

# Socioeconomic Indicators for Massachusetts

August 4, 2023

UMassAmherst

Donahue Institute  
Economic and  
Public Policy Research

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

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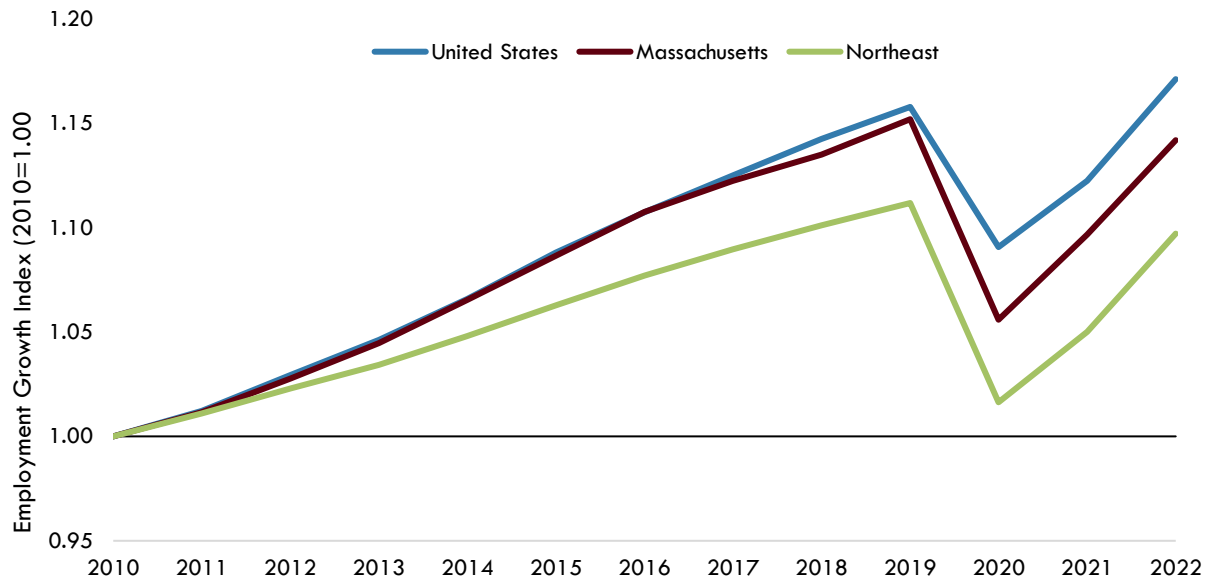
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## Economy

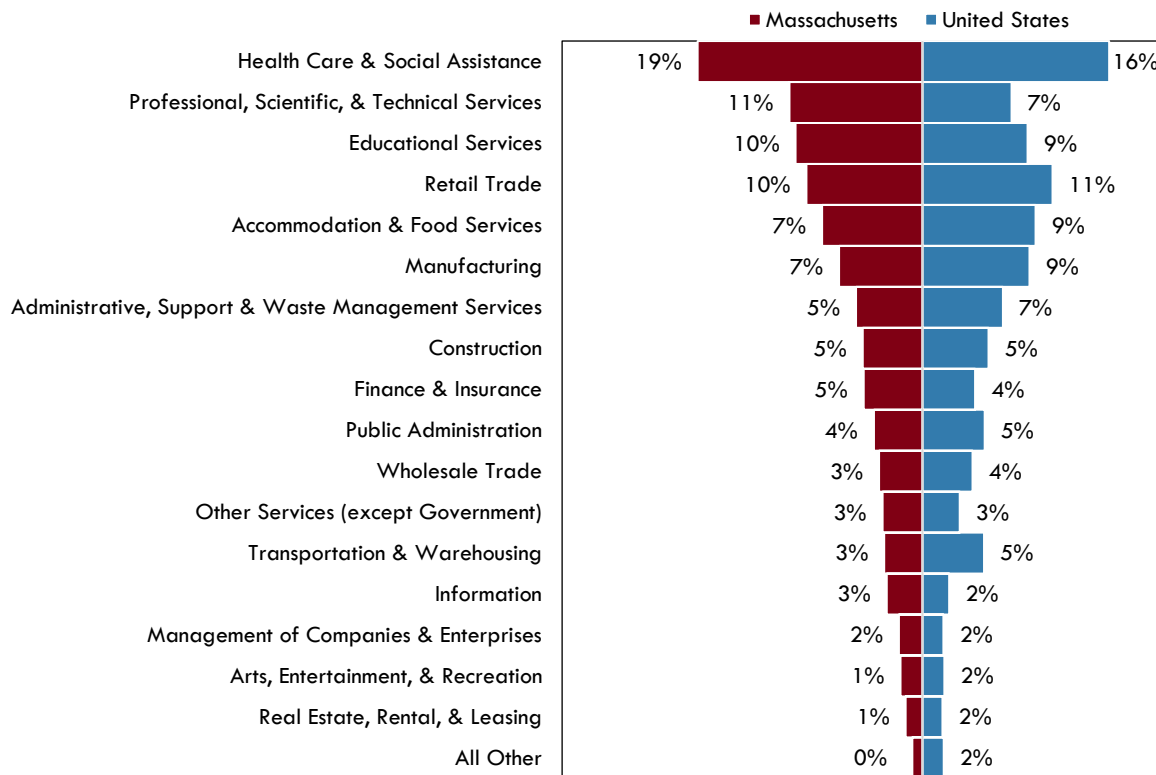
Over the past decade, Massachusetts has been a leader in job growth in the Northeast (Figure 1), driven largely by the state’s highly-educated workforce, the overall diversity of industries, and strengths in knowledge-based industries, such as health care, education, and professional services (Figure 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 2022, the industry accounted for 11 percent of jobs and the sector was first in the state as a share of GDP, making up 14 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, 2010-2022 (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, 2022 (Percent of Total Jobs)**



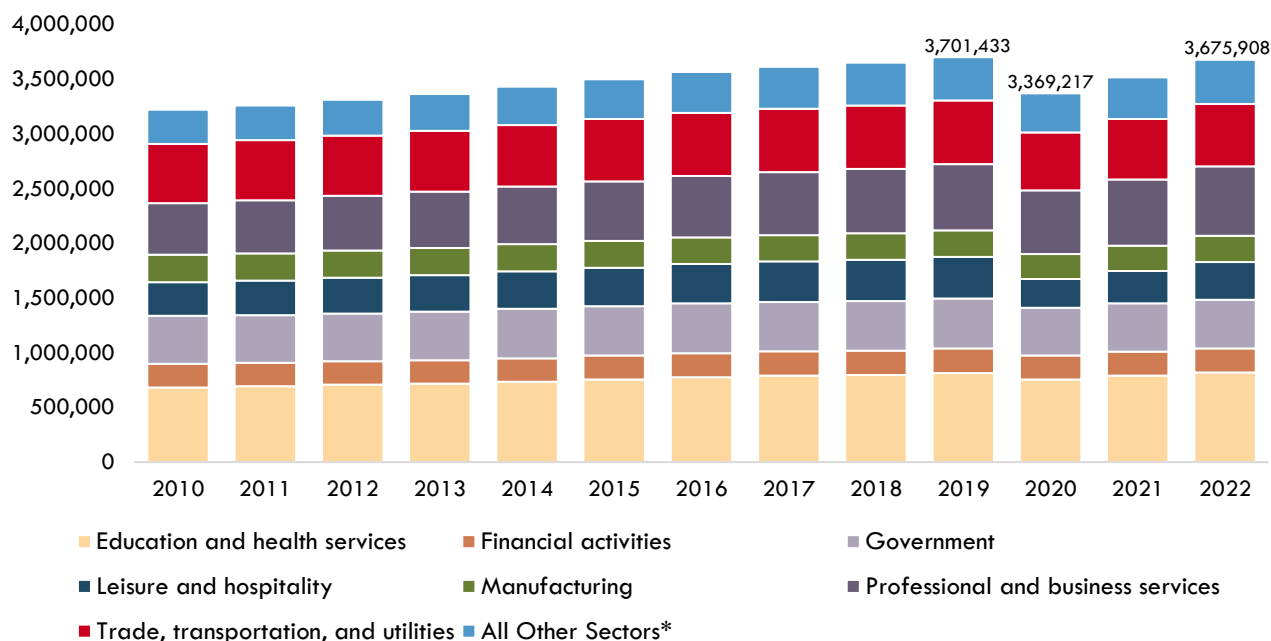
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), UMDI analysis.

Note: All Other includes: Utilities; Agriculture, Forestry, Fishing, & Hunting; and Mining, Quarrying, and Oil & Gas Extraction. Not seasonally adjusted.

Educational services and health care and social assistance have consistently been among the top industries in the state. The clusters of colleges, universities, and teaching hospitals contribute to Massachusetts being a hub for technology and research. Finance and insurance have played an important role in the Massachusetts economy making up roughly 5 percent of jobs, but contributing 9 percent to the state GDP. While sixth in terms of employment in 2022, manufacturing has historically experienced declines. In recent years the decline has slowed considerably, but the Commonwealth's share of manufacturing employment has remained lower than the share of employment in the United States as a whole.

Several NAICS service sectors, education and health services, professional services, and leisure and hospitality have grown to take the place of manufacturing in driving the Massachusetts economy and now 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, 2010-2022 by NAICS Supersector**



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics (CES); UMDI analysis. \*Includes Mining & Natural Resources, Construction, Information, and Other Services.

The COVID-19 pandemic interrupted the trajectory of the state’s economic growth and continues to have tremendous short- and long-term ramifications for the state’s economy. Over 690,000 jobs were lost in spring 2020. In the first half of 2023 the Commonwealth finally surpassed the pre-pandemic employment levels. As of June 2023, there were 19,100 more jobs than in February 2020 (Figure 4). The growth of professional and technical services during the pandemic has 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 have been 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 returned to well above their pre-pandemic levels, and construction in particular has seen growth that outpaces the U.S. overall. Since the onset of the pandemic through 2022, professional and technical services saw the largest gains in employment in scientific research and development services, management and technical consulting services, employment services, and services to buildings and dwellings.



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

Industry	Massachusetts				U.S.
	Feb-20	Jun-23	Change (N)	Change (%)	Change (%)
Accommodation and food services	323,900	295,600	(28,300)	(8.7%)	(2.3%)
Retail trade	351,000	331,200	(19,800)	(5.6%)	0.1%
Other services	142,000	135,700	(6,300)	(4.4%)	(1.1%)
Government	464,300	459,800	(4,500)	(1.0%)	(0.7%)
Manufacturing	242,800	238,900	(3,900)	(1.6%)	1.6%
Management of companies and enterprises	73,500	69,800	(3,700)	(5.0%)	1.4%
Mining and logging	1,000	1,000	0	0.0%	(6.4%)
Health care and social assistance	645,600	646,000	400	0.1%	2.8%
Arts, entertainment, and recreation	63,100	63,600	500	0.8%	(1.6%)
Information	95,600	96,700	1,100	1.2%	6.4%
Real estate and rental and leasing	48,800	50,400	1,600	3.3%	2.4%
Finance and insurance	177,900	182,000	4,100	2.3%	3.4%
Educational services	184,100	188,500	4,400	2.4%	3.9%
Transportation, warehousing and utilities	105,300	111,000	5,700	5.4%	16.3%
Wholesale Trade	123,100	129,800	6,700	5.4%	2.6%
Administrative and waste services	184,700	193,600	8,900	4.8%	4.1%
Construction	166,100	177,000	10,900	6.6%	4.5%
Professional and technical services	350,900	392,200	41,300	11.8%	12.4%
<b>Total nonfarm</b>	<b>3,743,700</b>	<b>3,762,800</b>	<b>19,100</b>	<b>0.51%</b>	<b>2.5%</b>

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

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 second quarter of 2023, Massachusetts real gross domestic product (GDP) increased at a 4.0 percent annualized rate, while U.S. GDP increased at a 2.4 percent rate according to the U.S. Bureau of Economic Analysis (BEA). In the first quarter of 2023, Massachusetts GDP grew at a 2.5 percent annualized rate as compared to a 2.0 percent rate for the U.S., according to the BEA (Figure 5).

During the second quarter, both the state and national economy performed better than expected, with surprising resilience in the labor market as employers continued to hire and labor force participation reached pre-pandemic levels for so-called “prime aged” workers 25-54 years old. It is unlikely this pace of growth can continue during the third and fourth quarters. There is little slack left in the labor market to support strong employment growth, consumer spending in real terms seems to be leveling off as households exhaust excess savings from the COVID fiscal stimulus, and the Federal Reserve raised interest rates in their July rate-setting meeting with a possibility of a further rate increase later this year.

Although a recession is not anticipated in the second half of this year, all indications are that growth can be expected to slow. The Massachusetts and U.S. economies have been growing in sync with each other, with slightly higher growth in Massachusetts in the first half of this year reflected in marginally higher payroll employment growth and higher wage and salary income growth. In the second quarter, Massachusetts payroll employment grew at a 2.2 percent annualized rate versus 1.9 percent for the U.S. In the first quarter, state and national employment grew 2.9 percent and 2.5 percent respectively.

