i.e., birth, death, in-and-out migration) each year to estimate an annual population. These components of change offer insights on broad demographic patterns. For example, during the 2000s population growth in Massachusetts has largely been driven by significant gains in international migration and that has continued to be the case. Massachusetts' combination of higher education institutions and knowledge-based industries appears to be an important factor in attracting and retaining foreign-born residents. The foreign-born in Massachusetts has a bimodal education distribution with a high concentration with less than a high school education (19.6% in 2023) and a significant concentration with college degree or more (41.2%). A similar proportion of immigrants in the state hold a graduate degree as native-born residents (22.9% and 22.3%, respectively) (Figure 28).

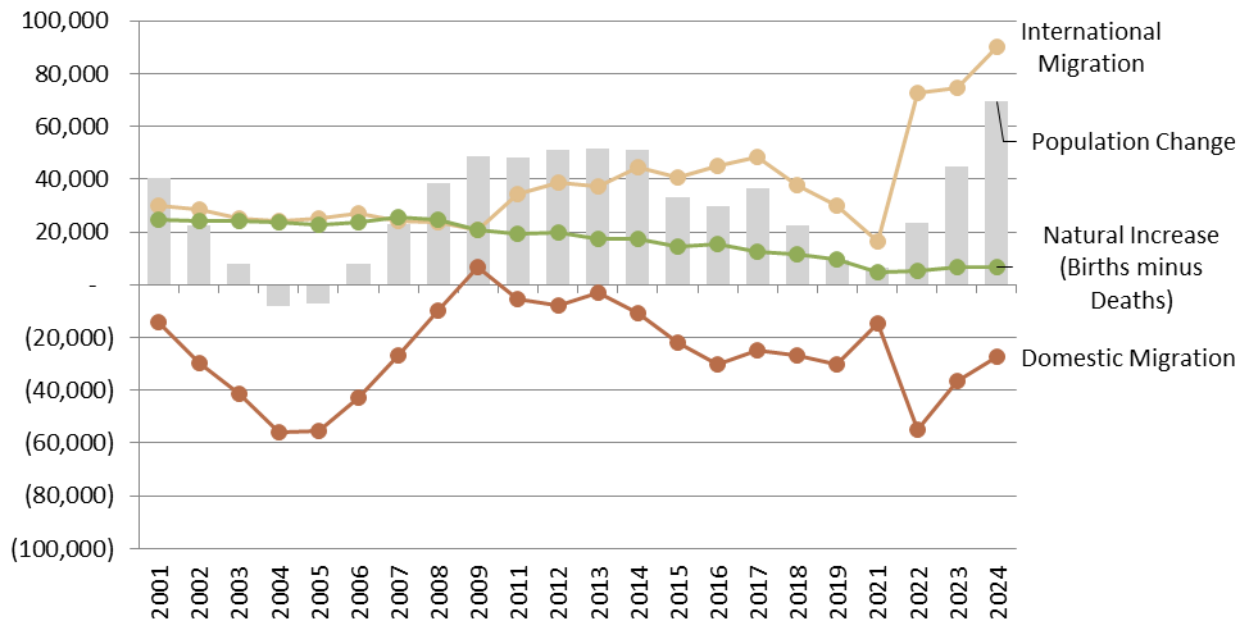
¹³ The Northeast includes: Maine, New Hampshire, Vermont, Massachusetts, New York, Connecticut, Rhode Island, Pennsylvania, and New Jersey.

Figure 28. Educational Attainment of the Foreign Born in Massachusetts, 2023



Source: U.S. Census Bureau, 2023 1-Year American Community Survey; UMDI analysis.

Figure 29. Massachusetts Estimated Components of Population Change, 2001-2009, 2011--2024



UMass Donahue Institute. Source Data: ST-2000-7; CO-EST2010-ALLDATA; and NST-EST2023-ALLDATA, U.S. Census Bureau Population Division. Components of population change data for decennial Census years are based on only three months of data, and so are excluded.

These gains in international migration have offset typical losses in domestic outmigration (i.e. people moving from Massachusetts to another state). The decline in natural population increases (i.e. the difference between births and deaths) is notable as well (Figure 29). Massachusetts has an extremely well-educated population, with high labor force participation from women. This often equates to later family formation and smaller household sizes. Couple this with an aging population and a global pandemic reducing birth rates and increasing death rates, the natural increase in Massachusetts has declined precipitously over the last several years.

Outmigration from Massachusetts has been a focus of policy makers in recent years as 2022 showed a dramatic increase in the state's domestic outmigration rate, essentially doubling from the typical outmigration seen in the state over the last several years (Figure 29). Outmigration recovered in 2023 and 2024, though still negative and on a downward trend over the long term. Conversely, in both 2020 and 2021 international migration, which had slowed somewhat during the early part of the first Trump administration, fell dramatically due to pandemic related restrictions, only to then dramatically increase between 2022, 2023, and 2024. In fact, the post-pandemic international immigration estimates were revised upward with the December 2024 release of population estimates, partially due to the availability of new data and a revision to the Census Bureau's methodology. International immigration faces an uncertain future in the second Trump Administration.

