Labor Market Developments in the Berkshire County Workforce Area

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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 Berkshire County region as measured by the total resident population, the working-age

population and the labor force.[1] Selected comparisons are presented between the Berkshire County area 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 Berkshire County 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 Berkshire County area, and the journey to work of Berkshire County area residents to work outside the Berkshire County 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 Berkshire County 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

[1] 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 Berkshire County area, Massachusetts, the New England region, and the nation are provided in Appendix A.

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 area. Estimates presented in this section for the Berkshire County area are based upon the responses from nearly 1,200 households and 2,650 individuals.

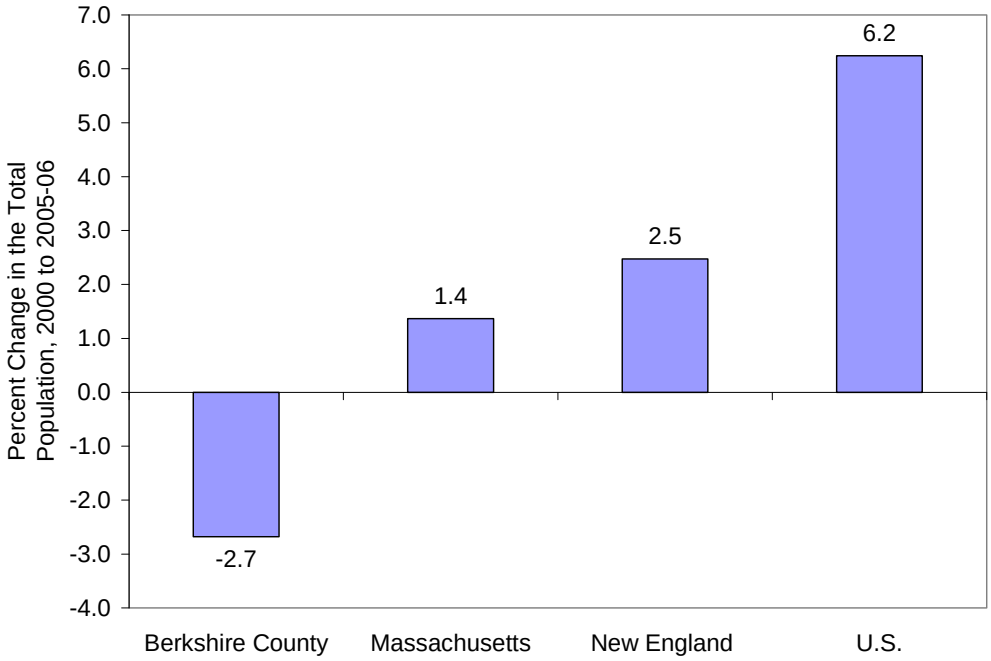
All estimates in this section are confined to the civilian non-institutional household population. Members of the armed forces are excluded from all analysis in this section. Also excluded are residents of institutional facilities such as nursing homes, correctional institutions, and juvenile institutions 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 Berkshire County Area, 2000 to 2005-06

At mid-decade, the Berkshire County area was home to 111,331 individuals, down from 114,396 in 2000, representing a decrease of -3,065 or 2.7 percent. In contrast, the population in the entire state of Massachusetts, the New England region, and the nation increased during this six year period, by 1.4 percent in Massachusetts, 2.5 percent in New England, and 6.2 percent in the nation. Due to the smaller sample sizes, we are not able to make an accurate assessment of the contribution of immigration to the population of the Berkshire County area. However, the important contributions of new immigrants to the population growth of the state, the New England region and the nation and an increase in the total immigrant population in the Berkshire County area despite a decline in the total population, provides sufficient evidence to infer that immigration may have prevented a further decline in the area's population. New immigrants have

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.

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.

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

	Mass.	New England	U.S.
Total Population, 2000	6,127,254	13,450,470	272,837,866
Total Population, 2005-06	6,211,127	13,783,286	289,865,830
Absolute change in the total population, 2000 to 2005-06	83,873	332,816	17,027,964
New immigrants arrived between 2000 and 2005-06	255,711	439,955	9,124,927
Share of population growth from new immigrants	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.

An examination of the Berkshire County region's population by demographic characteristics shows that the region's population decline did not occur evenly across all the different race-ethnic groups and was instead concentrated exclusively among White non Hispanic residents, who decreased in number by almost six percent between 2000 and 2005-06. In contrast, during this six year period of time the region witnessed substantial increases

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

	2000	2005-06	Absolute Change	Relative Change
Total	114,396	111,331	-3,065	-2.7%
Gender				
Male	53,980	52,321	-1,659	-3.1%
Female	60,416	59,010	-1,406	-2.3%
Nativity Status				
Foreign born	3,690	4,339	649	17.6%
Native born	110,706	106,992	-3,714	-3.4%
Race-Ethnicity				
White, non-Hispanic	108,658	102,614	-6,044	-5.6%
Black, non-Hispanic	1,887	2,422	535	28.4%
Hispanic	1,722	2,784	1,062	61.7%
Other, non-Hispanic	2,129	3,511	1,382	64.9%

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.

in the Black, Hispanic and non Hispanic populations (by 28.4 percent, 61.7 percent and 64.9 percent, respectively). Furthermore, Berkshire County's population decline also took place solely among native born residents of the region, who declined in number by 3.4 percent between 2000 and 2005-06, while the number of foreign born residents in the area increased markedly by 17.6 percent. Population declines occurred among males and females albeit at somewhat different rates. The region's female population decreased by 2.3 percent over the six year time period, while the male population declined at a marginally faster rate of 3.1 percent.

Much like the rest of the state and the nation, population growth in the Berkshire County area occurred among the older population. Between 2000 and 2005-06 the number of residents in the Berkshire County region under the age of 45 years declined by 5,855, or nine percent. The region had fewer residents under 16 (-19.1 percent), between 25 and 34 (-8.1 percent), and between 35 and 44 (-10.7 percent). The only age group

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

	2000	2005-06	Absolute Change	Relative Change
Total	114,396	111,331	-3,065	-2.7%
Under 16	23,533	19,036	-4,497	-19.1%
16-24	10,462	12,084	1,622	15.5%
25-34	13,513	12,415	-1,098	-8.1%
35-44	17,668	15,786	-1,882	-10.7%
45-54	17,311	18,185	874	5.0%
55-64	11,376	13,974	2,598	22.8%
65+	20,533	19,853	-680	-3.3%
Under 45	65,176	59,321	-5,855	-9.0%
45 and older	49,220	52,012	2,792	5.7%
55 and older	31,909	33,827	1,918	6.0%

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.

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.[2] The number of 16- to 24-year old residents increased by more than 15 percent in the Berkshire County area.

Over the same six year period there were nearly 2,792 more residents aged 45 years and older, representing a relative increase of 5.7 percent. 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 Berkshire County area increased by more

[2] 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.

than a fifth, from about 11,400 in 2000 to about 14,000 in 2005-06. 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 Berkshire County area residents who were 55 years or older increased by over 1,918 over the six year time period or by six percent.

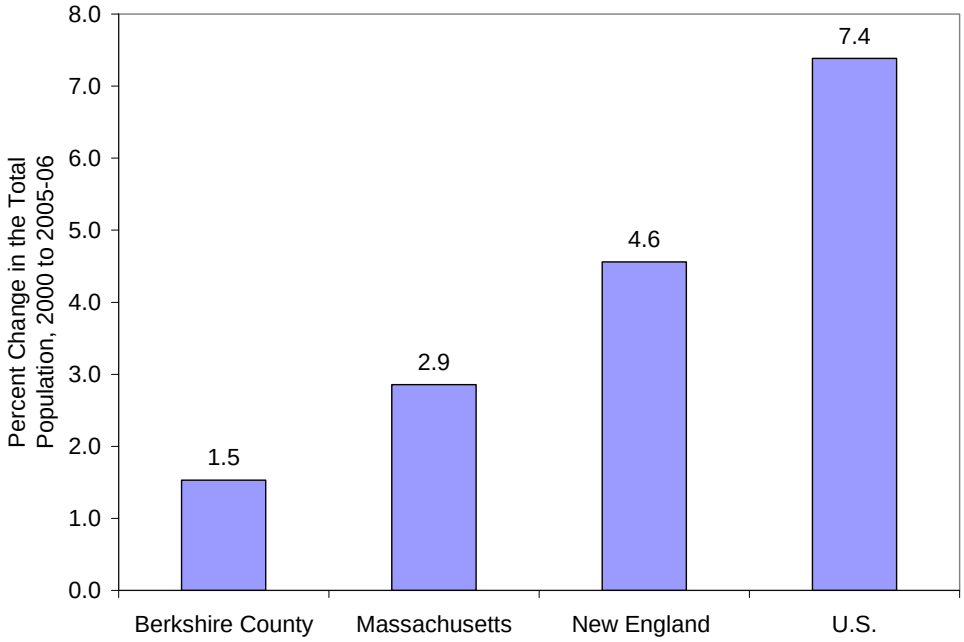
While the rate of population growth has slowed down in the nation, the New England region and the state of Massachusetts, the Berkshire County region has not followed this pattern and has instead experienced a declining population. There were wide variations in the population trends in Berkshire County 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 a (smaller absolute) increase in the number of Black, Hispanic, other non-Hispanic, foreign-born, and older residents.

