

# Labor Market Developments in the North Shore Workforce Area

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### **Appendix A:**

Detailed tabulations on the total population, working-age population, labor force, and the labor force participation rate in the North Shore region, Massachusetts, the New England region, and the United States.

### **Appendix B:**

Detailed tabulations on the wage and salary employment levels and trends in the North Shore workforce area and Massachusetts.

### **Appendix C:**

Detailed tabulations on the occupational staffing patterns of industries and the educational attainment of workers by industry and occupation in the North Shore area and Massachusetts.

# **Total Population, Working-Age Population, and the Labor Force of the North Shore Workforce Area**

## ***Introduction***

The employment, earnings, and income of the residents of an area represent the level of economic prosperity enjoyed by them. Each one of these measures is determined in the labor market. Employment and earnings are directly determined in the labor market. The employment rate measures an individual's success in gaining access to the labor market, which is also the source of their earnings. The third measure of economic prosperity, total income, is measured as the sum of the many sources of income including wages and salaries, self employment income, public assistance income, interest, dividends, rental income, retirement income, and other miscellaneous sources of income. Although the total income is derived from many sources, earnings from the labor market are the single biggest source of income for most people. Analysis of the 2006 ACS data by the authors indicates that among all working age individuals, earnings comprise 72 percent of total personal income. If the elderly population (65 years or older) is excluded, earnings account for 86 percent of personal income. Thus, the level of income for most individuals is closely related to the level of their earnings in the labor market.

The condition of the labor market, including the employment and earnings prospects of workers, is determined by the demand and the supply for labor. The demand for labor is expressed by the number of jobs in an area and the supply of labor is measured by the size of the workforce of an area. Beneath these very broad measures of labor demand and supply are a wide variety of nuanced measures that provide insights into the labor and job quality issues in the labor market, different sources of labor demand and labor supply, labor shortages and surpluses, and the state of demand and supply in different segments of the labor markets in a region. These factors are the key determinants of the labor market outcomes for individuals.

This section presents a thorough analysis of the condition of labor supply in the North Shore region as measured by the total resident population, the working-age

population and the labor force.<sup>1</sup> Selected comparisons are presented between the North Shore and the entire state of Massachusetts, the New England region, and the nation. It is organized to begin with a broad overview of the population developments in the region during the first half of this decade, between 2000 and the middle of the decade (2005-2006). The analysis focuses on the changes in size and composition of the total population as well as the working-age population. Although the working-age population is more immediately relevant to a discussion of the labor market, analysis of the changes in the total population sheds light on the changes to be expected in the future workforce of the region. This is followed by a discussion of the size and composition of the labor force in the North Shore area and the degree of labor force attachment among different subgroups of the region's working-age residents. The final segment presents a discussion of the journey to work of residents of other areas to work in the North Shore area, and the journey to work of North Shore area residents to work outside the North Shore area.

The findings presented in this section are based upon our analysis of the 2000 decennial census data and the 2005 and 2006 American Community Survey data. The 2000 decennial census data analysis is based upon the set of data known as the Public Use Microdata Sample (PUMS) data files. The 2000 PUMS data are based on the decennial census long-form questionnaire. These files are the actual responses to the long-form census questionnaire. Therefore these files can be used to produce any tabulation of the census data. The census long-form questionnaire was administered to a large sample of households—1 in 6 households or 16 percent of all households in the nation. The North Shore data analysis is based upon the responses of members from over 8,500 households.

The mid-decade analysis is based upon a relatively new data set developed by the U.S. Census Bureau called the American Community Survey or the ACS. The ACS is a nationwide survey conducted by the U.S. Census Bureau that will replace the decennial census long form survey starting in 2010. The ACS began as a demonstration in 1996 and culminated in full implementation in 2005. The 2005 ACS survey and every annual ACS

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<sup>1</sup> Detailed data tabulations for the trends in the total population, working-age population, the composition of the labor force, and the labor force participation rates for the North Shore area, Massachusetts, the New England region, and the nation are provided in Appendix A.

survey thereafter will be implemented in every county of the nation with an annual sample of about three million housing units.

The ACS provides data for individuals on their demographic and socioeconomic characteristics, labor market experiences, educational attainment and school enrollment status, and earnings and incomes for all states, as well as for all cities, counties, metropolitan areas, and population groups of 65,000 people or more. Although the ACS sample sizes are quite large, we have combined ACS data files from two years to secure sufficiently large sample sizes to produce reliable estimates at the level of the local workforce area. Estimates presented in this section for the North Shore area are based upon the responses from nearly 3,600 households.

All estimates in this section are confined to the civilian non-institutional household population. Members of the armed forces are excluded from all analysis in this section. Also excluded are residents of institutional facilities such as nursing homes, correctional institutions, and juvenile institutions where residents are under the formal supervision or custody of the institution and residents of non-institutionalized facilities such as college dormitories and other group homes.

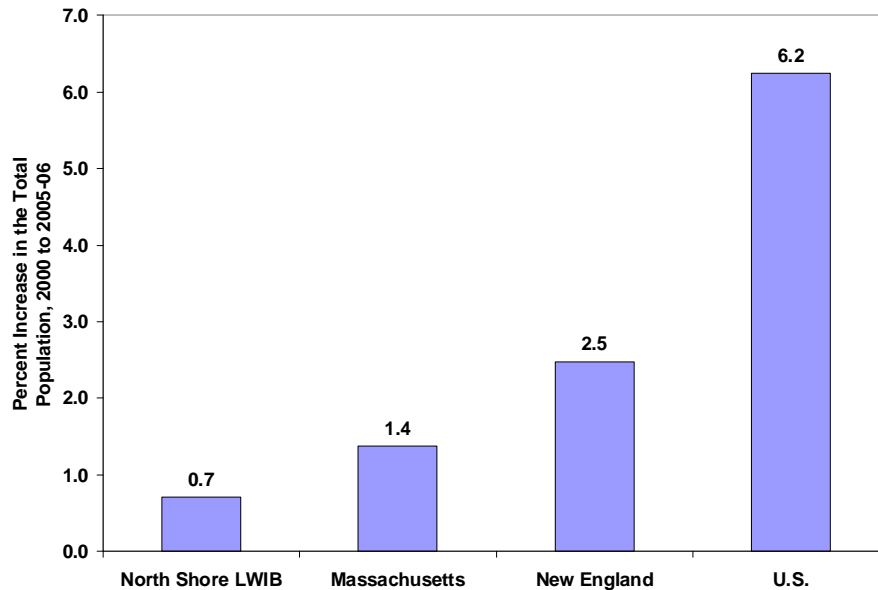
### ***Trends in the Total Population of the North Shore Area, 2000 to 2005-06***

At mid-decade, the North Shore area was home to 448,500 individuals, up from 445,300 in 2000, representing an increase of 3,100 or less than 1 percent (0.7 percent). The population grew at a much slower pace in the North Shore area compared to the state, the New England region, and the nation. Over the six year time period, the population increased by 1.4 percent in Massachusetts, 2.5 percent in New England, and 6.2 percent in the nation.

All of the growth in the population in the North Shore area occurred among men while the number of female residents in the region declined. The region's male population increased by 2.4 percent over the six year time period while the female population declined by 1 percent. This pattern of gender-based difference in the overall population growth is characteristic of an immigrant-based population growth. A typical immigrant to the United States consists of a single male who enters the country and

establishes himself with a job and some economic security before he forms a family or brings his family from his native country to the United States. How much of the

Chart 1:  
Percent Change in the Total Population, 2000 to 2005-06



Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

North Shore region's population growth of 3,100 residents is attributable to immigration? At the time of the 2005-2006 ACS surveys, the region was home to 15,320 new immigrant residents who had entered the United States between 2000 and 2005-2006. Therefore, not only was all of the region's population growth fueled by immigrants, but in the absence of the arrival of these new immigrants to the North Shore communities, the region would have seen a population decline of 12,200 or nearly 3 percent.

The ratio of new immigrants and the change in the total population of an area measures the proportion of the population growth that is attributable to immigration. In the North Shore communities, new immigrants accounted for nearly 490 percent of the region's population growth. New immigrants also accounted for all of the population growth in Massachusetts (305 percent) and New England (132 percent) and about 54 percent of the nation's population growth between 2000 and 2005-06. Thus, the contribution of immigrants to the population growth was sizable in the entire state, the New England region and the nation, albeit not as large as in the North Shore region.

Table 1:  
Immigrant Share of Total Population Growth, 2000 to 2005-06

	North Shore Area	Mass.	New England	U.S.
Total Population, 2000	445,327	6,127,254	13,450,470	272,837,866
Total Population, 2005-06	448,457	6,211,127	13,783,286	289,865,830
Absolute change in the total population, 2000 to 2005-06	3,130	83,873	332,816	17,027,964
New immigrants arrived between 2000 and 2005-06	15,316	255,711	439,955	9,124,927
Share of population growth from new immigrants	489%	305%	132%	54%

Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Population trends by race-ethnicity and immigration status also reflect the important role of immigration in the region. All of the region's population growth came

Table 2:  
Change in the Total Population of the North Shore Area  
by Selected Characteristics, 2000 and 2005-06

	2000	2005-06	Absolute Change	Relative Change
Total	445,327	448,457	3,130	0.7%
<u>Gender</u>				
Male	212,576	217,769	5,193	2.4%
Female	232,751	230,688	-2,063	-0.9%
<u>Nativity Status</u>				
Born abroad	47,140	57,834	10,694	22.7%
Native born	398,187	390,623	-7,564	-1.9%
<u>Race-Ethnicity</u>				
White, non-Hispanic	391,980	384,682	-7,298	-1.9%
Black, non-Hispanic	9,872	11,296	1,424	14.4%
Hispanic	25,837	34,401	8,564	33.1%
Other, non-Hispanic	17,638	18,078	440	2.5%

Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

from increasing numbers of race-ethnic minorities. In fact, the number of non-Hispanic White residents declined by 7,300 or 2 percent. At the same time, the region saw a 14



percent increase in its non-Hispanic Black population and one-third increase in its Hispanic population. The foreign-born population increased by 22 percent while the native-born population declined by 2 percent.

The population growth patterns across age groups in the North Shore region are similar to the entire state of Massachusetts and the New England region as well as the nation. The number of residents in the region under age 45 years declined by 14,500 or over 5 percent. Over the same time period, there were nearly 17,700 more residents aged 45 years and older, representing a relative increase of 10 percent over the 6 year time period. The region had fewer residents under 16 (-3.6 percent), between 25 and 34 (-11 percent), and between 35 and 44 (-9 percent). The only age group under 45 that grew in numbers was 16- to 24-year olds who were born between 1981 and 1990 and are members of the echo boom generation.<sup>2</sup> The number of 16- to 24-year old residents increased by nearly 5 percent in the North Shore area.

Table 3:  
Change in the Total Population of the North Shore  
Area by Age, 2000 and 2005-06

Age Group	2000	2005-06	Absolute Change	Relative change
Total	445,327	448,457	3,130	0.7%
Under 16	93,759	90,382	-3,377	-3.6%
16-24	42,577	44,604	2,027	4.8%
25-34	56,919	50,817	-6,102	-10.7%
35-44	77,912	70,848	-7,064	-9.1%
45-54	68,791	71,223	2,432	3.5%
55-64	42,095	55,449	13,354	31.7%
65+	63,274	65,136	1,862	2.9%
Under 45	271,167	256,651	-14,516	-5.4%
45 and older	174,160	191,808	17,648	10.1%
55 and older	105,369	120,585	15,216	14.4%

Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

<sup>2</sup> The Echo Boom generation roughly corresponds with individuals born between the early 1980s and late-1990s. The total number of births during the Echo Boom years peaked in 1989 and 1990—children who would have been 16 years old in 2005 and 2006. This generation is called the echo boom generation since many members of the generation are children of the baby boom generation.

Among the 45+ age group, the sharpest growth occurred among the 55- to 64-year old population. The number of 55- to 64-year old residents in the North Shore area increased from about 42,000 in 2000 to about 55,000 in 2005-06, representing an increase of 13,400 or 32 percent. The growth in this age group represents the aging of the baby boom generation. In the year 2000, members of the baby boom generation (born between 1946 and 1964) were between the ages of 36 and 54. By 2005-06, they were between 41 and 60 years old resulting in a large swell in the 55-60 year old population in the years 2005-06. The number of North Shore area residents who were 55 years or older increased by over 15,200 over the six year time period or by 14 percent.

The rate of population growth has slowed down in the nation, the New England region, and the state of Massachusetts. The North Shore region has followed this pattern of a slower population growth. However, the rate of population growth in the area was considerably slower than that of the other three areas. Furthermore, the region was very dependent on immigration to increase its population—even more than the state, the New England region, and the nation. As discussed previously, in the absence of new immigration, the North Shore population would have declined by nearly 3 percent. There were wide variations in the population trends among race-ethnicity, nativity and age subgroups of the population. A decline in the number of White, native-born, and younger (under 45 years old) residents was accompanied by an increase in the number of Hispanic, Black, foreign-born, and older residents.

### ***Trends in the Working-Age Population of the North Shore Area, 2000 to 2005-06***

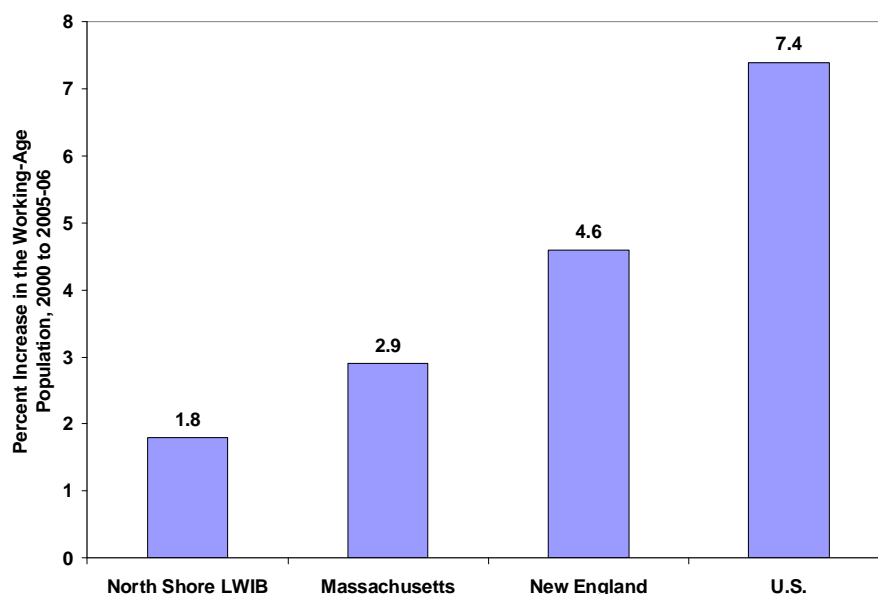
The working-age population consists of individuals who are 16 years or older. The discussion so far has focused on the total population. The working-age population is a subset of the total population and represents the pool from which the current labor supply is drawn. Trends in the size and composition of the working-age population provide important insights into the changes in the potential labor supply of the region.

There were a total of 357,800 working age residents in the North Shore area during 2005-06. This is up from 351,600 in 2000 and represents an increase of just 6,226 working-age residents or 1.8 percent over the 6 year time period. The region had a higher

rate of growth of the working-age population than the rate of growth of its total population. Underlying this difference in growth rates was the decline in the region's population under 16 years old. As noted in the previous section, the North Shore communities saw a 3.5 percent decline in the number of residents under age 16 between 2000 and 2005-06.

When compared to the state of Massachusetts, the New England region, and the nation, the North Shore area had a below average rate of growth of its working age population over the 6 year time period between 2000 and 2005-06. Statewide, the working-age population increased by nearly 3 percent, a rate of increase that was nearly 60 percent higher than the growth rate in the North Shore area. The region and the nation did considerably better in adding working-age residents than the North Shore area or Massachusetts. New England added nearly 477,400 working-age residents between 2000 and 2005-06, representing a 4.6 percent growth rate. The nation saw its working-age population increase by 15.4 million residents, yielding a rate of growth of 7.4 percent over 6 years.

Chart 2:  
Percent Change in the Working-Age Population, 2000-2005/06



Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Similar to the trends in the total population growth in the region, the growth in the North Shore region's working-age population sharply varied by gender, race-ethnicity, and nativity status. The male working-age population increased by 3.5 percent whereas the female population increased by only 0.3 percent. The increase in the region's male working-age population (+5,726) accounted for 92 percent of the 6,226 additional working-age residents of the North Shore communities. As we have noted in the previous section, this type of gender imbalance in population growth is widely prevalent in areas where the change in the population is driven by immigration. The immigrant working-age population in the North Shore communities increased by nearly 11,000 persons or 25 percent at the same time as the region's native-born population declined by 4,500 or 1 percent. Over a period of 6 years between 2000 and 2005-06, the share of immigrants in the working-age population of the North Shore region increased from 12.5 percent to 15.2 percent.

Table 4:  
Change in the Working-Age Population of the North Shore Area  
by Selected Characteristics, 2000 and 2005-06

	2000	2005	Absolute Change	Relative Change
Total	351,568	357,794	6,226	1.8%
<u>Gender</u>				
Male	164,502	170,228	5,726	3.5%
Female	187,066	187,566	500	0.3%
<u>Nativity Status</u>				
Born abroad	43,807	54,528	10,721	24.5%
Native born	307,761	303,265	-4,496	-1.5%
<u>Race-Ethnicity</u>				
White, non-Hispanic	315,487	312,003	-3,484	-1.1%
Black, non-Hispanic	7,022	8,740	1,718	24.5%
Hispanic	17,050	24,223	7,173	42.1%
Other, non-Hispanic	12,009	12,827	818	6.8%

Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Trends in the race-ethnicity of the working-age population in the North Shore area also reflect the high levels of immigration. The White working-age population declined by 3,500 individuals or 1 percent at the same time as the Hispanic working-age

population in the region increased by 7,200 residents or 42 percent. The number of working-age Black residents increased by 1,700 or 25 percent over the 6 year time period.

The heavy reliance of the region on immigrants to increase its working-age population is evident in the proportion of the region's working-age population growth that consists of new immigrants. We have defined new immigrants as those foreign-born individuals who entered the United States at any time between 2000 and 2005-06. In the North Shore communities there were 13,162 recent immigrants of working age who had immigrated to the U.S. between 2000 and 2005-06. Over the same time period, the region's working age population increased by only 6,200, which means that recent immigrants accounted for over 211 percent of the net growth in the working age population of the North Shore area. In the absence of immigration, the region would have seen a 2 percent decrease in its working-age population instead of the actual increase of 2 percent.

Table 5:  
Immigrant Share of Working-Age Population Growth, 2000 to 2005-06

	North Shore Area	Mass.	New England	U.S.
Total working-age population, 2000	351,568	4,788,971	10,471,904	208,782,718
Total working-age population, 2005-06	357,794	4,925,682	10,949,262	224,204,853
Absolute change in the working-age population, 2000 to 2005-06	6,226	136,711	477,358	15,422,135
New working-age immigrants arrived between 2000 and 2005-06	13,162	210,010	354,237	7,293,453
Share of working-age population growth from new immigrants	211.4%	153.6%	74.2%	47.3%

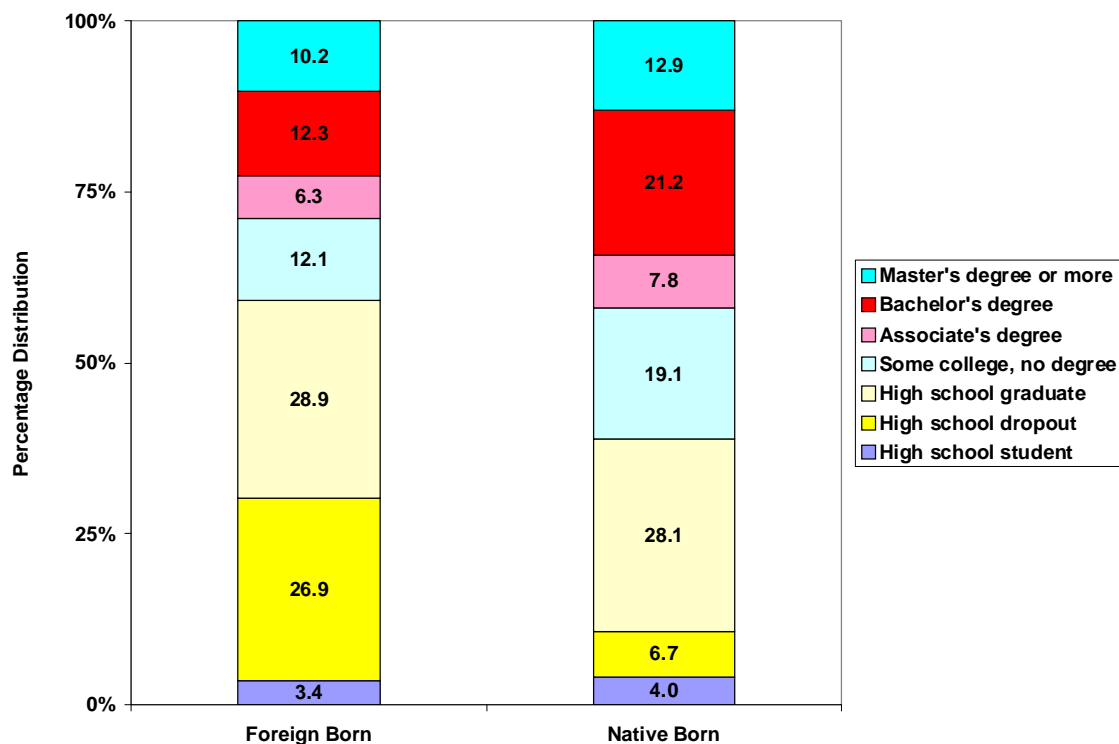
Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Immigrants also played an important role in the growth of the working-age population in the state, the New England region, and the nation. All of the growth of the state's working-age population during the 6 year time period was from immigrants. Nearly 154 percent of the working-age population growth in Massachusetts is attributable to immigration. In the absence of immigration, the state would have witnessed a decline in its working-age population. In New England and the nation, although new immigrants

did not account for the entire growth in the working-age population, they made sizable contributions to it. New immigrants comprised three-quarters of the growth of the working-age population of New England and one-half in the nation between 2000 and 2005-06.

The educational characteristics of working-age immigrants who reside in the North Shore communities are very different from the educational characteristics of native born residents of these communities. Immigrant residents are considerably more likely to have dropped out of high school. Nearly 27 percent of immigrant residents of working age were high school dropouts, a ratio that was nearly 4 times as high as that among their native born counterparts (7 percent). Both groups of working-age residents had about the same share of high school graduates. Postsecondary education was considerably more common among native-born individuals than among their foreign-born counterparts.

Chart 3:  
Percentage Distribution of the Working-Age Foreign-Born and Native-Born Residents of  
the North Shore Area by Educational Attainment, 2005-06



Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Over 61 percent of native born working age residents of the North Shore area had completed some postsecondary education or earned a postsecondary degree compared to only 40 percent of their foreign-born counterparts. The share of those who had completed some postsecondary education without earning a postsecondary degree was nearly 1 out of 8 among foreign-born residents compared to 1 out of 5 among native-born residents. Considerably large differences between the two groups were evident in the share of bachelor's degree holders—only 12 percent among foreign-born residents versus 21 percent among the native-born. Native-born individuals were also more likely than immigrant residents of the North Shore communities to have earned a Master's or higher degree but the difference was not as large (13 percent versus 10 percent). The share of Associate's degree holders among native-born residents was 1.5 percentage points higher than among immigrant residents.

These differences in the educational attainment of immigrant and native-born residents of the North Shore area are not unique to the region. Similarly large differences exist between the educational attainment of the native born and immigrant populations in the state, the New England region and the nation. The educational deficits are also similarly severe among *new* immigrants in the North Shore communities as well as the state and the nation. These educational deficits of immigrant residents of the North Shore area means that many cannot be a source of labor supply to jobs that require post secondary education or training, or college labor market jobs. Although immigrants have managed to shore up the number of working-age residents and therefore the potential labor supply in the area, many immigrants will not meet the qualifications to work in many of the industries and occupations in the region without considerable investments in their education, skills, and literacy proficiencies.

Although the educational deficits of immigrant residents of the North Shore area are sizable, their educational attainment reveals that there is a sizable share of immigrants with college degrees including Master's degrees or higher levels of education. This bi-modal distribution of immigrants across the educational spectrum is characteristic of immigrants in the New England region as well as the nation, although it is more pronounced in the New England states than in the nation.

A look at the trends in the overall educational attainment of the working-age residents of the North Shore area reveals declines in the number of high school dropouts and increases at the higher educational levels. This represents the continuing improvement in the educational attainment of the nation's and the state's population. Although immigrants have played an important role in the increasing the population of the North Shore area, the majority of the working-age population of the area (85 percent) still consists of native-born individuals and their education is more heavily represented in the educational attainment of the entire working-age population.

The number of high school dropouts in the working age population of the North Shore region declined by 5,800 individuals, representing a 14 percent decline. There was a small increase in the number of high school graduates and a small decline in the number of working-age residents who had completed some college but had failed to earn a degree. This group may consist of those who earned a postsecondary certificate or those

Table 6:  
Trends in the Working-Age Population of the North Shore Area and Massachusetts, by  
Educational Attainment, 2000 to 2005-06

<u>Educational Attainment</u>	<u>2000</u>	<u>2005-06</u>	<u>Absolute Change</u>	<u>Relative Change</u>
<b>North Shore Area</b>				
High school dropout	40,943	35,076	-5,867	-14.3%
High school graduate	98,166	101,050	2,884	2.9%
Some college, no degree	66,011	64,503	-1,508	-2.3%
Associate's degree	26,292	27,125	833	3.2%
Bachelor's degree	66,869	71,126	4,257	6.4%
Master's degree or more	37,210	44,843	7,633	20.5%
<b>Massachusetts</b>				
High school dropout	656,163	538,112	-118,051	-18.0%
High school graduate	1,264,999	1,354,099	89,100	7.0%
Some college, no degree	857,450	824,373	-33,077	-3.9%
Associate's degree	328,013	351,002	22,989	7.0%
Bachelor's degree	895,926	978,931	83,005	9.3%
Master's degree or more	581,590	676,980	95,390	16.4%

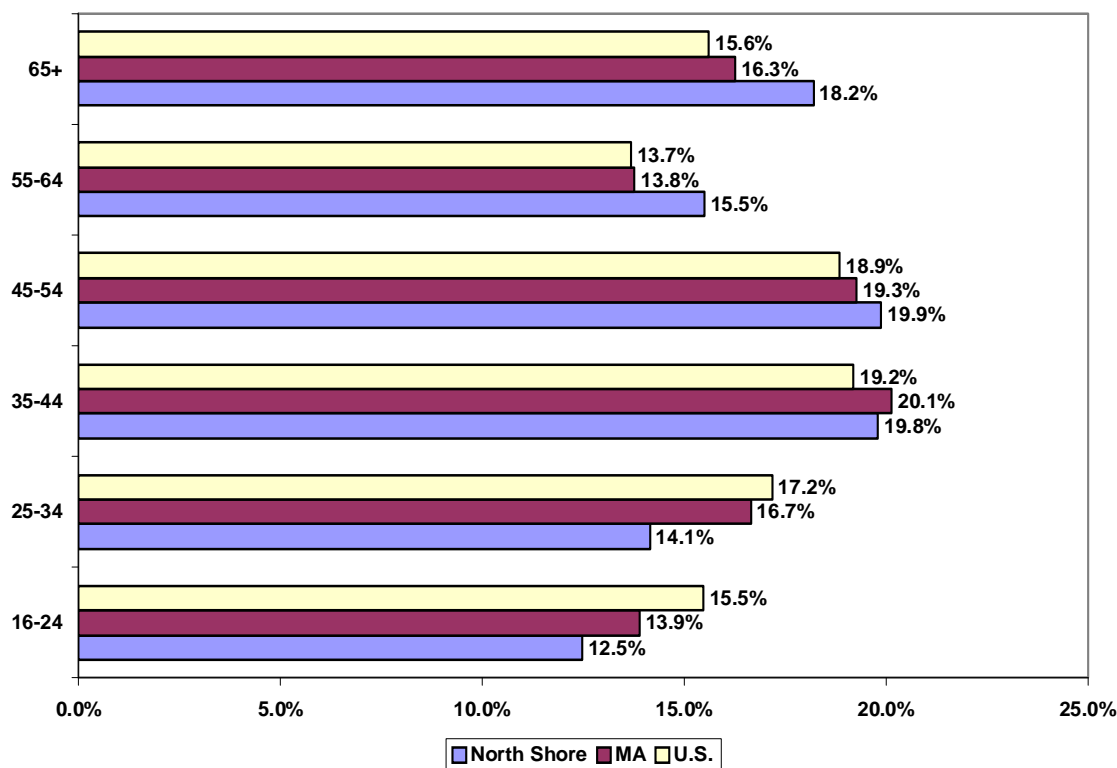
Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.



who may have attended a college but failed to graduate with a degree. This group is quite large, representing 18 percent of the working age residents of North Shore in 2005-06, more than 2.3 times as large as the number of residents with an Associate's degree. The latter group increased by 833 individuals or 3 percent. The single largest increase occurred among working-age residents with a Master's degree or higher level of education. The number of working age residents in the North Shore area with a post-baccalaureate degree increased by 7,600 or one-fifth. Residents with a bachelor's degree increased by 6 percent. Although the educational trends among the working-age residents of the entire state of Massachusetts were similar to those of the North Shore area, the magnitude of change was different. Compared to the North Shore communities, the state saw a larger decline in the number of high school dropouts (18 percent versus 14 percent), a larger increase in high school graduates and individuals with Associate's degrees (7 percent versus 3 percent each), a larger increase in residents with a bachelor's degree (9 percent versus 6 percent), and a smaller increase in the number of residents with a master's or higher degree (16 percent versus 20 percent).

Our discussion of the trends in the population by age in the previous section reveals that a large part of the increase in the population of the North Shore area occurred among residents who were 45 years or older, with especially large increases in the 55+ population of the region. What is the impact of these trends on the age composition of the working age population in the North Shore area? In 2005-06, the working-age population of the North Shore area had higher shares of older persons and lower shares of younger residents compared with Massachusetts and the nation. The elderly population (65+) represented 18 percent of the working-age population in the North Shore area compared to 16 percent in Massachusetts and the nation. The pre-retirement cohort, 55-64 years old, had a share of 15 percent among the working age residents of the North Shore area compared to 14 percent in the state and the nation. Nearly 34 percent of the working age population in the North Shore was 55 years or older compared to 30 percent in the state and 29 percent in the nation. In contrast, only 27 percent of the working-age residents of the North Shore area were under age 35 compared to 31 percent in the state and nearly one-third in the nation. The North Shore region is home to a much larger share of older residents and a much smaller share of younger residents than the state and the nation.

Chart 4:  
Percentage Distribution of the Working-Age Population by Age, 2005-06



Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

### ***Characteristics of the Resident Labor Force of the North Shore Area, 2005-06***

The labor force is a subset of the working-age population and although the working-age population represents the *potential* labor supply, the labor force represents the *actual* labor supply available to employers in the region. The measurement of the labor force in this section is based upon the data derived from the American Community Survey (ACS) which has a set of questions that are administered to members of households who are of working age (16 years and older) to determine their labor force status. The labor force status of respondents is determined from their answers to questions regarding their activities during the reference week. Respondents are classified into three mutually exclusive groups based upon their answer to questions regarding their labor market activities during the reference week —employed, unemployed, or out of the labor force.

To be classified as employed, the respondent has to meet **any** of the following criteria: worked one hour or more for pay or profit in the prior calendar week, or had a job from which they were temporarily absent due to such reasons as vacation, illness, weather, or an industrial dispute at the work place, or worked without pay for 15 or more hours in a family owned business in the prior week. To be classified as unemployed, the respondent had to meet **all** of the following criteria: The respondent had no work for pay or profit in the reference week of the survey, and had actively looked for work in the past four weeks, and was available to take a job during the reference week of the survey. Respondents who are neither employed nor unemployed are classified as out of the labor force. The labor force is the sum of all individuals in an area who are classified as employed or unemployed using these criteria.

We have measured the labor force from combining the 2005 and 2006 American Community Survey data. Unlike the previous segments of this section where we have presented comparisons of the size and characteristics of the population and the working-age population between 2000 and 2005-06, our analysis of the labor force and the labor force participation rate is confined to just 2005-06 averages from the combined ACS 2005 and 2006 surveys. We have not presented labor force comparisons with the 2000 decennial census because of the difference in the reference period of the two surveys. The 2000 decennial census enumeration was to be on April 1, 2000 and the reference week was the week prior to that date. Unlike the decennial census data that are collected at one point in time, the ACS data are collected year-round resulting in what the Census Bureau terms a ‘revolving reference period.’ The reference week is the week prior to the respondent completing the interview. Because of these differences in the reference week of the two databases, estimates of labor force derived from the two databases are not perfectly comparable.<sup>3</sup>

Nearly 240,000 North Shore residents were participating in the labor force—were employed or unemployed as defined above—during the 2005-06 time period. The gender, nativity status, and race-ethnicity characteristics of these 240,000 labor force members in

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<sup>3</sup> For details on the comparability of the ACS data with other databases, See: “How to Use the Data: Guidance on Comparing 2006 ACS Data to Other Sources” on the U.S. Census Bureau website (<http://www.census.gov/acs/www/UseData/compACS.htm>)

the North Shore area and their counterparts in the entire state of Massachusetts, the New England region, and the nation are presented in Table 7. Even though males accounted for a smaller share of the working-age population, they account for a larger share of the

Table 7:  
Percentage Distribution of the Civilian Labor Force by Gender,  
Nativity Status, and Race-Ethnicity, 2005-06

	North Shore	Massachusetts	New England	U.S.
Total	239,811	3,369,817	7,521,725	148,191,267
<u>Gender</u>				
Male	52.3%	52.0%	52.2%	53.5%
Female	47.7%	48.0%	47.8%	46.5%
<u>Nativity Status</u>				
U.S. born	85.2%	81.3%	85.0%	84.1%
Foreign born	14.8%	18.7%	15.0%	15.9%
Foreign born entered since 2000	3.9%	4.2%	3.3%	3.3%
<u>Race-Ethnicity</u>				
White, non-Hispanic	87.1%	81.2%	83.4%	68.8%
Black, non-Hispanic	2.4%	5.1%	4.9%	11.1%
Hispanic	7.1%	7.0%	6.6%	13.6%
Other, non-Hispanic	3.4%	6.6%	5.1%	6.4%

Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

region's labor force. The reason for that is that males' rates of labor force participation are much higher than women, giving them a higher share in the labor force of an area. Males accounted for about 52 percent of the labor force in the North Shore area, Massachusetts, and the New England region. The nation had a slightly higher concentration of males in its labor force (53.5 percent).

A little less than 15 percent of the North Shore's resident labor force consisted of foreign born individuals. New immigrants comprised 4 percent of the region's resident labor force. Compared to the rest of the state, the North Shore area had a smaller share of immigrants in its resident labor force. Immigrants comprised nearly 19 percent and new immigrants were 4.2 percent of the state's resident labor force. The New England region and the nation were just slightly more likely than the North Shore area to have

immigrants in the resident labor force (15 percent in New England and 16 percent in the nation).

The race-ethnicity of the resident labor force of the North Shore area, Massachusetts, and New England region consisted of a large White majority. Non-Hispanic Whites accounted for 87 percent of the resident labor force of the North Shore area, 81 percent in the state, and 83 percent in the New England region. Nationwide, only 69 percent of the resident labor force consisted of non-Hispanic White individuals. Blacks accounted for only 2.5 percent of the resident labor force of the North Shore region or half as much as Massachusetts and New England (5 percent each) and less than one-fourth as much as the nation (11 percent). Hispanic shares of the resident labor force in the North Shore region, Massachusetts, and New England were half as large as their shares in the nation's labor force (7 percent versus 14 percent).

The age distribution of the labor force reveals that one quarter of the resident labor force of the North Shore region was between the ages of 35 and 44 and another quarter between the ages of 45 and 54. The remaining half of the labor force consists of 29 percent who were 34 years and younger and about 21 percent who were 55 years or older. A comparison of the age distribution of the resident labor force of the North Shore area with that of the state, the New England region, and the nation reveals smaller shares

Table 8:  
Percentage Distribution of the Civilian Labor Force by Age, 2005-06

Age	North Shore	Mass.	New England	U.S.
16-24	11.9%	13.3%	13.5%	15.0%
25-34	17.6%	20.6%	19.2%	21.5%
35-44	24.9%	24.6%	24.5%	24.1%
45-54	24.5%	23.7%	24.5%	23.1%
55-64	16.7%	14.0%	14.4%	12.9%
65+	4.4%	3.8%	3.9%	3.5%

Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

of younger labor force participants and larger shares of older labor force members in the North Shore communities. A little over 29 percent of the region's resident labor force

was under 35 years old compared to 34 percent in the state, 33 percent in the New England region, and almost 37 percent in the nation. The share of older persons (55 and over) was much higher in the resident labor force of the North Shore area (21 percent) than it was in Massachusetts and New England (18 percent each) or the nation (16 percent). Although older persons comprise large shares of the labor force in the nation, the concentrations of older labor force participants were much higher in the North Shore than the state and the nation. Workforce development challenges associated with an older workforce are therefore somewhat more imminent in the North Shore area.

An examination of the education levels of the resident labor force of an area provides insights into the quality of the workforce. An examination of the education of the resident labor force in the North Shore area, the state, the New England region and the nation are presented in Table 9. Only 6 percent of the resident workforce of the North Shore communities had failed to complete a high school education compared to 7 percent in the state and the New England region and nearly 11 percent in the nation. Nearly two-thirds of the North Shore workforce had completed at least some postsecondary

Table 9:  
Percentage Distribution of the Civilian Labor Force by  
Educational Attainment, 2005-06

Educational Attainment	North Shore	MA	New England	U.S.
High school student	2.3%	2.5%	2.7%	2.4%
High school dropout	6.3%	7.2%	7.3%	10.6%
High school graduate	25.9%	25.9%	27.9%	28.6%
Some college, no degree	19.0%	17.3%	18.5%	22.0%
Associate's degree	8.7%	8.1%	8.4%	8.1%
Bachelor's degree	23.3%	22.8%	21.3%	18.2%
Master's degree or more	14.6%	16.1%	14.0%	10.0%
With any postsecondary education	65.5%	64.4%	62.1%	58.4%
Bachelor's or higher	37.9%	39.0%	35.3%	28.3%

Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

education. The share of the labor force with some college education was 64 percent in the state, 62 percent in the New England region and only 58 percent in the nation. Labor

force participants with a bachelor's degree or a higher level of education comprised nearly 38 percent of the North Shore residents in the labor force, a proportion that was lower than the state (39 percent) but higher than the New England region (35 percent) and considerably higher than the nation (28 percent). The resident labor force of the North Shore area had a larger share of Whites, older workers and better educated individuals and a lower share of immigrants in comparison to the shares of these groups in the resident labor force of the state, the New England region, and the nation.

### ***Labor Force Participation Rates of the Residents of the North Shore area, 2005-06***

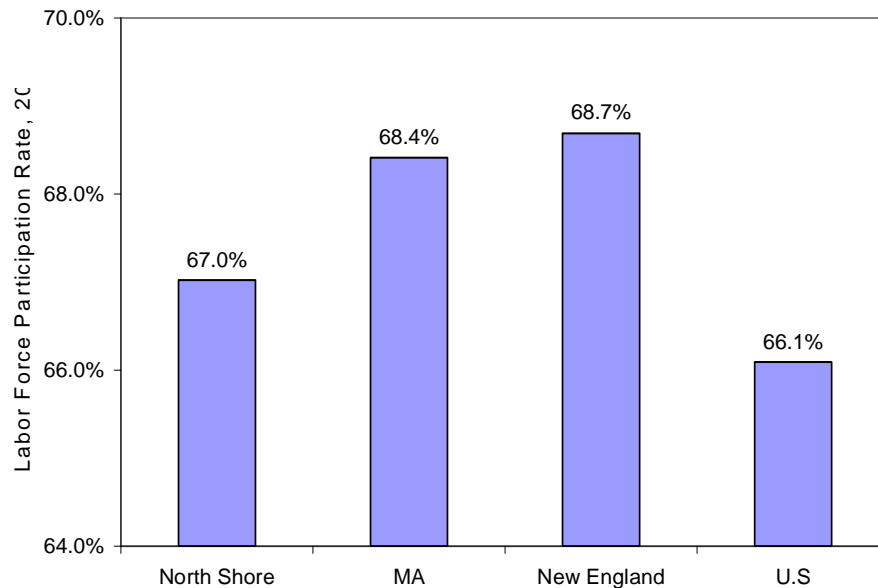
The labor force participation rate is a ratio that measures the proportion of the working population that was in the labor force. It measures the strength of the labor force attachment of the working-age residents of an area. The total working-age population of an area represents the potential labor supply of an area. However, all members of the working age population do not participate in the labor force. The elderly, college students, individual with severe disabilities, and family caregivers are examples of groups of working-age individuals who participate at very low rates in the labor force. There are also many other groups such as poorly educated individuals who have a weaker attachment to the labor market.

The labor force participation rate among residents of the North Shore area was 1.5 to 1.7 percentage points lower than that of the working-age residents of the state of Massachusetts and the New England region and a whole percentage point higher than the nation. These differences are actually quite large. For example, one percentage point difference in the labor force participation rate of the entire working-age population represents nearly 3,600 working-age residents in the North Shore area, 49,300 in Massachusetts, 109,500 in the New England region, and 2.242 million in the nation.<sup>4</sup> Each percentage point difference in the labor force participation rate thus represents a sizable number of people.

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<sup>4</sup> The number of people that each percentage point of the labor force participation rate represents is determined by the size of the working-age population of the area and/or subgroup. Each percentage point of the labor force participation rate represents 1 percent of the size of the working-age population.

Chart 5:  
Labor Force Participation Rates of the Working-Age Population, 2005-06

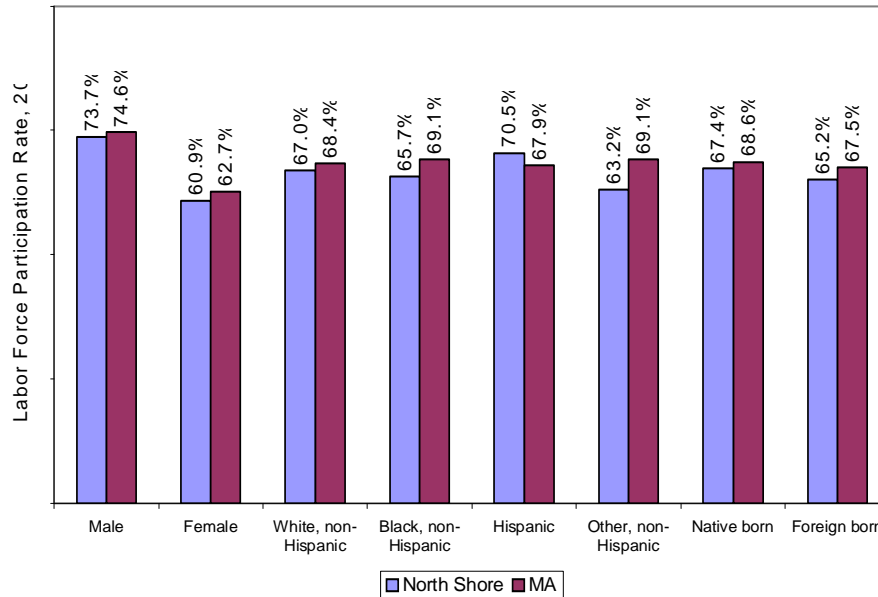


Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

An examination of the labor force participation rate of male and female residents of the North Shore area reveals a wide gap in the labor force attachment of the two sexes. Nearly three-quarters of the male working-age residents of the North Shore area were active labor force participants, compared to only 61 percent of their female counterparts. Similar gender-based differences in labor force participation are noted for the state. Male and female residents of the state had higher rates of labor force participation than their counterparts in the North Shore area. Labor force participation also varied widely across the four race groups. Hispanic residents of the North Shore area had the highest rate of labor force participation. Nearly 71 out of every 100 Hispanic working-age residents of the North Shore area were actively engaged in the labor force. Over two-thirds (67 percent) of the region's White residents and 65.7 percent of its Black residents were in the labor force at the time of the 2005-06 ACS surveys. Across the state, the White and Black labor force participation rates were higher than the North Shore area and the rate of labor force attachment among the state's Hispanic residents was lower than that of their North Shore counterparts. The fourth race-ethnicity group, "other, non-Hispanic" includes Asians, Pacific Islanders, Native Americans, and individuals of other races and



Chart 6:  
Labor Force Participation Rates of the Working-Age Population,  
By Gender, Race-Ethnicity, and Nativity Status 2005-06



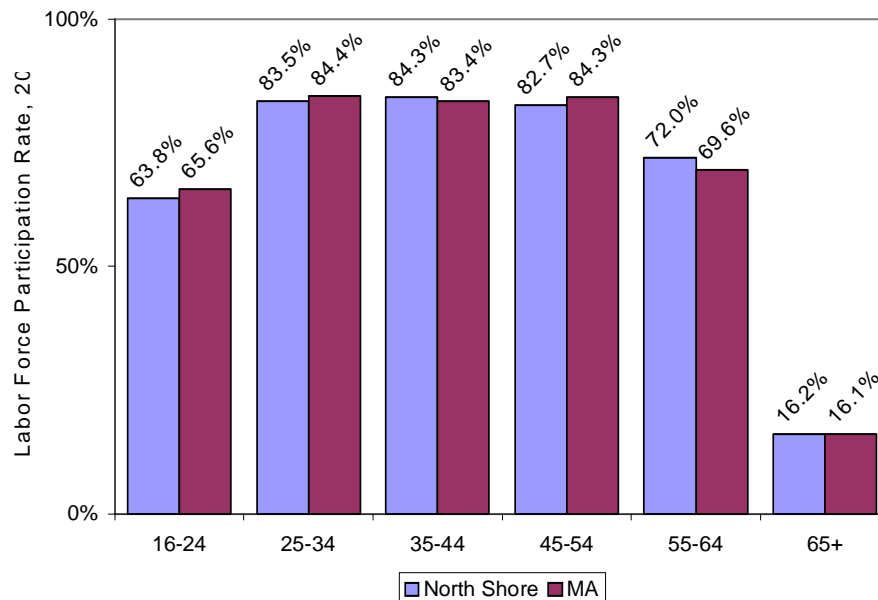
Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

mixed races. In the North Shore area 69 percent of the Other non-Hispanic race residents were labor force participants compared to just 63 percent of this group across the state. Native born residents of the North Shore area and the state were more likely than their foreign born counterparts to participate in the labor force. The gap between the labor force participation rate of native-born and foreign-born residents was larger in the North Shore area (2-percentage points) than the state (one-percentage point).

If one were to plot the labor force participation rate of the population by age, it would have an inverted-U shape. Participation in the labor force is lower among younger age groups and rises with age until the pre-retirement age (55 to 64) when it begins to fall and continues to fall sharply after the traditional retirement age of 65 years. The labor force attachment of residents of the North Shore area and the state follow the same inverted-U shape pattern. However, a comparison of the labor force participation rate in the North Shore area and the state within the same age groups reveals that younger

residents in the North Shore area were less likely and older residents were more likely to participate in the labor force compared to their statewide counterparts.

Chart 7:  
Labor Force Participation Rates of the Working-Age Population, By Age, 2005-06



Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Among the youngest working-age residents, those between 16 and 24 years old, the labor force participation rate was nearly 2 percentage points lower in the North Shore area than in the state. North Shore residents between the ages of 25 and 34 also were slightly less likely (1-percentage point) to participate in the labor force than the same age group across the state. Older North Shore residents in the pre-retirement ages of 55 to 64 years were more likely to participate in the labor force than 55 to 64 year olds in the state. Not only does the North Shore region have a larger share of 55-64 year olds in their working age population, but North Shore residents in this age group were more likely to be in the labor force. Labor force attachment was very weak among the elderly residents in both areas. Only 16 percent of the elderly residents of the North Shore area and the state were active labor force participants in 2005-06. The slow growth in the population of the North Shore region and the overall slowdown in the population growth across the state and the nation may result in the need to tap into this age group for labor supply,

particularly among those under age 70 years. Currently, the transition from work to retirement for most people is akin to turning off a switch. A majority of older workers retire out of their full-time career jobs and exit the labor market entirely.<sup>5</sup> There is a need to provide more transitional employment opportunities to older workers in the form of bridge jobs that provide flexibility, part-time options, and accommodations to older workers with disabilities in order to keep older workers in the labor market even after they quit their full-time career jobs.

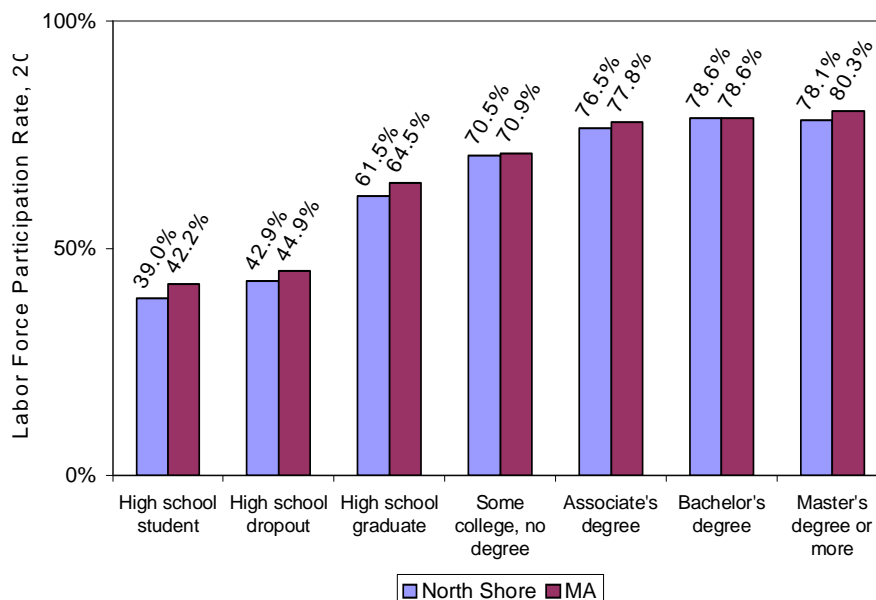
Labor force participation rates rise sharply with educational attainment in the North Shore area and the state. Only 43 percent of the region's working-age residents who had failed to complete high school were in the labor market. The labor force participation rate was nearly 19-percentage points higher (62 percent) among high school graduates. Residents who completed some postsecondary education without earning a degree also enjoyed a higher rate of participation in the labor market. Nearly 71 percent of the residents of the North Shore area with some college but no college degree were active labor market participants. Those who had earned an Associate's degree were 6 percentage points more likely to participate in the labor market than their counterparts who completed some college but had not earned a college degree (77 percent versus 71 percent). Between 78 and 79 percent of North Shore residents with a Bachelor's or a Master's or higher degree were members of the region's labor force in 2005-06.

Residents of Massachusetts had similar trends in the labor force participation rate by educational attainment. A comparison of the rates of labor force participation in each educational group in the North Shore and the state reveals that for most educational groups, residents of the state had somewhat higher rates of labor market participation than their counterparts in the North Shore area. The only exceptions were residents who had earned a Bachelor's degree and residents who had completed some college without earning a degree. These two educational groups had the same rate of labor force participation in the North Shore area as they did in the entire state.

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<sup>5</sup> For details about the labor force attachment and the incidence of mixing work and retirement among older workers, see: Paul E. Harrington, Neeta P. Fogg, and Alison H. Dickson "Demographic Characteristics and Labor Force Attachment of the 55 Years and Older Population in Eastern Massachusetts," Center for Labor Market Studies, Prepared for The New England Council Commission on the Older Workforce, December 2007.

Chart 8:  
Labor Force Participation Rates of the Working-Age Population,  
by Educational Attainment, 2005-06



Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Substantial gaps exist between the rates of labor force participation among educational subgroups of the population. Among poorly educated residents of the North Shore area, large proportions of the potential labor supply are unutilized because of the low rates of labor market participation among these residents. If population growth continues to slow down and the rate of labor market exits increase because of retirement among the aging baby boomers, the region and the state will have to increase the rate of utilization of the potential labor supply among the working-age residents by implementing strategies to increase labor market participation among poorly educated residents and other residents with lower rates of labor force participation such as the elderly and others with a weaker labor market attachment.

### ***Commuting Patterns of the North Shore area, 2005-06***

In most areas, a majority of the labor supply is derived from its residents. This is especially true of larger areas like large states and large regions. However, in examining the sources of the workforce employed in a smaller area it is important to gauge the

inflows of residents of the surrounding communities to work in the area and outflows of the residents of the area to work in the surrounding communities. The 2005 and 2006 ACS surveys contain information on the place of residence of each respondent and the place of work of respondents who were employed at the time of the ACS survey. Utilizing these data on the journey to work, we have produced the rate of exchange of workers between the North Shore area and the surrounding communities, the remainder of the state of Massachusetts, and areas outside the state.

A total of 194,300 individuals identified their place of work within the North Shore area. Out of these 194,300 workers employed in the North Shore area, 141,500 were also residents of the area which means that less than three-quarters (73 percent) of the jobs in the North Shore area were staffed by residents of the North Shore area. Out of

Table 10:  
The Place of Residence of Individuals Employed in the North Shore Area and the Place of Work of Employed North Shore Residents, 2005-06

	Number	Percent of Total
Total number of persons working in the North Shore area...	194,263	100.0%
...that lived in:		
The North Shore area	141,465	72.8%
Merrimack Valley area	15,957	8.2%
The Metro North area	15,576	8.0%
Other parts of Massachusetts	9,746	5.0%
Outside Massachusetts	11,521	5.9%
Total North Shore area residents who were employed...	223,720	100.0%
...that were working in:		
The North Shore area	141,465	63.2%
Merrimack Valley area	9,018	4.0%
Metro North area	29,250	13.1%
Other parts of Massachusetts	38,181	17.1%
Outside Massachusetts	5,807	2.6%

Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

the remaining North Shore area jobs, nearly 16,000 or 8 percent were staffed by residents of the Merrimack Valley area and the same number from the Metro North area. About

9,800 or 5 percent were staffed by residents of other areas of the state and the remaining 11,500 or 6 percent of the workers whose place of employment was the North Shore area were commuters from out of state.

The second half of Table 10 presents a distribution of North Shore area residents who were employed at the time of the 2005-06 ACS surveys by their place of work. A total of 223,700 residents of the North Shore area were employed at the time of the ACS surveys. Only 63 percent of these employed residents worked within the North Shore area. Out of the remaining 82,300 or 37 percent of the region's employed residents, 9,000 or 4 percent commuted to work in the Merrimack Valley area, 29,300 or 13 percent worked in the Metro North area, 38,200 or 17 percent worked in other parts of the state, and the remaining 5,800 or less than 3 percent of the North Shore area's employed residents held jobs outside the state.

The number of employed residents of the North Shore communities exceeded the number of jobs or workers who worked in the area by about 29,500 (223,700 employed North Shore residents versus 194,300 jobs in the North Shore area). A larger number of North Shore area residents commuted to work outside the boundaries of the North Shore area (82,255) than the number of residents of other communities that commuted to work in the North Shore area, making the region a net "exporter" of workers to areas outside its boundaries.

# Measuring Wage and Salary Employment Levels and Trends in the North Shore Workforce Area

## ***Introduction***

Each month the U.S. Bureau of Labor Statistics (BLS), in cooperation with state Labor Market Information Units (LMIU) conducts a survey of business establishments across the nation designed to measure the number of payroll jobs in the non agricultural sector of the nation's labor markets. This cooperative federal/state statistical program, known as the Current Employment Statistics (CES) survey, produces estimates of overall wage and salary employment levels within the nation's private for profit, private non profit and federal, state, and local government organizations (excluding the military) for the nation, each state and for selected metropolitan areas across the nation.<sup>6</sup> The survey also collects information on weekly hours of work and weekly earnings for production and non supervisory workers.<sup>7</sup> The employment estimates include all payroll workers regardless of full-time or part-time status.