The U.S. Census Bureau Population Estimates Program provides a view of the changes in domestic migration and population within the Northeast states from 2019-2024. From 2019 to 2022, Massachusetts experienced an out-of-state migration rate that doubled from -0.4 percent to -0.8 percent, which then recovered to -0.4 percent in 2024. The United States experienced a 2.5 percent increase in population between 2020-2024, and in contrast Massachusetts' population increased by 2 percent placing the Commonwealth below the national average of population growth.

The outmigration rate in Massachusetts increased between 2020-2022 compared to other states in the Northeast region who experienced net increases in domestic migration. The one state in the Northeast that has experienced a higher rate of out-migration than Massachusetts is New York, which experienced an outmigration rate of -1.5 percent in 2022 compared to -0.9 percent in 2019. In 2023 and 2024, migration trends started to revert to pre-pandemic rates; though still negative, Massachusetts' outmigration rate improved to -0.4 percent in 2024 from -0.8 percent in 2022. Many other states in the Northeast that were benefitting from outmigration from Massachusetts and New York reversed as well and saw declining in-migration in 2023 and 2024 compared to 2022. In 2024, of all the Northeast states, only Maine and New Hampshire experienced positive domestic migration. There is empirical evidence that the dramatic spike in out-migration following 2020 can largely be attributed to the fact that Massachusetts has some of the highest rates of remote work in the nation due to the state's industry mix.¹⁴ With the

¹⁴ Bick, Alexander, Hannah Rubinton, Adam Blandin, and Karel Mertens. "Work from Home and Interstate Migration," 2024. <https://doi.org/10.20955/wp.2024.012>.

embrace of work from home arrangements many workers in Massachusetts were newly able to live further from their employer and chose to move out of state.

Across the country, young adults are the most mobile and this is true in Massachusetts as well. Using microdata from the 2023 U.S. Census Bureau's American Community Survey, net migration to Massachusetts is most concentrated in the 18–24-year-old age group. This group includes a large number of young adults who migrate to Massachusetts for their college education. The age group experiencing the largest number of out-migration is 25–34-year-olds. This group contains post graduate professionals, many of whom are at a point in their life where personal priorities include focusing on home ownership and starting families. It is likely that this group finds the cost of living, particularly with housing costs, challenging, and so are moving to states where the cost of living is lower. The most popular destinations for those leaving Massachusetts were within New England, as well as Florida, New York, and Texas. New Jersey, California, and Pennsylvania all sent more residents to Massachusetts than they received.

Figure 30: Net Migration to Massachusetts, 2022-2023

Rank	State	In-Migration	Out-Migration	Net Migration	Total Migration
1	New York	16,247	21,001	-4,754	37,248
2	Florida	12,758	24,002	-11,244	36,760
3	New Hampshire	11,508	16,362	-4,854	27,870
4	Connecticut	10,437	13,428	-2,991	23,865
5	California	12,160	10,101	2,059	22,261
6	Rhode Island	7,264	9,208	-1,944	16,472
7	Texas	6,165	10,162	-3,997	16,327
8	Pennsylvania	9,392	6,379	3,013	15,771
9	North Carolina	5,217	8,935	-3,718	14,152
10	New Jersey	6,272	4,851	1,421	11,123
	All Other States and D.C.	47,601	60,105	-12,504	107,706
	Total	145,021	184,534	-39,513	329,555

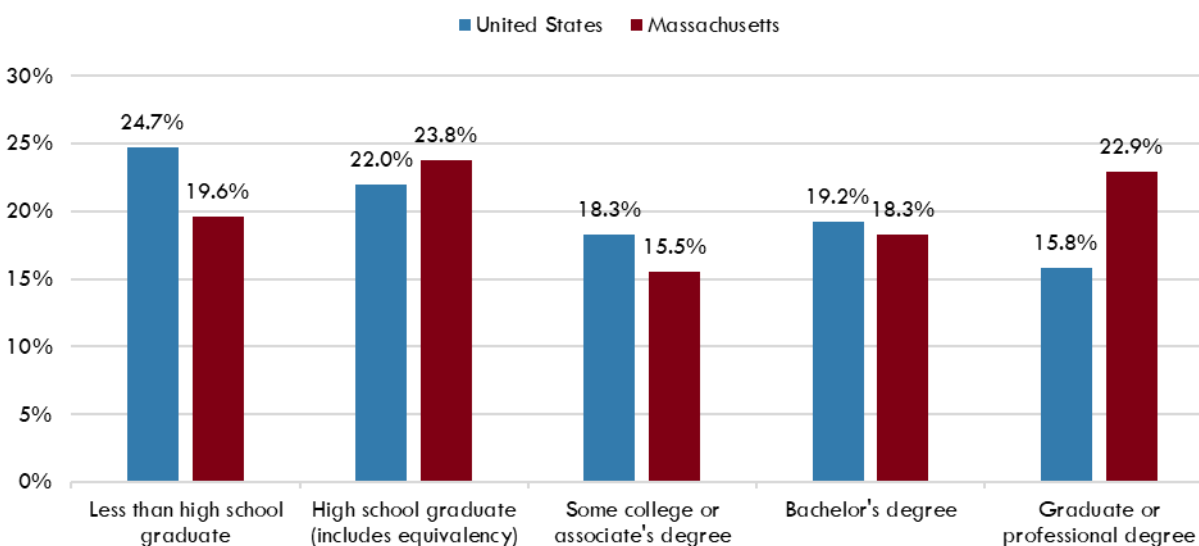
Source: U.S. Census Bureau, American Community Survey State-to-State Migration Flows, 2023