Trends in the Working-Age Population of the Berkshire County 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 92,255 working age residents in the Berkshire County area during 2005-06. This is up from 90,863 in 2000 and represents an increase of just 1,392 working-age residents, or almost two percent over the six year period. Thus, while the region's total population fell during this period of time, its working-age population grew. Underlying this difference in growth rates was the decline in the region's under 16-year old population. As noted in the previous section, the Berkshire County communities saw almost a 20 percent decline in the number of residents under the age of 16 between 2000 and 2005-06.

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.

When compared to the state of Massachusetts, the New England region, and the nation, the Berkshire County area had a below average rate of growth of its working age population over the six year period between 2000 and 2005-06. Statewide, the working-age population increased by nearly three percent, a rate of increase that was nearly double the growth rate in the Berkshire County area. The region and the nation did considerably better in adding working-age residents than the Berkshire County 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 six years.

Just as trends in Berkshire County's total population between 2000 and 2005-06 varied sharply by gender, race-ethnicity, and nativity status, so did trends in the region's working age population. The female working-age population increased by 2.3 percent, more than three times as much as the male working age population, which only increased by 0.7 percent. The increase in the region's female working-age population accounted for

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

	2000	2005-06	Absolute Change	Relative Change
Total	90,863	92,255	1,392	1.5%
Gender				
Male	42,264	42,541	277	0.7%
Female	48,599	49,714	1,115	2.3%
Nativity Status				
Foreign born	3,497	4,189	692	19.8%
Native born	87,366	88,066	700	0.8%
Race-Ethnicity				
White, non-Hispanic	87,142	86,043	-1,099	-1.3%
Black, non-Hispanic	1,157	1,891	734	63.4%
Hispanic	1,254	2,110	856	68.3%
Other, non-Hispanic	1,310	2,211	901	68.8%

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.

80 percent of the 1,392 additional working-age residents of the Berkshire County communities and by 2005-06 females accounted for just over half of the working age population in the region (54 percent).

Trends of the working-age population of the Berkshire County area varied widely by race-ethnicity. Between 2000 and 2005-06, the White non Hispanic working-age population declined by 1,099 individuals, or 1.3 percent. In contrast, during this same six year period, the Black, Hispanic and other non-Hispanic working-age populations in Berkshire County each increased by more than 60 percent (by 734 residents, 856 residents and 901 residents, respectively).

Between 2000 and 2005-06, the immigrant working-age population in the area also increased markedly, by almost 20 percent. During the same time period the region's native born population also increased, although at a significantly slower rate (less than one percent).

As noted in the previous section, even with 2005 and 2006 combined ACS data files, the sample size of new immigrants is not sufficient to obtain reliable estimates of the new immigrant population in the area. However, one could make inferences about the reliance of the Berkshire County region on immigrants to increase its working-age population from the sharp increase in its total immigrant population and from the reliance of the state on new immigrants to grow its working-age population. We have defined new immigrants as those foreign-born individuals who entered the United States at any time between 2000 and 2005-06. Immigrants played an important role in the growth of the

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

	Mass.	New England	U.S.
Total working-age population, 2000	4,788,971	10,471,904	208,782,718
Total working-age population, 2005-06	4,925,682	10,949,262	224,204,853
Absolute change in the working-age population, 2000 to 2005-06	136,711	477,358	15,422,135
New working-age immigrants arrived between 2000 and 2005-06	210,010	354,237	7,293,453
Share of working-age population growth from new immigrants	153.60%	74.20%	47.30%

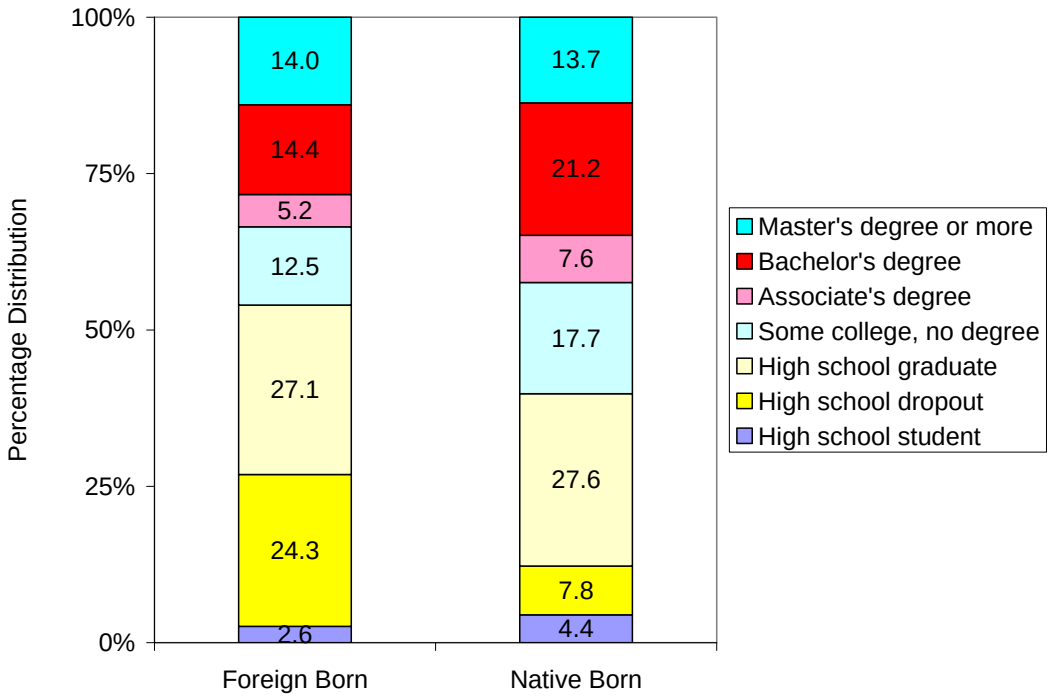
Sources: 2000 Decennial Census Public Use Microdata Samples (PUMS) data files and 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

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 six 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.

What are the educational traits of the immigrant working age population and how do they differ from that of the native born population? Ideally this question would be answered with a comparison of the educational characteristics of working-age immigrants who reside in Berkshire County in comparison to their native born counterparts. However, it was determined that it would be more accurate and helpful to do so by analyzing the educational attainment of the foreign and native born residents of the state of Massachusetts as a whole because of the smaller ACS sample size of working age immigrants who reside in the Berkshire County area.

In the state of Massachusetts as a whole, immigrant residents are considerably more likely to have dropped out of high school. Nearly one quarter of immigrant residents of working age were high school dropouts (24.3 percent), more than three times as many as their native born counterparts (7.8 percent). Both groups of working-age

Chart 3:
Percentage Distribution of the Working-Age Foreign-Born and Native-Born Residents of Massachusetts 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.

residents had about the same share of high school graduates (27.1 percent of foreign born working age residents and 27.6 percent of native born working age residents). However, postsecondary education was considerably more common among native born residents than among their foreign born counterparts. Over 60 percent of native born working age residents of Massachusetts had completed some postsecondary education or earned a post secondary degree compared to only 46 percent of their foreign born counterparts. Considerably large differences between the two groups were evident in the share of those who had completed some post secondary education without earning a post secondary degree (only 13 percent of foreign born residents versus 18 percent of native born residents) and the share of those who had earned a bachelor's degree (only 14 percent of foreign born residents versus 21 percent of native born residents). Native born residents were also more likely than immigrant residents of Massachusetts to have earned an Associate's degree, but the difference was not as large (eight percent versus five percent, respectively). In contrast, the share of Master's degree or higher degree holders among native-born residents was marginally smaller than the share among immigrant residents (13.7 percent versus 14 percent).

These differences in the educational attainment of immigrant and native-born residents in Massachusetts are not unique to the state. Similarly large differences exist between the educational attainment of the native born and immigrant populations in the New England region and the nation. The educational deficits are also similarly severe among *new* immigrants in Massachusetts, as well as in the nation. These educational deficits of immigrant residents of the state of Massachusetts 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 in the state of Massachusetts 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 also 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 all working-age residents of the Berkshire County area reveals considerable 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 population, a trend that is seen in the state as well as the nation. Although the immigrant population residing in the Berkshire County area has increased during the last six years, the overwhelming majority of the working-age population of the area (95 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 Berkshire County region declined by 3,457 individuals, representing a 27.5 percent decline. Although there was also a small decrease in the number of high school graduates (-2.5 percent), this level of educational attainment is still the most commonly held among the working age population in the Berkshire County area: in 2005-06, almost 29,200 working aged adults were high school graduates (almost a third of the working age population). At the post secondary level there was a small increase in the number of working-age residents who had completed some college but had not earned a degree (6.1 percent). This group may consist of those who earned a postsecondary certificate or those who may have attended a college but failed to graduate with a degree. There was also a significant increase of 27 percent in the number of working age residents of Berkshire County with an Associate's degree. The number of residents with a bachelor's degree also increased by nine percent, up from 12,600 in 2000 to 13,700 in 2006-06. However, the single largest absolute increase occurred among working-age residents with a Master's degree or higher level of education. The number of working age residents in the Berkshire County area with a post-baccalaureate degree increased by almost 1,800 or more than one-fifth (22 percent) and in 2005-06 made up 11 percent of the working aged population in the region.