The employment data produced through this survey is based on information collected from a large sample of business establishments who regularly report the number of workers who are on the establishment's payrolls during the reference week of the survey. At the national level, monthly estimates are produced for total non agricultural employment level; additionally estimates of employment for a wide range of industries are produced each month. The industry classification of business establishments is determined by state staff who rely on reports by responding firms about the major kinds of products they produce.<sup>8</sup>

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<sup>6</sup> The CES survey includes all workers on government payrolls including workers in the education and health fields who work in government organizations. The Employment and Wages program discussed later in this section of the monograph classifies government workers in health and education in their respective industries, rather than the public administration classification.

<sup>7</sup> For a more complete review of the CES Survey methods see *BLS Handbook of Methods, Chapter 2*, <http://www.bls.gov/sae/790meth.htm>.

<sup>8</sup> A more detailed discussion of the industry classification of business establishments is provided in a subsequent section of this section on analyzing local wage and salary employment data.

The data derived from the CES program does not measure total employment in either the nation or at the state and local level. The scope of the CES program covers only those workers in regular payroll jobs subject to state unemployment insurance laws. In general, this includes those jobs for which a range of federal and state payroll taxes are withheld and workers receive notification of their annual earnings and earnings tax withholdings on IRS form W-2. The CES excludes all those employed in business establishments who do not have a regular employer-employee relationship. Often referred to informally as ‘consultants,’ contract workers, or contingent workers these workers are not subject to many payroll withholding taxes and receive IRS forms 1099 from those firms where they had a consulting relationship over the course of the year. Also included are proprietors of businesses. Together, consultants and proprietors make up the self-employed. The CES program also excludes unpaid family workers, domestic workers in private homes (maids and nannies) as well as those who work in illegal labor market segments often informally referred to as ‘under the table’ work where cash or in-kind payments are made to avoid taxes and illegal immigration status issues.<sup>9</sup> A more detailed discussion of overall employment developments in the state is provided in the section of the monograph that examines the industry, occupational and educational requirements of the state and local economy using more comprehensive employment data derived from a survey of households.

The Department of Labor and Workforce Development in Massachusetts releases statewide CES data each month that measure overall trends in payroll employment in the state as well as trends in employment for each major sector of the state economy and for some larger specific industries in the state. The federal and state-wide based data are seasonally adjusted to remove the effects of regular and predictable changes in payroll employment levels associated with seasonal business patterns. The statewide data thus can be compared on a month to month basis to measure growth and change in payroll employment levels within the state. The monthly data produced through the CES program are subject to annual revisions. These revisions are necessary since the CES

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<sup>9</sup> For a detailed discussion of this emerging labor market segment see: Andrew Sum, Paul Harrington and Ishwar Khatriwada, *New Immigrant Workers in the U.S. 2000 to 2005: Their Estimated Numbers, Gender – Age Characteristics, Legal Status and Their Impacts on Native Born Young Workers*. Center for Immigration Studies, New York, May 2006



sample does not include small business establishments. The CES estimates use special adjustment factors to estimate growth in employment among small firms at the national and state level. Each year the CES data are ‘benchmarked’ or reconciled against complete counts of payroll employment in the state. These benchmarks are derived from unemployment insurance tax filings prepared each quarter by virtually all private sector (both for profit and non profit) business organizations in the Commonwealth.<sup>10</sup> The benchmarking process thus eliminates any potential error associated with sampling or response bias. The size of the annual benchmark revisions can be considerable and can revise statewide and industry employment estimates either upward or downward.

### ***Employment Trends during the Current Economic Recovery***

The Massachusetts economy began its job market recovery beginning in the fourth quarter of 2003. Prior to that time the state had experienced considerable losses associated with the bursting of the high tech bubble and the subsequent national economic recession in early 2001. Indeed, between the first quarter of 2001 through the end of 2003 the state led the nation in its rate of payroll employment decline. The findings provided in Table 1 examine overall trends in non agricultural payroll employment in the nation, New England and Massachusetts between the fourth quarter 2003 and the beginning of 2007. The data reveal that nationally payrolls expanded at a considerably more rapid pace in states outside of New England than for the region as a whole. National payroll employment levels rose by just over 7 million jobs or 5.4 percent over the 13 quarter period. In contrast, New England payrolls grew at just half the pace of the nation, rising by 2.6 percent over the same period of time. Massachusetts saw its payroll employment levels increase from 3.185 million payroll jobs to 3.270 million, an increase of about 85,000 jobs over the period. The state’s pace of new job creation was about the same as that of the region, but again only about one half that of the nation.

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<sup>10</sup> The Federal-State *Employment and Wages* program uses these taxes filings to create a very large range of detailed employment estimates at the state and local level that are generally available with a 9 month lag. The data from this program are discussed in greater detail in a subsequent section of this monograph

Table 1:  
Trends in Total Non Agricultural Wage and Salary Employment Levels in Massachusetts,  
New England and the Nation, 4<sup>th</sup> Quarter, 2003 to First Quarter 2007  
(Seasonally Adjusted, in 000s)

	4th Quarter 2003	1st Quarter 2007	Absolute Change	Relative Change
Connecticut	1,644.0	1,690.7	46.7	2.8%
Maine	610.0	617.1	7.2	1.2%
Massachusetts	3,185.0	3,270.4	85.4	2.7%
New Hampshire	622.0	645.7	23.7	3.8%
Rhode Island	486.3	495.6	9.3	1.9%
Vermont	300.9	307.6	6.7	2.2%
New England	6,848.1	7,027.2	179.1	2.6%
USA	130,181.3	137,183.7	7,002.3	5.4%

Source: U.S. Bureau of Labor Statistics, [www.bls.gov](http://www.bls.gov), tabulations by Center for Labor Market Studies, Northeastern University, April 2008

Over the past year, the national economic expansion has begun to show signs of a slowdown. The national rate of new job creation over the last year has slowed to just 0.5 percent, with the nation creating just under 750,000 new jobs over the last year. The New England region also expanded payroll employment levels by 0.5 percent, while Massachusetts had a similar annual rate of new job creation of 0.6 percent. The major exception to this pattern of slow job growth was Rhode Island, where the state lost 8,300 jobs, nearly wiping out all the new jobs created in the state since the beginning of the job market recovery at the end of 2003. In contrast New Hampshire had an above average rate of new job creation compared to both the other New England states and the nation as a whole, growing by 1.3 percent over the year.

Table 2:  
Trends in Total Non Agricultural Wage and Salary Employment Levels in Massachusetts,  
New England and the Nation, 1<sup>st</sup> Quarter, 2007 to First Quarter 2008  
(Seasonally Adjusted, in 000s)

	1st Quarter 2007	1st Quarter 2008	Absolute Change	Relative Change
Connecticut	1,691	1,702	11.3	0.7%
Maine	617	618	0.8	0.1%
Massachusetts	3,270	3,290	20.0	0.6%
New Hampshire	646	654	8.4	1.3%
Rhode Island	496	487	-8.3	-1.7%
Vermont	308	308	0.4	0.1%
New England	7,027	7,060	32.5	0.5%
USA	137,184	137,925	741.0	0.5%

Source: U.S. Bureau of Labor Statistics, [www.bls.gov](http://www.bls.gov), tabulations by Center for Labor Market Studies, Northeastern University, April 2008

The findings provided in Table 3 examine trends in payroll employment in the very recent past. The table compares employment levels in the fourth quarter of last year with developments in the first quarter of 2008. Although the CES seasonally adjusted data are available on a monthly basis at the state level we have chosen to present quarterly average data instead of monthly comparisons. We use quarterly mean data because our review of the state data suggest that some of the monthly seasonal adjustments may exaggerate a change in a given month only to reverse that change in the following month. We use quarterly average employment levels as a means of smoothing this monthly ‘noise’ and gaining better insight into the actual economic change that is occurring.

Table 3:  
Trends in Total Non Agricultural Wage and Salary Employment Levels in Massachusetts,  
New England and the Nation, 4<sup>th</sup> Quarter, 2007 to First Quarter 2008  
(Seasonally Adjusted, in 000s)

	4th Quarter 2007	1st Quarter 2008	Absolute Change	Relative Change
Connecticut	1,704.2	1,702.0	-2.2	-0.1%
Maine	618.9	617.9	-1.0	-0.2%
Massachusetts	3,285.3	3,290.4	5.1	0.2%
New Hampshire	653.7	654.1	0.4	0.1%
Rhode Island	490.4	487.2	-3.2	-0.6%
Vermont	308.3	308.0	-0.3	-0.1%
New England	7,060.8	7,059.7	-1.1	0.0%
USA	138,030.7	137,924.7	-106.0	-0.1%

Source: U.S. Bureau of Labor Statistics, [www.bls.gov](http://www.bls.gov), tabulations by Center for Labor Market Studies, Northeastern University, April 2008

Between the fourth quarter of last year and the first quarter of this year, payroll employment levels fell in the nation for the first time since 2003. Wage and salary employment in the nation fell by 106,000 jobs as fuel and food prices increased while housing prices plummeted downwards. Payroll employment levels in New England remained unchanged with four of the six states posting small losses over the period. Massachusetts was able to add about 5,000 jobs even as the nation's labor markets turned down. Rhode Island was especially hard hit by the downturn, losing 3,200 wage and salary jobs over the quarter.

### ***Industry Sources of Employment Change in Massachusetts***

The CES survey not only provides information about overall trends in non agricultural trends in employment; it also provides measures of employment levels and trends among the major industry sectors that exist within the state. Industry groupings used in the CES combine together those economic establishments in the state who produce similar types of products. For example, the wide range of firms engaged in building, improving and repairing commercial, residential, and other types of physical

structures are grouped together to form the construction sector of the state economy.<sup>11</sup> The findings provided in Table 4 examine employment developments in the state from the initial stages of the recovery through the beginning of 2007. The data reveal a wide divergence in employment trends within major industry groups in the state. The overwhelming share of new jobs created in the state over this period of time came from

Table 4:  
Trends in Total Non Agricultural Wage and Salary Employment Levels by Major  
Industry Sector in Massachusetts, New England and the Nation, 4<sup>th</sup> Quarter, 2003 to First  
Quarter 2007  
(Seasonally Adjusted, in 000s)

	4th Quarter 2003	1st Quarter 2007	Absolute Change	Share of Change
All Industries	3,185.0	3,270.4	85.4	2.7%
Construction	136.3	138.4	2.0	1.5%
Manufacturing	316.7	297.6	-19.0	-6.0%
Durable	207.1	196.9	-10.2	-4.9%
Non Durable	109.6	100.7	-8.9	-8.1%
Trade, Transportation, and Utilities	573.4	570.9	-2.5	-0.4%
Wholesale Trade	134.8	137.9	3.1	2.3%
Retail Trade	354.4	348.8	-5.6	-1.6%
Transportation and Utilities	84.2	84.2	0.0	0.0%
Information	89.1	87.4	-1.7	-1.9%
Financial Activities	221.5	225.8	4.3	2.0%
Professional and Business Services	442.0	477.9	35.9	8.1%
Education and Health Services	577.6	618.0	40.4	7.0%
Leisure and Hospitality	289.3	302.7	13.4	4.6%
Other Services	116.8	119.2	2.4	2.0%
Government	420.3	431.2	10.9	2.6%

Source: U.S. Bureau of Labor Statistics, [www.bls.gov](http://www.bls.gov), tabulations by Center for Labor Market Studies, Northeastern University, April 2008

just two industry sectors: the professional and business services sector and the education and health sector. Together these two industry sectors accounted for 76,000 net new jobs

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<sup>11</sup> The CES program uses the North American Industry Classification System to present data on employment trends by industry. The NAICS classification is discussed in greater detail in the sections examining data derived from the Employment and Wages program

in the state, a number equal to nearly 90 percent of the net job creation produced in the state over that period of time.

The professional and business services sector is composed of a variety of different kinds of businesses including temporary help firms and administrative support organizations. However, this sector also includes professional and technical services firms including legal services, accounting services, engineering and computer systems services. The professional services firms in the state had the highest rate of new job creation of any major industry sector, adding about 36,000 new jobs and growing by a robust 8 percent over the period. Gaining insight into which components of the overall business service sector are expanding most rapidly at the state and local level would have important implications for workforce development strategies. However, the monthly and quarterly CES data lack sufficient sample size to produce this data. In the following section we will examine how the data derived from the state's Employment and Wage program can help us gain insight into specific industry employment developments—even at the local level.

Statewide, the education and health industry sector also posted strong employment gains between the fourth quarter of 2003 and the first quarter of 2007. Total payroll employment in this sector increased from 577,600 to 617,000, a rise of more than 40,000 jobs with an over the period increase of 7 percent. Other sectors experiencing more modest net payroll employment increases include construction, wholesale trade, and financial activities. The leisure and hospitality sector, including eating and drinking establishments, posted a payroll employment rise of 4.6 percent, adding 13,400 jobs to their payrolls.

Despite the overall increase in payroll employment in Massachusetts from the fourth quarter 2003 to the first quarter 2007 job losses did occur in some industry sectors. Manufacturing producers saw their payrolls decline by 19,000 jobs over the period, with especially sharp losses among non durable goods producers. Retailers in the state lost 5,600 jobs and the financial service sector lost 1,700 over the period

Between the first quarters of 2007 and 2008 both the education and health sectors became the leading source of new job growth in the state, adding nearly 15,000 new

payroll jobs and growing at a relatively rapid 2.4 percent annual pace. The education and health sector accounted for three quarters of all the new jobs created in the state over the past year. The rate of new job creation also accelerated somewhat in the information

Table 5:  
Trends in Total Non Agricultural Wage and Salary Employment Levels by Major  
Industry Sector in Massachusetts, New England and the Nation, First Quarter, 2007 to  
First Quarter 2008  
(Seasonally Adjusted, in 000s)

	1st Quarter 2007	1st Quarter 2008	Absolute Change	Relative Change
All Industries	3,270.4	3,290.4	20.0	0.6%
Construction	138.4	135.5	-2.9	-2.1%
Manufacturing	297.6	292.7	-5.0	-1.7%
Durable	196.9	193.9	-3.0	-1.5%
Non Durable	100.7	98.8	-2.0	-2.0%
Trade, Transportation, and Utilities	570.9	569.4	-1.6	-0.3%
Wholesale Trade	137.9	139.2	1.3	1.0%
Retail Trade	348.8	345.5	-3.3	-1.0%
Transportation and Utilities	84.2	84.6	0.4	0.5%
Information	87.4	89.7	2.4	2.7%
Financial Activities	225.8	224.1	-1.7	-0.8%
Professional and Business Services	477.9	486.6	8.7	1.8%
Education and Health Services	618.0	632.9	14.9	2.4%
Leisure and Hospitality	302.7	304.3	1.6	0.5%
Other Services	119.2	118.3	-0.9	-0.8%
Government	431.2	435.6	4.3	1.0%

Source: U.S. Bureau of Labor Statistics, [www.bls.gov](http://www.bls.gov), tabulations by Center for Labor Market Studies, Northeastern University, April 2008

industry, which posted a rise of 2.7 percent, adding 2,400 jobs over the year. The professional and business services industry also continued its expansion, adding 8,700 jobs over the year. The leisure and hospitality industry also generated about 1,600 new jobs over the year. Partially offsetting these gains in payroll employment were declines in the state's goods producing industries. Construction payrolls declined by 2,900 jobs over the year, while manufacturing employment declined by an additional 5,000 jobs. The financial services sector also posted modest payroll employment declines.

Between the fourth quarter of last year and the first quarter of 2008 payroll employment levels in the nation and in a number of states have declined while Massachusetts has continued to post modest payroll increases. The rise in payroll employment in recent months has been primarily associated with increases in employment within the education and health sector. This sector has added 5,700 jobs since the end of last year. Employment growth has also continued in professional and business services and the leisure and hospitality industry sectors. Losses continued to mount in construction where 1,900 jobs were lost since the end of last year as the effects of declining housing prices continue to be felt. Manufacturing producers' losses continued with a decline of 1,100 jobs over the period, while retail trade firms lost an additional 1,800 jobs.

Table 6: Trends in Total Non Agricultural Wage and Salary Employment Levels by Major Industry Sector in Massachusetts, New England and the Nation, Fourth Quarter, 2007 to First Quarter 2008  
(Seasonally Adjusted, in 000s)

	4th Quarter 2007	1st Quarter 2008	Absolute Change	Relative Change
All Industries	3285.3	3290.4	5.1	0.2%
Construction	137.4	135.5	-1.9	-1.4%
Manufacturing	293.8	292.7	-1.1	-0.4%
Durable	194.5	193.9	-0.6	-0.3%
Non Durable	99.3	98.8	-0.5	-0.5%
Trade, Transportation, and Utilities	570.6	569.4	-1.3	-0.2%
Wholesale Trade	138.7	139.2	0.5	0.4%
Retail Trade	347.3	345.5	-1.8	-0.5%
Transportation and Utilities	84.6	84.6	0.1	0.1%
Information	89.7	89.7	0.0	0.0%
Financial Activities	224.4	224.1	-0.3	-0.1%
Professional and Business Services	483.7	486.6	2.9	0.6%
Education and Health Services	627.1	632.9	5.7	0.9%
Leisure and Hospitality	302.1	304.3	2.2	0.7%
Other Services	119.2	118.3	-0.9	-0.7%
Government	435.7	435.6	-0.1	0.0%

Source: U.S. Bureau of Labor Statistics, [www.bls.gov](http://www.bls.gov), tabulations by Center for Labor Market Studies, Northeastern University, April 2008



## ***Specific Industry Sources of Employment Change***

The analysis of employment data derived from the CES survey program provides us with an up to date overview of broad developments in state labor markets. The advantages of the CES data are that it provides very up to date information on overall payroll employment developments within the state and provides insight into some of the major industry trends in job growth and decline. However, the CES also has some limitations in its use. First, it is generally unable to provide much detailed information on industry employment trends. Very often the highly aggregated industry data produced by the monthly CES survey mask more dynamic growth and change that occurs within an industry sector. A second major limitation of the CES program is its inability to produce useful sub-state data.

While the CES program does produce employment estimates for certain sub state metropolitan areas, these data are often considered suspect by many analysts. We noted earlier that the statewide CES employment data are benchmarked against a complete count of payroll jobs produced as a byproduct of state unemployment insurance quarterly tax findings. This benchmarking eliminates biases that enter into the monthly survey from a variety of sources. In effect, the CES data are ‘corrected’ each year through the benchmarking process. However, the sub state estimates produced by the CES are not subject to the same benchmark adjustment to correct for these biases. As a result, the sub state estimates simply continue to add error over time.<sup>12</sup>

An important data source that can help supplement the insights gained from analyzing statewide CES payroll estimates is the Federal-State Employment and Wages program. Commonly referred to as the ES-202 program (after the form used to collect the information), this program collects information on number of payroll workers and their total wage compensation each calendar quarter over the course of the year. Virtually every business establishment in the state, including private for profit firms, private non

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<sup>12</sup>Monthly CES estimates are produced for Barnstable, Boston-Cambridge Quincy, New Bedford, Springfield and Worcester metro areas. During February 2008 the CES survey estimated that payroll employment in these five regions was 3.154 million, while statewide (benchmarked) employment was 3.218, suggesting very little payroll employment in the rest of the state...the result, not of real economic activity but of uncorrected bias in the sub state estimates that are not subject to annual benchmark adjustments.

profit firms that are subject to state unemployment insurance laws as well as all civilian federal, state and local organizations with establishments located in Massachusetts are required to report this information each calendar quarter. The data collected through the ES-202 program thus represent a complete enumeration or census of all payroll employment in the state. This massive data collection program is thus not restricted by sample size, size class coverage limitations, or by non response biases and so is capable of producing estimates of payroll employment for very specific industries and for specific sub state areas, including Workforce Board regional service areas.

The ES-202 data also has a number of shortcomings and is therefore used as a complement (and not a substitute) for CES survey findings. Among its limitations are the following

- First, because of the enormous amount of information collected by the ES-202 program its employment estimates are available with a two to three quarter lag. For example, while first quarter 2008 CES data are currently available, the latest data available from the state ES-202 program are for the third quarter of 2007
- Second, the ES-202 data are not organized as a continuous time series as is the CES program. This means that the CES sample history is maintained over time. So if a firm was initially improperly coded into the wrong industry (as sometimes happens) or the classification system itself is modified, the CES staff not only correct the current industry coding, but go back over time to recode the establishment into its proper industry.<sup>13</sup> The ES-202 program in contrast does not attempt to maintain a consistent time series. This means that ES-202 data are subject to non economic code change errors when analyzed over time. We might observe one specific local industry grow by 200 jobs in a period while a very similar kind of industry declines by 200 jobs. This may be the product not of real economic growth and decline, but instead the result of a recoding of the firm from one industry to another. Care thus must be taken in analyzing ES-202 data over time.
- Because the ES-202 data are not organized as a time series, the quarterly data cannot be seasonally adjusted. This limits the ES-202's ability to capture recent

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<sup>13</sup> A new modestly revised version of NAICS codes were released during 2007

changes in employment at the state and local level. Data can be compared only for the same quarters in different years. For example, second quarter 2007 data when compared with third quarter data for Cape Cod would suggest a potential massive increase in employment, but instead of expansion of the productive capacity of the Cape, the employment growth is largely the product of seasonal hiring associated with summer trade that will decline in the fall and winter period. Instead, a comparison of third quarter 2006 data with third quarter 2007—essentially measuring employment during two summers would shed insight into whether the demand for summer workers had increased or declined in 2007 and in which industries these changes occurred.

A key characteristic of the ES-202 is its use of the NAICS industry classification hierarchy to produce estimates of increasingly detailed industry sectors in the state.<sup>14</sup> Our review of the CES data noted that the Professional and Business Services industry was an important source of net new job creation over the course of the current economic recovery, accounting for about 40 percent of the net new jobs created in the state.

Table 7 presents additional insight into the meaning of job growth within this

Table 7:  
Trends in Non Agricultural Wage and Salary Employment in the Professional and Business Services Industry in Massachusetts, by 2 Digit NAICS Classification, Third Quarter 2004 to Third Quarter 2007

	NAICS Title	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
NAICS Code	Professional and Business Services	463,772	494,541	30,769	6.6%
54	Professional and Technical Services	228,408	252,712	24,304	10.6%
55	Management of Companies	64,989	61,401	-3,588	-5.5%
56	Administrative and Waste Services	170,375	180,429	10,054	5.9%

Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information Unit, April, 2008

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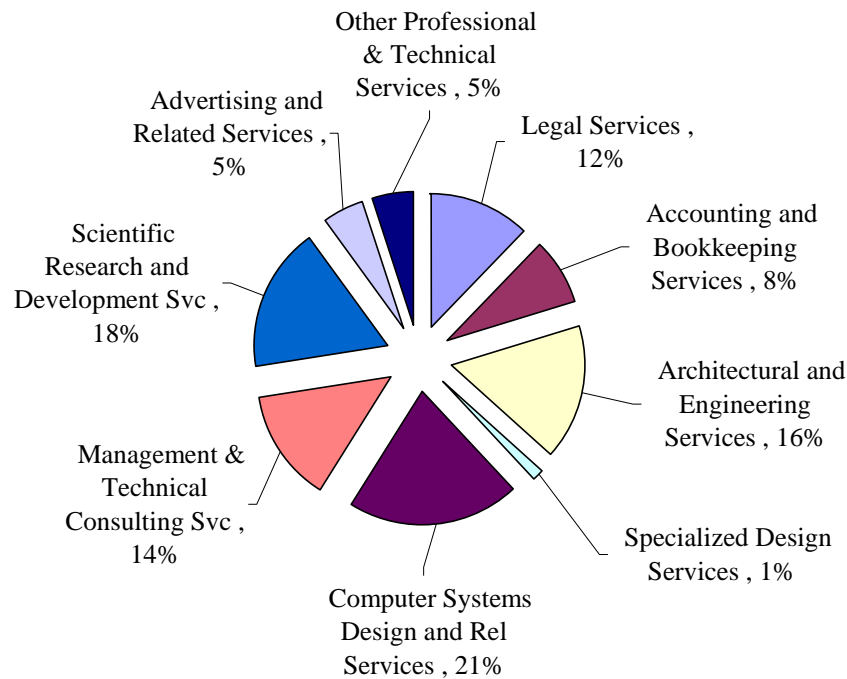
<sup>14</sup>

For a complete review of the NAICS classification system as well as definitions of each NAICS industry see the NAICS website at <http://www.census.gov/epcd/www/naics.html>

broad economic sector by sorting professional and business service producers in the Commonwealth into somewhat more homogenous groupings based on the kinds of services these establishments provide. Using the two digit NAICS classification of business establishments we move slightly farther down the hierarchy of professional and business services industries and find that nearly 253,000 jobs (or just over one half of all payroll employment) in this broad industry grouping (often called a super sector) are concentrated in firms that provide professional and technical services. Moreover, the data reveal that the professional and technical services industry (NAICS code 54) grew by more than 10 percent in just three years and accounted for nearly 80 percent of all new payroll jobs in the super sector. The administrative and waste management industry component of the super sector added an additional 10,000 jobs growing by about 6 percent over the period. Offsetting this increase was a decline in employment levels of firms engaged in providing management services to firms, where despite overall economic expansion in the state and the super sector, employment levels declined by 5.5 percent over the period.

The ES-202 program, utilizing even more detailed classification structures available through the NAICS system, can provide much greater insight into the specific sources of growth within both the 2 digit professional and technical services industry (NAICS 54) and the administrative and waste management industry (NAICS 56) in the state during the economic recovery. Payroll employment in the professional and technical service industry (NAICS 54) is concentrated in computer and systems design (NAICS 5414), scientific research and development (NAICS 5417), and architectural and engineering services (NAICS 5413). Together, these three specific industries employed about 138,000 workers during the third quarter of 2007, accounting for 55 percent of all employment in the 2 digit professional and technical services industry.

Chart 1: Four Digit NAICS Industry Composition of the Professional and Technical Services Industry in Massachusetts, Third Quarter 2007



Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information Unit, April, 2008

A look at trends in payroll employment levels within the professional and technical services industry reveal especially strong growth in the computer systems and design service industry which increased its statewide payroll employment levels by 21 percent, creating more than 9,000 jobs in three years. Scientific research and development—a critical component of the state’s Pharma/Biotech sector, also posted considerable job gains, adding 4,300 payroll jobs and growing by 10 percent over the three year period.<sup>15</sup> Happily, with the exception of legal services, employment levels in the whole array of professional and technical services grew quite rapidly over the period of expansion. But this detailed level of analysis that identifies particular industry sources of growth is important to understand since it is likely that staffing and skill requirements

<sup>15</sup> Andrew M. Sum et al, *The Economic, Labor Market, and Fiscal Performance and Impacts of the Biopharmaceutical Industries of Massachusetts*, Center for Labor Market Studies, Northeastern University, Boston, August, 2007

Table 8:  
Trends in Non Agricultural Wage and Salary Employment in the Professional and  
Technical Services Industry in Massachusetts, by 4 Digit NAICS Classification, Third  
Quarter 2004 to Third Quarter 2007

NAICS Code	NAICS Title	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
54	Professional and Technical Services	228,408	252,712	24,304	10.6%
5411	Legal Services	31,156	31,070	-86	-0.3%
5412	Accounting and Bookkeeping	18,193	20,350	2,157	11.9%
5413	Architectural and Engineering Services	39,252	41,459	2,207	5.6%
5414	Specialized Design Services	3,263	3,636	373	11.4%
5415	Computer Systems Design Services	42,970	52,055	9,085	21.1%
5416	Management & Technical Consulting	31,553	34,703	3,150	10.0%
5417	Scientific Research and Development Svc	40,083	44,406	4,323	10.8%
5418	Advertising and Related Services	11,451	12,677	1,226	10.7%
5419	Other Professional & Technical Services	10,488	12,355	1,867	17.8%

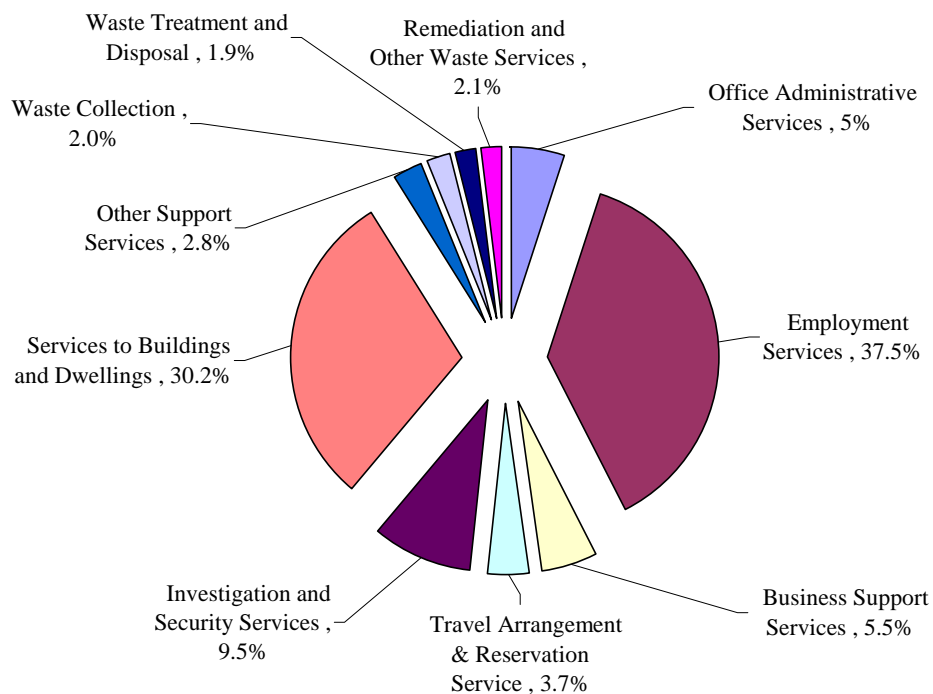
Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information Unit, April, 2008

vary considerably across these 4 digit NAICS code industries. For example, we might expect the occupational and skills structure of the architectural and engineering industry to be concentrated in scientific, engineering and information technology related occupations, whereas we might expect to find that the accounting and bookkeeping services industry employs a considerable share of their staff in finance, accounting and other related business occupations.

The administrative and waste management component (NAICS 56) of the professional and business services sector is composed of a very diverse array of establishments who provide a variety of services to businesses. The two largest components of this 2 digit NAICS industry are quite different from one another and

include firms that provide employment services, including temporary help firms and private sector job matching and labor exchange organizations. These employment service businesses accounted for about 38 percent of all employment in the industry during the third quarter of 2008, employing 67,700 wage and salary workers. Services to buildings businesses including janitorial services, landscaping and pest control services employed about 54,500 workers and accounted for 30 percent of all administrative and waste management. The remaining one third of employment in this industry included about 10 percent of the industry's employment in investigation and security services, about 6 percent in waste management services of various types including trash collection and remediation services and about 5 percent in business services, including collections

Chart 2:  
Four Digit NAICS Industry Composition of the Administrative and Waste Management  
Service Industry (NAICS 56) in Massachusetts, Third Quarter 2007



Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information Unit, April, 2008

services and credit bureaus and private mail centers. An additional 5 percent of employment was concentrated in business support services that provide services such as billing, record keeping and personnel on a contract basis to other businesses and government organizations.

As we noted previously, the administrative and waste services industry overall added a total of just over 10,000 jobs between the third quarter of 2004 and the third quarter of 2007. However, a very large share of this increase was concentrated in the employment services industry. A major element of the employment service industry is composed of temporary help firms who supply workers to clients for a limited time, with individual workers employed by the temporary help firm and appearing on their payroll reports. A second major component of the employment services industry is made up of employment placement and executive search firms. These firms list job vacancies and refer clients to jobs and may engage in executive job placement activities. The employment service industry experienced a sharp rise in employment with payroll

Table 9:  
Trends in Non Agricultural Wage and Salary Employment in the Administrative and  
Waste Management Services Industry in Massachusetts, by 4 Digit NAICS  
Classification, Third Quarter 2004 to Third Quarter 2007

NAICS 4 digit	NAICS Title	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
56	Administrative and Waste Services	170,375	180,429	10,054	5.9%
5611	Office Administrative Services	9,309	8,900	-409	-4.4%
5613	Employment Services	60,944	67,721	6,777	11.1%
5614	Business Support Services	8,145	9,841	1,696	20.8%
5615	Travel Arrangement & Reservation	6,772	6,678	-94	-1.4%
5616	Investigation and Security Services	17,250	17,163	-87	-0.5%
5617	Services to Buildings and Dwellings	52,789	54,456	1,667	3.2%
5619	Other Support Services	4,815	4,234	-581	-12.1%
5621	Waste Collection	3,128	3,582	454	14.5%
5622	Waste Treatment and Disposal	3,298	3,484	186	5.6%
5629	Remediation and Other Waste Services	3,505	3,738	233	6.6%

Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information Unit, April, 2008



employment levels rising by about 6,800 or 11 percent over the three year period. The employment service industry utilizes a wide array of skills supplying temporary help in the health professions, information technology, accounting and finance, clerical and many other positions. In addition to meeting temporary help needs, some firms prefer to employ temporary workers on a try-out basis to judge their work performance and then switch high productivity temps from the employment service firm to the contracting firm's payroll.

The business support industry also posted considerable growth with employment rising by more than one fifth from about 8,100 workers during the third quarter of 2004 to 9,800 employees by the third quarter of 2007. Finally, the services to buildings sector experienced a near 1,700 increase in employment levels during this period of time.

The discussion provided above that examined the industry sources of new job creation in the Professional and Business Service super sector can be replicated for many other sectors in the state economy. Appendix B to this monograph provides statewide ES-202 data for a variety of 2 digit, 3 digit and 4 digit NAICS code industries that can be used to develop a better understanding into the sources of economic growth and change. Because the ES-202 program provides a complete count of jobs across the state it is also a useful source of information to gain insight into employment developments at the sub state regional level. The following section examines key employment trends measured by the ES 202 data in the North Shore Workforce Board's service area.

### ***Industry and Employment Trends in the North Shore Region***

As discussed previously, the Massachusetts and New England economies were more severely affected than the nation by the economic downturn in the early years of this decade and experienced much slower job growth in the recovery period. Within the North Shore area, job growth has lagged behind Massachusetts.

However, there are a few promising sectors in the North Shore region. Health Care and Social Assistance, the region's second largest sector, experienced solid job growth. Educational Services, Professional and Technical Services and Durable Goods

Manufacturing all posted job gains throughout the recovery period (Third Quarter 2004 to Third Quarter 2007).

### **Recent Employment Trends**

Between the third quarter of 2004 and the third quarter of 2007, the number of jobs in Massachusetts increased by 96,336 or 3.1 percent. During the most recent 12-month period for which data are available (Third Quarter 2006 to Third Quarter 2007), employment increased by 35,964 jobs or 1.1 percent. As noted above, the North Shore region did not fare as well as the entire Commonwealth. Between the third quarter of 2004 and the third quarter of 2007, the number of jobs in the region increased by 2,405, or 1.5 percent. During the most recent twelve month period employment actually fell by 486 jobs. These results for the North Shore region are summarized in Table 10 and described below.

### **Manufacturing**

Manufacturing, the region's third largest sector, has sustained relatively small job loss when compared to Massachusetts. From the third quarter of 2004 to the third quarter of 2007, regional employment in Manufacturing fell by 539 jobs, a decrease of 2.6 percent. Manufacturing firms statewide experienced a job loss of 18,644 (-6.0%).

Perhaps even more important, durable goods manufacturing registered an increase of 121 jobs between the third quarter of 2004 and the third quarter of 2007. Job loss in the first two years was offset by an increase of 293 jobs in the most recent year. The gains were concentrated in Machinery Manufacturing, primarily Turbines, Engines and Power Equipment. The Non Durable Goods job loss was most pronounced among Manufacturers of Leather, Printing and Paper Products.

Table 10:  
Industry Employment Trends: North Shore Workforce Area

Description	2004 3rd Quarter	2007 3rd Quarter	Absolute Change	Relative Change
Total, All Industries	164,833	167,238	2,405	1.5%
23 - Construction	7,615	8,003	388	5.1%
31-33 - Manufacturing	20,484	19,945	-539	-2.6%
Durable Goods	15,142	15,263	121	0.8%
Non-Durable Goods	5,342	4,682	-660	-12.3%
42 - Wholesale Trade	6,188	6,249	61	1.0%
44-45 - Retail Trade	27,173	26,090	-1,083	-4.0%
48-49 - Transportation and Warehousing	3,104	2,983	-121	-3.9%
51 - Information	3,364	3,027	-307	-9.2%
52 - Finance and Insurance	5,692	6,268	576	10.1%
54- Professional and Technical Services	7,858	8,394	536	6.8%
61 - Educational Services	11,475	11,870	395	3.4%
62 - Health Care and Social Assistance	25,669	28,280	2,611	10.2%
71 - Arts, Entertainment, and Recreation	4,740	4,655	-85	-1.8%
72 - Accommodation and Food Services	16,029	15,883	-146	-0.9%
81 - Other Services, Ex. Public Admin	6,884	7,374	490	7.1%
92 - Public Administration	5,784	5,868	84	1.5%

Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information  
Unit, April, 2008

**Retail Trade**

Retail Trade, the North Shore's second largest industry group, experienced steady and continuous job loss between the third quarter of 2004 and the third quarter of 2007. During this period, the number of Retail Trade jobs fell by 1,083 (-4.0%).

Employment declines were most pronounced among Department Stores, Furniture and Home Furnishing Stores, Building Material and Supply Stores and Office Supply and Gift Stores. Reflecting a change in consumer habits, Electronic Shopping and Mail Order Houses posted employment gains of more than 200 jobs.

**Construction**

The Construction sector reported job gains over the three year period. All of the gains, however, occurred in the first two years. Between the third quarter of 2004 and the third quarter of 2007, the number of jobs increased by 388 or 5.1 percent. In the most recent year (Third Quarter 2006 to Third Quarter 2007) Construction employment fell by 165 jobs. Residential Construction, Highway, Street and Bridge Construction and Specialty Trade Contractors all contributed to the recent Construction job loss.

**Finance and Insurance**

As was the case with Construction, employment in Finance and Insurance grew during the first two years of the period under review and then fell between the third quarter of 2006 and the third quarter of 2007. More specifically, while employment increased by 576 jobs during the entire three year period, the number of jobs in Finance and Insurance declined by 126 in the most recent year.

**Professional and Technical Services**

Employment in Professional and Technical Services expanded by 536 jobs (6.8%) between the third quarter of 2004 and the third quarter of 2007. Job growth in this sector was led by Accounting and Bookkeeping Services and Scientific Research and Development. Both of these industries are intensive employers of workers with higher levels of educational attainment.

### **Health Care and Social Assistance**

Health Care and Social Assistance, the region's largest sector, experienced solid job growth over the three year period. During this period, the number of jobs grew by 2,611 or 10.2 percent. Health Care job growth on the North Shore was concentrated in Ambulatory Health Facilities, including Physicians Offices, Outpatient Care Centers and Home Health Services and Hospitals. In addition, smaller gains were registered among Nursing and Residential Care Facilities and Social Assistance.

### **Educational Services**

Educational Services on the North Shore also reported measurable job growth during this period. Between the third quarter of 2004 and the third quarter of 2007 employment expanded by 395 jobs or 3.4 percent. Job growth within this sector occurred primarily among Colleges and Universities.

### **Accommodation and Food Services**

Accommodation and Food Services in the North Shore experienced an employment decline of 146 jobs between the third quarter of 2004 and the third quarter of 2007. Within this sector, most of the job loss occurred in Accommodation. In the most recent year, some improvement and limited job growth has been registered within Food Services and Restaurants.

### ***Employment Structure in the North Shore Region***

The following section describes the structure of industry employment in the North Shore region using the most current available data (Third Quarter 2007). In addition, a more detailed review of selected sectors is provided. Finally, we have presented information on employment by the size of employers. The data provided in this section are intended to offer a deeper understanding of the job content of the North Shore economy.

Table 11:  
Industry Employment Structure (2-Digit NAICS) North Shore Workforce Area

Description	2007 3rd Quarter	
Total, All Industries	167,238	100.0%
11 - Agriculture, Forestry, Fishing & Hunting	480	0.3%
23 - Construction	8,003	4.8%
31-33 - Manufacturing	19,945	11.9%
22 - Utilities	775	0.5%
42 - Wholesale Trade	6,249	3.7%
44-45 - Retail Trade	26,090	15.6%
48-49 - Transportation and Warehousing	2,983	1.8%
51 - Information	3,027	1.9%
52 - Finance and Insurance	6,268	3.7%
53 - Real Estate and Rental and Leasing	2,208	1.3%
54 - Professional and Technical Services	8,394	5.0%
55 - Management of Companies and Enterprises	1,525	0.9%
56 - Administrative and Waste Services	7,297	4.4%
61 - Educational Services	11,870	7.1%
62 - Health Care and Social Assistance	28,280	16.9%
71 - Arts, Entertainment, and Recreation	4,655	2.8%
72 - Accommodation and Food Services	15,883	9.5%
81 - Other Services, Ex. Public Admin	7,374	4.4%
92 - Public Administration	5,868	3.6%

Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information Unit, April, 2008

The four largest sectors, which include Health Care and Social Assistance (16.9%) Retail Trade (15.6%), Manufacturing (11.9%) and Accommodation and Food Services (9.5%) comprise more than half the jobs (53.9%) in the North Shore region.

Two major components of the High Tech Sector, Information (1.9%) and Professional and Technical Services (5.0%) account for relatively small employment shares when compared to the state as a whole. These two sectors account for 6.8 percent of all jobs on the North Shore, which is well below the respective share for Massachusetts (10.6%).

Within Manufacturing, the two largest components, Machinery Manufacturing (18.5%) and Computer and Electronics Products (15.8%) account for over one-third (34.3%) of the jobs in this sector. In addition, Fabricated Metals (10.7%) and Food Manufacturing (10.7%) are also important components of the North Shore Manufacturing base.

The largest source of employment in Retail Trade, Food and Beverage Stores, represents one quarter (24.8%) of Retail Trade jobs on the North Shore. In addition, General Merchandise Stores (12.2%), Clothing and Accessory Stores (11.2%) and Motor Vehicle Dealers (10.7%) also are important parts of Retail Trade in the North Shore region.

Professional and Technical Services are spread across seven different components, each accounting for between 10% and 15% of all jobs in this sector. The three largest components include Advertising (15.3%), Legal Services (14.4%) and Architectural and Engineering Services (13.3%)

Administrative and Waste Services is a small sector (4.4%) in the region. However, this sector includes two sub-sectors, Employment Services and Temporary Help Agencies (30.9%) and Services to Buildings (37.7%) that are of interest. As discussed previously, the employment services industry supplies temporary help in a wide range of professions, from entry-level to technical and professional. Many firms are increasingly using the employment services industry to try-out workers on a temporary basis before offering them payroll positions. Firms in the services to buildings industry offer entry-level employment as well as skilled trades positions. Educational Services employment is concentrated in Elementary and Secondary Schools, which comprise over two-thirds (68.4%) of all jobs in this sector. Colleges and Universities (20.5%) are also an important component of Educational Services in the region.

The largest sector in the North Shore region, Health and Social Assistance, is led by Ambulatory Health Services (34.4%) which includes Physician's Offices and Outpatient Care Centers and is followed closely by Hospitals (30.7%) and Nursing and Residential Facilities (24.6%). The remainder of employment in this broad sector resides in Social Assistance (10.3%).

A detailed summary of the industry employment structure for the North Shore region is presented in Table 12.

Table 12:  
Detailed Industry Employment Structure: North Shore Workforce Area

NAICS	Industries	3 <sup>rd</sup> Q 2007	%
<b>31-33</b>	<b>Manufacturing</b>	<b>19,945</b>	<b>100.0%</b>
311	Food Manufacturing	2,137	10.7%
325	Chemical Manufacturing	1,298	6.5%
332	Fabricated Metal Product Manufacturing	2,153	10.7%
333	Machinery Manufacturing	3,699	18.5%
334	Computer and Electronic Product Mfg	3,142	15.8%
335	Electrical Equipment	1,156	5.8%
3391	Medical Equipment	691	3.5%
	All Other Manufacturing	5,669	28.4%
<b>44-45</b>	<b>Retail Trade</b>	<b>26,090</b>	<b>100.0%</b>
441	Motor Vehicle and Parts Dealers	3,048	10.7%
443	Electronics and Appliance Stores	1,021	4.0%
444	Building Material & Garden Supply Stores	2,043	7.8%
445	Food and Beverage Stores	6,458	24.8%
446	Health and Personal Care Stores	1,795	6.8%
448	Clothing and Clothing Accessories Stores	2,916	11.2%
452	General Merchandise Stores	3,203	12.2%
4541	Electronic Shopping and Mail Order Houses	1,120	4.3%
	All Other Retail Trade	2,540	9.7%
<b>54</b>	<b>Professional and Technical Services</b>	<b>8,394</b>	<b>100.0%</b>
5411	Legal Services	1,208	14.4%
5412	Accounting and Bookkeeping Services	1,034	12.3%
5413	Architectural and Engineering Services	1,124	13.3%
5415	Computer Systems Design and Rel Services	882	10.5%
5416	Management & Technical Consulting Svc	867	10.3%
5417	Scientific Research and Development Svc	834	10.0%
5418	Advertising	1,288	15.3%
	All Other Professional and Technical Services	1,157	13.8%
<b>56</b>	<b>Administrative and Waste Services</b>	<b>7,297</b>	<b>100.0%</b>
5613	Employment Services	2,254	30.9%
5617	Services to Buildings and Dwellings	2,753	37.7%
	All Other Administrative and Waste Services	2,290	31.4%



Table 12 (Continued):  
Detailed Industry Employment Structure: North Shore Workforce Area

NAICS	Industries	3 <sup>rd</sup> Q 2007	%
<b>61</b>	<b>Educational Services</b>	<b>11,870</b>	<b>100.0%</b>
6111	Elementary and Secondary Schools	8,121	68.4%
6113	Colleges and Universities	2,439	20.5%
	All Other Educational Services	1,310	11.1%
<b>62</b>	<b>Health Care and Social Assistance</b>	<b>28,280</b>	<b>100.0%</b>
621	Ambulatory Health Care Services	9,733	34.4%
622	Hospitals	8,686	30.7%
623	Nursing and Residential Care Facilities	6,951	24.6%
624	Social Assistance	2,910	10.3%
<b>72</b>	<b>Accommodation and Food Services</b>	<b>15,883</b>	<b>100.0%</b>
721	Accommodation	1,370	8.6%
722	Food Services and Drinking Places	14,513	91.4%

Source: Massachusetts Department of Labor and Workforce Development, Labor Market Information Unit, April, 2008

### ***Employer Size as a Factor in Local Employment***

Table 13 provides data on the distribution of employers by size.

Table 13:  
Distribution of Establishments and Employment by Size Group  
North Shore Workforce Area and Massachusetts, March 2007

Size Group	# Establishments North Shore	Share of all Establishments	# Establishments State	Share of all Establishments
0 to 19	10,407	87.7%	181,048	86.9%
20 to 99	1,200	10.1%	22,194	10.7%
100 to 499	232	2.0%	4,446	2.1%
500 +	29	0.2%	584	0.3%
<b>TOTAL</b>	<b>11,868</b>	<b>100.0%</b>	<b>208,272</b>	<b>100.0%</b>
Size Group	# Employees North Shore	Share of all Employees	# Employees State	Share of all Employees
0 to 19	42,647	26.2%	724,049	22.8%
20 to 99	48,329	29.7%	888,561	28.0%
100 to 499	42,325	26.0%	840,129	26.5%
500 +	29,512	18.1%	716,437	22.6%
<b>TOTAL</b>	<b>162,793</b>	<b>100.0%</b>	<b>3,169,176</b>	<b>100.0%</b>

Source: Quarterly Census of Employment and Wages (ES-202 Program), prepared by the Massachusetts Department of Workforce Development, Division of Career Services, Economic Analysis Office.

The data reveal that small employers dominate the North Shore region. Among the 11,868 establishments reporting employment in March 2007, 87.7 percent had fewer than 20 employees. However, these firms accounted for just over one-quarter (42,647) of the jobs in the region.

In contrast, 251 establishments in the region, (2.2%) reported having at least 100 employees. These firms, however, were responsible for more than 40 percent of the jobs (71,837) in the region. This share of employment among large employers is below the statewide share of 49.1 percent.

# **Occupational Staffing Patterns of Industries and Educational Attainment of Workers by Industries and Occupations in the North Shore Workforce Area**

## ***Introduction***

The educational attainment and literacy proficiencies required in the workforce are largely determined by the types of jobs that are available in an area. In the previous section, we have presented detailed accounts of recent trends in industry employment and the industry composition of total employment in the North Shore area as well as the state. The level of employment and the change in employment by industry sector together shed important insights into the total labor demand in an area. However, these measures do not provide estimates of the type of labor that is required to staff these industries. Rather, it is the occupational staffing patterns of industries and the educational attainment of individuals employed in different occupations and industries that provide estimates of the types of workers that are needed (employed) within these industries.

In this section we have presented a description of the occupational staffing patterns of industry sectors in the North Shore area. We have also examined the educational attainment of workers who were employed in different occupations and industry sectors within the North Shore area. All data presented in this section are derived from our analysis of the American Community Survey (ACS) data.

The ACS is a nationwide survey conducted by the U.S. Census Bureau that will replace the decennial census long form survey starting in 2010. The ACS began as a demonstration in 1996 and culminated in full implementation in 2005. The 2005 ACS survey and every annual ACS survey thereafter will be implemented in every county of the nation with an annual sample of about three million housing units. The ACS provides data for individuals on their demographic and socioeconomic characteristics, labor market experiences, educational attainment and school enrollment status, and earnings and incomes for all states, as well as for all cities, counties, metropolitan areas, and population groups of 65,000 people or more. Although the ACS sample sizes are quite large, we have combined ACS data files from two years to secure sufficiently large

sample sizes to produce reliable estimates at the level of the Local Workforce Investment Board area. Estimates presented in this section for the North Shore area are based upon the responses from nearly 3,600 households.

The 2005 and 2006 ACS surveys contain information on the place of residence and the place of work of respondents who were employed at the time of the ACS survey. Utilizing the 2005 and 2006 ACS data files we have identified individuals who listed the North Shore area as their place of work (regardless of where they identified their place of residence). These individuals are North Shore area workers. An examination of the industries and occupations in which these individuals were employed provides the occupational composition or occupational staffing patterns of each industry sector in the North Shore area. The examination of their educational attainment provides the educational requirements within the industries and occupations in the North Shore area.

The industry and occupation of workers in the ACS database are self identified. The industry sector in which they are employed is determined from ACS survey respondents' answers to questions that ask respondents to provide the name of their employer and identify the kind of business or industry of their employer by describing the main activity at the place where they were employed, for example, a hospital, a university, a newspaper publishing firm, a restaurant, etc. The occupation of these workers is determined from their responses to the question about the kind of work they were performing (for example, registered nurse, personnel manager, secretary, accountant, secondary school teacher, etc.) and their identification of the most important duties that they performed at work.

### ***Occupational Staffing Patterns of Industries***

A total of 194,300 individuals identified their place of work within the North Shore area. These workers were employed in a wide array of industry sectors and occupational groups. The occupational distribution of workers in different industry groups represents the occupational staffing patterns of these industry groups. We have aggregated industries in which most (about 93 percent) of the workers in the North Shore

area were employed into 10 broad categories. The occupations of these workers have been aggregated into 10 groups of occupations.<sup>16</sup>

The distribution of workers in each of these 10 industry sectors by the occupation in which they were employed is presented in Table 1. The first half of this table contains the occupational staffing patterns of industries in the North Shore area and the second half contains the same for the state of Massachusetts. The reader should note that all data in this section pertains to the geographic area of the place of work at the time of the ACS surveys. This means that the occupational staffing patterns in the North Shore area are measured with the occupational distribution by industry of all workers who stated that their place of work was in the North Shore area. Similarly, the occupational staffing patterns in Massachusetts are measured with the occupational distribution by industry of all workers who stated that their place of work was in Massachusetts.

As noted above, we have classified occupations into 10 broad groups. The components of each of these 10 groups are presented below:

<b>Business &amp; tech. college labor market</b>	<b>Service</b>
Management occupations	Healthcare support occupations
Business and financial operations occupations	Protective service occupations
Computer & mathematical occupations	Food preparation & serving occupations
Architecture & engineering occupations	Building & grounds cleaning occupations
Life, physical, & social science occupations	Personal care & service occupations
<b>Other college labor market</b>	<b>High skill blue collar</b>
Community & social services occupations	Construction & extraction occupations
Legal occupations	Installation, maintenance, & repair occs.
Education, training, & library occupations	
Arts, design, entertainment, sports, & media occs.	
<b>Healthcare practitioner &amp; technical occs.</b>	<b>Production occupations</b>
<b>High-Level sales occupations</b>	<b>Transportation &amp; material moving occs.</b>
<b>Low-Level sales occupations</b>	
<b>Office &amp; administrative support occupations</b>	

Excluded:  
Farming, fishing, & forestry occs.

<sup>16</sup> Please see Appendix C for more detailed tabulations of all the data presented in this section as well as statewide tabulations.

The occupational staffing patterns varied sharply by industry sector. Three-quarters of the workers employed in the construction industry in the North Shore area were working in high skill blue-collar jobs in the construction and extraction occupations and installation maintenance and repair occupations. Only 15 percent were employed in business and technical college labor market occupations. Most of the latter group was concentrated in business and finance occupations. The construction industry workers across the entire state of Massachusetts had a very similar distribution by occupation.

The occupational staffing patterns of the durable and nondurable manufacturing industries were quite different from each other in the North Shore area. While both had relatively high shares of workers in blue-collar occupations, the durable manufacturing industries had a larger share of high skilled and semi-skilled production occupation workers and the nondurable manufacturing industries had slightly higher shares of low skilled blue collar workers represented by transportation and material moving occupations. The durable manufacturing industries also had higher shares of business and technical college labor market occupations. About 4 out of 10 workers employed in these industries in the North Shore area were working in business and technical college labor market occupations—19 percent in engineering and architecture, 11 percent in management occupations and 4.5 percent each in computer and finance occupations. Only 27 percent of the workers in the area's nondurable manufacturing industries were employed in business and technical college labor market occupations. Nondurable manufacturing industries instead had higher shares of workers than durable manufacturing industries in sales occupations (11 percent versus 3 percent) and administrative support occupations (14 percent versus 6 percent).