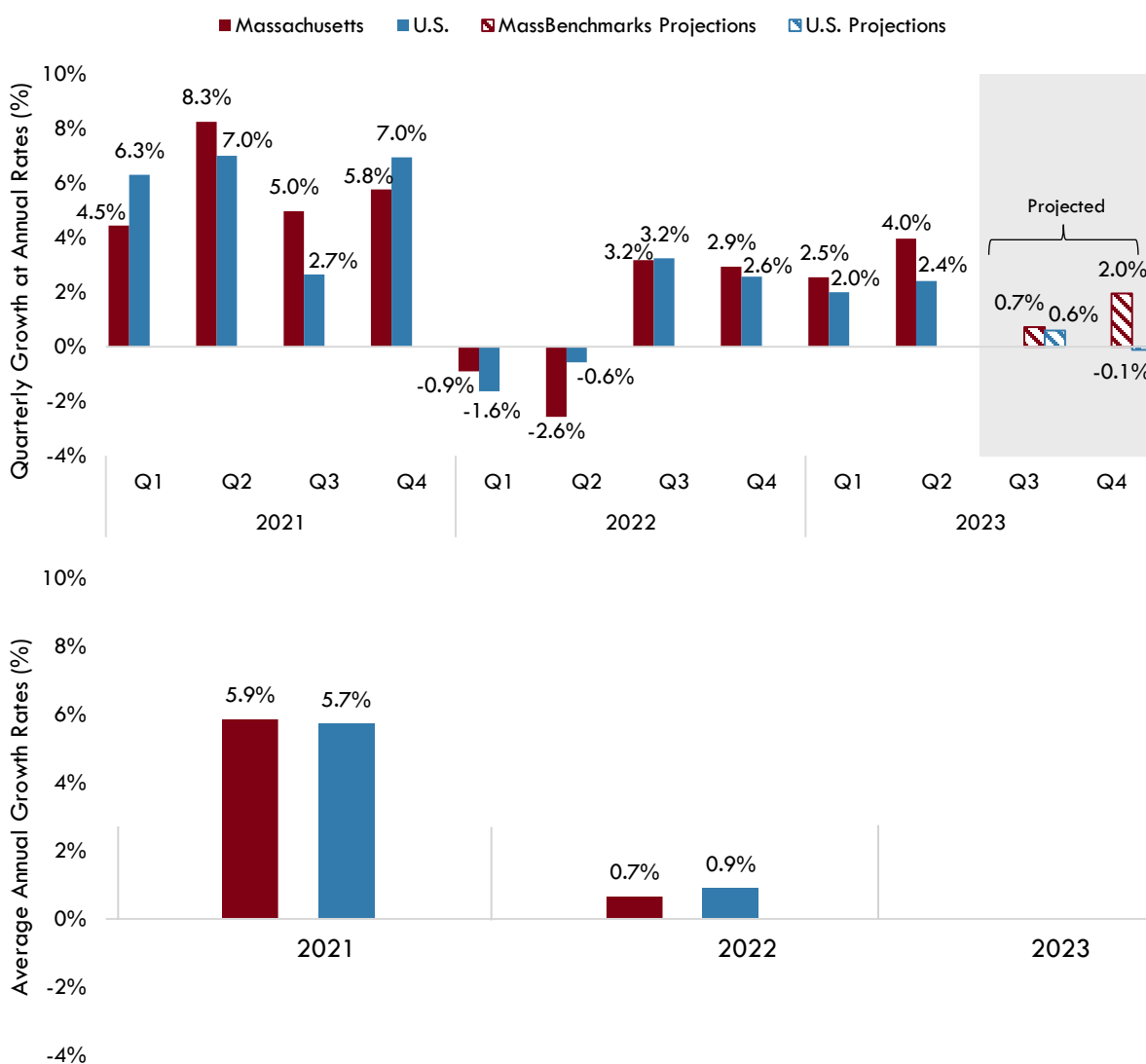
Wage and salary growth was also stronger in Massachusetts than nationally during Q2. MassBenchmarks estimates wage and salary income in the most recently completed quarter using state withholding tax revenues. Strong withholding tax revenues in April and May indicate that second quarter wage and salary income growth for Massachusetts was greater than the MassBenchmarks estimate for (annualized) U.S. wage and salary growth of 4.8 percent. For the first quarter of this year, the BEA reported a 5.8 percent growth rate in Massachusetts wage and salary income versus 4.7 percent for the U.S. Since the second quarter of 2022, wage and salary income is estimated to have grown 6.2 percent in Massachusetts versus 5.6 percent for the U.S.

Not surprisingly, the strong labor market has not been helping efforts to reduce inflation which, although moderating slightly, remains stubbornly above the Fed's target of 2.0 percent. In the Boston area, core CPI in the second quarter was up 4.3 percent from the first quarter on an annualized basis. The corresponding measure for the U.S. was 4.7 percent. While core inflation in the Boston area has been lower than that of the U.S. in recent quarters, Boston's inflation rate has nonetheless not declined meaningfully since the second quarter of 2022.

Massachusetts consumer and business spending on items subject to the regular and motor vehicle sales taxes, which reflect spending on goods – largely durable goods – declined in the first and second quarters of this year, at an annualized rate of 5.8 percent in the first quarter and 2.5 percent in the second quarter. Sales tax collections in Q2 2023 were 1.8 percent higher than in Q2 2022. Notably, these are nominal measures and are not adjusted for inflation. They are significantly weaker than measures of U.S. nominal spending on goods and durable goods. Spending on durable goods in the U.S. in the first quarter grew 15.2 percent on an annualized nominal basis and was 3.4 percent higher than the first quarter of 2022 (Q2 data are not available yet).

The outlook for the second half of this year calls for slower growth in both Massachusetts and the U.S. The MassBenchmarks Leading Economic Index expects third quarter growth of 0.7 percent for Massachusetts, while the Wall Street Survey of economists in July projects growth of 0.6 percent for the U.S. (Figure 5). The pace of job growth can be expected to slow as well, and there are some indications that employer demand for workers may be softening. Payroll employment in June in Massachusetts declined moderately—by 4,500—which could reflect the difficulty employers are having finding workers, or that demand for workers has peaked.

**Figure 5. Growth in Real Product, Massachusetts and the United States, 2023 Q2**

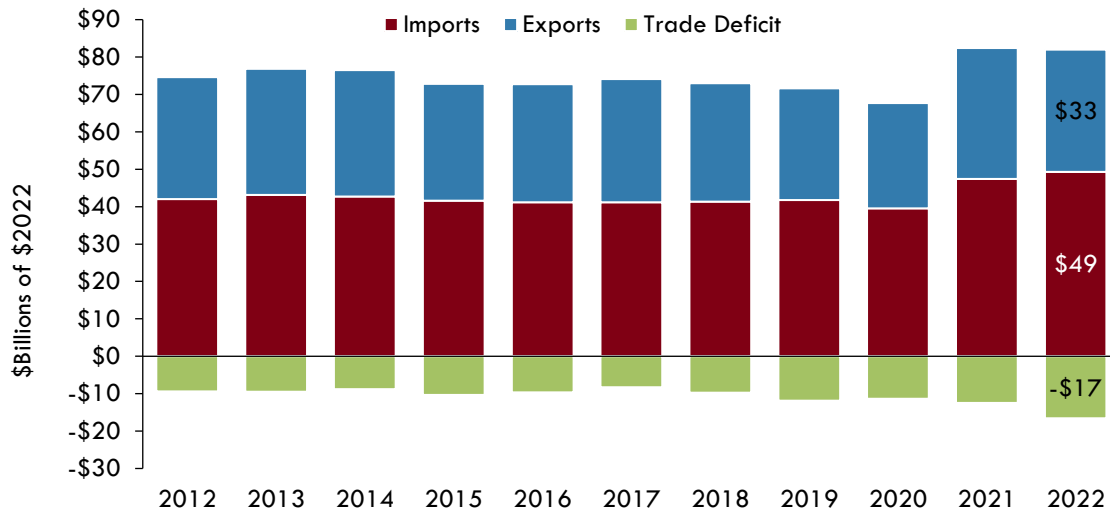


Source: U.S. Bureau of Economic Analysis, MassBenchmarks calculations by Dr. Alan Clayton-Matthews. U.S. projections from Wall Street Journal. Note: average annual growth is calculated by averaging the four quarters of annual growth rates for the calendar year.

Massachusetts trade has stabilized since the pandemic declines in 2020 and after a large rebound in 2021. The Commonwealth's total trade volume (exports and imports) increased 21.7 percent from 2020-2021 and fell 0.5 percent from 2021-2022; the total trade volume was \$82 billion in 2022 (Figure 6). Canada was by far our most valuable trading partner, with a trade volume of \$17 billion, 20.8 percent of the total state trade (Figure 7). The Massachusetts' trade deficit, \$16.6 billion, increased 33.3 percent in 2022. Massachusetts ranked 19th in the U.S. in 2022 and first in New England with \$32.7 billion in exports. This was a 6.6 percent decrease from the previous year's export value, while national exports increased by 8.8 percent and total exports from New England decreased by 4.1 percent (Figure 8). Canada and China were our top two export destinations in 2022 with \$3.7 billion each. Imports increased

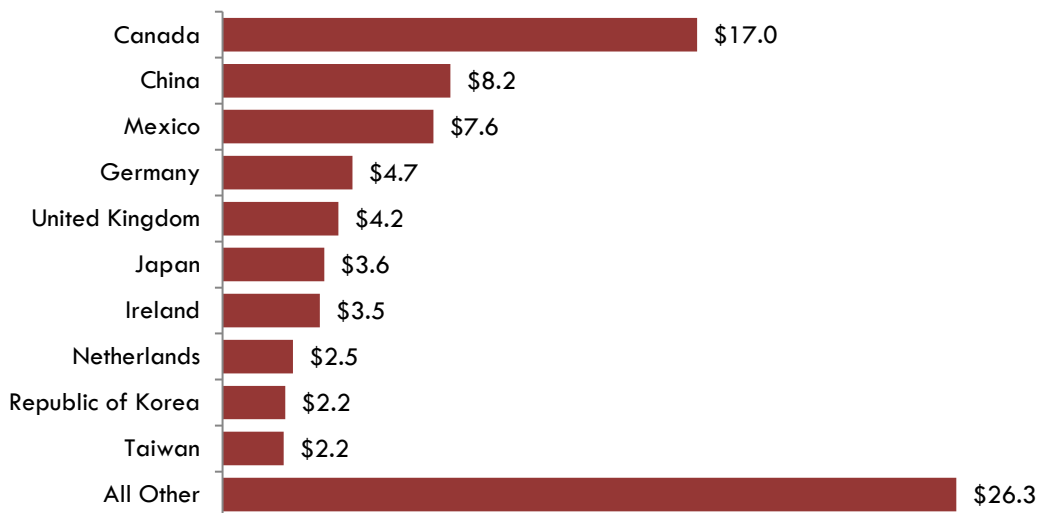
3.9 percent year-over-year to \$49.3 billion in 2022. Canada was the largest source for Massachusetts imports in 2022, from which we imported \$13.3 billion, or 27.1 percent, of our total. Russia’s invasion of Ukraine precipitated a drastic reduction in trade with Russia. Between 2021 and 2022, Massachusetts’ exports to Russia dropped from \$151 million to \$33 million, and imports halved from \$315 million to \$171 million, causing Russia to drop from our 29<sup>th</sup> largest trading partner to 42<sup>nd</sup> by total trade volume. In contrast, trade with Ukraine stayed largely constant and Ukraine remained our 75<sup>th</sup> largest trade partner.