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

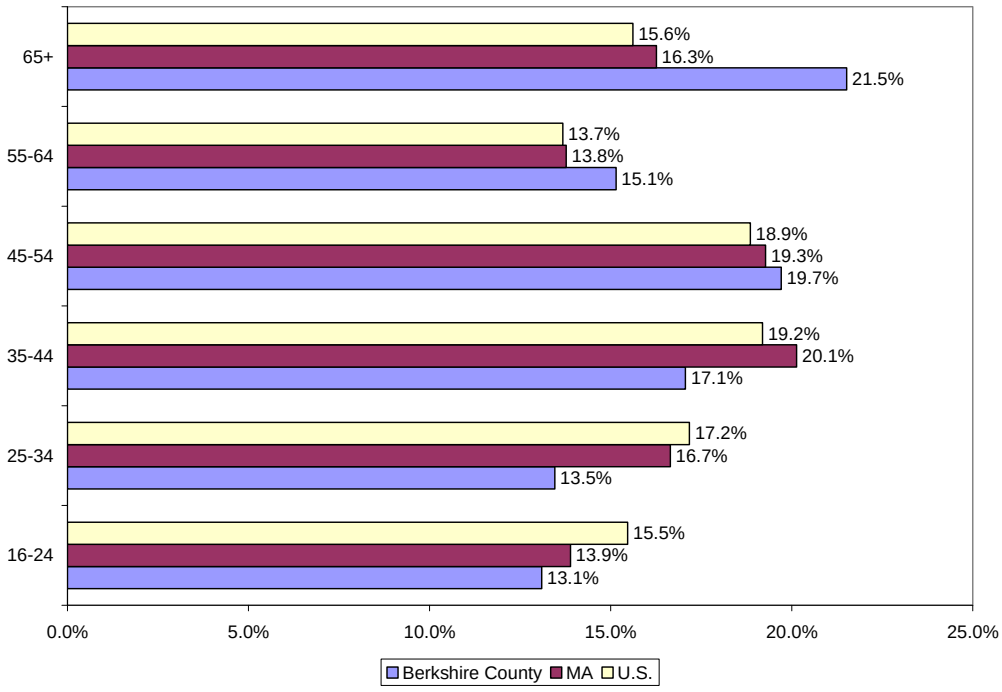
Educational Attainment	2000	2005-06	Absolute Change	Relative Change
Berkshire county area				
High school dropout	12,583	9,126	-3,457	-27.5%
High school graduate	29,937	29,182	-755	-2.5%
Some college, no degree	17,112	18,164	1,052	6.1%
Associate's degree	6,390	8,117	1,727	27.0%
Bachelor's degree	12,578	13,704	1,126	9.0%
Master's degree or more	8,142	9,940	1,798	22.1%
Massachusetts				
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.

There were some broad similarities in the educational trends among the working-age residents of the entire state of Massachusetts to those of the Berkshire County area, although the magnitudes of these changes were different. As in Berkshire County, the state saw a decline in the number of working aged adults who were high school dropouts, although this decline was smaller (18 percent in the state versus 28 percent in Berkshire County). The state also experienced an increase in the number of working age adults at the higher educational levels, although these increases were overall smaller than those in Berkshire County (seven percent compared to 27 percent at the associate's degree level, nine percent compared to nine percent at the bachelor's level and 16 percent compared to 22 percent at the post bachelor's degree level). However, unlike in Berkshire County, not only did the state witness an increase of seven percent in the number of working aged adults who were high school graduates, but it also saw a small decrease of four percent in the number of working age adults who had completed some college education without earning a college degree.

Our discussion of the trends in the population by age in the previous section reveals that the decrease in the population of the Berkshire County area occurred solely among residents who were under 45 years of age. What is the impact of these trends on the age composition of the working age population in the Berkshire County area? The answer can be found in the age composition of the working-age population presented in Chart 4. In 2005-06, the working-age population of the Berkshire County area had higher shares of older persons and lower shares of younger residents compared with Massachusetts 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.

The elderly population (65+) represented 22 percent of the working-age population in the Berkshire County 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 Berkshire County area compared to 14 percent in the state and the nation. Nearly 37 percent of the working age population in the Berkshire County

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 Berkshire County area were under age 35 compared to 31 percent in the state and one-third in the nation. Thus, the Berkshire County 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.

Characteristics of the Resident Labor Force of the Berkshire County 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 each month 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 each month. 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.[3]

Nearly 61,000 Berkshire County 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 61,000 labor force members in the Berkshire County area and their counterparts in the entire state of Massachusetts, the New England region, and the nation are presented in Table 7. Just as females accounted for just over half of the working-age population (54 percent), they also account for more than half of the region's labor force**.** Females accounted for almost 52 percent of the labor force in the Berkshire County area, whereas males accounted for just under half of the entire labor force (48 percent). In contrast, in Massachusetts, the New England region and the nation, females accounted for less than half of the labor force (48 percent, 48 percent and 47 percent, respectively).

Less than five percent of the Berkshire County's resident labor force consisted of foreign born individuals. Compared to the rest of the state, the Berkshire County area had a significantly smaller share of immigrants in its resident labor force. Immigrants

[3] 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)

comprised nearly 19 percent of the state's resident labor force. The New England region and the nation were also markedly more likely than the Berkshire County area to have immigrants in the resident labor force (15 percent in New England and 16 percent in the nation).

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

	Berkshire County	Massachusetts	New England	U.S.
Total	60,993	3,369,817	7,521,725	148,191,267
Gender				
Male	48.4%	52.0%	52.2%	53.5%
Female	51.6%	48.0%	47.8%	46.5%
Nativity Status				
Native born	95.6%	81.3%	85.0%	84.1%
Foreign born	4.4%	18.7%	15.0%	15.9%
Race-Ethnicity				
White, non-Hispanic	92.5%	81.2%	83.4%	68.8%
Black, non-Hispanic	2.4%	5.1%	4.9%	11.1%
Hispanic	2.4%	7.0%	6.6%	13.6%
Other, non-Hispanic	2.7%	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.

The race-ethnicity of the resident labor force of the Berkshire County area, Massachusetts, and New England region consisted of a large White majority. Non-Hispanic Whites accounted for almost 93 percent of the resident labor force of the Berkshire County 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 about two percent of the resident labor force of the Berkshire County region or half as much as Massachusetts and New England (five percent each) and less than one-fourth as much as the nation (11 percent). The Hispanic share of the resident labor force in the Berkshire County region (2.4 percent) was only about one third of the size of their share in both Massachusetts and New England (seven

percent and 6.6 percent, respectively) and only one seventh of the size of their share in the nation's labor force (14 percent).

The age distribution of the labor force reveals that more than one fifth of the resident labor force of the Berkshire County region was between the ages of 35 and 44 (23 percent) and more than one quarter between the ages of 45 and 54 (26 percent). The remaining labor force consists of 32 percent who were between 16 and 34 years old and about 20 percent who were 55 years or older. A comparison of the age distribution of the

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

Age	Berkshire County	Mass.	New England	U.S.
16-24	14.1%	13.3%	13.5%	15.0%
25-34	17.6%	20.6%	19.2%	21.5%
35-44	22.7%	24.6%	24.5%	24.1%
45-54	25.5%	23.7%	24.5%	23.1%
55-64	15.6%	14.0%	14.4%	12.9%
65+	4.6%	3.8%	3.9%	3.5%
Under 35	31.7%	33.9%	32.7%	36.5%
55 and older	20.2%	17.8%	18.3%	16.4%

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

resident labor force of the Berkshire County area with that of the state, the New England region, and the nation reveals smaller shares of younger labor force participants and larger shares of older labor force members in the Berkshire County communities. A little under 32 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 Berkshire County area (21 percent) than it was in Massachusetts and New England (18 percent each) or the nation (16 percent).

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 Berkshire County area, the state, the New England region and the nation are presented in Table 9. Only four percent of the resident workforce of

the Berkshire County communities had failed to complete a high school education, slightly less than in the state of Massachusetts and the New England region (seven percent in each of these areas) and considerably less than in the nation (almost 11 percent). Just under two-thirds of the Berkshire County workforce had completed at least some postsecondary education (64 percent). The share of the labor force with some

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

Educational Attainment	Berkshire County	MA	New England	U.S.
High school student	3.4%	2.5%	2.7%	2.4%
High school dropout	4.3%	7.2%	7.3%	10.6%
High school graduate	28.5%	25.9%	27.9%	28.6%
Some college, no degree	23.0%	17.3%	18.5%	22.0%
Associate's degree	11.1%	8.1%	8.4%	8.1%
Bachelor's degree	17.6%	22.8%	21.3%	18.2%
Master's degree or more	12.2%	16.1%	14.0%	10.0%
With any postsecondary education	63.8%	64.4%	62.1%	58.4%
Bachelor's or higher	29.7%	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.

college education was also 64 percent in the state, but slightly lower in the New England region and the nation (62 percent and 58 percent, respectively). Labor force participants with a bachelor's degree or a higher level of education comprised nearly 30 percent of the Berkshire County residents in the labor force, lower than the proportions in the state (39 percent) and the New England region (35 percent) but slightly higher than in the nation (28 percent).