Looking at the out-migration trend during the pandemic raises understandable concern over the increase in the rate of former residents moving out of the state. It is important to note that the COVID crisis upended residential patterns and migration trends. At this point, it is unclear which of these patterns are short-term reactions to the pandemic and which ones may be more durable. Indeed, the U.S. Census Population Estimates data for 2023 and 2024 has signaled the start of a return to pre-pandemic trends. It is important to note that the Census Bureau has not yet updated their method for distributing U.S. immigrant totals to states and counties in the V2024 series. For this reason, it is expected that the components of change for years 2021-2024 in the V2024 estimate series are likely to be revised again in the next V2025 series, which will be released in December 2025.

Changes to federal policy under the Trump administration may have significant impacts on the levels of immigration to the U.S. and Massachusetts. Reductions in immigration may be challenging for Massachusetts as the region faces population headwinds due to the aging of the population and domestic out migration. Historically, immigration has buoyed the Commonwealth's population in part because fertility rates among foreign-born women are generally higher, though like native-born women, rates have declined in recent years. Most importantly though, international migration has been essential to ensuring that the state has enough prime-age workers to support an aging population both in terms of providing health care and other essential services and generating economic activity to ensure that the state economy and public services remain strong. Opportunities for employment, access to services, and participation in civic life are often tied to citizenship. According to American Community Survey data in 2023, 53 percent of foreign-born residents in Massachusetts were naturalized citizens and the remaining 47 percent did not hold citizenship. International immigrants live throughout the Commonwealth, though immigrant communities are clustered in Boston and the Gateway Cities where immigrants made up 28 and 27 percent of the population respectively in 2022. In Chelsea, Everett, Revere, Lawrence, and Malden foreign-born residents make up over 40 percent of the population.

From 1990 through 2023, foreign-born workers accounted for 80 percent of the growth in the state's labor force, with the native-born population accounting for only 20 percent. This is driven in large part by the aging of the population. In 2023, foreign born workers made up 22 percent of the Massachusetts labor force, up from 10 percent in 1990. This shift is also driven by the fact that labor force participation rates are slightly higher among foreign-born residents, 71.3 percent versus 66.1 percent among native-born residents.

Immigration to Massachusetts is diverse. Forty-two percent of the state's foreign-born population are originally from Latin America, just under a third are from Asia, 17 percent are from Europe, and just under 10 percent are from Africa. Reflecting the regions of origin Spanish, Portuguese, Chinese and Haitian Creole are the most common languages other than English spoken in Massachusetts. As noted before, the educational attainment of foreign-born residents represents the diversity in the population. While foreign-born residents are more likely not to have a high school diploma, they are also just as likely to have a graduate degree as native-born residents. Furthermore, the foreign-born population in Massachusetts has higher levels of education as the Commonwealth attracts a higher share of immigrants with advanced degrees (Figure 31).

Figure 31: Educational Attainment for Foreign Born Population in US and MA, 2023

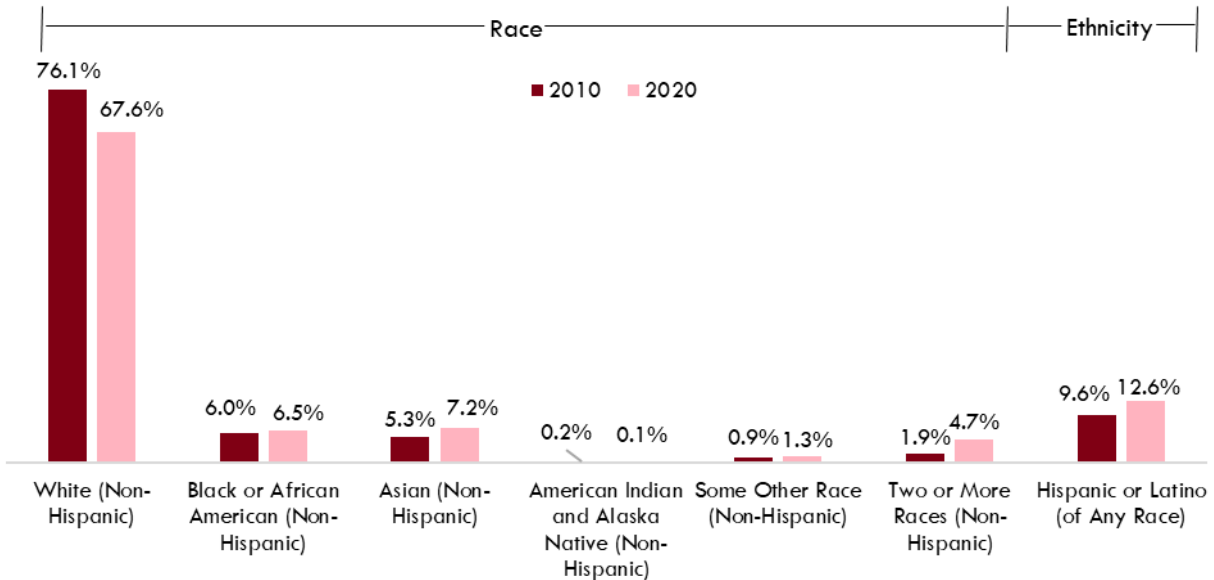
Source: U.S. Census Bureau American Community Survey, 1-Year Estimate 2023.