**Figure 6. Massachusetts Imports, Exports, and Trade Deficit, 2012-2022 (in Billions of \$2022)**



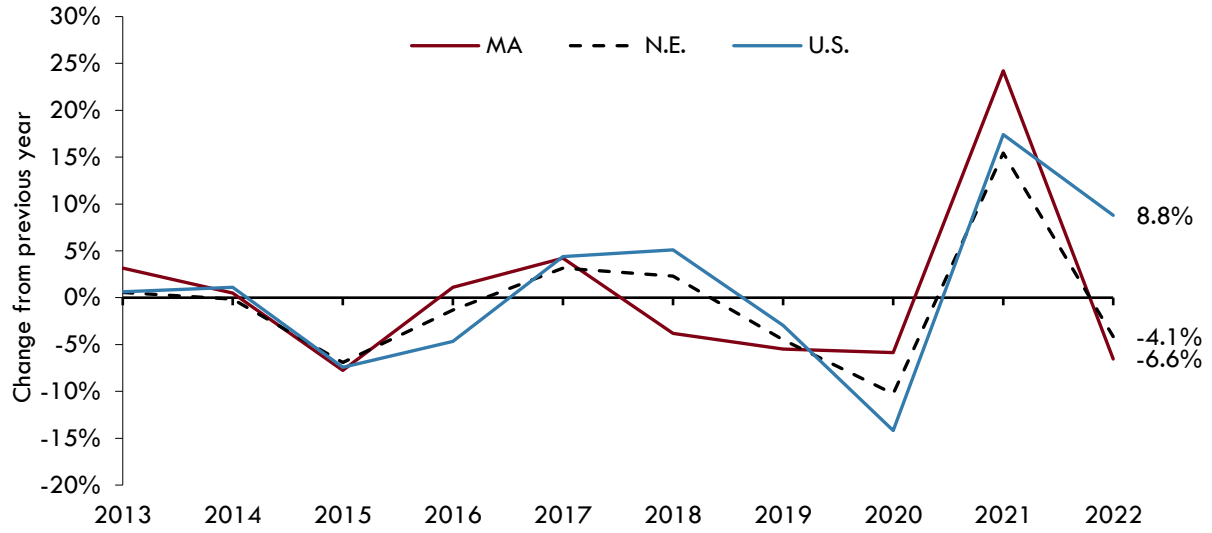
Source: WISERTrade.org; UMDI analysis

**Figure 7. Massachusetts Top 10 Trade Partners in 2022 (in Billions of \$2022)**



Source: WISERTrade.org; UMDI analysis

**Figure 8. Export Growth for Massachusetts, the United States, and New England, 2013-2022**

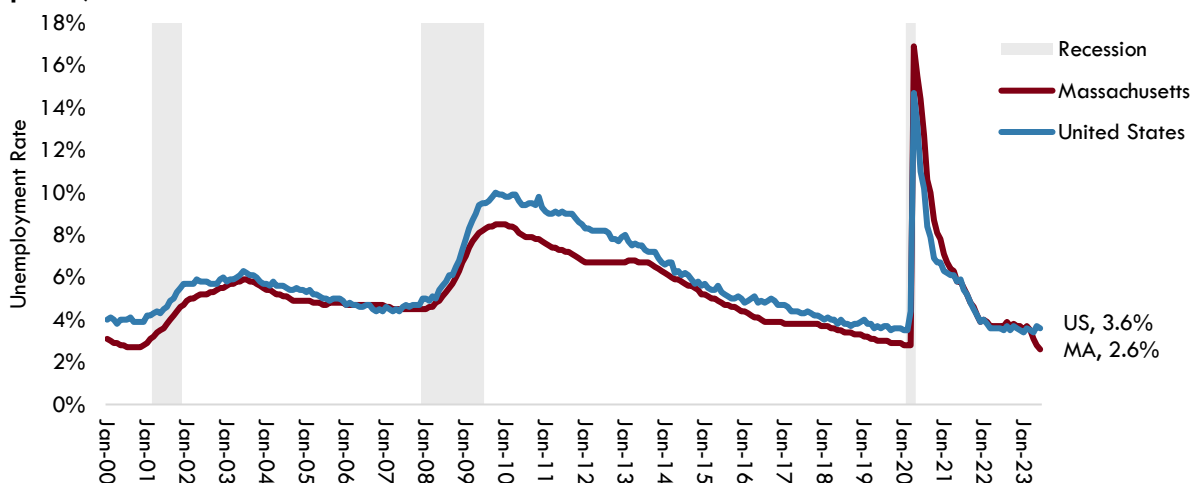


Source: WISERTrade.org; UMDI analysis

## 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 in June was at historically low levels. The June unemployment rate for Massachusetts was 2.6 percent, just under the historic low of 2.7 percent recorded at the end of the tech boom in the summer and fall of 2000 and the lowest since these data were first collected in 1969. The U.S. unemployment rate, which was 3.6 percent in June, reached its nadir in January of 3.4 percent, the lowest level since the end of the 1960s (Figure 9).

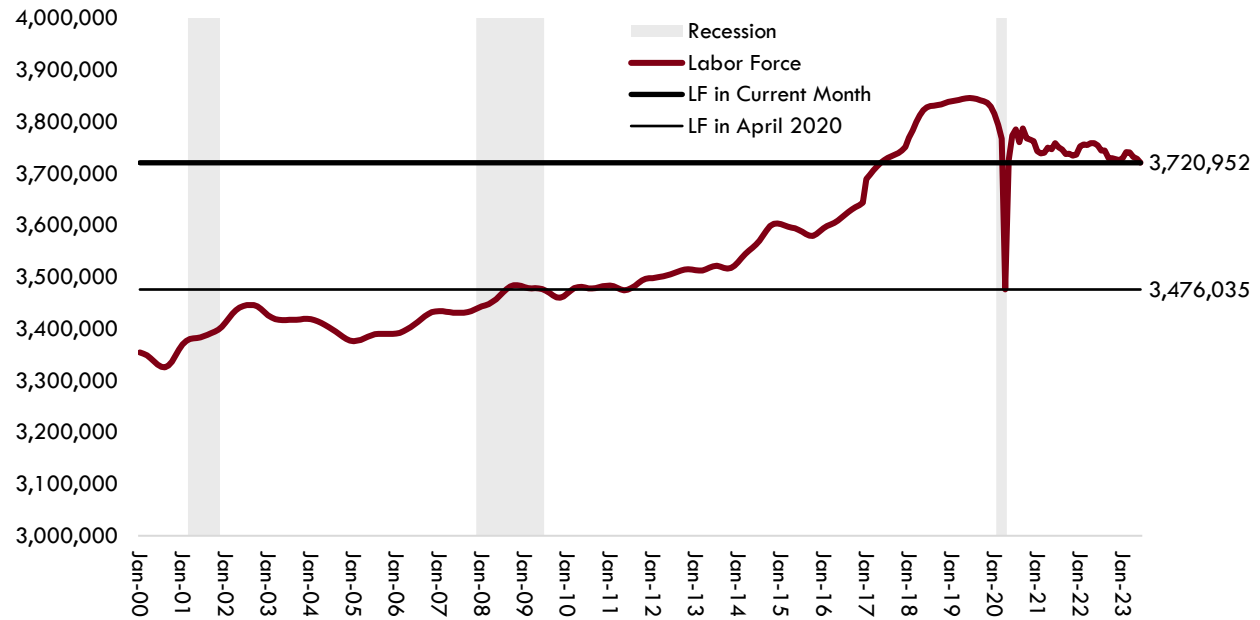
**Figure 9. Unemployment Rates in Massachusetts and the United States as of June 2023 (Seasonally Adjusted)**



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

Both the public health and the economic crises caused by COVID-19 have disproportionately harmed historically marginalized groups. In part this is due to the concentration of marginalized populations in certain sectors of the economy that meant they were more likely to be working in essential services or losing their jobs as shut-down orders shuttered restaurants and retail establishments. For example, the leisure and hospitality sector, which has a younger and less educated workforce, experienced the greatest loss of jobs and has been the slowest to recover. In contrast, highly-educated workers in knowledge-based industries were more likely to be able to work from the home during the COVID-19 pandemic and less likely to lose their jobs. Massachusetts ranked fourth in the U.S. for teleworking during the pandemic. In Massachusetts, workers with previous well-established capacity to work from home were clustered in the Greater Boston area.

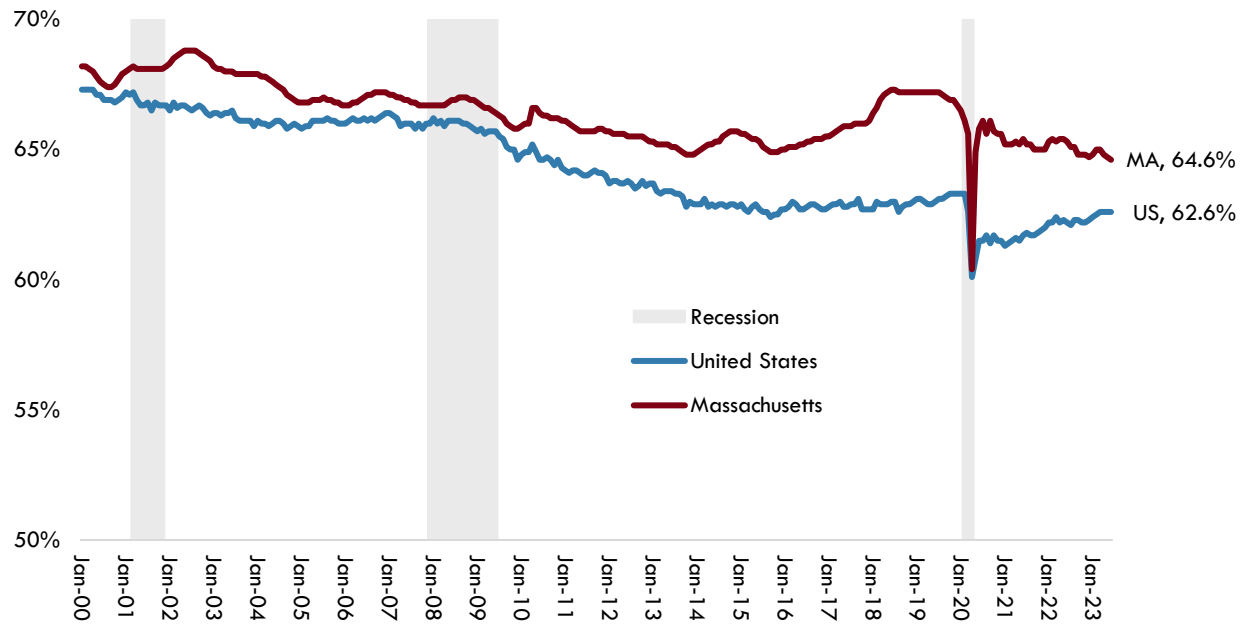
**Figure 10. Massachusetts Labor Force, January 2000-June 2023 (Seasonally Adjusted)**



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

The size of the labor force in the state has largely recovered since the initial collapse at the start of the pandemic (Figure 10). Massachusetts has consistently maintained higher rates of labor force participation than the U.S. on a whole. As of June 2023, 64.6 percent of Massachusetts working-age residents were in the workforce (Figure 11). The rate is down 0.5 percentage points from December 2022 to June 2023 and below the pre-pandemic level of 66.5 percent in January 2020. Labor force participation rates and unemployment rates vary across race, gender, age and education levels. With higher peak unemployment rates during the pandemic being experienced by people of color, women, and younger workers, with lower levels of education who were more likely to be working in sectors impacted by the pandemic. While all groups have benefited from the economic recovery, rates of recovery have varied across demographics. The fact that educational attainment, age, race, and gender are all interconnected with access to job opportunities in the more resilient sectors of the economy has meant that historically marginalized populations have faced greater challenges during all stages of the pandemic. For example, in the spring of 2020, Massachusetts’ residents of color experienced the highest levels unemployment in decades with unemployment rates exceeding 26 percent in April 2020—nearly 12 percentage points higher than their white counterparts. For women, unemployment peaked in June 2020 at 20.3 percent.

**Figure 11. Labor Force Participation Rates in Massachusetts and the United States, January 2000-June 2023 (Seasonally Adjusted)**

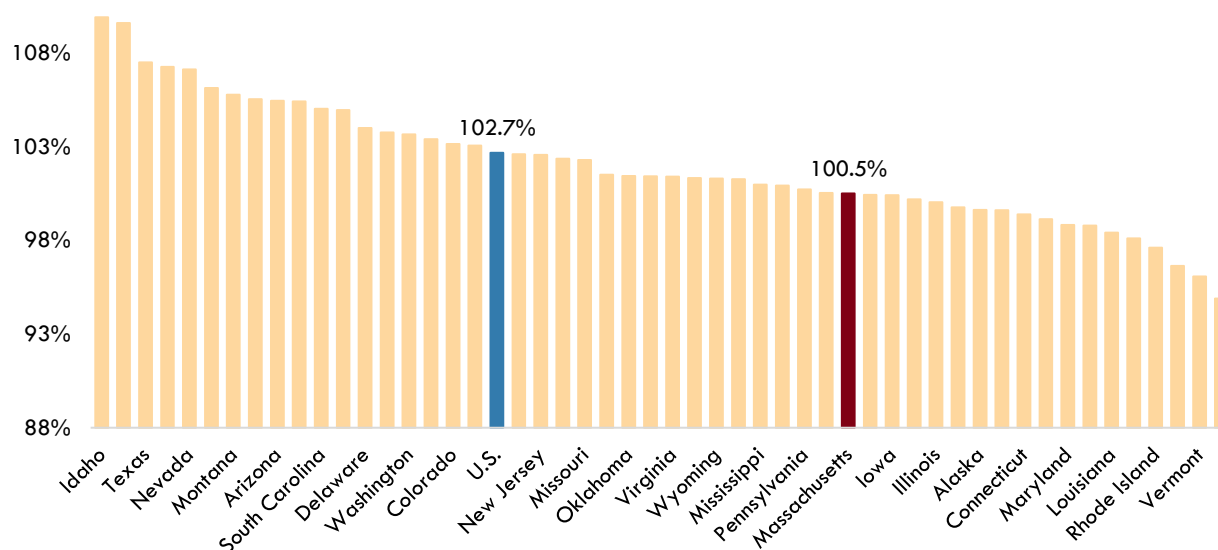


Source: Massachusetts Executive Office of Labor and Workforce Development, Local Area Unemployment (LAU) Statistics; UMDI analysis

Over the past three years, labor market conditions improved dramatically for many workers in the U.S. following the initial wave of COVID-19 related shutdowns. Jobs recovered at a fast rate, with employment totals above pre-pandemic levels for the nation and 37 states, including Massachusetts. The remaining 13 states are within one percentage point of their February 2020 job peak (Figure 12).



**Figure 12. Job recovery rates in Massachusetts and all states, February 2020 and June 2022 (Seasonally adjusted)**



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

The combination of uneven job losses and recovery, as well as an overall decline in the total labor force size in the state have led to several hiring and staffing challenges for employers. An examination of the Bureau of Labor Statistics' Job Opening and Labor Turnover Survey (JOLTS) shows some interesting trends in job postings, hiring, and quits. On the one side, employers were routinely expressing an inability to find available workers to fill current vacancies. On the other side, was a significant increase in voluntary job separations (or "quits") during the recovery period following initial COVID job losses. The national media and popular discourse initially referred to this as "the Great Resignation" or "the Big Quit" and often boiled hiring challenges down to a fundamental shift in workers' views on work-life balance.<sup>1</sup> Quits in the labor market seem to be tied more to the extremely tight labor market conditions caused by pent up labor demand, reduced labor force size caused by demographic factors, and competition for available workers, and not the ongoing challenges related to childcare shortages and costs, or the need for flexible work arrangements.