This discussion of the characteristics of the resident labor force of the Berkshire County area in 2005-06 has revealed that the region has a larger share of Whites, females, and older workers, a lower share of immigrants and high school dropouts, but relatively the same share of individuals with a post secondary education in comparison to the shares

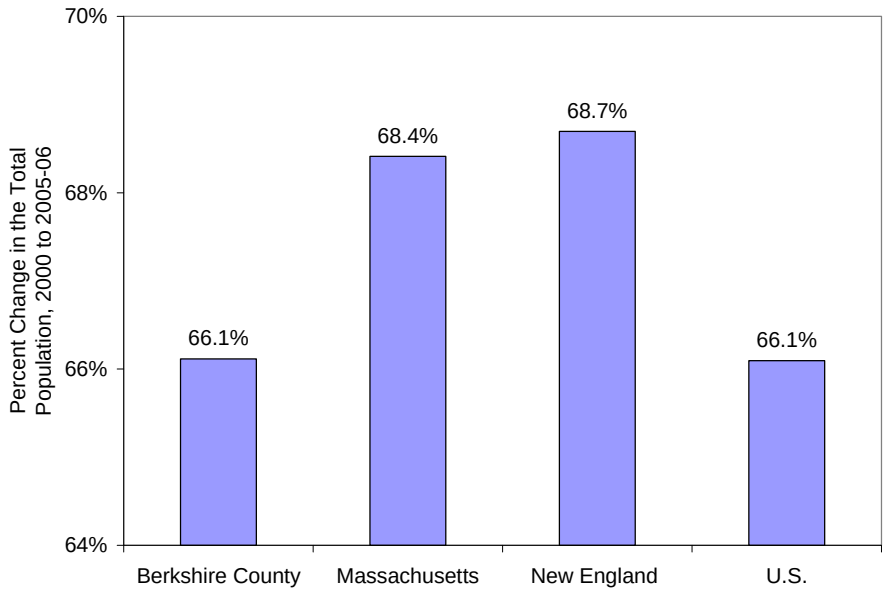
of these groups in the resident labor force of the state, the New England region, and the nation.

Labor Force Participation Rates of the Residents of the Berkshire County 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 Berkshire County area was 2.3 and 2.6 percentage points lower than that of the working-age residents of the

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

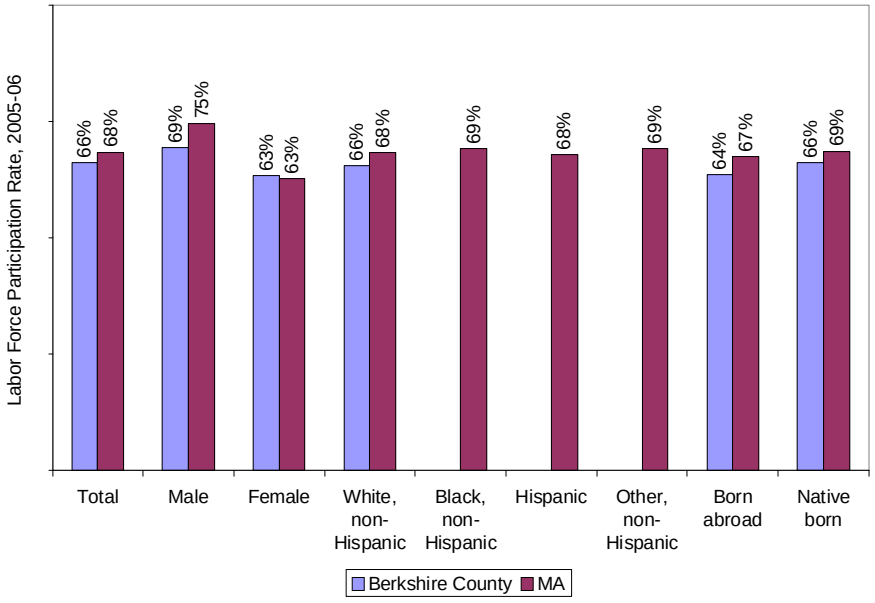


Source: 2005 and 2006 American Community Survey Public Use Microdata Samples (PUMS) data files, tabulations by the Center for Labor Market Studies, Northeastern University.

state of Massachusetts and the New England region, although equal to that of 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 920 working-age residents in the Berkshire County area, 49,300 in Massachusetts, 109,500 in the New England region, and 2.242 million in the nation.[4] Each percentage point difference in the labor force participation rate thus represents a sizable number of people.

An examination of the labor force participation rate of male and female residents of the Berkshire County area reveals a small gap in the labor force attachment of the two sexes. Nearly 70 percent of the male working-age residents of the Berkshire County area

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.

[4] 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.

were active labor force participants, compared to only 63 percent of their female counterparts. Similar gender-based differences in labor force participation are noted for the state, although to an even greater extent (a 75 percent rate of labor force participation of males in comparison to a 63 percent rate for females). However, while male residents of the state had higher rates of labor force participation than their counterparts in the Berkshire County area, females of the two areas participated in the labor force at about the same rate.

The size of the race-ethnic minority resident working-age population in the Berkshire County communities was quite small. As a result the small sample sizes for race-ethnic minority groups were too small to yield statistically reliable estimates for the labor force participation rates for these subgroups. Consequently, we have only provided statewide labor force participation rates (in Chart 6) of non-Hispanic Black, Hispanic, and non-Hispanic other race subgroups[5]. White, non-Hispanic is the only race group with a labor force participation rate for the Berkshire County area as well as the state.

Statewide, the labor force participation rates of the four race groups varied between 68 and 69 percent. A comparison of the labor force participation rate of White residents indicates that across the state, the White labor force participation rates were slightly higher than the Berkshire County area (68 percent compared to 66 percent).

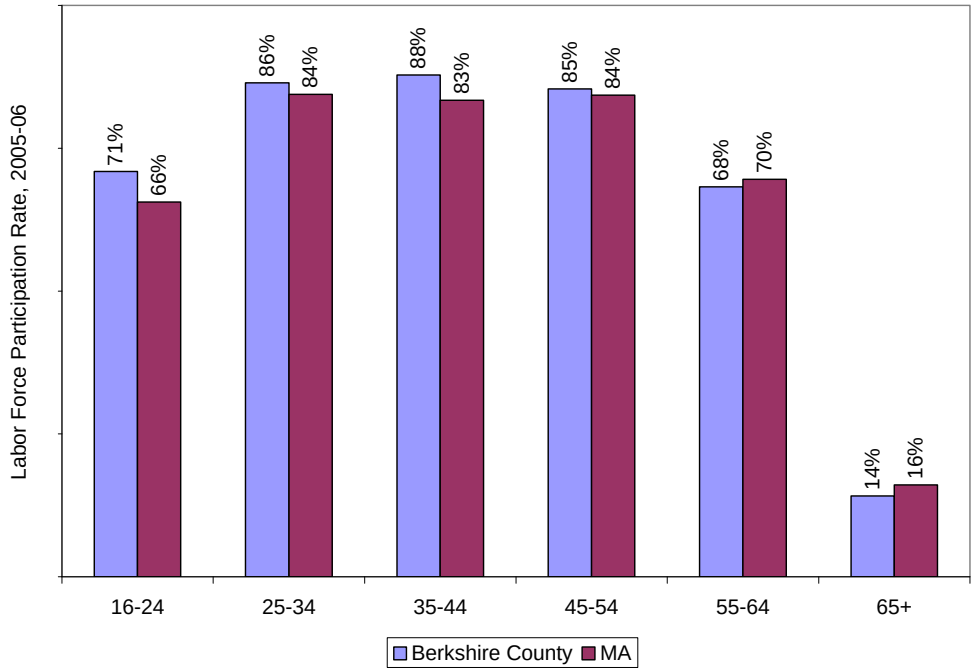
Native born residents of the Berkshire County area and the state were more likely than their foreign born counterparts to participate in the labor force. The gap between the labor force participation rate of native-born and foreign-born residents was the same in the Berkshire County area and the state (two percentage points).

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 falls considerably and then continues to fall sharply after the traditional retirement age of 65 years. The labor force attachment of residents of the Berkshire County area and the state follow the same inverted-U shape pattern. However, a comparison of the labor force

[5] The Other, non-Hispanic race group includes Asians, Pacific Islanders, Native Americans, and individuals of other races and mixed races.

participation rate in the Berkshire County area and the state within the same age groups reveals that younger residents in the Berkshire County area were more likely and older residents were less 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 five percentage points higher in the Berkshire County area than in the state. Berkshire County residents between the ages of 25 and 34 were also slightly more likely to participate in the labor force than residents in the same age group across the state (by two percentage points), as were Berkshire County residents between the ages of 35 and 44 (by five percentage points) and between the ages of 45 and 54 (by one percentage point). In contrast, older Berkshire County residents in the pre-retirement ages of 55 to 64 years were marginally less likely to participate in the labor force than 55 to 64 year olds in the state (by two percentage points). Thus, although the Berkshire County region has a larger share of 55-64 year olds in their working age

population than the state, Berkshire County residents in this age group are less likely to be in the labor force.