Among the remaining seven (non-production) industries the highest level occupations were found among firms that provide professional, scientific, and technical services. Over 8 out of 10 workers in these firms were employed in occupations that require high levels of educational attainment. College labor market occupations in business and technical fields employed 55 percent of the North Shore area workers in these industries. Another 18 percent worked in other college labor market occupations of social services, educational and training occupations, legal occupations, and arts and media occupations. Four percent were employed in high level health occupations such as

Table 1: Occupational Staffing Patterns of Selected Industries in the North Shore Area and Massachusetts, 2005-06

**NORTH SHORE**

Major Occupations	Constr.	Non-Durable Manuf.	Durable Manuf.	Retail Trade	Information	Finance, Ins. & Real Estate	Prof., Scientific & Tech. Services	Educ. Services	Healthcare & Social Services	Other Services
Total Workers	16,557	6,496	21,399	26,120	4,213	11,771	11,133	16,109	27,078	39,338
Business & tech. college labor market	15%	27%	40%	5%	24%	38%	55%	11%	13%	16%
Other college labor market	0%	1%	1%	1%	22%	0%	18%	65%	13%	7%
Healthcare practitioner & technical Service	0%	0%	0%	2%	0%	0%	4%	3%	30%	1%
High level sales	2%	0%	0%	6%	1%	3%	1%	9%	29%	50%
Low level sales	0%	8%	3%	18%	13%	19%	5%	0%	0%	2%
Office & Administrative support	0%	3%	0%	35%	6%	3%	0%	1%	0%	2%
High skilled blue collar	4%	14%	6%	19%	24%	34%	14%	8%	15%	10%
Production occupations	75%	3%	5%	5%	7%	2%	0%	1%	0%	6%
Transportation & material moving	1%	36%	42%	2%	3%	0%	1%	0%	0%	3%
	2%	7%	2%	7%	1%	0%	0%	0%	1%	3%

**MASSACHUSETTS**

Major Occupations	Constr.	Non-Durable Manuf.	Durable Manuf.	Retail Trade	Information	Finance, Ins. & Real Estate	Prof., Scientific & Tech. Services	Educ. Services	Healthcare & Social Services	Other Services
Total Workers	220,623	115,056	232,590	342,564	91,315	260,105	263,117	304,448	460,000	620,201
Business & tech. college labor market	15%	25%	41%	8%	37%	46%	62%	17%	13%	15%
Other college labor market	0%	2%	2%	2%	20%	2%	18%	59%	10%	8%
Healthcare practitioner and technical Service	0%	0%	0%	2%	0%	1%	2%	3%	35%	1%
High level sales	1%	2%	1%	4%	2%	3%	1%	10%	26%	49%
Low level sales	1%	7%	4%	19%	8%	18%	2%	0%	0%	2%
Office and Administrative support	0%	1%	0%	35%	3%	4%	1%	1%	0%	3%
High skill blue collar	5%	12%	10%	16%	17%	24%	13%	9%	13%	11%
Production occupations	75%	3%	5%	4%	9%	1%	1%	1%	1%	5%
Transportation & material moving	1%	41%	35%	3%	3%	0%	1%	0%	1%	3%
	3%	6%	4%	8%	2%	1%	0%	0%	1%	3%

Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

healthcare practitioners and technical occupations and 5 percent worked in high level sales occupations. Employment in this industry has grown quite rapidly in the North Shore area adding 536 jobs between 2004 and 2007, which represents a relative increase of nearly 7 percent over the 3-year time period.

The healthcare and social services industries also grew very rapidly in the North Shore area. With the addition of 2,600 jobs over three years, the healthcare and social services industry recorded a 10.2 percent rate of growth between 2004 and 2007. The occupational staffing patterns in these industries were spread across very high level and very low level occupations. About 3 out of ten workers were employed as healthcare practitioners and healthcare technicians and technologists. Another 30 percent of the workers in these industries were working in service occupations, most of whom were working in healthcare support and personal care occupations. One quarter of the workers in these industries were working in business and technical and other miscellaneous college labor market occupations and 15 percent performed administrative support duties at their jobs in healthcare or social services firms in the North Shore area.

The educational services industry, representing another area of job growth in the North Shore area, had nearly two-thirds of its workers employed in the college labor market occupations of education and training, legal, social services, arts and media occupations. About 11 percent were employed in business and technical college labor market occupations, 9 percent worked in service occupations providing building and grounds, protective, and personal services, and 8 percent worked in administrative support occupations.

The final category of the services sector industry cluster consists of lower level service industries including accommodation and food services, arts, entertainment and recreation services, administrative support and waste management services, and public services. The occupational staffing patterns of these industries were very different from that of the three other industry sectors discussed above. The industries in this cluster had high concentrations of workers in service occupations and administrative support occupations and much smaller numbers in the two categories of college labor market occupations and the group of high level sales occupations.



The North Shore area's finance, insurance, and real estate firms employed nearly 60 percent of their workers in business, management and finance college labor market jobs and in high level sales occupations. Over one-third of its workers were employed in office and administrative support occupations. This industry saw a 10 percent increase in employment over the 2004-2007 time period in the North Shore area.

The information industry saw its employment decline by over 9 percent between 2004 and 2007. In 2007, fewer than 2 percent of all workers employed in the North Shore area worked for a firm in the information industry. The staffing patterns of this industry were somewhat concentrated in the college labor market. Nearly 60 percent of its employees worked in college labor market and high level sales occupations. Nearly one-quarter (24 percent) were employed in management occupations and computer occupations and over one-fifth (22 percent) were working in education and training, arts, entertainment, and media occupations. Among the remaining 40 percent of the industry's workers, most were working in administrative support occupations (24 percent) and a few in low level sales (6 percent) and blue collar occupations (11 percent).

The North Shore area's firms that were engaged in the retail trade business were staffed with middle to lower level occupations. Many workers were employed in sales occupations (53 percent) with a large share in lower level sales positions such as cashiers and other retail salespersons. One-fifth of the workers in this industry were employed in administrative support jobs in clerical and secretarial positions. Another one-fifth were employed in blue collar occupations (14 percent) and service occupations (6 percent).

The sharp differences in the kinds of occupations that staff the different industries in the North Shore area (as well as the state) means that changes in employment across industries will have a direct impact on the demand for workers qualified and trained to work in different occupations. For example, if retail trade employment grows, one can expect an increase in the demand for workers in sales occupations. If employment in durable manufacturing increases, blue collar workers will see an uptick in the demand for their services. Combining the data on the occupational staffing patterns of different industries with the job growth or decline trends in these industries can provide important insights into the changes in the demand for specific types of workers. Occupational

staffing patterns do not hold constant over time and are not identical across different areas. Workforce development professionals need to develop and update the occupational staffing patterns information for their area and combine this information with the industry employment trends in their area to assess changes in the demand for specific types of workers.

### ***Educational Attainment of Workers by Occupation***

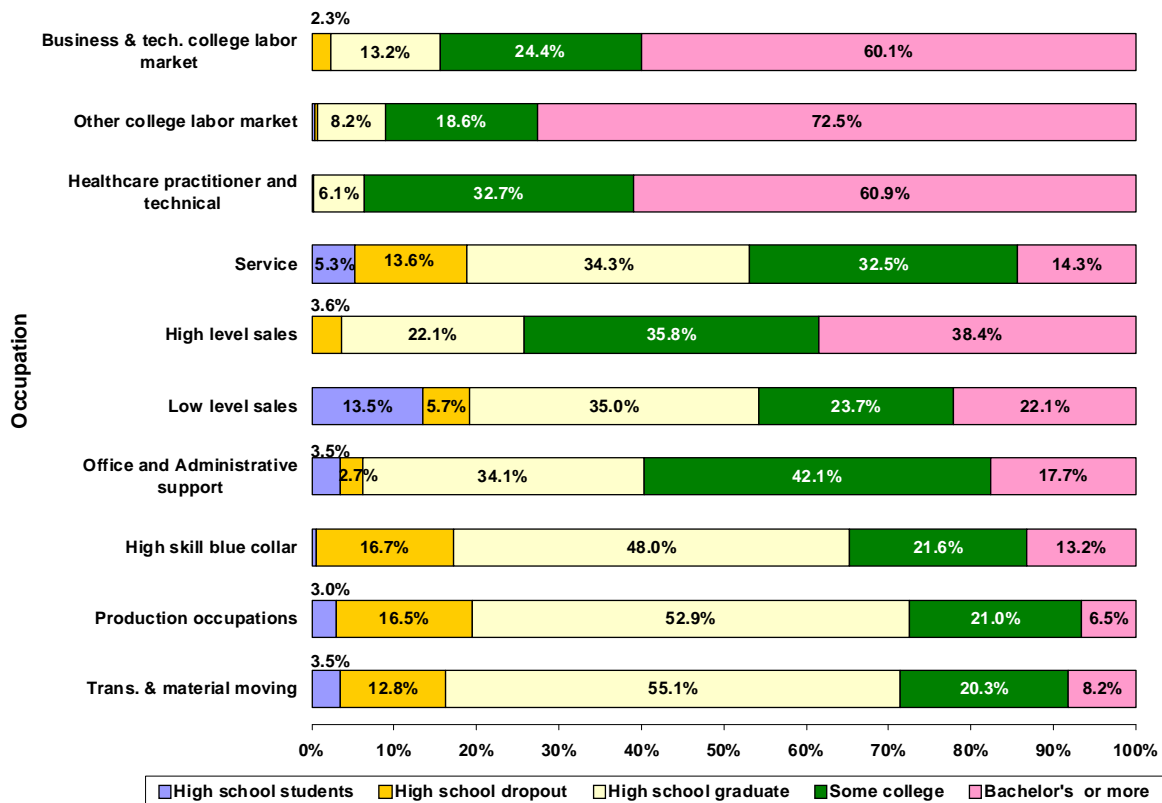
An examination of the occupational staffing patterns of industries presented in the previous section provides information about the demand for specific types of workers that arises from a change in employment across different industry sectors. The occupational classification is based upon the duties that workers perform on their jobs. The qualifications necessary to perform these job duties are sharply different across different occupations. One of the key measures of worker qualifications is their educational attainment. The actual level of educational attainment of workers who are currently employed in an occupation provides a fairly accurate measure of the level of education, literacy, and skill requirements of that occupation.

An examination of the educational attainment levels of workers employed in the North Shore area demonstrate the sharp difference in the educational attainment of workers employed in different occupations. Workers employed in the two groups of college labor market occupations and those employed in healthcare practitioner occupations had very large shares of college graduates with a bachelor's degree or a higher level of education. Between 60 and 73 percent of North Shore workers employed in these occupations were college graduates. Between three-quarters and 90 percent of the workers in these occupations had completed some level of postsecondary education—below, at, or above the bachelor's degree level.

The next largest college graduate concentration was among workers employed in high level sales occupations. Examples of these occupations include sales representatives in insurance, securities and commodities, advertising, financial services. Nearly four out of ten workers employed in high level sales occupations in the North Shore area were college graduates and another 36 percent had completed some postsecondary education under the bachelor's degree level.

Workers in the office and administrative support occupations also were highly likely to have some college education, although most had completed a college education below the bachelor's degree level. Over 42 percent of North Shore workers in this occupation had completed some college education below the bachelor's degree level and only 18 percent had a bachelor's degree or higher level of education. Over one-third of the office and administrative support workers had a high school diploma with no postsecondary education.

Chart 1:  
Percentage Distribution by Educational Attainment of Employed Individuals Who  
Worked in the North Shore Area by Major Occupational Group, 2005-06



Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

Blue collar occupations at the lower end of Chart 1 had disproportionately large numbers of high school graduates. About one-half of the workers in high skill blue collar jobs, 53 percent of production workers, and 55 percent of transportation and material moving workers had completed only a high school level of education and earned a high

school diploma or a GED certificate. One-fifth of the workers in each of the three blue collar occupations had completed some postsecondary education below the bachelor's degree level. College degrees were fairly uncommon among these workers—only 13 percent among high skill blue collar workers, and 7-8 percent among production and transportation workers. These occupations also had fairly high shares of high school dropouts. We have defined high school dropouts as those individuals who did not have a high school diploma or a GED and were not enrolled in school at the time of the ACS surveys. Individuals who did not have a high school diploma or a GED but were enrolled in school at the time of the ACS survey were classified as high school students. Nearly 17 percent of high skill blue collar and production occupation workers and 13 percent of transportation and material moving workers were high school dropouts.

Low level sales occupations such as cashiers, counter clerks and retail salespersons are more likely to be staffed by young workers. Nearly 14 percent of the North Shore area workers who were employed in these occupations were high school students, making this occupation a large employer of teens. Over one-third of the workers in this occupation were high school graduates, one-quarter had completed postsecondary education below the bachelor's degree level and one-fifth had completed a bachelor's degree or higher level of education. The share of college graduates among low level sales workers has increased since the year 2000 in the North Shore area as well as the state. This increase likely reflects an increase of college graduate employment in non-college labor market occupations which, in turn, has restricted some of the access of teenagers and poorly educated persons to employment in these occupations.

Workers in the healthcare support jobs, personal services, protective services, building and grounds maintenance, and food preparation services in the North Shore area consisted of nearly 14 percent high school dropouts, 5 percent high school students, one-third high school graduates, another one-third with postsecondary education below the bachelor's level, and only 14 percent college graduates. Within the group of service occupation workers in the North Shore area, the educational composition varied widely. Protective service workers, which include police officers and fire fighters among others, had the highest share of college graduates and the lowest share of high school dropouts. Healthcare support occupations also had somewhat higher shares of college graduates (17

percent) and workers with some college education under the bachelor's degree level (44 percent). But the healthcare support occupations also had higher shares of high school dropouts (11 percent). Workers employed in building and grounds cleaning and maintenance occupations were considerably more likely than the other service occupations to have dropped out of high school. One out of four North Shore workers employed in these occupations consisted of high school dropouts.

Table 2:  
Percentage Distribution by Educational Attainment of Employed Individuals Who  
Worked in the North Shore Area by Service Occupations, 2005-06

	High school students	High school dropouts	High school graduates	Some college	Bachelor's or higher
Healthcare support	2.4%	11.2%	24.9%	44.3%	17.2%
Protective services	2.6%	2.1%	24.6%	37.7%	32.9%
Food preparation & serving	7.6%	14.7%	39.5%	28.4%	9.7%
Building & grounds cleaning	4.5%	25.4%	39.4%	20.8%	9.9%
Personal care & service	5.5%	9.4%	32.6%	38.7%	13.8%

Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

The differences in the educational credentials of workers employed in different occupations in the North Shore area are quite stark. These educational differences by occupational area are not unique to workers in the North Shore area. Similar educational differences exist across occupations among workers in the state as well as the nation. It is evident from the discussion thus far that different levels of education are required to work in different occupations and that the occupational staffing patterns in the North Shore area vary sharply by industry. While change in the total employment represents a change in the total labor demand, a change in employment across industries can represent a change in the demand for different types of labor. The implications of this type of change are especially evident when combined with the knowledge of the occupational composition of each industry sector and the educational levels of workers in each occupational group.

## ***Educational Attainment of Workers by Industry***

Although industries are staffed with workers in several different occupations, there are some occupations that are more dominant in certain industries than in others. For example, blue-collar occupations are more dominant in the construction and manufacturing industries and college labor market occupations are more dominant in the professional, scientific and technical services industries. These differences in the types of jobs across different industries result in different levels of educational attainment among workers in different industries. The education of workers employed in different industries provides a measure of the educational requirements to obtain employment in these industries.

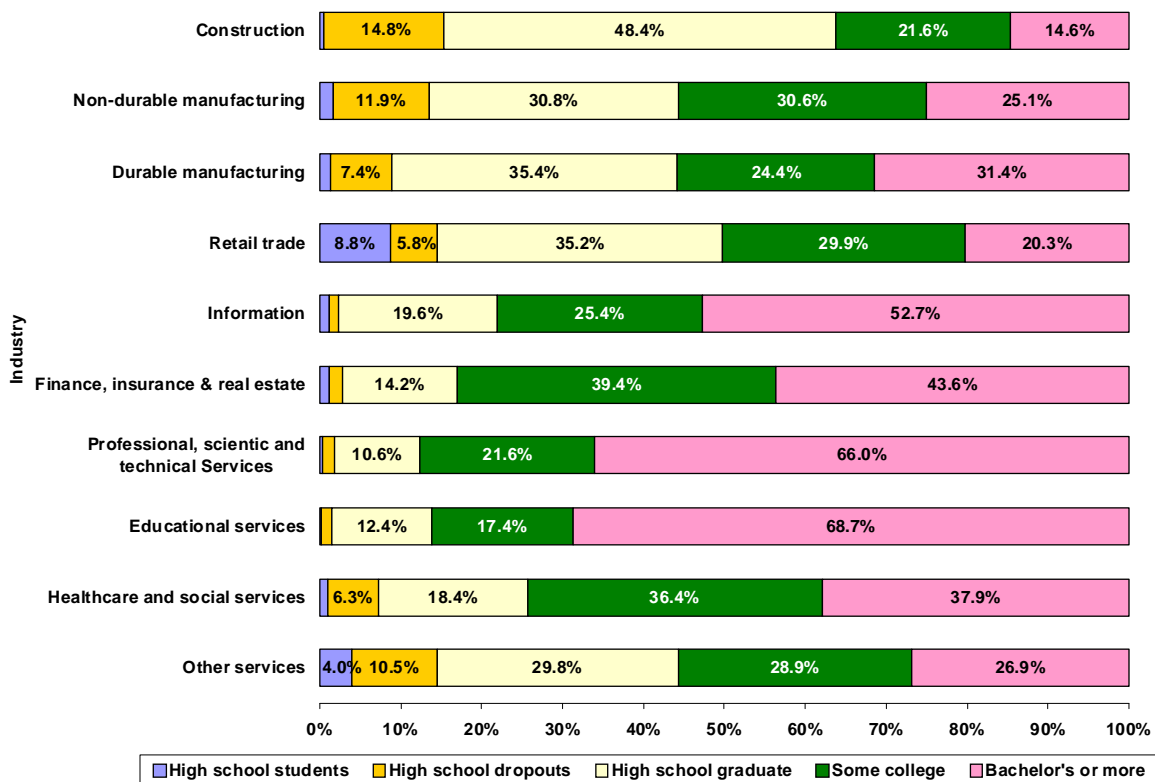
An examination of the educational attainment of workers in the North Shore area within 10 industry sectors highlights sharp difference across industries. Our discussion starts with the industry with the most college graduates. College graduates account for two thirds of all workers in the professional, scientific and technical services industries and educational services industries and over one-half of all North Shore area workers employed in the information sector. These sectors also had sizable proportions of workers with some college education below the bachelor's degree level. In fact a majority of the workers in these three industries had completed at least some higher education in the form of some college or a bachelor's degree or more—88 and 86 percent in the professional, scientific and technical services sector and the education services sector, and 78 percent in the information sector had completed these educational levels. These industries employed almost no high school dropouts.

The finance, insurance and real estate firms in the North Shore area were also quite heavily staffed with college-educated workers. About 44 percent had a college degree and another 40 percent had a college education below a bachelor's degree. High school dropouts did not easily find employment in this sector of the region's economy.

In a previous segment we found that workers employed in the healthcare and social services industries in the North Shore area were working in sharply different occupations. A sizable number worked in the college labor market occupations and health practitioner occupations—both occupations characterized by high levels of educational

attainment. The industry also had a sizable share of employment in service occupations and administrative support and office occupations. The educational attainment of the workers in this industry reflects these differences in its occupational staffing patterns. Although three-quarters of all workers in these industries had some college education, only half of those (38 percent) had earned a college degree. The other half had some college education below the bachelor's degree level. Nearly one-fifth of all workers in

Chart 2:  
Percentage Distribution by Educational Attainment of Employed Individuals Who  
Worked in the North Shore Area by Major Industry, 2005-06



Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

these industries had only a high school level education and 6 percent were high school dropouts.

The education of workers employed in the miscellaneous (other) services sector, which contains firms that provide administrative support and waste management, arts,

entertainment, recreation, accommodation, food services, and public services, is much lower than that of their counterparts in other higher level services industries. Nearly 11 percent were high school dropouts. High school graduates and workers with some college education below the bachelor's degree level each comprised 30 percent of all workers employed in these industries. Slightly more than one-quarter had a college degree (27 percent).

Retail trade workers had similar levels of educational attainment to workers in the miscellaneous services industries except at the lower end, where the retail trade sector had twice as large a share of high school students (9 percent versus 4 percent) and nearly half as many high school dropouts (6 percent versus 11 percent). The larger share of high school students means that the retail trade sector provides employment opportunities to teens and younger workers. In fact, this industry is the entry point to the labor market for many teen workers. Over 35 percent of the North Shore area's retail trade workers had only earned a high school diploma or a GED certificate. One-fifth had earned a college degree and 30 percent had some college education.

The goods-producing industries of construction and manufacturing had a different educational profile of their workforce. The construction industry had workers with the lowest educational credentials. Nearly 15 percent had failed to earn a high school diploma or a GED certificate and one-half had terminated their education after graduating from high school. One-fifth had completed some college education and 15 percent had a college degree. Workers in the nondurable manufacturing sector had better education levels than those in the construction sector. One out of eight had failed to graduate from high school, 30 percent had a high school diploma or a GED and another 30 percent had completed some college. The remaining one quarter had earned a college degree.

Workers in the durable manufacturing industries of the North Shore area were much more likely to have completed some college education. Nearly 56 percent had completed some postsecondary education or had earned a college degree and 35 percent were high school graduates. Slightly more than 7 percent had failed to graduate from high school.



The education of workers in the North Shore area varied widely by the industry sector and by the occupation in which they were employed. Knowledge of the trends in employment by industry can be combined with the occupational staffing structures of growing and shrinking industry sectors to assess changes in the labor demand for individuals with different skill sets and educational levels. Industry employment trends in the North Shore area and its occupational staffing patterns and educational requirements clearly point towards a greater demand for better-educated workers.

# Job Vacancy Measurement and Interpretation

## ***Introduction***

Measures of job vacancies are usually designed to shed insight into the size and characteristics of unfilled labor demand in a way that is analogous to the way the measure of unemployment serves to describe available but unutilized labor supply. The household unemployment measure classifies individuals in the working age population as unemployed if they are:

- jobless,
- actively seeking work in the 4 weeks prior to the survey reference week,
- available for work at the time of the survey.<sup>17</sup>

The measure of job vacancies is usually constructed in a parallel fashion. The count of job vacancies includes wage and salary positions for which:

- a specific position exists that is available to workers outside the firm
- the employer is actively seeking workers outside the firm
- and the position could be filled within thirty days of the survey.

Two parallel systems of job vacancy measurement exist in the nation today. At the national level the U.S. Bureau of Labor Statistics conducts a monthly survey of business establishments that measures worker accession and separation from payrolls each month as well as the number of jobs remaining unfilled at the end of the month by industry. The Job Openings Labor Turnover Survey (JOLTS) is a nationally representative survey of business establishments conducted on a monthly basis that produces measures of the number of wage and salary jobs vacant at the end of each month and a job vacancy rate measure that provides an estimate of the share of all wage

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<sup>17</sup> The Current Population Survey (CPS) and American Community Survey (ACS) use slightly different unemployment concepts and the population scope of the two surveys is slightly different. The ACS estimate of the unemployment rate in a state or locality is generally higher than that measured by the CPS. See: U.S. Bureau of the Census, *Guidance of Differences in Employment and Unemployment Estimates from Different Sources*, [www.census.gov/hhes/laborfor/laborguidance082504.html](http://www.census.gov/hhes/laborfor/laborguidance082504.html), and August. 23. 2004 and Wayne Vroman, *Comparing Labor Market Indicators from the CPS and the ACS*, The Urban Institute, Washington, DC. November, 2003

and salary positions in the American economy that are unfilled at a point in time.<sup>18</sup> BLS publishes monthly estimates of the aggregate number of job vacancies and the aggregate job vacancy rate for the nation and four major geographic regions of the country each month. In addition, BLS produces monthly national estimates of both job vacancies and job vacancy rates by major industry sector.

The JOLTS survey places the job vacancy estimates it produces in the context of overall labor turnover activity that has occurred over a given month. Labor turnover is composed of two distinct measures:

- *Hires*, which includes the total number of additions to a firm's payroll that occurred over a month, including new hires, recalls from lay-off and other rehired employees.
- *Separations*, which are composed of three elements.
  1. Quits, or voluntary separations from the business (except retirements or transfers to other locations)
  2. Involuntary separations including layoffs and fires
  3. Other separations including retirements, transfers to other locations, separation due to disabling condition or death.

The measure of job vacancies measured at the end of the month is thus placed in the context of the hiring and separation activity that plays a central role in the creation of job vacancies at a point in time and helps shed insight into the underlying sources of job vacancies, growth and turnover.

### ***Trends in Job Vacancies in the Nation***

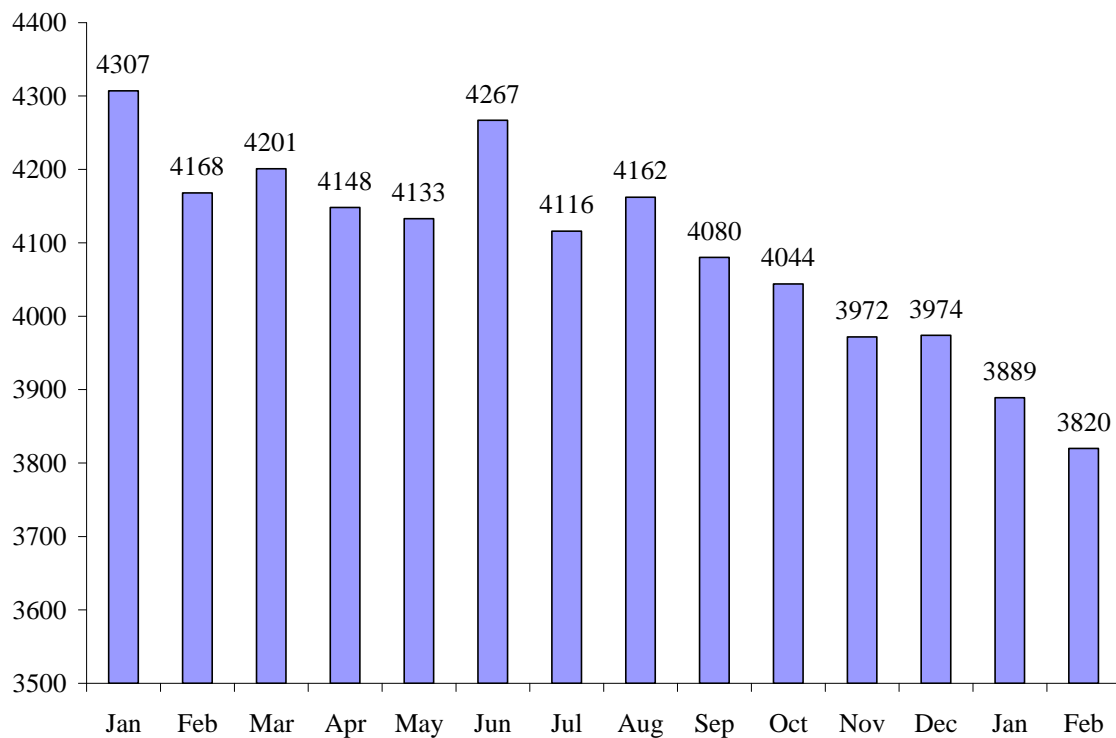
The total number of job vacancies in the nation has declined since the beginning of 2007. The findings provided in Chart 1 reveal that at the end of January 2007 a total of 4.168 million jobs on American payrolls were unfilled and were actively seeking workers. At that time the nation's job vacancy rate stood at 3.0 percent meaning that 3 percent of all payroll jobs in the nation were unfilled at the time of the survey in January 2007. Since then, the number of jobs that were unfilled at the end of the month has

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<sup>18</sup> The national job vacancy rate is calculated as  $(V/V+E)*100$ , where V=stock of job vacancies and E = wage and salary employment level.

trended downward. By the end of February 2008 the number of unfilled payroll jobs among the nation's employers had declined to 3.820 million, a reduction of 487,000 jobs and a relative decline of more than 11 percent in demand. The job vacancy rate also declined over this period of time falling to 2.7 percent by February 2008, suggesting a slackening of labor demand as the growth in the nation's economy has slowed and payroll employment levels have declined as we observed earlier. Nonetheless, despite the context

Chart 1: Trends in the Total Number of Wage and Salary Job Vacancies in the United States, January 2007 to February 2008  
Seasonally Adjusted, Numbers in 000s



Source: U.S. Bureau of Labor Statistics, *Job Openings Labor Turnover Survey*, LABSTAT. [www.bls.gov](http://www.bls.gov)

of overall declines in payroll employment in recent months, the JOLTS survey still found 3.8 million unfilled jobs.

Declines in the number of job vacancies were especially severe in construction and manufacturing industries over the last year. Both of these sectors saw their number of job vacancies fall by more than one quarter over the year, as companies in these industries began to pare their payrolls. The trade, transportation and utilities sector along

with retail trade producers also experienced sharp over the year reductions in the number of unfilled jobs available for immediate occupancy. In contrast, the professional and business services industry experienced little reduction in the number of job openings while the health and education sector saw the number of unfilled jobs rise from 714,000 to 748,000, a rise of 5 percent in the level of unfilled openings. This increase is reflective of the continued expansion of payroll employment levels among the nation's health service producers.

**Table 1: Trends in the Number of Wage and Salary Job Vacancies in the United States, January 2007 to February 2008, by Industry Sector**  
(Seasonally Adjusted, Numbers in 000s)

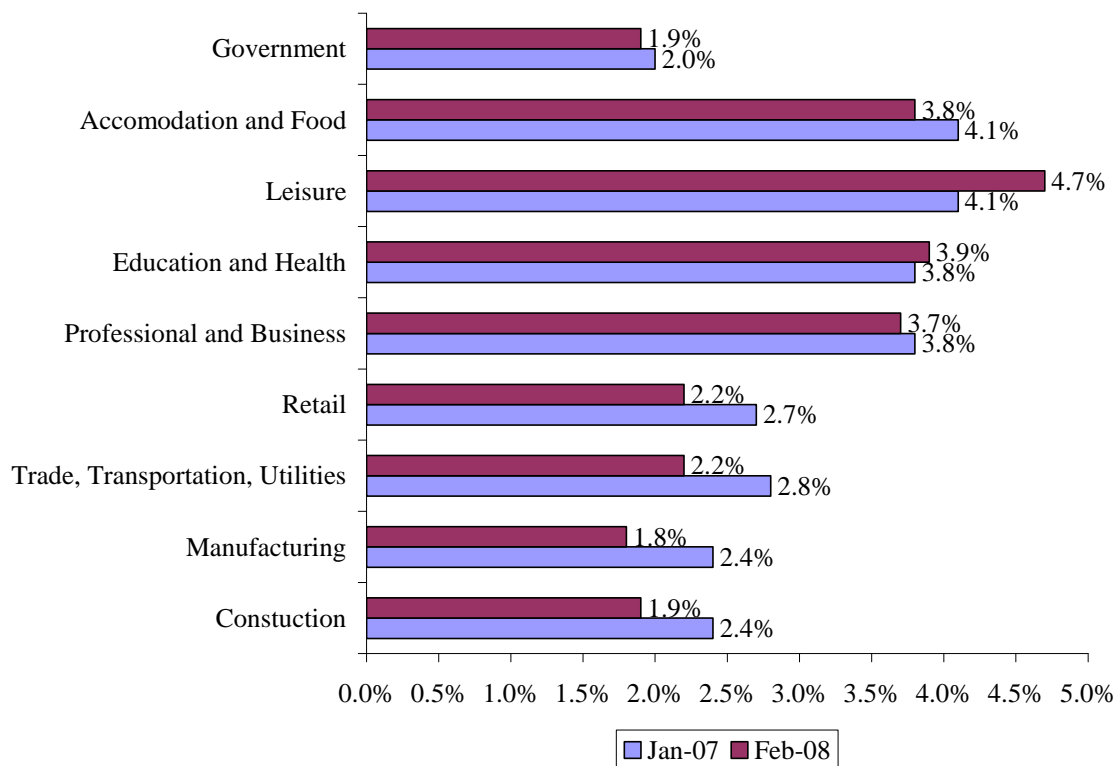
	Jan-07	Feb-08	Absolute Change	Relative Change
Construction	191	140	-51	-27%
Manufacturing	344	246	-98	-28%
Trade, Transportation, Utilities	763	611	-152	-20%
Retail	424	346	-78	-18%
Professional and Business	707	695	-12	-2%
Education and Health	714	748	34	5%
Leisure	566	516	-50	-9%
Accommodation and Food	491	462	-29	-6%
Government	461	441	-20	-4%

Source: U.S. Bureau of Labor Statistics, *Job Openings Labor Turnover Survey*, LABSTAT. [www.bls.gov](http://www.bls.gov)

Not only has the level of job vacancies declined considerably across a number of major industry sectors in the nation, but the job vacancy rate in these industries has declined, providing additional support to the view that labor demand conditions have slackened over the last year as the share of payroll jobs that remained unfilled has declined. The data provided in Chart 2 reveal that job vacancy rates fell considerably in both the construction and manufacturing industries over the year. During January of last year both industry sectors had a job vacancy rate of 2.4 percent, but by February 2008 the job vacancy rate in construction had fallen to 1.9 percent while in manufacturing the rate had declined to 1.8 percent. The retail trade sector saw its seasonally adjusted job vacancy rate fall from 2.7 percent to 2.2 percent over the year, while wholesale trade,

transportation and utilities producers reduced their vacancy rate from 2.8 percent to 2.2 percent. The high end professional and business service industry's vacancy rate remained essentially unchanged over the year-remaining at the 3.7 – 3.8 percent range. Similarly the job vacancy rate in the education and health sector remained stable in the 3.8 to 3.9 percent range.

Chart 2: Trends in the Number of Wage and Salary Job Vacancy Rates in the United States, January 2007 to February 2008, by Industry Sector (Seasonally Adjusted)



Source: U.S. Bureau of Labor Statistics, *Job Openings Labor Turnover Survey*, LABSTAT. [www.bls.gov](http://www.bls.gov)

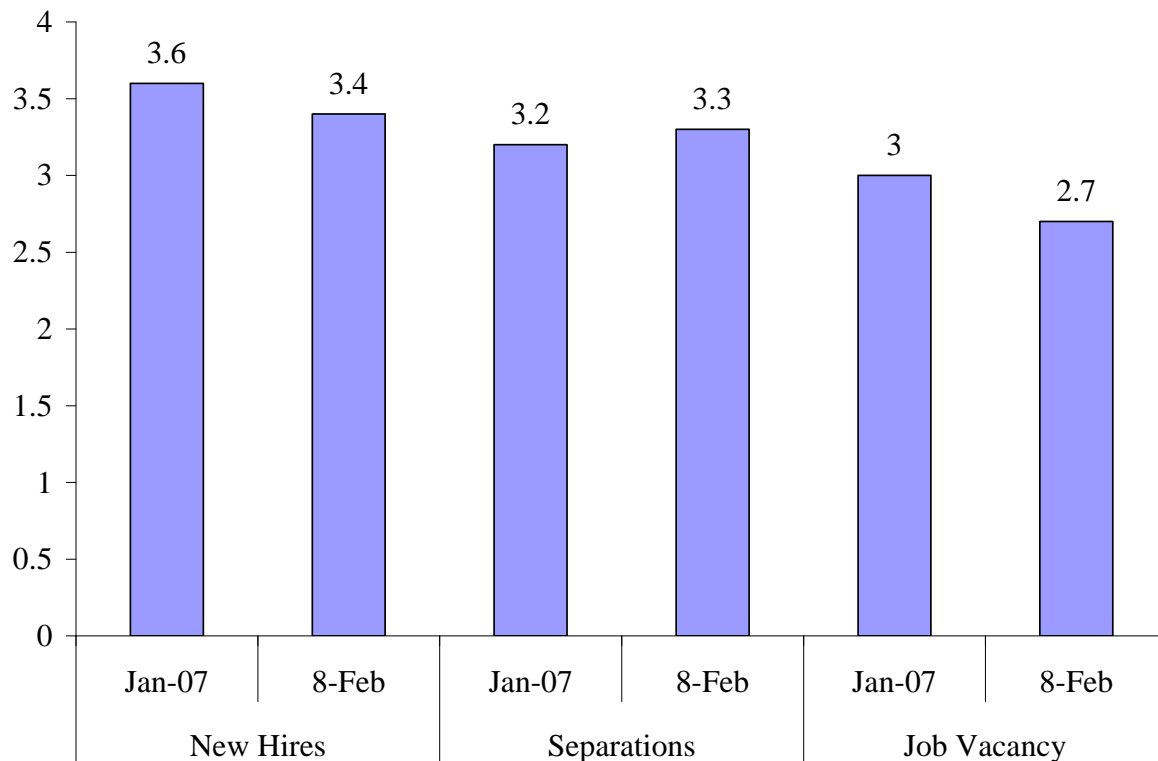
The data reveal that the two major industry sectors with the highest vacancy rate were the accommodation and food industry and leisure and hospitality industry. Both of these sectors had job vacancy rates of 4.1 percent at the end of February 2008. A job vacancy rate that was sharply above the overall vacancy rate of 2.7 percent was observed for the labor market as whole during February of this year. Does this imply that the most severe skill shortage problems exist in these two industries where 4 percent of all payroll

jobs remained unfilled at the end of February? One way of assessing the underlying causes of high vacancy rates within an industry is to place them in the context of hiring and separation transaction flows—labor turnover—that occurs in the weeks just prior to the measurement of the stock of job vacancies that occur at the end of the month.

## Hires and Separations

The findings provided in Chart 3 and Table 2 examine how the flow of new hires and separations has changed over the past year. During January 2007 the nation's business establishments filled 4.992 million jobs. This does not mean that the number of payroll jobs in the nation grew by this amount since most of these hires were to fill jobs that became open due to replacement needs. Indeed, during the same month 4.485

Chart 3: Trends in the New Hires Rate, Separation Rate and Job Vacancy Rate in the United States, January 2007 to February 2008  
(Seasonally Adjusted)



Source: U.S. Bureau of Labor Statistics, *Job Openings Labor Turnover Survey*, LABSTAT. [www.bls.gov](http://www.bls.gov)

million jobs saw their incumbents quit, be laid off or otherwise separated from their payroll job from the business establishment where they were employed. The new hire rate in the nation's labor market was 3.6 percent, while the separation rate was 3.2 percent.<sup>19</sup> The larger new hire rate relative to the separation rate implies that payroll employment levels were expanding at that time, as in fact they were. However, as the nation's economy has begun to slow the size of the difference between the flow of new hires and separations narrowed. By February 2008 the overall new hire rate had declined to 3.4 percent as slow economic growth led to a slowdown in hiring transactions among the nation's businesses. The economic slowdown also resulted in a slight rise in separations as layoffs began to rise<sup>20</sup>

We had observed previously that the accommodation and food industry and the leisure and hospitality industry had the highest job vacancy rate of any major industry sector in the American economy and asked what this might suggest about relative labor supply and demand conditions in these sectors of the nation's labor markets and whether high job vacancy rates were always signals of labor shortage problems. An examination of the vacancy rate in these industry sectors in the context of their new hire and separation activities yields some important additional insight into the question of whether shortages might exist in this sector of the economy.

The findings for the accommodation and food industry reveal that this industry sector had a hire rate during February 2008 of 6.1 percent and a separation rate of 6.1 percent as well. When compared to the overall hire rate of 3.4 percent and separation rate this findings suggests a very high relative level of movement of workers in and out of jobs in the industry. Indeed, this data implies that over the course of the year, businesses in this industry will engage in a volume of hiring sufficient to replace 73 percent of its annual average number of workers—suggestive of a 'high turnover' rate industry. When we consider the job vacancy rate of 3.8 percent in the context of an industry with a separation rate of 6.1 percent and a monthly hiring rate of 6.1 percent, it suggests that the

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<sup>19</sup> The new hire rate = new hires per month/ monthly payroll employment and the separation rate = total separations per month/monthly payroll employment

<sup>20</sup> As the new hire rate slows, layoffs begin to mount, however, this increase in layoffs is partially offset by a decrease in quits and other separations (including for retirement purposes) as job incumbents become more cautious in a deteriorating labor market environment.



high job vacancy rate is not the product of an inability to increase payroll employment levels because of a skill shortage, but instead a high vacancy rate that is the product of less stable employment in this industry sector. Similarly, the leisure and hospitality industry had very high new hire and separation rates, both equal to 6.2 percent, with a much lower vacancy rate of 3.7 percent. This again indicates a relatively high vacancy rate is largely a product of high rates of labor turnover rather than labor shortages. A look at the data on staffing structures and the educational attainment (found in section four of this monograph, reveals that jobs in these sectors are concentrated in occupations that require comparatively low levels of educational attainment, again suggestive that the high vacancy rate is likely not the product of a skill shortage in this sector of the economy.

Table 2: Number and Rates of Wage and Salary New Hires, Separations and Job Vacancies in the United States, February 2008, by Industry Sector  
(Seasonally Adjusted, Numbers in 000s)

		New Hires	Separations	Job Vacancies
Total	Number	4638	4485	3820
	Rate	3.4	3.3	2.7
Construction	Number	358	330	140
	Rate	2.1	2.6	1.8
Manufacturing	Number	285	358	246
	Rate	2.1	2.6	1.8
Trade, Transportation, Utilities	Number	901	958	611
	Rate	3.4	3.6	2.2
Retail	Number	617	656	346
	Rate	4.0	4.2	2.2
Professional and Business	Number	821	854	695
	Rate	4.5	4.7	3.7
Education and Health	Number	522	462	748
	Rate	2.8	2.5	2.9
Leisure and Hospitality	Number	850	848	519
	Rate	6.2	6.2	3.7
Accommodation and Food	Number	706	706	462
	Rate	6.1	6.1	3.8
Government	Number	389	283	441
	Rate	1.7	1.3	1.9

Source: U.S. Bureau of Labor Statistics, *Job Openings Labor Turnover Survey*, LABSTAT. [www.bls.gov](http://www.bls.gov)

The education and health sector has a pattern of relationships between new hires, separations and job vacancies that is quite different than that of the other private sector industries in the nation's economy. The education and health sector has a new hire rate that is greater than its separation rate during February 2008. This suggests that payroll employment levels are rising. Moreover, the separation rate in this sector of the labor market is quite low. The February separation rate of 2.5 percent is the lowest rate of separation of any major industry sector among the nation's private employers. The job vacancy rate of 2.9 percent found in this sector of the economy is not primarily the product of simple turnover transactions. Instead, the high job vacancy rate relative to the lower separation rate implies that employers in this sector are creating a much larger share of vacancies by searching for workers in order to grow payroll employment levels.

In most other industry sectors it appears that virtually all job openings are the product of recruiting for new workers to fill jobs created by workers leaving the organization—that is, to meet turnover, not growth needs. Employers with high job vacancy rates, but also with high separation and new hire rates are not confronted with a labor supply constraint on growth in output and employment. In contrast, employers with low separation rates compared to new hire rates and especially vacancy rates are likely confronting a labor market situation where insufficient labor supply to key occupations limits growth in output and employment. This would appear to be the case in the nation's education and health sector. Again, a look at the data in section four reveals a staffing structure characterized by occupations that require workers with high levels of educational attainment—further lending credence to the existences of a true set of skill shortages in this sector of the nation's labor market. Data that provided a measure of job vacancies by occupation would shed considerable insight into the existence and magnitude of skill shortages in the education and health sector as well as in other sectors of the labor market. Fortunately, Massachusetts has been conducting a job vacancy survey by occupation that is discussed below

## ***Job Vacancies in Massachusetts***

Several years ago the Massachusetts Department of Labor and Workforce Development began a survey of business establishments in the state designed to measure job vacancies by occupation. Unlike other surveys conducted by DWD's Labor Market Information Unit, the Job Vacancy Survey (JVS) is not part of the broader federal state statistical program conducted jointly by the state and the U.S. Bureau of Labor Statistics. This means that the methods and measures employed at the state level are not the same as those employed by BLS in its national JOLTS program. The greatest differences between the two programs are in three areas: First, the JOLTS program collects information on the flow of hires and separations that occur in business establishments each month as described above. The state JVS program does not measure labor turnover. Second, the JOLTS program produces estimates of job vacancies only on an industry basis. The state JVS program produces estimates of job vacancies by both industry and occupation. Third the federal JOLTS programs is a monthly survey, the state JVS program measures job vacancies twice a year, during the second and fourth quarter. Because of these differences these two survey programs can serve as strong complements to one another. The monthly JOLTS survey provides a measure of labor demand flows that places job vacancies in the context of labor turnover in various industry sectors in the nation. The state JVS program provides insight into the occupational structure of unfilled labor demand and sheds important insight into potential skill shortages in the Commonwealth.<sup>21</sup>

We observed earlier that at the national level the number of job vacancies had declined by 11 percent between January 2007 and February 2008. At the state level the number of job vacancies actually increased between the end of 2006 and the end of 2007. The findings provided in Chart 4 reveal that the number of job vacancies in Massachusetts increased from 89,600 in the fourth quarter of 2006 to 92,000 by the fourth quarter of 2007, a rise of 2.7 percent over the year. In the Northeast region of the state (which included the North Shore region) the number of job vacancies also increased over the year, from 11,400 in the fourth quarter of 2006 to 11,800, a rise of 3.9 percent

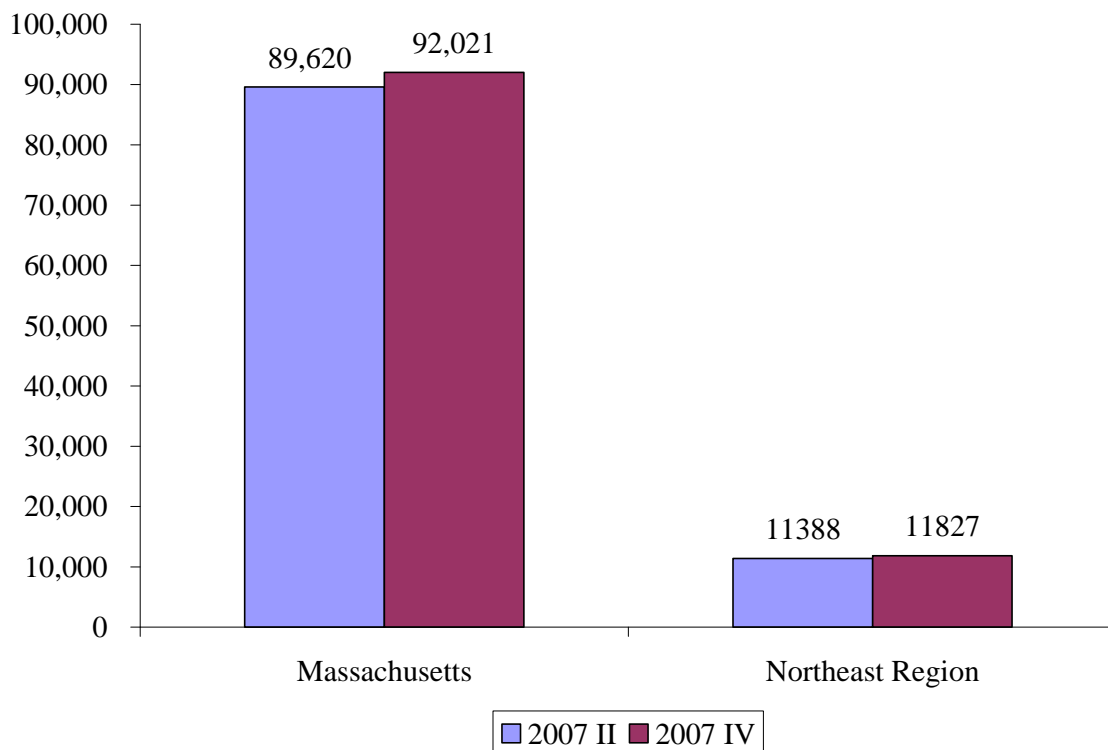
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<sup>21</sup> Other differences exist between the two programs. For more information see: Cathy Foley, *Massachusetts Job Vacancy Survey: Hiring Trends by Industry and Occupation, 2<sup>nd</sup> Quarter 2007* Massachusetts Department of Labor and Workforce Development, Boston, Massachusetts, undated.

over the period. The job vacancy rate in the state remained essentially unchanged in the 3.1 to 3.2 percent range. In the Northeast range the vacancy rate was 2.9 percent during the fourth quarter of 2006 rising to 3.1 percent by the fourth quarter of 2007.<sup>22</sup> These findings on both the number and rate of job vacancies in the state and the Northeast region are very consistent with our earlier discussion of payroll employment trends. Nationally, we found payroll employment declines in recent months as Massachusetts employers continued their modest pace of payroll employment expansion. Similarly, the national job vacancy rate declined, while the state and Northeast region vacancy rate remained at about the 3 percent level.

As in the nation as a whole, the number of job vacancies and the job vacancy rate

**Chart 4: Trends in the number of Job Vacancies in Massachusetts, Fourth Quarter 2006 to Fourth Quarter 2007**



Source: Massachusetts Department of Labor and Workforce Development, unpublished data, April, 2008

<sup>22</sup> The state job vacancy rate is calculated as simply the ratio of job vacancies to payroll employment levels or  $JVR = JV / \text{Employment}$ . This measure yields a slightly higher job vacancy rate than the national measure. In practice the difference in the two methods results in a difference in the estimated vacancy rate equal to only about 0.1 percent.

varied systematically by industry sector in the state. The largest number of job vacancies were concentrated in healthcare, where about 20,000 payroll jobs remained unfilled at the end of the fourth quarter of 2007. The health care industry had a vacancy rate at that time of 4.4 percent. While no data on hiring and separation transactions are available at the state level, the national data on the health care industry revealed relatively low rates of labor turnover compared to the job vacancy rate - suggesting that the job vacancy rate is due to an insufficient supply of labor to meet increased demand for workers. The second and third largest number of job vacancies were concentrated in retail trade and accommodation and food services industries. Together these two industry sectors had

Table 3: The Number of Job Vacancies and the Job Vacancy Rate of Major Industry Sectors in Massachusetts, Fourth Quarter 2007

Industry	Number of Job Vacancies	Job Vacancy Rate	Industry	Number of Job Vacancies	Job Vacancy Rate
Utilities	127	1.0%	Professional & Technical Services	11,527	5.5%
Construction	1,601	1.3%	Management	1,508	2.5%
Manufacturing	5,753	2.1%	Administrative & Waste Services	3,383	3.7%
Wholesale Trade	2,252	2.0%	Educational Services	4,230	1.3%
Retail Trade	13,504	4.2%	Healthcare	20,016	4.4%
Transportation Warehousing	1,727	1.8%	Arts, Entertainment & Recreation	1,598	3.7%
Information	2,885	3.5%	Accommodation & Food Services	10,580	4.6%
Finance & Insurance	5,432	3.3%	Other Services	2,237	2.7%
Real Estate, Rental & Leasing	736	2.1%	Public Administration	2,862	2.6%

Source: Massachusetts Department of Labor and Workforce Development, unpublished data, April, 2008

more than 24,000 vacant jobs. However, a review of the national data for both of these industry sectors suggest relatively high rates of separation compared to the job vacancy

rate—implying not a labor shortage, but high worker turnover as the primary source of this volume of openings. The professional and technical industry also had a large number of job vacancies and a very high vacancy rate of 5.5 percent. While no comparable national data are available for this industry on job vacancy, new hire or separation rates for the most recent time periods, it is likely that this sector of the state economy has a high vacancy rate because of constraints on skilled labor supply.<sup>23</sup> The strong payroll growth we found in this sector of the economy, along with its very high end staffing structure, which utilizes large shares of workers with college degrees, suggest that skill shortages may be an important reason for a vacancy rate of 5.5 percent in this sector of the state economy.

The Northeast region of the state exhibited an industrial pattern of job vacancies similar to that found in the state as whole. The healthcare industry in the region had a total of 2,500 jobs vacant at the end of 2007, accounting for 21 percent of all jobs that were vacant in the Northeast at the time of the survey. The job vacancy rate in the healthcare industry was 4.3 percent. Together the retail trade and accommodation and food services industry had a total of over 2,300 open positions with vacancy rates of 2.8 percent and 3.7 percent respectively. The professional and technical services industry in the region, as in the state, had a very high job vacancy rate. At the end of 2007 professional and technical employers in the region had 1,300 unfilled jobs with a job vacancy rate that averaged 4.9 percent for this industry. Both the health care and professional and technical services sectors in the region are likely experiencing skill shortages that inhibit their ability to hire workers to accommodate their need to expand payroll employment levels.

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<sup>23</sup> The national JOLTS data lumps together both business services and professional services and technical services. The state JVS data provides separate estimates for the professional and technical services industry.

**Table 4: The Number of Job Vacancies and the Job Vacancy Rate of Major Industry Sectors in the Northeast Region, Fourth Quarter 2007**

Industry	Number of Job Vacancies	Job Vacancy Rate	Industry	Number of Job Vacancies	Job Vacancy Rate
Utilities	NA	NA	Professional & Technical Services	1,308	4.9%
Construction	270	1.6%	Management	156	3.1%
Manufacturing	1,406	2.4%	Administrative & Support & Waste Services	347	3.3%
Wholesale Trade	240	1.5%	Educational Services	404	1.0%
Retail Trade	1,235	2.8%	Healthcare	2,519	4.3%
Transportation Warehousing	262	2.6%	Arts, Entertainment & Recreation	326	5.5%
Information	361	2.8%	Accommodation & Food Services	1,112	3.7%
Finance & Insurance	383	3.3%	Other Services	222	2.1%
Real Estate, Rental & Leasing	16	0.4%	Public Administration	1,246	8.9%

Source: Massachusetts Department of Labor and Workforce Development, unpublished data, April, 2008

The Massachusetts JVS program also collects information from business establishments about vacant payroll positions by occupation. The findings provided in Table 5 examine the number of job vacancies and the job vacancy rate for major occupational groups in the state. These data, when considered in the context of skill requirements information available through the U.S. Department of Labor's O\*NET system, provide important insight into the nature of skill requirements and skill shortages in the state economy.<sup>24</sup>

Among those occupations that are considered to be 'college labor market' fields, the job vacancy rates tend to be above the overall state average job vacancy rate, especially in the scientific, engineering and information technology specialties (SEIT)

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<sup>24</sup> The O\*NET system is composed of a large scale data base that measures a wide range of knowledges, skills, abilities and aptitudes in hundreds of occupations in the nation's labor market. It provides considerable insight into the education, training and skill needs of employers based on more than 110,000 respondents who were queried about various aspects of their work, including job incumbents, their supervisors and occupational experts. For more information about O\*NET see: <http://online.onetcenter.org/>

Table 5: The Number of Job Vacancies and the Job Vacancy Rate of Major Occupations in Massachusetts, Fourth Quarter 2007

Occupation	Number of Job Vacancies	Job Vacancy Rate	Occupation	Number of Job Vacancies	Job Vacancy Rate
Total, All Occupations	92,021	3.2%	Healthcare Support	4,220	4.5%
Management Occupations	6,396	3.5%	Protective Service	1,628	2.3%
Business and Financial Operations	5,853	3.5%	Food Preparation and Serving Related	8,965	3.4%
Computer and Mathematical	4,796	4.2%	Building and Grounds Workers	1,703	1.6%
Architecture and Engineering	3,093	4.2%	Personal Care and Service	3,032	4.3%
Life, Physical, and Social Services	2,612	5.6%	Sales and Related	13,134	4.0%
Community and Social Services	2,520	4.3%	Office and Administrative Support	12,174	2.2%
Legal	432	1.8%	Construction and Extraction	880	0.8%
Education, Training and Library	2,972	1.4%	Installation, Maintenance, and Repair	2,045	2.0%
Arts, Design, Entertainment, Sports and Media	962	2.0%	Production	2,354	1.3%
Healthcare Practitioner and Technical	8,654	4.4%	Transportation and Material Moving	3,577	2.2%

Source: Massachusetts Department of Labor and Workforce Development, unpublished data, April, 2008

and in the health area.<sup>25</sup> Statewide, these SEIT fields accounted for more than one in ten vacant jobs in the Commonwealth at the end of the 2007. The vacancy rate in the SEIT occupations ranged from 4.2 percent among engineers to 5.6 percent among life and physical scientists. These fields are characterized by demand for workers with high levels

<sup>25</sup> These are occupations that employ well above average shares of workers with an associate's degree or higher.



of educational attainment with a concentration in college that develops specific occupational skills. They also require strong mathematics skills for those hired into the field. The relatively high vacancy rates along with high skill needs strongly suggest that unfilled positions are the product of limited labor supply to these fields.

