



# Labor Market Trends in the Northeast Region

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A joint project of the Commonwealth Corporation and  
New England Public Policy Center of the Federal Reserve Bank of Boston

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*This profile was developed by Robert Clifford, a policy analyst at the New England Public Policy Center.*

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## EXECUTIVE SUMMARY

Using the most recent data available, the Northeast Regional Labor Market Profile provides a detailed picture of the region's current and future labor supply.<sup>1</sup> For context, it also provides detailed information on labor demand in the region over the past decade. This profile is designed to help guide workforce development professionals, policy makers, and civic, education, and business leaders as they make decisions about education and training opportunities.

The charts and analysis are divided into three sections:

1. Labor Supply: Demographic Trends of Residents Who Live in the Northeast Region
2. Labor Demand: Employment Trends of Jobs and Workers in the Northeast Region
3. The Pipeline: Educational Supply of Post-Secondary Degrees Granted by Institutions Located in the Northeast Region

The Northeast region has fared better than most other Massachusetts labor markets, despite a challenging decade. After two recessions and a decade of declining employment, the region is now gaining jobs and recovering at a modest pace. The recent recovery from the Great Recession has been somewhat stronger in the region than in the state as a whole. The region has experienced a relatively broad-based recovery, with stronger growth in nearly every industry, helping to move the region ahead in the first year of the recovery.

Both the region's residents and its workforce (which includes people who commute from other regions and other states) have fairly high levels of education. Massachusetts is one of the states with the most highly educated populations; the education level of the residents in the Northeast region is almost comparable with that of the population statewide. Over the past decade, the level of education for both residents and workers in the region has increased. However, the 37.9 percent of the civilian labor force in the region with a Bachelor's Degree or

higher in 2008-2010 trailed the 41.2 percent of Massachusetts residents with a Bachelor's Degree or higher. Still, the share of the region's civilian labor force with some post-secondary education (66.8 percent) was close to the share in Massachusetts overall (67.8 percent) because of the region's strong concentrations of individuals with Certificates or Associate's Degrees.

Looking forward, the region faces the demographic challenges of an aging population and potential shortfalls in workers with the educational levels demanded by employers. In 2008-2010, nearly 45 percent of the region's civilian labor force was 45 years of age or older, while only 30 percent were under 35. This suggests that the region's businesses may face a shortage of younger workers to replace baby boomers as they near retirement age. And while the region's residents have obtained progressively higher levels of education in the past decade, slower growth in those with Some College, an Associate's Degree, and even a High School Degree is another sign of a potential shortage in the number of younger residents and workers who

<sup>1</sup>This profile builds on the work of the 2008 regional labor market profiles completed by Paul Harrington and Neeta Fogg, formerly at Northeastern University's Center for Labor Market Studies. This work employs their methodology and includes expanded analysis of the educational attainment of the region's population, more detailed analysis of the distribution of occupations by industry, and a review of trends over a longer time period.

can replace baby boomers as they retire. This is particularly troublesome because the region is a net exporter of workers and may not be able to attract enough workers into the region to fill positions. However, there is one source of potential new workers. People under 35 represent nearly 45 percent of the region's unemployed but account for only 30 percent of the region's civilian labor force. Thus, younger workers, who are disproportionately unemployed, could be educated and trained to address any labor shortages.

To continue to foster strong economic growth, the Northeast could better align the education of its labor force to meet the demands of the region's employers. The higher education institutions in the region can play a key role in influencing the supply of workers with a post-secondary degree. This supply will be critical to help meet the demographic challenges posed by an aging workforce and the increasing demand for educated workers. Indeed, national and state enrollment patterns indicate that more individuals have been seeking post-secondary education over the last decade. The Northeast region has seen growth rates in both full-time and part-time

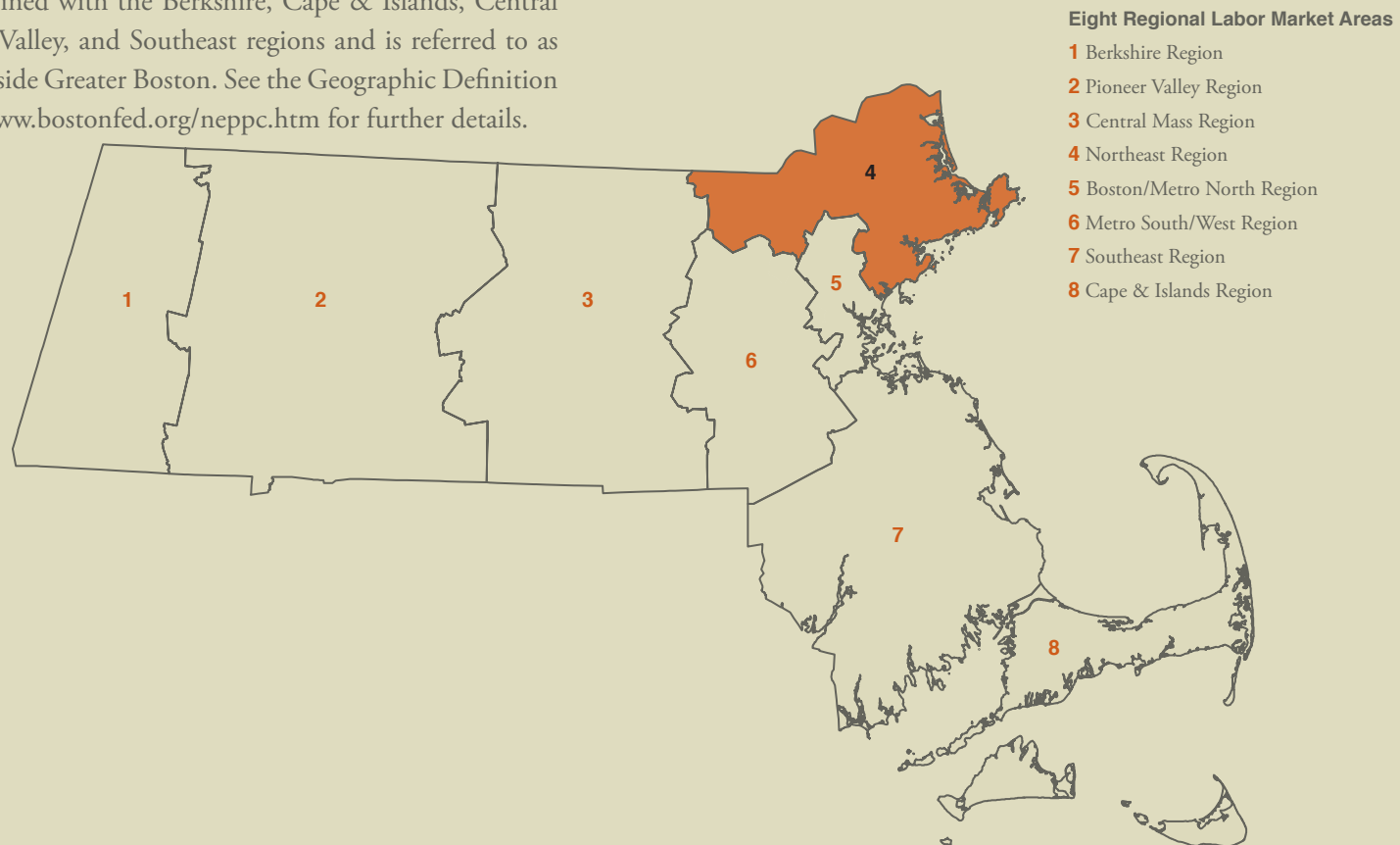
enrollments, and at both less-than-two-year and two-year institutions, that exceed state and national rates in the past decade. The region's public four-year institutions have also seen strong growth in full-time enrollment.

In terms of students completing a post-secondary degree, the institutions in the region have, as a whole, surpassed Massachusetts and United States trends over the past decade. Only the growth in Associate's Degrees trailed the national average between 2000 and 2010. Notably, a larger share of the region's post-secondary degrees are completed at public institutions compared with state and national levels, particularly Associate's Degrees (96.0 percent) and Bachelor's Degrees (66.4 percent). An increase in the number of degrees completed has translated into strong growth in most of major fields of study for each degree type. The number of people earning Certificates and Associate's Degrees has increased in a number of fields in recent years, possibly a response to the region's increasing demand for middle-skill workers as the result of an early, broad-based industrial recovery.

Please visit [www.bostonfed.org/neppc](http://www.bostonfed.org/neppc) for appendices describing geography and methodology, and for additional data.

## GEOGRAPHY OF THE REGIONAL LABOR MARKETS

The Northeast labor market borders the Boston/Metro North, Central Mass, and Metro South/West regional labor markets. It is composed of 42 Massachusetts cities and towns in Essex and Middlesex counties. Some of the larger cities and towns include Lowell, Lynn, Lawrence, Haverhill, Peabody, Methuen, and Salem. Because of data limitations, in certain aspects of our analysis (such as industry/occupational distributions), the Northeast region is combined with the Berkshire, Cape & Islands, Central Mass, Pioneer Valley, and Southeast regions and is referred to as the region Outside Greater Boston. See the Geographic Definition Appendix at [www.bostonfed.org/neppc.htm](http://www.bostonfed.org/neppc.htm) for further details.



## NORTHEAST REGION





## EMPLOYMENT TRENDS AND RECESSIONS

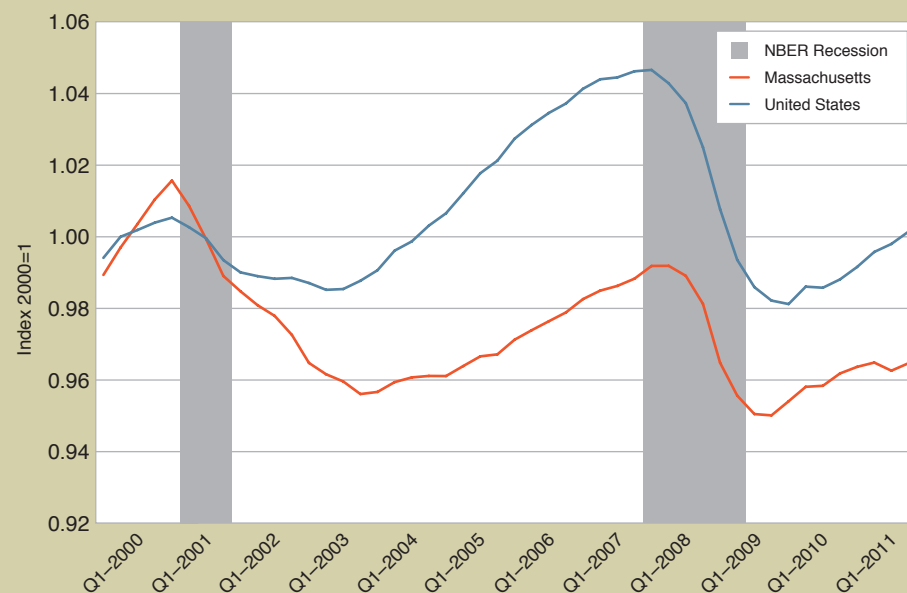
Massachusetts reached peak employment in 2001 and remained 5.0 percent below its peak (meaning a loss of 169,800 jobs) at the end of 2011. Over the same period, total employment in the United States ended at only 0.4 percent below the 2001 peak (513,700 jobs). One reason for the difference was that the short national recession at the beginning of the decade created a prolonged contraction and slow recovery in Massachusetts. By the start of the Great Recession, Massachusetts had still not recovered all of the jobs it had lost during the previous downturn. In contrast, the nation experienced a short labor market contraction in 2001, followed by a strong recovery that expanded employment up until the Great Recession. The Great Recession impacted the nation severely, while Massachusetts experienced a less pronounced downturn, with a slightly stronger recovery through 2010 followed by slower employment growth in 2011.

These differences between Massachusetts and the United States over the economic cycles are important to keep in mind when evaluating the performance of the eight regional labor markets. When possible, these labor market profiles look at labor market information for the beginning of the millennium, the period preceding the Great Recession, and the decline in and recovery from the Great Recession.

**Source:** US Bureau of Labor Statistics.

**Note:** Shaded bars are National Bureau of Economic Research dated national recessions.

Non-Agricultural Employment for United States and Massachusetts,  
Q1 2000 to Q4 2011



## POPULATION GROWTH TRENDS

The fourth largest region by population, the Northeast labor market accounted for 16.2 percent of the state's residential population at the end of the decade. After growing at nearly the same annual rate as Massachusetts (0.2 percent) early in the decade, the Northeast region slightly outpaced the state in population growth toward the end of the period, increasing at an annual rate of 0.4 percent. While these growth rates were in the middle of the pack among the regional labor markets in Massachusetts, they lagged far behind the national 1.0 percent annual growth in population over the course of the decade.

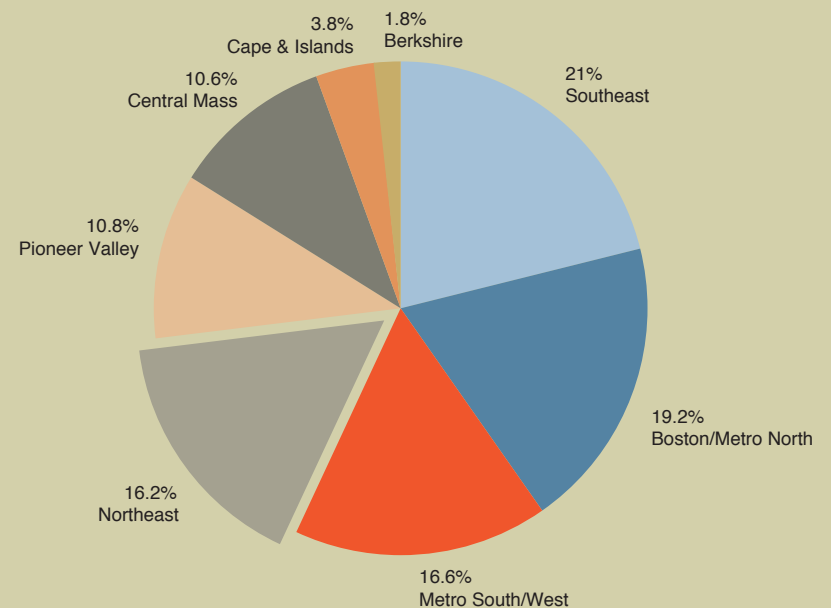
**Source:** US Census Bureau 2000 Decennial Census Public Use Microdata Samples (PUMS) data files, 2005-2007 and 2008-2010 American Community Survey Public Use Micro Sample (PUMS) data files.

**Note:** The use of the three-year American Community Survey was necessary to capture accurate sample size for the small geographic areas. The three-year sample is representative of the demographic and employment characteristics of the region over a 36-month period.

Annual Growth Rates



Massachusetts Population Distribution Across Regional Labor Markets, 2008-2010



## DEMOGRAPHIC CHARACTERISTICS OF THE RESIDENT POPULATION OF THE NORTHEAST REGION

Over the decade, the number of people living in the Northeast region increased at an annual rate of 0.3 percent. Despite declines in the native-born population over the decade, strong annual growth in the region's immigrant population (3.0 percent) drove up the overall population. The region also became more diverse over the past decade, with robust growth among Asian, Black, and Hispanic populations. And the Northeast's population became considerably older as baby boomers (born between 1946 and 1964) neared retirement age. As a result, all age cohorts at 45 or older grew over the course of the decade, while nearly all younger cohorts declined. The exception was 16-24-year-olds, who are the children of baby boomers and are commonly referred to as the echo-boom generation.

**Source:** US Census Bureau 2000 Decennial Census PUMS data files and 2005-2007 and 2008-2010 American Community Survey PUMS data files.

**Note:** Further data for racial/ethnic and gender characteristics for the residential population, as well as the working-age, civilian labor force, unemployed, and employed populations are available in the Data Appendix.

	2000	2008-2010	Absolute Change	Annual Growth Rate (Percent)
<b>Resident Population</b>	989,793	1,015,435	25,642	0.3
<b>Gender</b>				
Male	478,081	489,454	11,373	0.3
Female	511,712	525,981	14,269	0.3
<b>Nativity</b>				
Native Born	852,839	836,870	-15,969	-0.2
Immigrant	136,954	178,565	41,611	3.0
<b>Race/Ethnicity</b>				
White, non-Hispanic	821,239	775,438	-45,801	-0.6
Black, non-Hispanic	17,103	28,332	11,229	5.8
Asian, non-Hispanic	39,026	56,967	17,941	4.3
Hispanic	93,955	138,980	45,025	4.4
Other race, non-Hispanic	18,470	15,718	-2,752	-1.8
<b>Age</b>				
Less than age 16	233,530	213,700	-19,830	-1.0
Age 16-24	98,005	113,394	15,389	1.6
Age 25-34	132,918	118,848	-14,070	-1.2
Age 35-44	177,925	144,879	-33,046	-2.3
Age 45-54	140,726	167,653	26,927	2.0
Age 55-64	87,978	125,318	37,340	4.0
Age 65+	118,711	131,643	12,932	1.2

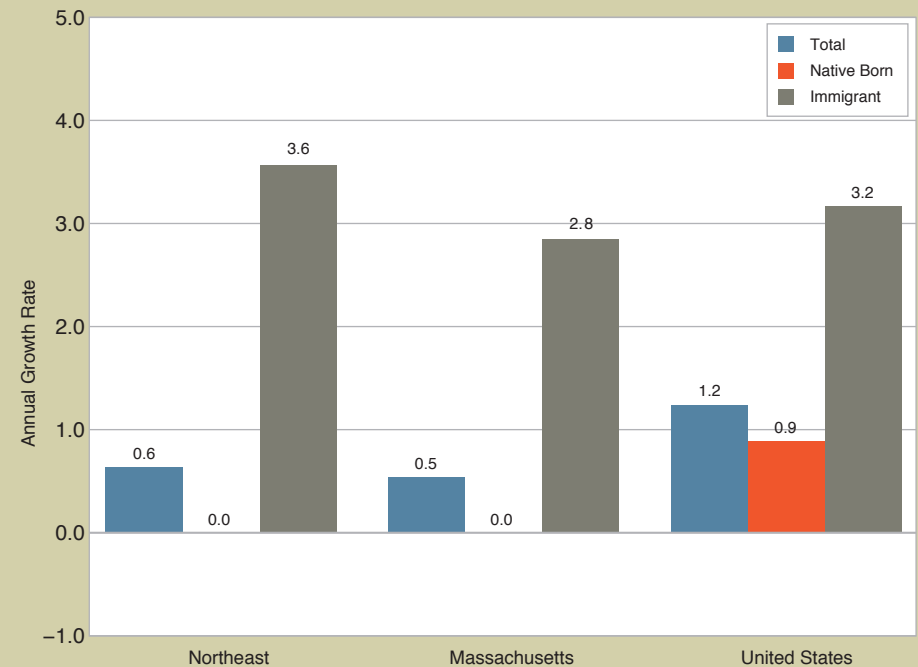
## GROWTH IN THE WORKING-AGE POPULATION BY NATIVITY STATUS

Immigrants living in the Northeast region have been a major driver of growth in the working-age population (a region's potential labor supply, typically defined as people 16 years of age or older). Between 2000 and 2005-2007, the growth of working-age immigrants (3.6 percent) exceeded the growth of working-age immigrants in both Massachusetts and the United States. In recent years, the flow of immigrants into the Northeast region, Massachusetts, and the United States has slowed. However, the growth of immigrant populations in the Northeast region outpaced the growth statewide and nationally between 2005-2007 and 2008-2010. Despite such gains, the slow growth of the native-born population caused the region to trail the nation in growth of the working-age population over the course of the last decade.

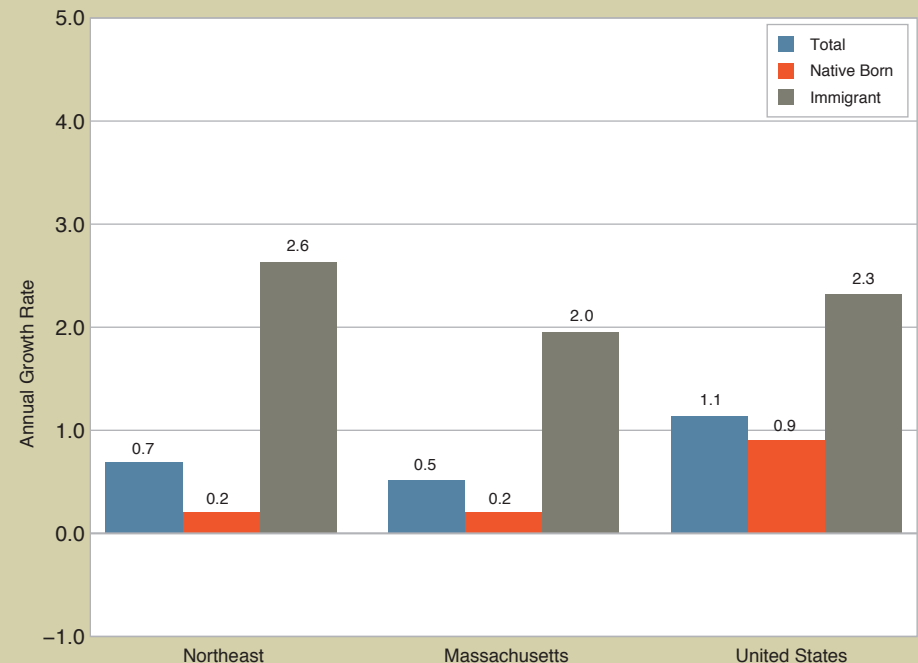
**Source:** US Census 2000 Decennial Census PUMS data files, 2005-2007 and 2008-2010 American Community Survey PUMS data files.

**Note:** The working-age population is individuals 16 years of age or older and exclude institutionalized populations. Immigrants are individuals born outside the US.