Reflecting the importance of foreign-born workers to the health care industry, in Massachusetts 26 percent of foreign-born workers are employed in Educational Services, and Health Care and Social Assistance. The second most common industry is Professional, Scientific, and Management, and Administrative and Waste Management Services, in which 17 percent of foreign-born workers are employed.

For those with graduate degrees, many come to the U.S. with visas sponsored by their employers or education visas and can put their high-level of training to good use. However, there are also many immigrants and refugees to the Commonwealth who struggle to find employment that matches their skill sets due to language barriers or challenges obtaining the necessary certifications and licenses to work in the U.S. In Massachusetts, just under one in ten residents speak English less than very well or has low English proficiency and one in 20 live in a linguistically isolated household; many of these residents are immigrants. To enhance the productivity of foreign-born workers with low levels of English language proficiency the Commonwealth invests in English for Speakers of Other Languages (ESOL) services. The state's investment, however, has not kept pace with growth in the population.

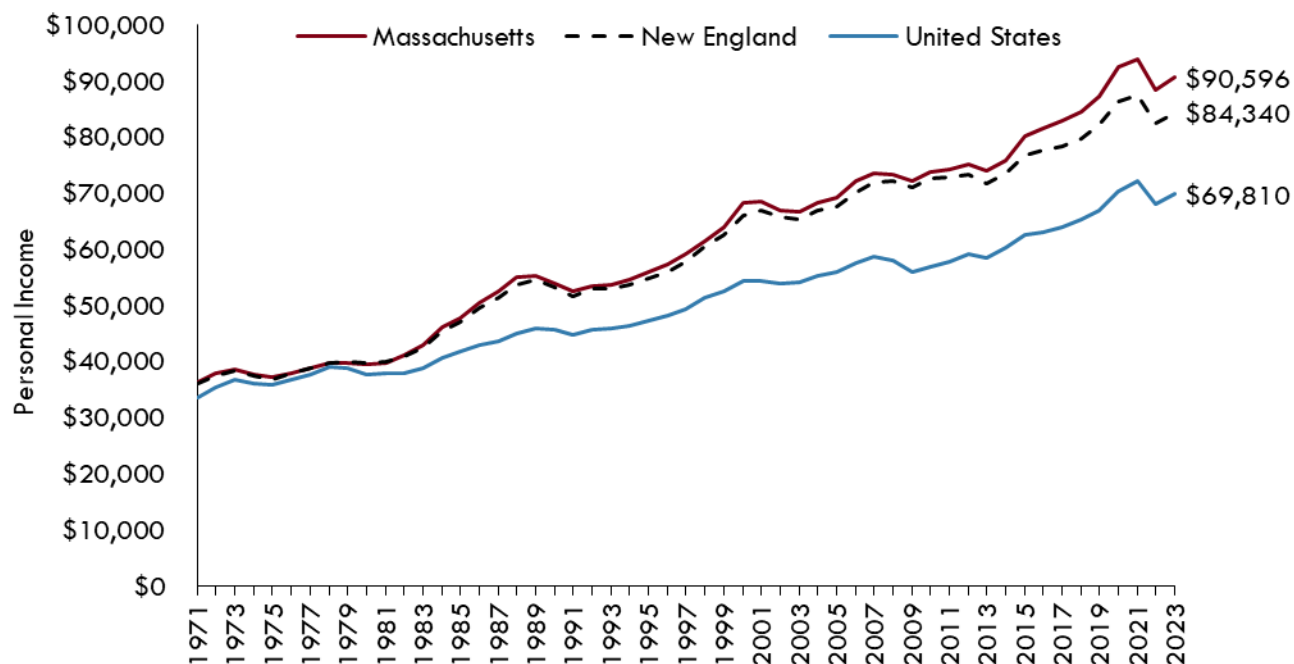
As with the nation, immigration and other factors are leading to Massachusetts becoming more racially and ethnically diverse. The share of the population that identifies as White non-Hispanic decreased from 76 percent to 68 percent from 2010 to 2020, while the shares that identify as Black non-Hispanic, Asian non-Hispanic, and Hispanic increased to 6.5 percent, 7.2 percent, and 12.6 percent respectively. The share that identifies as two or more races (non-Hispanic) more than doubled to 4.7 percent (Figure 32). The state's population is older than the nation as a whole—the median age is 40.3 compared to 39.2 for the nation in 2023. The Commonwealth has the lowest median age in New England, primarily due to the presence of higher education institutions.