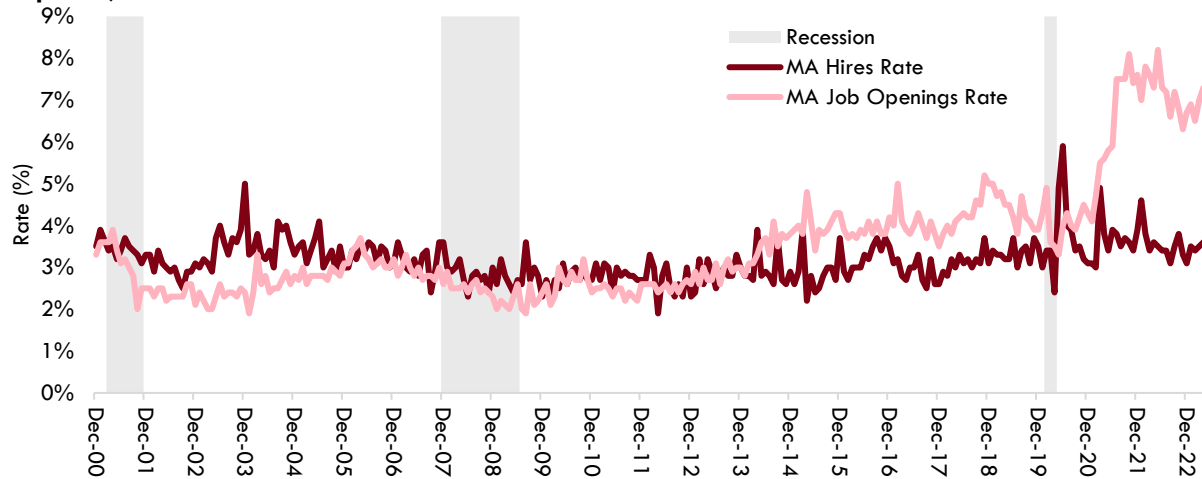
The following graphic (Figure 13) shows the ongoing tension in Massachusetts between current job openings and hires. The pink line shows the job opening rate in the state, or the number of job postings over the total number of jobs. The red line shows the hiring rate, or the number of jobs filled over the total number of jobs in the state. Over time, we see that the hiring rate and the job opening rates moves closely together. In the pre-COVID period, the strong economic conditions in Massachusetts helped to increase demand, as we see the opening rate separate from the hiring rate between 2016 and 2019. Unsurprisingly, the hiring

<sup>1</sup> Newport, Cal. 2021. "Why Are So Many Knowledge Workers Quitting?" *The New Yorker*, August 16, 2021.

<https://www.newyorker.com/culture/office-space/why-are-so-many-knowledge-workers-quitting>.

rate dips in the pandemic and then jumps dramatically as social distancing restrictions start to lift. Since 2021 there develops a significant gap between job openings and hires in the state. These data confirm the narrative from employers that they are having a hard time filling current openings.

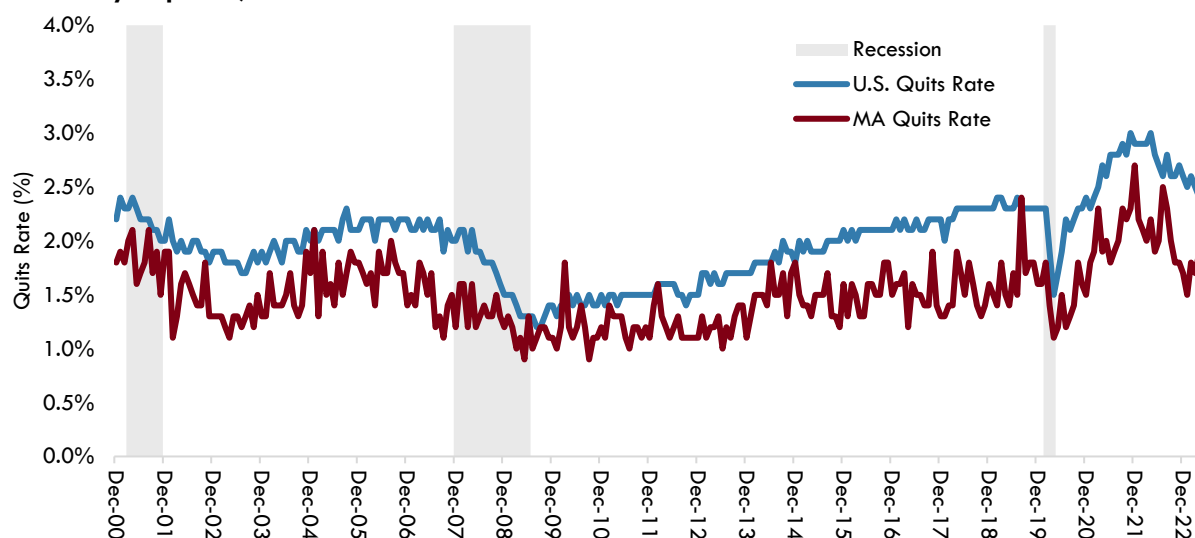
**Figure 13. Job openings rate and hire rate in Massachusetts, December 2000 – May 2023 (Seasonally adjusted)**



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

Similarly, the pandemic appeared to impact voluntary job changes. The graphic below (Figure 14) shows the monthly job quit rate for Massachusetts and the U.S. dating back to 2001. 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.

**Figure 14. Job quits rate in Massachusetts and the United States, December 2000 - June 2023 (Seasonally adjusted)**



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

Predictably, voluntary separations or “quits” dropped during the COVID recession. With layoffs and involuntary separations spiking throughout the economy, those who were able to stay in their current jobs were unlikely to quit during the economic downturn. As the economy opened back up quits spiked dramatically, especially in 2021. While there are a host of factors that would influence increased voluntary separations in the aggregate (e.g. health, family care responsibilities, pay, etc.), the primary cause of the increased quits is tight labor market conditions, reflected in the high number of job openings, low unemployment rates, and wage increases (though, not at the pace of current inflation). While some workers have not returned to the workforce, many seized the opportunity to find new employment. In short, with increased demand in the labor market and fewer available workers to draw from, workers were better positioned to seek out higher paying opportunities and more flexible work arrangements than they were during the early stages of the pandemic.

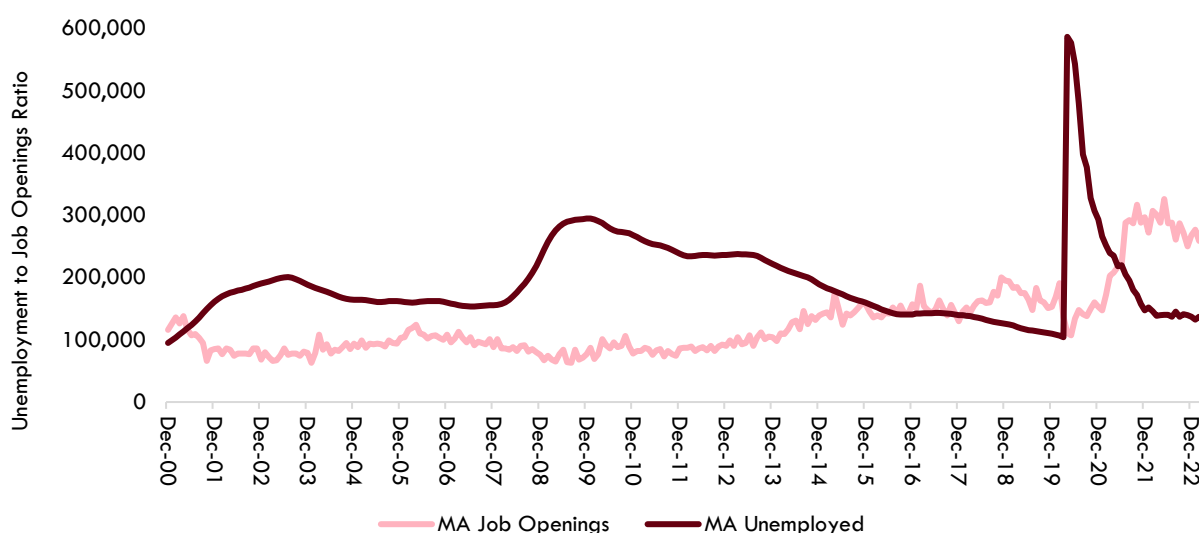
Competition for workers in a tight labor market led to wage increases across the Massachusetts economy in 2020 and 2021. While in recent quarters wage growth has declined, year-over-year wages increased 11 percent from 2019 to 2020 and five percent from 2020 to 2021. Despite the wage gains experienced by many workers in the economic recovery period, those gains have 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.

This tension between labor demand and available workers is likely to continue for the foreseeable future due to several factors. As we will cover in the “Resident” section later in this report, the pandemic led to both an uptick in deaths in the state, as well as a dramatic decrease in international migration. This coupled with losses in net domestic migration is helping to lead to a slightly smaller labor force in Massachusetts than before the pandemic. In addition, with baby boomers approaching traditional

retirement ages, Massachusetts (along with the rest of the U.S.) will be facing labor shortages in the coming decades.

Focusing on the current labor market, the uneven economic downturn and recovery signals some elements of skills mismatches in the economy. In 2021, U.S. workers with a bachelor’s degree had an unemployment rate of 3.5 percent, compared to 6.2 percent for individuals with a high school diploma, and 8.3 percent for workers with less than a high school education. Regardless, there are currently fewer unemployed workers in the state than current job openings, meaning that short of an increase in labor force participation in the current population and/or an influx of new workers, there simply are not enough available workers to fill vacancies in the current economy.

**Figure 15. Job Openings and Number of Unemployed in Massachusetts (Dec 2000 - May 2023)**



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

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. All areas of the state saw unprecedented declines in 2020 as overall travel declined due to the COVID-19 pandemic.

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 VMT in May 2023 hovering between 85-115 percent of their pre-pandemic May 2019 levels.<sup>2</sup>

In contrast to daily VMT, public transit ridership has largely lagged the economic recovery in Massachusetts following the beginning of the COVID-19 pandemic in spring 2020 (Figure 16). 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 of 2020-21 and 2021-22 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, one has surpassed its pre-pandemic ridership (the Worcester RTA), two are approaching pre-pandemic ridership (Southeastern RTA and the Pioneer Valley Transit Authority), and the remaining two are around two thirds of 2019 ridership (Brockton Area Transit Authority and the MBTA). The Worcester RTA has suspended fare collection on its buses since the beginning of the pandemic, and this is one possible explanation for why the region has consistently exceeded the state's ridership recovery overall. The new initiative named “Try Transit” removed fares from all RTAs (but not the MBTA) throughout December 2022 and created the opportunity to test the effect of fare free transit for Massachusetts communities. Funding in the FY24 state budget, representing new investment from the Fair Share Amendment, is directed at the Commonwealth's Regional Transit Authorities, a portion of which may be used to extend fare free transit programs.

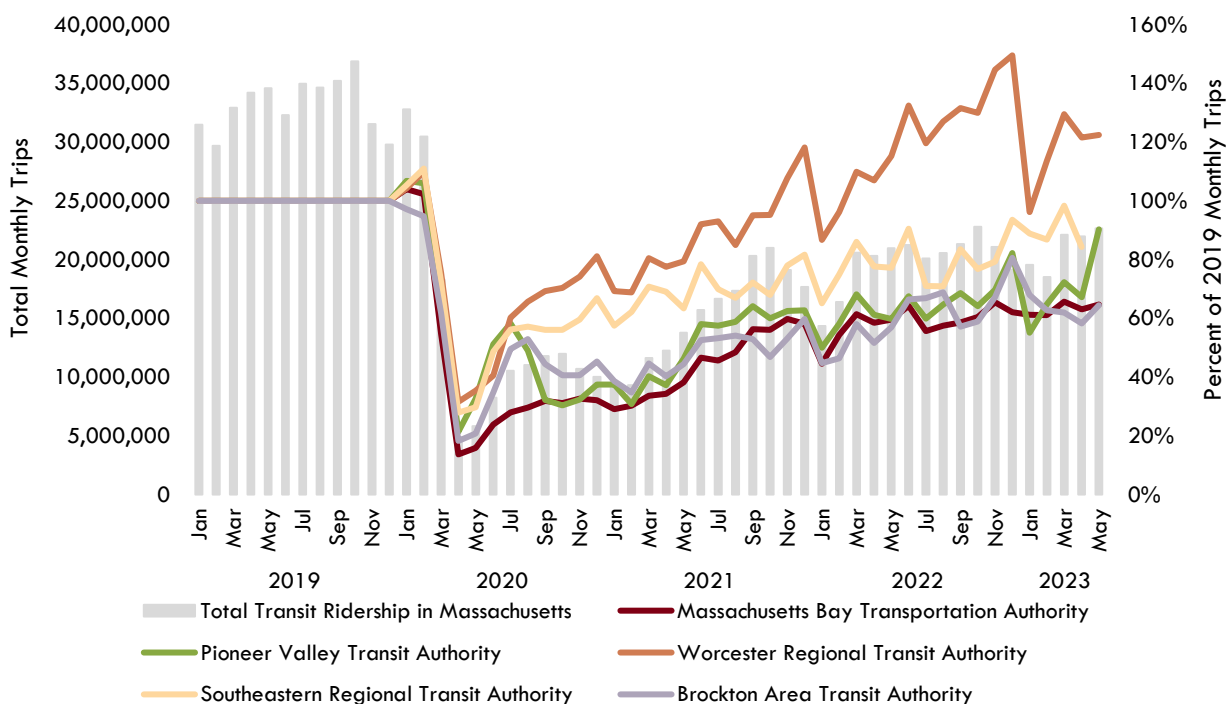
Industry mix may explain some variation in ridership recovery across the Commonwealth as well. Worcester, with its emphasis on health care jobs, likely has many commuters who must still travel to their place of work. Boston, on the other hand, has a greater share of financial, tech, and professional 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

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<sup>2</sup> Massachusetts Department of Transportation Mobility Dashboard, Average Traffic Volumes at Select Count Locations. <https://mobility-massdot.hub.arcgis.com/>

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.