Annual Growth Rate, 2000 to 2005-2007



Annual Growth Rate, 2005-2007 to 2008-2010



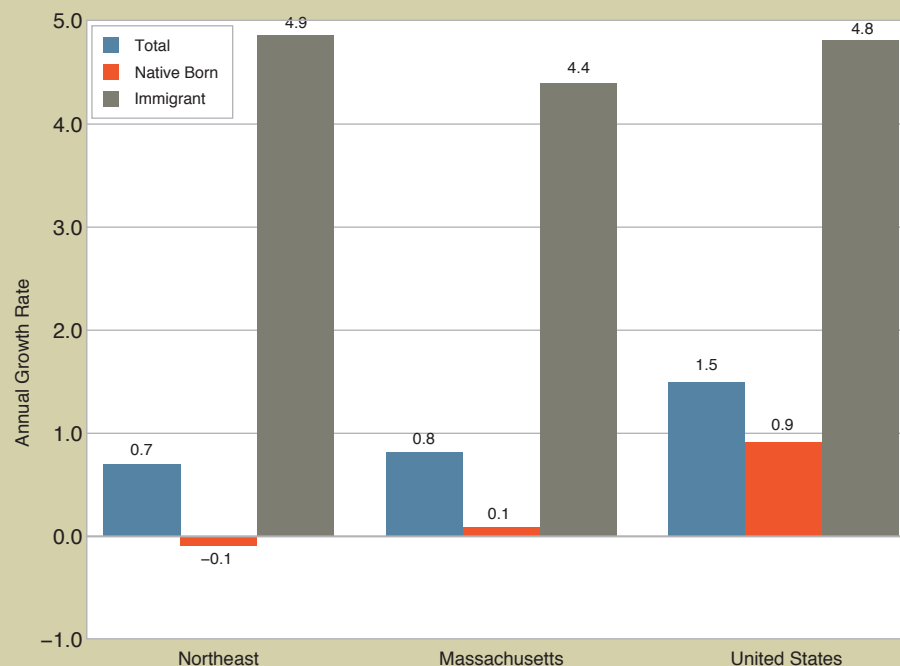
## GROWTH IN THE CIVILIAN LABOR FORCE BY NATIVITY STATUS

The civilian labor force consists of people who are either working or unemployed but actively looking for work (a region's actual labor supply). And much like they are doing with the working-age population, immigrants are driving growth in the Northeast civilian labor force. Despite declines in native-born residents participating in the labor force between 2000 and 2005-2007, the region's labor force grew because of a strong 4.9 percent annual growth rate of immigrants in the labor force. While the region's 0.7 percent annual growth in civilian labor force was nearly the same as in Massachusetts, it was half the United States' growth rate. From 2005-2007 to 2008-2010, the region's native-born civilian labor force started to grow, while immigrants in the labor force grew at a slower rate than earlier in the decade. The result was a rate of growth in the total civilian labor force similar to that of Massachusetts, but also one that slightly trailed the national trend.

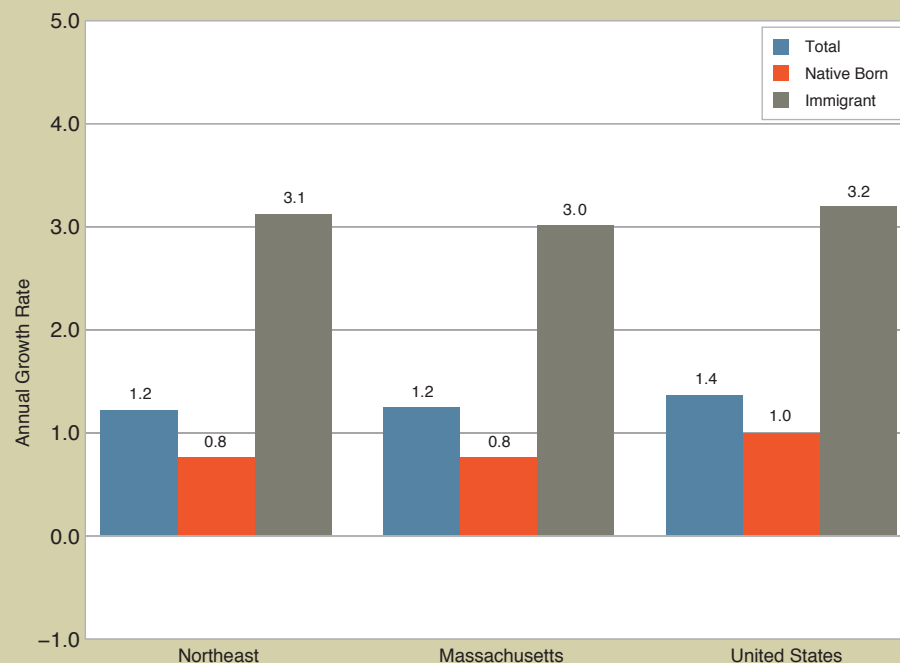
**Source:** US Census 2000 Decennial Census PUMS data files, 2005-2007 and 2008-2010 American Community Survey PUMS data files.

**Note:** The civilian labor force is all individuals 16 years of age or older who are classified as employed or unemployed and actively looking for work. Immigrants are individuals born outside the US.

Annual Growth Rate, 2000 to 2005-2007



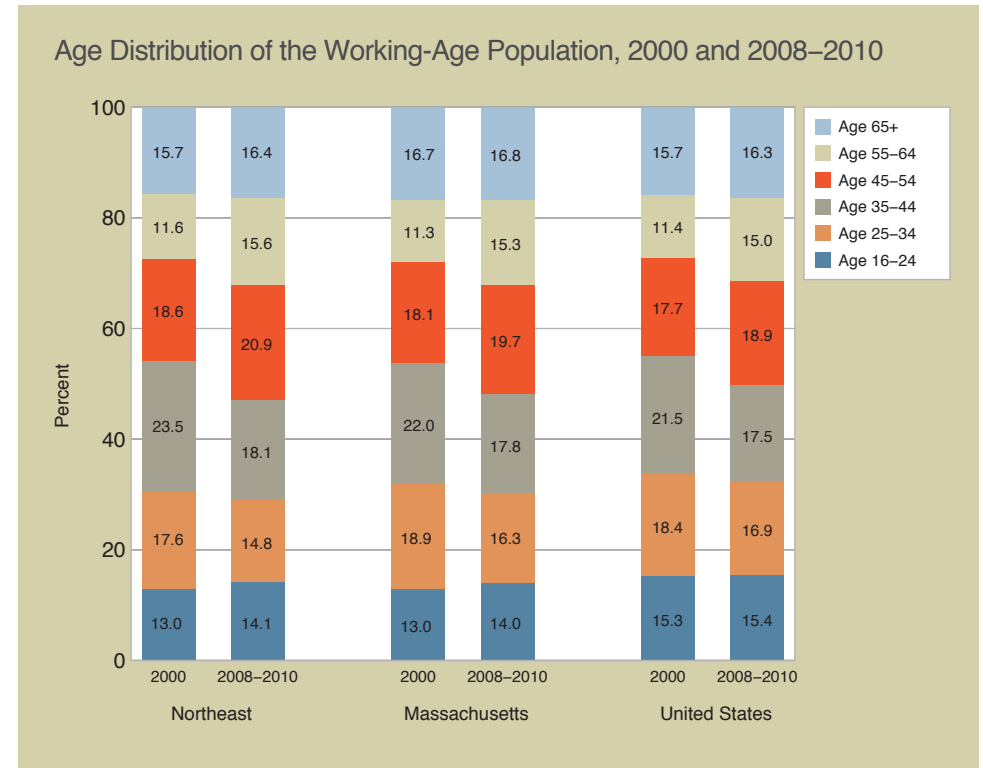
Annual Growth Rate, 2005-2007 to 2008-2010



## THE AGE PROFILE OF THE WORKING-AGE POPULATION

Massachusetts is one of the oldest states in the country, and the Northeast region is very similar to the state in its age composition. More than half (53.0 percent) of the region's and state's working-age population is 45 years or older. In fact, nearly one-third of the region's and state's working-age population is 55 years or older, while less than 30 percent of the region's working-age population is 34 years or younger. In contrast, the working-age population in the United States is more evenly divided among age cohorts, with roughly a third of the population in each of the 16-34, 35-54, and 55 or older age cohorts.

**Source:** US Census Bureau 2000 Decennial Census PUMS data files and 2008-2010 American Community Survey PUMS data files.



### Growth of Working-Age Population by Age in the Northeast Region

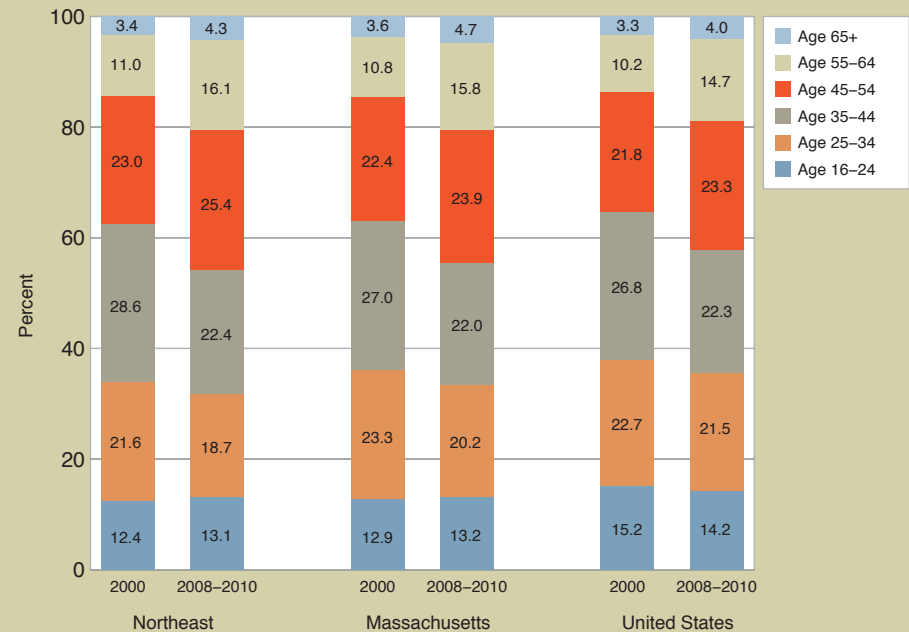
	2000	2008–2010	Absolute Change	Annual Growth Rate (Percent)
Age 16–24	98,005	113,394	15,389	1.6
Age 25–34	132,918	118,848	-14,070	-1.2
Age 35–44	177,925	144,879	-33,046	-2.3
Age 45–54	140,726	167,653	26,927	2.0
Age 55–64	87,978	125,318	37,340	4.0
Age 65+	118,711	131,643	12,932	1.2

## THE AGE PROFILE OF THE CIVILIAN LABOR FORCE

Given the age of the region's population, it is not surprising that the Northeast's civilian labor force is getting older. About 45 percent of the civilian labor force in the Northeast region is 45 years or older. In the past decade, there has been strong growth in the share of workers who are 45 to 54 years old and 55 to 64 years old. In addition, there has been an increasing number of workers who are 65 years and older and in the labor force. At the same time, there has been a declining number of workers between the ages of 25 and 44. These trends are fairly close to those statewide and nationally, making the Northeast civilian labor force's age composition at the end of the decade similar to the state's and the nation's.

**Source:** US Census Bureau 2000 Decennial Census PUMS data files and 2008-2010 American Community Survey PUMS data files.

Age Distribution of the Civilian Labor Force, 2000 and 2008–2010



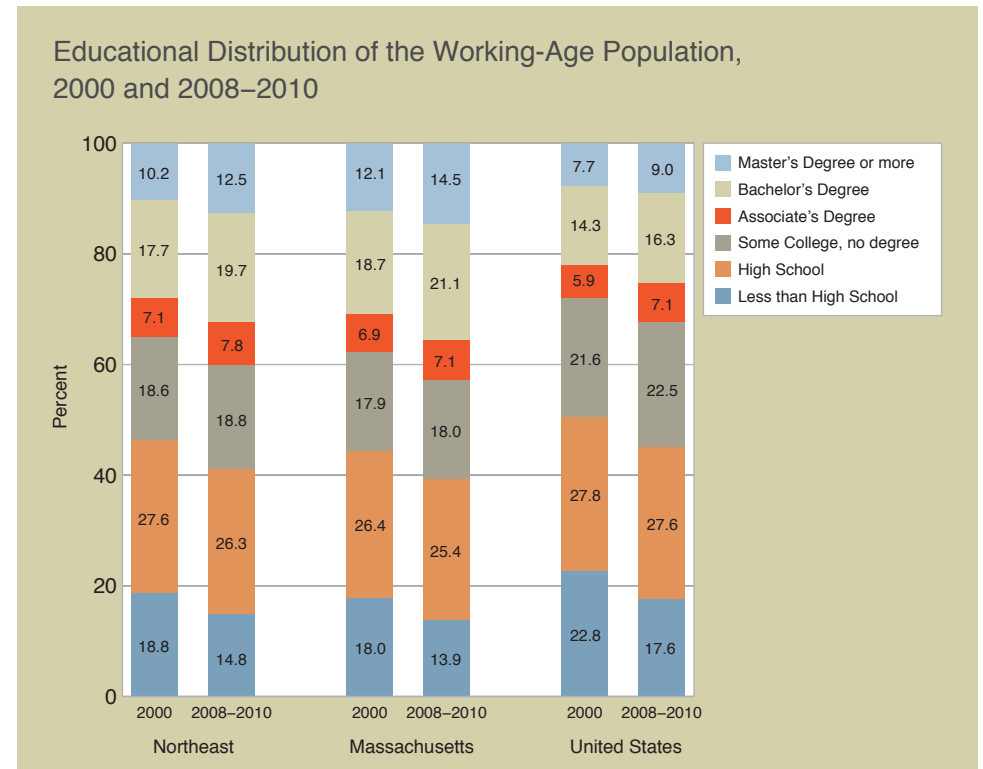
Growth of Civilian Labor Force Population by Age in the Northeast Region

	2000	2008–2010	Absolute Change	Annual Growth Rate (Percent)
Age 16–24	63,988	73,073	9,085	1.5
Age 25–34	110,972	103,802	-7,170	-0.7
Age 35–44	147,234	124,657	-22,577	-1.8
Age 45–54	118,219	141,210	22,991	2.0
Age 55–64	56,421	89,586	33,165	5.3
Age 65+	17,561	23,944	6,383	3.5

## EDUCATIONAL ATTAINMENT OF THE WORKING-AGE POPULATION

Massachusetts is one of the states with the highest share of population with a college degree, and the Northeast region nearly matches the state in educational attainment. By 2008-2010, nearly a third of the region's working-age population had a Bachelor's Degree or higher, only slightly below the share of residents with such degrees statewide (35.6 percent). Over the last decade, there has been growth in the number of residents in the Northeast region with higher levels of education, with the only decline occurring among those with less than a High School Degree. In the Northeast region, Massachusetts, and the United States the most common level of educational attainment among the working-age population is a High School Degree.

**Source:** US Census Bureau 2000 Decennial Census PUMS data files and 2008-2010 American Community Survey PUMS data files.



### Growth of Working-Age Population by Educational Attainment in the Northeast Region

	2000	2008-2010	Absolute Change	Annual Growth Rate (Percent)
Less than High School	142,014	119,031	-22,983	-1.9
High School Graduate	209,069	211,114	2,045	0.1
Some College, no degree	140,700	150,370	9,670	0.7
Associate's Degree	53,414	62,824	9,410	1.8
Bachelor's Degree	133,928	158,203	24,275	1.9
Master's Degree or more	77,138	100,193	23,055	2.9

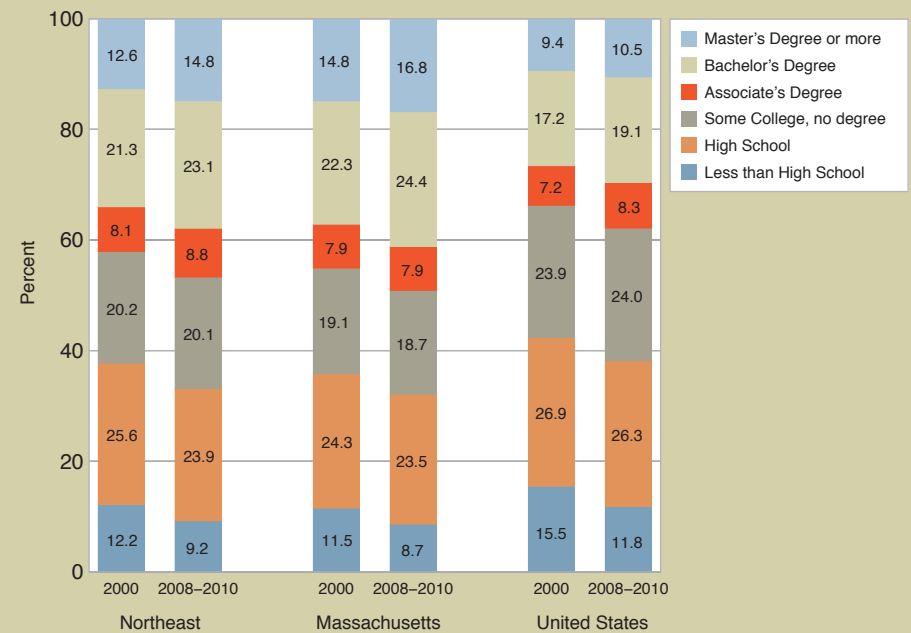


## EDUCATIONAL ATTAINMENT OF THE CIVILIAN LABOR FORCE

When looking at those people who are participating in the labor force (either working or actively looking for work), we see even higher levels of educational attainment. In 2008-2010, nearly 38 percent of the Northeast labor force had a Bachelor's Degree or higher, trailing the 41 percent in Massachusetts. Over the course of the last decade, the civilian labor force in the Northeast region has had strong growth in the number and share of workers with higher levels of education. By the end of the decade, two-thirds (66.8 percent) of the civilian labor force in the Northeast region had completed at least some post-secondary education (Some College or higher). This was slightly below the 67.8 percent in Massachusetts but exceeded the 61.9 percent nationwide who had some post-secondary education. However, the most common level of educational attainment among the civilian labor force in the region continued to be a High School Degree.

**Source:** US Census Bureau 2000 Decennial Census PUMS data files and 2008-2010 American Community Survey PUMS data files.

Educational Distribution of the Civilian Labor Force, 2000 and 2008-2010



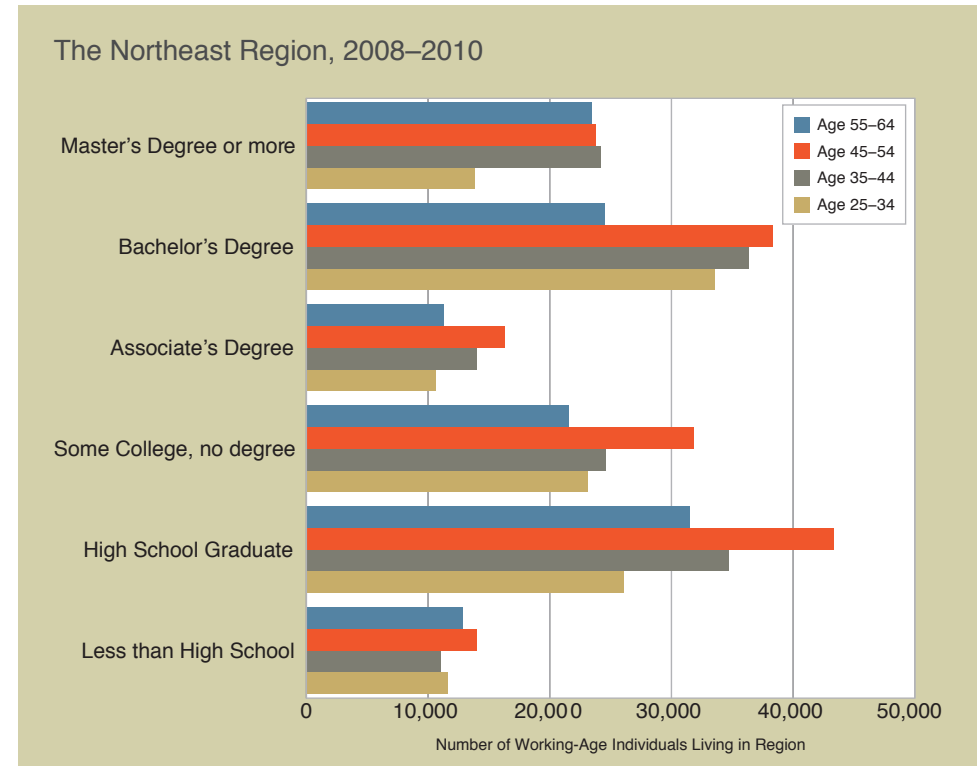
Growth of Civilian Labor Force Population by Educational Attainment in the Northeast Region

	2000	2008-2010	Absolute Change	Annual Growth Rate (Percent)
Less than High School	62,824	51,452	-11,372	-2.2
High School Graduate	131,550	132,965	1,415	0.1
Some College, no degree	103,686	112,074	8,388	0.9
Associate's Degree	41,530	49,068	7,538	1.9
Bachelor's Degree	109,818	128,244	18,426	1.7
Master's Degree or more	64,987	82,469	17,482	2.7

## EDUCATIONAL ATTAINMENT BY AGE GROUP

If we look at the region's population by both age and education, we get an understanding of the workers who will be replacing the baby boomers. As the baby boomers have aged, 45-54-year-olds have become the largest age cohort in nearly all educational attainment groups. As the boomers continue to near retirement age and, over time, leave the labor force, nearly every educational category faces a potential shortfall of workers. For example, in 2008-2010, there were over 43,000 people with only High School Degrees between the ages of 45 and 54 in the Northeast region but only 26,000 between the ages of 25 and 34. The difference of 17,000 individuals is equivalent to 40 percent of the 45-54-year-olds who will need to be replaced as they leave the workforce. Similar potential shortfalls of working-age individuals exist for people with Some College (8,600 or 27 percent) and with an Associate's Degree (5,600 or 35 percent). However, these gaps may not be as large since the educational requirements for most industries and occupations has been increasing, and some positions that have traditionally been filled by people with a High School or Associate's Degree are now held by people with a Bachelor's Degree or higher.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.