Figure 32. Share of Total Massachusetts Population by Race and Ethnicity in 2010 and 2020



Source: 2010 Source Data: Census 2010 Summary File 1; 2020 Source Data: Census 2020 PL-91-171; UMDI analysis

Massachusetts' residents earn some of the highest incomes in the nation. Real per capita income has consistently exceeded incomes in the New England and the U.S. and in 2023, Massachusetts had the highest real per capita personal income in the nation, excluding the District of Columbia. In 2023, the Commonwealth's real per capita income was just over \$90,000 compared to approximately \$84,000 in New England and just under \$70,000 in the U.S. (Figure 33). High inflation in 2021-2022 eroded some purchasing power for consumers nationwide, and so inflation adjusted incomes in 2022 were lower than in 2020 or 2021 but bounced back in 2023 as inflation eased. The relatively high-income levels reflect the high level of education and the concentration of high-wage industries such as health care, professional services, and finance and insurance. The poverty rate is lower in Massachusetts than in the nation at 10.4 percent compared to 12.5 percent according to the 2023 One-Year American Community Survey. However, in several cities, the poverty rate exceeds the state average. For example, in the Gateway cities of Springfield and Worcester poverty rates were 29.9 percent and 20.6 percent, respectively. Boston is also above the state average with a rate of 15.6 percent. Higher rates of poverty in these Gateway Cities and Boston are particularly concerning because Gateway Cities are home to a large share of the state's communities of color and immigrant communities. The concentration of poverty in these cities raises concerns about equity and quality of life.

Figure 33. Real Per Capita Personal Income in Massachusetts, the United States, and New England, 1971-2023 (in \$2023)

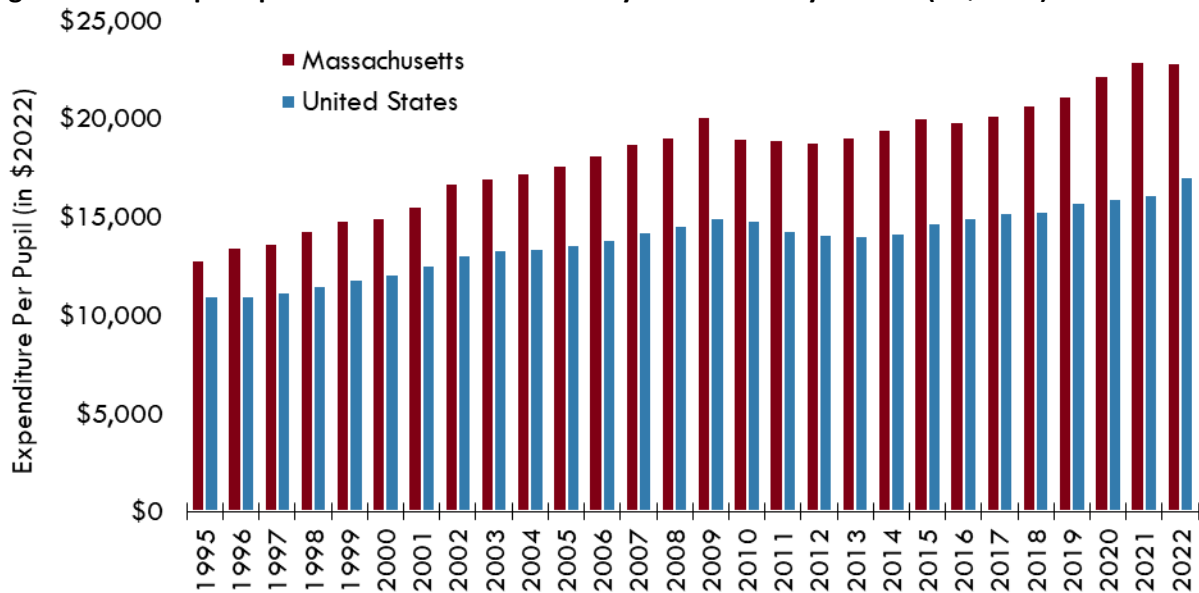
Source: U.S. Department of Commerce, Bureau of Economic Analysis

The presence of a skilled and well-educated population is an important resource for the Commonwealth. At the primary and secondary level, the state invests more than the national average in its public schools (Figure 34). Furthermore, students in Massachusetts's K-12 public schools consistently outperform their peers in the U.S. on national assessments. The state has the most well-educated population in the country, with over 47 percent of all residents 25 years of age or older earning a bachelor's degree or more. However, educational attainment varies significantly across racial groups: Black and Hispanic residents are less likely to have a bachelor's degree than the state average, at 32 percent and 25 percent respectively. Fifty-two percent of white residents and 65 percent of Asian residents hold a bachelor's degree or higher. That said, across all racial groups, educational attainment rates are higher than the national average (Figure 35). For adults without a high school diploma and/or low English proficiency, the state has recently increased investment in adult basic education and English for speakers of other languages services through its Department of Elementary and Secondary Education. For adults with a high school diploma but no college degree (associates or bachelor's), the state launched a program in fiscal year 2024 called MassReconnect which offers free tuition at Massachusetts's 15 public community colleges.¹⁵ Implementation of this program started in Fall 2023, and the effects of which will start being seen in the coming years as the first cohorts of students complete their degrees.