**Figure 16. Monthly Transit Ridership, 2019-2023**



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.

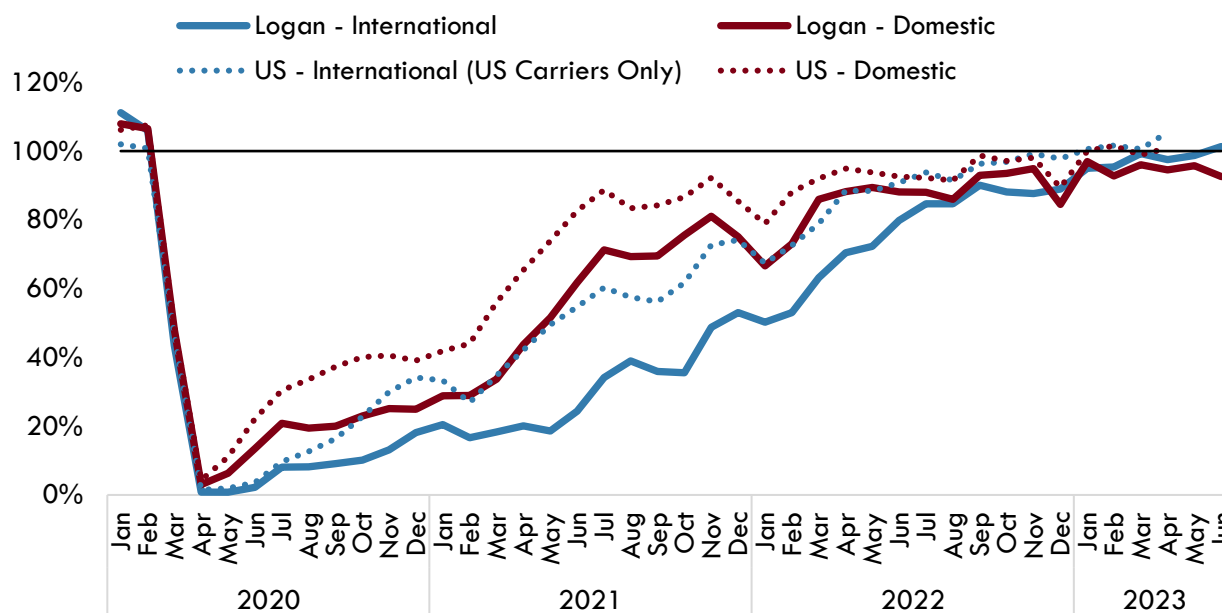
There are several MBTA expansion and redesign plans under construction or consideration that have potential to benefit tens of thousands of current and new riders. The Green Line Extension of light rail north of Lechmere opened in 2022 in phases; the Union Square Branch in Somerville opened in March 2022 and the Medford Branch opened in December 2022. New Bedford and Fall River, both Gateway Cities, will gain a Commuter Rail connection to Boston in 2023 through the South Coast Rail project. The MBTA’s Bus Network Redesign project released a draft of its complete reconfiguration of Greater Boston region bus routes in May 2022 (a revised draft was released in October 2022); the review process for this project is underway and is expected to be phased in over the course of several years. This spring, the Commonwealth also pledged to create a new rail authority in the state to advance East-West Rail, a plan to connect Boston, Worcester, Springfield, and Pittsfield by passenger rail. The effects of these expansion and redesign plans remain to be seen considering the uncertainty of future travel patterns from the pandemic.

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 17). 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 April 2023, domestic and international passenger recovery was within 8 percentage points of the U.S. as overall passenger numbers return 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 17. Logan Airport and U.S. Monthly Passenger Volumes in 2023 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 late June 2023, the Healey-Driscoll Administration released the FY24 – FY28 Capital Investment Plan (CIP).<sup>3</sup> 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

<sup>3</sup> *Five-Year Capital Investment Plan FY2024–FY2028*. (2023). Commonwealth of Massachusetts Executive Office for Administration and Finance.  
<https://budget.digital.mass.gov/capital/fy24/static/1475dce8ff3a8e8167606105e8acb94f/fy24capitalplanma.pdf>

as well as funding repair and modernization efforts at the MBTA and building out electric vehicle charging facilities across the state, in addition to many other projects.



## Environment

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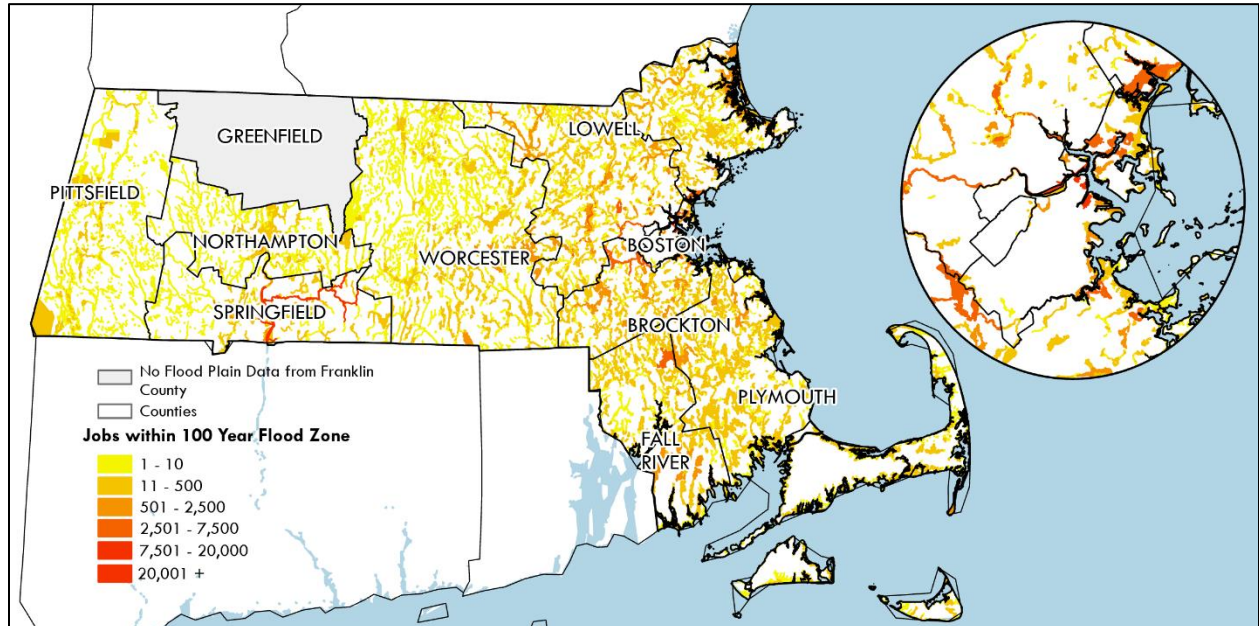
Massachusetts faces diverse risks related to climate change that will have broad economic impacts, depending on the extent to which adaptive measures are taken, at the state, national, and global levels. The threat posed by sea-level rise is of particular concern in Massachusetts because so much of the 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 a 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 2020, approximately 370,000 jobs in Massachusetts were located in 100-year flood plains (Figure 18).<sup>4</sup> Considering the economic recovery that has since occurred of jobs lost during the pandemic, the number of jobs in flood zones in 2023 is most certainly greater than this. With rising sea levels, flooding in these areas is likely to be more frequent and intense. Hurricanes are expected to threaten the East Coast more frequently.<sup>5</sup> 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 19).

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<sup>4</sup> This estimate excludes jobs located in Franklin County because flood maps for Franklin County were not available.

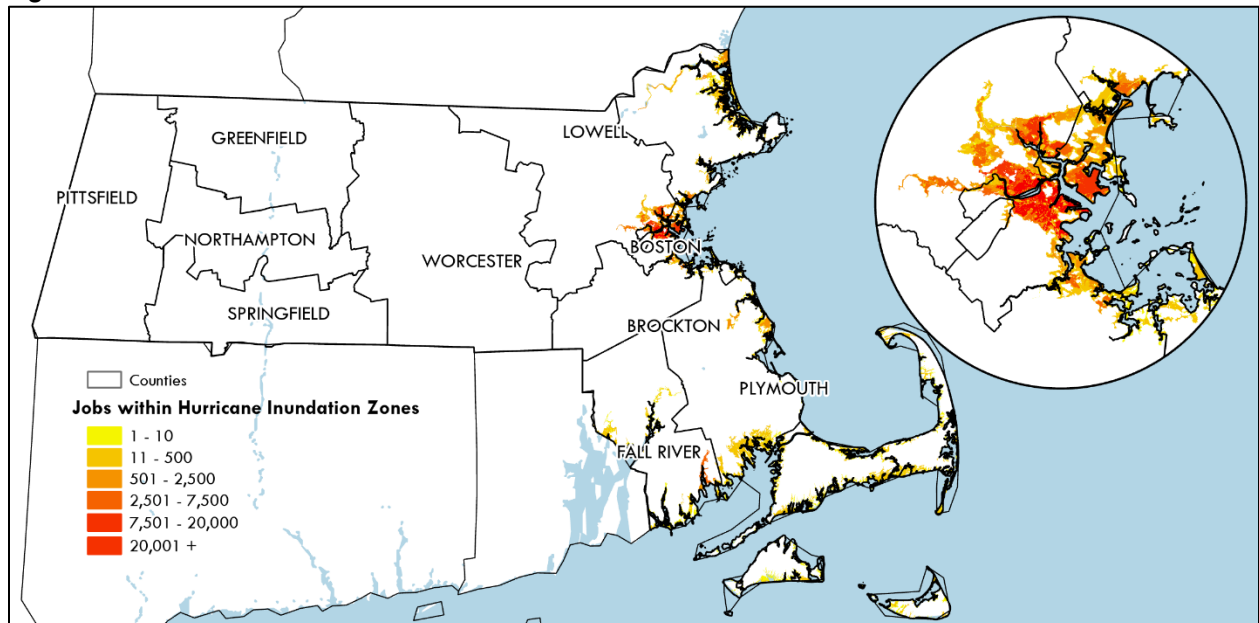
<sup>5</sup> Gori, A., Lin, N., Xi, D. *et al.* Tropical cyclone climatology change greatly exacerbates U.S. extreme rainfall–surge hazard. *Nat. Clim. Chang.* 12, 171–178 (2022). <https://doi.org/10.1038/s41558-021-01272-7>

**Figure 18. Jobs Located in 100-Year Flood Zones**



Source: FEMA National Flood Hazard Layer via MA GIS, U.S. Census Bureau 2020 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 19. Jobs Located in Hurricane Inundation Zones**



Source: U.S. Army Corps of Engineers Hurricane Surge Inundation Zones via MA GIS, U.S. Census Bureau 2020 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 20<sup>th</sup> 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. For example, the 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 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.

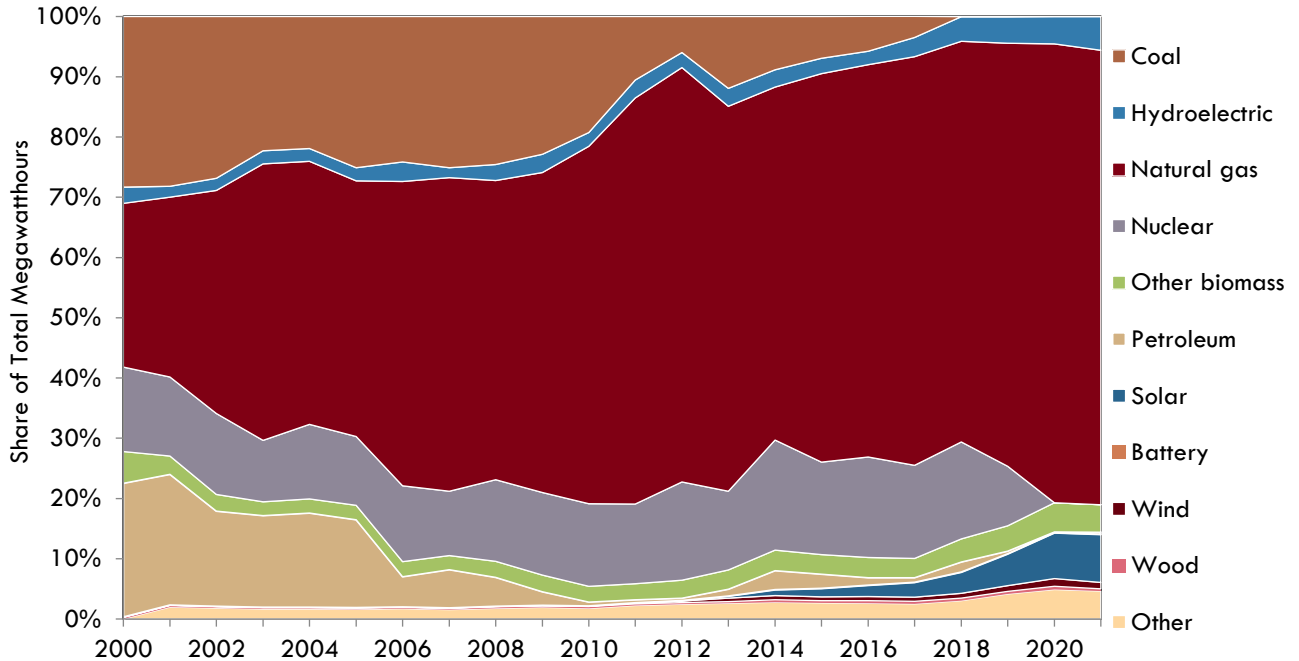
Changes to the environment, such as extreme weather events, do not respect political boundaries, therefore, policy makers have limited ability to mitigate the course of environmental change. However, local officials can prepare for natural disasters and plan for predicted changes in the environment, such as rising temperatures and sea-levels. To this end Massachusetts established the Municipal Vulnerability Preparedness grant program that supports city and towns through grants and technical assistance that fund and support local assessments of vulnerability to climate change and adaptation projects. The grants have funded 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. Over 90 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. Most recently 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. Currently, 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 20). The state receives the majority 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. 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. Furthermore, Massachusetts ranked eighth in the U.S. in net generation from all solar in 2021. Electricity prices in Massachusetts are higher than in the nation as a whole. As of March 2023, Massachusetts consumers faced the third highest electricity prices in the nation.