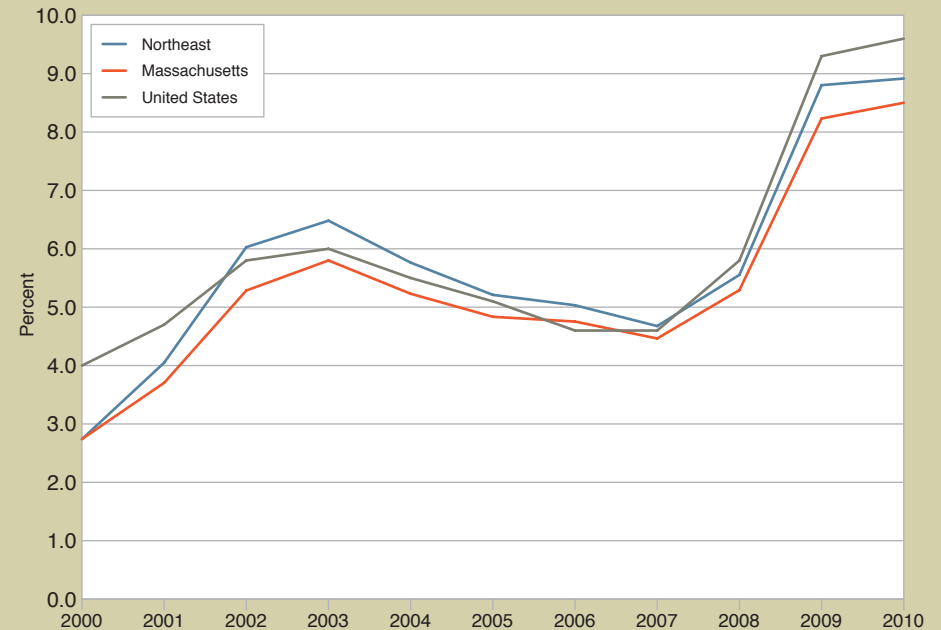
## UNEMPLOYMENT RATE TRENDS

During the Great Recession, unemployment rates nationwide increased sharply. Beginning the decade at 2.7 percent, the unemployment rate in the Northeast region climbed to nearly 6.5 percent in 2003, reaching the highest rate among all regional labor markets. The rate declined in subsequent years to 4.6 percent in 2007. In the Great Recession, the region's unemployment rate jumped again, reaching 8.9 percent in 2010, but it has moved to the middle of the pack among regional labor markets.

**Source:** US Bureau of Labor Statistics and Massachusetts Executive Office of Labor and Workforce Development.

**Note:** The annual unemployment rate is a 12-month average of the non-seasonally-adjusted unemployment rate.

Unemployment Rate, 2000 to 2010



Northeast Region Unemployment Rate

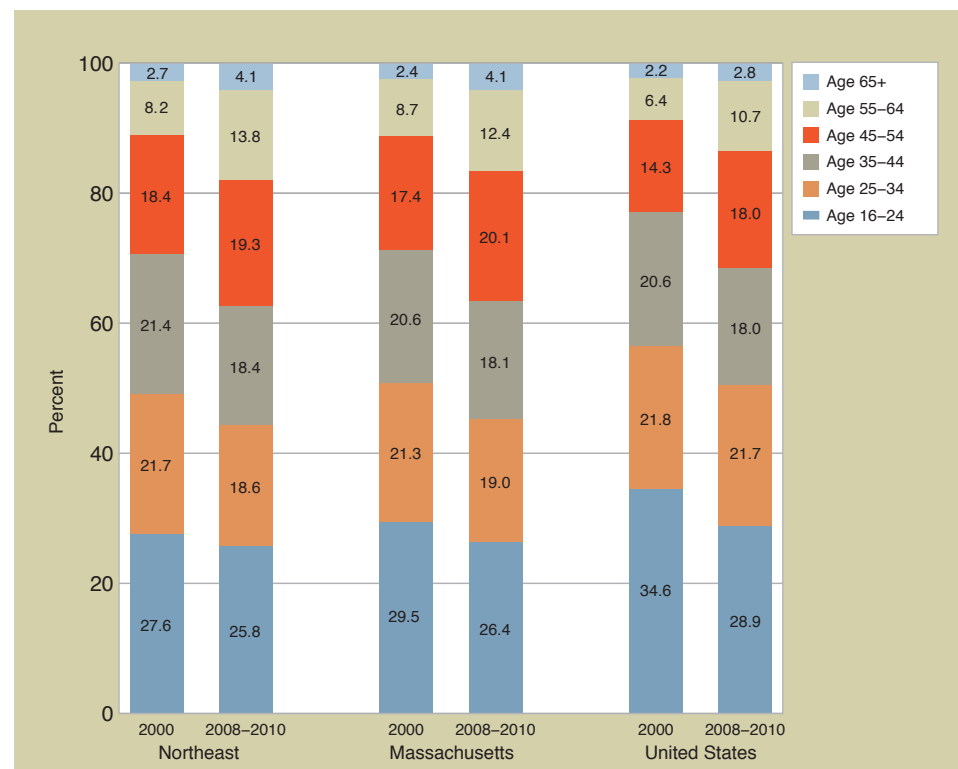
	2000	2010	Relative Change	Annual Growth Rate (Percent)
Unemployed	14,187	47,606	33,419	12.9
Employed	503,513	486,305	-17,208	-0.3
Civilian Labor Force	517,700	533,911	16,211	0.3
Unemployment Rate	2.7	8.9	-	-

## THE UNEMPLOYED: AGE DISTRIBUTION (2000 AND 2008-2010)

While 32 percent of individuals in the civilian labor force in the Northeast were 34 years or younger at the end of the decade, nearly 45 percent of the region's unemployed were 34 years or younger. This is down from nearly 50 percent at the beginning of the decade, as the increasing share of the population who are 45 or older has translated into a higher share of such individuals among the unemployed. In particular, the share of the unemployed who are 55 to 64 jumped sharply over the course of the decade. However, the younger age cohorts continue to be disproportionately represented among the unemployed. For example, in 2008-2010, 16-24-year-olds accounted for the largest share of unemployed among age cohorts (25.8 percent) but were the second smallest age cohort in the civilian labor force (behind those age 65 and older), at only 13.1 percent.

**Source:** US Census 2000 Decennial Census PUMS data files and 2008-2010 American Community Survey PUMS data files.

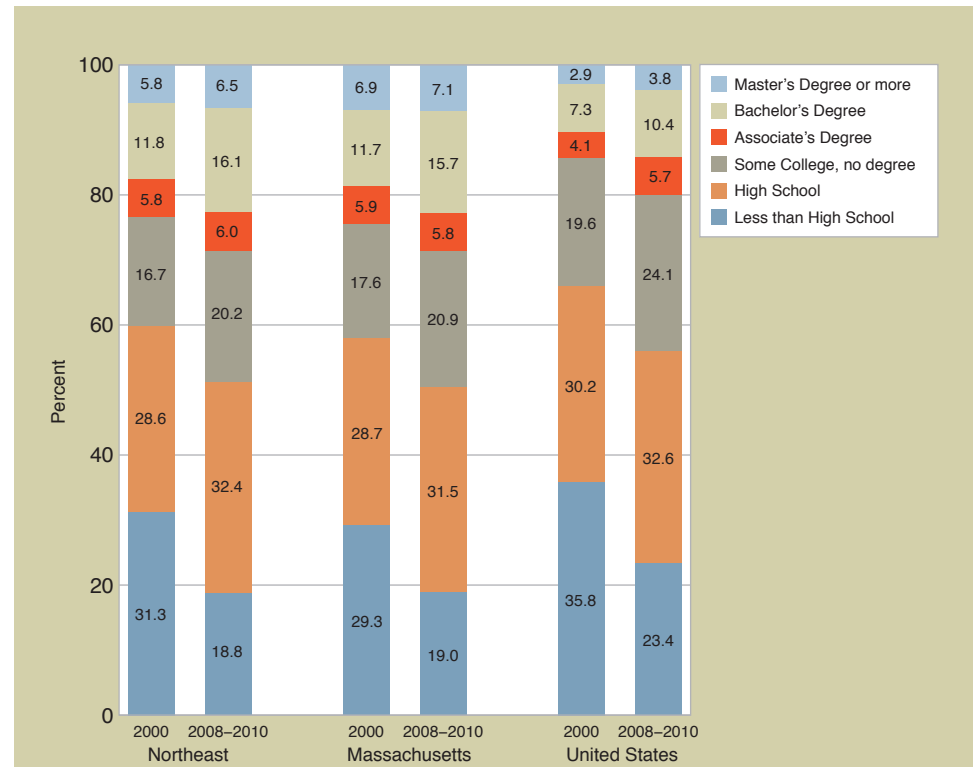
**Note:** Unemployed are individuals age 16 or older not employed and actively looking for work.



## THE UNEMPLOYED: EDUCATIONAL ATTAINMENT (2000 AND 2008-2010)

Over 50 percent of the unemployed in the Northeast region were people with High School Degrees or less in 2008-2010. This is down from 60 percent in 2000. Over the course of the decade, the share of the unemployed increased for all educational attainments levels above high school. However, the lower educational attainment cohorts continue to be disproportionately represented among the unemployed. In 2008-2010, those with less than a high school education accounted for 18.8 percent of the unemployed but were only 9.2 percent of the civilian labor force.

**Source:** US Census 2000 Decennial Census PUMS data files and 2008-2010 American Community Survey PUMS data files.



## COMMUTING PATTERNS OF RESIDENTS AND WORKERS IN THE NORTHEAST REGION (2008-2010)

The Northeast region is closely tied to its neighboring labor markets and has a large share of residents working in neighboring regions. While 62.5 percent of the employed residents living in the region also work in the region, 22 percent of the region's employed residents commute to Boston/Metro North, another 9.2 percent commute to Metro South/West, and 3.8 percent cross the border to New Hampshire for work. Far fewer workers commute into the Northeast region, with 73.8 percent of the region's employees also being residents. New Hampshire is the most common source of people commuting into the region (9.9 percent of all persons working in the Northeast region), while smaller numbers commute from Boston/Metro North (8.6 percent) and Metro South/West (4.3 percent). As a result, the Northeast region is a net exporter of workers, with 76,600 more residents commuting out of the region every day than into it.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

	Number	Percent of Total
Total number of employed persons living in Northeast...	501,228	100.0
...who work in:		
Northeast	313,338	62.5
Boston/Metro North	110,133	22.0
Metro South/West	45,878	9.2
Southeast	4,157	0.8
Other parts of Massachusetts	4,509	0.9
New Hampshire	19,172	3.8
Other places outside Massachusetts	4,041	0.8
Total number of persons working in Northeast...	424,579	100.0
...who live in:		
Northeast	313,338	73.8
Boston/Metro North	36,693	8.6
Metro South/West	18,260	4.3
Southeast	3,717	0.9
Other parts of Massachusetts	7,895	1.9
New Hampshire	41,939	9.9
Other places outside Massachusetts	2,737	0.6
Net in-commuting (Number of Persons Employed in Region minus Number of Persons Living in Region)	-76,649	-

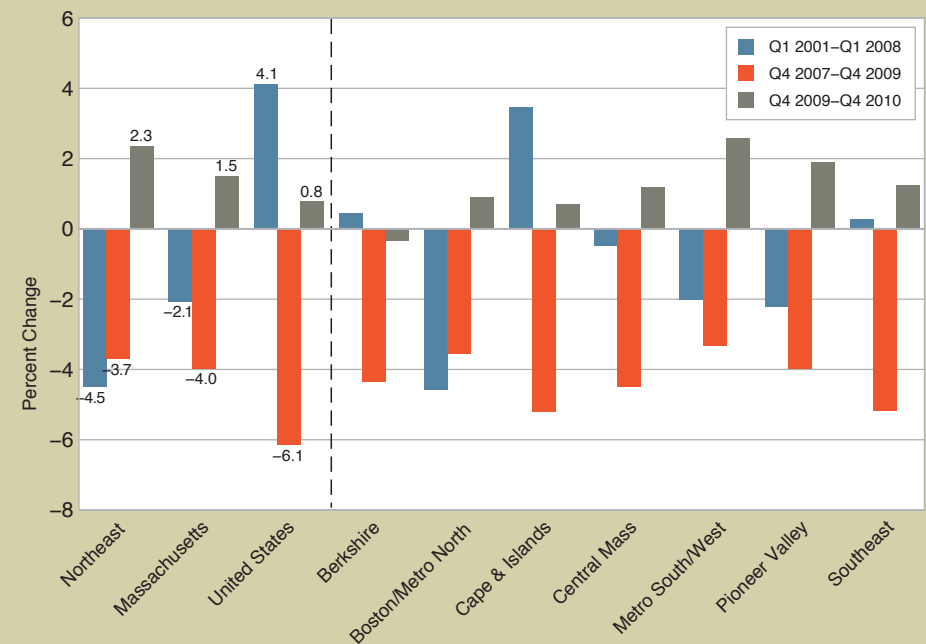
## EMPLOYMENT TRENDS

While the Northeast region accounts for 16.2 percent of the state's population, the region accounts for 13.1 percent of the state's employment, or roughly 412,000 jobs. Over the past decade, the region's employment situation has been somewhat different than the state's. Employment in the region declined at more than double the rate in Massachusetts between 2001 and 2008. Both the region and the state experienced a more modest employment loss than the United States did during the Great Recession, and the region's losses were slightly less than those in the state (3.7 percent versus 4.0 percent). During the recent recovery, the Northeast region has had the second strongest growth among the state's regional labor markets (trailing only Metro South/West), increasing 2.3 percent between the fourth quarters of 2009 and 2010.

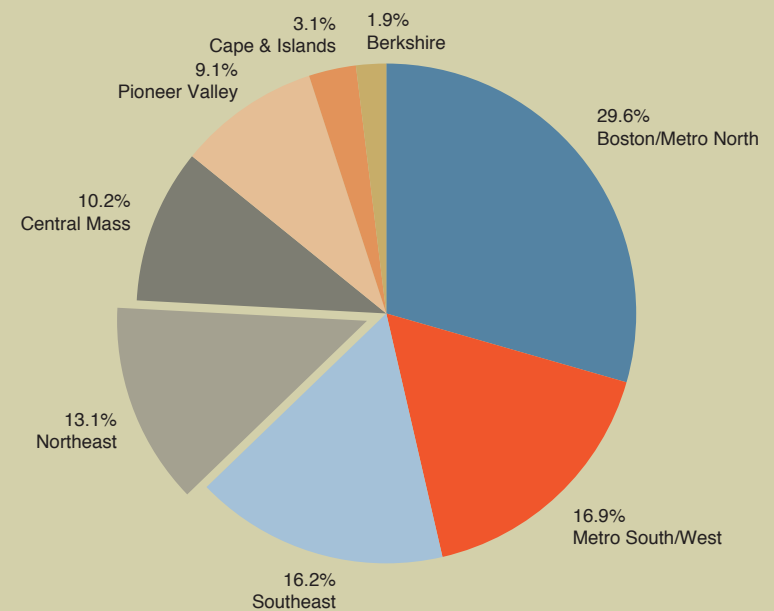
**Source:** US Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW) and Massachusetts Executive Office of Labor and Workforce Development ES-202.

**Note:** ES-202 and QCEW are not seasonally adjusted. Therefore, comparisons need to be made across consistent time periods, such as the first quarter of one year to the first quarter of another. Comparison between different quarters will distort comparisons, as seasonal employment in industries such as Retail Trade and Leisure & Hospitality vary considerably across regions.

Changes in Total Employment



Distribution of Employment Across Regional Labor Markets, Q4 2010



## DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION EMPLOYED IN THE NORTHEAST REGION

With 75 percent of the civilian labor force of the Northeast region employed in the region, the demographic characteristics of the two groups are fairly similar. Over the past decade, the region has employed more immigrants, and its workers have also become more racially diverse, with growth in Black, Asian, and Hispanic employees. Mirroring the residential population of the region, there is a strong concentration of older employees, the fraction of jobs held by workers with at least a Bachelor's Degree has increased in the past decade, and workers with High School Degrees continue to be the largest educational group of the employed.

**Source:** US Census 2000 Decennial Census PUMS data files and 2008-2010 American Community Survey PUMS data files.

**Note:** Further data for racial/ethnic and gender characteristics for total, working-age, and civilian labor force population are available in the Data Appendix.

	2000	2008-2010	Absolute Change	Annual Growth Rate (Percent)
Employed Population	426,285	425,456	-829	0.0
<b>Gender</b>				
Male	224,220	215,126	-9,094	-0.5
Female	202,065	210,330	8,265	0.4
<b>Nativity</b>				
Native Born	364,538	344,255	-20,283	-0.6
Immigrant	61,747	81,201	19,454	3.1
<b>Race/Ethnicity</b>				
White, non-Hispanic	373,256	346,986	-26,270	-0.8
Black, non-Hispanic	6,825	11,110	4,285	5.6
Asian, non-Hispanic	14,190	21,118	6,928	4.5
Hispanic	26,146	41,292	15,146	5.2
Other race, non-Hispanic	5,868	4,950	-918	-1.9
<b>Age</b>				
Age 16-24	51,206	50,443	-763	-0.2
Age 25-34	90,538	77,225	-13,313	-1.8
Age 35-44	120,366	93,635	-26,731	-2.8
Age 45-54	100,161	110,289	10,128	1.1
Age 55-64	48,949	73,168	24,219	4.6
Age 65+	15,065	20,696	5,631	3.6
<b>Educational Attainment</b>				
Less than High School	49,790	36,354	-13,436	-3.4
High School Graduate	108,977	100,190	-8,787	-0.9
Some College, no degree	85,362	85,590	228	0.0
Associate's Degree	35,690	39,558	3,868	1.1
Bachelor's Degree	90,047	98,309	8,262	1.0
Master's Degree or more	56,419	65,455	9,036	1.7



## DISTRIBUTION OF EMPLOYMENT BY SUPERSECTOR (Q4 2010)

Over one-quarter of the jobs in the Northeast region are in the Education & Health Services industries. This supersector, however, accounts for a slightly smaller share of employment than in Massachusetts overall. The Northeast region also has slightly smaller employment shares than Massachusetts in Trade, Transportation & Utilities and in Professional & Business Services. Manufacturing is the one supersector where the region has a much stronger employment concentration. Accounting for 14.2 percent of employment, it is the region's third largest sector. (In both Massachusetts and the United States, Manufacturing accounts for less than 10 percent of jobs and is the fifth largest employment sector.) Financial Activities accounts for only 3.8 percent of the region's employment, a much smaller share than in the state (6.5 percent), and nation (5.9 percent).

**Source:** US Bureau of Labor Statistics QCEW and Massachusetts Executive Office of Labor and Workforce Development ES-202.

**Note:** Supersectors are grouping of major industry categories. See Data Appendix for the major industries that make up each supersector.



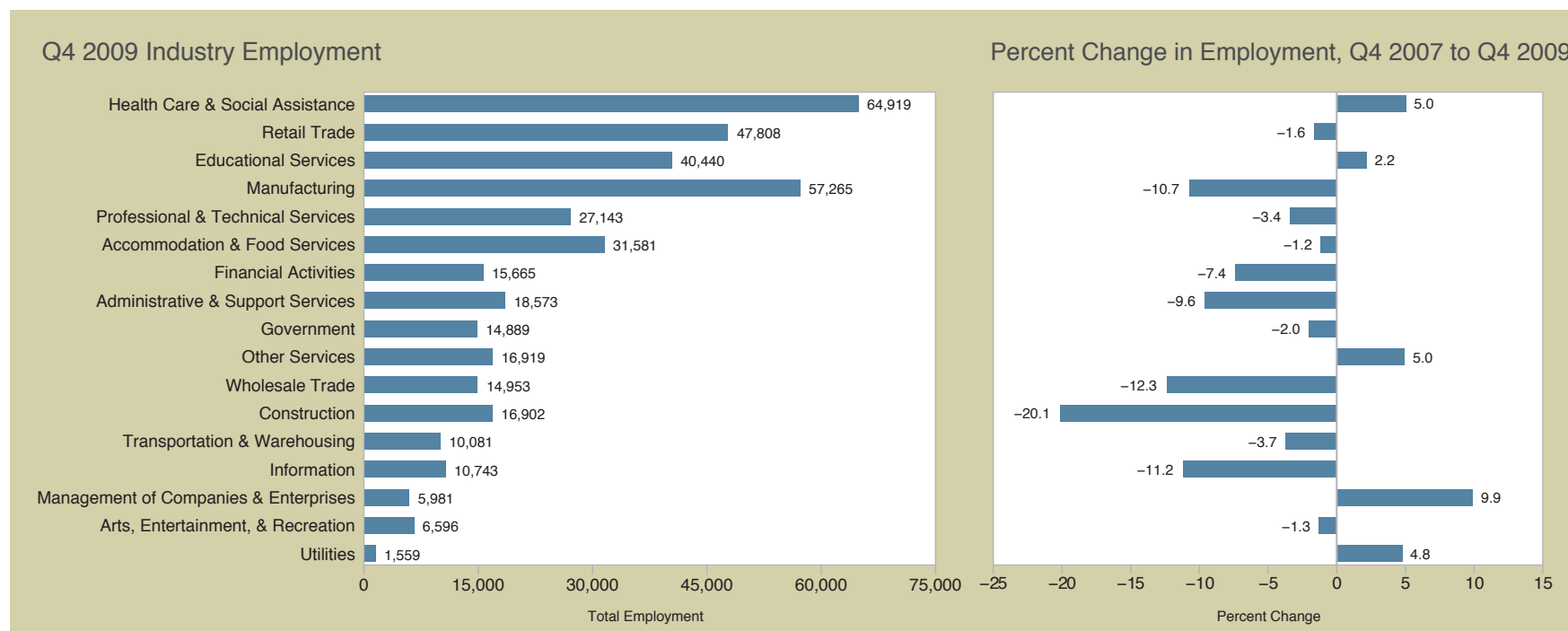
## CHANGES IN EMPLOYMENT DURING THE ECONOMIC DOWNTURN BY MAJOR INDUSTRY: THE NORTHEAST REGION

Between the fourth quarters of 2007 and 2009, the Northeast region lost jobs, but the region did not fare as poorly as did other parts of the state. The Education & Health Services sector added nearly 4,000 jobs here in the downturn, with Education Services up 2.2 percent and Health Care & Social Assistance up 5.0 percent. Most of this gain was in the sub-industry of Ambulatory Health Care Services (2,500 jobs). But Manufacturing declined by 10.7 percent, or 6,900 jobs, in the recession. While most forms of manufacturing were hit hard by the Great Recession, the largest losses occurred

in Computer & Electronic Product Manufacturing (-2,935 jobs). Other industries hit hard by the downturn include Information (-11.2 percent), Wholesale Trade (-12.3 percent), and Construction (-20.1 percent), which lost a combined 7,700 jobs. In total, the region's employment declined 3.7 percent between the fourth quarters of 2007 and 2009, a total loss of nearly 15,500 jobs.

**Source:** Massachusetts Executive Office of Labor and Workforce Development ES-202.

**Note:** Industries are sorted by size in Massachusetts in Q4 2009. See Data Appendix for supersector and major industry employment trends.