¹⁵ <https://www.mass.edu/osfa/programs/massreconnect.asp>

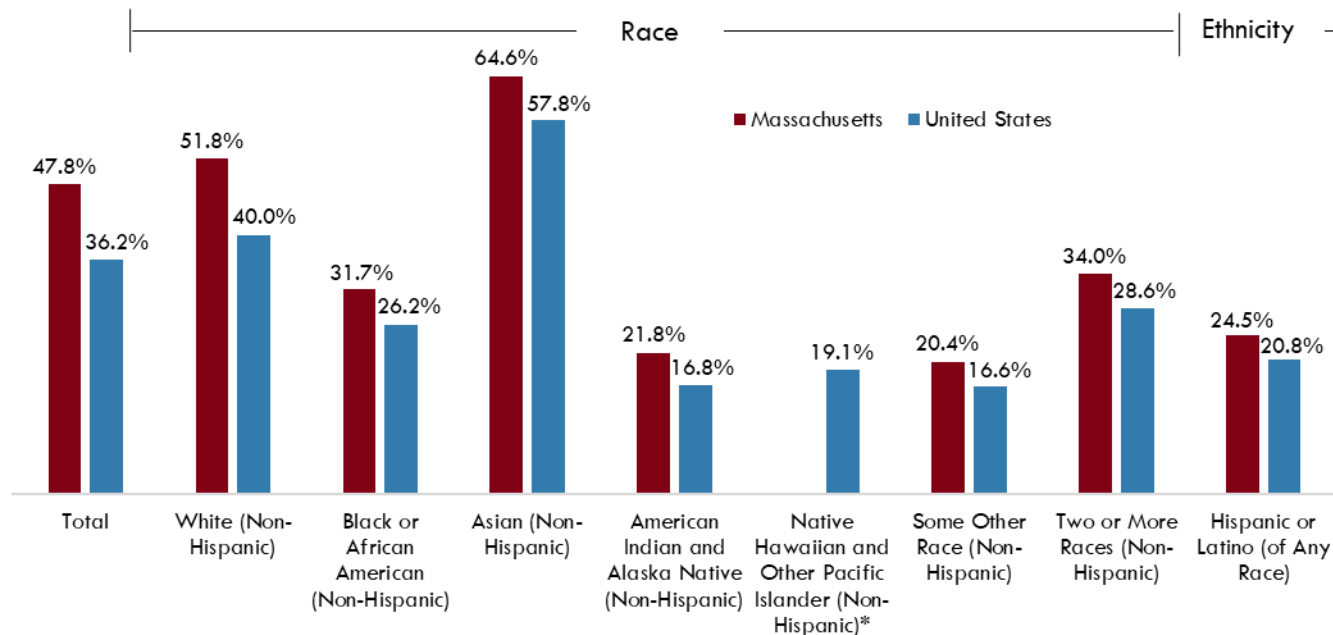
The well-educated population supports and is a product of the concentration of elite public and private colleges and universities in the state. Educational services is the third largest industry in Massachusetts in terms of jobs. Nearly half a million students are enrolled in higher education in the state. The number of international students has rebounded from pandemic-era lows of 66,000 in the 2020/2021 academic year to an all-time high of 82,300 international students in the 2023/2024 academic year.

Figure 34: Per Pupil Expenditure in Public Elementary and Secondary Schools (in \$2023)



Source: U.S. Census Bureau, Public Elementary–Secondary Education Finance Data.

Figure 35. Persons in Massachusetts and the United States 25 Years and Older with a Bachelor's Degree or Higher by Race and Ethnicity in 2023



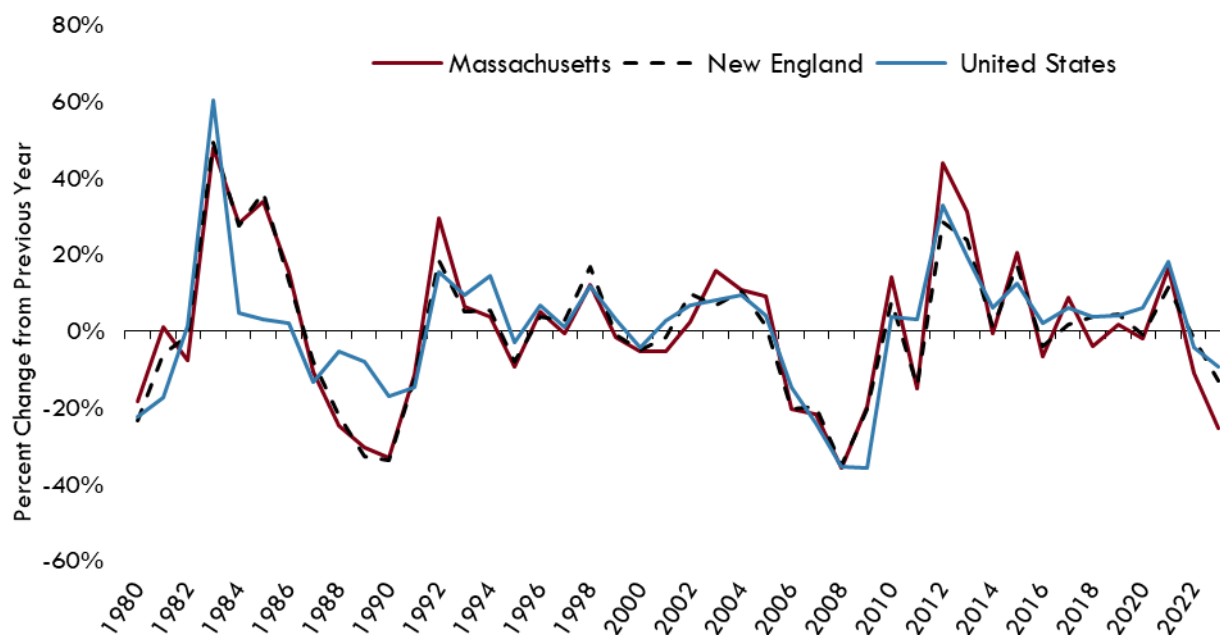
Source: U.S. Census Bureau, 2023 1-Year American Community Survey; UMDI analysis.