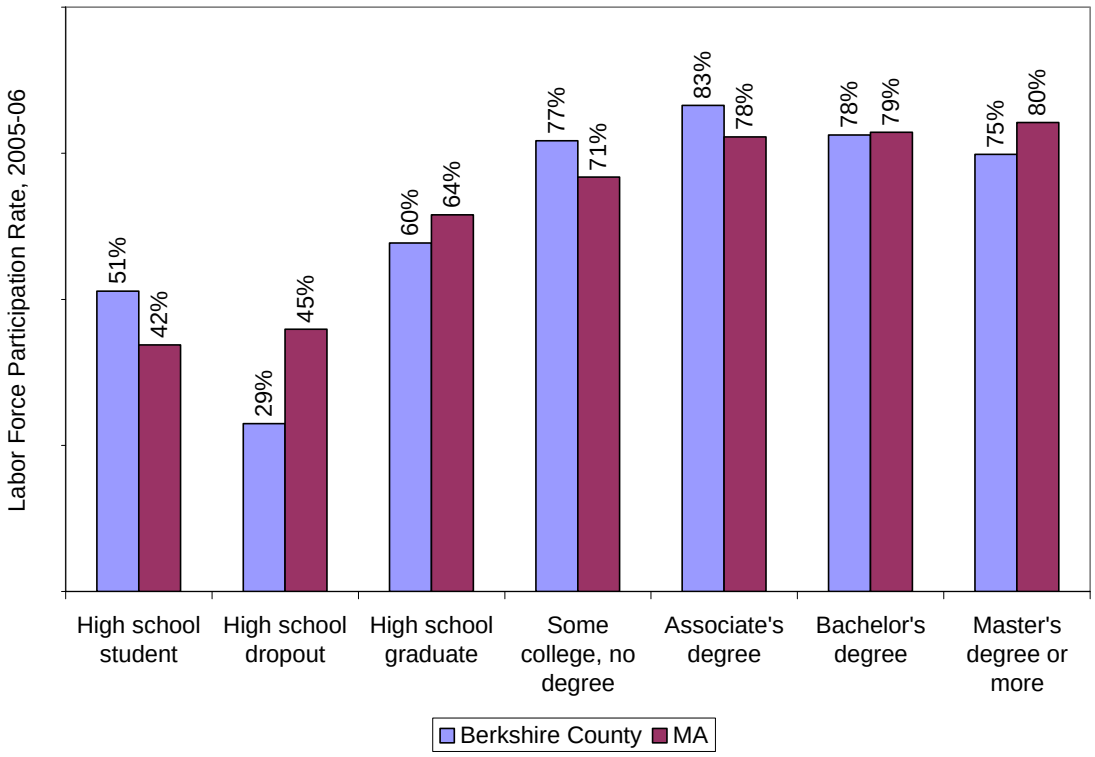
Unsurprisingly, the labor force attachment was especially weak among the elderly residents in both areas, especially in Berkshire County. Only 14 percent of the elderly residents aged 65 plus in the Berkshire County area and 16 percent in the state were active labor force participants in 2005-06. The negative growth in the population of the Berkshire County 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.[6] 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.

Overall, labor force participation rates rise sharply with educational attainment in the Berkshire County area and the state. Only 29 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 among high school graduates was more than double this (60 percent). Residents who completed some postsecondary education without earning a degree enjoyed an even higher rate of participation in the labor market. Over three quarters of the residents of the Berkshire County area with some college but no college degree were active labor market participants (77 percent). Those who had earned an Associate's degree were six percentage points more likely to participate in the labor market than their counterparts who completed some college but had not earned a college degree (83 percent versus 77 percent). However, a slightly lower proportion of Berkshire County residents with a Bachelor's or a post Bachelor's degree (78 percent and 75

[6] 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.

percent, respectively) were members of the region's labor force in 2005-06 than their counterparts in the area with an Associate's degree.

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.

Residents of Massachusetts had similar trends in the labor force participation rate by educational attainment. However, a comparison of the rates of labor force participation in each educational group in the Berkshire County and the state reveals that for high school dropouts, high school graduates and those with either a Bachelor's or a Master's degree, residents of the state had higher rates of labor market participation than their counterparts in the Berkshire County area. The gap was particularly large (16 percentage points) among high school dropouts (29 percent in Berkshire County versus 45 percent statewide). Among the remaining educational subgroups, residents of the state had lower rates of labor market participation than residents of the Berkshire County area. Residents of the entire state who were high school students, who had completed some

college without earning a degree or had earned an Associate's degree had lower rates of labor force participation than they did in the Berkshire County area (by nine percentage points, six percentage points and five percentage points, respectively).

Substantial gaps exist between the rates of labor force participation among educational subgroups of the population. Among poorly educated residents of the Berkshire County area, large proportions of the potential labor supply are unutilized because of the low rates of labor market participation among these residents, particularly high school dropouts among whom less than three out of ten were active labor force participants. If population growth continues to decline in the region and slow down in the state while 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 Berkshire County 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 Berkshire County area and the surrounding communities, the remainder of the state of Massachusetts, and areas outside the state.

A total of 60,200 individuals identified their place of work within the Berkshire County area. Out of these 60,200 workers employed in the Berkshire County area, 51,000 were also residents of the area which means that less than 85 percent of the jobs in the Berkshire County area were staffed by residents of the Berkshire County area. Out of the

remaining Berkshire County area jobs, about 4,200 or seven percent were staffed by residents of the Franklin/Hampshire area and nearly 800 or over one percent from the Hampden County area. Only 300 or 0.5 percent of the jobs in the Berkshire County area were staffed by residents of other areas of Massachusetts. The Berkshire County area is surrounded on three sides by three states—Vermont in the North, New York in the West, and Connecticut in the south—and it draws a sizable portion of its workforce from the residents of these states. About 3,900 workers of six percent of the workers employed in the Berkshire County area were residents of other states, most likely these three neighboring states.

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

	Number	Percent of Total
Total number of persons working in the Berkshire County area…	60,244	100.00%
...that lived in:		
Berkshire County area	51,036	84.7%
Franklin/Hampshire area	4,238	7.0%
Hampden County area	793	1.3%
Other parts of Massachusetts	315	0.5%
Outside Massachusetts	3,863	6.4%
Total Berkshire County area residents who were employed…	55,828	100.0%
...that were working in:		
Berkshire County area	51,036	91.4%
Franklin/Hampshire area	1,512	2.7%
Hampden County area	1,031	1.8%
Other parts of Massachusetts	345	0.6%
Outside Massachusetts	1,905	3.4%

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

The second half of Table 10 presents a distribution of Berkshire County area residents who were employed at the time of the 2005-06 ACS surveys by their place of work. A total of 55,800 residents of the Berkshire County area were employed at the time

of the ACS surveys. An overwhelming majority of these employed residents worked within the Berkshire County area (91 percent). Out of the remaining 4,700 or nine percent of the region's employed residents, 1,500 or three percent commuted to work in the Franklin/Hampshire area, 1,000 or two percent worked in the Hampden County area, 300 or less than one percent worked in other parts of the state, and the remaining 1,900 or three percent of the Berkshire County area's employed residents held jobs outside the state.

The number of employed residents of the Berkshire County communities was less than the number of jobs or workers who worked in the area by about 4,400 (55,800 employed Berkshire County residents versus 60,200 jobs in the Berkshire County area). A smaller share of Berkshire County residents commuted to work outside the boundaries of the Berkshire County area (4,800) than the number of other communities than commuted to work in the Berkshire County area (9,200), making the region a net "importer" of workers from areas outside its boundaries.

Measuring Wage and Salary Employment Levels and Trends in the Berkshire County 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.[7] The survey also collects information on weekly hours of work and weekly earnings for production and non supervisory workers.[8] 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 that relies on reports by responding firms about the major kinds of products they produce.[9]

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[7] 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.

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

[9] 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 do 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 form 1099 from those firms where they had a consulting relationship over the course of the year. Also excluded 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.[10] 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

[10] For a detailed discussion of this emerging labor market segment see: Andrew Sum, Paul Harrington and Ishwar Khatiwada, *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.[11] 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.

[11] 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, 4th 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, 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 between the first quarter of 2007 and the first quarter of 2008. The New England region also expanded payroll employment levels by 0.5 percent, while Massachusetts had a similar annual rate of new

Table 2:
Trends in Total Non Agricultural Wage and Salary Employment Levels in Massachusetts, New England and the Nation, 1st 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, tabulations by Center for Labor Market Studies, Northeastern University, April 2008

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.

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 suggests 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, 4th 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, 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 payroll 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.[12] 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 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 in the state, a number equal to nearly 90 percent of the net job creation produced in the state over that period of time.