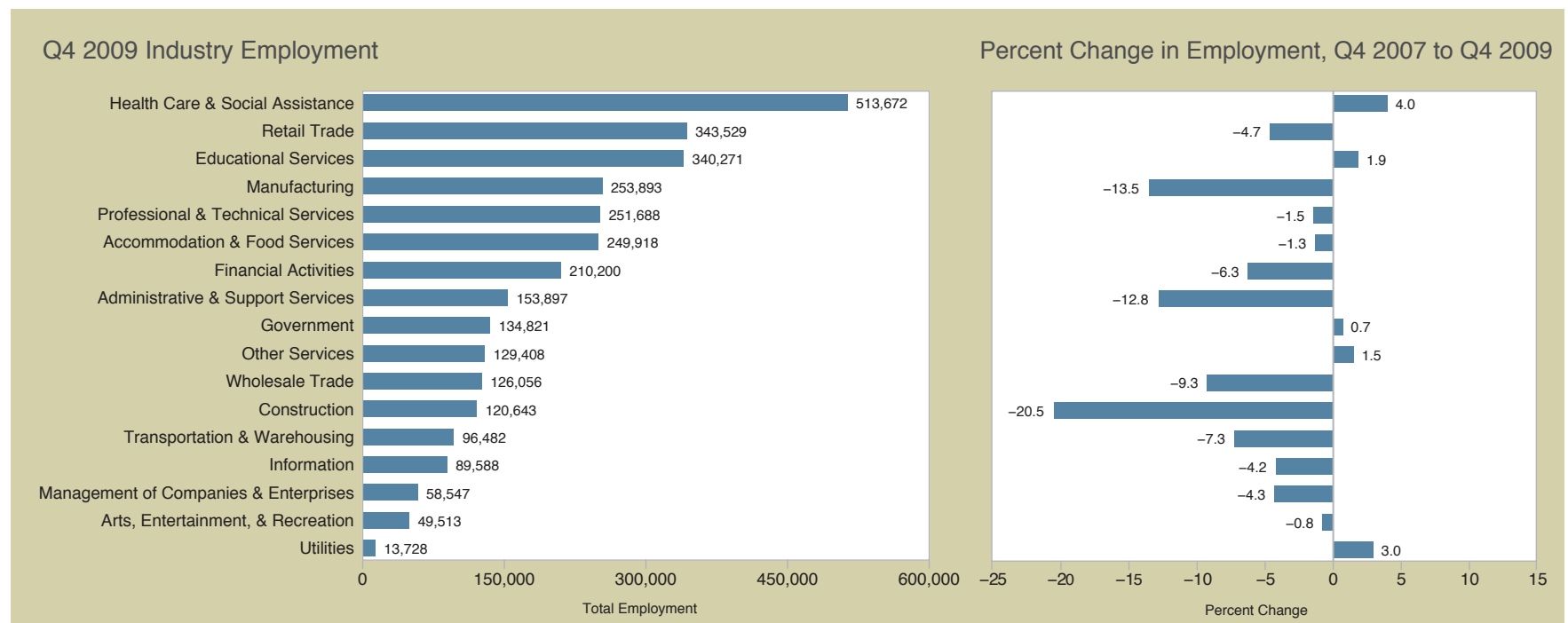
## CHANGES IN EMPLOYMENT DURING THE ECONOMIC DOWNTURN BY MAJOR INDUSTRY: MASSACHUSETTS

Massachusetts faced a slightly tougher downturn than did the Northeast region. The state's strongest employment gains also came in the Health Care & Social Assistance industry (4.0 percent), as a result of strong growth in the sub-industry of Ambulatory Health Care Services (7.7 percent). Further gains in Education Services (1.9 percent) were more than offset by significant losses in Manufacturing (-13.5 percent) and Construction (-20.5 percent). Within Trade, Transportation & Utilities, the state experienced large losses in two major industries: Retail Trade (-4.7 percent) and Wholesale Trade (-9.3 percent). Further losses in Financial Activities (-6.3 percent) and Administrative & Support Services (-12.8 percent) resulted in a 4.0 percent statewide decline in employment (nearly 130,000 jobs), which exceeded that of the Northeast region during the Great Recession.

percent) and Wholesale Trade (-9.3 percent). Further losses in Financial Activities (-6.3 percent) and Administrative & Support Services (-12.8 percent) resulted in a 4.0 percent statewide decline in employment (nearly 130,000 jobs), which exceeded that of the Northeast region during the Great Recession.

**Source:** Massachusetts Executive Office of Labor and Workforce Development ES-202.

**Note:** Industries are sorted by size in Massachusetts in Q4 2009.



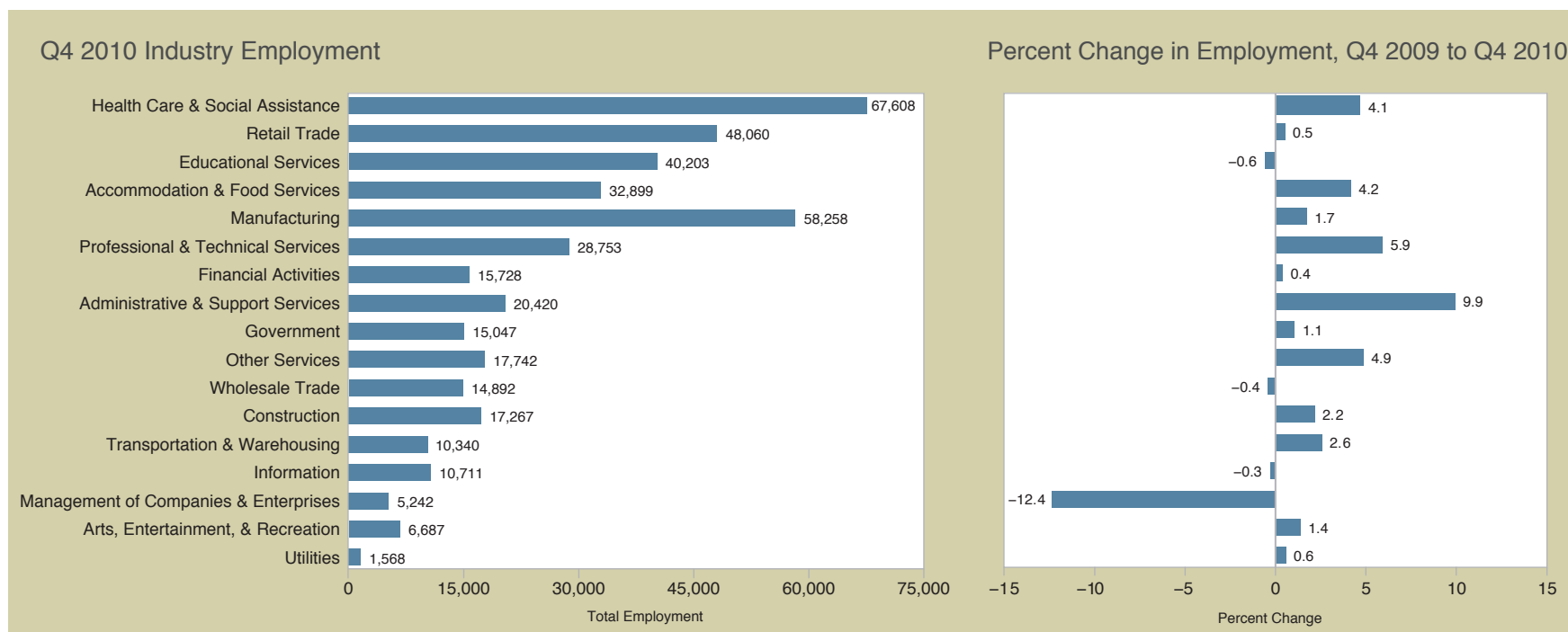
## INDUSTRIES DRIVING THE RECOVERY: THE NORTHEAST REGION

Since the trough of the downturn, the Northeast region has experienced modest growth across a broad set of industries. Only four industries lost jobs between the fourth quarters of 2009 and 2010, with the largest decline coming from one of the region's smallest industries: Management of Companies & Enterprises (down 739 jobs, or 12.4 percent). In the earliest stages of the recovery, Health Care & Social Assistance continued to add jobs (up 2,700, or 4.1 percent). The Professional & Business Services supersector also added 2,700 jobs in the recovery, with gains in Professional & Technical Services

(5.9 percent) and Administrative & Support Services (9.9 percent). Most of the gains in this supersector came from two sub-industries: Scientific Research & Development (1,100 jobs) and Employment Services (1,550 jobs). Combined with the modest growth of most other industries, the region added 9,400 jobs, increasing employment by 2.3 percent in the first year of the recovering labor market.

**Source:** Massachusetts Executive Office of Labor and Workforce Development ES-202.

**Note:** Industries are sorted by size in Massachusetts in Q4 2010.



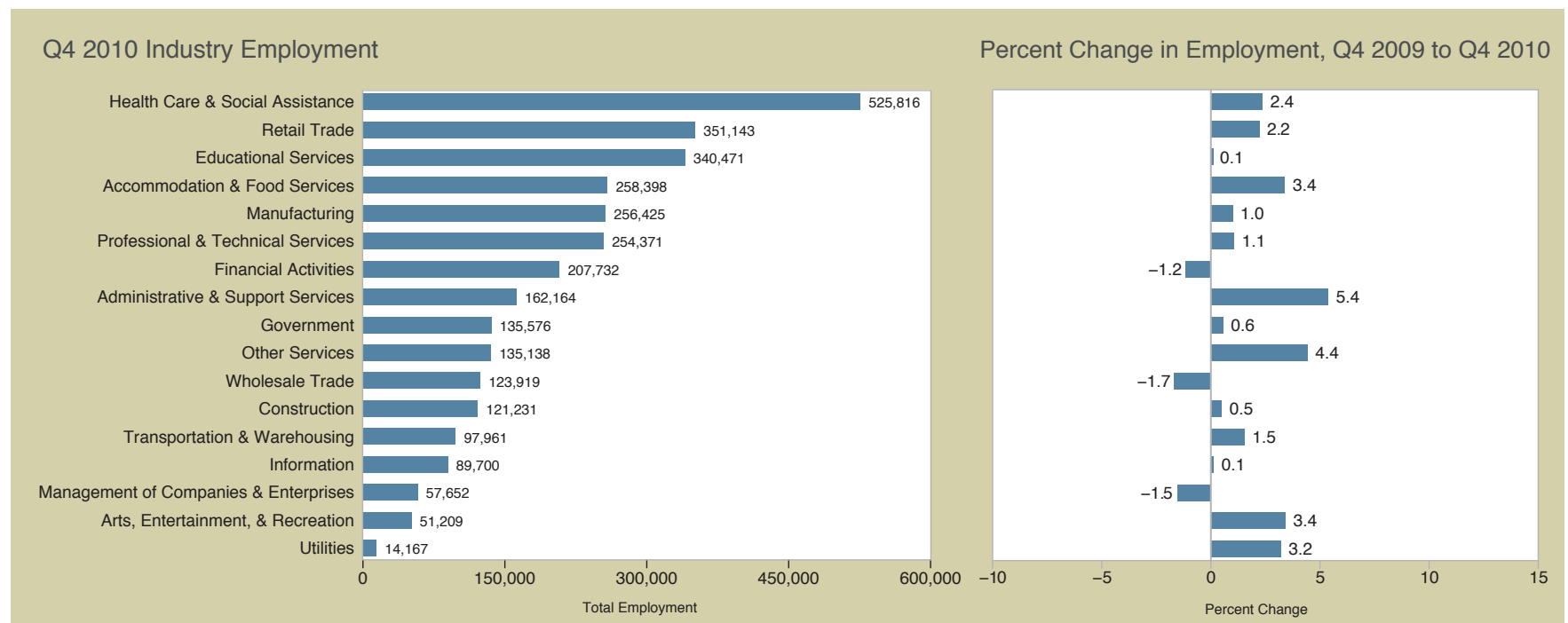
## INDUSTRIES DRIVING THE RECOVERY: MASSACHUSETTS

Massachusetts has also had a broad-based recovery. The state expanded employment in industries ranging from Information (up 0.1 percent) to Administrative & Support Services (up 5.4 percent) between the fourth quarters of 2009 and 2010. The Health Care & Social Assistance industry added over 12,100 jobs, an increase in employment of 2.4 percent. Job growth was spread across a number of the sub-industries that make up Health Care & Social Assistance, including: Social Assistance (3,200 jobs), Ambulatory Health Care Services (3,300 jobs), and Hospitals (5,700 jobs). During the

recovery, the state has experienced slight declines in only three industries: Financial Activities, Wholesale Trade, and Management of Companies & Enterprises. Notably, the state's employment growth in 11 of 17 major industries lagged the rates of their counterparts in the Northeast region. As a result, employment growth between the fourth quarters of 2009 and 2010 was 1.5 percent, or over 47,100 jobs, which trailed the 2.3 percent in the Northeast region.

**Source:** Massachusetts Executive Office of Labor and Workforce Development ES-202.

**Note:** Industries are sorted by size in Massachusetts in Q4 2010.

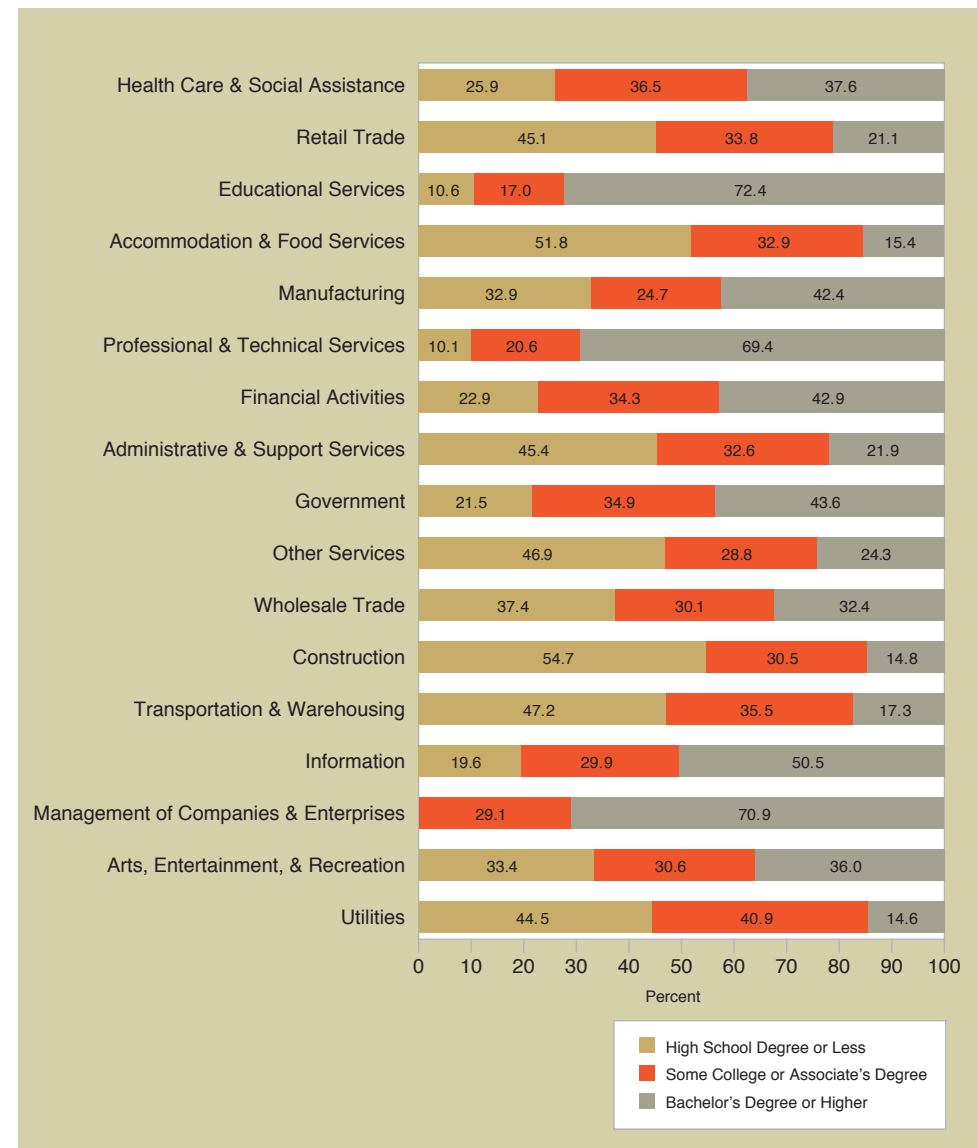


## EDUCATIONAL ATTAINMENT OF EMPLOYEES BY MAJOR INDUSTRY: THE NORTHEAST REGION (2008-2010)

While more employees in the Northeast region have obtained at least a Bachelor's Degree over the course of the past decade, the most common level of educational attainment among workers is still a High School Degree. As a result, the educational attainment level of employees by industries is fairly evenly split in the Northeast region. In 2008-2010, nine of the 17 major industries in the region had a workforce where the largest share of employees had a Bachelor's Degree or higher. In the other eight industries, a High School Degree or less was the largest category. In a few industries, there was a clear majority of employees with a Bachelor's Degree or higher (such as Professional & Technical Services) or a clear majority with a High School Degree (such as Construction). However, in most industries the educational attainment of employees was somewhat evenly distributed. These included the 14 industries with at least 25 percent of employees with Some College education or an Associate's Degree.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** Industries are sorted by size in Massachusetts in Q4 2010.

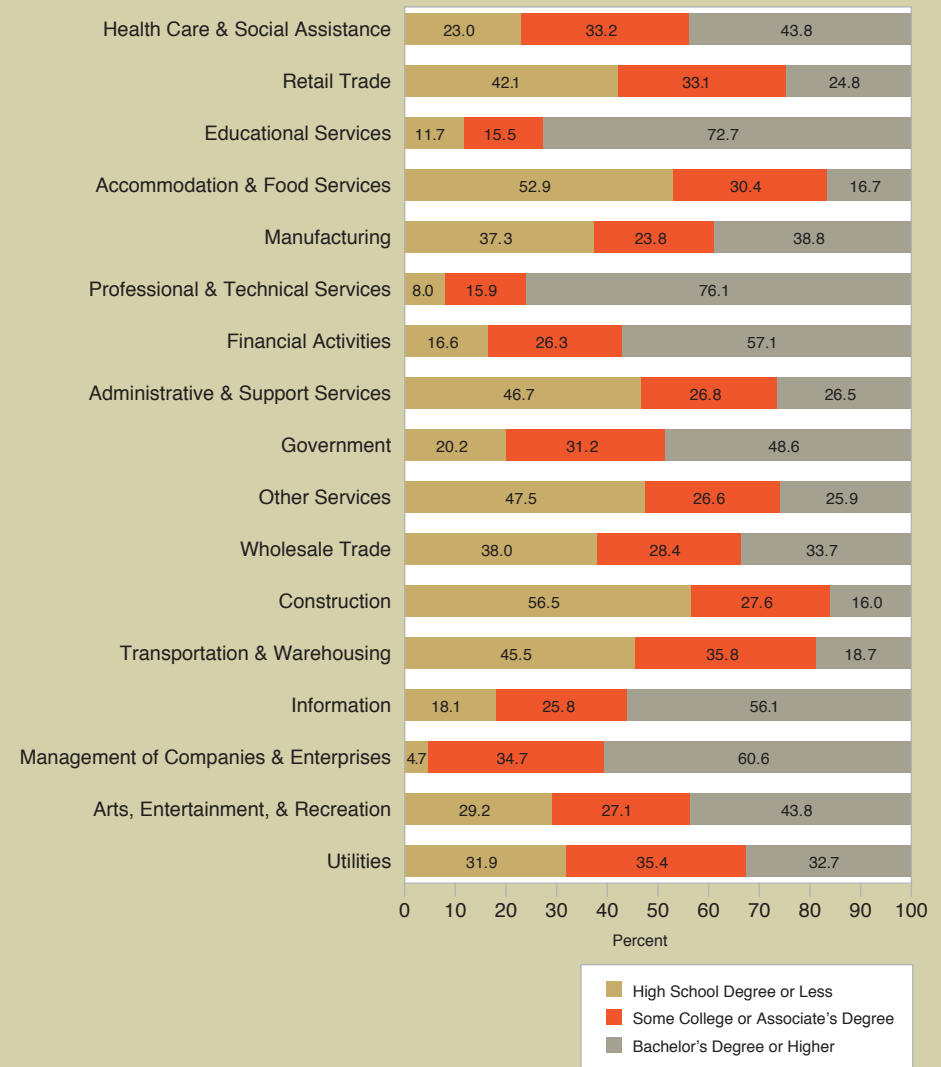


## EDUCATIONAL ATTAINMENT OF EMPLOYEES BY MAJOR INDUSTRY: MASSACHUSETTS (2008-2010)

The educational attainment across industries in Massachusetts was slightly higher than in the Northeast region in 2008-2010. In Massachusetts, nine of the 17 major industries had a workforce where the largest share of employees have a Bachelor's Degree or higher. And in nearly every major industry statewide, the share of employees with a Bachelor's Degree or higher was greater than its counterpart in the Northeast region, save for Management of Companies & Enterprises and Manufacturing. Compared with the Northeast region, only nine industries in Massachusetts had a lower share of employees with a High School Degree or less. This is because almost all industries (15 of the 17) in Massachusetts had a lower share of employees with Some College education or an Associate's Degree than in the region. The difference was starkest in Administrative & Support Services, Utilities, and Financial Activities, where Massachusetts had a 5-point-lower share of workers with such educational attainment.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** Industries are sorted by size in Massachusetts in Q4 2010.