*Note: The estimate for Native Hawaiian and Other Pacific Islander (Non-Hispanic) in Massachusetts cannot be displayed because there were an insufficient number of sample cases in the selected geographic area.

While residents enjoy higher incomes than most other states, the cost of housing in Massachusetts is a burden for many, especially for Black and Hispanic households. Housing costs remain high across the Commonwealth, driven in part by population and economic growth and inadequate housing production over the last couple of decades. The sales price of existing homes continued to increase, but at a slower rate, and higher interest rates have further increased the cost of owning a home. In 2024, median single-family home prices increased to \$630,930 from \$575,000 in 2023, a 9.7 percent increase.¹⁶ Prices have remained well above the national median of existing homes, which according to the National Association of Realtors was \$412,000 in 2024.¹⁷ Construction is not keeping up with demand. Nationally, the number of building permits decreased 9.2 percent from 2022 to 2023, but in Massachusetts the decline was greater, permits decreased 25 percent over the same period (Figure 36).

¹⁶ Massachusetts Association of Realtors, December 2024 Closed Sales Report. <https://www.marealtor.com/market-data>

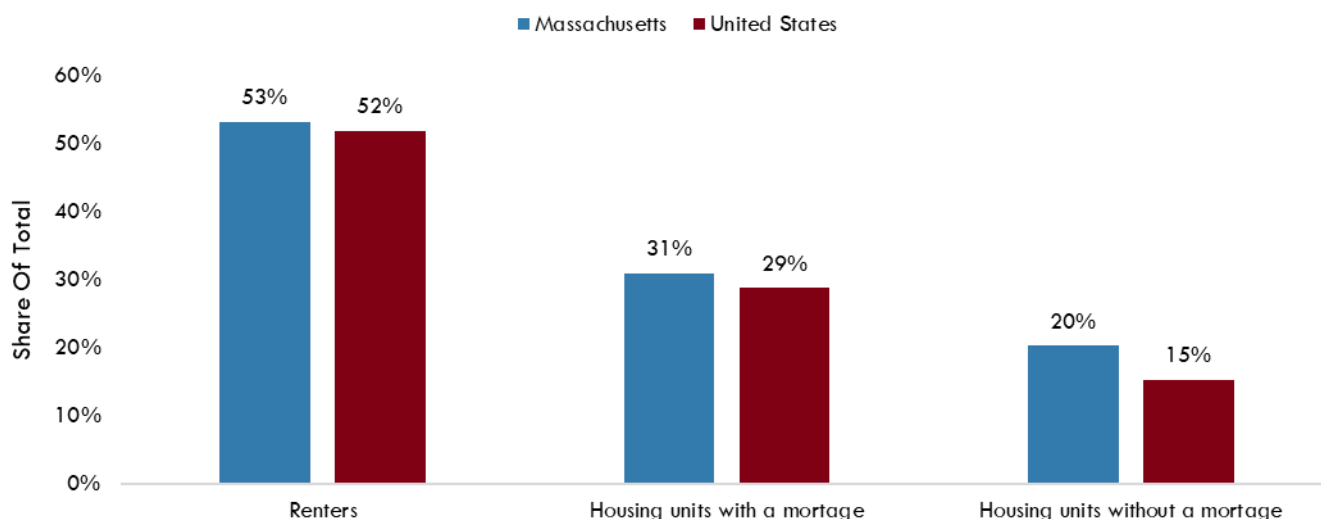
¹⁷ National Association of Realtors, Existing-Home Sales. <https://www.nar.realtor/research-and-statistics/housing-statistics/existing-home-sales>

Figure 36. Housing Units Authorized by Building Permit, Percent Change from Previous Year, 1975-2023

Source: U.S. Census Bureau Building Permits Survey; UMDI analysis
 Note: Reported data plus data imputed for non-reporters & partial reporters.