The vacancy rate in the health care practitioner occupational area of 4.4 percent is also well above average. The fields that make up this grouping of health jobs cover a wide range of health professions including nursing, various therapeutic fields such as speech language pathology and physical therapy, along with selected health technical specialties. They usually require a college degree of some type with a specialty in the specific health field. Usually to become employed at the professional level workers must not only earn a degree, but must also pass a third party national test of proficiency in the field. The considerable skill requirements in these fields along with the relatively high overall job vacancy rate in the overall health practitioner grouping point to a high likelihood of skill shortages within a number of specialties that make up this group of health positions.

Other college labor market occupations also had vacancy rates that were above the state average vacancy rate including management positions and business and financial operations occupations. These fields both had vacancy rates of 3.5 percent and employ workers with well above average levels of educational attainment.

Blue collar occupations in the construction, production and transportation, and material moving occupations stand in sharp contrast to the SEIT and health practitioner fields. These occupations had job vacancy rates that were well below the state average vacancy rate. In the construction trades the vacancy rate was less than 1 percent at the end of 2007. However, it is important to note that these vacancy data are not seasonally adjusted and may reflect seasonal slowdowns in the demand for these workers.

A number of relatively low skill occupations had job vacancy rates that were also above the state average. These include the healthcare support occupations, food preparation and serving occupations, and personal care and service jobs. These occupations generally (but not always) require workers with fewer years of schooling and relatively little occupational preparation. The relatively high vacancy rates in these areas

may be the product of high separation rates rather than a skills shortage. The Northeast region's vacancy rates in SEIT fields were generally not as high as those observed in the state as a whole. The vacancy rates in the engineering fields average 3.1 percent while the rates in computer and mathematical sciences averaged 3.3 percent, well below the state vacancy rate of 4.2 percent found statewide. Employers in the region who hired life and physical science workers had an average vacancy rate of 5.2 percent. As in the state, these SEIT fields accounted for more than 10 percent of all vacant jobs in the region at

Table 6: The Number of Job Vacancies and the Job Vacancy Rate of Major Occupations in Massachusetts, Fourth Quarter 2007

Occupation	Number of Job Vacancies	Job Vacancy Rate	Occupation	Number of Job Vacancies	Job Vacancy Rate
Management Occupations	765	3.1%	Protective Service	174	2.0%
Business and Financial Operations	841	4.4%	Food Preparation and Serving Related	931	2.4%
Computer and Mathematical	615	3.3%	Building and Grounds	174	1.4%
Architecture and Engineering	473	3.1%	Personal Care and Service	469	5.3%
Life, Physical, and Social Services	271	5.2%	Sales and Related	1,222	2.9%
Community and Social Services	273	3.5%	Office and Administrative Support	2,222	3.0%
Education, Training and Library	312	1.1%	Construction and Extraction	32	0.2%
Arts, Design, Entertainment, Sports and Media	150	2.7%	Installation, Maintenance, and Repair	287	2.0%
Healthcare Practitioner and Technical	1,045	4.4%	Production	498	1.4%
Healthcare Support	741	5.6%	Transportation and Material Moving	322	1.4%

Source: Massachusetts Department of Labor and Workforce Development, unpublished data, April, 2008

the time of the JVS survey. The vacancy rate in the health care practitioner field was well above the average vacancy rate for the region with a vacancy rate of 4.4 percent. More than 1,000 professional health care jobs were vacant at the time of the survey. Again,

these data indicate the likelihood of a skill shortage in the area, limiting the growth in the region's health delivery system. Vacancy rates in other college labor market occupations were not entirely consistent with those found in the state as a whole. The management occupational area had a vacancy rate of 3.1 percent, slightly below that of the occupation statewide. However, the regional vacancy rate in the business and financial fields of 4.4 percent was well above the statewide vacancy rate in that occupational area.

The number of unfilled clerical and office support occupations in the area was quite large. Indeed these occupations accounted for nearly one fifth of all vacant positions in the region. These occupations are quite mixed with respect to skill requirements, with some fields requiring specific occupational preparation in office computer skills or in areas such as medical office operations. Other administrative and related support fields rely on on-the-job learning activities to develop specific job skills and require no post secondary schooling.

Job vacancy rates in blue collar occupations including construction, production and transportation jobs in the region were quite low. The vacancy rate for more skilled blue collar workers was somewhat higher. The vacancy rate for installation, maintenance and repair workers was 2.0 percent at the time of the survey.

Both the healthcare support and personal care and service occupational fields had vacancy rates that were in excess of 5 percent—a very high level of job vacancies. While caution should be taken in treating these fields as being characterized by skill shortages, the high job vacancy rate does warrant a more careful scrutiny of the underlying causes of these high job vacancy rates.

# **Associate's Degrees, Bachelor's Degrees and Undergraduate Non Degree Awards in the North Shore Workforce Area**

## ***Introduction***

A key component of developing strategies to address state and regional workforce development needs is understanding the flow of students who complete education programs that provide knowledge, skills and abilities required by area employers. These institutional sources of new labor supply represent important workforce education and training resources that many local employers draw upon to meet a variety of skill requirements. Post secondary educational institutions, including local degree granting colleges and universities, make up a very large part of the occupational skills development capacity at the local level. However, other key sources of new hires who have developed specific occupational skills include those who complete non-degree post secondary awards. These awards, also called certificates, are sometimes offered at degree granting institutions, but are also awarded by non degree granting organizations as well as secondary vocational technical education programs. This section of the monograph examines information about trends in the number and characteristics of post secondary undergraduate degrees and awards in the North Shore service area. A separate section of the monograph provides a more detailed discussion about the outputs of the region's secondary vocational technical programs.

The discussion below begins with a review of the sources, uses and limitations of the data we use to measure institutional sources of labor supply at the state and sub state level. It then provides a review of trends in the number of associate's degrees, bachelor's degrees and undergraduate non degree awards in the North Shore region relative.

## ***Institutional Labor Supply Data***

Each year the U.S. Department of Education's National Center for Education Statistics (NCES) collects information from colleges and universities about a wide variety of issues including finance, student enrollment and student retention, and

institutional staffing, to name just a few key areas. The Integrated Post Secondary Data Systems (IPEDS) is a very large scale data collections system operated by NCES that in most instances collects data annually of a range of higher education activities, outcomes and characteristics at the individual institution level. Participation in IPEDS is required for all post secondary institutions that offer students Higher Education Act Title IV financial aid, including such programs as the Pell grant in aid program and the Stafford college loan program.<sup>26</sup> Consequently, virtually all degree granting higher education institutions in the nation submit the complete array of reports required by NCES under the IPEDS system. Because of the complete enumeration of all degree granting colleges and universities in the nation each year, the IPEDS data represent a unique, high quality information source about higher education at both the state and local level.

In addition to the data described above, IPEDS collects information on an annual basis about the number of undergraduate and graduate degrees that are awarded by American colleges and universities, by specific field of study, for each institution in the nation. Data files based on these responses are made available to researchers who can organize and analyze these data in a variety of ways. We have analyzed IPEDS degree completion data at the associate's and bachelor's degree level for the North Shore region, tracking trends in degree output by degree granting institution located within the communities that comprise the region and comparing these with the state and nation. In addition, we have developed a CD that contains information about the number of annual associate's and bachelor's degrees awarded by colleges and universities located in the North Shore region each year for the past five years, by specific field of study. We have also included a matrix of fields of study that supports quick identification of the individual schools that have produced graduates in a particular field of study and provides a measure of the flow of graduates in that field over the last five years.

The information about major fields of study is organized by the Classification of Instruction Program (CIP) code, a major field of study classification system that is closely tied to analogous labor demand classifications including the Standard Occupational Classification and the O\*NET system. This connection facilitates

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<sup>26</sup> Institutions that fail to file a form are assessed a fine of \$27,500 per violation. During 2006, no schools were fined and only 6 received an out of compliance warning. Correspondence from Barbara Hamilton, April 5, 2008

comparisons of labor market skill requirement information with data on the characteristics of institutional sources of undergraduate labor supply at the local level.

In addition to information about the number of undergraduate degrees awarded in the region we have also produced information about the non degree awards granted by post secondary institutions. Non degree certificates refer to an organized program of study at the post secondary level that requires less than 4 full-time years of study or less than 120 semester hours of coursework in total that does not lead to a degree but instead a non-degree certificate or award wherein the institution recognizes the completion of that course of study.

Unlike associate and bachelor's degree programs, third party educational accrediting agencies do not typically review and certify the academic quality of non degree undergraduate certificate programs. These programs are normally not subject to the oversight of the State Board of Higher Education as is the case with all public college undergraduate degree programs. These programs may lead to an individual eventually becoming eligible to earn a license to practice in a particular occupational field, but certificate programs do not award these licenses. Instead, occupational licenses are awarded by the relevant licensing agency in the state government.

The IPEDS system data on non degree undergraduate certificates is far less comprehensive than the data on undergraduate degrees. Moreover, the number of contact hours is not standardized. We suspect that a considerable number of non degree post secondary education and training programs are in operation in Massachusetts. Many of these organizations likely play an important role in supplying local firms with trained program completers but are not included in the IPEDS certificate data.<sup>27</sup> Instead, the IPEDS non degree certificate data largely include only certificates awarded by colleges and universities that also award undergraduate degree. Some non degree granting institutions do report IPEDS information. Some of these institutions are required to report this information because they are eligible to participate in the federal financial aid

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<sup>27</sup> These would include many of the training organizations that are included on Workforce Investment Board "Approved Vendor" lists. Indeed, some state higher education and workforce organizations have proposed to NCES that all institutions on these vendor lists be included in the IPEDS completions data reporting system.

program. A few others (about 200 nationally) also report IPEDS information voluntarily even though they are not Title IV eligible.<sup>28</sup>

### ***Institutional Supply at the Associate's Degree Level***

Over the last ten years the trend in the number of degrees awarded at the associate's degree level by colleges located in Massachusetts as well as the North Shore region has been significantly different from the nation. As the findings in Table 1 reveal, while the output of associate's degrees from the nation's higher education system grew markedly between 1996 and 2006, the number of associate's degrees awarded in New England, Massachusetts, and North Shore declined, with especially sharp reductions in the North Shore region.

Between 1996 and 2006 the number of associate's degrees awarded by the nation's system of two and four year colleges increased by almost 173,000 degrees, an increase of 31 percent in just ten years. In contrast, the state posted a 12 percent reduction in the number of associate's degrees conferred, while the North Shore region's output of associate's degrees declined by one quarter over the last ten years, falling from 881 associate's degrees awarded during 1996 to 662 degrees by 2006.

**Table 1: Trends in the Number of Associate's Degrees Conferred in the U.S., New England, Massachusetts and North Shore, 1996 to 2006**

	1996	2006	Absolute Change	Relative Change
U.S.	557,858	730,643	172,785	31%
New England	28,440	27,023	-1,417	-5%
Massachusetts	12,682	11,139	-1,543	-12%
North Shore	881	662	-219	-25%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

<sup>28</sup> These schools report because they wish to be included in the NCES *College Navigator* web tool designed to provide information to those thinking about enrolling in some type of post high school educational program.

## ***Sources of Associate's Degree Change in the Higher Education Sector***

As the number of associate's degrees granted has changed over the past ten years in the North Shore, Massachusetts, New England and the nation, the data provided in Table 2 and Chart 1 examine trends in degree awards by sector of the higher education system. These data track the trends in associate's degree awards separately for public and private (sometimes called independent) colleges over time

Nationally, public colleges accounted for over two thirds of the total rise in associate's degrees conferred between 1996 and 2006, with public colleges expanding their output of associate's degrees by 119,489 degrees over this ten year period of time (an increase of 26 percent). Private colleges accounted for just under one third of the total rise in associate's degrees granted in the nation, increasing the number of associate's degrees they awarded from 103,406 in 1996 to 156,702 in 2006. However, private institutions in the nation increased the number of associate's degrees at twice the rate of the public colleges (52 percent increase in associate's degree awards versus a 26 percent increase in public college awards).

**Table 2: Trends in the Number of Associate's Degrees Awarded in the U.S., New England, Massachusetts and North Shore, by Higher Education Sector, 1996 to 2006**

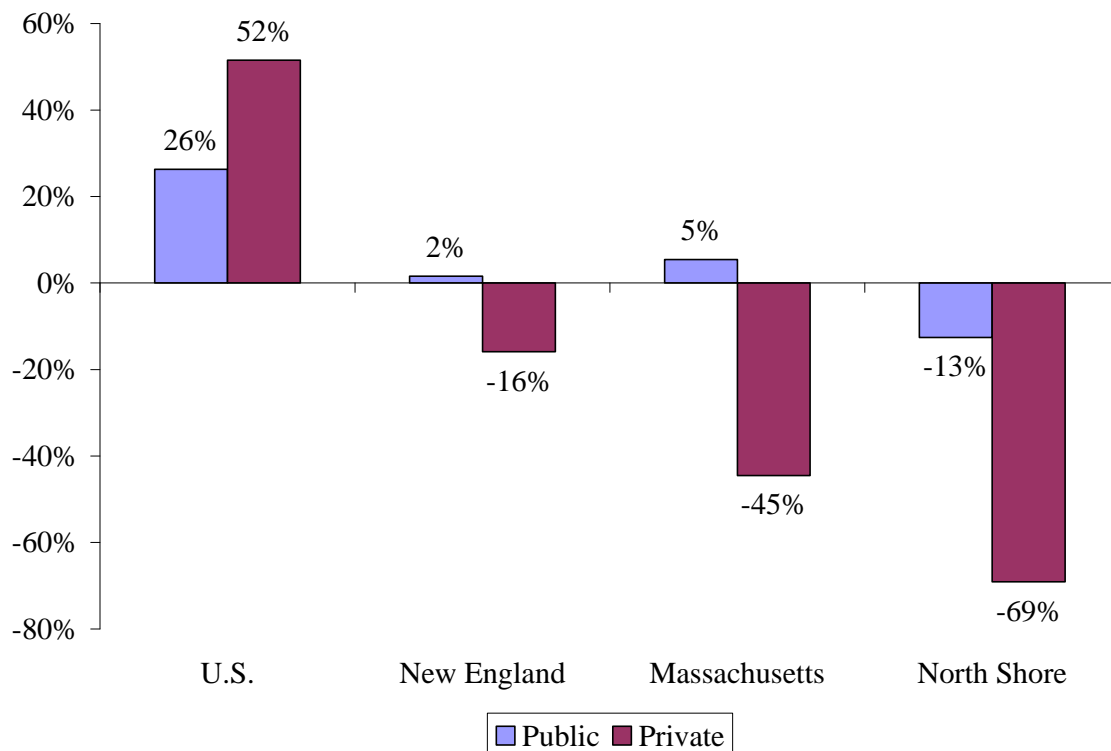
Sector	1996	2006	Absolute Change	Relative Change
<b>U.S.</b>				
Public	454,452	573,941	119,489	26%
Private	103,406	156,702	53,296	52%
<b>New England</b>				
Public	17,746	18,027	281	2%
Private	10,694	8,996	-1,698	-16%
<b>Massachusetts</b>				
Public	8,213	8,659	446	5%
Private	4,469	2,480	-1,989	-45%
<b>North Shore</b>				
Public	690	603	-87	-13%
Private	191	59	-132	-69%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008



In stark contrast to the nation, the overall number of associate's degrees awarded by higher education institutions in New England and Massachusetts fell between 1996 and 2006. In both the New England region and the state all of these declines were concentrated exclusively among private colleges. In New England, although the number of associate's degrees granted by public colleges increased modestly between

Chart 1: Rate of Change in the Number of Associate's Degrees Conferred by Higher Education Sector in the U.S., New England, Massachusetts and North Shore, 1996 to 2006



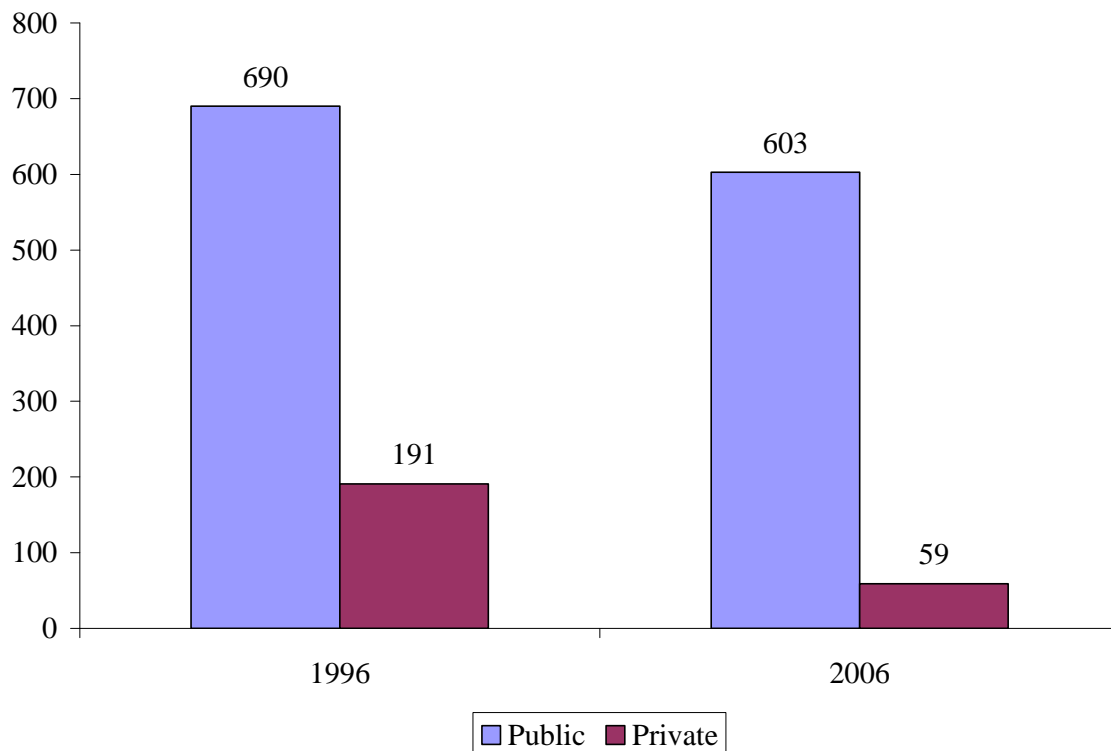
Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

1996 and 2006 (a two percent rise), this increase was counterbalanced by a large reduction in the number of associate's degrees conferred by private colleges in the region during this same ten year period of time, a decline of 1,698 associate's awards by New England colleges (a 16 percent fall). Similarly, in Massachusetts a small rise of five percent in the number of associate's degrees awarded by public colleges between 1996

and 2006, from 8,213 to 8,659, was sharply offset by a decline of 45 percent in the number of these degrees awarded by private higher education institutions in the state over this same period of time. The number of associate's degrees awarded by Massachusetts private colleges fell from 4,469 degrees in 1996 to 2,480 degrees in 2006.

Unlike in both New England and Massachusetts, the decline in the number of associate's degrees awarded in North Shore between 1996 and 2006 occurred in

Chart 2: The Number of Associate's Degrees Conferred in North Shore, by Higher Education Sector, 1996 to 2006



Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

both the public and the private sectors, although to a much greater extent in the private sector. Private higher education institutions in the North Shore accounted for 60 percent of the area's total decline in the number of associate's degrees conferred between 1996 and 2006. Moreover, as demonstrated in Chart 1, while public

higher education institutions in North Shore decreased the number of associate's degrees that they awarded between 1996 and 2006, from 690 to 603 (a 13 percent rate of reduction), private institutions in the area decreased the number of associate's degrees they conferred by 132, an extraordinary reduction in degrees awarded over the ten year time period.

As a consequence of these trends, between 1996 and 2006 the public higher education sector in North Shore accounted for the overwhelming share of associate's degrees awarded in the area. Indeed, North Shore Community College awarded 91 percent of all granted associate's degrees in North Shore in 2006, up from 78 percent in 1996.

### ***Trends in Fields of Study of Associate's Degree Awards***

In addition to a decline in the overall number of associate's degrees granted by the higher education system in North, the number of associate's degrees awarded by broad major field of study has also changed noticeably over this period (Table 3). In almost all of the broad major fields of study there were considerable declines in the number of associate's degrees granted during this period in the North Shore.

**Table 3: Trends in Associate's Degrees Awarded by North Shore Colleges, by Broad Major Field of Study, 1996 to 2006**

	1996	2006	Absolute Change	Relative Change
Criminal Justice	65	95	30	46%
Health Sciences	266	175	-91	-34%
Business	189	114	-75	-40%
Engineering & Computer Science	48	30	-18	-38%
Education	28	6	-22	-79%
Law	42	27	-15	-36%
Arts & Humanities	175	166	-9	-5%
Sciences	40	1	-39	-98%
Personal Services	28	48	20	71%
Total	881	662	-219	-25%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

The largest absolute loss was experienced in health sciences, where the number of associate's degrees conferred fell by 91, from 266 degrees during 1996 to 175 degrees during 2006 (a 34 percent decline). There was also a significant reduction in the number of associate's degrees granted in the field of business, with the number of degrees declining by 75, from 189 degrees to 114 degrees between 1996 and 2006 (a 40 percent decline). Smaller – albeit still considerable – absolute decreases in the number of associate's degrees awarded were also experienced in the fields of sciences (a decrease of 39 degrees), education (a decrease of 22 degrees), engineering and computer science (a decrease of 18 degrees), law (a decrease of 15 degrees) and arts and humanities (a decrease of nine degrees).

Partially offsetting these reductions in associate's degrees conferred between 1996 and 2006 were increases in the number of criminal justice associate's degrees awarded, from 65 to 95 (an increase of 46 percent), as well as the number of personal services associate's degrees granted, from 28 in 1996 to 48 in 2006 (an increase of 71 percent). The findings from Table 4 also highlight that the mix of program offerings, as measured by the distribution of associate's degrees awarded in North Shore during 2006, shares some broad similarities with those offered by the higher education systems in the nation, the New England region and the state of Massachusetts during this same year.

### ***Current Distribution of Awards***

During 2006, the two fields of study in which the highest share of all associate's degrees were awarded in North Shore were in health sciences and arts and humanities, where 26 percent and 25 percent, respectively, of all associate's degrees were awarded. In 2006, over half of all the associate's degrees awarded in North Shore were in one of these two fields (51 percent). This is similar to Massachusetts, New England and the nation in 2006. Health sciences awarded 23 percent of all associate's degrees in Massachusetts, 21 percent in New England and 19 percent in the nation., Arts and humanities awarded 31 percent of all associate's degrees in Massachusetts, 27 percent in New England and 41 percent in the nation. However, in North Shore health sciences awarded the most degrees, while in Massachusetts, New England and the nation arts and humanities awarded the most degrees.

North Shore also awarded a relatively similar share of all its associate's degrees in business in comparison to the other geographical regions. In 2006, North Shore awarded 17 percent of all its associate's degrees in business. This was a slightly bigger share than awarded in the nation (14 percent), but a slightly smaller share than granted in both Massachusetts and New England (19 percent and 21 percent, respectively). Another similarity that North Shore shared with the other geographical areas in 2006 was that very few associates' degrees were conferred in the fields of education, sciences and law. Each of these fields only accounted for between one percent and four percent of all the associate's degrees conferred in each of these regions in 2006.

**Table 4: Distribution of Associate's Degrees Conferred by Broad Major Fields of Study in North Shore, Massachusetts, New England and the U.S., 2006**

	North Shore	Massachusetts	New England	U.S.
Criminal Justice	14%	7%	6%	4%
Health Sciences	26%	23%	21%	19%
Business	17%	19%	21%	14%
Engineering & Computer Science	5%	13%	14%	13%
Education	1%	3%	2%	2%
Law	4%	1%	1%	1%
Arts & Humanities	25%	31%	27%	41%
Sciences	0%	1%	1%	1%
Personal Services	7%	2%	7%	4%
Undesignated Field of Study	0%	0%	0%	0%
Total	100%	100%	100%	100%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

However, in comparison to the other geographical areas the share of associate's degrees conferred in criminal justice in North Shore was considerably higher, with 14 percent of all of these degrees being granted in this field in 2006. This is double the size of the share in Massachusetts (seven percent), more than two times bigger than the share in New England (six percent), and more than three times bigger than the share in the nation (four percent).

Conversely, the share of all the associate's degrees granted in engineering and computer science in North Shore was only five percent in 2006, considerably smaller than the share in Massachusetts (13 percent), New England (14 percent) and the nation (13 percent). Furthermore, while the share of all associate's degrees awarded in personal services in North Shore was the same as the share awarded in New England (seven percent), this was greater than the share granted in both the nation (four percent) and Massachusetts (only two percent).

### ***Institutional Supply at the Bachelor's Degree Level***

Over the last ten years the output of bachelor's degree awards has increased in both the North Shore and the wider geographical areas included in our analysis. As the findings in Table 5 show, while the output of bachelor's degrees in all the different geographical areas increased between 1996 and 2006, the rate of increase in the North Shore was much more rapid than elsewhere. This is in part the reciprocal response to the decline in the number of associate's degrees awarded in the region. Indeed, private colleges in the area shifted their program mix away from 2 year degree programs toward 4-year bachelor's awards, thus altering the academic level of awards granted in the region.

Nationally, between 1996 and 2006 the number of bachelor's degrees conferred increased from 1.17 million to 1.49 million; an increase of 27 percent in just ten years. Although in both New England and Massachusetts there was also an increase in the number of bachelor's degrees conferred, the rate of increase in each of these two areas was considerably slower than in the nation. Between 1996 and 2006 the New England region increased the number of students who earned a bachelor's degree by 16 percent, a rate of increase equal to 59 percent of the rate of growth in bachelor's degree production in the nation. In Massachusetts the rate of increase was even slower, with the number of students who earned a bachelor's degree increasing by only 15 percent over this same ten year. This is a rate of increase equal to only 56 percent of the rate of growth in bachelor's degree production in the nation.

**Table 5: Trends in the Number of Bachelor's Degrees Conferred in the U.S., New England, Massachusetts and North Shore, 1996 to 2006**

	1996	2006	Absolute Change	Relative Change
U.S.	1,166,963	1,486,107	319,144	27%
New England	81,057	94,275	13,218	16%
Massachusetts	40,725	47,024	6,299	15%
North Shore	1,140	1,810	670	59%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

Although this general trend of an increase in the output of conferred bachelor's degrees between 1996 and 2006 was also reflected in the North Shore, the rate of growth in the North Shore was significantly faster than in Massachusetts, New England or the nation. Between 1996 and 2006 the number of bachelor's degrees awarded in North Shore increased from 1,140 to 1,810, an increase of 59 percent in just ten years. Much of this change was the result of a shift in the academic level of offerings from 2 year to 4 year programs. This rate of increase was more than double that experienced in the nation, more than three times that of the New England region and almost four times that of the state of Massachusetts. This strong growth in new bachelor's degrees suggests that North Shore has a healthy new labor supply at this level, relative to the state, the region and the nation as a whole.

### ***Sources of Bachelor's Degree Change in the Higher Education Sector***

Although the public higher education systems in North Shore, Massachusetts, New England and the nation have increased the number of bachelor's degrees awarded over the last ten years, as the data provided in Table 6 and Chart 3 reveal, the amount and rate by which they have done so have varied by geographical area

Between 1996 and 2006 public colleges in the nation accounted for the majority of the total increase in the number of bachelor's degrees awarded. Although private colleges in the nation increased the number of bachelor's degrees they conferred, from about 393,000 degrees in 1996 to about 532,000 in 2006 (a 35 percent increase), this accounted for less than half of the total increase in the number of bachelor's degrees

granted over this ten-year period in the nation (44 percent). During this ten year period public colleges in the nation also increased the number of bachelor's degrees they awarded by about 180,000 degrees, reaching an all time high of nearly 955,000 degrees. However, although these public colleges only increased their production of bachelor's degrees granted by 23 percent, this accounted for over half of the total increase in bachelor's degrees granted during this ten year period in the nation (56 percent).

Table 6: Trends in the Number of Bachelor's Degrees Awarded in the U.S., New England, Massachusetts and North Shore, by Higher Education Sector, 1996 to 2006

Sector	1996	2006	Absolute Change	Relative Change
U.S.				
Public	774, 264	954,254	179,990	23%
Private	392,699	531,853	139,154	35%
New England				
Public	32,224	37,712	5,488	17%
Private	48,833	56,563	7,730	16%
Massachusetts				
Public	12,312	13,950	1,638	13%
Private	28,413	33,074	4,661	16%
North Shore				
Public	769	924	155	20%
Private	371	886	515	139%

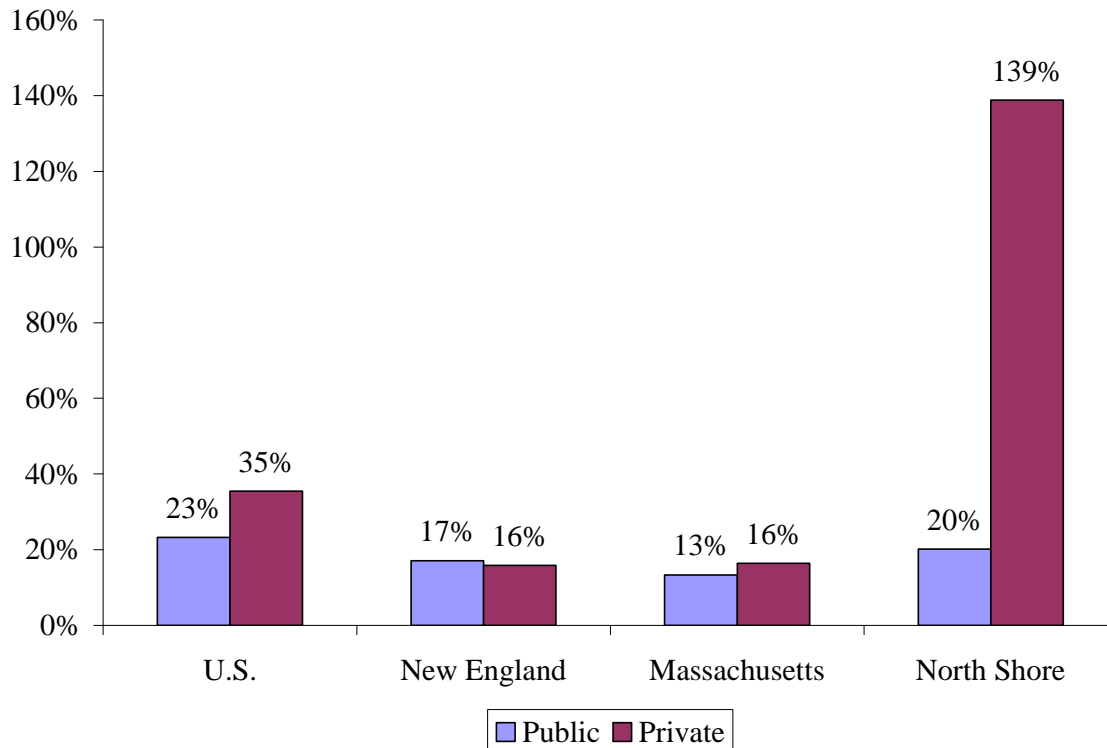
Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

Both public and private colleges in New England and Massachusetts increased their overall output of bachelor's degrees at a slower pace than their counterparts across the nation. In Massachusetts, private colleges increased the number of bachelor's degrees that they awarded at a slightly higher pace than their public counterparts (a 16 percent increase between 1996 and 2006 among private colleges, compared to a 13 percent increase among public colleges). In contrast, in New England public institutions increased their output of bachelor's degrees at a slightly higher pace than their private counterparts. Public colleges and universities across New England expanded the number of bachelor's degrees they awarded by 17 percent between 1996 and 2006, whilst private



schools in the region increased the number of these degrees awarded by 16 percent over this ten year period.

Chart 3: Rate of Change in the Number of Bachelor's Degrees Conferred, by Higher Education Sector, in the U.S., New England, Massachusetts and North Shore, 1996 to 2006

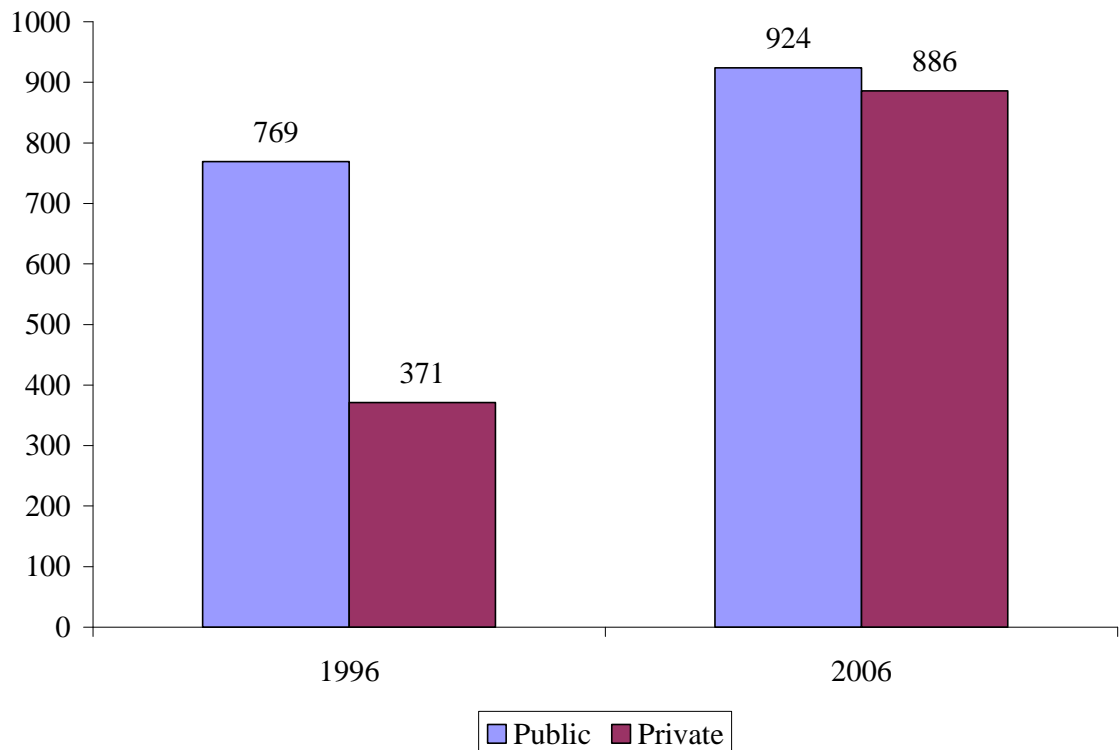


Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

Furthermore, unlike in the nation, in both Massachusetts and New England the bulk of the increase in the number of bachelor's degrees awarded between 1996 and 2006 was concentrated among private colleges and universities. In Massachusetts these institutions increased the number of conferred bachelor's degrees by 4,661, accounting for 74 percent of the total increase of these degrees in the state over this ten year period. In New England, private colleges and universities increased their bachelor's degree output between 1996 and 2006 by just over 7,700, accounting for 58 percent of the total increase of these degrees in this region.

As in Massachusetts and New England, the bulk of the expansion in the number of bachelor's degrees conferred between 1996 and 2006 in the North Shore was concentrated in private higher education institutions. Between 1996 and 2006 private institutions increased the number of bachelor's degrees they granted from 371 degrees to 886 degrees; an increase of 139 percent in just ten years. This increase accounted for 77 percent of the increase in the total number of bachelor's degrees conferred in North Shore over this ten year period of time. Meanwhile, although public higher education institutions in North Shore also increased their bachelor's degree output between 1996 and 2006 – from 769 degrees to 924 degrees - not only did these

Chart 4: The Number of Bachelor's Degrees Conferred by Higher Education Sector in North Shore, 1996 to 2006



Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

institutions in North Shore increase their production of conferred bachelor's degrees at a slower pace than their private counterparts (20 percent in contrast to 139 percent), but this increase also only accounted for just 23 percent of the total rise in four year bachelor's degree awards in North Shore during this ten year period.

As a consequence of these changes over the past ten years, although public higher education institutions in the North Shore continue to account for the majority of all bachelor's degrees awarded in the area, the size of this majority has decreased significantly. Between 1996 and 2006 the share of all bachelor's degrees in North Shore that were awarded by the public higher education sector fell from 67 percent to 51 percent. Consequently, in 2006 in North Shore almost an equal share of all bachelor's degrees were awarded by the public and private higher education sectors (51 percent compared to 49 percent, respectively).

### ***Trends in Fields of Study of Bachelor's Degree Awards***

Over the last ten years as the output of bachelor's degrees has increased by a total of 59 percent in North Shore, there have also been considerable changes in the composition of the broad fields of study in which students have earned these degrees. Between 1996 and 2006 the largest absolute increase in the number of bachelor's degrees awarded was in arts and humanities, where the number of bachelor's degrees granted increased by 330, from 521 degrees in 1996 to 851 degrees in 2006, a 63 percent increase. Other – albeit smaller – absolute increases in the number of bachelor's degrees awarded also occurred in the fields of business (a increase of 105 degrees), health sciences (a increase of 84 degrees), education (a increase of 42 degrees), criminal justice (a increase of 25 degrees), sciences (a increase of 21 degrees) and engineering and computer science (a increase of 17 degrees).

It is also important to note that during this ten year period none of the major fields of study in North Shore experienced a decline in the number of bachelor's degrees awarded.

**Table 7: Trends in Bachelor's Degrees Awarded by North Shore Colleges, by Broad Major Field of Study, 1996 to 2006**

	1996	2006	Absolute Change	Relative Change
Criminal Justice	81	106	25	31%
Health Sciences	138	222	84	61%
Business	220	325	105	48%
Engineering & Computer Science	10	27	17	170%
Education	104	146	42	40%
Law	0	0	0	0%
Arts & Humanities	521	851	330	63%
Sciences	66	87	21	32%
Personal Services	0	0	0	0%
Total	1,140	1,810	670	59%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

### ***Current Distribution of Awards***

As highlighted by Table 8, the major field of study structure of bachelor's degree program output in North Shore in 2006 has many similarities to the higher education systems in the state of Massachusetts, the New England region and the nation as a whole.

As in the North Shore in 2006, the field of study in which the highest share of all bachelor's degrees were conferred in Massachusetts, New England and the nation was arts and humanities. 47 percent of all bachelor's degrees were conferred in this field in 2006 in North Shore, a comparable share to that in Massachusetts (48 percent) and New England (47 percent), although a higher share than in the nation (39 percent).

Similarly, the field of study in which the second highest share of all bachelor's degrees were conferred in during 2006 in North Shore was business (18 percent), just as it was in Massachusetts (19 percent), New England (19 percent) and the nation (22 percent).

Table 8: Distribution of Bachelor's Degrees Conferred by Broad Major Fields of Study in North Shore, Massachusetts, New England and the U.S., 2006

	North Shore	Massachusetts	New England	U.S.
Criminal Justice	6%	3%	2%	2%
Health Sciences	12%	6%	7%	8%
Business	18%	19%	19%	22%
Engineering & Computer Science	1%	9%	8%	9%
Education	8%	3%	4%	7%
Law	0%	0%	0%	0%
Arts & Humanities	47%	48%	47%	39%
Sciences	5%	8%	8%	8%
Personal Services	0%	0%	1%	1%
Undesignated Field of Study	3%	3%	3%	2%
Total	100%	100%	100%	100%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

There are also some differences in the major field of study structure of bachelor's degree program output in North Shore, compared to Massachusetts, New England and the nation. In 2006 higher education institutions in North Shore granted a higher share of all bachelor's degrees in health sciences (12 percent) than did Massachusetts (six percent), New England (seven percent) and the nation (eight percent). Similarly, colleges in North Shore also granted a higher share of all bachelor's degrees in criminal justice (six percent) than the other geographical areas did. This share of bachelor's degrees granted in criminal justice in North Shore was twice as large as the share in Massachusetts (three percent) and three times bigger than the shares in New England and the nation (two percent in each). Meanwhile, the share of all bachelor's degrees that North Shore granted in education (eight percent) was also larger than the share granted in this field in Massachusetts (three percent), New England (four percent) and the nation (seven percent).

Conversely, in the fields of engineering and computer science and sciences a lower share of all bachelor's degrees was awarded in North Shore than in the other geographical areas. In 2006 the higher education system in North Shore only awarded

one percent of all bachelor's degrees in engineering and computer science, nine times smaller than the share in Massachusetts and the nation (nine percent in each) and eight times smaller than the share in New England (eight percent). Meanwhile, North Shore only awarded five percent of all bachelor's degrees in 2006 in sciences, less than the eight percent share granted in this field by the higher education institutions in Massachusetts, New England and the nation.

### ***Institutional Supply at the Undergraduate non Degree Certificate Level***

Over the last ten years the undergraduate output at the non degree awards level has changed in North Shore and wider geographical areas. As the findings in Table 9 show, while the output of undergraduate non degree awards from the nation as a whole, the New England region and the state of Massachusetts increased between 1996 and 2006, in contrast the number of awards conferred in North Shore during this same period of time fell considerably.

The number of undergraduate non degree awards conferred in the nation increased from about 621,000 to about 720,000 between 1996 and 2006, an increase of 16 percent in just ten years. Although in both New England and Massachusetts there was also an increase in the number of undergraduate non degree awards granted, the rate of increase in each of these two areas was considerably slower than that observed in the nation. Between 1996 and 2006 New England increased the number of undergraduate students who earned a non degree award by five percent (from 21,904 awards to 23,003 awards). This is a rate of growth equal to only 31 percent of the rate of growth in undergraduate non degree awards production experienced in the nation. In Massachusetts the rate of increase was only slightly higher, with the number of undergraduate students who earned a non degree award increasing by six percent over this same ten year period of time (from 9,828 awards in 1996 to 10,379 awards in 2006). This rate of growth was equal to only 38 percent of the rate of growth in undergraduate non degrees experienced in the nation during these ten years.

However, this general trend of an increase in the output of undergraduate non degree awards between 1996 and 2006 was not reflected in North Shore. In contrast,

during this period of time the number of these awards granted to undergraduate students in North Shore fell significantly, from 435 in 1996 to 308 in 2006, a rate of decline of 29 percent in only ten years.

**Table 9: Trends in the Number of Undergraduate Non Degree Awards Conferred in the U.S., New England, Massachusetts and North Shore, 1996 to 2006**

	1996	2006	Absolute Change	Relative Change
U.S.	620,669	719,970	99,301	16%
New England	21,904	23,003	1,099	5%
Massachusetts	9,828	10,379	551	6%
North Shore	435	308	-127	-29%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

These data clearly reveal that during the period 1996 to 2006 North Shore's higher education system did not keep pace with the national, regional or the state rate of expansion in institutional labor supply at the undergraduate non degree award level. This suggests that North Shore has a considerable capacity constraint on new labor supply sources at this level, relative to these other geographical areas.

### ***Sources of Undergraduate Non Degree Awards Change in the Higher Education Sector***

As the number of undergraduate non degree awards granted has changed over the past ten years in North Shore, Massachusetts, New England and the nation, the data provided in Table 10 and Chart 5 reveal that the sources of this change in the higher education sector have varied by geographic area.

In the nation as a whole, public colleges accounted for two thirds of the total rise in undergraduate non degree awards granted between 1996 and 2006, with public colleges expanding their awards output by almost 66,000 over this ten year period, an increase of 21 percent. In contrast, private colleges accounted for only one third of the total rise in non degree undergraduate awards granted in the nation. The number of

awards conferred by these institutions increased by over 33,000 between 1996 and 2006, an increase of 11 percent.

Table 10: Trends in the Number of Undergraduate Non Degree Awards Awarded in the U.S., New England, Massachusetts and North Shore, by Higher Education Sector, 1996 to 2006

Sector	1996	2006	Absolute Change	Relative Change
U.S.				
Public	307,358	373,218	65,860	21%
Private	313,311	346,752	33,441	11%
New England				
Public	4,451	4,922	471	11%
Private	17,453	18,081	628	4%
Massachusetts				
Public	2,463	2,899	436	18%
Private	7,365	7,480	115	2%
North Shore				
Public	267	236	-31	-12%
Private	168	72	-96	-57%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

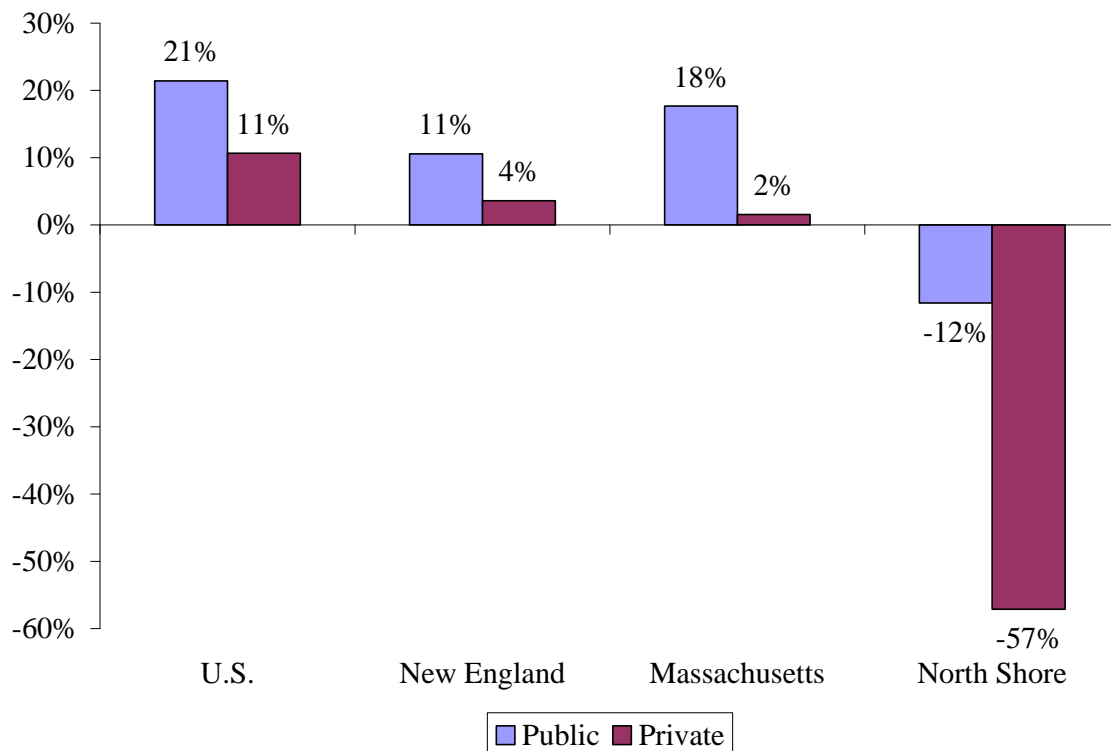
In comparison to the nation, the rate of increase in the total number of conferred undergraduate non degree awards was slower in both New England and Massachusetts. However, just as in the nation, in Massachusetts public colleges accounted for the majority of the total rise in non degree undergraduate awards (79 percent), expanding their output of awards by 18 percent over this ten year period, from 2,463 in 1996 to 2,899 in 2006. In contrast, private colleges in Massachusetts only accounted for 21 percent of the total rise in undergraduate non degree awards in the state over this ten year period, increasing the number of awards they granted by 115 between 1996 and 2006, a two percent rise.

In contrast, in New England private colleges accounted for the majority of the total rise in undergraduate non degree awards granted over this ten year period. In New England private higher education institutions accounted for 57 percent of the total rise in undergraduate non degree awards conferred, with the number of awards they granted



increasing by 628 between 1996 and 2006. Public colleges in New England accounted for less than half of the total rise in undergraduate non degree awards granted in the region over this ten year period (43 percent), increasing the number of awards they gave by 471 between 1996 and 2006.

Chart 5: Rate of Change in the Number of Undergraduate Non Degree Awards Awarded by Higher Education Sector in the U.S., New England, Massachusetts and North Shore, 1996 to 2006

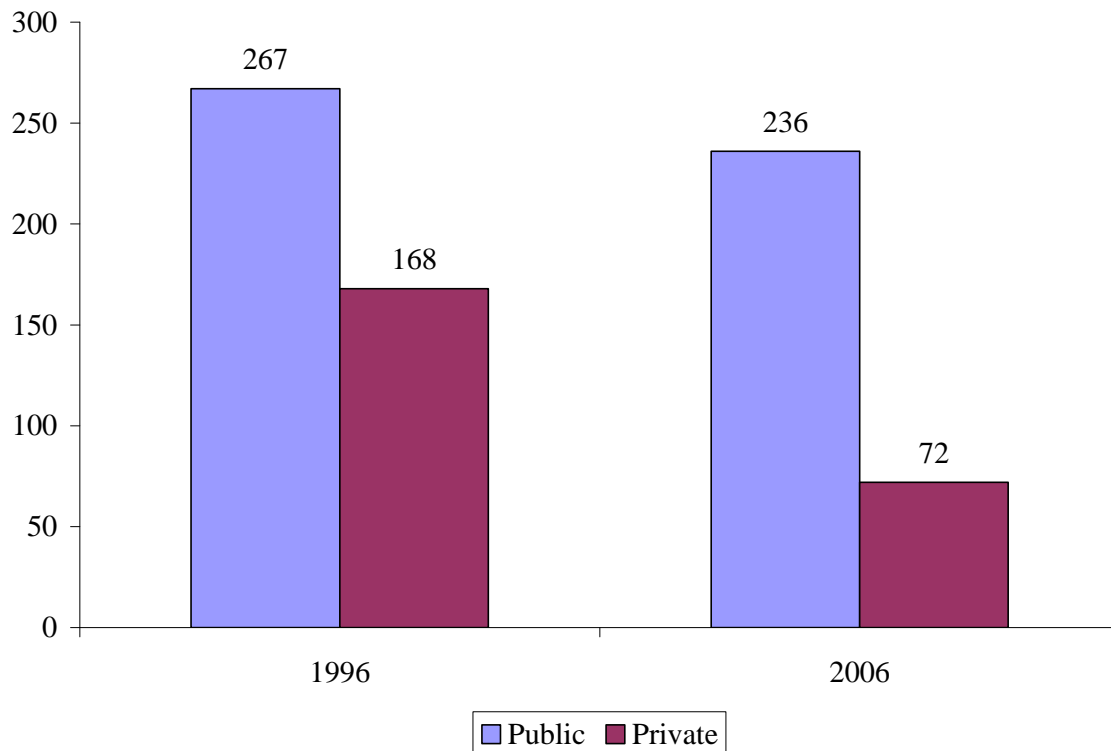


Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

Meanwhile, the decline in the number of undergraduate non degree awards that occurred in North Shore between 1996 and 2006 was mainly concentrated in the private higher education sector. Over three quarters of the overall decline in the number of undergraduate non degree awards in North Shore between 1996 and 2006 came from private colleges, which granted 96 fewer awards in 2006 than 1996; a decrease of 57 percent. Although public colleges in North Shore also experienced a decline in the number of undergraduate non degree awards granted over this ten year period of time –

from 267 in 1996 to 236 in 2006, a decline of 12 percent – this reduction accounted for less than a quarter (24 percent) of the overall decrease in these awards granted in North Shore over this period of time.

Chart 6: The Number of Undergraduate Non Degree Awards Awarded by Higher Education Sector in North Shore, 1996 to 2006



Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

As a consequence of these changes over the past ten years, the dominance of the public higher education sector in North Shore with regard to granting undergraduate non degree awards has increased. Between 1996 and 2006 in North Shore the share of all of these awards granted by public colleges increased from 61 percent to over three quarters (77 percent).

## ***Trends in Fields of Study of Undergraduate Non Degree Awards***

Over the last ten years, as the number of undergraduate non degree awards has decreased by a total of 29 percent in the North Shore, there have also been considerable changes in the composition of the broad fields of study in which students have earned these awards. Between 1996 and 2006 the largest absolute decrease in the number of undergraduate non degree awards granted in North Shore was in business, where the number of awards fell by 117, a decline of 84 percent. Other – albeit smaller – absolute decreases in the number of undergraduate non degree awards conferred also occurred over this ten year period of time in the fields of personal services (a decrease of 38 awards), arts and humanities (a decrease of 17 awards) and education (a decrease of 15 awards).

**Table 11: Trends in Undergraduate Non Degree Awards Awarded by North Shore Colleges, by Broad Major Field of Study, 1996 to 2006**

	1996	2006	Absolute Change	Relative Change
Criminal Justice	3	22	19	633%
Health Sciences	128	157	29	23%
Business	139	22	-117	-84%
Engineering & Computer Science	17	17	0	0%
Education	28	13	-15	-54%
Law	0	12	12	-
Arts & Humanities	21	4	-17	-81%
Sciences	0	0	0	0%
Personal Services	99	61	-38	-38%
Total	435	308	-127	-29%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

These decreases in the number of undergraduate non degree awards granted between 1996 and 2006 in North Shore were partially offset by absolute increases over the same period of time in the fields of health sciences (an increase of 29 awards), criminal justice (an increase of 19 awards) and law (an increase of 12 awards). Meanwhile, in the fields of engineering and computer science and sciences, there was no change in the number of undergraduate non degree awards awarded in North Shore

between 1996 and 2006; zero awards were granted in the field of science and 17 awards were granted in the field of engineering and computer science during this ten year period.

The findings from Table 12 also highlight that the mix of program offerings, as measured by the distribution of undergraduate non degree awards granted in North Shore during 2006, has several broad similarities to those of the higher education systems in the state of Massachusetts, the New England region and the nation as a whole.

**Table 12: Distribution of Undergraduate Non Degree Awards Conferred by Broad Major Fields of Study in North Shore, Massachusetts, New England and the U.S., 2006**

	North Shore	Massachusetts	New England	U.S.
Criminal Justice	7%	1%	1%	4%
Health Sciences	51%	52%	45%	43%
Business	7%	3%	4%	9%
Engineering & Computer Science	6%	10%	22%	23%
Education	4%	1%	1%	1%
Law	4%	2%	2%	1%
Arts & Humanities	1%	6%	4%	4%
Sciences	0%	2%	1%	0%
Personal Services	20%	23%	20%	15%
Undesignated Field of Study	0%	0%	0%	0%
Total	100%	100%	100%	100%

Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

As in the North Shore in 2006, in Massachusetts, New England and the nation the field of study in which the highest share of all undergraduate non degree awards were granted in was health sciences. Over half of all awards were in this field of study in the North Shore region (51 percent), a comparable share to that in Massachusetts (52 percent), although slightly higher than the share in New England (45 percent) and the nation (43 percent).

The North Shore region granted the second highest share of all undergraduate non degree awards in 2006 in personal services (20 percent). This was the same share as New England awarded in this field, although smaller than the share in Massachusetts (23

percent) and bigger than the share in the nation (15 percent). Meanwhile, in the fields of criminal justice, education, law, sciences, arts and humanities and business, North Shore awarded a similar distribution of all undergraduate non degree awards as Massachusetts, New England and the nation did in 2006. Each of these geographical areas awarded between zero percent and nine percent of all undergraduate non degree awards in these fields of study. However, in contrast to New England and the nation as a whole, North Shore awarded a considerably smaller share of awards in the field of engineering and computer science. In 2006 the North Shore only awarded six percent of all undergraduate non degree awards in this field. This is a share almost four times smaller than that in New England and the nation (22 percent and 23 percent, respectively), but comparable to the share granted in Massachusetts (ten percent).