**Figure 20. Electric Power Generation by Primary Energy Source, 2000-2021**



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)<sup>6</sup> for the five years of FY24 – FY28 plans to invest in decarbonization efforts through efforts toward promoting electric vehicles and making school buildings, housing, and public transportation more efficient. Additionally, the CIP funds the Municipal Vulnerability Preparedness grant program at \$125 million, which will assist towns and cities as they manage the effects of extreme weather, heat, and other effects of climate change.

<sup>6</sup> *Five-Year Capital Investment Plan FY2024–FY2028*. (2023). Commonwealth of Massachusetts Executive Office for Administration and Finance. <https://budget.digital.mass.gov/capital/fy24/static/1475dce8ff3a8e8167606105e8acb94f/fy24capitalplanma.pdf>

## Residents

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Since 2010, Massachusetts has enjoyed a sustained period of population growth, driven largely by significant gains in the state's foreign-born population. That said, in recent months there has been a great deal of attention on modest year-over-year declines in the total Massachusetts population. Increases in domestic out migration over the last two years have alarmed economists and public policy makers alike. While Massachusetts has long had a significant churn of young adults moving into and out of the state around college-aged years, the combination of decreased immigration and increased retirement during the pandemic, coupled with increased domestic out migration has led to the Massachusetts labor force being smaller today than it was pre-pandemic. With the baby boomer generation increasingly reaching retirement ages in the coming years, the state's ability to attract and retain workers will be paramount in maintaining the economic strength and competitiveness that Massachusetts has enjoyed over the last couple of decades.

When seeking to understand state population trends, the primary sources of data come from the U.S. Census Bureau. The gold standard in demographic data in the U.S. continues to be the official decennial census enumeration. This is the official total population of an area as of April 1<sup>st</sup> of the enumeration year and these are the figures used, most notably, for determining congressional representations and political redistricting. The Census Bureau also annually estimates the total population for locations by estimating the various components of population change (natural change and migration) and applying them to the estimated population from the previous year. This estimate represents the total population of an area as of August 1<sup>st</sup> of the year in question. In addition, the Census Bureau fields an annual survey called the American Community Survey (ACS). The ACS captures detailed socioeconomic and demographic characteristics of the population, including information like educational attainment, household income, nativity status, and other variables. The combination of these three data sources provides a rich understanding of population patterns, especially as it relates to state population growth, decline, and migration.

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.

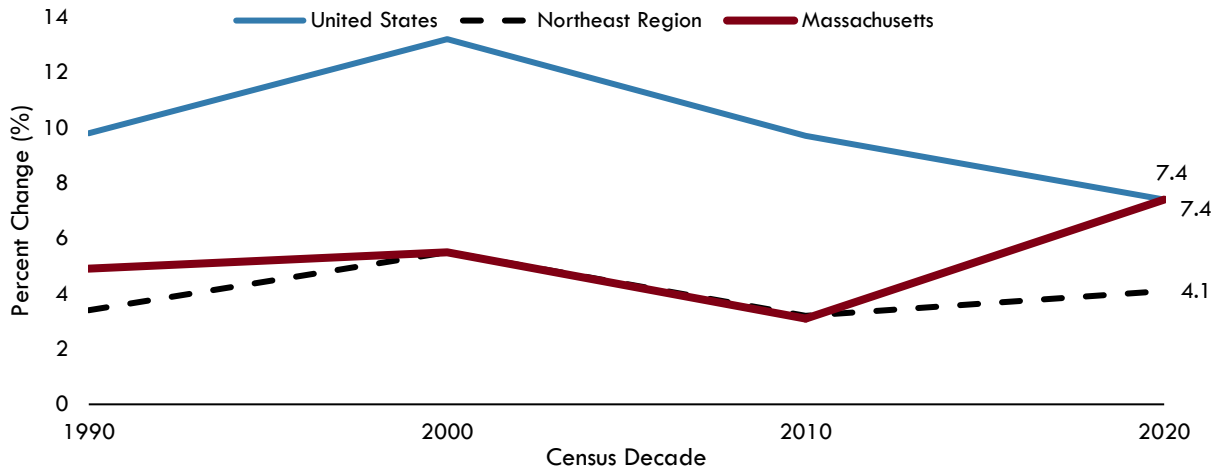
From 2010-2020, Massachusetts experienced considerable resident population growth, placing it well above the average population change throughout the Northeast region (Figure 21).<sup>7</sup> Between the 2010 and 2020 Census, the Massachusetts population grew from approximately 6.5 million to 7.0 million residents. This marked a 7.4 percent increase in the state's population, in line with the U.S. overall growth

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<sup>7</sup> The Northeast includes: Maine, New Hampshire, Vermont, Massachusetts, New York, Connecticut, Rhode Island, Pennsylvania, and New Jersey.

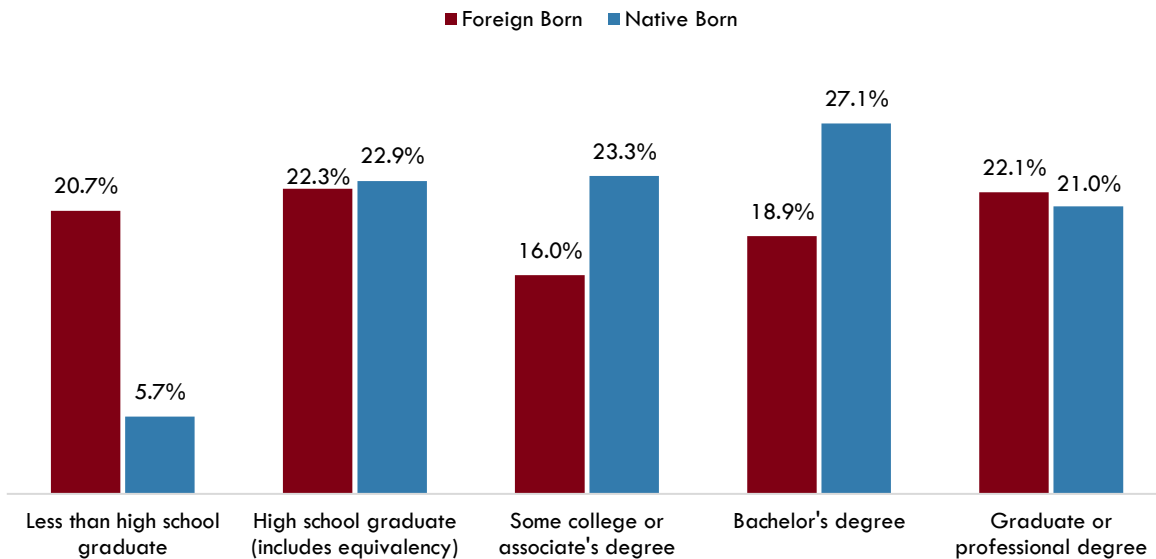
and making the Bay State the fastest growing state in the Northeast. In contrast, the average population growth in the Northeast was 4.1 percent.

**Figure 21. Change in Resident Population by Decade**



Source: U.S. Census Bureau; UMDI analysis

As mentioned above, 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 location. For example, during the 2000s population growth in Massachusetts has largely been driven by significant gains in international migration. 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 (21% in 2021) and a significant concentration with college degree (19%). Interestingly, a higher proportion of immigrants in the state hold a graduate degree (22%) than native-born residents (21%) (Figure 22).

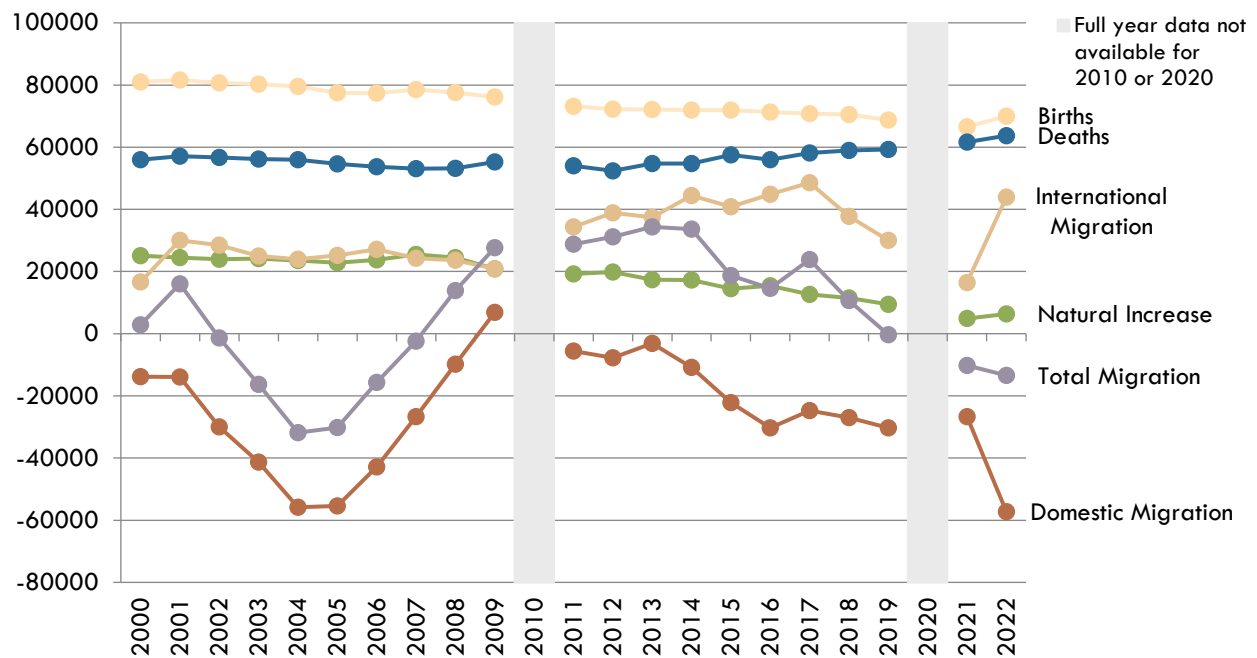
**Figure 22. Educational Attainment of the Foreign Born in Massachusetts, 2021**

Source: U.S. Census Bureau, 2021 1-Year American Community Survey; UMDI analysis.

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. 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.

While Massachusetts showed steady growth between the 2010 and 2020 Census, the onset of the global COVID pandemic appears to have spurred some unique and new population patterns in the state. For example, while Massachusetts has experienced net population losses through domestic outmigration over the last 20 years, 2022 showed a dramatic increase in the state's domestic outmigration rate, essentially doubling from the typically outmigration seen in the state over the last several years (Figure 23). Conversely, in both 2020 and 2021 international migration, which had slowed somewhat during the early part of the Trump administration, slowed dramatically due to pandemic related restrictions, only to finally return to a more typical rate for the state in 2022.

**Figure 23. Massachusetts Estimated Components of Population Change, 2000-2022**



UMass Donahue Institute. Source Data: ST-2000-7; CO-EST2010-ALLDATA; and NST-EST2022-ALLDATA, U.S. Census Bureau Population Division.

The U.S. Census Bureau Population Estimates Program provides a view of the changes in domestic migration and population changes within the Northeast states from 2019-2022. During this period, Massachusetts experienced an out of state migration rate that doubled from -0.4 percent to -0.8 percent. The United States experienced a 0.6 percent increase in population between 2020-2022, and in contrast Massachusetts' population declined by -0.7 percent placing the Commonwealth below the national average of population growth.

The outmigration rate in Massachusetts between 2020-2022 occurred at a much sharper migration rate than other states in the Northeast region, who have experienced net increases in domestic migration. The one state in the Northeast that 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.