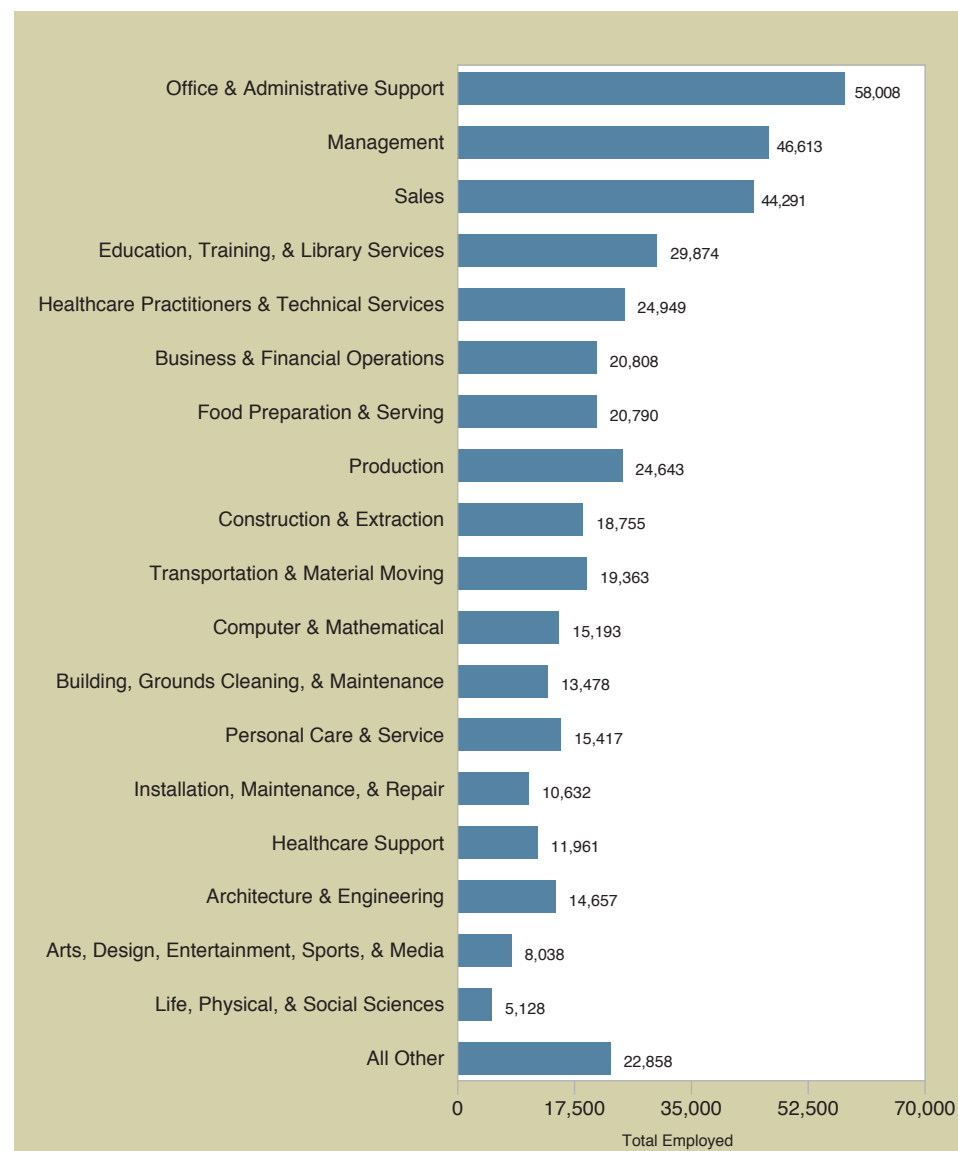


## EMPLOYMENT BY MAJOR OCCUPATION: THE NORTHEAST REGION (2008-2010)

Industries are where people work, and occupations are what people do. Occupations help to capture what types of workers are in demand by businesses. In the Northeast region, Office & Administrative Support is the largest occupational group, accounting for 13.6 percent of the region's jobs. However, the number of jobs in that occupational group was actually fewer in 2008-2010 than in 2000. In contrast, the second largest occupational group, Management, increased jobs over the course of the decade. Occupations that are closely associated with growing industries, such as Healthcare Practitioners & Technical Services, have also increased jobs, and there is very high employment in Education & Health Services. Similarly, some occupations that are strongly concentrated with declining industries have contracted, such as Production occupations in the Manufacturing sector.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** All Other occupations are composed of Community & Social Services, Legal, Protective Services, Farming, Fishing & Forestry, and Military Specific. Occupations are sorted largest to smallest by size in Massachusetts in 2008-2010. See Data Appendix for occupational employment trends.



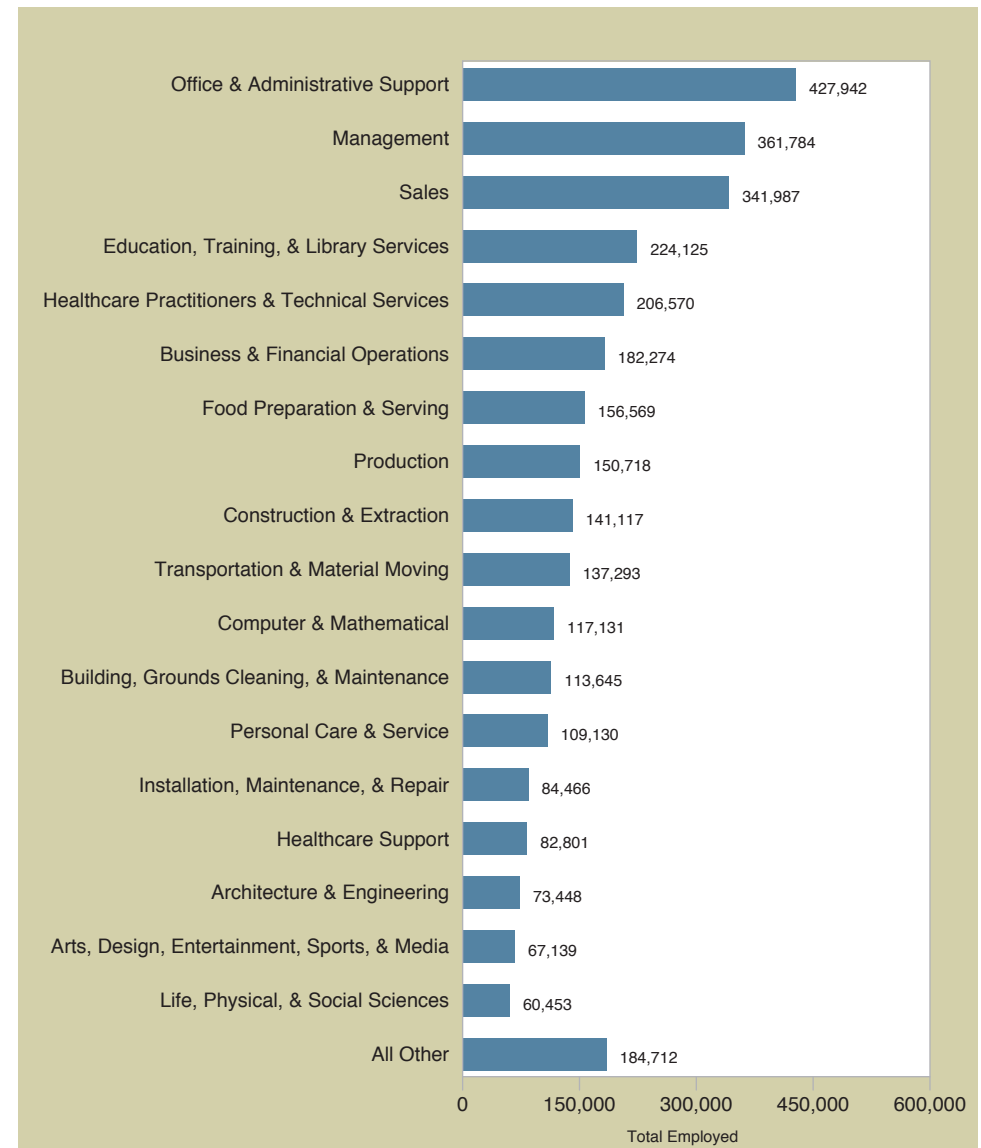


## EMPLOYMENT BY MAJOR OCCUPATION: MASSACHUSETTS (2008-2010)

Massachusetts's occupational composition, much like its industrial composition, is similar to that of the Northeast region. Office & Administrative Support is the largest occupation and accounts for over 13 percent of employment in the state. The only major difference is in the lower share of Production occupations statewide compared with the Northeast region (4.7 versus 5.8 percent). This is largely the result of the much larger Manufacturing sector in the region. Along with similar occupational compositions, the Northeast region and Massachusetts have seen fairly similar occupational employment trends over the past decade. Exceptions were the stronger statewide growth in Education, Training & Library Services occupations and the growth in Sales occupations in Massachusetts (a category that declined slightly in the Northeast region).

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** All Other occupations are composed of Community & Social Services, Legal, Protective Services, Farming, Fishing & Forestry, and Military Specific. Occupations are sorted largest to smallest by size in Massachusetts in 2008-2010. See Data Appendix for occupational employment trends.



## DISTRIBUTION OF OCCUPATIONS ACROSS SUPERSECTORS: OUTSIDE GREATER BOSTON (2008-2010)

Because changes in industries and occupations can impact each other, it is important to see how occupations are distributed across industries. Unfortunately, data limitations make this difficult to do for small geographic areas. Due to the different labor market compositions of Metro South/West and Boston/Metro North relative to the other labor markets, we have split Massachusetts into two labor markets: Greater Boston (Metro South/West and Boston/Metro North) and Outside Greater Boston (the other six labor markets, including Northeast). In the Outside Greater Boston labor market, some occupations are concentrated in one or two industries, while other occupations are spread across a number of industries. Consider that nearly 95 percent of Education, Training & Library Services occupations are located in the Education & Health Services supersector. In contrast, Management occupations account for nearly 10 percent or more of employment in every supersector.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** Due to sample size limitations in the Census and American Community Survey, it is not possible to provide an occupational distribution across industries for small geographic areas. Therefore, Metro South/West and Boston/Metro North were grouped to increase observations and provide an occupation/industry distribution for Greater Boston. Together they account for 46.4 percent of the state's employment. The labor market compositions of Metro South/West and Boston/Metro North are similar, with relatively strong concentrations in Management occupations, Business & Financial Operations, Professional & Business Service, and Financial Activities Sector. In comparison, the labor markets outside of the Greater Boston region (Berkshire, Pioneer Valley, Central Mass, Northeast, Southeast, and Cape & Islands) tend to have stronger concentrations in sectors such as Trade, Transportation, & Utilities, Leisure & Hospitality, and/or Manufacturing, and occupations such as Sales, Office & Administrative Support, and Production. While there are differences among the regional labor markets outside Greater Boston, industrial and occupational concentrations are likely similar enough to approximate their distributions for these labor markets.

## DISTRIBUTION OF OCCUPATIONS ACROSS SUPERSECTORS: OUTSIDE GREATER BOSTON (2008-2010)

	Education & Health Services	Trade, Transportation, & Utilities	Professional & Business Services	Manufacturing	Leisure & Hospitality	Financial Activities	Construction	Other	All Industries
Office & Administrative Support	22.4	26.1	10.3	9.4	3.5	13.6	2.6	12.1	100.0
Management	19.6	10.7	10.5	17.3	10.2	11.2	8.7	11.8	100.0
Sales	0.9	68.5	3.7	5.7	4.5	11.2	0.6	5.0	100.0
Education, Training, & Library Services	94.8	0.2	0.4	0.2	1.1	0.2	0.0	3.1	100.0
Healthcare Practitioners & Technical Services	86.4	6.5	4.0	0.2	0.1	0.4	0.1	2.3	100.0
Business & Financial Operations	10.0	12.1	22.4	12.7	1.4	27.9	2.7	10.8	100.0
Food Preparation & Serving	11.9	5.5	0.2	0.5	80.0	0.4	0.0	1.4	100.0
Production	3.1	11.3	3.5	73.2	1.0	0.2	0.8	6.9	100.0
Construction & Extraction	2.2	3.0	1.7	2.7	0.1	0.9	88.3	1.1	100.0
Transportation & Material Moving	4.4	62.1	4.8	13.7	4.8	1.2	3.0	6.1	100.0
Computer & Mathematical	9.8	7.5	38.4	20.7	0.8	12.4	0.1	10.5	100.0
Building, Grounds Cleaning, & Maintenance	26.9	5.1	37.0	2.4	10.8	4.0	0.5	13.3	100.0
Personal Care & Service	40.2	2.4	1.6	0.0	14.5	0.3	0.1	41.0	100.0
Installation, Maintenance, & Repair	3.3	26.3	4.6	13.5	2.5	2.6	8.4	38.7	100.0
Healthcare Support	92.6	1.0	1.4	0.1	0.6	0.2	0.0	4.1	100.0
Architecture & Engineering	2.5	5.8	31.8	50.6	0.2	0.4	3.6	5.2	100.0
Arts, Design, Entertainment, Sports, & Media	12.0	11.6	22.6	8.6	20.4	1.4	0.5	22.9	100.0
Life, Physical, & Social Sciences	36.7	2.8	28.5	18.2	0.9	1.9	0.3	10.6	100.0
All Other	28.9	3.4	17.4	0.8	3.6	1.9	0.1	43.7	100.0
All Occupations	26.8	19.4	9.4	11.9	8.3	6.3	6.1	11.6	100.0

## DISTRIBUTION OF OCCUPATIONS WITHIN SUPERSECTORS: OUTSIDE GREATER BOSTON (2008-2010)

We can also consider what the distribution of occupations within a given supersector looks like. Certain occupations account for the majority of employment within a supersector. For example, outside Greater Boston nearly 45 percent of employment in the Education & Health Services supersector comes from two occupations: Education, Training & Library Services and Healthcare Practitioners & Technical Services occupations. Further, the Construction supersector has more than two-thirds of its employment in Construction & Extraction occupations. While some occupations account for an overwhelming majority of the employment in a given supersector, others are consistently a large share of employment in each supersector. In fact, the two largest occupational groups, Office & Administrative Support and Management, together account for roughly 20 percent or more of all occupations employed within every supersector (ranging from 18.0 percent in Leisure & Hospitality to 47.7 percent of Financial Activities).

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** Due to sample size limitations in the Census and American Community Survey, it is not possible to provide an occupational distribution across industries for small geographic areas. Therefore, Metro South/West and Boston/Metro North were grouped to increase observations and provide an occupation/industry distribution for Greater Boston. With stronger concentrations in Management occupations, Business & Financial Operations, Professional & Business Services, and Financial Activities, the labor market composition of Metro South/West and Boston/Metro North is similar. When combined these two region's account for 46.4 percent of the state's employment. In comparison, the labor markets outside of the Greater Boston region (Berkshire, Pioneer Valley, Central Mass, Northeast, Southeast, and Cape & Islands) tend to have stronger concentrations in sectors such as Trade, Transportation, & Utilities, Leisure & Hospitality, and/or Manufacturing, and occupations such as Sales, Office & Administrative Support, and Production. While there are differences among the regional labor markets outside Greater Boston, industrial and occupational concentrations are likely similar enough to approximate their distributions for these labor markets.

## DISTRIBUTION OF OCCUPATIONS WITHIN SUPERSECTORS: OUTSIDE GREATER BOSTON (2008-2010)

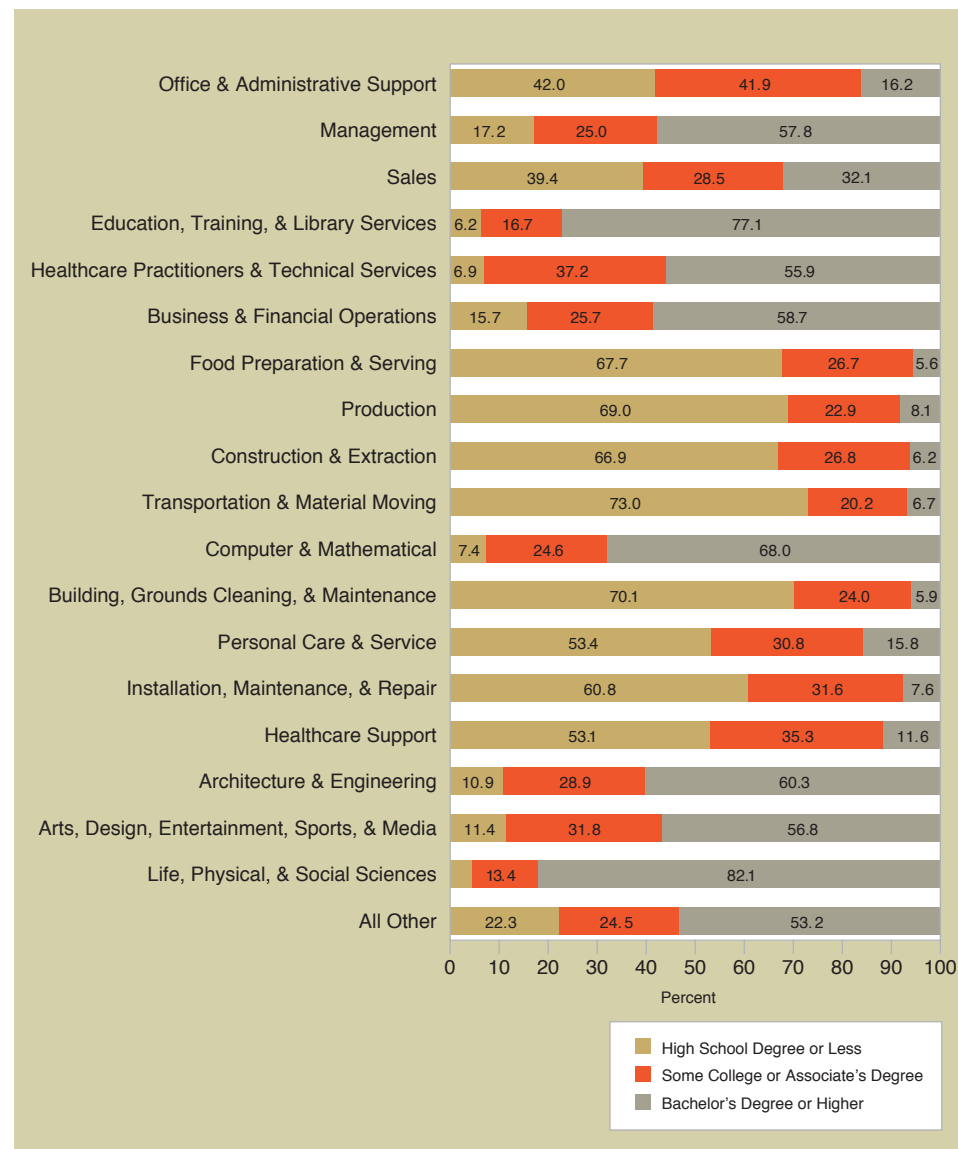
	Education & Health Services	Trade, Transportation, & Utilities	Professional & Business Services	Manufacturing	Leisure & Hospitality	Financial Activities	Construction	Other	All Industries
Office & Administrative Support	11.7	18.9	15.3	11.1	5.9	30.2	5.9	14.7	14.0
Management	7.2	5.4	11.0	14.3	12.1	17.5	14.0	10.1	9.9
Sales	0.4	40.0	4.5	5.4	6.1	20.0	1.0	4.9	11.3
Education, Training, & Library Services	24.7	0.1	0.3	0.1	0.9	0.2	0.0	1.9	7.0
Healthcare Practitioners & Technical Services	20.2	2.1	2.7	0.1	0.1	0.4	0.1	1.3	6.3
Business & Financial Operations	1.6	2.6	10.1	4.5	0.7	18.7	1.8	3.9	4.2
Food Preparation & Serving	2.4	1.5	0.1	0.2	51.6	0.3	0.0	0.7	5.4
Production	0.7	3.5	2.3	37.4	0.7	0.2	0.8	3.6	6.1
Construction & Extraction	0.4	0.7	0.8	1.1	0.0	0.7	68.1	0.5	4.7
Transportation & Material Moving	0.8	15.9	2.5	5.7	2.8	0.9	2.5	2.6	5.0
Computer & Mathematical	0.9	0.9	9.6	4.1	0.2	4.6	0.0	2.1	2.4
Building, Grounds Cleaning, & Maintenance	3.6	1.0	14.3	0.7	4.7	2.3	0.3	4.2	3.6
Personal Care & Service	5.6	0.5	0.6	0.0	6.5	0.1	0.0	13.2	3.7
Installation, Maintenance, & Repair	0.4	4.0	1.5	3.4	0.9	1.2	4.0	9.8	3.0
Healthcare Support	11.3	0.2	0.5	0.0	0.2	0.1	0.0	1.2	3.3
Architecture & Engineering	0.2	0.6	6.8	8.5	0.0	0.1	1.2	0.9	2.0
Arts, Design, Entertainment, Sports, & Media	0.7	1.0	3.9	1.2	4.0	0.4	0.1	3.2	1.6
Life, Physical, & Social Sciences	1.5	0.2	3.3	1.6	0.1	0.3	0.1	1.0	1.1
All Other	5.8	1.0	10.0	0.4	2.3	1.7	0.1	20.4	5.4
All Occupations	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

## EDUCATIONAL ATTAINMENT OF EMPLOYEES BY MAJOR OCCUPATION: THE NORTHEAST REGION (2000)

By looking at the educational attainment of an occupational group, we better understand the education required in that field of employment. In 2000, in Office & Administrative Support occupations, nearly 42 percent of employees in the Northeast had Some College education or an Associate's Degree, and a similar percentage had a High School Degree or less. By comparison, 57.8 percent of employees in Management had a Bachelor's Degree or higher. Educational attainment gives some indication of the skills requirement, but it is not a perfect proxy for skill. Some occupations require significant training or other certification. For example, in Installation, Maintenance, & Repair occupations, over 60 percent of employees have a High School Degree or less, but these occupations often require apprenticeships, professional certifications, or significant on-the-job training.