# **Secondary Career and Technical Education Program Completions in the North Shore Workforce Area**

## ***Introduction***

Graduates of career and technical education programs from the state's network of secondary vocational technical education programs represent an important source of newly trained workers to specific occupations in state and local labor markets. Each year the state grants a considerable number of diplomas to graduates who have completed a vocational technical education course of study. Indeed, during 2007 a total of more than 14,700 high school diplomas were awarded to students who had completed a vocational-technical course of study while in high school. Like graduates of comprehensive high school programs, students who complete a vocational-technical program of study must achieve a given level of academic proficiency and must demonstrate their academic skills by passing the 10<sup>th</sup> grade English Language Arts, Mathematics and Science and Engineering Technology a MCAS proficiency tests. These students also complete a course of study that meets the program guidelines of both the federal Perkins Reauthorization Act of 2006 and the rigorous Massachusetts Vocational Education standards outlined in Chapter 74 M.G.L and subsequent regulations put out by the Department of Elementary and Secondary Education. Chapter 74 vocational technical program standards are organized with the purpose of ensuring that “...all vocational technical education programs are of the scope and quality necessary to provide students with the knowledge and skills needed to complete in a dynamic, global workplace and in post secondary education including registered apprenticeship programs.”<sup>29</sup>

The Chapter 74 standards require strong local vocational technical leadership at the principal and superintendent level, a set of program advisory committees composed of local businesses, organized labor and others who can offer advice, guidance and support around the organization and delivery of educational services (including coop

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<sup>29</sup> Career and Technical Education Unit, *Massachusetts General Law Chapter 74 Selected Sections and Vocational Technical Education Regulations 603 CMR 4.00 and Guidelines* Massachusetts Department of Elementary and Secondary Education, Malden, Massachusetts, undated.

education) in the specific occupational field. In addition, schools must provide equipment and facilities that meet current occupational standards and meet national occupational program approval standards along with state board and accreditation association approvals. All instructors in these programs must meet a range of education license requirements.

Virtually all of the programs offered at the state's network of regional vocational technical high schools meet the Chapter 74 standards. Some comprehensive high schools also offer vocational-technical programs on a smaller scale. In Massachusetts, these programs are also eligible for Perkins funding provided that the institutions complete a detailed 5-year plan and meet both federal and state benchmarks for student performance in both academic and technical areas. Practices in other states differ, where non-vocational programs are able to access Perkins funding to support career preparation, Tech Prep and technical skill training.

Students who complete secondary vocational technical education programs can choose a variety of pathways when they complete high school. About 45 percent of these graduates will enroll at a post secondary educational institution, but a considerable share of these graduates will also directly enter the labor market in a short period of time after graduation. However, about 40 to 45 percent of Chapter 74 graduates find work in field related to their occupational concentration while in high school.<sup>30</sup> An additional 15 to 20 percent of graduates find work in fields not related to their occupational field of study.

These flows of students from a variety of occupational specialties represent an important new source of entry level labor supply to a variety of occupations in the North Shore region. Indeed, during 2007 vocational technical programs in the area granted high school diplomas to 845 students. These graduates left high school with a set of occupational skills developed as an integrated component of their high school learning experiences. These individuals have displayed the ability to develop skills in a given occupation, have displayed academic proficiencies consistent with statewide learning

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<sup>30</sup> Unpublished tables, prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education, Malden, Massachusetts, September 2007

standards and have a high rate of positive outcomes after completing high school as measured by post secondary enrollment and employment outcomes after graduation.

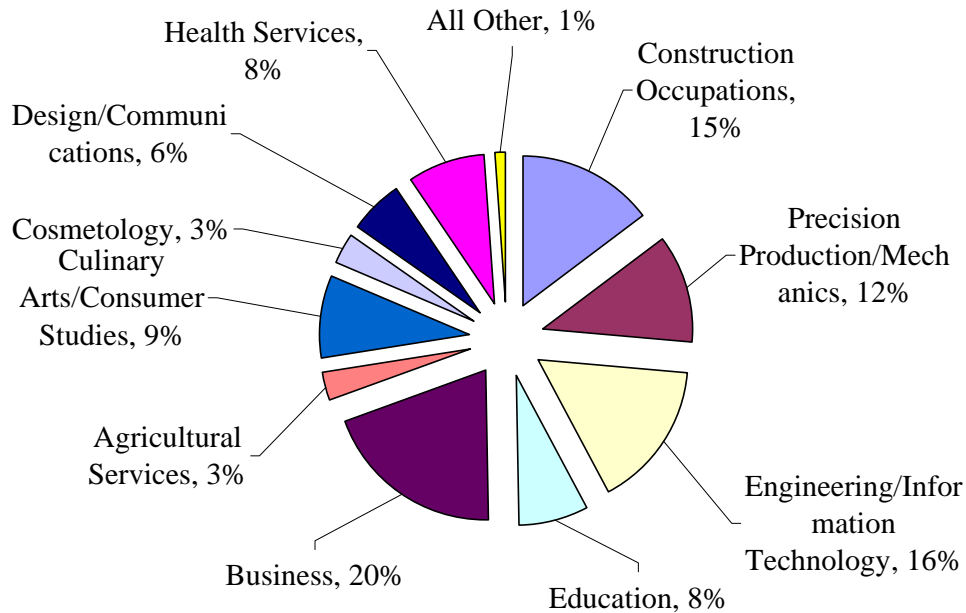
### ***The Occupational Structure of Secondary Career and Technical Education Awards***

The range of fields of study offered by secondary career and technical education institutions in the Massachusetts is quite wide. CLMS found 55 distinct (and well populated) vocational technical education programs in the state. These programs cover an array of occupational fields ranging from precision production fields, to engineering technology related fields to a number of health occupations. In the North Shore the 7 schools that provided career and technical education program offerings to the region's students covered 29 distinct occupational fields. Career and technical education programs provide different program offerings to their students based on the local nature of labor demand and the post graduate outcomes generated for graduates of their programs. Thus, the occupational structure of program offerings varies with respect to local labor market requirements.

The findings provided in Chart 1 are an aggregation of the entire range of program offerings delivered by secondary vocational education organizations in the state. The data provide insight into the share of the 14,700 career and technical education graduates of the class of 2007 by the occupational field in which they earned their high school diploma. The data reveal that career and technical education programs cover a fairly broad range of jobs from occupations found in the service sector of the economy including health services, design and communications fields and business fields of study to blue collar fields in the construction trades and precision production and machine trade jobs often heavily concentrated among the state's durable goods manufacturing industries.



Chart 1: The Percent Distribution of Class of 2007 Career and Technical Education Secondary Graduates in Massachusetts, by Major Occupational Field of Study



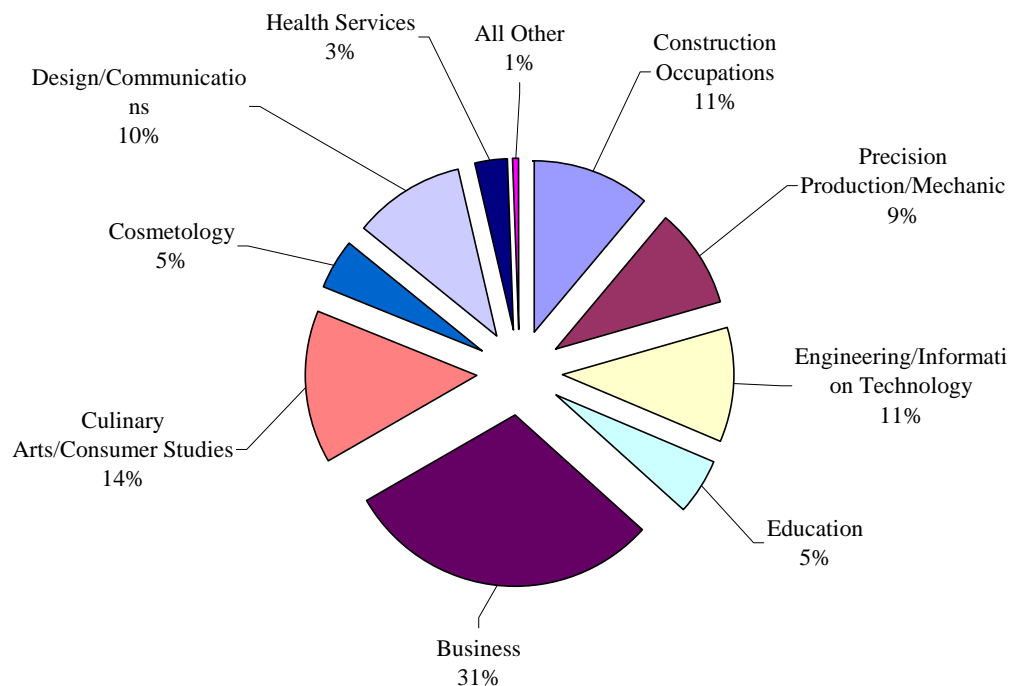
Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University.

The data reveal that the single largest area in which students earn a diploma is in business. Many of the programs in this field are organized around office technology including instructions in word processing and related office support software. Engineering and information technology accounted for 16 percent of the occupational awards granted by the state's secondary vocational technical institutions. These fields include computer technology, programming and web development and information support services and networking. Construction trades, including carpentry, electrician, plumbing and other areas accounted for about 15 percent of all students who completed a secondary vocational technical program in the state. Precision production and repair accounted for about 12 percent of all awards and include fields such as automotive technology and stationary engineer. Service related fields were somewhat smaller in size. Health services fields accounted for just 8 percent of awards. The health services area

included fields such as medical assistant and dental assistant. Culinary arts, including baker, chef and related food service management fields accounted for about 9 percent of all diploma awards during 2007. Cosmetology and agricultural services programs each accounted for just 3 percent of awards in the state during the year.

The career and technical education system at the secondary level in the North Shore is structured somewhat differently than the state as whole as measured by the occupational composition of fields of study of recent program graduates. North Shore career and technical education programs are more heavily concentrated in business, culinary arts/consumer studies and design and communications fields. Business specialties account for 30 percent of all awards in the North Shore area among vocational

Chart 2: The Percent Distribution of Class of 2007 Career and Technical Education Secondary Graduates in the North Shore Region, by Major Occupational Field of Study



Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University.

technical program graduates, a proportion of graduates in the business field that is 50 percent larger than the state share of vocational technical graduates with concentrations in

these fields. Culinary arts accounted for about one in seven vocational technical awards in the region, compared to 9 percent in the state, while design and communications fields including graphic communications programs represented 10 percent of awards, as compared to 6 percent in the state. The North Shore programs graduate relatively fewer students in engineering and information technology fields (16 percent of graduates statewide versus 11 percent in the region) and a lower share of students in precision production and repair fields compared to the state as a whole. The North Shore region also graduated somewhat lower shares of vocational technical program graduates in the construction fields with 11 percent of all such local awards to students with a concentration in a construction related field versus a 15 percent share of awards in the construction related areas statewide during 2007. Somewhat surprisingly, the North Shore career and technical education system had only 3 percent of its 2007 graduates complete a course of study in the health services field compared to 8 percent of all such graduates statewide.

Table 1: The Percent Distribution of Class of 2007 Career and Technical Education Secondary Graduates in Massachusetts and the North Shore Region, by Occupational Field of Study

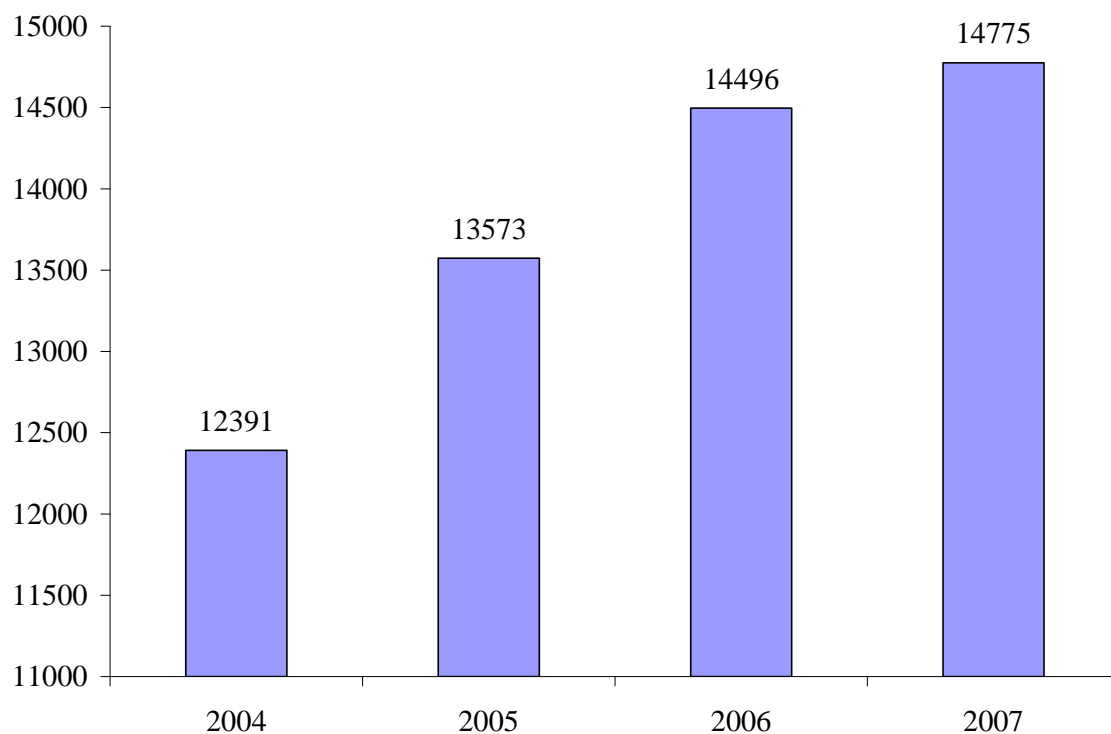
	Massachusetts	North Shore
Construction Occupations	15%	11%
Precision Production/Mechanics	12%	9%
Engineering/Information Technology	16%	11%
Education	8%	5%
Business	20%	30%
Agricultural Services	3%	0%
Culinary Arts/Consumer Studies	9%	14%
Cosmetology	3%	5%
Design/Communications	6%	10%
Health Services	8%	3%
All Other	1%	1%
Total	100%	100%

Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University

The number of secondary school graduates who have earned their diploma in a career and technical education specialty has increased considerably at the statewide level

over the past several years. During 2004 the state's secondary vocational technical education system awarded high school diplomas to just under 12,400 students. In each year since then the number of awards granted by these institutions has increased steadily increased. By 2007 the number of secondary vocational technical diplomas awarded had increased to 14,775, a rise of nearly 20 percent in just four years. This increase in the number of degrees is in part a reflection of the rise in the level of demand among high school students for seats in secondary vocational programs. Indeed, many of the regional vocational schools in the state report that over the past several years the number of students seeking to enroll in their schools has been much higher than the number of available seats<sup>31</sup>

Chart 3: Trends in the Total Number of Secondary Career and Technical Education Graduates in Massachusetts, 2004 to 2007

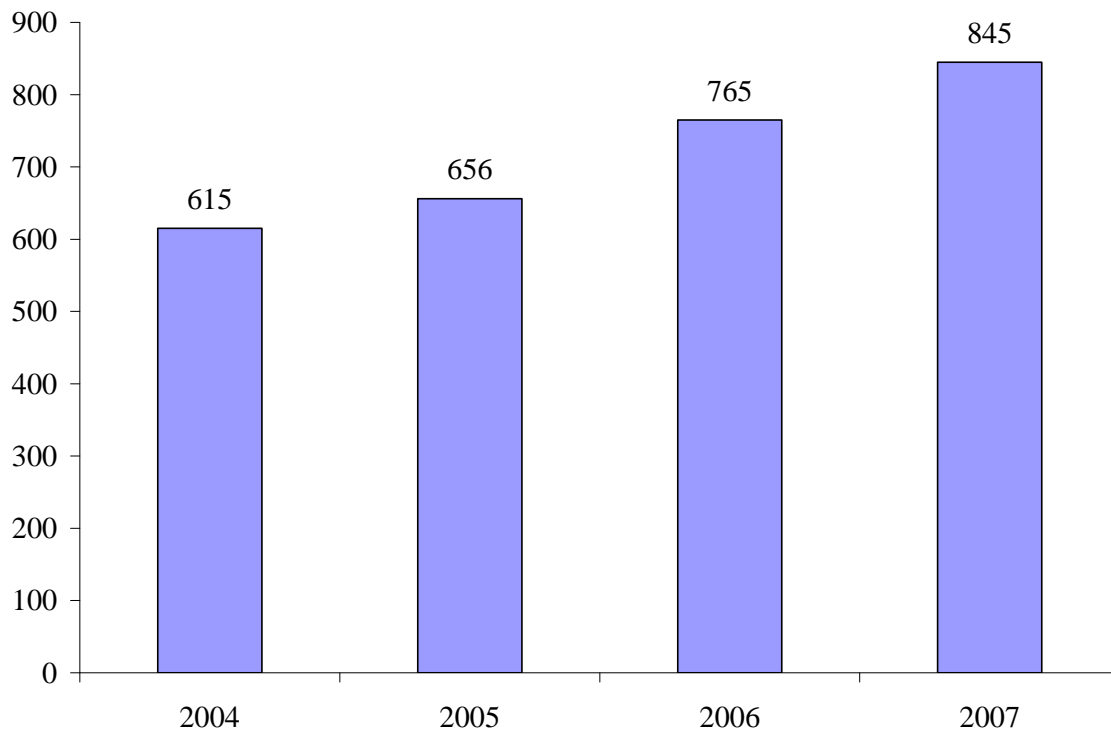


Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University.

<sup>31</sup> News articles about the high demand for secondary vocational technical education in the state began appearing as early as 2004. For example See: Meredith Goldstein, "Whittier Admissions Under Fire: Grades Keep Many from Attending" *The Boston Globe*, September 2, 2004

The demand for secondary vocational education programs by students in the North Shore area has also increased considerably in the past several years and the output of career and technical education programs in the region has increased over the 2004 to 2007 period.<sup>32</sup> During 2004 career and technical education programs granted a total of 615 high school diplomas to students who had completed a course of study in a specific

Chart 4: Trends in the Total Number of Secondary Career and Technical Education Graduates in the North Shore Region, 2004 to 2007



Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University.

occupational field. The number of awards granted in these vocational technical specialties has increased each year since then, rising to 845 secondary career and technical education diplomas awarded in the region during 2007. This increase represents a more than one third increase in the number of secondary vocational education awards, a rate of increase that was much more rapid than that observed for the state as a whole.

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<sup>32</sup> Brenda J. Boute, "High Demand Cited in Push for Trade School, *The Boston Globe*, September 5, 2004

The growth in secondary career and technical diplomas at both the state and local level varied considerably across occupational fields. Moreover, the increases in awards were across a variety of occupational skill areas. The findings provided in Table 2 examine statewide growth in the number of secondary career and technical education diplomas awarded by the major occupational field in which students concentrated their high school studies. Strong growth in the number of awards occurred in several skilled blue collar fields. The number of awards in the construction trades areas rose from 1,782 during 2004 to 2,156 by 2007, a rise of 21 percent over the period. Particularly large gains were posted in electrician and plumbing and pipefitting, along with strong growth in carpentry

Table 2: Trends in the Number of Secondary Career and Technical Education Graduates in Massachusetts, by Major Occupational Field of Study, 2004 to 2007

Aggregate Programs	2004	2005	2006	2007	Absolute Change	Relative Change
Construction Occupations	1782	1880	2024	2156	374	21%
Precision Production/Mechanics	1411	1589	1680	1753	342	24%
Engineering/Information Technology	2193	2262	2344	2320	127	6%
Education	399	548	600	649	250	63%
Business	2723	2907	3144	2915	192	7%
Agricultural Services	421	418	419	464	43	10%
Culinary Arts/Consumer Studies	1003	974	1246	1292	289	29%
Cosmetology	409	461	462	499	90	22%
Design/Communications	694	724	724	875	181	26%
Health Services	930	1176	1224	1221	291	31%
Technology Education	248	404	459	468	220	89%
All Other	178	230	170	163	-15	-8%
Total	12391	13573	14496	14775	2384	19%

Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University

and HVAC programs. The number of students earning awards in precision production and repair fields rose sharply as well, increasing by 24 percent in just four years. This rise

occurred because of very strong growth in the number of students who completed some type of auto repair/tech program as well as a sharp increase in the number of students who graduated with a specialty in precision production fields that include the machine trades. The health fields also posted sharp increases in the number of awards statewide. Between 2004 and 2007 the number of diplomas awarded in health related fields increased from 931 to 1221 diploma awards. This increase represented nearly a one third rise in the number of students who completed a secondary career and technical education program with a concentration in the health field.

Technology related programs grew quite rapidly over the 2004 to 2007 period, increasing the number of completers by 220 students. These include “instructional programs that provide individuals with knowledge, learning experiences and competencies pertaining to aspects of industry and technology. The programs are also designed to assist individuals in making informed occupational choices and provide preparation for entry into occupational training or education programs.”<sup>33</sup> Secondary career and technical education programs operate very large engineering and information technology programs. With more than 2300 awards granted in these occupational specialties during 2007, the number of degrees awarded statewide in these fields increased by 6 percent over the last four years.

Business programs graduated a total of just over 2,900 students from the state’s secondary career and technical education program. While this represents an overall rise since 2004, the number of business awards began to decline last year and fell by 7 percent over the year. The business field is the only area that has posted an over the year decline in the number of graduates. The education field, fueled by rapid increases in early education and care program graduates, posted very rapid growth in the number of degrees awarded. Between 2004 and 2007 the number of awards increased from about 400 to nearly 650, a near two thirds increase in the number of students who earned their diploma in this field of study.

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<sup>33</sup> Institute for Educational Sciences, U.S. Department of Education, *Classification of Instructional Programs* <http://nces.ed.gov/pubs2002/cip2000/ciplist.asp?CIP2=21>

Growth in the number of secondary career and technical education diplomas in the North Shore region was much more heavily concentrated in a few program areas compared to statewide trends. In the North Shore region, there were relatively modest increases in the number of secondary graduates in both construction and precision production fields. Between 2004 and 2007 the number of graduates in these fields increased by 8 percent and 3 percent respectively, sharply below the rise in the number of graduates we found in the state over the same period of time. The engineering and information technology secondary career and technical education programs in the region had no growth in the number of awards between 2004 and 2007. While the state did increase the number of awards in this field, the overall rate of increase was quite modest, rising by 6 percent over the three year period.

Table 3: Trends in the Number of Secondary Career and Technical Education Graduates in the North Shore Region, by Major Occupational Field of Study, 2004 to 2007

Aggregate Programs	2004	2005	2006	2007	Absolute Change	Relative Change
Construction Occupations	86	79	84	93	7	8%
Precision Production/Mechanics	77	65	91	80	3	4%
Engineering/Information Technology	94	57	73	92	-2	-2%
Education	32	42	39	44	12	38%
Business	191	163	201	254	63	33%
Culinary Arts/Consumer Studies	38	64	98	122	84	221%
Cosmetology	25	36	28	41	16	64%
Design/Communications	43	47	70	88	45	105%
Health Services	28	43	22	26	-2	-7%
All Other	1	60	59	5	4	400%
Total	615	656	765	845	230	37%

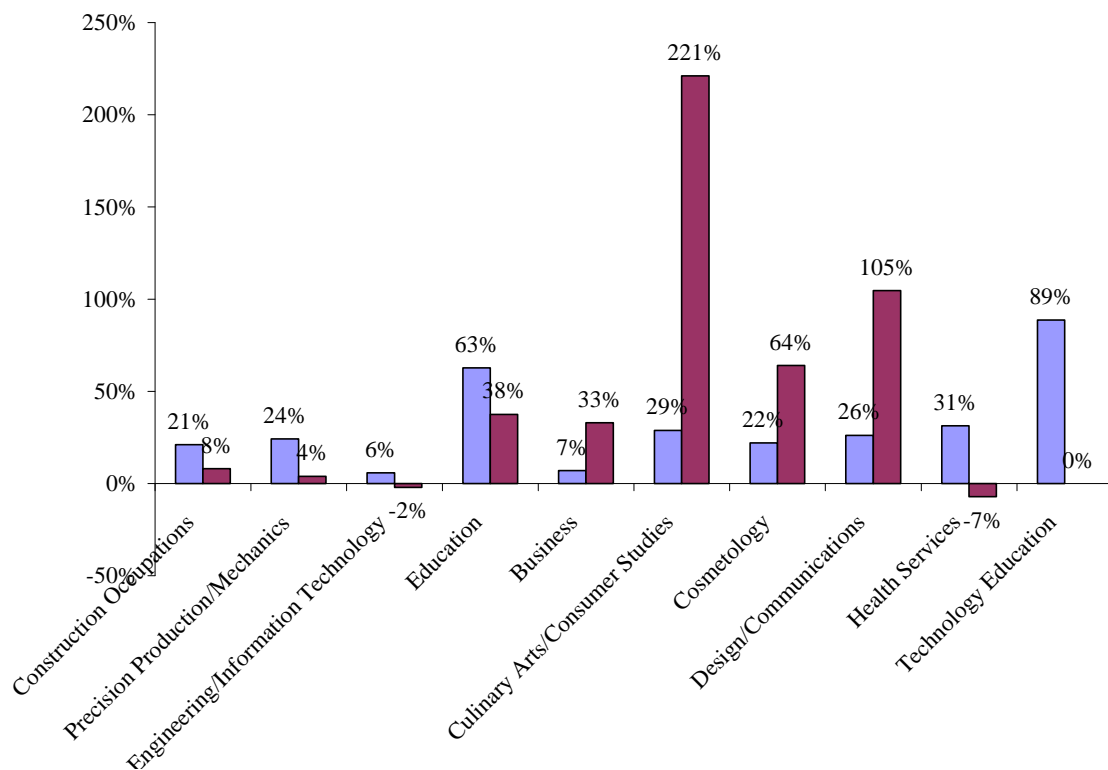
Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University

The three major program sources of increase in the number of secondary career and technical education diplomas earned in the North Shore region over the 2004 to 2007



were culinary arts/consumer studies, business and design and communications fields. The number of students earning degrees in culinary arts/consumer studies rose from 38 during 2004 to 122 by 2007, accounting for 36 percent of the total increase in vocational technical education awards at the secondary level. Business awards increased rapidly in the North Shore region over the 2004 to 2007 period. The number of secondary career and technical education diplomas in business awarded in the region increased from 191 during 2004 to 254 by 2007, a 33 percent increase over the three year period. At the same time the statewide output of students with business related diplomas at the secondary level increased by just 7 percent. The design/communications specialty was also an important source of growth in the number of secondary career and technical education program graduates in the region. The number of graduates in these fields increased from 43 students in 2004 to 88 students by 2007, a doubling of graduates in just four years.

**Table 4: Trends in the Number of Secondary Career and Technical Education Graduates in the North Shore Region, by Major Occupational Field of Study, 2004 to 2007**



The number of secondary students with concentrations in the health related fields did not rise at all over the last four years. The number of health graduates in region fluctuated somewhat over the four year period, however, at the statewide level the number of secondary career and technical education students who earned a diploma with a concentration in a health related field increased by 31 percent.

The discussion provided above provides an overview of the structure and trends in the outputs of secondary vocational technical programs at the state and regional area level. More detailed information about trends about completions in specific program areas by individual high schools in the North Shore region are provided in a CD that is included as part of this monograph.

**Appendix A:**  
**Total Population, Working-Age  
Population, and the Labor Force of the  
North Shore Workforce Area**

## **North Shore**

<b>Total Non-Institutional Population 16+ Year Olds</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Total	351,568	357,794	6,226	1.8%
<b><u>Gender</u></b>				
Male	164,502	170,228	5,726	3.5%
Female	187,066	187,566	500	0.3%
<b><u>Race</u></b>				
White, non-Hispanic	315,487	312,003	-3,484	-1.1%
Black, non-Hispanic	7,022	8,740	1,718	24.5%
Hispanic	17,050	24,223	7,173	42.1%
Other, non-Hispanic	12,009	12,827	818	6.8%
<b><u>Citizenship Status</u></b>				
Born abroad	43,807	54,528	10,721	24.5%
Native born	307,761	303,265	-4,496	-1.5%

<b><u>Age Group</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
16-24	42,577	44,604	2,027	4.8%
25-34	56,919	50,615	-6,304	-11.1%
35-44	77,912	70,848	-7,064	-10.9%
45-54	68,791	71,142	2,351	3.4%
55-64	42,095	55,449	13,354	31.7%
65+	63,274	65,136	1,862	2.9%

<b><u>Educational Attainment</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Currently Enrolled in Secondary School	16,077	14,071	-2,006	-12.5%
High school dropout	40,943	35,076	-5,867	-14.3%
High school graduate	98,166	101,050	2,884	2.9%
Some college, no degree	66,011	64,503	-1,508	-2.3%
Associate's degree	26,292	27,125	833	3.2%
Bachelor's degree	66,869	71,126	4,257	6.4%
Master's degree or more	37,210	44,843	7,633	20.5%

## **North Shore**

<b>Civilian Labor Force (16+)</b>	<b>05-06 Avg Civilian Labor Force</b>	<b>05-06 Avg CLFPR</b>	<b>Composition of the Labor Force</b>
Total	239,811	67.0%	100.0%
<b><u>Gender</u></b>			
Male	125,525	73.7%	52.3%
Female	114,286	60.9%	47.7%
<b><u>Race</u></b>			
White, non-Hispanic	208,899	67.0%	87.1%
Black, non-Hispanic	5,739	65.7%	2.4%
Hispanic	17,073	70.5%	7.1%
Other, non-Hispanic	8,101	63.2%	3.4%
<b><u>Citizenship Status</u></b>			
Born abroad	35,532	65.2%	14.8%
Native born	204,279	67.4%	85.2%

<b><u>Age Group</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
16-24	28,470	63.8%	11.9%
25-34	42,280	83.5%	17.6%
35-44	59,758	84.3%	24.9%
45-54	58,853	82.7%	24.5%
55-64	39,932	72.0%	16.7%
65+	10,520	16.2%	4.4%

<b><u>Educational Attainment</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
Currently Enrolled in Secondary School	5,488	39.0%	2.3%
High school dropout	15,041	42.9%	6.3%
High school graduate	62,099	61.5%	25.9%
Some college, no degree	45,476	70.5%	19.0%
Associate's degree	20,746	76.5%	8.7%
Bachelor's degree	55,936	78.6%	23.3%
Master's degree or more	35,028	78.1%	14.6%

## **North Shore**

			<b>Absolute Change</b>	<b>Relative Change</b>
<b>Total Non-Institutional Population</b>	<b>2000</b>	<b>05-06 Avg</b>		
Total	445,327	448,457	3,130	0.7%
<b><u>Gender</u></b>				
Male	212,576	217,769	5,193	2.4%
Female	232,751	230,688	-2,063	-0.9%
<b><u>Race</u></b>				
White, non-Hispanic	391,980	384,682	-7,298	-1.9%
Black, non-Hispanic	9,872	11,296	1,424	14.4%
Hispanic	25,837	34,401	8,564	33.1%
Other, non-Hispanic	17,638	18,078	440	2.5%
<b><u>Citizenship Status</u></b>				
Born abroad	47,140	57,834	10,694	22.7%
Native born	398,187	390,623	-7,564	-1.9%

			<b>Absolute Change</b>	<b>Relative Change</b>
<b><u>Age Group</u></b>	<b>2000</b>	<b>05-06 Avg</b>		
Under 16	93,759	90,382	-3,377	-3.6%
16-24	42,577	44,604	2,027	4.8%
25-34	56,919	50,817	-6,102	-10.7%
35-44	77,912	70,848	-7,064	-9.1%
45-54	68,791	71,223	2,432	3.5%
55-64	42,095	55,449	13,354	31.7%
65+	63,274	65,136	1,862	2.9%

			<b>Absolute Change</b>	<b>Relative Change</b>
<b><u>Educational Attainment (For 3+ Year Olds)</u></b>	<b>2000</b>	<b>05-06 Avg</b>		
Currently Enrolled in Secondary School	87,869	83,523	-4,346	-4.9%
High school dropout	62,856	41,395	-21,461	-34.1%
High school graduate	98,220	101,092	2,872	2.9%
Some college, no degree	66,011	64,659	-1,352	-2.0%
Associate's degree	26,292	27,170	878	3.3%
Bachelor's degree	66,869	71,126	4,257	6.4%
Master's degree or more	37,210	44,882	7,672	20.6%

## **Massachusetts**

<b>Total Non-Institutional Population 16+ Year Olds</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Total	4,788,971	4,925,682	136,711	2.9%
<b><u>Gender</u></b>				
Male	2,260,322	2,350,430	90,108	4.0%
Female	2,528,649	2,575,252	46,603	1.8%
<b><u>Race</u></b>				
White, non-Hispanic	4,017,954	4,003,895	-14,059	-0.3%
Black, non-Hispanic	211,086	250,652	39,566	18.7%
Hispanic	272,020	347,766	75,746	27.8%
Other, non-Hispanic	287,911	323,369	35,458	12.3%
<b><u>Citizenship Status</u></b>				
Born abroad	782,661	933,222	150,561	19.2%
Native born	4,006,310	3,992,460	-13,850	-0.3%

<b><u>Age Group</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
16-24	622,709	684,204	61,495	9.9%
25-34	904,267	820,165	-84,102	-9.3%
35-44	1,052,630	992,032	-60,598	-10.9%
45-54	866,608	949,666	83,058	9.6%
55-64	540,336	678,559	138,223	25.6%
65+	802,421	801,057	-1,364	-0.2%

<b><u>Educational Attainment</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Currently Enrolled in Secondary School	204,830	202,187	-2,643	-1.3%
High school dropout	656,163	538,112	-118,051	-18.0%
High school graduate	1,264,999	1,354,099	89,100	7.0%
Some college, no degree	857,450	824,373	-33,077	-3.9%
Associate's degree	328,013	351,002	22,989	7.0%
Bachelor's degree	895,926	978,931	83,005	9.3%
Master's degree or more	581,590	676,980	95,390	16.4%

## **Massachusetts**

<b>Civilian Labor Force (16+)</b>	<b>05-06 Avg Civilian Labor Force</b>	<b>05-06 Avg CLFPR</b>	<b>Composition of the Labor Force</b>
Total	3,369,817	68.4%	100.0%
<b><u>Gender</u></b>			
Male	1,753,898	74.6%	52.0%
Female	1,615,919	62.7%	48.0%
<b><u>Race</u></b>			
White, non-Hispanic	2,736,864	68.4%	81.2%
Black, non-Hispanic	173,280	69.1%	5.1%
Hispanic	236,188	67.9%	7.0%
Other, non-Hispanic	223,485	69.1%	6.6%
<b><u>Citizenship Status</u></b>			
Born abroad	629,794	67.5%	18.7%
Native born	2,740,023	68.6%	81.3%

<b><u>Age Group</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
16-24	448,825	65.6%	13.3%
25-34	692,610	84.4%	20.6%
35-44	827,370	83.4%	24.6%
45-54	800,284	84.3%	23.7%
55-64	471,988	69.6%	14.0%
65+	128,741	16.1%	3.8%

<b><u>Educational Attainment</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
Currently Enrolled in Secondary School	85,313	42.2%	2.5%
High school dropout	241,494	44.9%	7.2%
High school graduate	872,791	64.5%	25.9%
Some college, no degree	584,536	70.9%	17.3%
Associate's degree	273,056	77.8%	8.1%
Bachelor's degree	769,239	78.6%	22.8%
Master's degree or more	543,389	80.3%	16.1%



## **Massachusetts**

<b>Total Non-Institutional Population</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Total	6,127,254	6,211,127	83,873	1.4%
<b><u>Gender</u></b>				
Male	2,945,404	3,010,717	65,313	2.2%
Female	3,181,850	3,200,410	18,560	0.6%
<b><u>Race</u></b>				
White, non-Hispanic	5,022,814	4,941,116	-81,698	-1.6%
Black, non-Hispanic	300,461	346,343	45,882	15.3%
Hispanic	412,134	491,911	79,777	19.4%
Other, non-Hispanic	391,845	431,758	39,913	10.2%
<b><u>Citizenship Status</u></b>				
Born abroad	851,578	998,513	146,935	17.3%
Native born	5,275,676	5,212,615	-63,061	-1.2%

<b><u>Age Group</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Under 16	1,338,283	1,280,086	-58,197	-4.3%
16-24	622,709	685,228	62,519	10.0%
25-34	904,267	822,248	-82,019	-9.1%
35-44	1,052,630	993,327	-59,303	-5.6%
45-54	866,608	950,589	83,981	9.7%
55-64	540,336	678,593	138,257	25.6%
65+	802,421	801,057	-1,364	-0.2%

<b><u>Educational Attainment (For 3+ Year Olds)</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Currently Enrolled in Secondary School	1,222,997	1,152,850	-70,147	-5.7%
High school dropout	975,959	632,153	-343,806	-35.2%
High school graduate	1,265,319	1,355,782	90,463	7.1%
Some college, no degree	857,450	826,202	-31,248	-3.6%
Associate's degree	328,013	351,400	23,387	7.1%
Bachelor's degree	895,926	980,445	84,519	9.4%
Master's degree or more	581,590	677,510	95,920	16.5%

## **New England**

<b>Total Non-Institutional Population 16+ Year Olds</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Total	10,471,904	10,949,262	477,358	4.6%
<b><u>Gender</u></b>				
Male	4,969,159	5,243,037	273,878	5.5%
Female	5,502,745	5,706,225	203,480	3.7%
<b><u>Race</u></b>				
White, non-Hispanic	8,988,002	9,164,262	176,260	2.0%
Black, non-Hispanic	441,994	520,674	78,680	17.8%
Hispanic	557,622	714,984	157,362	28.2%
Other, non-Hispanic	484,286	549,343	65,057	13.4%
<b><u>Citizenship Status</u></b>				
Born abroad	1,413,994	1,662,428	248,434	17.6%
Native born	9,057,910	9,286,834	228,924	2.5%

<b><u>Age Group</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
16-24	1,350,985	1,510,659	159,674	11.8%
25-34	1,847,271	1,703,182	-144,089	-7.8%
35-44	2,335,501	2,191,526	-143,975	-10.9%
45-54	1,955,375	2,185,761	230,386	11.8%
55-64	1,217,568	1,567,670	350,102	28.8%
65+	1,765,204	1,790,465	25,261	1.4%

<b><u>Educational Attainment</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Currently Enrolled in Secondary School	463,319	462,078	-1,241	-0.3%
High school dropout	1,478,090	1,202,765	-275,325	-18.6%
High school graduate	2,936,571	3,192,522	255,951	8.7%
Some college, no degree	1,911,830	1,922,171	10,341	0.5%
Associate's degree	713,994	793,932	79,938	11.2%
Bachelor's degree	1,822,394	2,037,866	215,472	11.8%
Master's degree or more	1,145,706	1,337,928	192,222	16.8%

## **New England**

<b>Civilian Labor Force (16+)</b>	<b>05-06 Avg Civilian Labor Force</b>	<b>05-06 Avg CLFPR</b>	<b>Composition of the Labor Force</b>
Total	7,521,725	68.7%	100.0%
<b><u>Gender</u></b>			
Male	3,924,171	74.8%	52.2%
Female	3,597,554	63.0%	47.8%
<b><u>Race</u></b>			
White, non-Hispanic	6,270,241	68.4%	83.4%
Black, non-Hispanic	370,039	71.1%	4.9%
Hispanic	499,122	69.8%	6.6%
Other, non-Hispanic	382,324	69.6%	5.1%
<b><u>Citizenship Status</u></b>			
Born abroad	1,126,542	67.8%	15.0%
Native born	6,395,183	68.9%	85.0%

<b><u>Age Group</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
16-24	1,014,189	67.1%	13.5%
25-34	1,445,266	84.9%	19.2%
35-44	1,844,539	84.2%	24.5%
45-54	1,842,673	84.3%	24.5%
55-64	1,080,617	68.9%	14.4%
65+	294,442	16.4%	3.9%

<b><u>Educational Attainment</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
Currently Enrolled in Secondary School	05-06 Avg30	43.4%	#VALUE!
High school dropout	545,735	45.4%	7.3%
High school graduate	2,101,735	65.8%	27.9%
Some college, no degree	1,391,980	72.4%	18.5%
Associate's degree	628,436	79.2%	8.4%
Bachelor's degree	1,599,894	78.5%	21.3%
Master's degree or more	1,053,416	78.7%	14.0%

## **New England**

<b>Total Non-Institutional Population</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Total	13,450,470	13,783,286	332,816	2.5%
<b><u>Gender</u></b>				
Male	6,497,802	6,699,832	202,030	3.1%
Female	6,952,668	7,083,455	130,787	1.9%
<b><u>Race</u></b>				
White, non-Hispanic	11,306,533	11,298,107	-8,426	-0.1%
Black, non-Hispanic	628,948	716,040	87,092	13.8%
Hispanic	844,299	1,024,054	179,755	21.3%
Other, non-Hispanic	670,690	745,087	74,397	11.1%
<b><u>Citizenship Status</u></b>				
Born abroad	1,543,213	1,784,503	241,290	15.6%
Native born	11,907,257	11,998,783	91,526	0.8%

<b>Age Group</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Under 16	2,978,566	2,813,360	-165,206	-5.5%
16-24	1,350,985	1,514,542	163,557	12.1%
25-34	1,847,271	1,711,770	-135,501	-7.3%
35-44	2,335,501	2,197,264	-138,237	-5.9%
45-54	1,955,375	2,187,708	232,333	11.9%
55-64	1,217,568	1,568,179	350,611	28.8%
65+	1,765,204	1,790,465	25,261	1.4%

<b><u>Educational Attainment (For 3+ Year Olds)</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Currently Enrolled in Secondary School	2,738,708	2,567,798	-170,910	-6.2%
High school dropout	2,180,733	1,417,552	-763,181	-35.0%
High school graduate	2,937,026	3,198,834	261,808	8.9%
Some college, no degree	1,911,909	1,928,713	16,804	0.9%
Associate's degree	713,994	795,504	81,510	11.4%
Bachelor's degree	1,822,394	2,042,797	220,403	12.1%
Master's degree or more	1,145,706	1,340,599	194,893	17.0%

**U.S.**

<b>Total Non-Institutional Population 16+ Year Olds</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Total	208,782,718	224,204,853	15,422,135	7.4%
<b><u>Gender</u></b>				
Male	99,903,746	108,181,231	8,277,485	8.3%
Female	108,878,972	116,023,623	7,144,651	6.6%
<b><u>Race</u></b>				
White, non-Hispanic	150,017,883	155,178,332	5,160,449	3.4%
Black, non-Hispanic	22,590,821	25,109,271	2,518,450	11.1%
Hispanic	23,411,379	29,348,621	5,937,242	25.4%
Other, non-Hispanic	12,762,635	14,568,630	1,805,995	14.2%
<b><u>Citizenship Status</u></b>				
Born abroad	29,492,950	35,189,909	5,696,959	19.3%
Native born	179,289,768	189,014,945	9,725,177	5.4%

<b><u>Age Group</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
16-24	31,865,744	34,690,717	2,824,973	8.9%
25-34	38,194,285	38,516,867	322,582	0.8%
35-44	44,750,070	43,035,471	-1,714,599	-10.9%
45-54	37,070,498	42,276,254	5,205,756	14.0%
55-64	23,901,672	30,673,755	6,772,083	28.3%
65+	33,000,449	35,011,791	2,011,342	6.1%

<b><u>Educational Attainment</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Currently Enrolled in Secondary School	10,064,532	9,976,708	-87,824	-0.9%
High school dropout	37,616,155	32,627,060	-4,989,095	-13.3%
High school graduate	58,004,033	65,836,206	7,832,173	13.5%
Some college, no degree	44,982,437	46,177,879	1,195,442	2.7%
Associate's degree	12,329,761	15,406,674	3,076,913	25.0%
Bachelor's degree	29,779,256	35,016,648	5,237,392	17.6%
Master's degree or more	16,006,544	19,163,680	3,157,136	19.7%

**U.S.**

<b>Civilian Labor Force (16+)</b>	<b>05-06 Avg Civilian Labor Force</b>	<b>05-06 Avg CLFPR</b>	<b>Composition of the Labor Force</b>
Total	148,191,267	66.1%	100.0%
<b><u>Gender</u></b>			
Male	79,261,521	73.3%	53.5%
Female	68,929,746	59.4%	46.5%
<b><u>Race</u></b>			
White, non-Hispanic	101,928,834	65.7%	68.8%
Black, non-Hispanic	16,514,763	65.8%	11.1%
Hispanic	20,206,135	68.8%	13.6%
Other, non-Hispanic	9,541,536	65.5%	6.4%
<b><u>Citizenship Status</u></b>			
Born abroad	23,547,389	66.9%	15.9%
Native born	124,643,878	65.9%	84.1%

<b><u>Age Group</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
16-24	22,166,878	63.9%	15.0%
25-34	31,855,587	82.7%	21.5%
35-44	35,649,877	82.8%	24.1%
45-54	34,205,046	80.9%	23.1%
55-64	19,082,514	62.2%	12.9%
65+	5,231,365	14.9%	3.5%

<b><u>Educational Attainment</u></b>	<b>05-06 Avg</b>	<b>05-06 Avg</b>	<b>Composition of the Labor Force</b>
Currently Enrolled in Secondary School	3,613,683	36.2%	2.4%
High school dropout	15,723,608	48.2%	10.6%
High school graduate	42,377,766	64.4%	28.6%
Some college, no degree	32,602,928	70.6%	22.0%
Associate's degree	11,979,651	77.8%	8.1%
Bachelor's degree	27,040,491	77.2%	18.2%
Master's degree or more	14,853,142	77.5%	10.0%

**U.S.**

<b>Total Non-Institutional Population</b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Total	272,837,866	289,865,830	17,027,964	6.2%
<b><u>Gender</u></b>				
Male	132,687,496	142,041,117	9,353,621	7.0%
Female	140,150,370	147,824,714	7,674,344	5.5%
<b><u>Race</u></b>				
White, non-Hispanic	188,968,575	192,796,561	3,827,986	2.0%
Black, non-Hispanic	31,901,119	34,583,521	2,682,402	8.4%
Hispanic	34,427,589	42,694,008	8,266,419	24.0%
Other, non-Hispanic	17,540,583	19,791,740	2,251,157	12.8%
<b><u>Citizenship Status</u></b>				
Born abroad	32,238,245	37,830,496	5,592,251	17.3%
Native born	240,599,621	252,035,334	11,435,713	4.8%

<b><u>Age Group</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Under 16	64,055,148	64,969,897	914,749	1.4%
16-24	31,865,744	34,839,957	2,974,213	9.3%
25-34	38,194,285	38,791,463	597,178	1.6%
35-44	44,750,070	43,238,672	-1,511,398	-3.4%
45-54	37,070,498	42,331,451	5,260,953	14.2%
55-64	23,901,672	30,682,602	6,780,930	28.4%
65+	33,000,449	35,011,791	2,011,342	6.1%

<b><u>Educational Attainment (For 3+ Year Olds)</u></b>	<b>2000</b>	<b>05-06 Avg</b>	<b>Absolute Change</b>	<b>Relative Change</b>
Currently Enrolled in Secondary School	57,758,839	56,770,826	-988,013	-1.7%
High school dropout	53,961,380	38,715,470	-15,245,910	-28.3%
High school graduate	58,015,697	66,024,442	8,008,745	13.8%
Some college, no degree	44,986,389	46,421,557	1,435,168	3.2%
Associate's degree	12,329,761	15,481,204	3,151,443	25.6%
Bachelor's degree	29,779,256	35,152,652	5,373,396	18.0%
Master's degree or more	16,006,544	19,246,426	3,239,882	20.2%

**Appendix B:**  
**Measuring Wage and Salary Employment  
Levels and Trends in the North Shore  
Workforce Area**



**North Shore ES-202 Average Monthly Employment, 2004-2007****2 Digit**

<b>Description</b>	<b>2004 Third Quarter</b>	<b>2007 Third Quarter</b>	<b>Absolute Change</b>	<b>Relative Change</b>
<b>Total, All Industries</b>	164,833	167,238	2,405	1.46%
11 - Agriculture, Forestry, Fishing & Hunting	563	480	-83	-14.74%
21 - Mining	101	64	-37	-36.63%
23 - Construction	7,615	8,003	388	5.10%
31-33 - Manufacturing	20,484	19,945	-539	-2.63%
DUR - Durable Goods Manufacturing	15,142	15,263	121	0.80%
NONDUR - Non-Durable Goods Manufacturing	5,342	4,682	-660	-12.35%
22 - Utilities	782	775	-7	-0.90%
42 - Wholesale Trade	6,188	6,249	61	0.99%
44-45 - Retail Trade	27,173	26,090	-1,083	-3.99%
48-49 - Transportation and Warehousing	3,104	2,983	-121	-3.90%
51 - Information	3,334	3,027	-307	-9.21%
52 - Finance and Insurance	5,692	6,268	576	10.12%
53 - Real Estate and Rental and Leasing	2,247	2,207	-40	-1.78%
54 - Professional and Technical Services	7,858	8,394	536	6.82%
55 - Management of Companies and Enterprises	1,843	1,525	-318	-17.25%
56 - Administrative and Waste Services	7,269	7,297	28	0.39%
61 - Educational Services	11,475	11,870	395	3.44%
62 - Health Care and Social Assistance	25,669	28,280	2,611	10.17%
71 - Arts, Entertainment, and Recreation	4,740	4,655	-85	-1.79%
72 - Accommodation and Food Services	16,029	15,883	-146	-0.91%
81 - Other Services, Ex. Public Admin	6,884	7,374	490	7.12%
92 - Public Administration	5,784	5,868	84	1.45%

**Massachusetts ES-202 Average Monthly Employment, 2004-2007****2 Digit**

<b>Description</b>	<b>2004 Third Quarter</b>	<b>2007 Third Quarter</b>	<b>Absolute Change</b>	<b>Relative Change</b>
<b>Total, All Industries</b>	3,139,881	3,236,217	96,336	3.07%
11 - Agriculture, Forestry, Fishing & Hunting	7,956	7,518	-438	-5.51%
21 - Mining	1,974	1,594	-380	-19.25%
23 - Construction	159,762	158,057	-1,705	-1.07%
31-33 - Manufacturing	313,608	294,964	-18,644	-5.95%
DUR - Durable Goods Manufacturing	205,621	195,180	-10,441	-5.08%
NONDUR - Non-Durable Goods Manufacturing	107,987	99,785	-8,202	-7.60%
22 - Utilities	13,970	13,396	-574	-4.11%
42 - Wholesale Trade	135,538	138,426	2,888	2.13%
44-45 - Retail Trade	355,455	348,784	-6,671	-1.88%
48-49 - Transportation and Warehousing	100,564	100,802	238	0.24%
51 - Information	92,519	94,852	2,333	2.52%
52 - Finance and Insurance	173,224	182,744	9,520	5.50%
53 - Real Estate and Rental and Leasing	46,550	45,094	-1,456	-3.13%
54 - Professional and Technical Services	228,408	252,712	24,304	10.64%
55 - Management of Companies and Enterprises	64,989	61,401	-3,588	-5.52%
56 - Administrative and Waste Services	170,375	180,429	10,054	5.90%
61 - Educational Services	252,159	269,921	17,762	7.04%
62 - Health Care and Social Assistance	451,949	488,020	36,071	7.98%
71 - Arts, Entertainment, and Recreation	62,046	64,971	2,925	4.71%
72 - Accommodation and Food Services	260,673	268,410	7,737	2.97%
81 - Other Services, Ex. Public Admin	117,750	128,741	10,991	9.33%
92 - Public Administration	130,413	135,383	4,970	3.81%

**North Shore ES-202 Average Monthly Employment, 2006-2007****2 Digit**

<b>Description</b>	<b>2006 Third Quarter</b>	<b>2007 Third Quarter</b>	<b>Absolute Change</b>	<b>Relative Change</b>
<b>Total, All Industries</b>	167,724	167,238	-486	-0.29%
11 - Agriculture, Forestry, Fishing & Hunting	550	480	-70	-12.73%
21 - Mining	76	64	-12	-15.79%
23 - Construction	8,078	8,003	-75	-0.93%
31-33 - Manufacturing	20,040	19,945	-95	-0.47%
DUR - Durable Goods Manufacturing	14,970	15,263	293	1.96%
NONDUR - Non-Durable Goods Manufacturing	5,070	4,682	-388	-7.65%
22 - Utilities	753	775	22	2.92%
42 - Wholesale Trade	6,165	6,249	84	1.36%
44-45 - Retail Trade	26,446	26,090	-356	-1.35%
48-49 - Transportation and Warehousing	3,059	2,983	-76	-2.48%
51 - Information	3,000	3,027	27	0.90%
52 - Finance and Insurance	6,393	6,268	-125	-1.96%
53 - Real Estate and Rental and Leasing	2,208	2,207	-1	-0.05%
54 - Professional and Technical Services	8,294	8,394	100	1.21%
55 - Management of Companies and Enterprises	1,390	1,525	135	9.71%
56 - Administrative and Waste Services	8,913	7,297	-1,616	-18.13%
61 - Educational Services	11,271	11,870	599	5.31%
62 - Health Care and Social Assistance	27,514	28,280	766	2.78%
71 - Arts, Entertainment, and Recreation	4,791	4,655	-136	-2.84%
72 - Accommodation and Food Services	15,820	15,883	63	0.40%
81 - Other Services, Ex. Public Admin	7,129	7,374	245	3.44%
92 - Public Administration	5,835	5,868	33	0.57%

**Massachusetts ES-202 Average Monthly Employment, 2006-2007****2 Digit**

<b>Description</b>	<b>2006 Third Quarter</b>	<b>2007 Third Quarter</b>	<b>Absolute Change</b>	<b>Relative Change</b>
<b>Total, All Industries</b>	3,200,233	3,236,217	35,984	1.12%
11 - Agriculture, Forestry, Fishing & Hunting	7,749	7,518	-231	-2.98%
21 - Mining	1,842	1,594	-248	-13.46%
23 - Construction	161,049	158,057	-2,992	-1.86%
31-33 - Manufacturing	298,840	294,964	-3,876	-1.30%
DUR - Durable Goods Manufacturing	196,222	195,180	-1,042	-0.53%
NONDUR - Non-Durable Goods Manufacturing	102,618	99,785	-2,833	-2.76%
22 - Utilities	13,068	13,396	328	2.51%
42 - Wholesale Trade	137,726	138,426	700	0.51%
44-45 - Retail Trade	349,751	348,784	-967	-0.28%
48-49 - Transportation and Warehousing	99,927	100,802	875	0.88%
51 - Information	93,745	94,852	1,107	1.18%
52 - Finance and Insurance	181,868	182,744	876	0.48%
53 - Real Estate and Rental and Leasing	46,161	45,094	-1,067	-2.31%
54 - Professional and Technical Services	246,776	252,712	5,936	2.41%
55 - Management of Companies and Enterprises	61,790	61,401	-389	-0.63%
56 - Administrative and Waste Services	176,723	180,429	3,706	2.10%
61 - Educational Services	264,293	269,921	5,628	2.13%
62 - Health Care and Social Assistance	471,170	488,020	16,850	3.58%
71 - Arts, Entertainment, and Recreation	63,976	64,971	995	1.56%
72 - Accommodation and Food Services	264,944	268,410	3,466	1.31%
81 - Other Services, Ex. Public Admin	124,406	128,741	4,335	3.48%
92 - Public Administration	134,428	135,383	955	0.71%