To examine migration patterns by state and by county, the Internal Revenue Service (IRS) U.S. Population Migration dataset was used. This annual dataset presents migration patterns based on year-to-year address changes reported in individual income tax returns filed with the IRS. From 2010-2020, the IRS U.S. Population Migration data has shown that domestic outmigration in Massachusetts is highest among counties in Greater Boston. Prior to 2020, the highest rate of domestic out-migration occurred in the western half of Massachusetts, within Franklin and Berkshire Counties.

Massachusetts has experienced a dramatic divergence in migration trends in recent years from what it was pre-pandemic. The 2020-2021 IRS population migration data shows that this trend flipped, with Suffolk

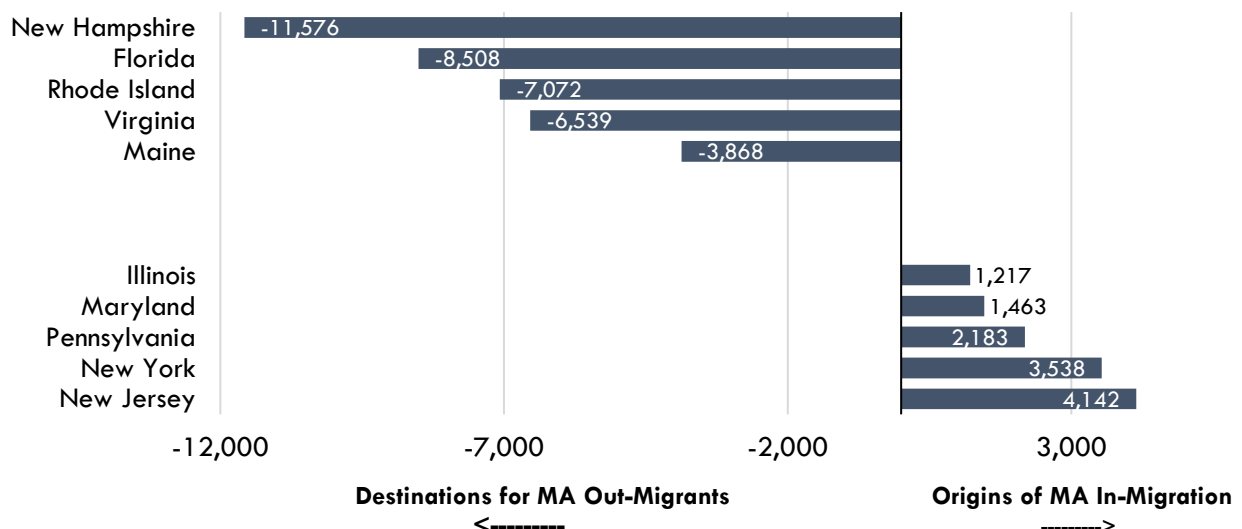


and Middlesex counties experiencing the highest rate of out-migration in the state. However, domestic migration rates have not flipped in all counties. The island counties of Dukes and Nantucket, as well as Barnstable County have all experienced positive domestic migration rates over the past decade through 2021, particularly during 2020 when the global pandemic began. With the continued analysis of future migration datasets, we will be better able to understand where these trends will normalize and if, in the years to come, Massachusetts migration will return to pre-pandemic trends.

Using microdata from the 2021 U.S. Census Bureau’s American Community Survey, net migration to Massachusetts is most concentrated throughout the 18–24 year-old age group. This group includes the large number of young adults who migrate into Massachusetts for their college education. Within this age group, the majority moved from New Hampshire to Massachusetts, followed by a sizable number of migrants from Florida. This is notable because overall New Hampshire and Florida are the top destinations for Massachusetts out migrants. From 2020-2021 over 11,500 individuals moved from Massachusetts to New Hampshire and another 8,500 moved to Florida, followed by Rhode Island, Virginia, and Maine (Figure 24). Most migrants aged 65 and older migrated to Florida, which is a popular destination state for retirees.

In contrast, most out-migrants to New Hampshire were aged 25-44, prime age workers potentially moving with their young children. Some of these workers may hold jobs located in Massachusetts and thus still pay payroll taxes in the Commonwealth. According to OnTheMap data from the U.S. Census Bureau, 75,000 workers (22%) who live in the three border counties of Southern New Hampshire<sup>8</sup> hold Massachusetts jobs.

**Figure 24: Net Migration to Massachusetts, 2020-2021**



Source: U.S. Census Bureau, American Community Survey Microdata, 1-Year Estimates 2021.

<sup>8</sup> Cheshire, Hillsborough, and Rockingham counties, New Hampshire. Data is from 2020 from the OnTheMap tool by the U.S. Census: <https://onthemap.ces.census.gov/>

The age group experiencing the largest number of out migration is 25-44 year olds. Within this group, New Hampshire was the state most former Massachusetts residents moved to, followed by Rhode Island, Florida, Virginia, and Maine in turn. 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's likely that this group finds the cost of living, particularly with housing costs, challenging, and in this move to states where the cost of living is lower. The state that sent the most migrants into Massachusetts was New Jersey, which sent roughly 4,000 new Massachusetts residents, followed by New York, Pennsylvania, Maryland, and Illinois in turn.

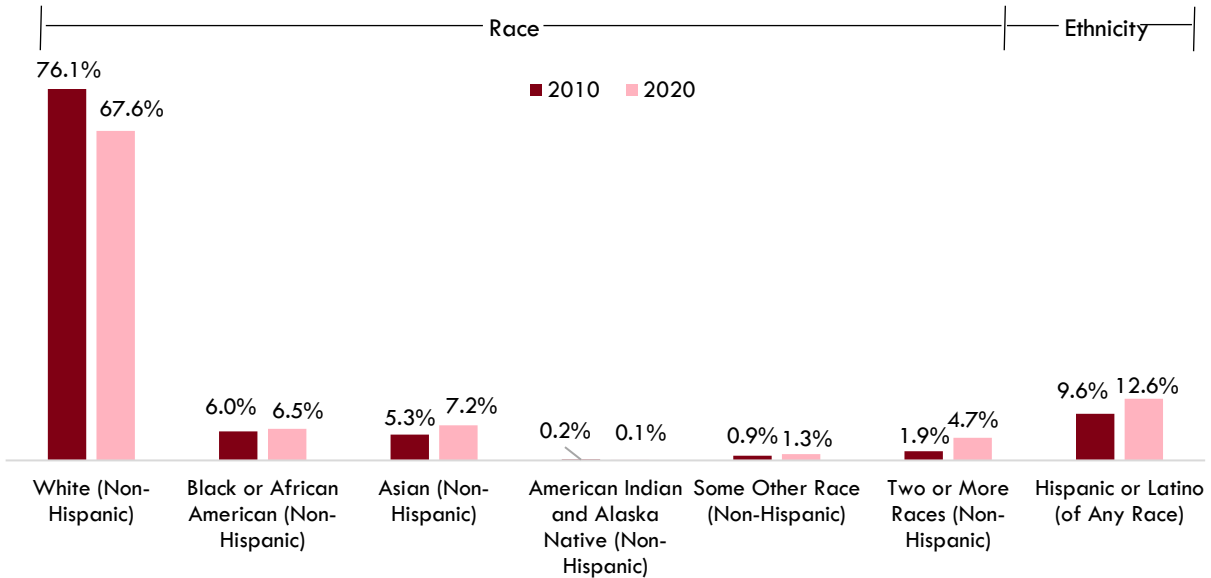
Higher paid and more educated residents were more likely to move out of state in 2021. This likely reflects the fact that long distance moves require significant resources. Looking at the net migration patterns out of Massachusetts from 2020-2021, data from the U.S. Census Bureau, American Community Survey Microdata (2021) helps clarify who within the state is moving out. Net migration out of state was highest within occupations with higher wages across both high school diploma and college degree educational brackets.

Looking at the out-migration trend from 2020-2021 raises understandable concern over the dramatic 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 over the term. With that, state migration trends should be analyzed cautiously as the years following the pandemic are likely not representative of an average year of out migration.

The question that remains is where out migration trends will normalize. We have already seen some trends from the Internal Revenue Service, U.S. Population Migration Data (2020-2021) that indicate certain areas within the state have already returned to their similar pre-pandemic migration trends, such as we see happening on the Cape in Barnstable County. Over the next few years, it will be important to continue tracking out migration trends to see where residential patterns normalize.

As with the nation, Massachusetts is becoming more racially and ethnically diverse. The share of the population that identifies as non-Hispanic, white 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 25). The state's population is older than the nation as a whole—the median age is 39.9 compared to 38.8 for the nation. The Commonwealth has the lowest median age in New England and, due to the presence of higher education institutions.

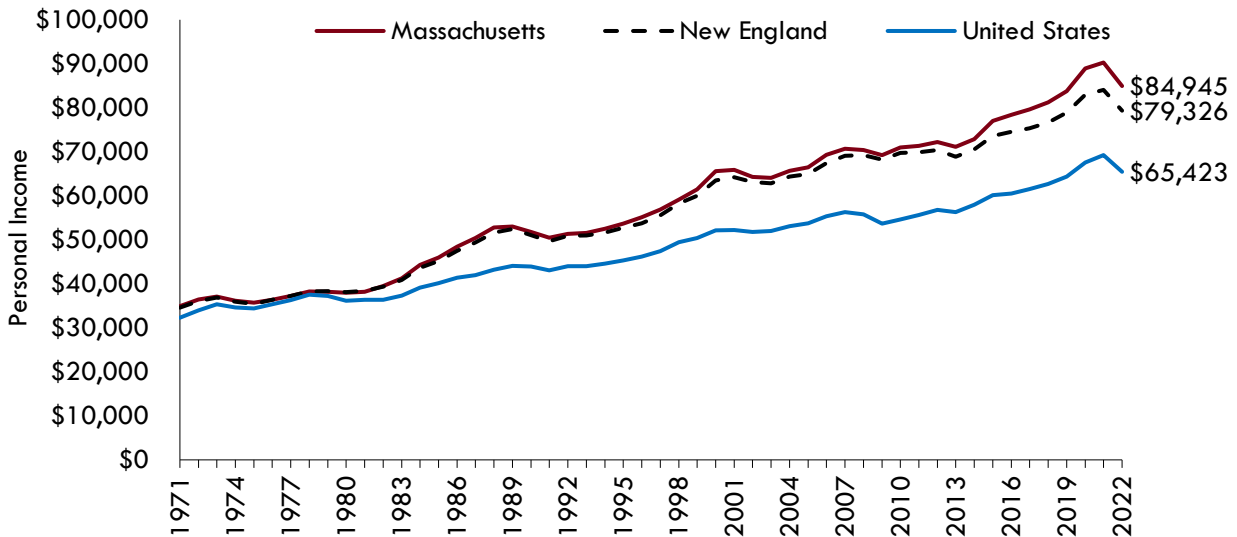
**Figure 25. Share of Total Massachusetts Population by Race and Ethnicity in 2010 and 2020**



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 2022, Massachusetts had the second highest real per capita personal income in the nation, excluding the District of Columbia. Connecticut had the highest, though the BEA estimates a less than \$30 gap between the two. In 2022, the Commonwealth's real per capita income was nearly \$85,000 compared to approximately \$79,000 in New England and just over \$65,000 in the U.S. (Figure 26). 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. 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 9.9 percent compared to 12.6 percent according to the 2021 Five-Year American Community Survey. However, in several cities the poverty rate exceeds the state average: for example, in the Gateway cities of Holyoke, Springfield, and Worcester poverty rates were 26.5 percent, 26.3 percent and 19.3 percent, respectively. Boston is also above the state average with a rate of 17.6 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 26. Real Per Capita Personal Income in Massachusetts, the United States, and New England, 1971-2022 (in \$2022)**

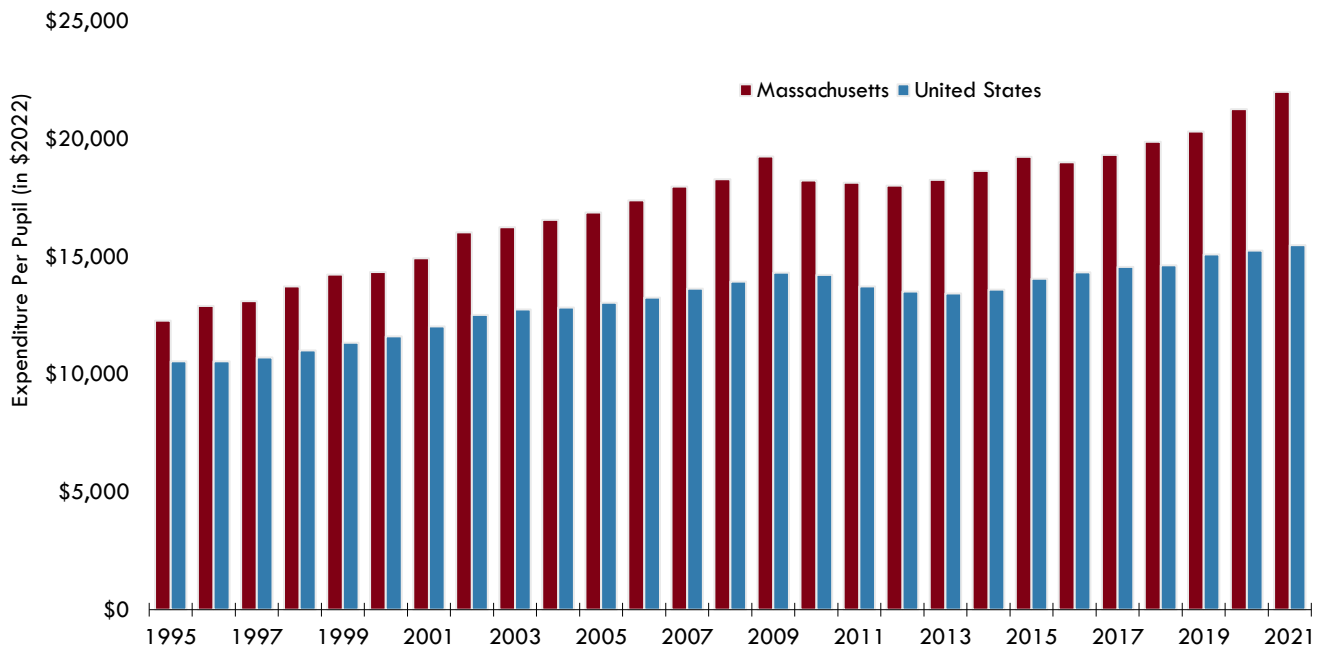


Source: U.S. Department of Commerce, Bureau of Economic Analysis

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 27). Furthermore, students in Massachusetts’ 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 46 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 23 percent respectively. Fifty percent of white residents and 64 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 28). 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 speaker of other languages services through its Department of Elementary and Secondary Education.