**Source:** US Census Bureau 2000 Decennial Census PUMS data files.

**Note:** Occupations are sorted by size in Massachusetts in 2008-2010 American Community Survey PUMS data files.

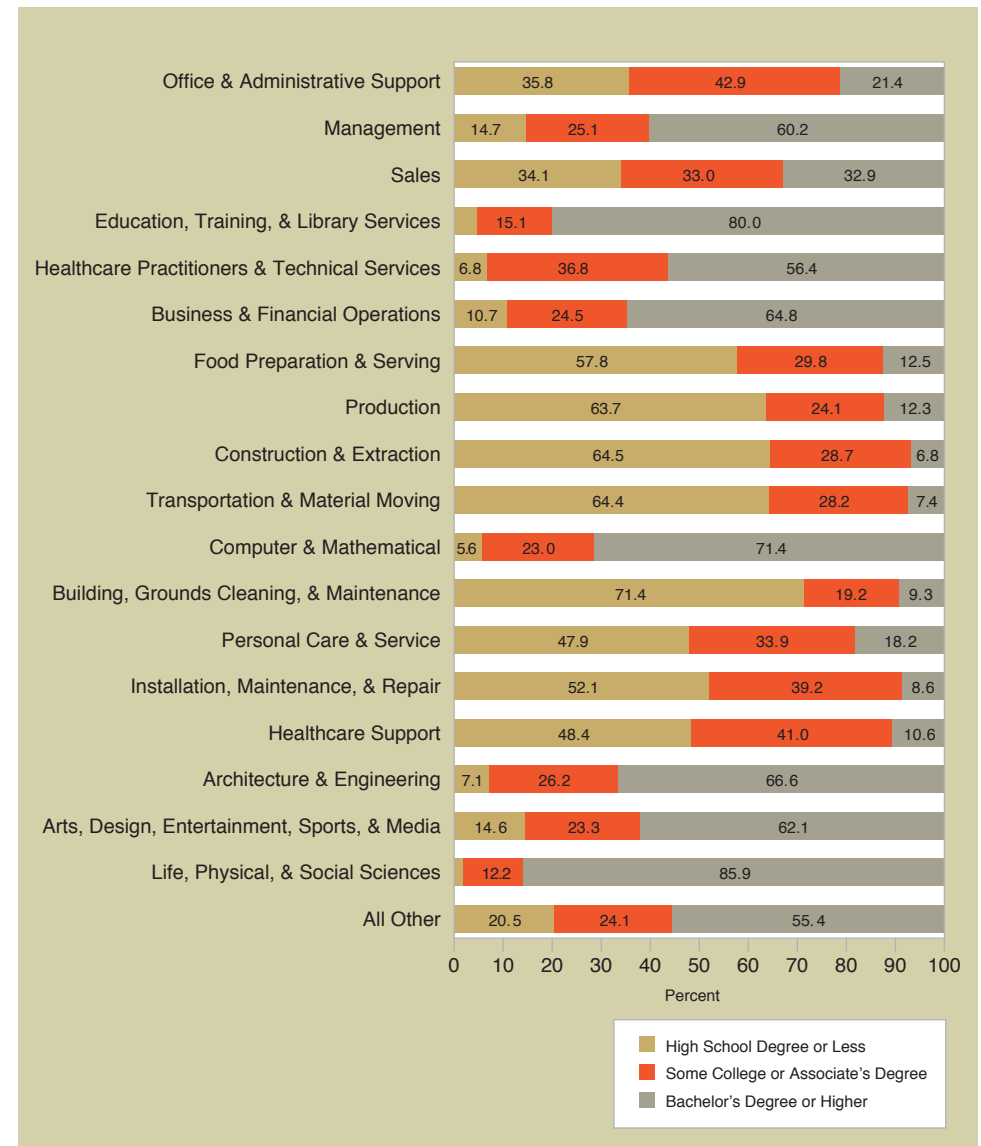


## EDUCATIONAL ATTAINMENT OF EMPLOYEES BY MAJOR OCCUPATION: THE NORTHEAST REGION (2008-2010)

Over the past decade, the share of employees with a Bachelor's Degree or higher increased in 18 of the 19 major occupations of the Northeast region. For example, the share of Business & Financial Operations employees with a Bachelor's Degree or higher grew by more than 6 percentage points to reach 64.8 percent in 2008-2010. Occupations with a mix of educational levels, such as Office & Administrative Support, also saw declines in the share of employees with High School Degrees or less and growth in the share of employees with a Bachelor's Degree or higher. The educational attainment of employees even increased in occupations where workers traditionally have less education, such as Production. As a result, nine occupations in the region had a majority of employees with a Bachelor's Degree or higher in 2008-2010, while six occupations had a majority of employees with a High School Degree or less.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** Occupations are sorted by size in Massachusetts in 2008-2010 American Community Survey PUMS data files.

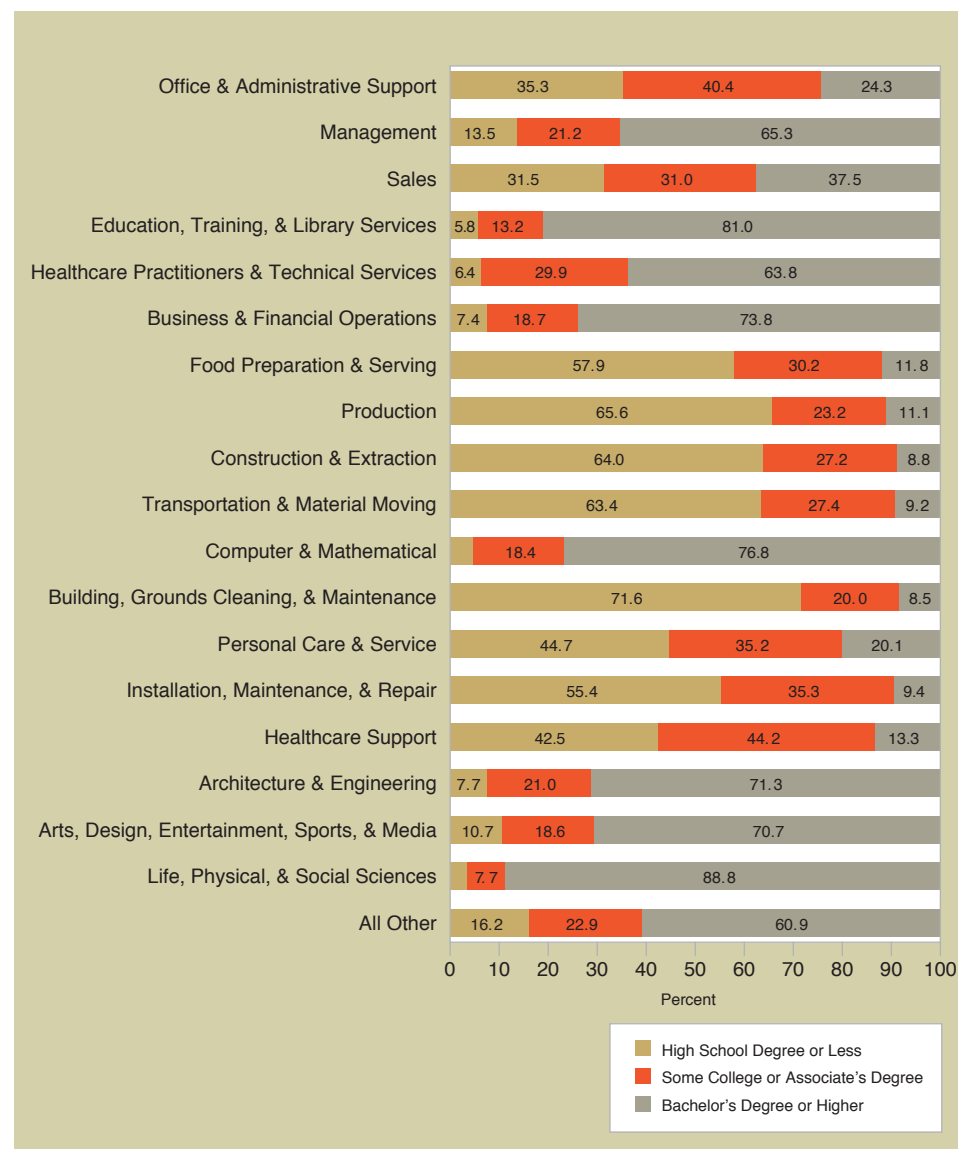


## EDUCATIONAL ATTAINMENT OF EMPLOYEES BY MAJOR OCCUPATION: MASSACHUSETTS (2008-2010)

Despite the increasing levels of educational attainment across occupations in the Northeast region, it still tends to have lower levels of educational attainment compared with Massachusetts. Of the 19 major occupation groups in Massachusetts, 16 have greater shares of employees with a Bachelor's Degree or higher than those same occupation groups in the Northeast region. These include occupations that have a majority of employees with high levels of education (e.g., Management and Business), mixed educational attainment (e.g., Office & Administrative Support), and predominantly lower education levels (e.g., Construction & Extraction). The Northeast region has much higher concentrations of employees with Some College or an Associate's Degree in 15 of the 19 major occupations. However, the larger share of Bachelor's Degrees statewide results in 12 occupations in Massachusetts having a higher share of employees with some post-secondary education (Some College or Higher) compared with the region.

**Source:** US Census Bureau 2008-2010 American Community Survey PUMS data files.

**Note:** Occupations are sorted by size in Massachusetts in 2008-2010 American Community Survey PUMS data files.





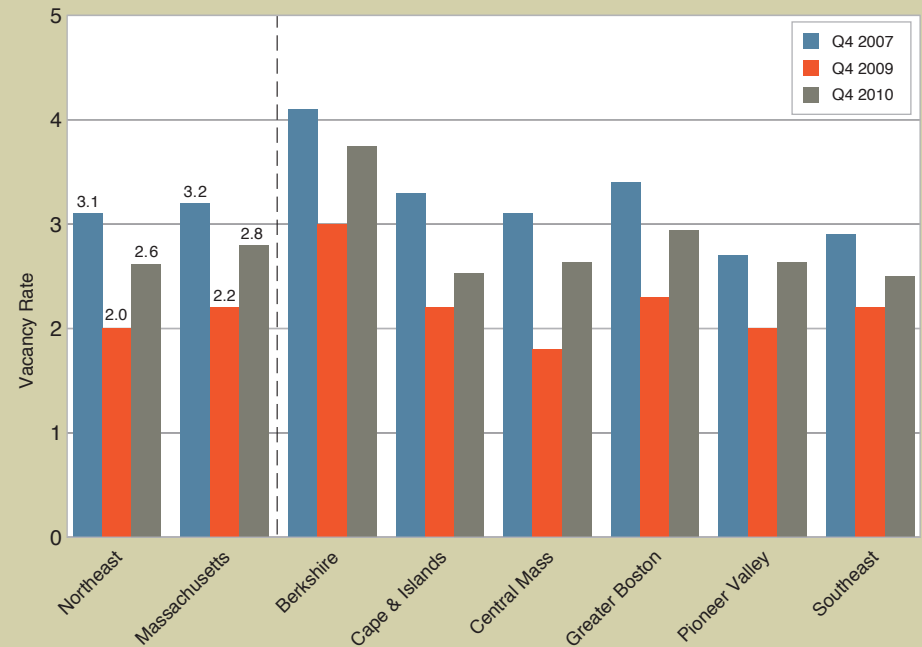
## JOB VACANCIES IN THE GREAT RECESSION AND RECOVERY

Job vacancies exist even in a healthy labor market due to turnover and constant flux in the labor market. As businesses expand, they need to hire individuals who meet specific skill requirements, and employees with skills that are in demand leave jobs for better positions. As the economy enters a downturn, job vacancies decline due to an overall decline in labor demand, an increase in the number of applicants available to fill positions, and lower turnover as employees stay longer in jobs. At the end of 2007, preceding the Great Recession, the job vacancy rate in the Northeast region was 3.1 percent. By the end of 2009, during the Great Recession, the vacancy rate had declined by more than a full percentage point, but as the economy started to recover, the vacancy rate rose slightly (by more than half a percentage point) to reach 2.6 percent at end of 2010. As the fourth largest labor market in the state, the Northeast region accounts for more than 13.1 percent of employment. However, the region accounts for 12.6 percent of the job vacancies in Massachusetts, second only to the sizeable Greater Boston labor market.

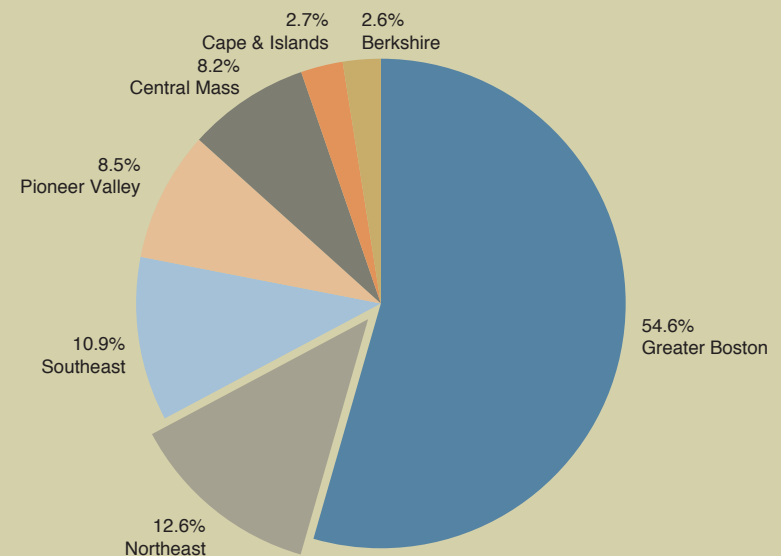
**Source:** Massachusetts Executive Office of Labor and Workforce Development Job Vacancy Survey.

**Note:** The Massachusetts Job Vacancy Survey is collected for seven regions in the state. Vacancy rates are calculated by taking the total number of job vacancies and dividing by the total number employed in the region. The Greater Boston region covers portions of the Northeast, Metro South/West, Central Mass, and Southeast regions of the regional labor market profiles. The vacancy information for the Greater Boston region is used as an approximation of the vacancies trends experienced in the Metro South/West and Boston/Metro North regions.

Job Vacancy Rates



Distribution of Job Vacancies Across Regional Labor Markets, Q4 2010



## JOB VACANCIES AND VACANCY RATES BY MAJOR OCCUPATION: THE NORTHEAST REGION (Q4 2010)

At the end of 2010, just over half the vacancies in the Northeast were concentrated in four occupations: Sales, Office & Administrative Support, Food Preparation & Serving, and Business & Financial Operations. Sales positions accounted for the largest share of vacancies (24.5 percent) and had the highest vacancy rate (5.9 percent) of all occupations in the Northeast region. However, some of these positions, especially in retail, were seasonal in nature. Other occupations with a large number of vacancies and an above-average vacancy rate included Computer & Mathematical and Healthcare Support occupations. Some large occupational groups, such as Office & Administrative Support, account for a large number of vacancies (9.7 percent), but have a relatively low vacancy rate (1.4 percent). Not surprisingly, the vacancy rates in occupations hit hardest by the Great Recession, such as Production, were extremely low in the region (0.8 percent).

**Source:** Massachusetts Executive Office of Labor and Workforce Development Job Vacancy Survey.

**Note:** Vacancy rates are calculated by taking the total number of job vacancies and dividing by the total number employed in the occupation.

	Number of Vacancies	Share of Vacancy (Percent)	Job Vacancy Rate (Percent)
Totals	9,932	100.0	2.6
Sales	2,435	24.5	5.9
Office & Administrative Support	967	9.7	1.4
Food Preparation & Serving Related	981	9.9	2.4
Business & Financial Operations	646	6.5	3.2
Healthcare Practitioner & Technical	501	5.0	1.8
Computer & Mathematical	541	5.4	3.0
Management	503	5.1	2.0
Healthcare Support	465	4.7	3.4
Transportation & Material Moving	493	5.0	2.4
Education, Training & Library	248	2.5	0.9
Personal Care & Service	293	3.0	2.4
Production	267	2.7	0.8
Architecture & Engineering	424	4.3	2.9
Building, Grounds Cleaning, & Maintenance	290	2.9	2.8
Arts, Design, Entertainment, Sports & Media	81	0.8	1.6
Community & Social Services	201	2.0	2.5
Life, Physical, & Social Services	68	0.7	1.0
Installation, Maintenance & Repair	259	2.6	1.7
Protective Service	196	2.0	2.2
Construction & Extraction	47	0.5	0.3
Legal	26	0.3	1.2

## JOB VACANCIES AND VACANCY RATES BY MAJOR OCCUPATION: MASSACHUSETTS (Q4 2010)

Similar to the Northeast region, the largest number of job vacancies and highest vacancy rates in Massachusetts at the end of 2010 were in Sales occupations. And 50 percent of vacancies were concentrated among the same four occupations as in the Northeast region. However, Massachusetts had a lower share of vacancies coming from Sales occupations and larger shares from Office & Administrative Support, Food Preparation & Serving, and Business & Financial Operations. While vacancy rates in the state and in the region are mostly similar, a few occupations have much higher rates statewide (e.g., Life, Physical, & Social Sciences and Computer & Mathematical Occupations). The vacancy rates in others, such as Building, Grounds Cleaning, & Maintenance, are higher in the Northeast region.

**Source:** Massachusetts Executive Office of Labor and Workforce Development Job Vacancy Survey.

**Note:** Vacancy rates are calculated by taking the total number of job vacancies and dividing by the total number employed in the occupation.

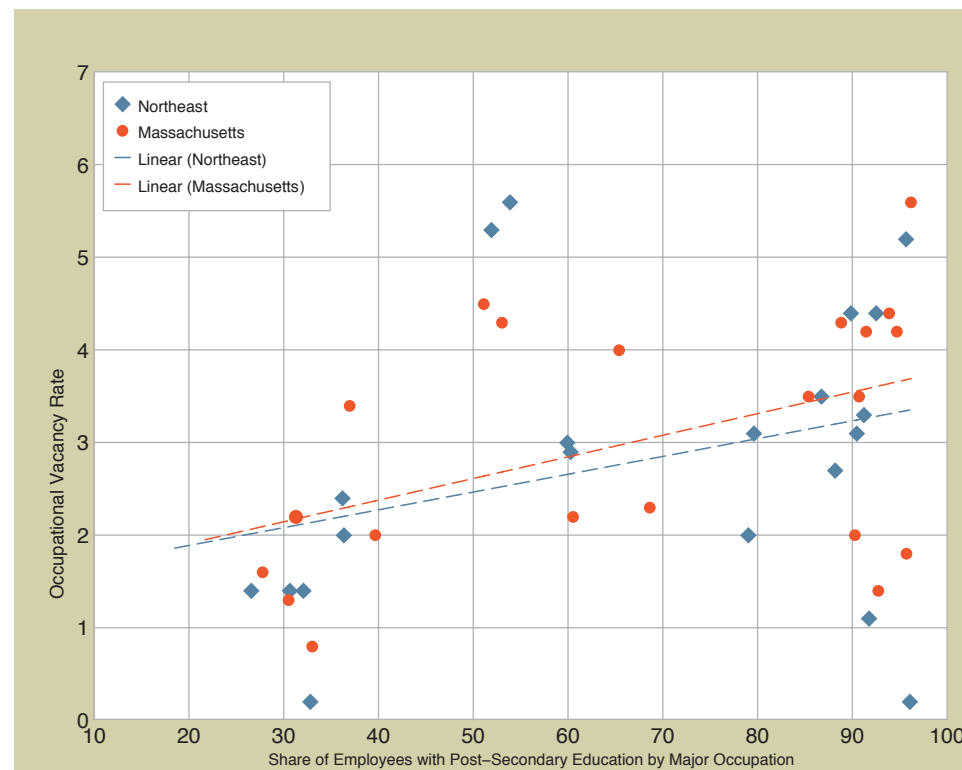
	Number of Vacancies	Share of Vacancy (Percent)	Job Vacancy Rate (Percent)
Totals	78,589	100.0	2.8
Sales	16,584	21.1	5.2
Office & Administrative Support	8,650	11.0	1.6
Food Preparation & Serving Related	8,195	10.4	3.1
Business & Financial Operations	6,079	7.7	3.6
Healthcare Practitioner & Technical	5,249	6.7	2.3
Computer & Mathematical	4,950	6.3	4.0
Management	4,595	5.8	2.5
Healthcare Support	3,634	4.6	3.8
Transportation & Material Moving	3,214	4.1	2.1
Education, Training & Library	2,895	3.7	1.3
Personal Care & Service	2,055	2.6	2.4
Production	1,774	2.3	1.1
Architecture & Engineering	1,734	2.2	2.3
Building, Grounds Cleaning, & Maintenance	1,555	2.0	1.5
Arts, Design, Entertainment, Sports & Media	1,421	1.8	2.7
Community & Social Services	1,411	1.8	2.2
Life, Physical, & Social Services	1,398	1.8	2.6
Installation, Maintenance & Repair	1,160	1.5	1.2
Protective Service	1,124	1.4	1.5
Construction & Extraction	583	0.7	0.6
Legal	244	0.3	1.0

## COMPARING VACANCY RATES AND EDUCATIONAL ATTAINMENT: PEAK LABOR MARKET

Before the Great Recession, there was a correlation between educational attainment and job vacancies in both the Northeast region and Massachusetts. That is, occupations with workers who had higher levels of educational attainment tended to have higher vacancy rates. This is not surprising, as occupations that have larger shares of employees with a High School Degree or less can sometimes be filled by the large number of individuals with less training and at lower costs to employers. In contrast, jobs in highly specialized occupations that require specific educational requirements face competition, both regionally and globally, for the limited number of individuals who can fill such positions. Further, strong growth in industries that employ large shares of individuals with high levels of educational attainment, such as Health Care & Social Assistance and Professional & Technical Services, leads to increased vacancies and demand for employees who can fill such positions.

**Source:** Massachusetts Executive Office of Labor and Workforce Development Job Vacancy Survey and US Census Bureau 2005-2007 American Community Survey.

**Note:** Occupational vacancy rates for the Northeast region in Q4 2007 proxy vacancy rates in a peak labor market and educational attainment data by occupation in the Northeast region from the 2005-2007 American Community Survey proxy share of employees with a post-secondary education in a peak labor market. Workers have attained a post-secondary education if they have attended Some College or obtained an Associate's Degree, Bachelor's Degree, or Master's Degree or higher.