**North Shore ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	<b>Total, all industries</b>	164,833	167,238	2,405	1.46%
	<b>Goods-Producing Domain</b>	28,764	28,492	-272	-0.95%
	<b>Natural Resources and Mining</b>	665	544	-121	-18.20%
11	Agriculture, Forestry, Fishing & Hunting	563	480	-83	-14.74%
111	Crop Production	130	129	-1	-0.77%
1114	Greenhouse and Nursery Production	70	63	-7	-10.00%
114	Fishing, Hunting and Trapping	266	163	-103	-38.72%
1141	Fishing	266	163	-103	-38.72%
115	Agriculture & Forestry Support Activity	37	24	-13	-35.14%
1152	Support Activities for Animal Production	37	24	-13	-35.14%
21	Mining	101	64	-37	-36.63%
212	Mining (except Oil and Gas)	88	63	-25	-28.41%
2123	Nonmetallic Mineral Mining and Quarrying	88	63	-25	-28.41%
	<b>Construction</b>	7,615	8,003	388	5.10%
23	Construction	7,615	8,003	388	5.10%
236	Construction of Buildings	1,801	1,836	35	1.94%
2361	Residential Building Construction	1,200	1,155	-45	-3.75%
2362	Nonresidential Building Construction	601	681	80	13.31%
237	Heavy and Civil Engineering Construction	960	991	31	3.23%
2371	Utility System Construction	192	180	-12	-6.25%
2372	Land Subdivision	29	49	20	68.97%
2373	Highway, Street, and Bridge Construction	705	730	25	3.55%
2379	Other Heavy Construction	34	0	-34	-100.00%
238	Specialty Trade Contractors	4,854	5,176	322	6.63%
2381	Building Foundation/Exterior Contractors	682	680	-2	-0.29%
2382	Building Equipment Contractors	2,493	2,611	118	4.73%
2383	Building Finishing Contractors	1,025	1,234	209	20.39%
2389	Other Specialty Trade Contractors	654	650	-4	-0.61%
	<b>Manufacturing</b>	20,484	19,945	-539	-2.63%
31-33	Manufacturing	20,484	19,945	-539	-2.63%
DUR	Durable Goods Manufacturing	15,142	15,263	121	0.80%
NONDUR	Non-Durable Goods Manufacturing	5,342	4,682	-660	-12.35%
311	Food Manufacturing	2,043	2,137	94	4.60%
3113	Sugar/Confectionery Product Manufacture	184	180	-4	-2.17%
3114	Fruit, Vegetable, & Specialty Foods Mfg	90	0	-90	-100.00%
3117	Seafood Product Preparation & Packaging	635	674	39	6.14%
3118	Bakeries and Tortilla Manufacturing	236	272	36	15.25%
312	Beverage & Tobacco Product Manufacturing	33	54	21	63.64%
3121	Beverage Manufacturing	33	54	21	63.64%
313	Textile Mills	38	24	-14	-36.84%
3133	Textile and Fabric Finishing and Fabric	36	24	-12	-33.33%
314	Textile Product Mills	105	111	6	5.71%
3141	Textile Furnishings Mills	0	29	29	NA
3149	Other Textile Product Mills	85	81	-4	-4.71%
315	Apparel Manufacturing	35	88	53	151.43%
3152	Cut and Sew Apparel Manufacturing	35	88	53	151.43%
316	Leather and Allied Product Manufacturing	403	124	-279	-69.23%
3161	Leather and Hide Tanning and Finishing	113	0	-113	-100.00%

**North Shore ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
321	Wood Product Manufacturing	61	42	-19	-31.15%
3219	Other Wood Product Manufacturing	60	41	-19	-31.67%
322	Paper Manufacturing	301	0	-301	-100.00%
3222	Converted Paper Product Manufacturing	301	0	-301	-100.00%
323	Printing and Related Support Activities	519	333	-186	-35.84%
3231	Printing and Related Support Activities	519	333	-186	-35.84%
325	Chemical Manufacturing	1463	1298	-165	-11.28%
3254	Pharmaceutical & Medicine Manufacturing	578	542	-36	-6.23%
3255	Paint, Coating, & Adhesive Manufacturing	532	497	-35	-6.58%
3256	Cleaning Compound and Toiletry Mfg	135	0	-135	-100.00%
3259	Other Chemical Preparation Manufacturing	131	77	-54	-41.22%
326	Plastics & Rubber Products Manufacturing	319	298	-21	-6.58%
3261	Plastics Product Manufacturing	255	247	-8	-3.14%
3262	Rubber Product Manufacturing	64	50	-14	-21.88%
327	Nonmetallic Mineral Product Mfg	135	75	-60	-44.44%
3271	Clay Product & Refractory Manufacturing	33	36	3	9.09%
3273	Cement & Concrete Product Manufacturing	26	20	-6	-23.08%
3279	Other Nonmetallic Mineral Products	0	12	12	NA
331	Primary Metal Manufacturing	27	0	-27	-100.00%
332	Fabricated Metal Product Manufacturing	2338	2153	-185	-7.91%
3321	Forging and Stamping	130	0	-130	-100.00%
3323	Architectural and Structural Metals	343	398	55	16.03%
3327	Machine Shops and Threaded Products	1,410	1,461	51	3.62%
3328	Coating, Engraving & Heat Treating Metal	122	116	-6	-4.92%
3329	Other Fabricated Metal Product Mfg	285	144	-141	-49.47%
333	Machinery Manufacturing	3396	3699	303	8.92%
3332	Industrial Machinery Manufacturing	2,624	2,680	56	2.13%
3335	Metalworking Machinery Manufacturing	124	132	8	6.45%
3336	Turbine and Power Transmission Equipment	0	340	340	NA
3339	Other General Purpose Machinery Mfg	400	358	-42	-10.50%
334	Computer and Electronic Product Mfg	3,262	3,142	-120	-3.68%
3341	Computers and Peripheral Equipment	0	24	24	NA
3344	Semiconductor and Electronic Components	951	870	-81	-8.52%
3345	Electronic Instrument Manufacturing	1132	2099	967	85.42%
335	Electrical Equipment and Appliances	833	1156	323	38.78%
3351	Electric Lighting Equipment Mfg	353	0	-353	-100.00%
3359	Other Electrical Equipment & Components	338	437	99	29.29%
3366	Ship and Boat Building	20	38	18	90.00%
337	Furniture and Related Product Mfg	357	312	-45	-12.61%
3371	<b>Household and Institutional Furniture</b>	262	84	-178	-67.94%
3372	<b>Office Furniture and Fixtures Mfg</b>	66	0	-66	-100.00%
339	Miscellaneous Manufacturing	901	819	-82	-9.10%
3391	Medical Equipment and Supplies Mfg	0	691	691	NA
3399	Other Miscellaneous Manufacturing	150	128	-22	-14.67%
	Service-Providing Domain	136070	138746	2,676	1.97%
	Trade, Transportation and Utilities	37,247	36,097	-1,150	-3.09%
22	Utilities	782	775	-7	-0.90%
221	Utilities	782	775	-7	-0.90%

**North Shore ES-202 Employment, 2004-2007****All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
2211	Power Generation and Supply	427	406	-21	-4.92%
2213	Water, Sewage and Other Systems	261	239	-22	-8.43%
42	Wholesale Trade	6188	6249	61	0.99%
423	Merchant Wholesalers, Durable Goods	2603	2705	102	3.92%
4231	Motor Vehicle/Part Merchant Wholesalers	255	241	-14	-5.49%
4232	Furniture & Furnishings Merchant Whsle	62	77	15	24.19%
4233	Lumber and Supply Merchant Wholesalers	93	175	82	88.17%
4234	Commercial Goods Merchant Wholesalers	731	725	-6	-0.82%
4235	Metal and Mineral Merchant Wholesalers	91	82	-9	-9.89%
4236	Electric Goods Merchant Wholesalers	544	652	108	19.85%
4237	Hardware & Plumbing Merchant Wholesalers	215	157	-58	-26.98%
4238	Machinery & Supply Merchant Wholesalers	441	471	30	6.80%
4239	Misc Durable Goods Merchant Wholesalers	169	123	-46	-27.22%
424	Merchant Wholesalers, Nondurable Goods	2460	2558	98	3.98%
4241	Paper/Paper Product Merchant Wholesalers	84	23	-61	-72.62%
4242	Druggists' Goods Merchant Wholesalers	0	231	231	NA
4243	Apparel/Piece Goods Merchant Wholesalers	217	222	5	2.30%
4244	Grocery Product Merchant Wholesalers	968	824	-144	-14.88%
4246	Chemical Merchant Wholesalers	69	100	31	44.93%
4248	Alcoholic Beverage Merchant Wholesalers	196	235	39	19.90%
4249	Misc Nondurable Goods Merchant Whsle	566	864	298	52.65%
425	Electronic Markets and Agents/Brokers	1125	986	-139	-12.36%
4251	Electronic Markets and Agents/Brokers	1125	986	-139	-12.36%
44-45	Retail Trade	27173	26090	-1,083	-3.99%
441	Motor Vehicle and Parts Dealers	3013	3048	35	1.16%
4411	Automobile Dealers	2381	2393	12	0.50%
4412	Other Motor Vehicle Dealers	187	218	31	16.58%
4413	Auto Parts, Accessories, and Tire Stores	445	437	-8	-1.80%
442	Furniture and Home Furnishings Stores	1,006	713	-293	-29.13%
4421	Furniture Stores	469	242	-227	-48.40%
4422	Home Furnishings Stores	537	472	-65	-12.10%
443	Electronics and Appliance Stores	919	1,031	112	12.19%
4431	Electronics and Appliance Stores	919	1,031	112	12.19%
444	Building Material & Garden Supply Stores	2250	2043	-207	-9.20%
4441	Building Material and Supplies Dealers	1922	1739	-183	-9.52%
4442	Lawn & Garden Equipment/Supplies Stores	327	304	-23	-7.03%
445	Food and Beverage Stores	6,409	6,458	49	0.76%
4451	Grocery Stores	5439	5459	20	0.37%
4452	Specialty Food Stores	535	541	6	1.12%
4453	Beer, Wine, and Liquor Stores	435	458	23	5.29%
446	Health and Personal Care Stores	1,941	1,795	-146	-7.52%
4461	Health and Personal Care Stores	1941	1795	-146	-7.52%
447	Gasoline Stations	681	636	-45	-6.61%
4471	Gasoline Stations	681	636	-45	-6.61%
448	Clothing and Clothing Accessories Stores	2864	2916	52	1.82%
4481	Clothing Stores	2292	2381	89	3.88%
4482	Shoe Stores	245	280	35	14.29%
4483	Jewelry, Luggage & Leather Goods Stores	326	254	-72	-22.09%

**North Shore ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
451	Sporting Goods/Hobby/Book/Music Stores	1388	1242	-146	-10.52%
4511	Sporting Goods/Musical Instrument Stores	915	865	-50	-5.46%
4512	Book, Periodical, and Music Stores	473	377	-96	-20.30%
452	General Merchandise Stores	3601	3203	-398	-11.05%
4521	Department Stores	3092	2595	-497	-16.07%
4529	Other General Merchandise Stores	508	608	100	19.69%
453	Miscellaneous Store Retailers	1,750	1,490	-260	-14.86%
4531	Florists	186	168	-18	-9.68%
4532	Office Supply, Stationery & Gift Stores	825	691	-134	-16.24%
4533	Used Merchandise Stores	55	60	5	9.09%
4539	Other Miscellaneous Store Retailers	683	572	-111	-16.25%
454	Nonstore Retailers	1352	1515	163	12.06%
4541	Electronic Shopping & Mail-Order Houses	857	1120	263	30.69%
4543	Direct Selling Establishments	492	393	-99	-20.12%
48-49	Transportation and Warehousing	3104	2983	-121	-3.90%
481	Air Transportation	0	5	5	NA
484	Truck Transportation	590	448	-142	-24.07%
4841	General Freight Trucking	133	136	3	2.26%
4842	Specialized Freight Trucking	457	312	-145	-31.73%
485	Transit and Ground Passenger Transport	435	505	70	16.09%
4853	Taxi and Limousine Service	164	236	72	43.90%
4854	School and Employee Bus Transportation	137	174	37	27.01%
4855	Charter Bus Industry	39	36	-3	-7.69%
4859	Other Ground Passenger Transportation	52	17	-35	-67.31%
487	Scenic and Sightseeing Transportation	153	146	-7	-4.58%
4871	Scenic/Sightseeing Transportation, Land	30	0	-30	-100.00%
4872	Scenic/Sightseeing Transportation, Water	121	111	-10	-8.26%
488	Support Activities for Transportation	253	288	35	13.83%
4881	Support Activities for Air Transport	38	27	-11	-28.95%
4883	Support Activities for Water Transport	0	6	6	NA
4884	Support Activities, Road Transportation	121	79	-42	-34.71%
4885	<b>Freight Transportation Arrangement</b>	59	109	50	84.75%
4889	Other Support Activities for Transport	0	67	67	NA
492	Couriers and Messengers	534	456	-78	-14.61%
4921	Couriers	533	456	-77	-14.45%
493	Warehousing and Storage	234	236	2	0.85%
4931	Warehousing and Storage	234	236	2	0.85%
	Information	3334	3027	-307	-9.21%
51	Information	3334	3027	-307	-9.21%
511	Publishing Industries	1602	1521	-81	-5.06%
5111	Newspaper, Book, & Directory Publishers	1148	1211	63	5.49%
5112	Software Publishers	455	310	-145	-31.87%
512	Motion Picture & Sound Recording Ind	192	172	-20	-10.42%
5121	Motion Picture and Video Industries	179	158	-21	-11.73%
515	Broadcasting (except Internet)	91	102	11	12.09%
5151	Radio and Television Broadcasting	91	82	-9	-9.89%
5152	Cable and Other Subscription Programming	0	20	20	NA
516	Internet Publishing and Broadcasting	57	0	-57	-100.00%



**North Shore ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5161	Internet Publishing and Broadcasting	57	0	-57	-100.00%
517	Telecommunications	770	605	-165	-21.43%
5171	Wired Telecommunications Carriers	0	530	530	NA
5179	<b>Other Telecommunications</b>	0	25	25	NA
518	ISPs, Search Portals, & Data Processing	203	100	-103	-50.74%
5182	Data Processing and Related Services	67	100	33	49.25%
519	Other Information Services	418	528	110	26.32%
5191	Other Information Services	418	528	110	26.32%
	Financial Activities	7939	8475	536	6.75%
52	Finance and Insurance	5692	6268	576	10.12%
522	Credit Intermediation & Related Activity	2935	3600	665	22.66%
5221	Depository Credit Intermediation	1879	2872	993	52.85%
5222	Nondepository Credit Intermediation	972	559	-413	-42.49%
5223	Activities Rel to Credit Intermediation	84	169	85	101.19%
523	Financial Investment & Related Activity	493	571	78	15.82%
5231	Security & Commodity Investment Activity	323	329	6	1.86%
5239	Other Financial Investment Activities	169	242	73	43.20%
524	Insurance Carriers & Related Activities	2,148	2,067	-81	-3.77%
5241	Insurance Carriers	1,067	962	-105	-9.84%
5242	Insurance Agencies, Brokerages & Support	1081	1105	24	2.22%
525	Funds, Trusts & Other Financial Vehicles	117	0	-117	-100.00%
5251	Insurance and Employee Benefit Funds	109	0	-109	-100.00%
5259	Other Investment Pools and Funds	8	0	-8	-100.00%
53	Real Estate and Rental and Leasing	2247	2207	-40	-1.78%
531	Real Estate	1481	1521	40	2.70%
5311	Lessors of Real Estate	412	546	134	32.52%
5312	Offices of Real Estate Agents & Brokers	494	276	-218	-44.13%
5313	<b>Activities Related to Real Estate</b>	575	699	124	21.57%
532	Rental and Leasing Services	570	438	-132	-23.16%
5321	Automotive Equipment Rental and Leasing	135	129	-6	-4.44%
5322	Consumer Goods Rental	346	246	-100	-28.90%
5323	General Rental Centers	65	37	-28	-43.08%
5324	Machinery & Equipment Rental & Leasing	24	25	1	4.17%
	Professional and Business Services	16970	17216	246	1.45%
54	Professional and Technical Services	7,858	8394	536	6.82%
541	Professional and Technical Services	7858	8394	536	6.82%
5411	Legal Services	1418	1208	-210	-14.81%
5412	Accounting and Bookkeeping Services	530	1,034	504	95.09%
5413	Architectural and Engineering Services	1154	1124	-30	-2.60%
5414	Specialized Design Services	172	169	-3	-1.74%
5415	Computer Systems Design and Rel Services	989	882	-107	-10.82%
5416	Management & Technical Consulting Svc	810	867	57	7.04%
5417	Scientific Research and Development Svc	624	834	210	33.65%
5418	Advertising and Related Services	1,293	1,288	-5	-0.39%
5419	Other Professional & Technical Services	866	987	121	13.97%
55	Management of Companies and Enterprises	1,843	1,525	-318	-17.25%
551	Management of Companies and Enterprises	1843	1525	-318	-17.25%
5511	Management of Companies and Enterprises	1843	1525	-318	-17.25%

**North Shore ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
56	Administrative and Waste Services	7269	7297	28	0.39%
561	Administrative and Support Services	6,860	6,797	-63	-0.92%
5611	Office Administrative Services	695	381	-314	-45.18%
5613	Employment Services	2361	2254	-107	-4.53%
5614	Business Support Services	617	541	-76	-12.32%
5615	Travel Arrangement & Reservation Service	270	329	59	21.85%
5616	Investigation and Security Services	359	426	67	18.66%
5617	<b>Services to Buildings and Dwellings</b>	2,423	2,753	330	13.62%
5619	Other Support Services	134	51	-83	-61.94%
562	Waste Management and Remediation Service	409	501	92	22.49%
5621	Waste Collection	107	195	88	82.24%
5622	Waste Treatment and Disposal	139	91	-48	-34.53%
5629	Remediation and Other Waste Services	162	215	53	32.72%
	Education and Health Services	37144	40150	3,006	8.09%
61	Educational Services	11475	11870	395	3.44%
611	Educational Services	11475	11870	395	3.44%
6111	Elementary and Secondary Schools	8,011	8,121	110	1.37%
6113	Colleges and Universities	2,115	2,439	324	15.32%
6114	Business, Computer & Management Training	21	22	1	4.76%
6115	Technical and Trade Schools	126	137	11	8.73%
6116	Other Schools and Instruction	235	270	35	14.89%
6117	Educational Support Services	125	138	13	10.40%
62	Health Care and Social Assistance	25669	28280	2,611	10.17%
621	Ambulatory Health Care Services	8,627	9,733	1,106	12.82%
6211	Offices of Physicians	2872	3146	274	9.54%
6212	Offices of Dentists	1,493	1,532	39	2.61%
6213	Offices of Other Health Practitioners	639	661	22	3.44%
6214	Outpatient Care Centers	1,316	1,694	378	28.72%
6215	Medical and Diagnostic Laboratories	220	305	85	38.64%
6216	Home Health Care Services	1,783	2,147	364	20.42%
6219	Other Ambulatory Health Care Services	304	247	-57	-18.75%
622	Hospitals	7,651	8,686	1,035	13.53%
6221	General Medical and Surgical Hospitals	5,424	6,182	758	13.97%
6222	Psychiatric & Substance Abuse Hospitals	1839	1908	69	3.75%
6223	Other Hospitals	0	596	596	NA
623	Nursing and Residential Care Facilities	6,590	6,951	361	5.48%
6231	Nursing Care Facilities	3521	3380	-141	-4.00%
6232	Residential Mental Health Facilities	1527	1961	434	28.42%
6233	Community Care Facility for the Elderly	1299	1424	125	9.62%
6239	<b>Other Residential Care Facilities</b>	243	186	-57	-23.46%
624	Social Assistance	2,801	2,910	109	3.89%
6241	Individual and Family Services	1304	1518	214	16.41%
6242	Emergency and Other Relief Services	118	196	78	66.10%
6243	Vocational Rehabilitation Services	394	258	-136	-34.52%
6244	Child Day Care Services	985	937	-48	-4.87%
	Leisure and Hospitality	20769	20539	-230	-1.11%
71	Arts, Entertainment, and Recreation	4740	4655	-85	-1.79%
711	Performing Arts and Spectator Sports	403	363	-40	-9.93%

**North Shore ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
7111	Performing Arts Companies	337	292	-45	-13.35%
7112	Spectator Sports	21	16	-5	-23.81%
7114	Agents and Managers for Public Figures	16	19	3	18.75%
7115	Independent Artists/Writers/Performers	9	6	-3	-33.33%
712	Museums, Parks and Historical Sites	544	569	25	4.60%
7121	Museums, Parks and Historical Sites	544	569	25	4.60%
713	Amusement, Gambling & Recreation Ind	3793	3724	-69	-1.82%
7131	Amusement Parks and Arcades	0	39	39	NA
7139	Other Amusement & Recreation Industries	3,573	3,544	-29	-0.81%
72	Accommodation and Food Services	16,029	15,883	-146	-0.91%
721	Accommodation	1518	1370	-148	-9.75%
7211	Traveler Accommodation	1490	1356	-134	-8.99%
7213	<b>Rooming and Boarding Houses</b>	16	9	-7	-43.75%
722	Food Services and Drinking Places	14,511	14,513	2	0.01%
7221	Full-Service Restaurants	7,881	7,991	110	1.40%
7222	Limited-Service Eating Places	5,248	5,267	19	0.36%
7223	Special Food Services	977	952	-25	-2.56%
7224	Drinking Places (Alcoholic Beverages)	405	303	-102	-25.19%
	Other Services	6884	7374	490	7.12%
81	Other Services, Ex. Public Admin	6,884	7,374	490	7.12%
811	Repair and Maintenance	1,371	1,241	-130	-9.48%
8111	Automotive Repair and Maintenance	1121	1022	-99	-8.83%
8112	Electronic Equipment Repair/Maintenance	59	69	10	16.95%
8113	Commercial Machinery Repair/Maintenance	99	86	-13	-13.13%
8114	Household Goods Repair and Maintenance	92	64	-28	-30.43%
812	Personal and Laundry Services	1967	2046	79	4.02%
8121	Personal Care Services	1174	1181	7	0.60%
8122	Death Care Services	199	189	-10	-5.03%
8123	Drycleaning and Laundry Services	333	303	-30	-9.01%
8129	Other Personal Services	260	373	113	43.46%
813	Membership Organizations & Associations	2698	3,008	310	11.49%
8132	<b>Grantmaking and Giving Services</b>	62	42	-20	-32.26%
8133	Social Advocacy Organizations	377	737	360	95.49%
8134	Civic and Social Organizations	1,977	1,936	-41	-2.07%
8139	Professional and Similar Organizations	277	288	11	3.97%
814	Private Households	848	1,079	231	27.24%
8141	Private Households	848	1,079	231	27.24%
	Public Administration	5784	5868	84	1.45%
92	Public Administration	5784	5868	84	1.45%
921	Executive, Legislative, & Gen Government	1568	1464	-104	-6.63%
9211	Executive, Legislative, & Gen Government	1568	1464	-104	-6.63%
922	Justice, Public Order, and Safety Activi	3307	3499	192	5.8%
9221	Justice, Public Order, and Safety Activi	3307	3499	192	5.8%
925	Community and Housing Program Admin	283	274	-9	-3.2%
9251	Community and Housing Program Admin	283	274	-9	-3.2%
926	Administration of Economic Programs	38	53	15	39.5%
9261	Administration of Economic Programs	38	53	15	39.5%

**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	<b>Total, all industries</b>	3,139,881	3,236,217	96,336	3.07%
	<b>Goods-Producing Domain</b>	483,299	462,133	-21,166	-4.38%
	<b>Natural Resources and Mining</b>	9,929	9,112	-817	-8.23%
11	Agriculture, Forestry, Fishing & Hunting	7,956	7,518	-438	-5.51%
111	Crop Production	4,183	3,806	-377	-9.01%
1112	Vegetable and Melon Farming	940	878	-62	-6.60%
1113	Fruit and Tree Nut Farming	721	856	135	18.72%
1114	Greenhouse and Nursery Production	1,835	1,710	-125	-6.81%
1119	Other Crop Farming	684	358	-326	-47.66%
112	Animal Production	627	648	21	3.35%
1121	Cattle Ranching and Farming	302	316	14	4.64%
1123	Poultry and Egg Production	105	77	-28	-26.67%
1125	Animal Aquaculture	60	100	40	66.67%
1129	Other Animal Production	144	137	-7	-4.86%
113	Forestry and Logging	130	120	-10	-7.69%
1132	Forest Nursery/Gathering Forest Products		11	11	NA
1133	Logging	95	109	14	14.74%
114	Fishing, Hunting and Trapping	1,767	1,625	-142	-8.04%
1141	Fishing	1,767	1,624	-143	-8.09%
115	Agriculture & Forestry Support Activity	1,248	1,318	70	5.61%
1151	Support Activities for Crop Production	64	61	-3	-4.69%
1152	Support Activities for Animal Production	1,168	1,225	57	4.88%
1153	Support Activities for Forestry	16	32	16	100.00%
21	Mining	1,974	1,594	-380	-19.25%
212	Mining (except Oil and Gas)	13	1,548	1,535	11807.69%
2111	Oil and Gas Extraction	13		-13	-100.00%
212	Mining (except Oil and Gas)	1,844		-1,844	-100.00%
2123	Nonmetallic Mineral Mining and Quarrying	1,844	1,548	-296	-16.05%
213	Support Activities for Mining	117	37	-80	-68.38%
2131	Support Activities for Mining	117	37	-80	-68.38%
	<b>Construction</b>	159,762	158,057	-1,705	-1.07%
23	Construction	159,762	158,057	-1,705	-1.07%
236	Construction of Buildings	33,730	33,004	-726	-2.15%
2361	Residential Building Construction	20,185	19,142	-1,043	-5.17%
2362	Nonresidential Building Construction	13,545	13,862	317	2.34%
237	Heavy and Civil Engineering Construction	26,550	25,237	-1,313	-4.95%
2371	Utility System Construction	5,122	5,197	75	1.46%
2372	Land Subdivision	1,552	1,550	-2	-0.13%
2373	Highway, Street, and Bridge Construction	18,843	17,299	-1,544	-8.19%
2379	Other Heavy Construction	1,034	1,191	157	15.18%
238	Specialty Trade Contractors	99,482	99,816	334	0.34%
2381	Building Foundation/Exterior Contractors	15,658	15,785	127	0.81%
2382	Building Equipment Contractors	45,697	45,613	-84	-0.18%
2383	Building Finishing Contractors	22,637	22,011	-626	-2.77%
2389	Other Specialty Trade Contractors	15,489	16,406	917	5.92%
	<b>Manufacturing</b>	313,608	294,964	-18,644	-5.95%
31-33	Manufacturing	313,608	294,964	-18,644	-5.95%
DUR	Durable Goods Manufacturing	205,621	195,180	-10,441	-5.08%

**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
NONDUR	Non-Durable Goods Manufacturing	107,987	99,785	-8,202	-7.60%
311	Food Manufacturing	22,370	22,814	444	1.98%
3112	Grain and Oilseed Milling	463	578	115	24.84%
3113	Sugar/Confectionery Product Manufacture	1,870	1,735	-135	-7.22%
3114	Fruit, Vegetable, & Specialty Foods Mfg	1,675	1,981	306	18.27%
3115	Dairy Product Manufacturing	2,800	2,798	-2	-0.07%
3116	Animal Slaughtering and Processing	2,098	2,061	-37	-1.76%
3117	Seafood Product Preparation & Packaging	2,320	2,512	192	8.28%
3118	Bakeries and Tortilla Manufacturing	8,777	8,297	-480	-5.47%
3119	Other Food Manufacturing	2,199	2,818	619	28.15%
312	Beverage & Tobacco Product Manufacturing	2,809	2,688	-121	-4.31%
3121	Beverage Manufacturing	2,802	2,687	-115	-4.10%
313	Textile Mills	8,637	5,204	-3,433	-39.75%
3131	Fiber, Yarn, and Thread Mills	998	241	-757	-75.85%
3132	Fabric Mills	4,247	2,541	-1,706	-40.17%
3133	Textile and Fabric Finishing and Fabric	3,392	2,423	-969	-28.57%
314	Textile Product Mills	2,759	3,120	361	13.08%
3141	Textile Furnishings Mills	1,352	1,152	-200	-14.79%
3149	Other Textile Product Mills	1,407	1,968	561	39.87%
315	Apparel Manufacturing	4,150	3,013	-1,137	-27.40%
3151	Apparel Knitting Mills		64	64	NA
3152	Cut and Sew Apparel Manufacturing	3,539	2,715	-824	-23.28%
3159	Accessories and Other Apparel Mfg		234	234	NA
316	Leather and Allied Product Manufacturing	2,097	1,698	-399	-19.03%
3161	Leather and Hide Tanning and Finishing	143	69	-74	-51.75%
3162	Footwear Manufacturing	1,348	1,224	-124	-9.20%
3169	Other Leather Product Manufacturing	607	405	-202	-33.28%
321	Wood Product Manufacturing	3,477	3,040	-437	-12.57%
3211	Sawmills and Wood Preservation	306	233	-73	-23.86%
3212	Veneer and Engineered Wood Products	303	323	20	6.60%
3219	Other Wood Product Manufacturing	2,868	2,484	-384	-13.39%
322	Paper Manufacturing	14,101	12,028	-2,073	-14.70%
3221	Pulp, Paper, and Paperboard Mills	3,116	2,923	-193	-6.19%
3222	Converted Paper Product Manufacturing	10,985	9,105	-1,880	-17.11%
323	Printing and Related Support Activities	16,380	15,759	-621	-3.79%
3231	Printing and Related Support Activities	16,380	15,759	-621	-3.79%
324	Petroleum & Coal Products Manufacturing	1,326	1,121	-205	-15.46%
3241	Petroleum & Coal Products Manufacturing	1,326	1,121	-205	-15.46%
325	Chemical Manufacturing	16,451	18,353	1,902	11.56%
3251	Basic Chemical Manufacturing	1,139	1,164	25	2.19%
3252	Resin, Rubber, and Synthetic Fibers	2,074	3,147	1,073	51.74%
3253	Agricultural Chemical Manufacturing	84	116	32	38.10%
3254	Pharmaceutical & Medicine Manufacturing	7,050	9,291	2,241	31.79%
3255	Paint, Coating, & Adhesive Manufacturing	2,169	1,941	-228	-10.51%
3256	Cleaning Compound and Toiletry Mfg	1,350	1,045	-305	-22.59%
3259	Other Chemical Preparation Manufacturing	2,584	1,650	-934	-36.15%
326	Plastics & Rubber Products Manufacturing	16,906	13,986	-2,920	-17.27%
3261	Plastics Product Manufacturing	15,118	12,902	-2,216	-14.66%

**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
3262	Rubber Product Manufacturing	1,788	1,084	-704	-39.37%
327	Nonmetallic Mineral Product Mfg	6,721	6,829	108	1.61%
3271	Clay Product & Refractory Manufacturing	1,128	1,164	36	3.19%
3272	Glass and Glass Product Manufacturing	1,399	1,569	170	12.15%
3273	Cement & Concrete Product Manufacturing	2,172	2,346	174	8.01%
3279	Other Nonmetallic Mineral Products	2,021	1,733	-288	-14.25%
331	Primary Metal Manufacturing	5,694	4,700	-994	-17.46%
3311	Iron and Steel Mills and Ferroalloys	77	27	-50	-64.94%
3312	Purchased Steel Product Manufacturing	583	743	160	27.44%
3313	Alumina and Aluminum Production	413	316	-97	-23.49%
3314	Other Nonferrous Metal Production	3,228	2,543	-685	-21.22%
3315	Foundries	1,393	1,071	-322	-23.12%
332	Fabricated Metal Product Manufacturing	36,341	34,753	-1,588	-4.37%
3321	Forging and Stamping	2,672	2,312	-360	-13.47%
3322	Cutlery and Handtool Manufacturing	6,195	4,803	-1,392	-22.47%
3323	Architectural and Structural Metals	6,419	6,385	-34	-0.53%
3324	Boilers, Tanks, and Shipping Containers	974	956	-18	-1.85%
3325	Hardware Manufacturing	444	321	-123	-27.70%
3326	Spring and Wire Product Manufacturing	918	738	-180	-19.61%
3327	Machine Shops and Threaded Products	10,475	10,638	163	1.56%
3328	Coating, Engraving & Heat Treating Metal	4,164	4,177	13	0.31%
3329	Other Fabricated Metal Product Mfg	4,080	4,423	343	8.41%
333	Machinery Manufacturing	22,008	20,594	-1,414	-6.42%
3331	Ag., Construction, and Mining Machinery	317	210	-107	-33.75%
3332	Industrial Machinery Manufacturing	6,482	6,012	-470	-7.25%
3333	Commercial & Service Industry Machinery	4,224	3,298	-926	-21.92%
3334	HVAC and Commercial Refrigeration Equip	1,175	1,141	-34	-2.89%
3335	Metalworking Machinery Manufacturing	3,961	3,544	-417	-10.53%
3336	Turbine and Power Transmission Equipment	1,350	1,867	517	38.30%
3339	Other General Purpose Machinery Mfg	4,500	4,521	21	0.47%
334	Computer and Electronic Product Mfg	74,279	71,224	-3,055	-4.11%
3341	Computers and Peripheral Equipment	15,963	14,044	-1,919	-12.02%
3342	Communications Equipment Manufacturing	6,916	5,326	-1,590	-22.99%
3343	Audio and Video Equipment Manufacturing		3,962	3,962	NA
3344	Semiconductor and Electronic Components	19,546	18,976	-570	-2.92%
3345	Electronic Instrument Manufacturing	28,278	28,575	297	1.05%
3346	Magnetic Media Manufacture & Reproducing	559	340	-219	-39.18%
335	Electrical Equipment and Appliances	11,214	11,845	631	5.63%
3351	Electric Lighting Equipment Mfg	2,219	2,565	346	15.59%
3352	Household Appliance Manufacturing	538	596	58	10.78%
3353	Electrical Equipment Manufacturing	4,979	4,307	-672	-13.50%
3359	Other Electrical Equipment & Components	3,478	4,377	899	25.85%
336	Transportation Equipment Manufacturing	14,000	14,407	407	2.91%
3361	Motor Vehicle Manufacturing	204	191	-13	-6.37%
3362	Motor Vehicle Body and Trailer Mfg	461	461	0	0.00%
3363	Motor Vehicle Parts Manufacturing	1,717	1,220	-497	-28.95%
3364	Aerospace Product & Parts Manufacturing	11,100	11,917	817	7.36%
3366	Ship and Boat Building	453	556	103	22.74%

**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
3369	Other Transportation Equipment Mfg	67	61	-6	-8.96%
337	Furniture and Related Product Mfg	5,623	5,574	-49	-0.87%
3371	Household and Institutional Furniture	3,368	2,737	-631	-18.74%
3372	Office Furniture and Fixtures Mfg	1,488	2,196	708	47.58%
3379	Other Furniture Related Product Mfg	767	641	-126	-16.43%
339	Miscellaneous Manufacturing	26,264	22,214	-4,050	-15.42%
3391	Medical Equipment and Supplies Mfg	13,157	11,210	-1,947	-14.80%
3399	Other Miscellaneous Manufacturing	13,107	11,003	-2,104	-16.05%
	<b>Service-Providing Domain</b>	2,656,582	2,774,084	117,502	4.42%
	<b>Trade, Transportation and Utilities</b>	605,527	601,408	-4,119	-0.68%
22	Utilities	13,970	13,396	-574	-4.11%
221	Utilities	13,970	13,396	-574	-4.11%
2211	Power Generation and Supply	7,856	7,801	-55	-0.70%
2212	Natural Gas Distribution	2,750	2,820	70	2.55%
2213	Water, Sewage and Other Systems	3,365	2,775	-590	-17.53%
42	Wholesale Trade	135,538	138,426	2,888	2.13%
423	Merchant Wholesalers, Durable Goods	63,756	62,417	-1,339	-2.10%
4231	Motor Vehicle/Part Merchant Wholesalers	5,108	4,997	-111	-2.17%
4232	Furniture & Furnishings Merchant Whse	2,390	2,122	-268	-11.21%
4233	Lumber and Supply Merchant Wholesalers	5,568	5,864	296	5.32%
4234	Commercial Goods Merchant Wholesalers	21,432	20,610	-822	-3.84%
4235	Metal and Mineral Merchant Wholesalers	1,721	1,764	43	2.50%
4236	Electric Goods Merchant Wholesalers	9,689	9,190	-499	-5.15%
4237	Hardware & Plumbing Merchant Wholesalers	4,796	5,003	207	4.32%
4238	Machinery & Supply Merchant Wholesalers	9,244	8,968	-276	-2.99%
4239	Misc Durable Goods Merchant Wholesalers	3,809	3,899	90	2.36%
424	Merchant Wholesalers, Nondurable Goods	47,010	48,735	1,725	3.67%
4241	Paper/Paper Product Merchant Wholesalers	5,061	4,890	-171	-3.38%
4242	Druggists' Goods Merchant Wholesalers	5,490	5,375	-115	-2.09%
4243	Apparel/Piece Goods Merchant Wholesalers	6,023	5,879	-144	-2.39%
4244	Grocery Product Merchant Wholesalers	16,387	18,120	1,733	10.58%
4245	Farm Product Merchant Wholesalers	214	177	-37	-17.29%
4246	Chemical Merchant Wholesalers	2,288	2,168	-120	-5.24%
4247	Petroleum Merchant Wholesalers	1,399	1,526	127	9.08%
4248	Alcoholic Beverage Merchant Wholesalers	3,289	3,805	516	15.69%
4249	Misc Nondurable Goods Merchant Whse	6,859	6,796	-63	-0.92%
425	Electronic Markets and Agents/Brokers	24,771	27,273	2,502	10.10%
4251	Electronic Markets and Agents/Brokers	24,771	27,273	2,502	10.10%
44-45	Retail Trade	355,455	348,784	-6,671	-1.88%
441	Motor Vehicle and Parts Dealers	38,830	35,839	-2,991	-7.70%
4411	Automobile Dealers	27,389	24,892	-2,497	-9.12%
4412	Other Motor Vehicle Dealers	2,854	2,646	-208	-7.29%
4413	Auto Parts, Accessories, and Tire Stores	8,587	8,301	-286	-3.33%
442	Furniture and Home Furnishings Stores	12,917	12,513	-404	-3.13%
4421	Furniture Stores	5,823	5,212	-611	-10.49%
4422	Home Furnishings Stores	7,094	7,301	207	2.92%
443	Electronics and Appliance Stores	12,061	12,198	137	1.14%
4431	Electronics and Appliance Stores	12,061	12,198	137	1.14%

**Massachusetts ES-202 Employment, 2004-2007****All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
444	Building Material & Garden Supply Stores	28,795	27,850	-945	-3.28%
4441	Building Material and Supplies Dealers	25,677	24,510	-1,167	-4.54%
4442	Lawn & Garden Equipment/Supplies Stores	3,119	3,340	221	7.09%
445	Food and Beverage Stores	89,792	89,894	102	0.11%
4451	Grocery Stores	73,800	74,501	701	0.95%
4452	Specialty Food Stores	7,254	6,939	-315	-4.34%
4453	Beer, Wine, and Liquor Stores	8,739	8,453	-286	-3.27%
446	Health and Personal Care Stores	26,630	27,064	434	1.63%
4461	Health and Personal Care Stores	26,630	27,064	434	1.63%
447	Gasoline Stations	12,465	11,817	-648	-5.20%
4471	Gasoline Stations	12,465	11,817	-648	-5.20%
448	Clothing and Clothing Accessories Stores	39,379	40,630	1,251	3.18%
4481	Clothing Stores	31,044	32,147	1,103	3.55%
4482	Shoe Stores	3,994	4,401	407	10.19%
4483	Jewelry, Luggage & Leather Goods Stores	4,341	4,082	-259	-5.97%
451	Sporting Goods/Hobby/Book/Music Stores	17,720	16,906	-814	-4.59%
4511	Sporting Goods/Musical Instrument Stores	11,675	11,410	-265	-2.27%
4512	Book, Periodical, and Music Stores	6,045	5,497	-548	-9.07%
452	General Merchandise Stores	42,317	42,408	91	0.22%
4521	Department Stores	32,514	31,740	-774	-2.38%
4529	Other General Merchandise Stores	9,803	10,667	864	8.81%
453	Miscellaneous Store Retailers	23,355	20,302	-3,053	-13.07%
4531	Florists	2,878	2,249	-629	-21.86%
4532	Office Supply, Stationery & Gift Stores	12,131	10,035	-2,096	-17.28%
4533	Used Merchandise Stores	1,848	1,814	-34	-1.84%
4539	Other Miscellaneous Store Retailers	6,499	6,204	-295	-4.54%
454	Nonstore Retailers	11,193	11,362	169	1.51%
4541	Electronic Shopping & Mail-Order Houses	4,112	5,189	1,077	26.19%
4542	Vending Machine Operators	659	580	-79	-11.99%
4543	Direct Selling Establishments	6,422	5,594	-828	-12.89%
48-49	Transportation and Warehousing	100,564	100,802	238	0.24%
481	Air Transportation	8,895	8,069	-826	-9.29%
4811	Scheduled Air Transportation	8,598	7,662	-936	-10.89%
4812	Nonscheduled Air Transportation	297	407	110	37.04%
483	Water Transportation	1,087	1,238	151	13.89%
4831	Sea, Coastal & Great Lakes Transport	1,044	1,188	144	13.79%
4832	Inland Water Transportation	43	50	7	16.28%
484	Truck Transportation	16,925	16,424	-501	-2.96%
4841	General Freight Trucking	10,356	9,940	-416	-4.02%
4842	Specialized Freight Trucking	6,569	6,484	-85	-1.29%
485	Transit and Ground Passenger Transport	20,538	22,654	2,116	10.30%
4852	Interurban and Rural Bus Transportation	824	773	-51	-6.19%
4853	Taxi and Limousine Service	3,154	3,797	643	20.39%
4854	School and Employee Bus Transportation	6,011	6,572	561	9.33%
4855	Charter Bus Industry	1,206	1,305	99	8.21%
4859	Other Ground Passenger Transportation	2,096	2,239	143	6.82%
486	Pipeline Transportation	115	141	26	22.61%
4862	Pipeline Transportation of Natural Gas	114	123	9	7.89%



**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
487	Scenic and Sightseeing Transportation	2,063	1,772	-291	-14.11%
4871	Scenic/Sightseeing Transportation, Land	897	681	-216	-24.08%
4872	Scenic/Sightseeing Transportation, Water	1,163	1,083	-80	-6.88%
4879	Scenic/Sightseeing Transportation, Other		7	7	NA
488	Support Activities for Transportation	9,133	9,375	242	2.65%
4881	Support Activities for Air Transport	2,889	2,819	-70	-2.42%
4882	Support Activities for Rail Transport	98	78	-20	-20.41%
4883	Support Activities for Water Transport	451	456	5	1.11%
4884	Support Activities, Road Transportation	3,069	3,064	-5	-0.16%
4885	Freight Transportation Arrangement	2,099	2,345	246	11.72%
4889	Other Support Activities for Transport	526	613	87	16.54%
492	Couriers and Messengers	11,713	11,201	-512	-4.37%
4921	Couriers	11,043	10,619	-424	-3.84%
4922	Local Messengers and Local Delivery	670	582	-88	-13.13%
493	Warehousing and Storage	7,731	9,175	1,444	18.68%
4931	Warehousing and Storage	7,731	9,175	1,444	18.68%
	<b>Information</b>	92,519	94,852	2,333	2.52%
51	Information	92,519	94,852	2,333	2.52%
511	Publishing Industries	41,049	42,926	1,877	4.57%
5111	Newspaper, Book, & Directory Publishers	22,062	20,751	-1,311	-5.94%
5112	Software Publishers	18,988	22,175	3,187	16.78%
512	Motion Picture & Sound Recording Ind	5,261	5,697	436	8.29%
5121	Motion Picture and Video Industries	5,054	5,496	442	8.75%
5122	Sound Recording Industries	208	201	-7	-3.37%
515	Broadcasting (except Internet)	6,005	5,469	-536	-8.93%
5151	Radio and Television Broadcasting	5,196	4,727	-469	-9.03%
5152	Cable and Other Subscription Programming	809	742	-67	-8.28%
516	Internet Publishing and Broadcasting	2,182		-2,182	-100.00%
5161	Internet Publishing and Broadcasting	2,182		-2,182	-100.00%
517	Telecommunications	21,232	21,789	557	2.62%
5171	Wired Telecommunications Carriers	12,852	17,779	4,927	38.34%
5172	Wireless Telecommunications Carriers	2,486	2,365	-121	-4.87%
5173	Telecommunications Resellers	960		-960	-100.00%
5174	Satellite Telecommunications	58	64	6	10.34%
5175	Cable and Other Program Distribution	4,821		-4,821	-100.00%
5179	Other Telecommunications		1,581	1,581	NA
518	ISPs, Search Portals, & Data Processing	9,798	7,421	-2,377	-24.26%
5181	ISPs and Web Search Portals	2,535		-2,535	-100.00%
5182	Data Processing and Related Services	7,262	7,421	159	2.19%
519	Other Information Services	6,991	11,550	4,559	65.21%
5191	Other Information Services	6,991	11,550	4,559	65.21%
	<b>Financial Activities</b>	219,774	227,837	8,063	3.67%
52	Finance and Insurance	173,224	182,744	9,520	5.50%
522	Credit Intermediation & Related Activity	62,196	62,547	351	0.56%
5221	Depository Credit Intermediation	48,693	49,990	1,297	2.66%
5222	Nondepository Credit Intermediation	9,799	8,991	-808	-8.25%
5223	Activities Rel to Credit Intermediation	3,703	3,566	-137	-3.70%
523	Financial Investment & Related Activity	45,584	51,700	6,116	13.42%

**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5231	Security & Commodity Investment Activity	25,554	24,424	-1,130	-4.42%
5232	Securities and Commodity Exchanges	21	12	-9	-42.86%
5239	Other Financial Investment Activities	20,010	27,264	7,254	36.25%
524	Insurance Carriers & Related Activities	61,831	65,590	3,759	6.08%
5241	Insurance Carriers	39,094	43,536	4,442	11.36%
5242	Insurance Agencies, Brokerages & Support	22,737	22,054	-683	-3.00%
525	Funds, Trusts & Other Financial Vehicles	2,532	2,008	-524	-20.70%
5251	Insurance and Employee Benefit Funds	511	521	10	1.96%
5259	Other Investment Pools and Funds	2,022	1,487	-535	-26.46%
53	Real Estate and Rental and Leasing	46,550	45,094	-1,456	-3.13%
531	Real Estate	32,067	32,167	100	0.31%
5311	Lessors of Real Estate	9,795	10,125	330	3.37%
5312	Offices of Real Estate Agents & Brokers	10,501	8,734	-1,767	-16.83%
5313	Activities Related to Real Estate	11,771	13,308	1,537	13.06%
532	Rental and Leasing Services	14,045	12,412	-1,633	-11.63%
5321	Automotive Equipment Rental and Leasing	4,364	3,789	-575	-13.18%
5322	Consumer Goods Rental	6,351	5,546	-805	-12.68%
5323	General Rental Centers	1,479	1,113	-366	-24.75%
5324	Machinery & Equipment Rental & Leasing	1,852	1,964	112	6.05%
533	Lessors, Nonfinancial Intangible Assets	438	515	77	17.58%
5331	Lessors, Nonfinancial Intangible Assets	438	515	77	17.58%
	<b>Professional and Business Services</b>	463,772	494,541	30,769	6.63%
54	Professional and Technical Services	228,408	252,712	24,304	10.64%
541	Professional and Technical Services	228,408	252,712	24,304	10.64%
5411	Legal Services	31,156	31,070	-86	-0.28%
5412	Accounting and Bookkeeping Services	18,193	20,350	2,157	11.86%
5413	Architectural and Engineering Services	39,252	41,459	2,207	5.62%
5414	Specialized Design Services	3,263	3,636	373	11.43%
5415	Computer Systems Design and Rel Services	42,970	52,055	9,085	21.14%
5416	Management & Technical Consulting Svc	31,553	34,703	3,150	9.98%
5417	Scientific Research and Development Svc	40,083	44,406	4,323	10.79%
5418	Advertising and Related Services	11,451	12,677	1,226	10.71%
5419	Other Professional & Technical Services	10,488	12,355	1,867	17.80%
55	Management of Companies and Enterprises	64,989	61,401	-3,588	-5.52%
551	Management of Companies and Enterprises	64,989	61,401	-3,588	-5.52%
5511	Management of Companies and Enterprises	64,989	61,401	-3,588	-5.52%
56	Administrative and Waste Services	170,375	180,429	10,054	5.90%
561	Administrative and Support Services	160,444	169,624	9,180	5.72%
5611	Office Administrative Services	9,309	8,900	-409	-4.39%
5612	Facilities Support Services	420	630	210	50.00%
5613	Employment Services	60,944	67,721	6,777	11.12%
5614	Business Support Services	8,145	9,841	1,696	20.82%
5615	Travel Arrangement & Reservation Service	6,772	6,678	-94	-1.39%
5616	Investigation and Security Services	17,250	17,163	-87	-0.50%
5617	Services to Buildings and Dwellings	52,789	54,456	1,667	3.16%
5619	Other Support Services	4,815	4,234	-581	-12.07%
562	Waste Management and Remediation Service	9,931	10,805	874	8.80%
5621	Waste Collection	3,128	3,582	454	14.51%

**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5622	Waste Treatment and Disposal	3,298	3,484	186	5.64%
5629	Remediation and Other Waste Services	3,505	3,738	233	6.65%
	<b>Education and Health Services</b>	704,108	757,941	53,833	7.65%
61	Educational Services	252,159	269,921	17,762	7.04%
611	Educational Services	252,159	269,921	17,762	7.04%
6111	Elementary and Secondary Schools	134,875	142,644	7,769	5.76%
6112	Junior Colleges	6,974		-6,974	-100.00%
6113	Colleges and Universities	95,412	103,248	7,836	8.21%
6114	Business, Computer & Management Training	1,992	2,118	126	6.33%
6115	Technical and Trade Schools	1,893	2,362	469	24.78%
6116	Other Schools and Instruction	8,667	9,714	1,047	12.08%
6117	Educational Support Services	2,347	2,673	326	13.89%
62	Health Care and Social Assistance	451,949	488,020	36,071	7.98%
621	Ambulatory Health Care Services	127,191	140,132	12,941	10.17%
6211	Offices of Physicians	46,675	50,649	3,974	8.51%
6212	Offices of Dentists	19,779	20,967	1,188	6.01%
6213	Offices of Other Health Practitioners	11,471	12,507	1,036	9.03%
6214	Outpatient Care Centers	19,024	21,200	2,176	11.44%
6215	Medical and Diagnostic Laboratories	4,228	4,722	494	11.68%
6216	Home Health Care Services	19,346	23,053	3,707	19.16%
6219	Other Ambulatory Health Care Services	6,668	7,035	367	5.50%
622	Hospitals	171,763	185,219	13,456	7.83%
6221	General Medical and Surgical Hospitals	148,260	161,064	12,804	8.64%
6222	Psychiatric & Substance Abuse Hospitals	8,241	8,662	421	5.11%
6223	Other Hospitals	15,262	15,492	230	1.51%
623	Nursing and Residential Care Facilities	91,657	96,281	4,624	5.04%
6231	Nursing Care Facilities	57,413	57,895	482	0.84%
6232	Residential Mental Health Facilities	15,711	18,244	2,533	16.12%
6233	Community Care Facility for the Elderly	12,374	13,872	1,498	12.11%
6239	Other Residential Care Facilities	6,158	6,269	111	1.80%
624	Social Assistance	61,337	66,388	5,051	8.23%
6241	Individual and Family Services	26,064	30,656	4,592	17.62%
6242	Emergency and Other Relief Services	5,538	5,130	-408	-7.37%
6243	Vocational Rehabilitation Services	9,121	9,380	259	2.84%
6244	Child Day Care Services	20,614	21,223	609	2.95%
	<b>Leisure and Hospitality</b>	322,719	333,382	10,663	3.30%
71	Arts, Entertainment, and Recreation	62,046	64,971	2,925	4.71%
711	Performing Arts and Spectator Sports	9,776	11,027	1,251	12.80%
7111	Performing Arts Companies	3,831	3,463	-368	-9.61%
7112	Spectator Sports	2,827	2,723	-104	-3.68%
7113	Performing Arts and Sports Promoters	2,526	4,271	1,745	69.08%
7114	Agents and Managers for Public Figures	139	145	6	4.32%
7115	Independent Artists/Writers/Performers	453	426	-27	-5.96%
712	Museums, Parks and Historical Sites	6,359	6,379	20	0.31%
7121	Museums, Parks and Historical Sites	6,359	6,379	20	0.31%
713	Amusement, Gambling & Recreation Ind	45,912	47,565	1,653	3.60%
7131	Amusement Parks and Arcades	2,060	2,488	428	20.78%
7139	Other Amusement & Recreation Industries	43,662	44,935	1,273	2.92%

**Massachusetts ES-202 Employment, 2004-2007**

**All NAICS**

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
72	Accommodation and Food Services	260,673	268,410	7,737	2.97%
721	Accommodation	37,647	38,183	536	1.42%
7211	Traveler Accommodation	34,693	35,611	918	2.65%
7212	RV Parks and Recreational Camps	2,286	2,226	-60	-2.62%
7213	Rooming and Boarding Houses	668	346	-322	-48.20%
722	Food Services and Drinking Places	223,026	230,227	7,201	3.23%
7221	Full-Service Restaurants	112,915	118,979	6,064	5.37%
7222	Limited-Service Eating Places	80,056	84,601	4,545	5.68%
7223	Special Food Services	21,209	19,120	-2,089	-9.85%
7224	Drinking Places (Alcoholic Beverages)	8,847	7,527	-1,320	-14.92%
	<b>Other Services</b>	117,750	128,741	10,991	9.33%
81	Other Services, Ex. Public Admin	117,750	128,741	10,991	9.33%
811	Repair and Maintenance	27,029	26,020	-1,009	-3.73%
8111	Automotive Repair and Maintenance	19,710	18,345	-1,365	-6.93%
8112	Electronic Equipment Repair/Maintenance	3,249	3,516	267	8.22%
8113	Commercial Machinery Repair/Maintenance	2,341	2,504	163	6.96%
8114	Household Goods Repair and Maintenance	1,730	1,654	-76	-4.39%
812	Personal and Laundry Services	35,898	37,735	1,837	5.12%
8121	Personal Care Services	17,892	18,789	897	5.01%
8122	Death Care Services	2,700	2,655	-45	-1.67%
8123	Drycleaning and Laundry Services	8,996	9,437	441	4.90%
8129	Other Personal Services	6,310	6,854	544	8.62%
813	Membership Organizations & Associations	35,741	39,848	4,107	11.49%
8131	Religious Organizations	722	767	45	6.23%
8132	Grantmaking and Giving Services	2,465	2,982	517	20.97%
8133	Social Advocacy Organizations	6,130	8,386	2,256	36.80%
8134	Civic and Social Organizations	19,055	19,762	707	3.71%
8139	Professional and Similar Organizations	7,369	7,951	582	7.90%
814	Private Households	19,083	25,139	6,056	31.74%
8141	Private Households	19,083	25,139	6,056	31.74%
	<b>Public Administration</b>	130,413	135,383	4,970	3.81%
92	Public Administration	130,413	135,383	4,970	3.81%
921	Executive, Legislative, & Gen Government	32,323	32,288	-35	-0.11%
9211	Executive, Legislative, & Gen Government	32,323	32,288	-35	-0.11%
922	Justice, Public Order, and Safety Activi	58,626	61,341	2,715	4.63%
9221	Justice, Public Order, and Safety Activi	58,626	61,341	2,715	4.63%
924	Administration of Environmental Programs	4,676	6,318	1,642	35.12%
9241	Administration of Environmental Programs	4,676	6,318	1,642	35.12%
925	Community and Housing Program Admin	5,698	5,569	-129	-2.26%
9251	Community and Housing Program Admin	5,698	5,569	-129	-2.26%
926	Administration of Economic Programs	7,704	7,928	224	2.91%
9261	Administration of Economic Programs	7,704	7,928	224	2.91%
928	National Security & International Affair	5,353	4,966	-387	-7.23%
9281	National Security & International Affair	5,353	4,966	-387	-7.23%