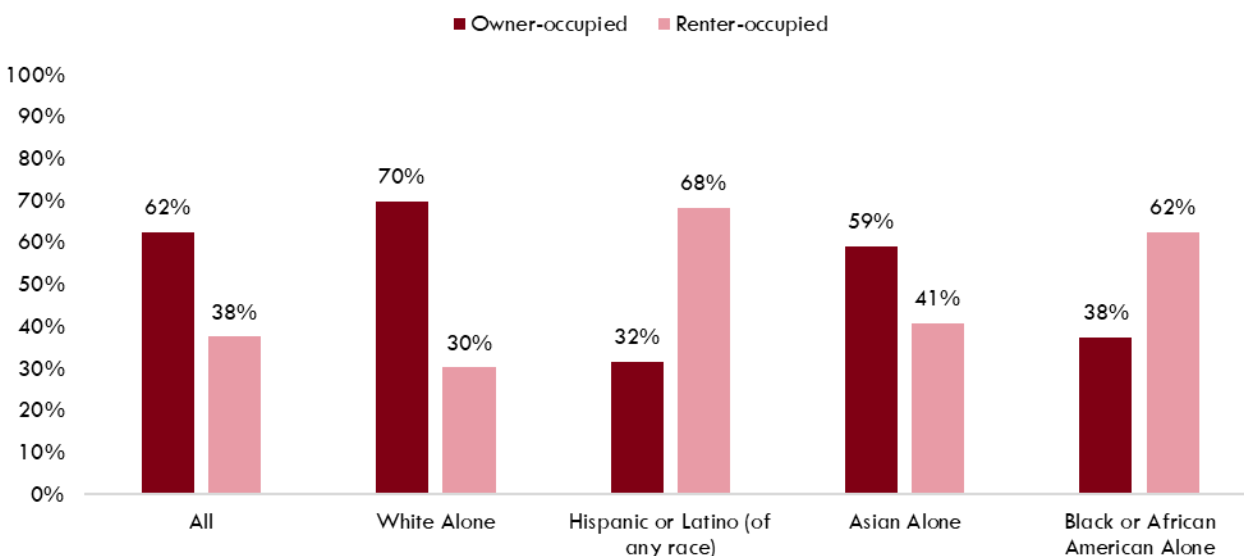
The increase in sale prices and the low supply of homes for sale has translated into high rental costs. In addition, low vacancy rates have contributed to higher costs. Mirroring rates in the U.S., half of renters are cost burdened, meaning they spend over 30 percent of their income on housing costs, and nearly a quarter (23%) of Massachusetts renters are severely cost burdened, meaning they spend 50 percent or more of their income on housing (Figure 37). In contrast, 31 percent of owners with a mortgage are cost burdened and 10 percent are severely cost burdened. The rates of cost burden are highest among low-income residents, as well as Black and Hispanic households. It is important to note that rates of housing cost burden depend on both the income of residents and housing costs. Due to a history of discriminatory housing policies, rates of homeownership vary by race and ethnicity. Among the most detrimental federal policies that originated in the 1930's was "redlining," which meant that racial and ethnic identity were a primary factor in the determination of loan risk, leading to the racist assignment of lower ratings to communities of color than neighboring and similar white communities. This system kept people of color from buying their own homes, one of the most important forms of intergenerational wealth. The harmful impact of this system is still felt today in the disproportionate rate that people of color rent, where they live, and their substantially lower levels of wealth than their white peers.

Figure 37. Housing-Cost-Burdened Households by Housing Tenure in Massachusetts and the United States (Spending 30 Percent or More of Income on Housing Costs)



Source: ACS 2023 1-Year Estimate, Table DP04.

Figure 38. Housing Tenure in Massachusetts in 2023 by Race and Ethnicity



Source: ACS 2023 1-Year Estimate, Table B25003, A through I.

Overall, 62 percent of households in Massachusetts are owner-occupied and 38 percent are renter-occupied. The majority of white and Asian households own their homes and Black and Latino households are more likely to rent (Figure 38). The disparity in homeownership rates matters because homeownership is a fundamental mechanism for building wealth in the U.S. and homeowners are far less likely to experience severe housing cost burden.

With the goal of increasing housing production, particularly near transit hubs, the Commonwealth passed legislation to amend the state Zoning Act. The Massachusetts Bay Transportation Authority (MBTA) communities law includes several provisions to remove zoning-related barriers to housing production. The law changed voting standards for local city councils or town meetings to adopt or change zoning ordinances and bylaws from two-thirds to a simple majority. Among other measures, the Act requires “by right”, multi-family zoning in 177 MBTA communities. Communities that fail to comply with the law shall not be eligible for certain funds from the State. Governor Healey’s Affordable Homes Act was signed into law in August 2024. The bill authorizes \$5.2 billion in spending and numerous policy changes to support the construction of housing and address the housing crisis in the state. Notably, it legalizes accessory dwelling units statewide in single-family zoning districts effective February 2025. In February 2025, Governor Healey also released the first statewide housing plan for Massachusetts and set a goal to increase the number of homes in Massachusetts by 222,200 units by 2035.