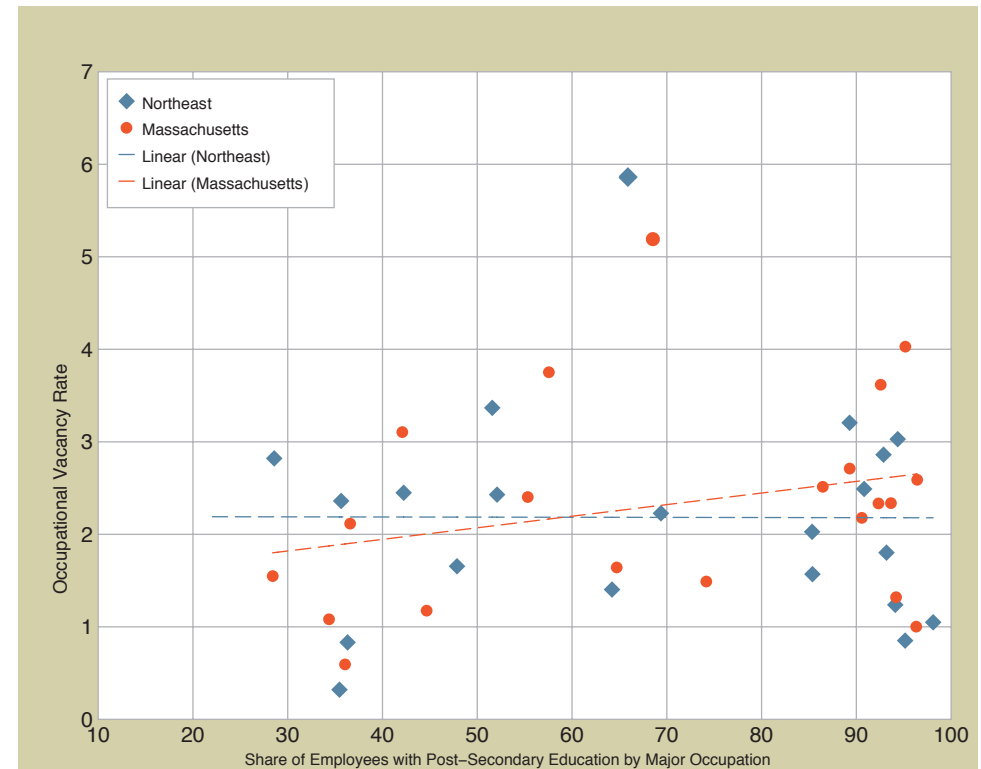


## COMPARING VACANCY RATES AND EDUCATIONAL ATTAINMENT: RECOVERING LABOR MARKET

In the Northeast region and Massachusetts, occupations with higher educational attainment typically had higher job vacancy rates. In the Great Recession, this relationship weakened somewhat state-wide and was almost non-existent in the Northeast region at the end of 2010. This disappearance of this relationship in the Northeast region (while only weakening statewide) is likely driven by three factors: (1) the higher educational attainment of employees in nearly all occupations in Massachusetts relative to the region, (2) the region's lower vacancy rates in occupations with predominantly higher levels of education, such as Life, Physical & Social Sciences and Computer & Mathematical occupations, and higher vacancy rates in occupations that typically require less education, such as Building, Grounds, & Cleaning Maintenance and Sales, and (3) the Northeast region's stronger growth, relative to Massachusetts, increasing demand for employees in nearly all industries, including those with lower shares of post-secondary education.

**Source:** Massachusetts Executive Office of Labor and Workforce Development Job Vacancy Survey and US Census Bureau 2008-2010 American Community Survey.

**Note:** Occupational vacancy rates for the Northeast region in Q4 2010 proxy vacancy rates in a recovering labor market, and educational attainment data by occupation in the Northeast from the 2008-2010 American Community Survey proxy share of employees with a post-secondary education in a recovering labor market.



## GROWTH IN POTENTIAL SUPPLY OF EDUCATED WORKERS: FULL-TIME ENROLLMENT TRENDS IN THE PAST DECADE

Between 2000 and 2010, the number of full-time students enrolled at less-than-two-, two-, and four-year institutions increased in the Northeast region, Massachusetts, and the United States. Enrollment in public two- and four-year institutions in the Northeast region has grown more robustly than enrollment in private institutions and has increased at much faster rates than in Massachusetts and the United States. In contrast, regional growth in full-time enrollments at less-than-two-year institutions over the past decade has been at private institutions.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

**Note:** Enrollment data are from the fall semester of the academic year. For example, 2010 enrollment is from the fall of 2009 of the 2009-2010 academic year. Enrollment data are provided by the type of institution. Students can earn different types of degrees within an institution. For example, the enrollment at a community college would be categorized as being in a two-year institution for all students enrolled that year. However, students at community colleges complete different type of programs, such as Certificates and Associate's Degrees.

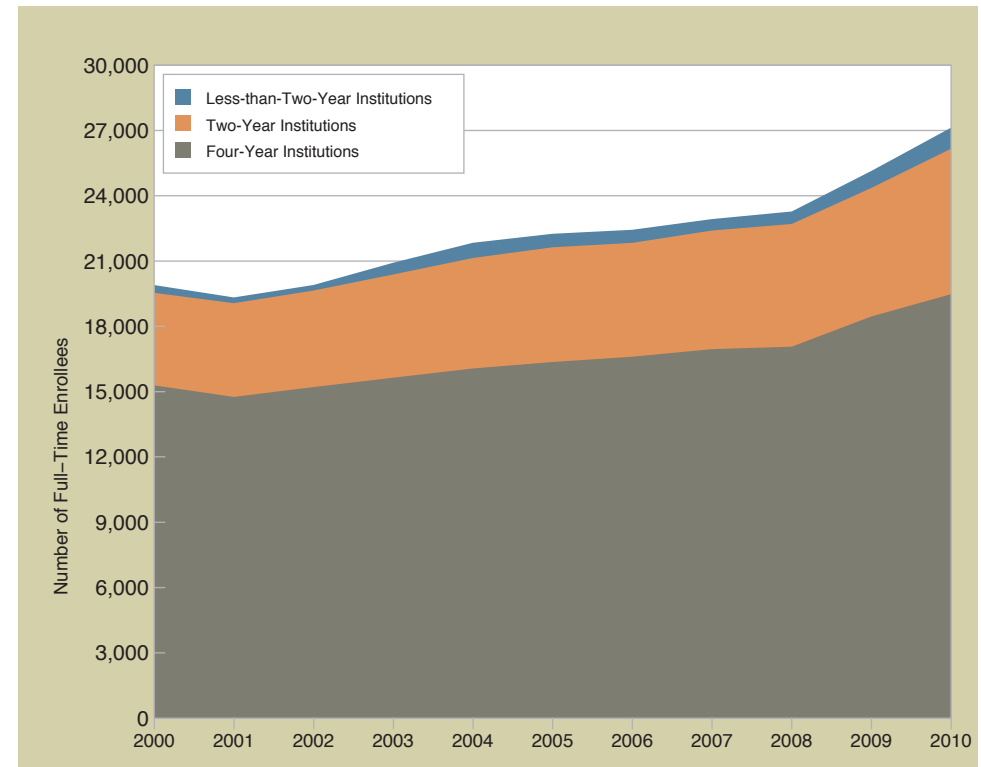
		Less-than-Two-Year Institution			Two-Year Institution			Four-Year Institution		
		Northeast	MA	US	Northeast	MA	US	Northeast	MA	US
Public	Enrollment 2000	36	382	43,504	4,062	31,002	2,008,336	9,634	58,489	3,733,341
	Enrollment 2010	36	316	42,117	6,500	44,278	2,922,622	13,453	73,940	4,904,272
	Absolute Change	0	-66	-1,387	2,438	13,276	914,286	3,819	15,451	1,170,931
	Annual Growth Rate (Percent)	0.0	-1.9	-0.3	4.8	3.6	3.8	3.4	2.4	2.8
Private	Enrollment 2000	321	3,427	138,260	188	5,796	259,071	5,657	125,640	1,863,471
	Enrollment 2010	931	9,609	277,341	184	5,457	457,134	6,027	153,139	3,000,813
	Absolute Change	610	6,182	139,081	-4	-339	198,063	370	27,499	1,137,342
	Absolute Change (Percent)	11.2	10.9	7.2	-0.2	-0.6	5.8	0.6	2.0	4.9
Total	Enrollment 2000	357	3,809	181,764	4,250	36,798	2,267,407	15,291	184,129	5,596,812
	Enrollment 2010	967	9,925	319,458	6,684	49,735	3,379,756	19,480	227,079	7,905,085
	Absolute Change	610	6,116	137,694	2,434	12,937	1,112,349	4,189	42,950	2,308,273
	Annual Growth Rate (Percent)	10.5	10.1	5.8	4.6	3.1	4.1	2.5	2.1	3.5

## NUMBER OF FULL-TIME ENROLLEES BY TYPE OF DEGREE GRANTING INSTITUTION IN THE NORTHEAST REGION (2000-2010)

Four-year institutions continue to account for most of the full-time enrollment in higher education institutions in the Northeast region, but their share fell from 76.8 percent in 2000 to 71.8 percent in 2010. The share of students enrolled in the less-than-two-year and two-year institutions increased. With enrollments at two-year institutions increasing at an annual rate of 4.6 percent over the course of the decade, the share of the region's students enrolled at such institutions increased from 21.4 percent to 24.6 percent. The strongest increase came in the smallest category: Less-than-two year institutions accounted for 3.6 percent of the region's enrollment at post-secondary institutions in 2010, up from 1.8 percent in 2000.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

**Note:** In the above stacked-area chart, the different areas represent the number of enrollees by institution type. For example, enrollments in less-than-two-year Institutions were more than 900 in 2010, compared to more than 19,400 at four-year institutions that year. All three areas combined represent the total number of enrollees in post-secondary educational institutions in the Northeast region, of which there were more than 27,000 in 2010. The areas are stacked in order of size in 2010, with enrollment at four-year institutions, the largest enrollment group, on the bottom and enrollment at less-than-two-year institutions, the smallest group, at the top.



## GROWTH IN POTENTIAL SUPPLY OF EDUCATED WORKERS: PART-TIME ENROLLMENT TRENDS IN THE PAST DECADE

The majority of part-time enrollees at post-secondary educational institutions are in public two-year institutions. In the Northeast region, part-time enrollment at public two-year institutions increased at a sluggish annual rate of 0.5 percent between 2000 and 2010. As such, the region's enrollment growth lagged behind the rates in Massachusetts and the United States. Reflecting a similar pattern as Massachusetts, part-time enrollment in both public and private four-year institutions in the Northeast region declined over the past decade while growing nationwide. In comparison,

the small number of part-time enrollments at private less-than-two-year institutions grew six fold between 2000 and 2010, far exceeding both state and national enrollment patterns.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

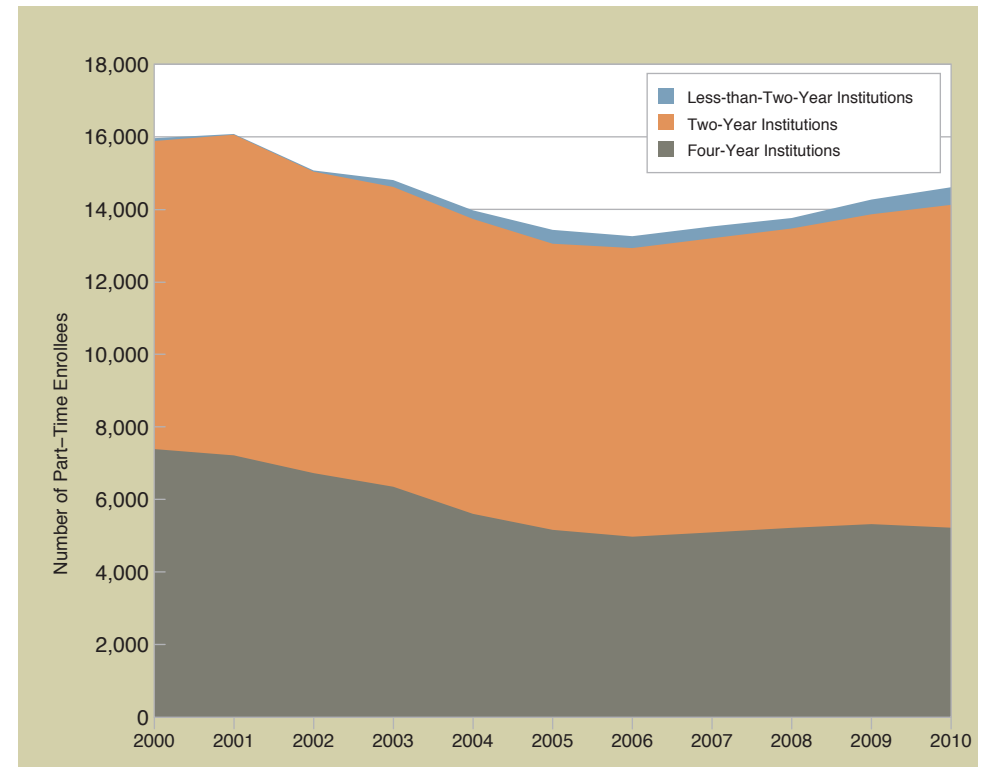
		Less-than-Two-Year Institution			Two-Year Institution			Four-Year Institution		
		Northeast	MA	US	Northeast	MA	US	Northeast	MA	US
Public	Enrollment 2000	3	25	31,407	8,414	48,506	3,509,639	6,558	22,160	1,045,388
	Enrollment 2010	1	65	27,264	8,853	58,043	4,247,674	4,859	16,120	1,380,877
	Absolute Change	-2	40	-4,143	439	9,537	738,035	-1,699	-6,040	335,489
	Annual Growth Rate (Percent)	-10.4	10.0	-1.4	0.5	1.8	1.9	-3.0	-3.1	2.8
Private	Enrollment 2000	76	1,522	31,827	77	3,536	66,870	835	27,425	476,690
	Enrollment 2010	485	2,633	44,382	46	1,554	61,006	367	19,155	775,694
	Absolute Change	409	1,111	12,555	-31	-1,982	-5,864	-468	-8,270	299,004
	Annual Growth Rate (Percent)	20.4	5.6	3.4	-5.0	-7.9	-0.9	-7.9	-3.5	5.0
Total	Enrollment 2000	79	1,547	63,234	8,491	52,042	3,576,509	7,393	49,585	1,522,078
	Enrollment 2010	486	2,698	71,646	8,899	59,597	4,308,680	5,226	35,275	2,156,571
	Absolute Change	407	1,151	8,412	408	7,555	732,171	-2,167	-14,310	634,493
	Annual Growth Rate (Percent)	19.9	5.7	1.3	0.5	1.4	1.9	-3.4	-3.3	3.5



## NUMBER OF PART-TIME ENROLLEES BY TYPE OF DEGREE GRANTING INSTITUTION IN THE NORTHEAST REGION (2000-2010)

While part-time enrollment in two-year institutions in the Northeast region increased over the last decade, the growth largely occurred in recent years. Between 2000 and 2006, part-time enrollment in two-year institutions declined at an annual rate of 1.1 percent. But between 2006 and 2010, part-time enrollment grew at an annual rate of 2.8 percent. In comparison, part-time enrollments at four-year institutions experienced an even steeper decline between 2000 and 2006 (-6.4 percent) and never returned to early levels, despite modest annual growth of 1.2 percent between 2006 and 2010.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

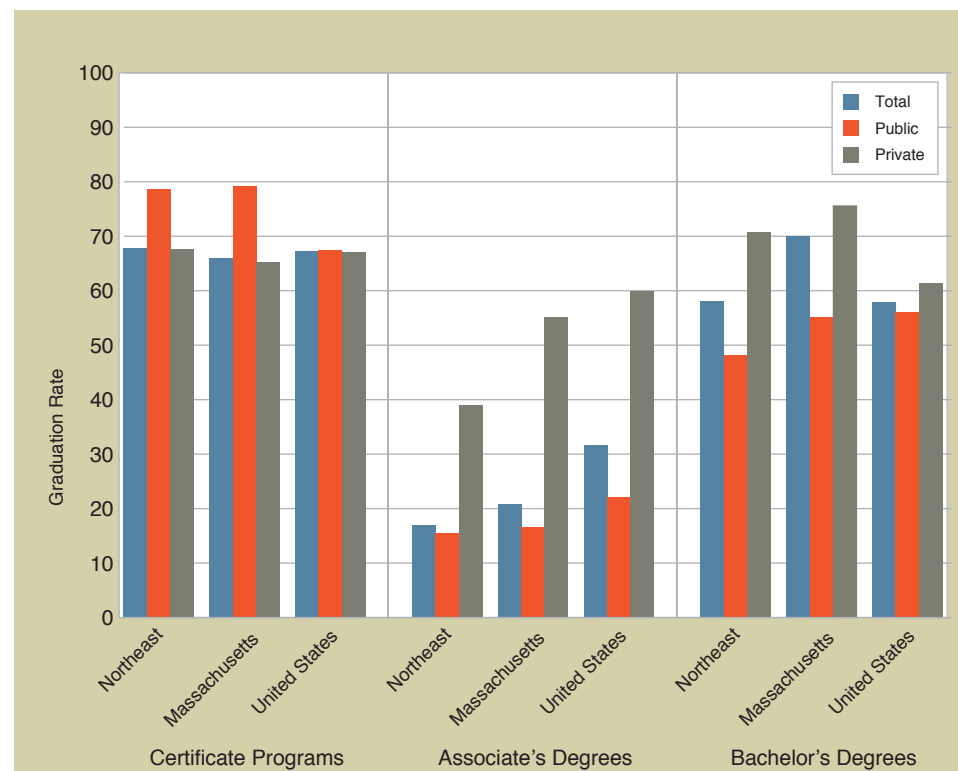


## GRADUATION RATES BY TYPE OF DEGREE (2009)

Enrollment indicates a potential supply of post-secondary educated labor, but the actual supply depends on how many students complete their programs and earn a degree or a certificate. In 2009, about 58 percent of first-time, full-time students at institutions in the Northeast region earned a Bachelor's Degree within six years. This rate was lower than the statewide rate but similar to the national rate. The six-year Bachelor's Degree graduation rate at public institutions (48.1 percent) was lower than that of private institutions in the region and public institutions in Massachusetts and the United States. The three-year Associate's Degree graduation rate (16.9 percent) was also lower in the region than in Massachusetts and United States, and the graduation rate for Associate's Degrees at private institutions was much lower than statewide and national rates. The Certificate program graduation rate in the Northeast region (67.8 percent) was similar to such programs statewide and nationally. In contrast to the findings for Bachelor's Degrees, the Certificate program graduation rate for public institutions was much higher than those for private ones in both the Northeast region and Massachusetts.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

**Note:** Graduation rates are the number of first-time full-time students who completed their degree/program within 150 percent of the time expected to complete the degree/program as a share of the number of first-time full-time students that started the degree/program (e.g., a Bachelor's Degree is considered to have been earned on time if it is completed within six years or less, or 150 percent of four years). Comparisons of graduation rates to enrollments or degree completions can be misleading as the first-time full-time students are a small subset of the student population, particularly for certain degrees/programs. Graduation rates do not include part-time students and are excluded when there is an inadequate sample size of first-time full-time entrants for the degree/program to calculate a graduation rate. See the Methodological Appendix for further details.



## CROSSING THE FINISH LINE: TRENDS IN DEGREE COMPLETIONS OVER THE PAST DECADE (2000-2010)

Total annual completions show the number of people who have earned a degree or certificate in a given year. In the Northeast region, the strongest annual growth (8.6 percent) over the course of the decade came from the number of students earning Certificates, which nearly doubled at public institutions and more than tripled at private institutions. The region also experienced strong annual growth in the number of students earning Bachelor's Degrees at both public (3.2 percent) and private (2.8 percent). As a result, the growth in completions of Bachelor's Degrees exceeded both Massachusetts and the United States. The slowest growth in degree completions came from Associate's Degrees, where a 3.3 percent

annual increase in public completions was partially offset by a 3.6 percent decline in private degree completions. Although the total annual growth rate of 2.9 percent exceeded that of Massachusetts, Associate's Degrees in the Northeast region were the only post-secondary completion category to trail the United States over the past decade.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

**Note:** Degree completions are for those students who completed degrees at institutions within the defined geography. The students may not actually live in the region. Completion totals are based on degrees completed in an academic year. For example, 2010 completions represent degrees completed in the 2009-2010 academic year.

		Certificates			Associate's Degrees			Bachelor's Degrees		
		Northeast	MA	US	Northeast	MA	US	Northeast	MA	US
Public	Completions 2000	480	2,273	298,282	1,018	7,487	471,339	1,981	12,718	811,076
	Completions 2010	848	3,618	460,865	1,404	9,831	670,395	2,722	16,251	1,049,058
	Absolute Change	368	1,345	162,583	386	2,344	199,056	741	3,533	237,982
	Annual Growth Rate (Percent)	5.9	4.8	4.4	3.3	2.8	3.6	3.2	2.5	2.6
Private	Completions 2000	334	5,221	258,503	85	3,812	135,604	1,046	29,658	431,412
	Completions 2010	1,006	8,195	430,685	59	4,366	249,258	1,379	35,972	603,141
	Absolute Change	672	2,974	172,182	-26	554	113,654	333	6,314	171,729
	Annual Growth Rate (Percent)	11.7	4.6	5.2	-3.6	1.4	6.3	2.8	1.9	3.4
Total	Completions 2000	814	7,494	556,785	1,103	11,299	606,943	3,027	42,376	1,242,488
	Completions 2010	1,854	11,813	891,550	1,463	14,197	919,653	4,101	52,223	1,652,199
	Absolute Change	1,040	4,319	334,765	360	2,898	312,710	1,074	9,847	409,711
	Annual Growth Rate (Percent)	8.6	4.7	4.8	2.9	2.3	4.2	3.1	2.1	2.9

## EDUCATIONAL INSTITUTIONS AWARDING THE MOST DEGREES IN THE NORTHEAST REGION (2010)

Public institutions play a large role in post-secondary educational attainment in the Northeast. The region's two community colleges, Northern Essex and North Shore, accounted for 34.4 percent of Certificate completions and 93.3 percent of Associate's Degree completions in 2010. The region's two public colleges, University of Massachusetts-Lowell and Salem State University, accounted for nearly two-thirds of Bachelor's Degree completions that year. However, private institutions also play a considerable role in post-secondary education for Certificates and Bachelor's Degrees. Eight private institutions in the Northeast accounted for more than half of the region's Certificates in 2010, led by Lincoln Technical Institute (18.0 percent). For Bachelor's Degrees, the region's five private institutions accounted for a little more than one-third of all completions in 2010, led by Endicott College awarding 11.9 percent of such degrees.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

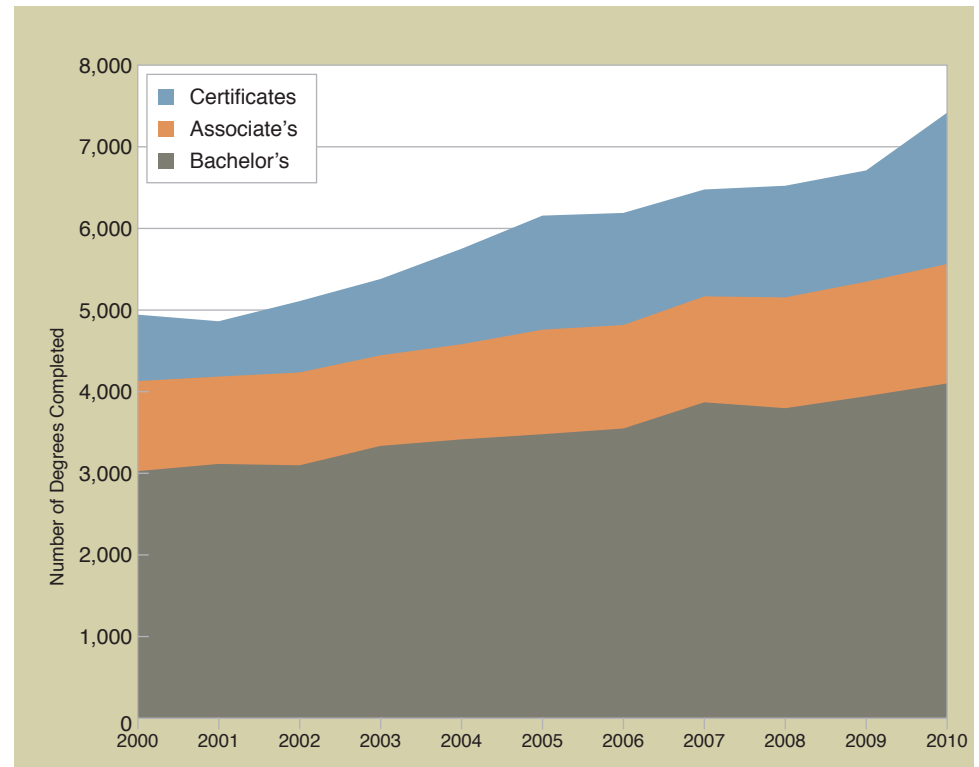
**Note:** See Data Appendix for a full list of degree completions by institution.