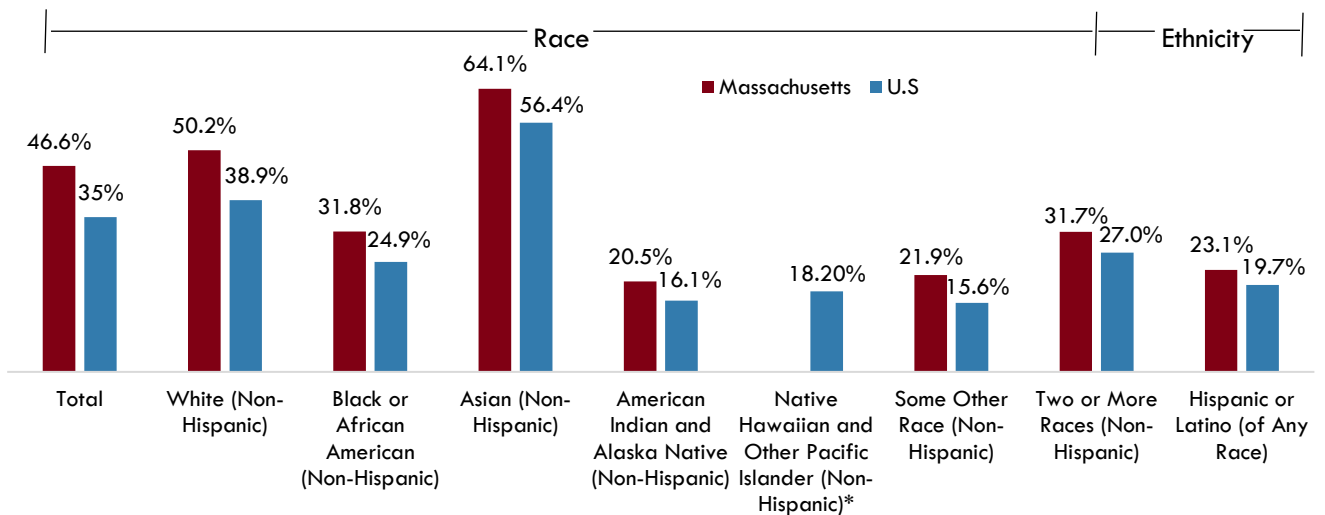
The well-educated population supports and is a product of the concentration of elite public and private colleges and universities in the state. Educational services is the third largest industry in Massachusetts in terms of jobs. Nearly half a million students are enrolled in higher education in the state. The number of international students has rebounded from pandemic-era lows of 66,000 in the 2020/2021 academic year to 71,000 in the 2021/2022 academic year. This is close to the record, nearly 74,000 in the 2019/2020 academic year.

**Figure 27: Per Pupil Expenditure in Public Elementary and Secondary Schools (in \$2022)**



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

**Figure 28. Persons in Massachusetts and the United States 25 Years and Older with a Bachelor's Degree or Higher by Race and Ethnicity in 2021**

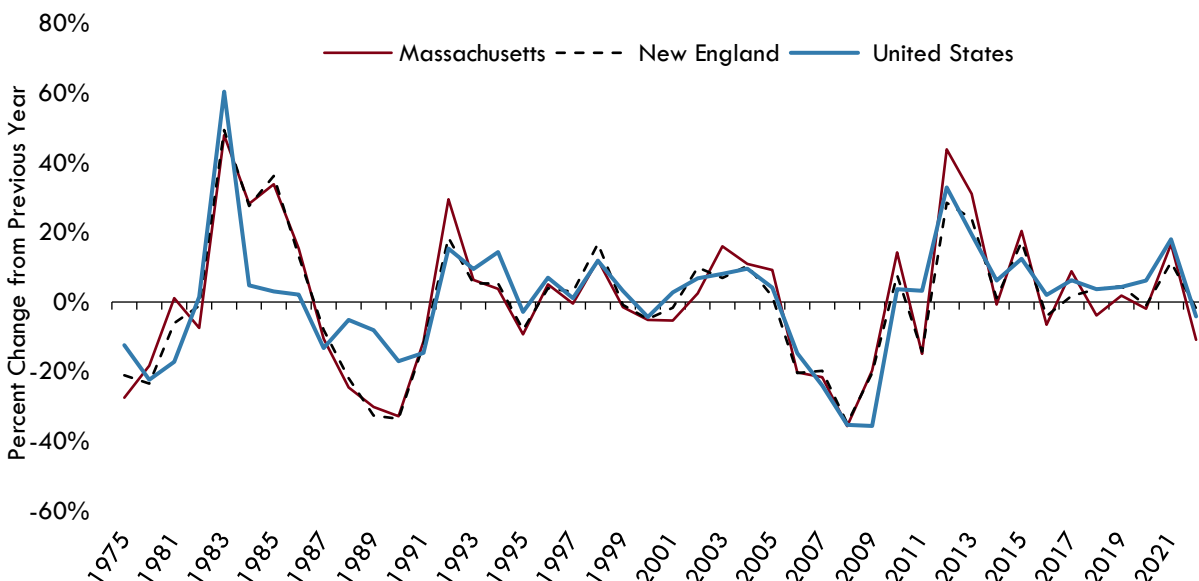


Source: U.S. Census Bureau, 2021 1-Year American Community Survey; UMDI analysis.

\*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 are rising 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, despite higher interest. In 2022, prices increased to \$575,000 from \$530,000 in 2021, an 8.5 percent increase. Prices have remained well above the national median, which according to the National Association of Realtors was at \$366,900 in December 2021. Construction is not keeping up with demand. Preliminary data shows that nationally, the number of building permits decreased 4.1 percent from 2021 to 2022, but in Massachusetts the decline was greater, permits decreased 10.9 percent over the same period (Figure 29).

**Figure 29. Housing Units Authorized by Building Permit, Percent Change from Previous Year, 1975-2022**

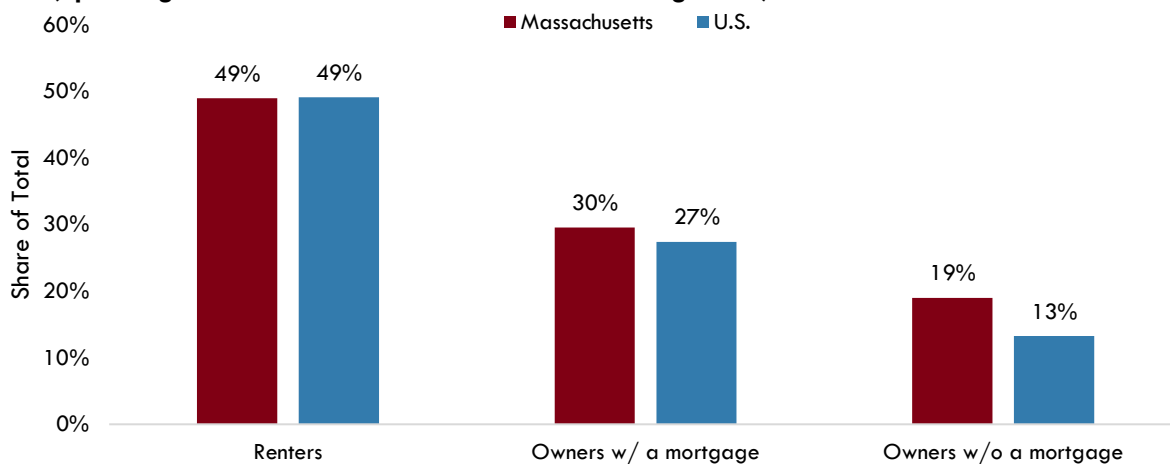


Source: U.S. Census Bureau Building Permits Survey; UMDI analysis  
 Note: Reported data plus data imputed for non-reporters & partial reporters.

The increase in sale prices and the low supply of homes for sale has translated into high rental costs as well. In addition, low vacancy rates have contributed to higher costs; rental vacancy rates in the state were at 3.3 percent in 2021 compared to 5.7 percent nationally. Mirroring rates in the U.S., nearly half or 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 30). In contrast, 30 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. For example, in the Boston Metro Area 46 percent of renters were cost burdened in 2021, compared to 50 percent in Springfield Metro Area, where rents are relatively lower than the Boston Metro Area, but out-of-reach for many lower income families. Due to a history of discriminatory housing policies, rates of homeownership vary by race

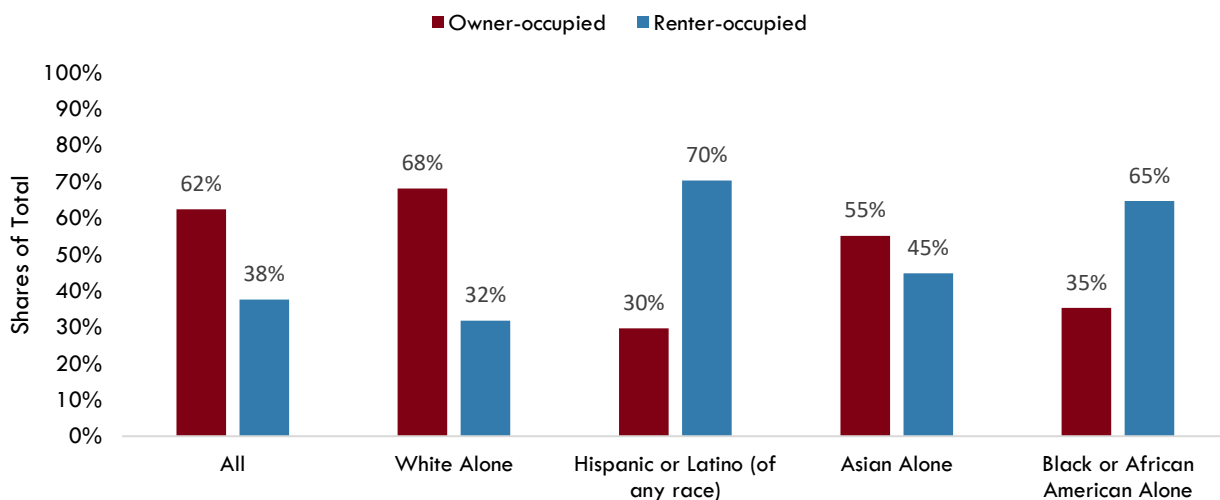
and ethnicity. Among the most detrimental federal policies that originated in the 1930's was "redlining," which meant that racial and ethnic identity were a primary factor in the determination of loan risk, leading to the racist assignment of lower ratings to communities or color than neighboring and 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 30. 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 2017-2021 5-Year Estimates, Table DP04, A through I.

**Figure 31. Housing Tenure in Massachusetts in 2021 by Race and Ethnicity**



Source: ACS 2017-2021 5-Year Estimates, 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 31). 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 has passed legislation to amend the state Zoning Act. Known as the “Housing Choice” Act it included several provisions to remove zoning-related barriers to production. The Act 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 also requires “by right”, multi-family zoning in “MBTA” communities, 176 communities that are served by the Massachusetts Bay Transportation Authority. Renters and owners, who struggled to afford housing during the pandemic, benefited from targeted federal American Rescue Plan Act (ARPA) funds that have flowed into the Commonwealth. In particular, the Emergency Rental Assistance Program and Homeowner Assistance Fund helped keep residents housed during the COVID-19 pandemic. In addition, the State has also received flexible funds through ARPA that it intends to use to address the housing need. In November 2022 the legislature passed, and the Governor signed an economic development bill that included \$407 million in funds to support housing production and affordability in the Commonwealth.

As part of the Commonwealth’s FY24 – FY28 Capital Investment Plan, significant funding is allocated to the new HousingWorks program which aims to provide affordable housing funding to projects across the state. The Affordable Housing Trust Fund and the Housing Stabilization Fund are also slated to receive robust funding, and the effort to reinvest in Massachusetts public housing will receive \$120 million. Overall, funding toward housing programs has increased 21 percent (inflation-adjusted) in this 5-year capital plan compared to the FY23 – FY27 CIP, which was released last year.<sup>9</sup>

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<sup>9</sup> *Five-Year Capital Investment Plan FY2024–FY2028*. (2023). Commonwealth of Massachusetts Executive Office for Administration and Finance.  
<https://budget.digital.mass.gov/capital/fy24/static/1475dce8ff3a8e8167606105e8acb94f/fy24capitalplanma.pdf>