**North Shore ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	<b>Total, all industries</b>	167,724	167,238	-486	-0.29%
	<b>Goods-Producing Domain</b>	28,744	28,492	-252	-0.88%
	<b>Natural Resources and Mining</b>	626	544	-82	-13.10%
11	Agriculture, Forestry, Fishing & Hunting	550	480	-70	-12.73%
111	Crop Production	124	129	5	4.03%
1114	Greenhouse and Nursery Production	64	63	-1	-1.56%
114	Fishing, Hunting and Trapping	239	163	-76	-31.80%
1141	Fishing	239	163	-76	-31.80%
115	Agriculture & Forestry Support Activity	31	24	-7	-22.58%
1152	Support Activities for Animal Production	31	24	-7	-22.58%
21	Mining	76	64	-12	-15.79%
212	Mining (except Oil and Gas)	75	63	-12	-16.00%
2123	Nonmetallic Mineral Mining and Quarrying	75	63	-12	-16.00%
	<b>Construction</b>	8,078	8,003	-75	-0.93%
23	Construction	8,078	8,003	-75	-0.93%
236	Construction of Buildings	1,805	1,836	31	1.72%
2361	Residential Building Construction	1,153	1,155	2	0.17%
2362	Nonresidential Building Construction	653	681	28	4.29%
237	Heavy and Civil Engineering Construction	978	991	13	1.33%
2371	Utility System Construction	167	180	13	7.78%
2372	Land Subdivision	42	49	7	16.67%
2373	Highway, Street, and Bridge Construction	727	730	3	0.41%
2379	Other Heavy Construction	41	0	-41	-100.00%
238	Specialty Trade Contractors	5,295	5,176	-119	-2.25%
2381	Building Foundation/Exterior Contractors	645	680	35	5.43%
2382	Building Equipment Contractors	2,727	2,611	-116	-4.25%
2383	Building Finishing Contractors	1,295	1,234	-61	-4.71%
2389	Other Specialty Trade Contractors	628	650	22	3.50%
	<b>Manufacturing</b>	20,040	19,945	-95	-0.47%
31-33	Manufacturing	20,040	19,945	-95	-0.47%
DUR	Durable Goods Manufacturing	14,970	15,263	293	1.96%
NONDUR	Non-Durable Goods Manufacturing	5,070	4,682	-388	-7.65%
311	Food Manufacturing	2,180	2,137	-43	-1.97%
3113	Sugar/Confectionery Product Manufacture	191	180	-11	-5.76%
3117	Seafood Product Preparation & Packaging	643	674	31	4.82%
3118	Bakeries and Tortilla Manufacturing	302	272	-30	-9.93%
312	Beverage & Tobacco Product Manufacturing	49	54	5	10.20%
3121	Beverage Manufacturing	49	54	5	10.20%
313	Textile Mills	31	24	-7	-22.58%
3133	Textile and Fabric Finishing and Fabric	31	24	-7	-22.58%
314	Textile Product Mills	99	111	12	12.12%
3141	Textile Furnishings Mills	23	29	6	26.09%
3149	Other Textile Product Mills	76	81	5	6.58%
315	Apparel Manufacturing	98	88	-10	-10.20%
3152	Cut and Sew Apparel Manufacturing	98	88	-10	-10.20%
316	Leather and Allied Product Manufacturing	239	124	-115	-48.12%
321	Wood Product Manufacturing	43	42	-1	-2.33%
3219	Other Wood Product Manufacturing	42	41	-1	-2.38%

**North Shore ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
323	Printing and Related Support Activities	420	333	-87	-20.71%
3231	Printing and Related Support Activities	420	333	-87	-20.71%
325	Chemical Manufacturing	1,438	1,298	-140	-9.74%
3254	Pharmaceutical & Medicine Manufacturing	598	542	-56	-9.36%
3255	Paint, Coating, & Adhesive Manufacturing	505	497	-8	-1.58%
3256	Cleaning Compound and Toiletry Mfg	134	0	-134	-100.00%
3259	Other Chemical Preparation Manufacturing	84	77	-7	-8.33%
326	Plastics & Rubber Products Manufacturing	277	298	21	7.58%
3261	Plastics Product Manufacturing	226	247	21	9.29%
3262	Rubber Product Manufacturing	51	50	-1	-1.96%
327	Nonmetallic Mineral Product Mfg	68	75	7	10.29%
3271	Clay Product & Refractory Manufacturing	0	36	36	NA
3272	Glass and Glass Product Manufacturing	10	0	-10	-100.00%
3273	Cement & Concrete Product Manufacturing	25	20	-5	-20.00%
3279	Other Nonmetallic Mineral Products	0	12	12	NA
331	Primary Metal Manufacturing	47	0	-47	-100.00%
332	Fabricated Metal Product Manufacturing	2,089	2,153	64	3.06%
3323	Architectural and Structural Metals	357	398	41	11.48%
3327	Machine Shops and Threaded Products	1,424	1,461	37	2.60%
3328	Coating, Engraving & Heat Treating Metal	112	116	4	3.57%
3329	Other Fabricated Metal Product Mfg	143	144	1	0.70%
333	Machinery Manufacturing	3,376	3,699	323	9.57%
3332	Industrial Machinery Manufacturing	2,600	2,680	80	3.08%
3335	Metalworking Machinery Manufacturing	127	132	5	3.94%
3336	Turbine and Power Transmission Equipment	0	340	340	NA
3339	Other General Purpose Machinery Mfg	372	358	-14	-3.76%
334	Computer and Electronic Product Mfg	3,129	3,142	13	0.42%
3341	Computers and Peripheral Equipment	18	24	6	33.33%
3344	Semiconductor and Electronic Components	880	870	-10	-1.14%
3345	Electronic Instrument Manufacturing	2,105	2,099	-6	-0.29%
335	Electrical Equipment and Appliances	1,193	1,156	-37	-3.10%
3351	Electric Lighting Equipment Mfg	597	0	-597	-100.00%
3359	Other Electrical Equipment & Components	450	437	-13	-2.89%
3366	Ship and Boat Building	28	38	10	35.71%
337	Furniture and Related Product Mfg	313	312	-1	-0.32%
3371	Household and Institutional Furniture	107	84	-23	-21.50%
339	Miscellaneous Manufacturing	834	819	-15	-1.80%
3391	Medical Equipment and Supplies Mfg	710	691	-19	-2.68%
3399	Other Miscellaneous Manufacturing	124	128	4	3.23%
	<b>Service-Providing Domain</b>	138,980	138,746	-234	-0.17%
	<b>Trade, Transportation and Utilities</b>	36,422	36,097	-325	-0.89%
22	Utilities	753	775	22	2.92%
221	Utilities	753	775	22	2.92%
2211	Power Generation and Supply	414	406	-8	-1.93%
2213	Water, Sewage and Other Systems	245	239	-6	-2.45%
42	Wholesale Trade	6,165	6,249	84	1.36%
423	Merchant Wholesalers, Durable Goods	2,691	2,705	14	0.52%
4231	Motor Vehicle/Part Merchant Wholesalers	274	241	-33	-12.04%

**North Shore ES-202 Employment, 2006-2007****All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
4232	Furniture & Furnishings Merchant Whsle	79	77	-2	-2.53%
4233	Lumber and Supply Merchant Wholesalers	171	175	4	2.34%
4234	Commercial Goods Merchant Wholesalers	698	725	27	3.87%
4235	Metal and Mineral Merchant Wholesalers	80	82	2	2.50%
4236	Electric Goods Merchant Wholesalers	647	652	5	0.77%
4237	Hardware & Plumbing Merchant Wholesalers	153	157	4	2.61%
4238	Machinery & Supply Merchant Wholesalers	436	471	35	8.03%
4239	Misc Durable Goods Merchant Wholesalers	153	123	-30	-19.61%
424	Merchant Wholesalers, Nondurable Goods	2,552	2,558	6	0.24%
4241	Paper/Paper Product Merchant Wholesalers	81	23	-58	-71.60%
4242	Druggists' Goods Merchant Wholesalers	0	231	231	NA
4243	Apparel/Piece Goods Merchant Wholesalers	200	222	22	11.00%
4244	Grocery Product Merchant Wholesalers	940	824	-116	-12.34%
4246	Chemical Merchant Wholesalers	69	100	31	44.93%
4248	Alcoholic Beverage Merchant Wholesalers	214	235	21	9.81%
4249	Misc Nondurable Goods Merchant Whsle	749	864	115	15.35%
425	Electronic Markets and Agents/Brokers	922	986	64	6.94%
4251	Electronic Markets and Agents/Brokers	922	986	64	6.94%
44-45	Retail Trade	26,446	26,090	-356	-1.35%
441	Motor Vehicle and Parts Dealers	3,034	3,048	14	0.46%
4411	Automobile Dealers	2,370	2,393	23	0.97%
4412	Other Motor Vehicle Dealers	235	218	-17	-7.23%
4413	Auto Parts, Accessories, and Tire Stores	429	437	8	1.86%
442	Furniture and Home Furnishings Stores	984	713	-271	-27.54%
4421	Furniture Stores	489	242	-247	-50.51%
4422	Home Furnishings Stores	495	472	-23	-4.65%
443	Electronics and Appliance Stores	1,058	1,031	-27	-2.55%
4431	Electronics and Appliance Stores	1,058	1,031	-27	-2.55%
444	Building Material & Garden Supply Stores	2,018	2,043	25	1.24%
4441	Building Material and Supplies Dealers	1,688	1,739	51	3.02%
4442	Lawn & Garden Equipment/Supplies Stores	330	304	-26	-7.88%
445	Food and Beverage Stores	6,275	6,458	183	2.92%
4451	Grocery Stores	5,245	5,459	214	4.08%
4452	Specialty Food Stores	565	541	-24	-4.25%
4453	Beer, Wine, and Liquor Stores	464	458	-6	-1.29%
446	Health and Personal Care Stores	1,936	1,795	-141	-7.28%
4461	Health and Personal Care Stores	1,936	1,795	-141	-7.28%
447	Gasoline Stations	661	636	-25	-3.78%
4471	Gasoline Stations	661	636	-25	-3.78%
448	Clothing and Clothing Accessories Stores	2,840	2,916	76	2.68%
4481	Clothing Stores	2,273	2,381	108	4.75%
4482	Shoe Stores	279	280	1	0.36%
4483	Jewelry, Luggage & Leather Goods Stores	287	254	-33	-11.50%
451	Sporting Goods/Hobby/Book/Music Stores	1,301	1,242	-59	-4.53%
4511	Sporting Goods/Musical Instrument Stores	891	865	-26	-2.92%
4512	Book, Periodical, and Music Stores	410	377	-33	-8.05%
452	General Merchandise Stores	3,217	3,203	-14	-0.44%
4521	Department Stores	2,717	2,595	-122	-4.49%

**North Shore ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
4529	Other General Merchandise Stores	500	608	108	21.60%
453	Miscellaneous Store Retailers	1,591	1,490	-101	-6.35%
4531	Florists	176	168	-8	-4.55%
4532	Office Supply, Stationery & Gift Stores	765	691	-74	-9.67%
4533	Used Merchandise Stores	53	60	7	13.21%
4539	Other Miscellaneous Store Retailers	597	572	-25	-4.19%
454	Nonstore Retailers	1,530	1,515	-15	-0.98%
4541	Electronic Shopping & Mail-Order Houses	1,058	1,120	62	5.86%
4543	Direct Selling Establishments	470	393	-77	-16.38%
48-49	Transportation and Warehousing	3,059	2,983	-76	-2.48%
481	Air Transportation	9	5	-4	-44.44%
484	Truck Transportation	541	448	-93	-17.19%
4841	General Freight Trucking	139	136	-3	-2.16%
4842	Specialized Freight Trucking	402	312	-90	-22.39%
485	Transit and Ground Passenger Transport	458	505	47	10.26%
4853	Taxi and Limousine Service	213	236	23	10.80%
4854	School and Employee Bus Transportation	146	174	28	19.18%
4855	Charter Bus Industry	34	36	2	5.88%
4859	Other Ground Passenger Transportation	25	17	-8	-32.00%
487	Scenic and Sightseeing Transportation	200	146	-54	-27.00%
4872	Scenic/Sightseeing Transportation, Water	164	111	-53	-32.32%
488	Support Activities for Transportation	254	288	34	13.39%
4881	Support Activities for Air Transport	27	27	0	0.00%
4883	Support Activities for Water Transport	32	6	-26	-81.25%
4884	Support Activities, Road Transportation	84	79	-5	-5.95%
4885	Freight Transportation Arrangement	93	109	16	17.20%
4889	Other Support Activities for Transport	0	67	67	NA
492	Couriers and Messengers	488	456	-32	-6.56%
4921	Couriers	487	456	-31	-6.37%
493	Warehousing and Storage	247	236	-11	-4.45%
4931	Warehousing and Storage	247	236	-11	-4.45%
	<b>Information</b>	3,000	3,027	27	0.90%
51	Information	3,000	3,027	27	0.90%
511	Publishing Industries	1,545	1,521	-24	-1.55%
5111	Newspaper, Book, & Directory Publishers	1,247	1,211	-36	-2.89%
5112	Software Publishers	299	310	11	3.68%
512	Motion Picture & Sound Recording Ind	175	172	-3	-1.71%
5121	Motion Picture and Video Industries	162	158	-4	-2.47%
515	Broadcasting (except Internet)	12	102	90	750.00%
5151	Radio and Television Broadcasting	79	82	3	3.80%
5152	Cable and Other Subscription Programming	78	20	-58	-74.36%
516	Internet Publishing and Broadcasting	107	0	-107	-100.00%
5161	Internet Publishing and Broadcasting	107	0	-107	-100.00%
517	Telecommunications	558	605	47	8.42%
5171	Wired Telecommunications Carriers	0	530	530	NA
5173	Telecommunications Resellers	9	0	-9	-100.00%
5179	Other Telecommunications	122	25	-97	-79.51%
518	ISPs, Search Portals, & Data Processing	14	100	86	614.29%



**North Shore ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5182	Data Processing and Related Services	109	100	-9	-8.26%
519	Other Information Services	413	528	115	27.85%
5191	Other Information Services	413	528	115	27.85%
	<b>Financial Activities</b>	8,602	8,475	-127	-1.48%
52	Finance and Insurance	6,393	6,268	-125	-1.96%
522	Credit Intermediation & Related Activity	3,615	3,600	-15	-0.41%
5221	Depository Credit Intermediation	2,843	2,872	29	1.02%
5222	Nondepository Credit Intermediation	635	559	-76	-11.97%
5223	Activities Rel to Credit Intermediation	137	169	32	23.36%
523	Financial Investment & Related Activity	543	571	28	5.16%
5231	Security & Commodity Investment Activity	322	329	7	2.17%
5239	Other Financial Investment Activities	220	242	22	10.00%
524	Insurance Carriers & Related Activities	2,195	2,067	-128	-5.83%
5241	Insurance Carriers	1,030	962	-68	-6.60%
5242	Insurance Agencies, Brokerages & Support	1,164	1,105	-59	-5.07%
525	Funds, Trusts & Other Financial Vehicles	41	0	-41	-100.00%
5259	Other Investment Pools and Funds	7	0	-7	-100.00%
53	Real Estate and Rental and Leasing	2,208	2,207	-1	-0.05%
531	Real Estate	1,525	1,521	-4	-0.26%
5311	Lessors of Real Estate	515	546	31	6.02%
5312	Offices of Real Estate Agents & Brokers	360	276	-84	-23.33%
5313	Activities Related to Real Estate	650	699	49	7.54%
532	Rental and Leasing Services	469	438	-31	-6.61%
5321	Automotive Equipment Rental and Leasing	139	129	-10	-7.19%
5322	Consumer Goods Rental	260	246	-14	-5.38%
5323	General Rental Centers	46	37	-9	-19.57%
5324	Machinery & Equipment Rental & Leasing	23	25	2	8.70%
	<b>Professional and Business Services</b>	18,597	17,216	-1,381	-7.43%
54	Professional and Technical Services	8,294	8,394	100	1.21%
541	Professional and Technical Services	8,294	8,394	100	1.21%
5411	Legal Services	1,297	1,208	-89	-6.86%
5412	Accounting and Bookkeeping Services	873	1,034	161	18.44%
5413	Architectural and Engineering Services	1,100	1,124	24	2.18%
5414	Specialized Design Services	150	169	19	12.67%
5415	Computer Systems Design and Rel Services	1,000	882	-118	-11.80%
5416	Management & Technical Consulting Svc	860	867	7	0.81%
5417	Scientific Research and Development Svc	715	834	119	16.64%
5418	Advertising and Related Services	1,316	1,288	-28	-2.13%
5419	Other Professional & Technical Services	982	987	5	0.51%
55	Management of Companies and Enterprises	1,390	1,525	135	9.71%
551	Management of Companies and Enterprises	1,390	1,525	135	9.71%
5511	Management of Companies and Enterprises	1,390	1,525	135	9.71%
56	Administrative and Waste Services	8,913	7,297	-1,616	-18.13%
561	Administrative and Support Services	8,444	6,797	-1,647	-19.50%
5611	Office Administrative Services	367	381	14	3.81%
5613	Employment Services	3,738	2,254	-1,484	-39.70%
5614	Business Support Services	733	541	-192	-26.19%
5615	Travel Arrangement & Reservation Service	295	329	34	11.53%

**North Shore ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5616	Investigation and Security Services	395	426	31	7.85%
5617	Services to Buildings and Dwellings	2,791	2,753	-38	-1.36%
5619	Other Support Services	70	51	-19	-27.14%
562	Waste Management and Remediation Service	469	501	32	6.82%
5621	Waste Collection	183	195	12	6.56%
5622	Waste Treatment and Disposal	87	91	4	4.60%
5629	Remediation and Other Waste Services	199	215	16	8.04%
	<b>Education and Health Services</b>	<b>38,785</b>	<b>40,150</b>	<b>1,365</b>	<b>3.52%</b>
61	Educational Services	11,271	11,870	599	5.31%
611	Educational Services	11,271	11,870	599	5.31%
6111	Elementary and Secondary Schools	7,696	8,121	425	5.52%
6113	Colleges and Universities	2,314	2,439	125	5.40%
6114	Business, Computer & Management Training	30	22	-8	-26.67%
6115	Technical and Trade Schools	130	137	7	5.38%
6116	Other Schools and Instruction	234	270	36	15.38%
6117	Educational Support Services	147	138	-9	-6.12%
62	Health Care and Social Assistance	27,514	28,280	766	2.78%
621	Ambulatory Health Care Services	9,363	9,733	370	3.95%
6211	Offices of Physicians	3,197	3,146	-51	-1.60%
6212	Offices of Dentists	1,481	1,532	51	3.44%
6213	Offices of Other Health Practitioners	670	661	-9	-1.34%
6214	Outpatient Care Centers	1,616	1,694	78	4.83%
6215	Medical and Diagnostic Laboratories	228	305	77	33.77%
6216	Home Health Care Services	1,898	2,147	249	13.12%
6219	Other Ambulatory Health Care Services	272	247	-25	-9.19%
622	Hospitals	8,485	8,686	201	2.37%
6221	General Medical and Surgical Hospitals	5,952	6,182	230	3.86%
6222	Psychiatric & Substance Abuse Hospitals	1,914	1,908	-6	-0.31%
6223	Other Hospitals	619	596	-23	-3.72%
623	Nursing and Residential Care Facilities	6,781	6,951	170	2.51%
6231	Nursing Care Facilities	3,231	3,380	149	4.61%
6232	Residential Mental Health Facilities	1,870	1,961	91	4.87%
6233	Community Care Facility for the Elderly	1,451	1,424	-27	-1.86%
6239	Other Residential Care Facilities	228	186	-42	-18.42%
624	Social Assistance	2,886	2,910	24	0.83%
6241	Individual and Family Services	1,538	1,518	-20	-1.30%
6242	Emergency and Other Relief Services	146	196	50	34.25%
6243	Vocational Rehabilitation Services	263	258	-5	-1.90%
6244	Child Day Care Services	938	937	-1	-0.11%
	<b>Leisure and Hospitality</b>	<b>20,611</b>	<b>20,539</b>	<b>-72</b>	<b>-0.35%</b>
71	Arts, Entertainment, and Recreation	4,791	4,655	-136	-2.84%
711	Performing Arts and Spectator Sports	394	363	-31	-7.87%
7111	Performing Arts Companies	279	292	13	4.66%
7112	Spectator Sports	18	16	-2	-11.11%
7114	Agents and Managers for Public Figures	17	19	2	11.76%
7115	Independent Artists/Writers/Performers	0	6	6	NA
712	Museums, Parks and Historical Sites	532	569	37	6.95%
7121	Museums, Parks and Historical Sites	532	569	37	6.95%

**North Shore ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
713	Amusement, Gambling & Recreation Ind	3,865	3,724	-141	-3.65%
7131	Amusement Parks and Arcades	41	39	-2	-4.88%
7139	Other Amusement & Recreation Industries	3,693	3,544	-149	-4.03%
72	Accommodation and Food Services	15,820	15,883	63	0.40%
721	Accommodation	1,429	1,370	-59	-4.13%
7211	Traveler Accommodation	1,411	1,356	-55	-3.90%
7213	Rooming and Boarding Houses	11	9	-2	-18.18%
722	Food Services and Drinking Places	14,390	14,513	123	0.85%
7221	Full-Service Restaurants	7,831	7,991	160	2.04%
7222	Limited-Service Eating Places	5,320	5,267	-53	-1.00%
7223	Special Food Services	953	952	-1	-0.10%
7224	Drinking Places (Alcoholic Beverages)	286	303	17	5.94%
	<b>Other Services</b>	7,129	7,374	245	3.44%
81	Other Services, Ex. Public Admin	7,129	7,374	245	3.44%
811	Repair and Maintenance	1,301	1,241	-60	-4.61%
8111	Automotive Repair and Maintenance	1,046	1,022	-24	-2.29%
8112	Electronic Equipment Repair/Maintenance	61	69	8	13.11%
8113	Commercial Machinery Repair/Maintenance	108	86	-22	-20.37%
8114	Household Goods Repair and Maintenance	87	64	-23	-26.44%
812	Personal and Laundry Services	2,031	2,046	15	0.74%
8121	Personal Care Services	1,177	1,181	4	0.34%
8122	Death Care Services	198	189	-9	-4.55%
8123	Drycleaning and Laundry Services	313	303	-10	-3.19%
8129	Other Personal Services	342	373	31	9.06%
813	Membership Organizations & Associations	2,829	3,008	179	6.33%
8132	Grantmaking and Giving Services	39	42	3	7.69%
8133	Social Advocacy Organizations	660	737	77	11.67%
8134	Civic and Social Organizations	1,793	1,936	143	7.98%
8139	Professional and Similar Organizations	331	288	-43	-12.99%
814	Private Households	968	1,079	111	11.47%
8141	Private Households	968	1,079	111	11.47%
	<b>Public Administration</b>	5,835	5,868	33	0.57%
92	Public Administration	5,835	5,868	33	0.57%
921	Executive, Legislative, & Gen Government	1,513	1,464	-49	-3.24%
9211	Executive, Legislative, & Gen Government	1,513	1,464	-49	-3.24%
922	Justice, Public Order, and Safety Activi	3,414	3,499	85	2.49%
9221	Justice, Public Order, and Safety Activi	3,414	3,499	85	2.49%
925	Community and Housing Program Admin	263	274	11	4.18%
9251	Community and Housing Program Admin	263	274	11	4.18%
926	Administration of Economic Programs	52	53	1	1.92%
9261	Administration of Economic Programs	52	53	1	1.92%

**Massachusetts ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	<b>Total, all industries</b>	3,200,233	3,236,217	35,984	1.12%
	<b>Goods-Producing Domain</b>	469,481	462,133	-7,348	-1.57%
	<b>Natural Resources and Mining</b>	9,592	9,112	-480	-5.00%
11	Agriculture, Forestry, Fishing & Hunting	7,749	7,518	-231	-2.98%
111	Crop Production	3,775	3,806	31	0.82%
1112	Vegetable and Melon Farming	861	878	17	1.97%
1113	Fruit and Tree Nut Farming	802	856	54	6.73%
1114	Greenhouse and Nursery Production	1,681	1,710	29	1.73%
1119	Other Crop Farming	429	358	-71	-16.55%
112	Animal Production	689	648	-41	-5.95%
1121	Cattle Ranching and Farming	327	316	-11	-3.36%
1123	Poultry and Egg Production	91	77	-14	-15.38%
1125	Animal Aquaculture	103	100	-3	-2.91%
1129	Other Animal Production	151	137	-14	-9.27%
113	Forestry and Logging	159	120	-39	-24.53%
1132	Forest Nursery/Gathering Forest Products	45	11	-34	-75.56%
1133	Logging	114	109	-5	-4.39%
114	Fishing, Hunting and Trapping	1,884	1,625	-259	-13.75%
1141	Fishing	1,884	1,624	-260	-13.80%
115	Agriculture & Forestry Support Activity	1,241	1,318	77	6.20%
1151	Support Activities for Crop Production	61	61	0	0.00%
1152	Support Activities for Animal Production	1,149	1,225	76	6.61%
1153	Support Activities for Forestry	31	32	1	3.23%
21	Mining	1,842	1,594	-248	-13.46%
212	Mining (except Oil and Gas)	1,803	1,548	-255	-14.14%
2123	Nonmetallic Mineral Mining and Quarrying	1,803	1,548	-255	-14.14%
213	Support Activities for Mining	30	37	7	23.33%
2131	Support Activities for Mining	30	37	7	23.33%
	<b>Construction</b>	161,049	158,057	-2,992	-1.86%
23	Construction	161,049	158,057	-2,992	-1.86%
236	Construction of Buildings	34,208	33,004	-1,204	-3.52%
2361	Residential Building Construction	20,333	19,142	-1,191	-5.86%
2362	Nonresidential Building Construction	13,875	13,862	-13	-0.09%
237	Heavy and Civil Engineering Construction	26,054	25,237	-817	-3.14%
2371	Utility System Construction	5,160	5,197	37	0.72%
2372	Land Subdivision	1,582	1,550	-32	-2.02%
2373	Highway, Street, and Bridge Construction	18,136	17,299	-837	-4.62%
2379	Other Heavy Construction	1,176	1,191	15	1.28%
238	Specialty Trade Contractors	100,787	99,816	-971	-0.96%
2381	Building Foundation/Exterior Contractors	16,327	15,785	-542	-3.32%
2382	Building Equipment Contractors	46,177	45,613	-564	-1.22%
2383	Building Finishing Contractors	22,537	22,011	-526	-2.33%
2389	Other Specialty Trade Contractors	15,747	16,406	659	4.18%
	<b>Manufacturing</b>	298,840	294,964	-3,876	-1.30%
31-33	Manufacturing	298,840	294,964	-3,876	-1.30%
DUR	Durable Goods Manufacturing	196,222	195,180	-1,042	-0.53%
NONDUR	Non-Durable Goods Manufacturing	102,618	99,785	-2,833	-2.76%
311	Food Manufacturing	22,754	22,814	60	0.26%

**Massachusetts ES-202 Employment, 2006-2007****All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
3111	Animal Food Manufacturing	95		-95	-100.00%
3112	Grain and Oilseed Milling	614	578	-36	-5.86%
3113	Sugar/Confectionery Product Manufacture	1,619	1,735	116	7.16%
3114	Fruit, Vegetable, & Specialty Foods Mfg	2,122	1,981	-141	-6.64%
3115	Dairy Product Manufacturing	2,910	2,798	-112	-3.85%
3116	Animal Slaughtering and Processing	1,974	2,061	87	4.41%
3117	Seafood Product Preparation & Packaging	2,391	2,512	121	5.06%
3118	Bakeries and Tortilla Manufacturing	8,513	8,297	-216	-2.54%
3119	Other Food Manufacturing	2,517	2,818	301	11.96%
312	Beverage & Tobacco Product Manufacturing	2,733	2,688	-45	-1.65%
3121	Beverage Manufacturing	2,733	2,687	-46	-1.68%
313	Textile Mills	6,051	5,204	-847	-14.00%
3131	Fiber, Yarn, and Thread Mills	406	241	-165	-40.64%
3132	Fabric Mills	2,962	2,541	-421	-14.21%
3133	Textile and Fabric Finishing and Fabric	2,682	2,423	-259	-9.66%
314	Textile Product Mills	2,651	3,120	469	17.69%
3141	Textile Furnishings Mills	1,374	1,152	-222	-16.16%
3149	Other Textile Product Mills	1,277	1,968	691	54.11%
315	Apparel Manufacturing	3,712	3,013	-699	-18.83%
3151	Apparel Knitting Mills	47	64	17	36.17%
3152	Cut and Sew Apparel Manufacturing	3,219	2,715	-504	-15.66%
3159	Accessories and Other Apparel Mfg		234	234	NA
316	Leather and Allied Product Manufacturing	2,478	1,698	-780	-31.48%
3161	Leather and Hide Tanning and Finishing	86	69	-17	-19.77%
3162	Footwear Manufacturing	1,479	1,224	-255	-17.24%
3169	Other Leather Product Manufacturing	913	405	-508	-55.64%
321	Wood Product Manufacturing	3,402	3,040	-362	-10.64%
3211	Sawmills and Wood Preservation	256	233	-23	-8.98%
3212	Veneer and Engineered Wood Products	301	323	22	7.31%
3219	Other Wood Product Manufacturing	2,845	2,484	-361	-12.69%
322	Paper Manufacturing	12,154	12,028	-126	-1.04%
3221	Pulp, Paper, and Paperboard Mills	3,063	2,923	-140	-4.57%
3222	Converted Paper Product Manufacturing	9,091	9,105	14	0.15%
323	Printing and Related Support Activities	16,106	15,759	-347	-2.15%
3231	Printing and Related Support Activities	16,106	15,759	-347	-2.15%
324	Petroleum & Coal Products Manufacturing	1,334	1,121	-213	-15.97%
3241	Petroleum & Coal Products Manufacturing	1,334	1,121	-213	-15.97%
325	Chemical Manufacturing	16,914	18,353	1,439	8.51%
3251	Basic Chemical Manufacturing	1,139	1,164	25	2.19%
3252	Resin, Rubber, and Synthetic Fibers	2,263	3,147	884	39.06%
3253	Agricultural Chemical Manufacturing	117	116	-1	-0.85%
3254	Pharmaceutical & Medicine Manufacturing	7,886	9,291	1,405	17.82%
3255	Paint, Coating, & Adhesive Manufacturing	2,000	1,941	-59	-2.95%
3256	Cleaning Compound and Toiletry Mfg	1,272	1,045	-227	-17.85%
3259	Other Chemical Preparation Manufacturing	2,237	1,650	-587	-26.24%
326	Plastics & Rubber Products Manufacturing	15,732	13,986	-1,746	-11.10%
3261	Plastics Product Manufacturing	14,542	12,902	-1,640	-11.28%
3262	Rubber Product Manufacturing	1,190	1,084	-106	-8.91%

**Massachusetts ES-202 Employment, 2006-2007****All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
327	Nonmetallic Mineral Product Mfg	6,805	6,829	24	0.35%
3271	Clay Product & Refractory Manufacturing	1,168	1,164	-4	-0.34%
3272	Glass and Glass Product Manufacturing	1,446	1,569	123	8.51%
3273	Cement & Concrete Product Manufacturing	2,421	2,346	-75	-3.10%
3279	Other Nonmetallic Mineral Products	1,753	1,733	-20	-1.14%
331	Primary Metal Manufacturing	4,965	4,700	-265	-5.34%
3311	Iron and Steel Mills and Ferroalloys	46	27	-19	-41.30%
3312	Purchased Steel Product Manufacturing	624	743	119	19.07%
3313	Alumina and Aluminum Production	290	316	26	8.97%
3314	Other Nonferrous Metal Production	2,842	2,543	-299	-10.52%
3315	Foundries	1,163	1,071	-92	-7.91%
332	Fabricated Metal Product Manufacturing	35,211	34,753	-458	-1.30%
3321	Forging and Stamping	2,450	2,312	-138	-5.63%
3322	Cutlery and Handtool Manufacturing	5,617	4,803	-814	-14.49%
3323	Architectural and Structural Metals	6,279	6,385	106	1.69%
3324	Boilers, Tanks, and Shipping Containers	906	956	50	5.52%
3325	Hardware Manufacturing	361	321	-40	-11.08%
3326	Spring and Wire Product Manufacturing	761	738	-23	-3.02%
3327	Machine Shops and Threaded Products	10,491	10,638	147	1.40%
3328	Coating, Engraving & Heat Treating Metal	4,194	4,177	-17	-0.41%
3329	Other Fabricated Metal Product Mfg	4,154	4,423	269	6.48%
333	Machinery Manufacturing	19,918	20,594	676	3.39%
3331	Ag., Construction, and Mining Machinery	267	210	-57	-21.35%
3332	Industrial Machinery Manufacturing	5,988	6,012	24	0.40%
3333	Commercial & Service Industry Machinery	3,310	3,298	-12	-0.36%
3334	HVAC and Commercial Refrigeration Equip	1,149	1,141	-8	-0.70%
3335	Metalworking Machinery Manufacturing	3,506	3,544	38	1.08%
3336	Turbine and Power Transmission Equipment	1,385	1,867	482	34.80%
3339	Other General Purpose Machinery Mfg	4,313	4,521	208	4.82%
334	Computer and Electronic Product Mfg	71,498	71,224	-274	-0.38%
3341	Computers and Peripheral Equipment	14,682	14,044	-638	-4.35%
3342	Communications Equipment Manufacturing	6,174	5,326	-848	-13.74%
3343	Audio and Video Equipment Manufacturing	3,821	3,962	141	3.69%
3344	Semiconductor and Electronic Components	18,827	18,976	149	0.79%
3345	Electronic Instrument Manufacturing	27,602	28,575	973	3.53%
3346	Magnetic Media Manufacture & Reproducing	393	340	-53	-13.49%
335	Electrical Equipment and Appliances	11,359	11,845	486	4.28%
3351	Electric Lighting Equipment Mfg	2,544	2,565	21	0.83%
3352	Household Appliance Manufacturing	567	596	29	5.11%
3353	Electrical Equipment Manufacturing	4,219	4,307	88	2.09%
3359	Other Electrical Equipment & Components	4,029	4,377	348	8.64%
336	Transportation Equipment Manufacturing	14,379	14,407	28	0.19%
3361	Motor Vehicle Manufacturing	188	191	3	1.60%
3362	Motor Vehicle Body and Trailer Mfg	430	461	31	7.21%
3363	Motor Vehicle Parts Manufacturing	1,524	1,220	-304	-19.95%
3364	Aerospace Product & Parts Manufacturing	11,677	11,917	240	2.06%
3366	Ship and Boat Building	482	556	74	15.35%
3369	Other Transportation Equipment Mfg	78	61	-17	-21.79%

**Massachusetts ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
337	Furniture and Related Product Mfg	5,514	5,574	60	1.09%
3371	Household and Institutional Furniture	2,859	2,737	-122	-4.27%
3372	Office Furniture and Fixtures Mfg	1,959	2,196	237	12.10%
3379	Other Furniture Related Product Mfg	695	641	-54	-7.77%
339	Miscellaneous Manufacturing	23,171	22,214	-957	-4.13%
3391	Medical Equipment and Supplies Mfg	11,888	11,210	-678	-5.70%
3399	Other Miscellaneous Manufacturing	11,283	11,003	-280	-2.48%
	<b>Service-Providing Domain</b>	2,730,752	2,774,084	43,332	1.59%
	<b>Trade, Transportation and Utilities</b>	600,472	601,408	936	0.16%
22	Utilities	13,068	13,396	328	2.51%
221	Utilities	13,068	13,396	328	2.51%
2211	Power Generation and Supply	7,565	7,801	236	3.12%
2212	Natural Gas Distribution	2,831	2,820	-11	-0.39%
2213	Water, Sewage and Other Systems	2,673	2,775	102	3.82%
42	Wholesale Trade	137,726	138,426	700	0.51%
423	Merchant Wholesalers, Durable Goods	63,420	62,417	-1,003	-1.58%
4231	Motor Vehicle/Part Merchant Wholesalers	5,181	4,997	-184	-3.55%
4232	Furniture & Furnishings Merchant Whsle	2,235	2,122	-113	-5.06%
4233	Lumber and Supply Merchant Wholesalers	5,997	5,864	-133	-2.22%
4234	Commercial Goods Merchant Wholesalers	20,906	20,610	-296	-1.42%
4235	Metal and Mineral Merchant Wholesalers	1,777	1,764	-13	-0.73%
4236	Electric Goods Merchant Wholesalers	9,444	9,190	-254	-2.69%
4237	Hardware & Plumbing Merchant Wholesalers	4,926	5,003	77	1.56%
4238	Machinery & Supply Merchant Wholesalers	9,271	8,968	-303	-3.27%
4239	Misc Durable Goods Merchant Wholesalers	3,683	3,899	216	5.86%
424	Merchant Wholesalers, Nondurable Goods	48,561	48,735	174	0.36%
4241	Paper/Paper Product Merchant Wholesalers	4,894	4,890	-4	-0.08%
4242	Druggists' Goods Merchant Wholesalers	4,711	5,375	664	14.09%
4243	Apparel/Piece Goods Merchant Wholesalers	6,835	5,879	-956	-13.99%
4244	Grocery Product Merchant Wholesalers	17,785	18,120	335	1.88%
4245	Farm Product Merchant Wholesalers	182	177	-5	-2.75%
4246	Chemical Merchant Wholesalers	2,205	2,168	-37	-1.68%
4247	Petroleum Merchant Wholesalers	1,522	1,526	4	0.26%
4248	Alcoholic Beverage Merchant Wholesalers	3,577	3,805	228	6.37%
4249	Misc Nondurable Goods Merchant Whsle	6,851	6,796	-55	-0.80%
425	Electronic Markets and Agents/Brokers	25,745	27,273	1,528	5.94%
4251	Electronic Markets and Agents/Brokers	25,745	27,273	1,528	5.94%
44-45	Retail Trade	349,751	348,784	-967	-0.28%
441	Motor Vehicle and Parts Dealers	37,040	35,839	-1,201	-3.24%
4411	Automobile Dealers	25,877	24,892	-985	-3.81%
4412	Other Motor Vehicle Dealers	2,774	2,646	-128	-4.61%
4413	Auto Parts, Accessories, and Tire Stores	8,390	8,301	-89	-1.06%
442	Furniture and Home Furnishings Stores	13,161	12,513	-648	-4.92%
4421	Furniture Stores	5,776	5,212	-564	-9.76%
4422	Home Furnishings Stores	7,385	7,301	-84	-1.14%
443	Electronics and Appliance Stores	12,492	12,198	-294	-2.35%
4431	Electronics and Appliance Stores	12,492	12,198	-294	-2.35%
444	Building Material & Garden Supply Stores	29,078	27,850	-1,228	-4.22%

**Massachusetts ES-202 Employment, 2006-2007****All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
4441	Building Material and Supplies Dealers	25,718	24,510	-1,208	-4.70%
4442	Lawn & Garden Equipment/Supplies Stores	3,360	3,340	-20	-0.60%
445	Food and Beverage Stores	89,974	89,894	-80	-0.09%
4451	Grocery Stores	74,134	74,501	367	0.50%
4452	Specialty Food Stores	7,162	6,939	-223	-3.11%
4453	Beer, Wine, and Liquor Stores	8,679	8,453	-226	-2.60%
446	Health and Personal Care Stores	26,721	27,064	343	1.28%
4461	Health and Personal Care Stores	26,721	27,064	343	1.28%
447	Gasoline Stations	12,029	11,817	-212	-1.76%
4471	Gasoline Stations	12,029	11,817	-212	-1.76%
448	Clothing and Clothing Accessories Stores	39,397	40,630	1,233	3.13%
4481	Clothing Stores	30,949	32,147	1,198	3.87%
4482	Shoe Stores	4,253	4,401	148	3.48%
4483	Jewelry, Luggage & Leather Goods Stores	4,194	4,082	-112	-2.67%
451	Sporting Goods/Hobby/Book/Music Stores	17,549	16,906	-643	-3.66%
4511	Sporting Goods/Musical Instrument Stores	12,003	11,410	-593	-4.94%
4512	Book, Periodical, and Music Stores	5,546	5,497	-49	-0.88%
452	General Merchandise Stores	40,210	42,408	2,198	5.47%
4521	Department Stores	30,406	31,740	1,334	4.39%
4529	Other General Merchandise Stores	9,804	10,667	863	8.80%
453	Miscellaneous Store Retailers	21,302	20,302	-1,000	-4.69%
4531	Florists	2,426	2,249	-177	-7.30%
4532	Office Supply, Stationery & Gift Stores	10,880	10,035	-845	-7.77%
4533	Used Merchandise Stores	1,814	1,814	0	0.00%
4539	Other Miscellaneous Store Retailers	6,181	6,204	23	0.37%
454	Nonstore Retailers	10,798	11,362	564	5.22%
4541	Electronic Shopping & Mail-Order Houses	4,309	5,189	880	20.42%
4542	Vending Machine Operators	566	580	14	2.47%
4543	Direct Selling Establishments	5,923	5,594	-329	-5.55%
48-49	Transportation and Warehousing	99,927	100,802	875	0.88%
481	Air Transportation	7,802	8,069	267	3.42%
4811	Scheduled Air Transportation	7,408	7,662	254	3.43%
4812	Nonscheduled Air Transportation	393	407	14	3.56%
483	Water Transportation	1,043	1,238	195	18.70%
4831	Sea, Coastal & Great Lakes Transport	1,011	1,188	177	17.51%
4832	Inland Water Transportation	31	50	19	61.29%
484	Truck Transportation	16,887	16,424	-463	-2.74%
4841	General Freight Trucking	10,408	9,940	-468	-4.50%
4842	Specialized Freight Trucking	6,479	6,484	5	0.08%
485	Transit and Ground Passenger Transport	21,690	22,654	964	4.44%
4852	Interurban and Rural Bus Transportation	926	773	-153	-16.52%
4853	Taxi and Limousine Service	3,529	3,797	268	7.59%
4854	School and Employee Bus Transportation	6,484	6,572	88	1.36%
4855	Charter Bus Industry	1,183	1,305	122	10.31%
4859	Other Ground Passenger Transportation	2,101	2,239	138	6.57%
486	Pipeline Transportation	130	141	11	8.46%
4862	Pipeline Transportation of Natural Gas	110	123	13	11.82%
487	Scenic and Sightseeing Transportation	1,774	1,772	-2	-0.11%



**Massachusetts ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
4871	Scenic/Sightseeing Transportation, Land	610	681	71	11.64%
4872	Scenic/Sightseeing Transportation, Water	1,160	1,083	-77	-6.64%
4879	Scenic/Sightseeing Transportation, Other		7	7	NA
488	Support Activities for Transportation	9,109	9,375	266	2.92%
4881	Support Activities for Air Transport	2,652	2,819	167	6.30%
4882	Support Activities for Rail Transport	78	78	0	0.00%
4883	Support Activities for Water Transport	446	456	10	2.24%
4884	Support Activities, Road Transportation	3,182	3,064	-118	-3.71%
4885	Freight Transportation Arrangement	2,244	2,345	101	4.50%
4889	Other Support Activities for Transport	508	613	105	20.67%
492	Couriers and Messengers	11,158	11,201	43	0.39%
4921	Couriers	10,558	10,619	61	0.58%
4922	Local Messengers and Local Delivery	600	582	-18	-3.00%
493	Warehousing and Storage	9,069	9,175	106	1.17%
4931	Warehousing and Storage	9,069	9,175	106	1.17%
	<b>Information</b>	93,745	94,852	1,107	1.18%
51	Information	93,745	94,852	1,107	1.18%
511	Publishing Industries	42,254	42,926	672	1.59%
5111	Newspaper, Book, & Directory Publishers	21,041	20,751	-290	-1.38%
5112	Software Publishers	21,213	22,175	962	4.53%
512	Motion Picture & Sound Recording Ind	4,752	5,697	945	19.89%
5121	Motion Picture and Video Industries	4,569	5,496	927	20.29%
5122	Sound Recording Industries	183	201	18	9.84%
515	Broadcasting (except Internet)	5,742	5,469	-273	-4.75%
5151	Radio and Television Broadcasting	5,115	4,727	-388	-7.59%
5152	Cable and Other Subscription Programming	627	742	115	18.34%
516	Internet Publishing and Broadcasting	2,347		-2,347	-100.00%
5161	Internet Publishing and Broadcasting	2,347		-2,347	-100.00%
517	Telecommunications	21,314	21,789	475	2.23%
5171	Wired Telecommunications Carriers	12,049	17,779	5,730	47.56%
5172	Wireless Telecommunications Carriers	2,721	2,365	-356	-13.08%
5173	Telecommunications Resellers	1,252		-1,252	-100.00%
5174	Satellite Telecommunications	53	64	11	20.75%
5175	Cable and Other Program Distribution	5,166		-5,166	-100.00%
5179	Other Telecommunications	74	1,581	1,507	2036.49%
518	ISPs, Search Portals, & Data Processing	10,109	7,421	-2,688	-26.59%
5181	ISPs and Web Search Portals	2,765		-2,765	-100.00%
5182	Data Processing and Related Services	7,345	7,421	76	1.03%
519	Other Information Services	7,227	11,550	4,323	59.82%
5191	Other Information Services	7,227	11,550	4,323	59.82%
	<b>Financial Activities</b>	228,028	227,837	-191	-0.08%
52	Finance and Insurance	181,868	182,744	876	0.48%
522	Credit Intermediation & Related Activity	64,121	62,547	-1,574	-2.45%
5221	Depository Credit Intermediation	50,187	49,990	-197	-0.39%
5222	Nondepository Credit Intermediation	10,228	8,991	-1,237	-12.09%
5223	Activities Rel to Credit Intermediation	3,706	3,566	-140	-3.78%
523	Financial Investment & Related Activity	48,589	51,700	3,111	6.40%
5231	Security & Commodity Investment Activity	24,468	24,424	-44	-0.18%

**Massachusetts ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5232	Securities and Commodity Exchanges	23	12	-11	-47.83%
5239	Other Financial Investment Activities	24,097	27,264	3,167	13.14%
524	Insurance Carriers & Related Activities	65,497	65,590	93	0.14%
5241	Insurance Carriers	43,695	43,536	-159	-0.36%
5242	Insurance Agencies, Brokerages & Support	21,802	22,054	252	1.16%
525	Funds, Trusts & Other Financial Vehicles	2,776	2,008	-768	-27.67%
5251	Insurance and Employee Benefit Funds	501	521	20	3.99%
5259	Other Investment Pools and Funds	2,275	1,487	-788	-34.64%
53	Real Estate and Rental and Leasing	46,161	45,094	-1,067	-2.31%
531	Real Estate	32,802	32,167	-635	-1.94%
5311	Lessors of Real Estate	9,857	10,125	268	2.72%
5312	Offices of Real Estate Agents & Brokers	9,605	8,734	-871	-9.07%
5313	Activities Related to Real Estate	13,340	13,308	-32	-0.24%
532	Rental and Leasing Services	12,876	12,412	-464	-3.60%
5321	Automotive Equipment Rental and Leasing	4,022	3,789	-233	-5.79%
5322	Consumer Goods Rental	5,766	5,546	-220	-3.82%
5323	General Rental Centers	1,141	1,113	-28	-2.45%
5324	Machinery & Equipment Rental & Leasing	1,947	1,964	17	0.87%
533	Lessors, Nonfinancial Intangible Assets	483	515	32	6.63%
5331	Lessors, Nonfinancial Intangible Assets	483	515	32	6.63%
	<b>Professional and Business Services</b>	<b>485,289</b>	<b>494,541</b>	<b>9,252</b>	<b>1.91%</b>
54	Professional and Technical Services	246,776	252,712	5,936	2.41%
541	Professional and Technical Services	246,776	252,712	5,936	2.41%
5411	Legal Services	30,955	31,070	115	0.37%
5412	Accounting and Bookkeeping Services	19,443	20,350	907	4.66%
5413	Architectural and Engineering Services	41,553	41,459	-94	-0.23%
5414	Specialized Design Services	3,669	3,636	-33	-0.90%
5415	Computer Systems Design and Rel Services	47,853	52,055	4,202	8.78%
5416	Management & Technical Consulting Svc	35,604	34,703	-901	-2.53%
5417	Scientific Research and Development Svc	43,953	44,406	453	1.03%
5418	Advertising and Related Services	12,015	12,677	662	5.51%
5419	Other Professional & Technical Services	11,732	12,355	623	5.31%
55	Management of Companies and Enterprises	61,790	61,401	-389	-0.63%
551	Management of Companies and Enterprises	61,790	61,401	-389	-0.63%
5511	Management of Companies and Enterprises	61,790	61,401	-389	-0.63%
56	Administrative and Waste Services	176,723	180,429	3,706	2.10%
561	Administrative and Support Services	166,154	169,624	3,470	2.09%
5611	Office Administrative Services	8,644	8,900	256	2.96%
5612	Facilities Support Services	507	630	123	24.26%
5613	Employment Services	65,188	67,721	2,533	3.89%
5614	Business Support Services	9,339	9,841	502	5.38%
5615	Travel Arrangement & Reservation Service	6,721	6,678	-43	-0.64%
5616	Investigation and Security Services	17,076	17,163	87	0.51%
5617	Services to Buildings and Dwellings	54,580	54,456	-124	-0.23%
5619	Other Support Services	4,099	4,234	135	3.29%
562	Waste Management and Remediation Service	10,569	10,805	236	2.23%
5621	Waste Collection	3,416	3,582	166	4.86%
5622	Waste Treatment and Disposal	3,508	3,484	-24	-0.68%

**Massachusetts ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5629	Remediation and Other Waste Services	3,645	3,738	93	2.55%
	<b>Education and Health Services</b>	735,463	757,941	22,478	3.06%
61	Educational Services	264,293	269,921	5,628	2.13%
611	Educational Services	264,293	269,921	5,628	2.13%
6111	Elementary and Secondary Schools	139,468	142,644	3,176	2.28%
6113	Colleges and Universities	101,163	103,248	2,085	2.06%
6114	Business, Computer & Management Training	2,056	2,118	62	3.02%
6115	Technical and Trade Schools	2,258	2,362	104	4.61%
6116	Other Schools and Instruction	9,421	9,714	293	3.11%
6117	Educational Support Services	2,855	2,673	-182	-6.37%
62	Health Care and Social Assistance	471,170	488,020	16,850	3.58%
621	Ambulatory Health Care Services	134,770	140,132	5,362	3.98%
6211	Offices of Physicians	48,937	50,649	1,712	3.50%
6212	Offices of Dentists	20,724	20,967	243	1.17%
6213	Offices of Other Health Practitioners	12,082	12,507	425	3.52%
6214	Outpatient Care Centers	20,723	21,200	477	2.30%
6215	Medical and Diagnostic Laboratories	4,420	4,722	302	6.83%
6216	Home Health Care Services	21,277	23,053	1,776	8.35%
6219	Other Ambulatory Health Care Services	6,607	7,035	428	6.48%
622	Hospitals	179,771	185,219	5,448	3.03%
6221	General Medical and Surgical Hospitals	156,217	161,064	4,847	3.10%
6222	Psychiatric & Substance Abuse Hospitals	8,771	8,662	-109	-1.24%
6223	Other Hospitals	14,784	15,492	708	4.79%
623	Nursing and Residential Care Facilities	93,825	96,281	2,456	2.62%
6231	Nursing Care Facilities	57,088	57,895	807	1.41%
6232	Residential Mental Health Facilities	17,711	18,244	533	3.01%
6233	Community Care Facility for the Elderly	13,296	13,872	576	4.33%
6239	Other Residential Care Facilities	5,731	6,269	538	9.39%
624	Social Assistance	62,804	66,388	3,584	5.71%
6241	Individual and Family Services	28,530	30,656	2,126	7.45%
6242	Emergency and Other Relief Services	4,935	5,130	195	3.95%
6243	Vocational Rehabilitation Services	8,478	9,380	902	10.64%
6244	Child Day Care Services	20,862	21,223	361	1.73%
	<b>Leisure and Hospitality</b>	328,920	333,382	4,462	1.36%
71	Arts, Entertainment, and Recreation	63,976	64,971	995	1.56%
711	Performing Arts and Spectator Sports	10,348	11,027	679	6.56%
7111	Performing Arts Companies	3,542	3,463	-79	-2.23%
7112	Spectator Sports	2,644	2,723	79	2.99%
7113	Performing Arts and Sports Promoters	3,512	4,271	759	21.61%
7114	Agents and Managers for Public Figures	137	145	8	5.84%
7115	Independent Artists/Writers/Performers	513	426	-87	-16.96%
712	Museums, Parks and Historical Sites	6,290	6,379	89	1.41%
7121	Museums, Parks and Historical Sites	6,290	6,379	89	1.41%
713	Amusement, Gambling & Recreation Ind	47,338	47,565	227	0.48%
7131	Amusement Parks and Arcades	2,174	2,488	314	14.44%
7139	Other Amusement & Recreation Industries	45,032	44,935	-97	-0.22%
72	Accommodation and Food Services	264,944	268,410	3,466	1.31%
721	Accommodation	37,544	38,183	639	1.70%

**Massachusetts ES-202 Employment, 2006-2007**

**All NAICS**

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
7211	Traveler Accommodation	34,874	35,611	737	2.11%
7212	RV Parks and Recreational Camps	2,194	2,226	32	1.46%
7213	Rooming and Boarding Houses	476	346	-130	-27.31%
722	Food Services and Drinking Places	227,400	230,227	2,827	1.24%
7221	Full-Service Restaurants	116,055	118,979	2,924	2.52%
7222	Limited-Service Eating Places	82,804	84,601	1,797	2.17%
7223	Special Food Services	20,367	19,120	-1,247	-6.12%
7224	Drinking Places (Alcoholic Beverages)	8,174	7,527	-647	-7.92%
	<b>Other Services</b>	124,406	128,741	4,335	3.48%
81	Other Services, Ex. Public Admin	124,406	128,741	4,335	3.48%
811	Repair and Maintenance	26,257	26,020	-237	-0.90%
8111	Automotive Repair and Maintenance	18,724	18,345	-379	-2.02%
8112	Electronic Equipment Repair/Maintenance	3,212	3,516	304	9.46%
8113	Commercial Machinery Repair/Maintenance	2,565	2,504	-61	-2.38%
8114	Household Goods Repair and Maintenance	1,756	1,654	-102	-5.81%
812	Personal and Laundry Services	36,825	37,735	910	2.47%
8121	Personal Care Services	18,626	18,789	163	0.88%
8122	Death Care Services	2,642	2,655	13	0.49%
8123	Drycleaning and Laundry Services	8,949	9,437	488	5.45%
8129	Other Personal Services	6,608	6,854	246	3.72%
813	Membership Organizations & Associations	38,873	39,848	975	2.51%
8131	Religious Organizations	772	767	-5	-0.65%
8132	Grantmaking and Giving Services	2,705	2,982	277	10.24%
8133	Social Advocacy Organizations	7,904	8,386	482	6.10%
8134	Civic and Social Organizations	19,805	19,762	-43	-0.22%
8139	Professional and Similar Organizations	7,687	7,951	264	3.43%
814	Private Households	22,451	25,139	2,688	11.97%
8141	Private Households	22,451	25,139	2,688	11.97%
	<b>Public Administration</b>	134,428	135,383	955	0.71%
92	Public Administration	134,428	135,383	955	0.71%
921	Executive, Legislative, & Gen Government	32,643	32,288	-355	-1.09%
9211	Executive, Legislative, & Gen Government	32,643	32,288	-355	-1.09%
922	Justice, Public Order, and Safety Activi	60,619	61,341	722	1.19%
9221	Justice, Public Order, and Safety Activi	60,619	61,341	722	1.19%
924	Administration of Environmental Programs	6,261	6,318	57	0.91%
9241	Administration of Environmental Programs	6,261	6,318	57	0.91%
925	Community and Housing Program Admin	5,480	5,569	89	1.62%
9251	Community and Housing Program Admin	5,480	5,569	89	1.62%
926	Administration of Economic Programs	7,465	7,928	463	6.20%
9261	Administration of Economic Programs	7,465	7,928	463	6.20%
928	National Security & International Affair	5,072	4,966	-106	-2.09%
9281	National Security & International Affair	5,072	4,966	-106	-2.09%