	Institution	Type	Public or Private	Degrees Awarded	Share of Degree Type Completed in Region
Certificates	Northern Essex Community College	Two Year	Public	341	18.4
	Lincoln Technical Institute	< Two Years	Private	333	18.0
	North Shore Community College	Two Year	Public	296	16.0
Associate's	North Shore Community College	Two Year	Public	713	48.7
	Northern Essex Community College	Two Year	Public	652	44.6
	University of Massachusetts-Lowell	Four Year	Public	39	2.7
Bachelor's	University of Massachusetts-Lowell	Four Year	Public	1476	36.0
	Salem State University	Four Year	Public	1246	30.4
	Endicott College	Four Year	Private	487	11.9

## NUMBER OF DEGREE COMPLETIONS BY DEGREE TYPE IN THE NORTHEAST REGION (2000-2010)

Adding up Bachelor's and Associate's Degrees and Certificates, the total number of people awarded a postsecondary degree by institutions in the Northeast region grew at an annual rate of 4.1 percent between 2000 and 2010. This was faster than in Massachusetts (2.5 percent) and the United States (3.7 percent), where there was slower growth in the completions of Certificates and Bachelor's Degrees. Between 2000 and 2005, the number of Certificates completed in the Northeast region grew at an annual rate of 11.4 percent. While the growth of such degrees slowed in the second half of the decade, they still increased at a robust annual rate of 5.8 percent between 2005 and 2010. Because of the growing popularity of Certificates over the course of the decade, their share of the region's post-secondary completions increased from 16.5 percent in 2000 to 25.0 percent in 2010. During this same time, Associate's Degrees fell from 22.3 percent of completions in 2000 to 19.7 percent in 2010.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.



## CERTIFICATES AWARDED BY MAJOR FIELD OF STUDY (2000-2010)

In the Northeast region, the increase in the number of Certificates granted mostly came from the two largest fields of study: Health Sciences and Services. The number of Health Sciences Certificates more than tripled between 2000 and 2010, and they increased from 34.2 percent to 53.4 percent of the region's Certificates. This increase exceeded the trend statewide, where the number of Health Science Certificates more than doubled to account for almost 50 percent of Certificates granted in 2010. Also, Services Certificates more than doubled over the same period and accounted for 29.6 percent of the Northeast region's Certificates in 2010. Services Certificates include a large range of areas of specialization,

including Cosmetology, Law Enforcement, Construction Trades, Sports & Fitness Studies, Library Sciences, Social Work, Appliance Installation & Repair, Welding Technology, and Construction Equipment Operations.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

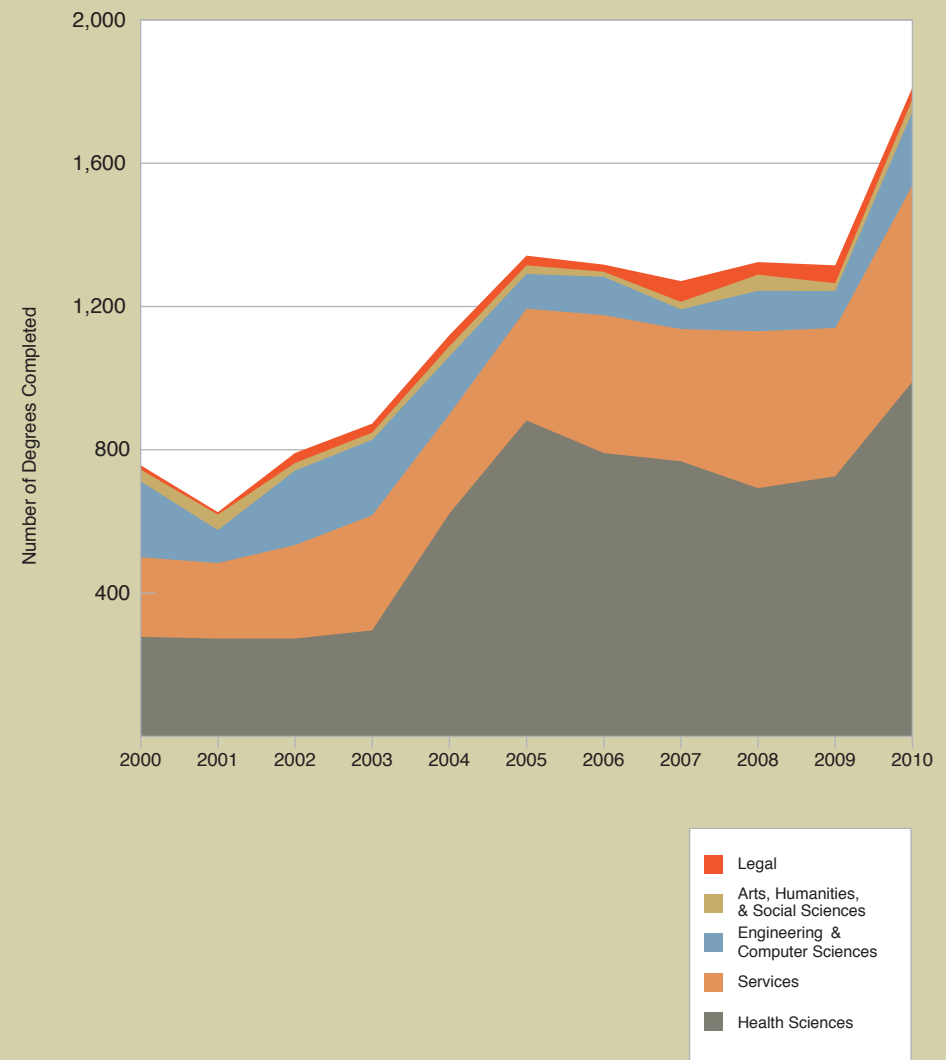
**Note:** For major fields of study by degree type for the US, see Data Appendix.

Major Field of Study	Northeast				Massachusetts			
	2000		2010		2000		2010	
	Certificates Completed	Major's Share of Total (Percent)	Certificates Completed	Major's Share of Total (Percent)	Certificates Completed	Major's Share of Total (Percent)	Certificates Completed	Major's Share of Total (Percent)
Health Sciences	278	34.2	990	53.4	2,080	27.8	5,638	47.7
Services	222	27.3	548	29.6	2,479	33.1	3,984	33.7
Engineering & Computer Sciences	212	26.0	205	11.1	1,013	13.5	752	6.4
Business	27	3.3	17	0.9	709	9.5	513	4.3
Arts, Humanities, & Social Sciences	33	4.1	35	1.9	271	3.6	424	3.6
Legal	12	1.5	33	1.8	132	1.8	189	1.6
Education	24	2.9	16	0.9	129	1.7	87	0.7
Science & Mathematics	2	0.2	2	0.1	248	3.3	80	0.7
Other	4	0.5	8	0.4	81	1.1	146	1.2
Total	814	100.0	1,854	100.0	7,494	100.0	11,813	100.0

## ANNUAL COMPLETIONS BY TOP FIVE CERTIFICATE MAJORS IN THE NORTHEAST REGION (2000-2010)

The number and type of Certificates awarded by institutions in the Northeast region fluctuated considerably from year to year. For example, from 2000 to 2010, Health Science Certificates grew at an annual rate of 13.5 percent. However, between 2000 and 2003 the region produced almost the same number of degrees annually before nearly tripling between 2003 and 2005. The number then declined slightly before rebounding in 2010, this time more than tripling the level from the beginning of the decade. The continued upward movement in Health Science Certificates may reflect increasing demand for employees with such education and training from growing industries, including Health Care & Social Assistance. In comparison, the number of Service Certificates has increased at a fairly stable rate over the course of the decade, possibly reflecting a consistent demand for employees with such education and training to work in service industries, including Administrative & Support Services.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.



## ASSOCIATE'S DEGREES AWARDED BY MAJOR FIELD OF STUDY (2000-2010)

The growth of Associate's Degrees granted by institutions in the Northeast region was the result of increases in nearly every major field of study. Art, Humanities, & Social Sciences, the largest field of study for Associate's Degrees in both the region and statewide, had the largest increase of all majors over the course of the decade. This field accounted for 457 completions in 2010, representing 31.2 percent of Associate's Degrees in the region. The region's second largest major, Health Sciences, only moderately increased the number of graduates between 2000 and 2010 and actually fell to 22.9 percent of the region's Associate's Degrees. In comparison,

Massachusetts saw strong growth in the number of Health Science majors, and their share of all Associate's Degrees rose to 25.1 percent by the end of the decade. The only two fields to grant fewer degrees in 2010 than in 2000 were the Science, Engineering, Technology, and Mathematics (STEM) fields of Engineering & Computer Sciences and Science & Mathematics, possibly reflecting a movement towards Bachelor's Degrees in such fields.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

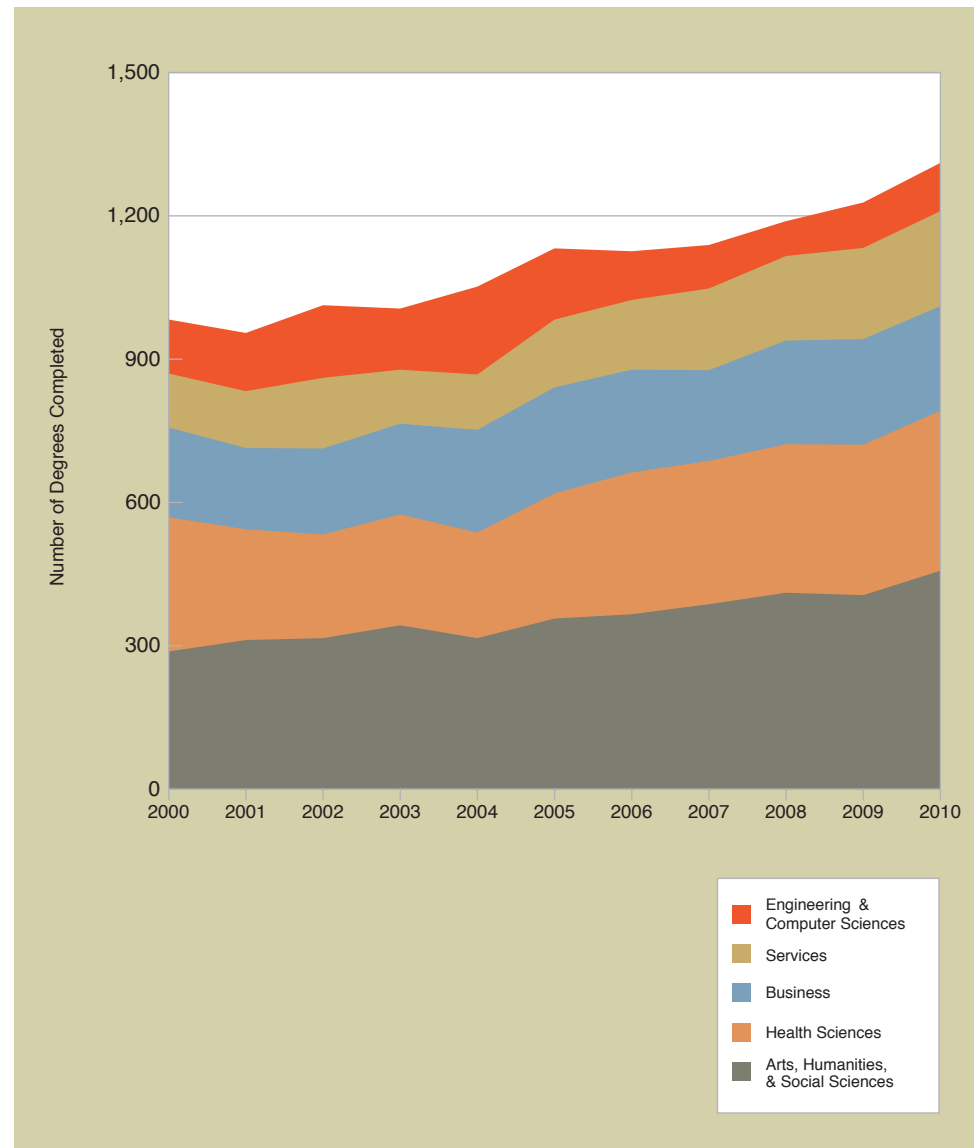
Major Field of Study	Northeast				Massachusetts			
	2000		2010		2000		2010	
	Associate's Completed	Major's Share of Total (Percent)	Associate's Completed	Major's Share of Total (Percent)	Associate's Completed	Major's Share of Total (Percent)	Associate's Completed	Major's Share of Total (Percent)
Arts, Humanities, & Social Sciences	288	26.1	457	31.2	3,130	27.7	3,833	27.0
Health Sciences	281	25.5	335	22.9	2,302	20.4	3,559	25.1
Services	113	10.2	199	13.6	1,216	10.8	2,389	16.8
Business	188	17.0	219	15.0	2,198	19.5	2,250	15.8
Engineering & Computer Sciences	113	10.2	101	6.9	1,561	13.8	1,162	8.2
Education	42	3.8	58	4.0	293	2.6	442	3.1
Science & Mathematics	36	3.3	25	1.7	231	2.0	260	1.8
Legal	31	2.8	35	2.4	189	1.7	117	0.8
Other	11	1.0	34	2.3	179	1.6	185	1.3
<b>Total</b>	<b>1,103</b>	<b>100.0</b>	<b>1,463</b>	<b>100.0</b>	<b>11,299</b>	<b>100.0</b>	<b>14,197</b>	<b>100.0</b>



## ANNUAL COMPLETIONS BY TOP FIVE ASSOCIATE'S DEGREE MAJORS IN THE NORTHEAST REGION (2000-2010)

For the most part, the largest fields of study for Associate's Degrees in the Northeast region have been growing consistently over the course of the decade. After an initial decline in Business degrees in 2001 and Health Science degrees in 2001 and 2002, four of the five largest Associate's Degree majors in the region have had more completions nearly every year. The exception has been Engineering & Computer Sciences. After beginning the decade with completions growing at an annual rate of 13.0 percent between 2000 and 2004, the number of completions in the field declined at an annual rate of 20.6 percent between 2004 and 2008. Despite recent increases in Associate's Degrees in Engineering & Computer Science, the number of degrees completed in 2010 was fewer than those completed in 2000.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.



## BACHELOR'S DEGREES AWARDED BY MAJOR FIELD OF STUDY (2000-2010)

Almost 60 percent of the Bachelor's Degrees produced by institutions in the Northeast region are in two fields of study: Arts, Humanities, & Social Sciences (35.2 percent) and Business (23.4 percent). The share of Business graduates in the region is somewhat higher than the share in Massachusetts as a whole (23.4 percent versus 19.1 percent). In contrast to Massachusetts, the institutions in the region have a slightly lower concentration of degrees in the Science, Engineering, Technology, and Mathematics (STEM) fields, due to a smaller share of Science & Mathematics degrees. However, Engineering & Computer Science degree completions

in the Northeast region increased at an annual rate of 4.1 percent and accounted for nearly 50 percent of the additional 271 degrees granted statewide between 2000 and 2010. In the region and Massachusetts, the only Bachelor's Degree major to decline over the decade was Education.

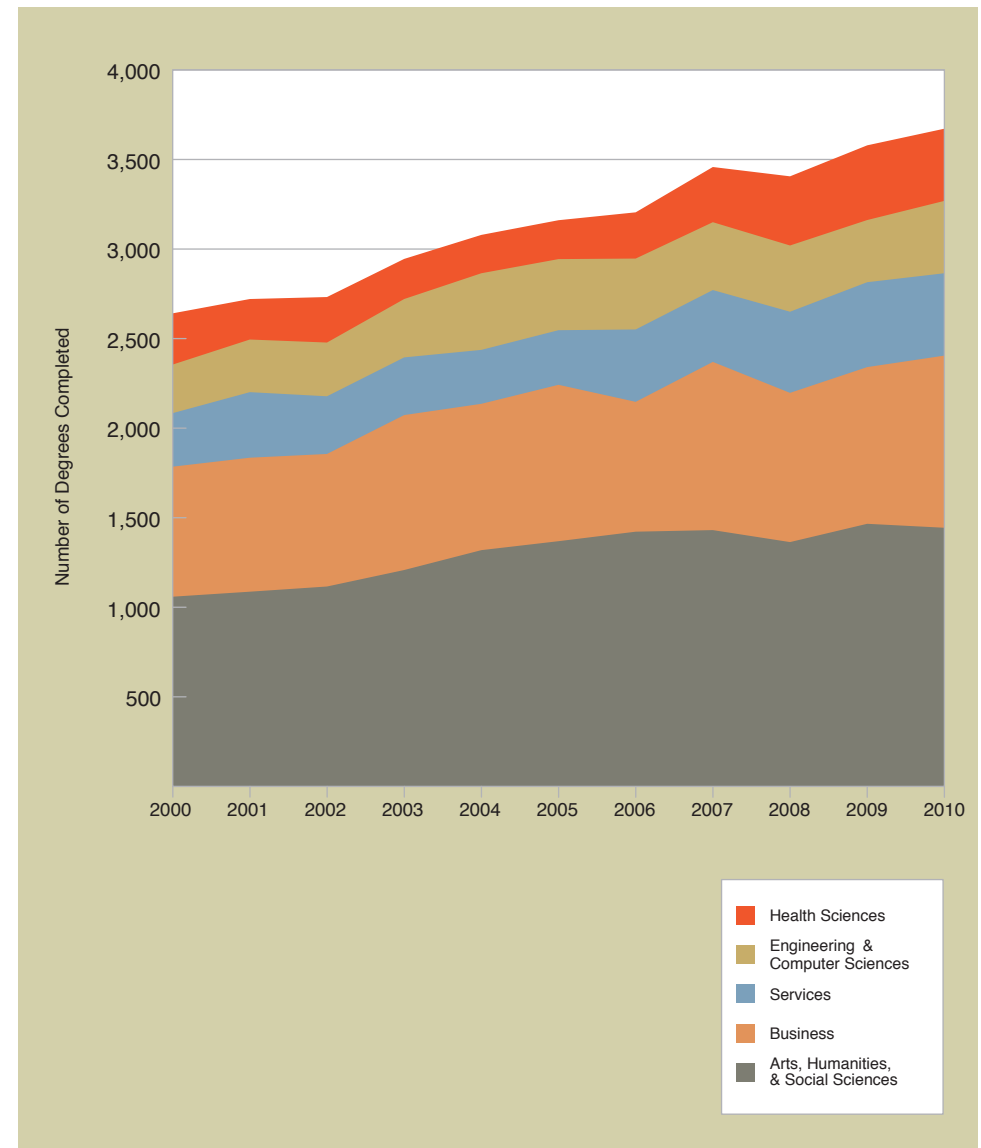
**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.

Major Field of Study	Northeast				Massachusetts			
	2000		2010		2000		2010	
	Bachelor's Completed	Major's Share of Total (Percent)	Bachelor's Completed	Major's Share of Total (Percent)	Bachelor's Completed	Major's Share of Total (Percent)	Bachelor's Completed	Major's Share of Total (Percent)
Arts, Humanities, & Social Sciences	1,059	35.0	1,444	35.2	18,891	44.6	23,405	44.8
Business	726	24.0	961	23.4	7,596	17.9	9,990	19.1
Science & Mathematics	168	5.6	249	6.1	3,818	9.0	5,054	9.7
Engineering & Computer Sciences	271	9.0	404	9.9	3,726	8.8	3,997	7.7
Health Sciences	286	9.4	403	9.8	2,938	6.9	3,589	6.9
Services	299	9.9	460	11.2	2,495	5.9	3,170	6.1
Education	218	7.2	174	4.2	1,922	4.5	1,362	2.6
Legal	0	0.0	0	0.0	176	0.4	190	0.4
Other	0	0.0	6	0.1	797	1.9	1,466	2.8
Total	3,027	100.0	4,101	100.0	42,376	100.0	52,223	100.0

## ANNUAL COMPLETIONS BY TOP FIVE BACHELOR'S DEGREE MAJORS IN THE NORTHEAST REGION (2000-2010)

From 2000 to 2010, the number of Bachelor's Degrees in the Arts, Humanities, & Social Sciences fields awarded by institutions in the Northeast region grew steadily. In contrast, the number of Business degrees ebbed and flowed over the course of the decade. From 2000 to 2002, the number of Business degrees produced in the region was consistently around 700, but it then jumped to more than 800 from 2003 to 2005. In the remaining years of the decade, the number of degrees dropped to a decade low of 725 in 2006 before reaching a decade high of 961 in 2010. Engineering & Computer Sciences, on the other hand, grew rapidly through the first half of the decade and reached its peak number of completions in 2004. Health Science majors took the opposite route, remaining fairly stable in the first half of the decade but then showing more robust growth in the second half, resulting in peak completions in 2009.

**Source:** National Center for Education Statistics, Integrated Post Secondary Education Data System.





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All bands of color align on front-to-spine-to-back.  
Spine will be 3/16" or larger as you see fit. Type is centered left and right and 1/2" in from top and bottom.  
Magenta box does not print.

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