[12] 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.

Table 4:
Trends in Total Non Agricultural Wage and Salary Employment Levels by Major Industry Sector in Massachusetts, 4th 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, tabulations by Center for Labor Market Studies, Northeastern University, April 2008.

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 618,000, 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 information 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 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.

Table 5:
Trends in Total Non Agricultural Wage and Salary Employment Levels by Major Industry Sector in Massachusetts, 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, tabulations by Center for Labor Market Studies, Northeastern University, April 2008

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 job 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, 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, 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 data overview of broad developments in state labor markets. The advantages of the CES data are that they provide very up to date information on overall payroll employment developments within the state and provide 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.[13]

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 numbers 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 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.

[13]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.

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.[14] 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 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

[14] A new modestly revised version of NAICS codes was released during 2007.

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.[15] 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 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

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

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

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

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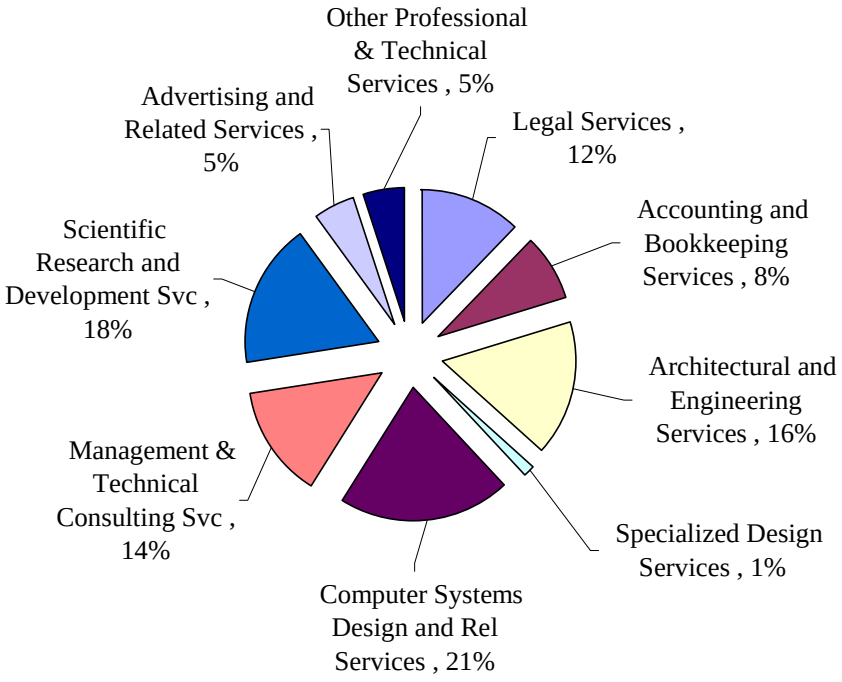
For a complete review of the NAICS classification system as well as definitions of each NAICS industry see the NAICS website at http://www.census.gov/epcd/www/naics.html

payroll jobs in the super sector. The administrative and waste management industry component of the super sector added 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

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

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.

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

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 & Technical Services	228,408	252,712	24,304	10.6%
5411	Legal Services	31,156	31,070	-86	-0.3%
5412	Accounting & Bookkeeping	18,193	20,350	2,157	11.9%
5413	Architectural & 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 & Development Services	40,083	44,406	4,323	10.8%
5418	Advertising & 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.

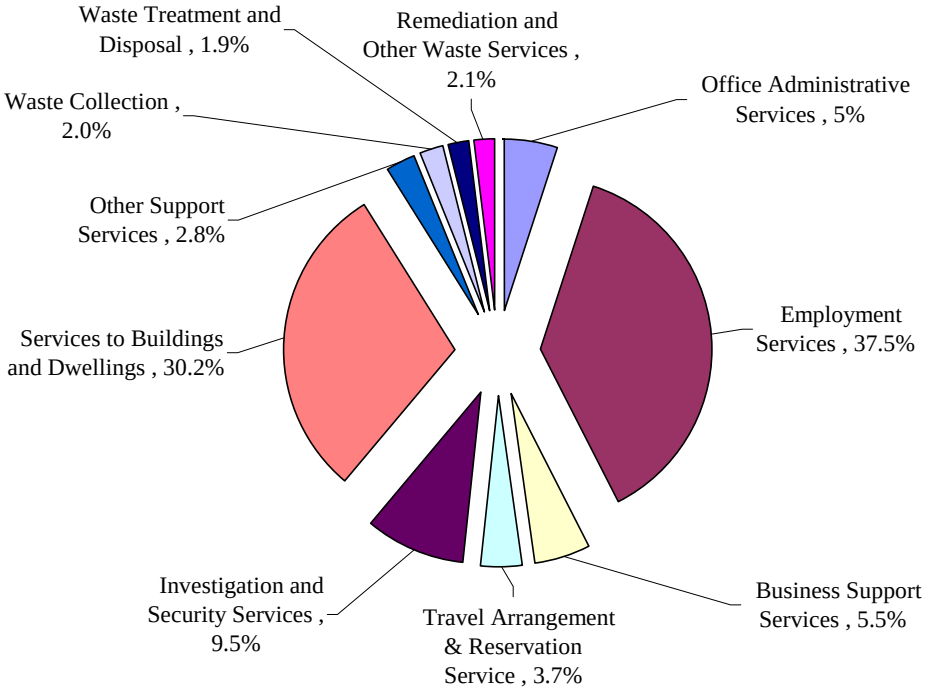
three year period.[16] Happily, with the exception of legal services, employment levels in the whole array of professional and technical services grew quite rapidly over the period

16 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

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 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

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.

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 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 services 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 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.

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.

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 Berkshire Workforce Board's service area.

Industry and Employment Trends in the Berkshire County Area

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 Berkshire area, job growth has lagged behind Massachusetts.

However, there are a few promising sectors in the Berkshire region. Health Care and Social Assistance, the region's largest employment sector, has experienced strong job growth. The Arts, Entertainment and Recreation, Professional and Technical Services Finance and Insurance and both Wholesale and Retail Trade also 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, a rise of 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 Berkshire 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 about 1,172 or 1.9 percent. During the most recent twelve month period employment actually fell by 220 jobs. These results for the Berkshire region are summarized in Table 10 and described below.

Health Care and Social Assistance

Health Care and Social Assistance, the region's largest employment sector, experienced rapid job growth over the three year period. During this period, the number of jobs grew by 1,317 or 13.5 percent. Health Care job growth in the Berkshire areas was concentrated in Nursing and Residential Care Facilities with particular concentration in the Residential Mental Health Care organizations. Ambulatory Health Facilities, including Physicians Offices, Outpatient Care Centers and Home Health Services producers all posted payroll employment advances over the three year period of expansion.

Arts, Entertainment and Recreation

Employers in this sector of the economy are involved in the provision of a wide variety of services associated with producing, promoting, or participating in live performances, events, or exhibits intended for public viewing. It also includes firms engaged in preserving and exhibiting objects and sites of historical, cultural, or educational interest; as well as organizations that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests. While the Arts and Entertainment sector is among the smaller of the region's economic super sectors it is among the most rapidly growing sectors of the regional economy. Between the third quarter of 2004 and the third quarter of 2007 payroll employment in the Arts and Entertainment industry increased in the Berkshire region from 1,771 to 2,095, a rise of 18 percent over the three year period.

Retail Trade

Retail Trade, the third largest industry group in Berkshire County has experienced slow but steady job growth between 2004 Third Quarter and 2007 Third Quarter. During this period, the number of Retail Trade jobs increased by 141 (1.6%) rising from 8,802 to 8,943 jobs over the period. Employment gains among Food Stores, Clothing Stores and General Merchandise Stores offset declines in Motor Vehicles and Parts and Building Material and Supply Stores.

Finance and Insurance

Finance and Insurance was one of the better performing sectors in Berkshire County, increasing employment by 178 jobs (9.2%) between 2004 Third Quarter and 2007 Third Quarter. Job growth in Finance and Insurance was concentrated within Credit Intermediation and Banking, although some growth did occur among Insurance Carriers.

Construction

The Construction sector in Berkshire County reported job gains over the three year period under review. All of the gains, however, occurred in the first two years. Between 2004 Third Quarter and 2007 Third Quarter, the number of jobs increased by 88 or 2.4 percent. In the most recent year (Third Quarter 2006 to Third Quarter 2007) Construction employment fell by 165 jobs.