**Appendix C:**  
**Occupational Staffing Patterns of  
Industries and Educational Attainment of  
Workers by Industries and Occupations  
in the North Shore Workforce Area**

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Whole- sale Trade	Retail Trade
Management Occupations	3012	88	2692	24623	13647	33436	10933	12078
Business and Financial Operations Occupations	41	84	939	2740	3970	10951	5398	8188
Computer and Mathematical Occupations	0	28	337	74	1533	16334	2340	5743
Architecture and Engineering Occupations	0	0	1810	4783	3171	32403	1104	601
Life, Physical, and Social Science Occupations	289	102	395	11	6879	2428	422	320
Community and Social Services Occupations	0	0	0	0	28	0	0	0
Legal Occupations	33	0	123	129	175	612	0	511
Education, Training, and Library Occupations	0	0	0	0	342	377	118	594
Arts, Design, Entertainment, Sports, and Media Occupations	0	0	34	504	1594	3051	908	4421
Healthcare Practitioner and Technical Occupations	0	0	0	0	353	187	248	7751
Healthcare Support Occupations	0	0	0	0	0	0	247	221
Protective Service Occupations	30	0	82	120	187	571	176	2188
Food Preparation and Serving Occupations	110	0	0	0	562	110	71	8543
Building and Grounds Cleaning Occupations	80	80	435	1075	1807	848	416	2498
Personal Care and Service Occupations	484	0	0	56	28	31	72	1014
High-Level Sales Occupations	0	0	273	1494	7650	9108	35259	63498
Low-Level Sales Occupations	164	0	0	47	830	46	912	118460
Office and Administrative Support Occupations	329	154	4548	10801	13948	22254	19129	54057
Farming, Fishing, and Forestry Occupations	4531	0	0	0	0	0	501	300
Construction and Extraction Occupations	10	330	1972	156081	359	3416	567	2026
Installations, Maintenance, and Repair Occupations	172	149	2775	8759	3241	7248	4414	12309
Production Occupations	54	231	3425	2328	47668	80666	2402	9584
Transportation and Material Moving Occupations	842	369	892	7005	7090	8519	17886	27665
Total	10178	1612	20729	220623	115056	232590	103519	342564

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

Occupations	Transportation and Warehousing	Information	Finance and Insurance	Real Estate, Rental and Leasing	Professional, Scientific and Technical	Management of Companies and Enterprises	Administrative Support and Waste Management
Management Occupations	6267	17242	35368	15054	38717	1394	9120
Business and Financial Operations Occupations	1166	2944	49602	3614	36973	1408	5148
Computer and Mathematical Occupations	231	8870	15467	394	41706	413	2399
Architecture and Engineering Occupations	735	3901	308	246	26588	34	442
Life, Physical, and Social Science Occupations	123	464	689	126	18053	0	406
Community and Social Services Occupations	0	0	207	65	83	0	114
Legal Occupations	54	555	2099	199	31009	144	610
Education, Training, and Library Occupations	107	4354	623	0	1152	0	347
Arts, Design, Entertainment, Sports, and Media Occupations	0	13705	1338	37	14568	63	1182
Healthcare Practitioner and Technical Occupations	145	0	1301	33	5116	100	1695
Healthcare Support Occupations	0	0	38	0	498	0	1342
Protective Service Occupations	828	693	977	507	308	0	9126
Food Preparation and Serving Occupations	107	369	0	195	69	0	327
Building and Grounds Cleaning Occupations	794	502	487	4932	478	0	40749
Personal Care and Service Occupations	2572	441	0	599	866	38	521
High-Level Sales Occupations	1375	7019	23513	22877	6458	159	3169
Low-Level Sales Occupations	675	2694	8586	2129	1495	0	3946
Office and Administrative Support Occupations	32985	15473	53958	8232	33091	914	17237
Farming, Fishing, and Forestry Occupations	0	0	0	0	42	0	81
Construction and Extraction Occupations	1194	118	71	908	1205	82	1790
Installations, Maintenance, and Repair Occupations	4088	8033	150	2743	1013	182	1938
Production Occupations	1435	2414	586	125	2451	141	3328
Transportation and Material Moving Occupations	45475	1529	288	1443	1184	193	6581
Total	100351	91315	195651	64454	263117	5262	111592

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accommodation and Food Services	Other Services	Public Services	Total
Management Occupations	30596	33796	3134	24222	10036	12966	338414
Business and Financial Operations Occupations	5864	8906	1134	1006	2665	9652	162387
Computer and Mathematical Occupations	5862	3958	162	68	777	2889	109581
Architecture and Engineering Occupations	1277	748	73	101	513	1901	80735
Life, Physical, and Social Science Occupations	7958	13913	228	0	127	2293	55223
Community and Social Services Occupations	7344	28629	214	239	10454	9300	56674
Legal Occupations	491	1300	34	192	522	6056	44842
Education, Training, and Library Occupations	164557	16428	1693	306	1025	1627	193647
Arts, Design, Entertainment, Sports, and Media Occupations	6542	1179	12883	452	1867	816	65141
Healthcare Practitioner and Technical Occupations	8440	160666	235	109	1481	2544	190400
Healthcare Support Occupations	1533	63689	410	41	2896	938	71850
Protective Service Occupations	2843	1896	2464	1108	489	37759	62347
Food Preparation and Serving Occupations	7641	9047	3320	121919	1609	700	154696
Building and Grounds Cleaning Occupations	14206	12681	4298	9982	11333	1966	109641
Personal Care and Service Occupations	4067	31385	11519	2744	36061	1392	93885
High-Level Sales Occupations	139	134	1296	928	5385	0	189730
Low-Level Sales Occupations	2798	1896	1576	11150	2889	223	160513
Office and Administrative Support Occupations	26323	61317	3909	8757	14793	24325	426526
Farming, Fishing, and Forestry Occupations	0	0	28	0	9	200	5691
Construction and Extraction Occupations	1399	1210	99	340	330	1657	175158
Installations, Maintenance, and Repair Occupations	2635	1344	1013	785	18860	1925	83772
Production Occupations	465	3043	403	1995	9160	941	172840
Transportation and Material Moving Occupations	1474	2839	1168	3307	5809	1166	142718
Total	304448	460000	51288	189746	139084	123230	3146406



**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Wholesale Trade	Retail Trade
Management Occupations	0	0	0	2370	1141	2277	946	508
Business and Financial Operations Occupations	0	0	0	133	60	989	318	647
Computer and Mathematical Occupations	0	0	0	0	0	939	103	80
Architecture and Engineering Occupations	0	0	76	40	336	4107	35	0
Life, Physical, and Social Science Occupations	0	0	0	0	203	172	0	50
Community and Social Services Occupations	0	0	0	0	0	0	0	0
Legal Occupations	0	0	0	0	0	136	0	0
Education, Training, and Library Occupations	0	0	0	0	0	0	41	0
Arts, Design, Entertainment, Sports, and Media Occupations	0	0	0	0	93	92	40	134
Healthcare Practitioner and Technical Occupations	0	0	0	0	0	42	54	522
Healthcare Support Occupations	0	0	0	0	0	0	0	59
Protective Service Occupations	0	0	0	0	0	0	0	374
Food Preparation and Serving Occupations	0	0	0	0	0	0	0	821
Building and Grounds Cleaning Occupations	0	0	37	257	0	62	34	347
Personal Care and Service Occupations	0	0	0	0	0	0	0	87
High-Level Sales Occupations	0	0	0	48	533	697	2393	4675
Low-Level Sales Occupations	0	0	0	0	175	46	64	9094
Office and Administrative Support Occupations	0	0	127	710	941	1384	1524	4913
Farming, Fishing, and Forestry Occupations	716	0	0	0	0	0	47	51
Construction and Extraction Occupations	0	0	0	11843	35	359	0	381
Installations, Maintenance, and Repair Occupations	0	0	123	581	172	642	162	1014
Production Occupations	47	0	91	166	2362	8928	261	537
Transportation and Material Moving Occupations	0	0	39	411	448	531	1559	1831
Total	763	0	491	16557	6496	21399	7578	26120

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-7**

Occupations	Transportation and Warehousing	Information	Finance and Insurance	Real Estate, Rental and Leasing	Professional, Scientific and Technical	Management of Companies and Enterprises	Administrative Support and Waste Management
Management Occupations	237	597	1613	771	1599	59	435
Business and Financial Operations Occupations	85	79	1420	311	1899	0	315
Computer and Mathematical Occupations	0	288	363	0	1387	0	486
Architecture and Engineering Occupations	65	0	0	34	802	0	51
Life, Physical, and Social Science Occupations	0	32	0	0	480	0	0
Community and Social Services Occupations	0	0	0	0	0	0	0
Legal Occupations	0	89	0	0	1172	0	76
Education, Training, and Library Occupations	0	296	0	0	0	0	0
Arts, Design, Entertainment, Sports, and Media Occupations	0	539	44	0	855	0	0
Healthcare Practitioner and Technical Occupations	0	0	0	0	497	0	0
Healthcare Support Occupations	0	0	0	0	38	0	136
Protective Service Occupations	0	46	31	32	41	0	200
Food Preparation and Serving Occupations	0	0	0	49	0	0	0
Building and Grounds Cleaning Occupations	0	0	91	150	0	0	1998
Personal Care and Service Occupations	136	0	0	0	77	0	0
High-Level Sales Occupations	88	542	410	1870	574	0	331
Low-Level Sales Occupations	56	247	378	0	0	0	0
Office and Administrative Support Occupations	2547	1005	3425	542	1523	0	954
Farming, Fishing, and Forestry Occupations	0	0	0	0	0	0	0
Construction and Extraction Occupations	47	0	0	42	52	0	94
Installations, Maintenance, and Repair Occupations	0	302	0	156	0	0	48
Production Occupations	34	124	0	44	139	97	47
Transportation and Material Moving Occupations	1926	31	0	0	0	0	133
Total	5218	4213	7774	3998	11133	156	5301

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-**

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accommodation and Food Services	Other Services	Public Services	Total
Management Occupations	1520	1831	132	1667	1144	974	19819
Business and Financial Operations Occupations	289	1059	193	0	0	460	8252
Computer and Mathematical Occupations	35	182	0	0	44	38	3941
Architecture and Engineering Occupations	0	41	0	0	279	0	5865
Life, Physical, and Social Science Occupations	0	284	31	0	32	36	1319
Community and Social Services Occupations	232	2137	0	0	952	543	3863
Legal Occupations	0	133	0	0	0	143	1748
Education, Training, and Library Occupations	9953	1042	31	0	93	47	11501
Arts, Design, Entertainment, Sports, and Media Occupations	230	98	810	0	73	82	3087
Healthcare Practitioner and Technical Occupations	560	8126	0	33	143	120	10096
Healthcare Support Occupations	0	4221	0	0	60	0	4513
Protective Service Occupations	263	102	93	0	49	2431	3662
Food Preparation and Serving Occupations	508	612	276	8391	368	186	11210
Building and Grounds Cleaning Occupations	500	769	317	541	628	100	5827
Personal Care and Service Occupations	253	2133	1180	209	2279	158	6510
High-Level Sales Occupations	0	0	0	0	413	0	12570
Low-Level Sales Occupations	188	57	73	558	129	0	11062
Office and Administrative Support Occupations	1299	4037	394	533	856	1009	27719
Farming, Fishing, and Forestry Occupations	0	0	0	0	0	46	859
Construction and Extraction Occupations	169	0	33	0	34	136	13222
Installations, Maintenance, and Repair Occupations	41	0	45	0	1917	0	5199
Production Occupations	39	0	64	134	982	0	14092
Transportation and Material Moving Occupations	35	219	119	414	523	118	8333
Total	16109	27078	3787	12478	10996	6622	194263

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

**Distribution of Industry by Occupation**

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Wholesale Trade	Retail Trade
Management Occupations	1%	0%	1%	7%	4%	10%	3%	4%
Business and Financial Operations Occupations	0%	0%	1%	2%	2%	7%	3%	5%
Computer and Mathematical Occupations	0%	0%	0%	0%	1%	15%	2%	5%
Architecture and Engineering Occupations	0%	0%	2%	6%	4%	40%	1%	1%
Life, Physical, and Social Science Occupations	1%	0%	1%	0%	12%	4%	1%	1%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	0%	0%	0%	0%	1%	0%	1%
Education, Training, and Library Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	0%	0%	1%	2%	5%	1%	7%
Healthcare Practitioner and Technical Occupations	0%	0%	0%	0%	0%	0%	0%	4%
Healthcare Support Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Protective Service Occupations	0%	0%	0%	0%	0%	1%	0%	4%
Food Preparation and Serving Occupations	0%	0%	0%	0%	0%	0%	0%	6%
Building and Grounds Cleaning Occupations	0%	0%	0%	1%	2%	1%	0%	2%
Personal Care and Service Occupations	1%	0%	0%	0%	0%	0%	0%	1%
High-Level Sales Occupations	0%	0%	0%	1%	4%	5%	19%	33%
Low-Level Sales Occupations	0%	0%	0%	0%	1%	0%	1%	74%
Office and Administrative Support Occupations	0%	0%	1%	3%	3%	5%	4%	13%
Farming, Fishing, and Forestry Occupations	80%	0%	0%	0%	0%	0%	9%	5%
Construction and Extraction Occupations	0%	0%	1%	89%	0%	2%	0%	1%
Installations, Maintenance, and Repair Occupations	0%	0%	3%	10%	4%	9%	5%	15%
Production Occupations	0%	0%	2%	1%	28%	47%	1%	6%
Transportation and Material Moving Occupations	1%	0%	1%	5%	5%	6%	13%	19%
Total	0%	0%	1%	7%	4%	7%	3%	11%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

**Distribution of Industry by Occupation**

Occupations	Transportation and Warehousing	Information	Finance and Insurance	Real Estate, Rental and Leasing	Professional, Scientific and Technical	Management of Companies and Enterprises	Administrative Support and Waste Management
Management Occupations	2%	5%	10%	4%	11%	0%	3%
Business and Financial Operations Occupations	1%	2%	31%	2%	23%	1%	3%
Computer and Mathematical Occupations	0%	8%	14%	0%	38%	0%	2%
Architecture and Engineering Occupations	1%	5%	0%	0%	33%	0%	1%
Life, Physical, and Social Science Occupations	0%	1%	1%	0%	33%	0%	1%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	1%	5%	0%	69%	0%	1%
Education, Training, and Library Occupations	0%	2%	0%	0%	1%	0%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	21%	2%	0%	22%	0%	2%
Healthcare Practitioner and Technical Occupations	0%	0%	1%	0%	3%	0%	1%
Healthcare Support Occupations	0%	0%	0%	0%	1%	0%	2%
Protective Service Occupations	1%	1%	2%	1%	0%	0%	15%
Food Preparation and Serving Occupations	0%	0%	0%	0%	0%	0%	0%
Building and Grounds Cleaning Occupations	1%	0%	0%	4%	0%	0%	37%
Personal Care and Service Occupations	3%	0%	0%	1%	1%	0%	1%
High-Level Sales Occupations	1%	4%	12%	12%	3%	0%	2%
Low-Level Sales Occupations	0%	2%	5%	1%	1%	0%	2%
Office and Administrative Support Occupations	8%	4%	13%	2%	8%	0%	4%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	1%	0%	1%
Construction and Extraction Occupations	1%	0%	0%	1%	1%	0%	1%
Installations, Maintenance, and Repair Occupations	5%	10%	0%	3%	1%	0%	2%
Production Occupations	1%	1%	0%	0%	1%	0%	2%
Transportation and Material Moving Occupations	32%	1%	0%	1%	1%	0%	5%
Total	3%	3%	6%	2%	8%	0%	4%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

**Distribution of Industry by Occupation**

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accommodation and Food Services	Other Services	Public Services	Total
Management Occupations	9%	10%	1%	7%	3%	4%	100%
Business and Financial Operations Occupations	4%	5%	1%	1%	2%	6%	100%
Computer and Mathematical Occupations	5%	4%	0%	0%	1%	3%	100%
Architecture and Engineering Occupations	2%	1%	0%	0%	1%	2%	100%
Life, Physical, and Social Science Occupations	14%	25%	0%	0%	0%	4%	100%
Community and Social Services Occupations	13%	51%	0%	0%	18%	16%	100%
Legal Occupations	1%	3%	0%	0%	1%	14%	100%
Education, Training, and Library Occupations	85%	8%	1%	0%	1%	1%	100%
Arts, Design, Entertainment, Sports, and Media Occupations	10%	2%	20%	1%	3%	1%	100%
Healthcare Practitioner and Technical Occupations	4%	84%	0%	0%	1%	1%	100%
Healthcare Support Occupations	2%	89%	1%	0%	4%	1%	100%
Protective Service Occupations	5%	3%	4%	2%	1%	61%	100%
Food Preparation and Serving Occupations	5%	6%	2%	79%	1%	0%	100%
Building and Grounds Cleaning Occupations	13%	12%	4%	9%	10%	2%	100%
Personal Care and Service Occupations	4%	33%	12%	3%	38%	1%	100%
High-Level Sales Occupations	0%	0%	1%	0%	3%	0%	100%
Low-Level Sales Occupations	2%	1%	1%	7%	2%	0%	100%
Office and Administrative Support Occupations	6%	14%	1%	2%	3%	6%	100%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	0%	4%	100%
Construction and Extraction Occupations	1%	1%	0%	0%	0%	1%	100%
Installations, Maintenance, and Repair Occupations	3%	2%	1%	1%	23%	2%	100%
Production Occupations	0%	2%	0%	1%	5%	1%	100%
Transportation and Material Moving Occupations	1%	2%	1%	2%	4%	1%	100%
Total	10%	15%	2%	6%	4%	4%	100%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**

**Distribution of Industry by Occupation**

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Wholesale Trade	Retail Trade
Management Occupations	0%	0%	0%	12%	6%	11%	5%	3%
Business and Financial Operations Occupations	0%	0%	0%	2%	1%	12%	4%	8%
Computer and Mathematical Occupations	0%	0%	0%	0%	0%	24%	3%	2%
Architecture and Engineering Occupations	0%	0%	1%	1%	6%	70%	1%	0%
Life, Physical, and Social Science Occupations	0%	0%	0%	0%	15%	13%	0%	4%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	0%	0%	0%	0%	8%	0%	0%
Education, Training, and Library Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	0%	0%	0%	3%	3%	1%	4%
Healthcare Practitioner and Technical Occupations	0%	0%	0%	0%	0%	0%	1%	5%
Healthcare Support Occupations	0%	0%	0%	0%	0%	0%	0%	1%
Protective Service Occupations	0%	0%	0%	0%	0%	0%	0%	10%
Food Preparation and Serving Occupations	0%	0%	0%	0%	0%	0%	0%	7%
Building and Grounds Cleaning Occupations	0%	0%	1%	4%	0%	1%	1%	6%
Personal Care and Service Occupations	0%	0%	0%	0%	0%	0%	0%	1%
High-Level Sales Occupations	0%	0%	0%	0%	4%	6%	19%	37%
Low-Level Sales Occupations	0%	0%	0%	0%	2%	0%	1%	82%
Office and Administrative Support Occupations	0%	0%	0%	3%	3%	5%	5%	18%
Farming, Fishing, and Forestry Occupations	83%	0%	0%	0%	0%	0%	5%	6%
Construction and Extraction Occupations	0%	0%	0%	90%	0%	3%	0%	3%
Installations, Maintenance, and Repair Occupations	0%	0%	2%	11%	3%	12%	3%	19%
Production Occupations	0%	0%	1%	1%	17%	63%	2%	4%
Transportation and Material Moving Occupations	0%	0%	0%	5%	5%	6%	19%	22%
Total	0%	0%	0%	9%	3%	11%	4%	13%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-**

**Distribution of Industry by Occupation**

Occupations	Transportation and Warehousing	Information	Finance and Insurance	Real Estate, Rental and Leasing	Professional, Scientific and Technical	Management of Companies and Enterprises	Administrative Support and Waste Management
Management Occupations	1%	3%	8%	4%	8%	0%	2%
Business and Financial Operations Occupations	1%	1%	17%	4%	23%	0%	4%
Computer and Mathematical Occupations	0%	7%	9%	0%	35%	0%	12%
Architecture and Engineering Occupations	1%	0%	0%	1%	14%	0%	1%
Life, Physical, and Social Science Occupations	0%	2%	0%	0%	36%	0%	0%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	5%	0%	0%	67%	0%	4%
Education, Training, and Library Occupations	0%	3%	0%	0%	0%	0%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	17%	1%	0%	28%	0%	0%
Healthcare Practitioner and Technical Occupations	0%	0%	0%	0%	5%	0%	0%
Healthcare Support Occupations	0%	0%	0%	0%	1%	0%	3%
Protective Service Occupations	0%	1%	1%	1%	1%	0%	5%
Food Preparation and Serving Occupations	0%	0%	0%	0%	0%	0%	0%
Building and Grounds Cleaning Occupations	0%	0%	2%	3%	0%	0%	34%
Personal Care and Service Occupations	2%	0%	0%	0%	1%	0%	0%
High-Level Sales Occupations	1%	4%	3%	15%	5%	0%	3%
Low-Level Sales Occupations	1%	2%	3%	0%	0%	0%	0%
Office and Administrative Support Occupations	9%	4%	12%	2%	5%	0%	3%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	0%	0%	0%
Construction and Extraction Occupations	0%	0%	0%	0%	0%	0%	1%
Installations, Maintenance, and Repair Occupations	0%	6%	0%	3%	0%	0%	1%
Production Occupations	0%	1%	0%	0%	1%	1%	0%
Transportation and Material Moving Occupations	23%	0%	0%	0%	0%	0%	2%
Total	3%	2%	4%	2%	6%	0%	3%



**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-**

**Distribution of Industry by Occupation**

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accommodation and Food Services	Other Services	Public Services	Total
Management Occupations	8%	9%	1%	8%	6%	5%	100%
Business and Financial Operations Occupations	3%	13%	2%	0%	0%	6%	100%
Computer and Mathematical Occupations	1%	5%	0%	0%	1%	1%	100%
Architecture and Engineering Occupations	0%	1%	0%	0%	5%	0%	100%
Life, Physical, and Social Science Occupations	0%	22%	2%	0%	2%	3%	100%
Community and Social Services Occupations	6%	55%	0%	0%	25%	14%	100%
Legal Occupations	0%	8%	0%	0%	0%	8%	100%
Education, Training, and Library Occupations	87%	9%	0%	0%	1%	0%	100%
Arts, Design, Entertainment, Sports, and Media Occupations	7%	3%	26%	0%	2%	3%	100%
Healthcare Practitioner and Technical Occupations	6%	80%	0%	0%	1%	1%	100%
Healthcare Support Occupations	0%	94%	0%	0%	1%	0%	100%
Protective Service Occupations	7%	3%	3%	0%	1%	66%	100%
Food Preparation and Serving Occupations	5%	5%	2%	75%	3%	2%	100%
Building and Grounds Cleaning Occupations	9%	13%	5%	9%	11%	2%	100%
Personal Care and Service Occupations	4%	33%	18%	3%	35%	2%	100%
High-Level Sales Occupations	0%	0%	0%	0%	3%	0%	100%
Low-Level Sales Occupations	2%	1%	1%	5%	1%	0%	100%
Office and Administrative Support Occupations	5%	15%	1%	2%	3%	4%	100%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	0%	5%	100%
Construction and Extraction Occupations	1%	0%	0%	0%	0%	1%	100%
Installations, Maintenance, and Repair Occupations	1%	0%	1%	0%	37%	0%	100%
Production Occupations	0%	0%	0%	1%	7%	0%	100%
Transportation and Material Moving Occupations	0%	3%	1%	5%	6%	1%	100%
Total	8%	14%	2%	6%	6%	3%	100%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**

**Distribution of Occupation by Industry**

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Wholesale Trade	Retail Trade
Management Occupations	0%	0%	0%	14%	18%	11%	12%	2%
Business and Financial Operations Occupations	0%	0%	0%	1%	1%	5%	4%	2%
Computer and Mathematical Occupations	0%	0%	0%	0%	0%	4%	1%	0%
Architecture and Engineering Occupations	0%	0%	15%	0%	5%	19%	0%	0%
Life, Physical, and Social Science Occupations	0%	0%	0%	0%	3%	1%	0%	0%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	0%	0%	0%	0%	1%	0%	0%
Education, Training, and Library Occupations	0%	0%	0%	0%	0%	0%	1%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	0%	0%	0%	1%	0%	1%	1%
Healthcare Practitioner and Technical Occupations	0%	0%	0%	0%	0%	0%	1%	2%
Healthcare Support Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Protective Service Occupations	0%	0%	0%	0%	0%	0%	0%	1%
Food Preparation and Serving Occupations	0%	0%	0%	0%	0%	0%	0%	3%
Building and Grounds Cleaning Occupations	0%	0%	7%	2%	0%	0%	0%	1%
Personal Care and Service Occupations	0%	0%	0%	0%	0%	0%	0%	0%
High-Level Sales Occupations	0%	0%	0%	0%	8%	3%	32%	18%
Low-Level Sales Occupations	0%	0%	0%	0%	3%	0%	1%	35%
Office and Administrative Support Occupations	0%	0%	26%	4%	14%	6%	20%	19%
Farming, Fishing, and Forestry Occupations	94%	0%	0%	0%	0%	0%	1%	0%
Construction and Extraction Occupations	0%	0%	0%	72%	1%	2%	0%	1%
Installations, Maintenance, and Repair Occupations	0%	0%	25%	4%	3%	3%	2%	4%
Production Occupations	6%	0%	19%	1%	36%	42%	3%	2%
Transportation and Material Moving Occupations	0%	0%	8%	2%	7%	2%	21%	7%
Total	100%	0%	100%	100%	100%	100%	100%	100%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-**

**Distribution of Occupation by Industry**

Occupations	Transportation and Warehousing	Information	Finance and Insurance	Real Estate, Rental and Leasing	Professional, Scientific and Technical	Management of Companies and Enterprises	Administrative Support and Waste Management
Management Occupations	5%	14%	21%	19%	14%	38%	8%
Business and Financial Operations Occupations	2%	2%	18%	8%	17%	0%	6%
Computer and Mathematical Occupations	0%	7%	5%	0%	12%	0%	9%
Architecture and Engineering Occupations	1%	0%	0%	1%	7%	0%	1%
Life, Physical, and Social Science Occupations	0%	1%	0%	0%	4%	0%	0%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	2%	0%	0%	11%	0%	1%
Education, Training, and Library Occupations	0%	7%	0%	0%	0%	0%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	13%	1%	0%	8%	0%	0%
Healthcare Practitioner and Technical Occupations	0%	0%	0%	0%	4%	0%	0%
Healthcare Support Occupations	0%	0%	0%	0%	0%	0%	3%
Protective Service Occupations	0%	1%	0%	1%	0%	0%	4%
Food Preparation and Serving Occupations	0%	0%	0%	1%	0%	0%	0%
Building and Grounds Cleaning Occupations	0%	0%	1%	4%	0%	0%	38%
Personal Care and Service Occupations	3%	0%	0%	0%	1%	0%	0%
High-Level Sales Occupations	2%	13%	5%	47%	5%	0%	6%
Low-Level Sales Occupations	1%	6%	5%	0%	0%	0%	0%
Office and Administrative Support Occupations	49%	24%	44%	14%	14%	0%	18%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	0%	0%	0%
Construction and Extraction Occupations	1%	0%	0%	1%	0%	0%	2%
Installations, Maintenance, and Repair Occupations	0%	7%	0%	4%	0%	0%	1%
Production Occupations	1%	3%	0%	1%	1%	62%	1%
Transportation and Material Moving Occupations	37%	1%	0%	0%	0%	0%	2%
Total	100%	100%	100%	100%	100%	100%	100%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-**

**Distribution of Occupation by Industry**

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accommodation and Food Services	Other Services	Public Services	Total
Management Occupations	9%	7%	3%	13%	10%	15%	10%
Business and Financial Operations Occupations	2%	4%	5%	0%	0%	7%	4%
Computer and Mathematical Occupations	0%	1%	0%	0%	0%	1%	2%
Architecture and Engineering Occupations	0%	0%	0%	0%	3%	0%	3%
Life, Physical, and Social Science Occupations	0%	1%	1%	0%	0%	1%	1%
Community and Social Services Occupations	1%	8%	0%	0%	9%	8%	2%
Legal Occupations	0%	0%	0%	0%	0%	2%	1%
Education, Training, and Library Occupations	62%	4%	1%	0%	1%	1%	6%
Arts, Design, Entertainment, Sports, and Media Occupations	1%	0%	21%	0%	1%	1%	2%
Healthcare Practitioner and Technical Occupations	3%	30%	0%	0%	1%	2%	5%
Healthcare Support Occupations	0%	16%	0%	0%	1%	0%	2%
Protective Service Occupations	2%	0%	2%	0%	0%	37%	2%
Food Preparation and Serving Occupations	3%	2%	7%	67%	3%	3%	6%
Building and Grounds Cleaning Occupations	3%	3%	8%	4%	6%	2%	3%
Personal Care and Service Occupations	2%	8%	31%	2%	21%	2%	3%
High-Level Sales Occupations	0%	0%	0%	0%	4%	0%	6%
Low-Level Sales Occupations	1%	0%	2%	4%	1%	0%	6%
Office and Administrative Support Occupations	8%	15%	10%	4%	8%	15%	14%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	0%	1%	0%
Construction and Extraction Occupations	1%	0%	1%	0%	0%	2%	7%
Installations, Maintenance, and Repair Occupations	0%	0%	1%	0%	17%	0%	3%
Production Occupations	0%	0%	2%	1%	9%	0%	7%
Transportation and Material Moving Occupations	0%	1%	3%	3%	5%	2%	4%
Total	100%	100%	100%	100%	100%	100%	100%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

**Distribution of Occupation by Industry**

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Wholesale Trade	Retail Trade
Management Occupations	30%	5%	13%	11%	12%	14%	11%	4%
Business and Financial Operations Occupations	0%	5%	5%	1%	3%	5%	5%	2%
Computer and Mathematical Occupations	0%	2%	2%	0%	1%	7%	2%	2%
Architecture and Engineering Occupations	0%	0%	9%	2%	3%	14%	1%	0%
Life, Physical, and Social Science Occupations	3%	6%	2%	0%	6%	1%	0%	0%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	0%	1%	0%	0%	0%	0%	0%
Education, Training, and Library Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	0%	0%	0%	1%	1%	1%	1%
Healthcare Practitioner and Technical Occupations	0%	0%	0%	0%	0%	0%	0%	2%
Healthcare Support Occupations	0%	0%	0%	0%	0%	0%	0%	0%
Protective Service Occupations	0%	0%	0%	0%	0%	0%	0%	1%
Food Preparation and Serving Occupations	1%	0%	0%	0%	0%	0%	0%	2%
Building and Grounds Cleaning Occupations	1%	5%	2%	0%	2%	0%	0%	1%
Personal Care and Service Occupations	5%	0%	0%	0%	0%	0%	0%	0%
High-Level Sales Occupations	0%	0%	1%	1%	7%	4%	34%	19%
Low-Level Sales Occupations	2%	0%	0%	0%	1%	0%	1%	35%
Office and Administrative Support Occupations	3%	10%	22%	5%	12%	10%	18%	16%
Farming, Fishing, and Forestry Occupations	45%	0%	0%	0%	0%	0%	0%	0%
Construction and Extraction Occupations	0%	20%	10%	71%	0%	1%	1%	1%
Installations, Maintenance, and Repair Occupations	2%	9%	13%	4%	3%	3%	4%	4%
Production Occupations	1%	14%	17%	1%	41%	35%	2%	3%
Transportation and Material Moving Occupations	8%	23%	4%	3%	6%	4%	17%	8%
Total	100%	100%	100%	100%	100%	100%	100%	100%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

**Distribution of Occupation by Industry**

Occupations	Transportation and Warehousing	Information	Finance and Insurance	Real Estate, Rental and Leasing	Professional, Scientific and Technical	Management of Companies and Enterprises	Administrative Support and Waste Management
Management Occupations	6%	19%	18%	23%	15%	26%	8%
Business and Financial Operations Occupations	1%	3%	25%	6%	14%	27%	5%
Computer and Mathematical Occupations	0%	10%	8%	1%	16%	8%	2%
Architecture and Engineering Occupations	1%	4%	0%	0%	10%	1%	0%
Life, Physical, and Social Science Occupations	0%	1%	0%	0%	7%	0%	0%
Community and Social Services Occupations	0%	0%	0%	0%	0%	0%	0%
Legal Occupations	0%	1%	1%	0%	12%	3%	1%
Education, Training, and Library Occupations	0%	5%	0%	0%	0%	0%	0%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	15%	1%	0%	6%	1%	1%
Healthcare Practitioner and Technical Occupations	0%	0%	1%	0%	2%	2%	2%
Healthcare Support Occupations	0%	0%	0%	0%	0%	0%	1%
Protective Service Occupations	1%	1%	0%	1%	0%	0%	8%
Food Preparation and Serving Occupations	0%	0%	0%	0%	0%	0%	0%
Building and Grounds Cleaning Occupations	1%	1%	0%	8%	0%	0%	37%
Personal Care and Service Occupations	3%	0%	0%	1%	0%	1%	0%
High-Level Sales Occupations	1%	8%	12%	35%	2%	3%	3%
Low-Level Sales Occupations	1%	3%	4%	3%	1%	0%	4%
Office and Administrative Support Occupations	33%	17%	28%	13%	13%	17%	15%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	0%	0%	0%
Construction and Extraction Occupations	1%	0%	0%	1%	0%	2%	2%
Installations, Maintenance, and Repair Occupations	4%	9%	0%	4%	0%	3%	2%
Production Occupations	1%	3%	0%	0%	1%	3%	3%
Transportation and Material Moving Occupations	45%	2%	0%	2%	0%	4%	6%
Total	100%	100%	100%	100%	100%	100%	100%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

**Distribution of Occupation by Industry**

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accommodation and Food Services	Other Services	Public Services	Total
Management Occupations	10%	7%	6%	13%	7%	11%	11%
Business and Financial Operations Occupations	2%	2%	2%	1%	2%	8%	5%
Computer and Mathematical Occupations	2%	1%	0%	0%	1%	2%	3%
Architecture and Engineering Occupations	0%	0%	0%	0%	0%	2%	3%
Life, Physical, and Social Science Occupations	3%	3%	0%	0%	0%	2%	2%
Community and Social Services Occupations	2%	6%	0%	0%	8%	8%	2%
Legal Occupations	0%	0%	0%	0%	0%	5%	1%
Education, Training, and Library Occupations	54%	4%	3%	0%	1%	1%	6%
Arts, Design, Entertainment, Sports, and Media Occupations	2%	0%	25%	0%	1%	1%	2%
Healthcare Practitioner and Technical Occupations	3%	35%	0%	0%	1%	2%	6%
Healthcare Support Occupations	1%	14%	1%	0%	2%	1%	2%
Protective Service Occupations	1%	0%	5%	1%	0%	31%	2%
Food Preparation and Serving Occupations	3%	2%	6%	64%	1%	1%	5%
Building and Grounds Cleaning Occupations	5%	3%	8%	5%	8%	2%	3%
Personal Care and Service Occupations	1%	7%	22%	1%	26%	1%	3%
High-Level Sales Occupations	0%	0%	3%	0%	4%	0%	6%
Low-Level Sales Occupations	1%	0%	3%	6%	2%	0%	5%
Office and Administrative Support Occupations	9%	13%	8%	5%	11%	20%	14%
Farming, Fishing, and Forestry Occupations	0%	0%	0%	0%	0%	0%	0%
Construction and Extraction Occupations	0%	0%	0%	0%	0%	1%	6%
Installations, Maintenance, and Repair Occupations	1%	0%	2%	0%	14%	2%	3%
Production Occupations	0%	1%	1%	1%	7%	1%	5%
Transportation and Material Moving Occupations	0%	1%	2%	2%	4%	1%	5%
Total	100%	100%	100%	100%	100%	100%	100%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

Occupations	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Management Occupations	6,826	43,398	69,554	218,637	338,414
Business and Financial Operations Occupations	968	14,860	32,855	113,705	162,387
Computer and Mathematical Occupations	607	5,517	18,730	84,729	109,581
Architecture and Engineering Occupations	707	6,159	18,035	55,835	80,735
Life, Physical, and Social Science Occupations	208	1,594	4,406	49,015	55,223
Community and Social Services Occupations	1,560	5,235	9,372	40,509	56,674
Legal Occupations	126	2,052	5,120	37,545	44,842
Education, Training, and Library Occupations	2,737	10,833	22,930	157,147	193,647
Arts, Design, Entertainment, Sports, and Media Occupations	1,649	5,025	13,683	44,785	65,141
Healthcare Practitioner and Technical Occupations	950	11,277	59,647	118,527	190,400
Healthcare Support Occupations	7,422	28,851	28,266	7,312	71,850
Protective Service Occupations	3,660	15,075	23,918	19,695	62,347
Food Preparation and Serving Occupations	39,032	57,997	42,147	15,520	154,696
Building and Grounds Cleaning Occupations	29,196	47,411	24,871	8,163	109,641
Personal Care and Service Occupations	10,668	33,488	32,163	17,566	93,885
High-Level Sales Occupations	7,057	38,467	52,335	91,871	189,730
Low-Level Sales Occupations	26,970	51,179	43,427	38,938	160,513
Office and Administrative Support Occupations	24,970	144,937	165,214	91,406	426,526
Farming, Fishing, and Forestry Occupations	2,090	2,198	673	731	5,691
Construction and Extraction Occupations	28,183	89,622	41,271	16,082	175,158
Installations, Maintenance, and Repair Occupations	8,351	43,555	24,099	7,768	83,772
Production Occupations	37,399	81,852	38,264	15,326	172,840
Transportation and Material Moving Occupations	28,773	69,224	31,873	12,849	142,718
Total	270,103	809,801	802,848	1,263,655	3,146,406



**Employed (16+) in Massachusetts, ACS 2005-2006 Average**  
**Distribution of Occupation by Educational Attainment**

Occupations	<12 or 12, No H.S. Diploma	H.S. Diploma/ GED	Some College	Bachelor Degree or More	Total
Management Occupations	3%	5%	9%	17%	11%
Business and Financial Operations Occupations	0%	2%	4%	9%	5%
Computer and Mathematical Occupations	0%	1%	2%	7%	3%
Architecture and Engineering Occupations	0%	1%	2%	4%	3%
Life, Physical, and Social Science Occupations	0%	0%	1%	4%	2%
Community and Social Services Occupations	1%	1%	1%	3%	2%
Legal Occupations	0%	0%	1%	3%	1%
Education, Training, and Library Occupations	1%	1%	3%	12%	6%
Arts, Design, Entertainment, Sports, and Media Occupations	1%	1%	2%	4%	2%
Healthcare Practitioner and Technical Occupations	0%	1%	7%	9%	6%
Healthcare Support Occupations	3%	4%	4%	1%	2%
Protective Service Occupations	1%	2%	3%	2%	2%
Food Preparation and Serving Occupations	14%	7%	5%	1%	5%
Building and Grounds Cleaning Occupations	11%	6%	3%	1%	3%
Personal Care and Service Occupations	4%	4%	4%	1%	3%
High-Level Sales Occupations	3%	5%	7%	7%	6%
Low-Level Sales Occupations	10%	6%	5%	3%	5%
Office and Administrative Support Occupations	9%	18%	21%	7%	14%
Farming, Fishing, and Forestry Occupations	1%	0%	0%	0%	0%
Construction and Extraction Occupations	10%	11%	5%	1%	6%
Installations, Maintenance, and Repair Occupations	3%	5%	3%	1%	3%
Production Occupations	14%	10%	5%	1%	5%
Transportation and Material Moving Occupations	11%	9%	4%	1%	5%
Total	100%	100%	100%	100%	100%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**  
**Distribution of Educational Attainment by Occupation**

Occupations	<12 or 12, No H.S. Diploma	H.S. Diploma/ GED	Some College	Bachelor Degree or More	Total
Management Occupations	2%	13%	21%	65%	100%
Business and Financial Operations Occupations	1%	9%	20%	70%	100%
Computer and Mathematical Occupations	1%	5%	17%	77%	100%
Architecture and Engineering Occupations	1%	8%	22%	69%	100%
Life, Physical, and Social Science Occupations	0%	3%	8%	89%	100%
Community and Social Services Occupations	3%	9%	17%	71%	100%
Legal Occupations	0%	5%	11%	84%	100%
Education, Training, and Library Occupations	1%	6%	12%	81%	100%
Arts, Design, Entertainment, Sports, and Media Occupations	3%	8%	21%	69%	100%
Healthcare Practitioner and Technical Occupations	0%	6%	31%	62%	100%
Healthcare Support Occupations	10%	40%	39%	10%	100%
Protective Service Occupations	6%	24%	38%	32%	100%
Food Preparation and Serving Occupations	25%	37%	27%	10%	100%
Building and Grounds Cleaning Occupations	27%	43%	23%	7%	100%
Personal Care and Service Occupations	11%	36%	34%	19%	100%
High-Level Sales Occupations	4%	20%	28%	48%	100%
Low-Level Sales Occupations	17%	32%	27%	24%	100%
Office and Administrative Support Occupations	6%	34%	39%	21%	100%
Farming, Fishing, and Forestry Occupations	37%	39%	12%	13%	100%
Construction and Extraction Occupations	16%	51%	24%	9%	100%
Installations, Maintenance, and Repair Occupations	10%	52%	29%	9%	100%
Production Occupations	22%	47%	22%	9%	100%
Transportation and Material Moving Occupations	20%	49%	22%	9%	100%
Total	9%	26%	26%	40%	100%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**

Occupations	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Management Occupations	661	3,739	4,083	11,336	19,819
Business and Financial Operations Occupations	36	474	2,989	4,754	8,252
Computer and Mathematical Occupations	172	216	928	2,626	3,941
Architecture and Engineering Occupations	47	704	1,451	3,663	5,865
Life, Physical, and Social Science Occupations	0	43	113	1,164	1,319
Community and Social Services Occupations	30	258	1,063	2,513	3,863
Legal Occupations	0	186	291	1,272	1,748
Education, Training, and Library Occupations	38	945	1,606	8,913	11,501
Arts, Design, Entertainment, Sports, and Media Occupations	80	265	791	1,951	3,087
Healthcare Practitioner and Technical Occupations	31	613	3,305	6,148	10,096
Healthcare Support Occupations	614	1,124	1,998	778	4,513
Protective Service Occupations	175	901	1,380	1,206	3,662
Food Preparation and Serving Occupations	2,499	4,433	3,187	1,092	11,210
Building and Grounds Cleaning Occupations	1,740	2,297	1,215	577	5,827
Personal Care and Service Occupations	968	2,125	2,518	899	6,510
High-Level Sales Occupations	453	2,782	4,503	4,833	12,570
Low-Level Sales Occupations	2,124	3,870	2,627	2,441	11,062
Office and Administrative Support Occupations	1,717	9,447	11,657	4,899	27,719
Farming, Fishing, and Forestry Occupations	100	583	129	47	859
Construction and Extraction Occupations	2,493	6,110	3,017	1,603	13,222
Installations, Maintenance, and Repair Occupations	681	2,735	957	827	5,199
Production Occupations	2,749	7,461	2,961	922	14,092
Transportation and Material Moving Occupations	1,360	4,594	1,695	685	8,333
Total	18,764	55,898	54,458	65,144	194,263

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**  
**Distribution of Occupation by Educational Attainment**

Occupations	<12 or 12, No H.S. Diploma	H.S. Diploma/ GED	Some College	Bachelor Degree or More	Total
Management Occupations	4%	7%	7%	17%	10%
Business and Financial Operations Occupations	0%	1%	5%	7%	4%
Computer and Mathematical Occupations	1%	0%	2%	4%	2%
Architecture and Engineering Occupations	0%	1%	3%	6%	3%
Life, Physical, and Social Science Occupations	0%	0%	0%	2%	1%
Community and Social Services Occupations	0%	0%	2%	4%	2%
Legal Occupations	0%	0%	1%	2%	1%
Education, Training, and Library Occupations	0%	2%	3%	14%	6%
Arts, Design, Entertainment, Sports, and Media Occupations	0%	0%	1%	3%	2%
Healthcare Practitioner and Technical Occupations	0%	1%	6%	9%	5%
Healthcare Support Occupations	3%	2%	4%	1%	2%
Protective Service Occupations	1%	2%	3%	2%	2%
Food Preparation and Serving Occupations	13%	8%	6%	2%	6%
Building and Grounds Cleaning Occupations	9%	4%	2%	1%	3%
Personal Care and Service Occupations	5%	4%	5%	1%	3%
High-Level Sales Occupations	2%	5%	8%	7%	6%
Low-Level Sales Occupations	11%	7%	5%	4%	6%
Office and Administrative Support Occupations	9%	17%	21%	8%	14%
Farming, Fishing, and Forestry Occupations	1%	1%	0%	0%	0%
Construction and Extraction Occupations	13%	11%	6%	2%	7%
Installations, Maintenance, and Repair Occupations	4%	5%	2%	1%	3%
Production Occupations	15%	13%	5%	1%	7%
Transportation and Material Moving Occupations	7%	8%	3%	1%	4%
Total	100%	100%	100%	100%	100%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**  
**Distribution of Educational Attainment by Occupation**

Occupations	<12 or 12, No H.S. Diploma	H.S. Diploma/ GED	Some College	Bachelor Degree or More	Total
Management Occupations	3%	19%	21%	57%	100%
Business and Financial Operations Occupations	0%	6%	36%	58%	100%
Computer and Mathematical Occupations	4%	5%	24%	67%	100%
Architecture and Engineering Occupations	1%	12%	25%	62%	100%
Life, Physical, and Social Science Occupations	0%	3%	9%	88%	100%
Community and Social Services Occupations	1%	7%	28%	65%	100%
Legal Occupations	0%	11%	17%	73%	100%
Education, Training, and Library Occupations	0%	8%	14%	77%	100%
Arts, Design, Entertainment, Sports, and Media Occupations	3%	9%	26%	63%	100%
Healthcare Practitioner and Technical Occupations	0%	6%	33%	61%	100%
Healthcare Support Occupations	14%	25%	44%	17%	100%
Protective Service Occupations	5%	25%	38%	33%	100%
Food Preparation and Serving Occupations	22%	40%	28%	10%	100%
Building and Grounds Cleaning Occupations	30%	39%	21%	10%	100%
Personal Care and Service Occupations	15%	33%	39%	14%	100%
High-Level Sales Occupations	4%	22%	36%	38%	100%
Low-Level Sales Occupations	19%	35%	24%	22%	100%
Office and Administrative Support Occupations	6%	34%	42%	18%	100%
Farming, Fishing, and Forestry Occupations	12%	68%	15%	5%	100%
Construction and Extraction Occupations	19%	46%	23%	12%	100%
Installations, Maintenance, and Repair Occupations	13%	53%	18%	16%	100%
Production Occupations	20%	53%	21%	7%	100%
Transportation and Material Moving Occupations	16%	55%	20%	8%	100%
Total	10%	29%	28%	34%	100%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Agri,Forestry, Fishing, and Hunting	2,461	3,710	1,935	2,073	10,178
Mining	428	560	320	305	1,612
Utilities	943	6,938	6,722	6,127	20,729
Construction	30,218	105,087	52,648	32,671	220,623
Non-Durable Manufacturing	18,567	37,973	25,692	32,825	115,056
Durable Manufacturing	21,652	67,577	57,953	85,409	232,590
Wholesale Trade	8,417	33,090	26,885	35,127	103,519
Retail Trade	44,338	119,678	99,740	78,809	342,564
Transportation and Warehousing	9,208	41,679	30,759	18,705	100,351
Information	3,936	15,150	21,713	50,518	91,315
Finance and Insurance	3,301	26,735	50,147	115,469	195,651
Real Estate, Rental and Leasing	2,981	16,087	19,815	25,573	64,454
Professional, Scientific and Technical	2,185	21,858	43,104	195,970	263,117
Management of Companies and Enterprises	0	964	1,192	3,107	5,262
Administrative Support and Waste Management	16,511	35,642	31,983	27,457	111,592
Educational	8,674	34,019	47,466	214,291	304,448
Healthcare and Social	25,745	88,589	146,502	199,164	460,000
Arts, Entertainment and Recreation	5,757	9,872	13,581	22,078	51,288
Accommodation and Food Services	43,422	66,141	51,625	28,559	189,746
Other Services	18,689	51,488	36,789	32,119	139,084
Public Services	2,675	26,970	36,282	57,304	123,230
Total	270,103	809,801	802,848	1,263,655	3,146,406

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**  
**Distribution of Industry by Educational Attainment**

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Agri,Forestry, Fishing, and Hunting	1%	0%	0%	0%	0%
Mining	0%	0%	0%	0%	0%
Utilities	0%	1%	1%	0%	1%
Construction	11%	13%	7%	3%	7%
Non-Durable Manufacturing	7%	5%	3%	3%	4%
Durable Manufacturing	8%	8%	7%	7%	7%
Wholesale Trade	3%	4%	3%	3%	3%
Retail Trade	16%	15%	12%	6%	11%
Transportation and Warehousing	3%	5%	4%	1%	3%
Information	1%	2%	3%	4%	3%
Finanace and Insurance	1%	3%	6%	9%	6%
Real Estate, Rental and Leasing	1%	2%	2%	2%	2%
Professional, Scientific and Technical	1%	3%	5%	16%	8%
Management of Companies and Enterprises	0%	0%	0%	0%	0%
Administrative Support and Waste Management	6%	4%	4%	2%	4%
Educational	3%	4%	6%	17%	10%
Healthcare and Social	10%	11%	18%	16%	15%
Arts, Entertainment and Recreation	2%	1%	2%	2%	2%
Accomodation and Food Services	16%	8%	6%	2%	6%
Other Services	7%	6%	5%	3%	4%
Public Services	1%	3%	5%	5%	4%
Total	100%	100%	100%	100%	100%

**Employed (16+) in Massachusetts, ACS 2005-2006 Average**  
**Distribution of Educational Attainment by Industry**

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Agri,Forestry, Fishing, and Hunting	24%	36%	19%	20%	100%
Mining	27%	35%	20%	19%	100%
Utilities	5%	33%	32%	30%	100%
Construction	14%	48%	24%	15%	100%
Non-Durable Manufacturing	16%	33%	22%	29%	100%
Durable Manufacturing	9%	29%	25%	37%	100%
Wholesale Trade	8%	32%	26%	34%	100%
Retail Trade	13%	35%	29%	23%	100%
Transportation and Warehousing	9%	42%	31%	19%	100%
Information	4%	17%	24%	55%	100%
Finanace and Insurance	2%	14%	26%	59%	100%
Real Estate, Rental and Leasing	5%	25%	31%	40%	100%
Professional, Scientific and Technical	1%	8%	16%	74%	100%
Management of Companies and Enterprises	0%	18%	23%	59%	100%
Administrative Support and Waste Management	15%	32%	29%	25%	100%
Educational	3%	11%	16%	70%	100%
Healthcare and Social	6%	19%	32%	43%	100%
Arts, Entertainment and Recreation	11%	19%	26%	43%	100%
Accomodation and Food Services	23%	35%	27%	15%	100%
Other Services	13%	37%	26%	23%	100%
Public Services	2%	22%	29%	47%	100%
Total	9%	26%	26%	40%	100%



**Employed (16+) in Northshore Area of Massachushtts, ACS 2005-2006 Average**

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Agri,Forestry, Fishing, and Hunting	54	630	33	47	763
Mining	0	0	0	0	0
Utilities	0	216	246	29	491
Construction	2,543	8,017	3,579	2,419	16,557
Non-Durable Manufacturing	877	2,002	1,989	1,629	6,496
Durable Manufacturing	1,894	7,573	5,217	6,716	21,399
Wholesale Trade	598	3,073	2,263	1,645	7,578
Retail Trade	3,813	9,198	7,812	5,298	26,120
Transportation and Warehousing	461	2,803	1,198	757	5,218
Information	99	824	1,070	2,221	4,213
Finanace and Insurance	118	906	3,208	3,542	7,774
Real Estate, Rental and Leasing	215	764	1,429	1,590	3,998
Professional, Scientic and Technical	204	1,181	2,402	7,347	11,133
Management of Companies and Enterprises	0	127	0	29	156
Administrative Support and Waste Management	718	1,101	1,789	1,694	5,301
Educational	239	1,994	2,806	11,071	16,109
Healthcare and Social	1,973	4,979	9,857	10,269	27,078
Arts, Entertainment and Recreation	513	783	1,252	1,239	3,787
Accomodation and Food Services	3,229	4,276	3,081	1,893	12,478
Other Services	1,134	4,220	2,975	2,667	10,996
Public Services	88	1,234	2,254	3,046	6,622
Total	18,764	55,898	54,458	65,144	194,263

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**  
**Distribution of Industry by Educational Attainment**

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Agri, Forestry, Fishing, and Hunting	0%	1%	0%	0%	0%
Mining	0%	0%	0%	0%	0%
Utilities	0%	0%	0%	0%	0%
Construction	14%	14%	7%	4%	9%
Non-Durable Manufacturing	5%	4%	4%	2%	3%
Durable Manufacturing	10%	14%	10%	10%	11%
Wholesale Trade	3%	5%	4%	3%	4%
Retail Trade	20%	16%	14%	8%	13%
Transportation and Warehousing	2%	5%	2%	1%	3%
Information	1%	1%	2%	3%	2%
Finance and Insurance	1%	2%	6%	5%	4%
Real Estate, Rental and Leasing	1%	1%	3%	2%	2%
Professional, Scientific and Technical	1%	2%	4%	11%	6%
Management of Companies and Enterprises	0%	0%	0%	0%	0%
Administrative Support and Waste Management	4%	2%	3%	3%	3%
Educational	1%	4%	5%	17%	8%
Healthcare and Social	11%	9%	18%	16%	14%
Arts, Entertainment and Recreation	3%	1%	2%	2%	2%
Accommodation and Food Services	17%	8%	6%	3%	6%
Other Services	6%	8%	5%	4%	6%
Public Services	0%	2%	4%	5%	3%
Total	100%	100%	100%	100%	100%

**Employed (16+) in Northshore Area of Massachusetts, ACS 2005-2006 Average**  
**Distribution of Educational Attainment by Industry**

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/G ED	Some College	Bachelor Degree or More	Total
Agri, Forestry, Fishing, and Hunting	7%	83%	4%	6%	100%
Mining	0%	0%	0%	0%	0%
Utilities	0%	44%	50%	6%	100%
Construction	15%	48%	22%	15%	100%
Non-Durable Manufacturing	13%	31%	31%	25%	100%
Durable Manufacturing	9%	35%	24%	31%	100%
Wholesale Trade	8%	41%	30%	22%	100%
Retail Trade	15%	35%	30%	20%	100%
Transportation and Warehousing	9%	54%	23%	14%	100%
Information	2%	20%	25%	53%	100%
Finance and Insurance	2%	12%	41%	46%	100%
Real Estate, Rental and Leasing	5%	19%	36%	40%	100%
Professional, Scientific and Technical	2%	11%	22%	66%	100%
Management of Companies and Enterprises	0%	81%	0%	19%	100%
Administrative Support and Waste Management	14%	21%	34%	32%	100%
Educational	1%	12%	17%	69%	100%
Healthcare and Social	7%	18%	36%	38%	100%
Arts, Entertainment and Recreation	14%	21%	33%	33%	100%
Accommodation and Food Services	26%	34%	25%	15%	100%
Other Services	10%	38%	27%	24%	100%
Public Services	1%	19%	34%	46%	100%
Total	10%	29%	28%	34%	100%