Table 10:
Industry Employment Trends: Berkshire Workforce Area

NAICS Code	Industry Sector	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	Total, All Industries	62,915	64,087	1,172	1.9%
23	Construction	3,699	3,787	88	2.4%
31-33	Manufacturing	6,398	5,661	-737	-11.5%
	- Durable Goods Manufacturing	2,121	2,089	-32	-1.5%
	- Non-Durable Goods Manufacturing	4,277	3,572	-705	-16.5%
42	Wholesale Trade	1,055	1,185	130	12.3%
44-45	Retail Trade	8,802	8,943	141	1.6%
48-49	Transportation and Warehousing	1,094	1,094	0	0.0%
51	Information	1,174	1,093	-81	-6.9%
52	Finance and Insurance	1,945	2,123	178	9.2%
53	Real Estate and Rental and Leasing	751	831	80	10.7%
54	Professional and Technical Services	2,563	2,696	133	5.2%
55	Management of Companies	837	604	-233	-27.8%
56	Administrative and Waste Services	2,508	2,480	-28	-1.1%
61	Educational Services	6,437	6,271	-166	-2.6%
62	Health Care and Social Assistance	9,767	11,084	1,317	13.5%
71	Arts, Entertainment, and Recreation	1,771	2,095	324	18.3%
72	Accommodation and Food Services	8,118	8,028	-90	-1.1%
81	Other Services, Ex. Public Admin	3,264	3,250	-14	-0.4%
92	Public Administration	2,114	2,288	174	8.2%

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

Professional and Technical Services

Payroll employment levels in the Professional and Technical Services industry expanded by 133 jobs (5.2%) 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.

Manufacturing

Manufacturing, the region's fourth largest sector, has sustained considerable job loss when compared to Massachusetts. From the third quarter of 2004 to the third quarter of 2007, regional employment in Manufacturing fell by 737 jobs, a decrease of 11.5 percent. Manufacturing firms statewide experienced a job loss of 18,644 (-6.0%). Much

of this loss in the Berkshire region was concentrated in non durable goods manufacturing. The major source of loss in non durables was among the region's Paper Manufacturing producers. Smaller losses occurred in the Chemical and Plastics producers and in the Printing industry. Despite the overall losses in manufacturing the region's durable goods manufacturing producers as a group lost a net of just 32 jobs over the three year period. Modest employment gains were posted in the Fabricated Metals Industry and in the Concrete and Cement Manufacturing Industry.

Educational Services

Educational Services employment in Berkshire County fell 166 jobs (-2.6%) between 2004 Third Quarter and 2007 Third Quarter. Job declines took place in Elementary and Secondary Schools with some gains registered among Colleges and Universities. In addition, all of the decline (-408) occurred in the first two years; between 2006 Third Quarter and 2007 Third Quarter, Educational Services reversed its earlier employment declines and added back 242 jobs, yielding a net loss of 166 jobs over the three year period between 2004 Third Quarter and 2007 Third Quarter.

Accommodation and Food Services

Accommodation and Food Services, the third largest sector in Berkshire County shed 90 jobs between 2004 Third Quarter and 2007 Third Quarter. Within this sector, all of the job loss occurred within Food Services and Drinking Places; limited growth was registered in Accommodation.

Employment Structure in the Berkshire County Area

The following section describes the structure of industry employment in Berkshire County, using the most current available data (2007 Third Quarter). In addition, a more detailed review of selected sectors is provided. Finally, a look at employment by the size of employers is presented. The basic purpose of this section is to assist education and workforce professionals in better understanding the job content of the Berkshire County economy. These data and the accompanying analysis should provide some additional insight into some key industry and employer size issues in the Berkshire region.

The four largest employment sectors within the Berkshire regional economy, which include Health Care and Social Assistance (17.3%), Retail Trade (14.0%), Accommodation and Food Services (12.5%), Educational Services (9.8%) and Manufacturing (8.8%) comprise more than 6 in 10 payroll jobs (62.4%) in Berkshire County. Two major components of what is informally labeled the High Tech Sector, Information (1.7%) and Professional and Technical Services (4.2%), account for relatively small employment shares when compared to the state as a whole. These two sectors account for 5.9 percent of all jobs in Berkshire County, which is well below the respective share for Massachusetts (10.6%).

Table 11:
Distribution of Non Agricultural Payroll Employment in the Berkshire Region, 2007 Third Quarter

NAICS Code	Industry Sector	2007 Third Quarter	Percent Distribution
	Total, All Industries	64,087	100%
23	Construction	3,787	5.9%
31-33	Manufacturing	5,661	8.8%
22	Utilities	298	0.5%
42	Wholesale Trade	1,185	1.8%
44-45	Retail Trade	8,943	14.0%
48-49	Transportation and Warehousing	1,094	1.7%
51	Information	1,093	1.7%
52	Finance and Insurance	2,123	3.3%
53	Real Estate and Rental and Leasing	831	1.3%
54	Professional and Technical Services	2,696	4.2%
55	Management of Companies and Enterprises	604	0.9%
56	Administrative and Waste Services	2,480	3.9%
61	Educational Services	6,271	9.8%
62	Health Care and Social Assistance	11,084	17.3%
71	Arts, Entertainment, and Recreation	2,095	3.3%
72	Accommodation and Food Services	8,028	12.5%
81	Other Services, Ex. Public Administration	3,250	5.1%
92	Public Administration	2,288	3.6%

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

Within Manufacturing, the two largest components, Paper Manufacturing (20.7%) and Plastic and Rubber Products (14.1%) account for over one-third (34.8%) of the jobs in this sector. The employment losses in these two industry sectors are the primary cause of decline in the region's manufacturing sector. In addition, Printing (10.7%), Chemicals (10.5%), Fabricated Metals (9.7%), Machinery Manufacturing (8.6%) and Non Metallic Mineral Products (8.3%) are important components of the Berkshire County Manufacturing base.

Table 12:
The Distribution of Payroll Employment in the Berkshire Region, by Detailed Industry Sector, for Selected Super sectors, 2007 Third Quarter

NAICS	Description	2007 Third Quarter	Percent Distribution
31-33	**Manufacturing**	**5,661**	**100.00%**
322	Paper Manufacturing	1,169	20.70%
323	Printing and Related Support Activities	607	10.70%
325	Chemical Manufacturing	592	10.50%
326	Plastics & Rubber Products Manufacturing	796	14.10%
327	Nonmetallic Mineral Product Mfg	468	8.30%
332	Fabricated Metal Product Manufacturing	549	9.70%
333	Machinery Manufacturing	487	8.60%
	All Other Manufacturing	993	17.60%
44-45	**Retail Trade**	**8,943**	**100.00%**
441	Motor Vehicle and Parts Dealers	767	8.60%
444	Building Material & Garden Supply Stores	723	8.10%
445	Food and Beverage Stores	2,367	26.50%
448	Clothing and Clothing Accessories Stores	1,141	12.80%
452	General Merchandise Stores	1,025	11.50%
	All Other Retail Trade	2,920	32.70%
61	**Educational Services**	**6,271**	**100.00%**
6111	Elementary and Secondary Schools	3,857	61.50%
6113	Colleges and Universities	1,904	30.40%
	Other Educational Services	510	8.10%
62	**Health Care and Social Assistance**	**11,084**	**100.00%**
621	Ambulatory Health Care Services	2,719	24.50%
622	Hospitals	3,305	29.80%
623	Nursing and Residential Care Facilities	3,779	34.10%
624	Social Assistance	1,281	11.60%
72	**Accommodation and Food Services**	**8,028**	**100.00%**
721	Accommodation	2,842	35.40%
722	Food Services and Drinking Places	5,186	64.60%

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

The largest source of employment in Retail Trade, the Food and Beverage Stores industry represents over one quarter (26.5%) of Retail Trade jobs in Berkshire County. In addition, Clothing and Accessory Stores (12.8%) and General Merchandise Stores (11.5%) also are important parts of Retail Trade in Berkshire County. Educational Services employment is concentrated in Elementary and Secondary Schools, which comprise 61.5% of all jobs in this sector. Colleges and Universities, representing 3 in 10 jobs, comprise most of the remainder of this sector.

The largest sector in Berkshire County, Health and Social Assistance, is led by Nursing and Residential Facilities (34.1%) and followed closely by Hospitals (29.8%). The remainder of employment in this broad sector resides in Ambulatory Health Care Services which includes Physician's Offices (24.5%) and Social Assistance (11.6%). Accommodation is a much larger component of the Berkshire Hospitality industry than most other regions. While Accommodation typically comprises approximately 10% of all jobs within Accommodation and Food Services, the respective share in Berkshire County is 35.4%; Food Services and Drinking Places comprise the remainder of this sector (64.6%).

Employer Size as a Factor in Local Employment

A review of the distribution of employers by size was conducted during this review and the results are summarized in Table 13. This review reveals that small employers dominate the Berkshire County Workforce Area. Among the 4,727 establishments reporting employment in March 2007, 87.8 percent had fewer than 20 employees. These firms however, accounted for just over 3 in 10 (18,391) of all payroll employment jobs in Berkshire County.

In contrast to the small business employers, 93 establishments (2.1%) reported having at least 100 employees. These firms, however, were responsible for nearly 4 in 10 jobs (23,319) in Berkshire County. The share of employment among large employers (38.1%) is well below the statewide share of 49.1 percent.

Table 13:
The Distribution of Economic Establishments and Payroll Employment by Establishment Size in Berkshire County, 2007 Third Quarter

Size Group	Number of Economic Establishments	Share of all Establishments	# Establishments State	Share of all Establishments
0 to 19	4,151	87.80%	181,048	86.90%
20 to 49	367	7.80%	16,588	8.00%
50 to 99	116	2.50%	5,606	2.70%
100 to 249	69	1.50%	3,570	1.70%
250 to 499	18	0.40%	876	0.40%
500 +	6	0.20%	584	0.30%
TOTAL	4,727	100.00%	208,272	100.00%
Size Group	Number of Payroll Jobs	Share of all Employees	# Employees State	Share of all Employees
0 to 19	18,391	30.30%	724,049	22.90%
20-49	11,140	18.40%	504,394	15.90%
50 to 99	8,039	13.20%	384,167	12.10%
100 to 249	10,118	16.70%	538,364	17.00%
250-499	5,776	9.50%	301,765	9.50%
500 +	7,245	11.90%	716,437	22.60%
TOTAL	60,709	100.00%	3,169,176	100.00%

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.

Occupational Staffing Patterns of Industries and Educational Attainment of Workers by Industries and Occupations in the Berkshire County 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 Berkshire County 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 Berkshire County area. We have also examined the educational attainment of workers who were employed in different occupations and industry sectors within the Berkshire County 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 Berkshire County area are based upon the responses from over 1,550 individuals who were employed and working within the boundaries of the Berkshire County workforce area at the time of the ACS surveys.

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 Berkshire County area as their place of work (regardless of where they identified their place of residence). We refer to these individuals as Berkshire County workers in this section. An examination of the industries and occupations in which these Berkshire County workers were employed provides the occupational composition or occupational staffing patterns of each industry sector in the Berkshire County area. The examination of their educational attainment provides the educational requirements within the industries and occupations in the Berkshire County 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 60,244 individuals identified their place of work as within the Berkshire 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 94 percent) of the workers in the Berkshire area were employed

into 8 broad categories. The occupations of these workers have been aggregated into 6 groups of occupations.[17]

The distribution of workers in each of these 8 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 Berkshire County area and the second half contains the same for the state of Massachusetts. The reader should note that all data in this section pertain 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 Berkshire County area are measured with the occupational distribution by industry of all workers who stated that their place of work was in the Berkshire County 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 6 broad groups. The components of each of these 6 groups are presented below:

College labor market & high level sales occupations	**Service & low level sales occupations**
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
Community & social services occupations	Low-level sales occupations
Legal occupations	**High skill blue collar**
Education, training, & library occupations	Construction & extraction occupations
Arts, design, entertainment, sports, & media occupations	Installation, maintenance, & repair occupations
High-level sales occupations	
Healthcare practitioner & technical occupations	**Production, transportation & material moving occupations**
Office & administrative support occupations	Production occupations
	Transportation & material moving occupations

Excluded:
Farming, fishing, & forestry occupations

[17] Please see Appendix C for detailed statewide tabulations of all the data presented in this section.

The occupational staffing patterns varied sharply by industry sector. Nearly 80 percent of the workers employed in the construction industry in the Berkshire County area were working in high skill blue-collar jobs in the construction and extraction occupations and installation maintenance and repair occupations. Fewer than 8 percent were employed in college labor market or high level sales occupations.

The occupational staffing patterns of manufacturing industries indicate a high concentration of production, transportation, and material moving occupations. Almost one-half of the manufacturing sector workers in the Berkshire County area were employed in these occupations. High skill blue collar positions were held by a much smaller proportion of manufacturing workers in the area. Only 8 percent held relatively sophisticated blue collar jobs. Employment in college labor market jobs among Berkshire County's manufacturing workers was much more prevalent than their employment in high skill blue collar jobs. About one-third of the manufacturing industry workers in the area were working in college labor market occupations—11 percent in management occupations, 7 percent in arts, design, entertainment, sports, and media jobs, and another 7 percent in business and finance, and 4 percent in engineering and architecture.

Among the remaining six (non-production) industries the highest concentrations in college labor market occupations (including healthcare practitioner occupations) were found among firms that provide educational services and professional, scientific, and technical services. Nearly 78 percent of the workers in professional, scientific, and technical service firms were employed in occupations that require high levels of educational attainment including management occupations, business and financial occupations, computer and mathematical occupations, architecture and engineering occupations, art, design and media occupations, and high level health occupations such as healthcare practitioners occupations.

The educational services industry, representing an area of job growth in the Berkshire County area, had nearly four-fifths of its workers employed in the college labor market occupations of education and training, legal, social services, arts and media occupations. Over 13 percent of the workers in this industry were employed in service

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

BERKSHIRE COUNTY

Major Occupations	Constr.	Manufacturing	Retail Trade	Information	Finance, Ins. & Real Estate	Prof., Scientific & Tech. Services	Educ. Services	Healthcare & Social Services	Other Services
Total Workers	5,033	5,619	8,000	SAMPLE TOO SMALL	3,333	3,624	6,466	10,517	13,163
College labor market & high level sales occupations	7.8%	31.8%	32.1%		49.7%	66.6%	78.8%	22.1%	20.5%
Healthcare practitioner & technical	0.0%	0.0%	2.3%		0.0%	11.0%	0.7%	29.8%	1.6%
Service and low level sales occupations	5.0%	1.9%	41.1%		17.9%	5.3%	13.1%	30.4%	53.3%
Office & administrative support	3.6%	12.1%	15.8%		32.3%	12.9%	5.2%	16.4%	10.7%
High skill blue collar occupations	79.6%	7.7%	2.5%		0.0%	2.4%	0.5%	0.0%	5.3%
Production, transportation & material moving occupations	4.0%	46.5%	6.2%		0.0%	1.8%	1.8%	1.3%	8.6%

MASSACHUSETTS

Major Occupations	Constr.	Manufacturing	Retail Trade	Information	Finance, Ins. & Real Estate	Prof., Scientific & Tech. Services	Educ. Services	Healthcare & Social Services	Other Services
Total Workers	220,625	347,648	342,566	91,315	260,107	263,118	304,449	460,001	620,202
College labor market & high level sales occupations	15.6%	42.5%	28.0%	64.7%	66.1%	81.8%	75.8%	23.7%	25.1%
Healthcare practitioner & technical	0.0%	0.2%	2.3%	0.0%	0.5%	1.9%	2.8%	34.9%	1.0%
Service and low level sales occupations	0.6%	1.4%	38.8%	5.1%	7.1%	1.4%	10.9%	26.2%	52.4%
Office & administrative support	4.9%	10.4%	15.8%	16.9%	23.9%	12.6%	8.6%	13.3%	11.3%
High skill blue collar occupations	74.7%	4.1%	4.2%	8.9%	1.5%	0.8%	1.3%	0.6%	4.7%
Production, transportation & material moving occupations	4.2%	41.4%	10.9%	4.3%	0.9%	1.4%	0.6%	1.3%	5.5%

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

occupations providing building and grounds, protective, and personal services, and 5 percent worked in administrative support occupations.

Employment in the health care and social assistance industry has grown quite rapidly in the Berkshire County area, adding 1,317 jobs between 2004 and 2007, which represents a relative increase of nearly 13.5 percent over the 3-year time period. 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. Over one-fifth (22 percent) of the workers in these industries were working in college labor market occupations and 16 percent performed administrative support duties at their jobs in healthcare or social services firms in the Berkshire County area.

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 service 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. Only one-fifth were employed in college labor market occupations while over 53 percent worked service and low level sales occupations, 14 percent were performing blue-collar work, and 11 percent worked in administrative support positions.

The Berkshire County area's finance, insurance, and real estate firms employed nearly one-half of their workers in business, management and finance college labor market jobs and in high level sales occupations. Almost one-third (32 percent) of its workers were employed in office and administrative support occupations. This industry saw a nearly 10 percent increase in employment over the 2004-2007 time period in the Berkshire County area.

The information industry in the Berkshire County area saw its employment decline by over 7 percent between 2004 and 2007. In 2007, slightly more than 2 percent of all workers employed in the Berkshire County area worked for a firm in the

information industry. This industry accounts for a very small number of workers in the area. The small size of the workforce in the Information industry in the Berkshire County area is also reflected in the small samples of Berkshire County Information industry workers on the ACS survey. Consequently, we were unable to derive statistically reliable estimates of the occupational staffing patterns of workers in this industry for the area.

Insights into the staffing patterns of the Information industry can be gained from statewide data provided in the second half of Table 1. Statewide, the staffing patterns of this industry were concentrated in the college labor market. Nearly 65 percent of its employees worked in college labor market and high level sales occupations with one-fifth in management occupations, 15 percent in art, design, and media occupations, and 10 percent in computer and mathematical occupations. About 17 percent of the Information industry workforce in the state was employed in administrative support positions, and 13 percent worked in blue collar positions most of whom were performing skilled blue-collar work in installation, maintenance and repair occupations.

The Berkshire County 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 (41 percent) with a large share in lower level sales positions such as cashiers and other retail salespersons. One-third of retail trade industry workers were employed in college labor market occupations, mainly in high level sales occupations (20 percent). One-sixth of the workers in this industry were employed in administrative support jobs in clerical and secretarial positions. Few were employed in blue collar occupations (9 percent).

The sharp differences in the kinds of occupations that staff the different industries in the Berkshire County 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 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

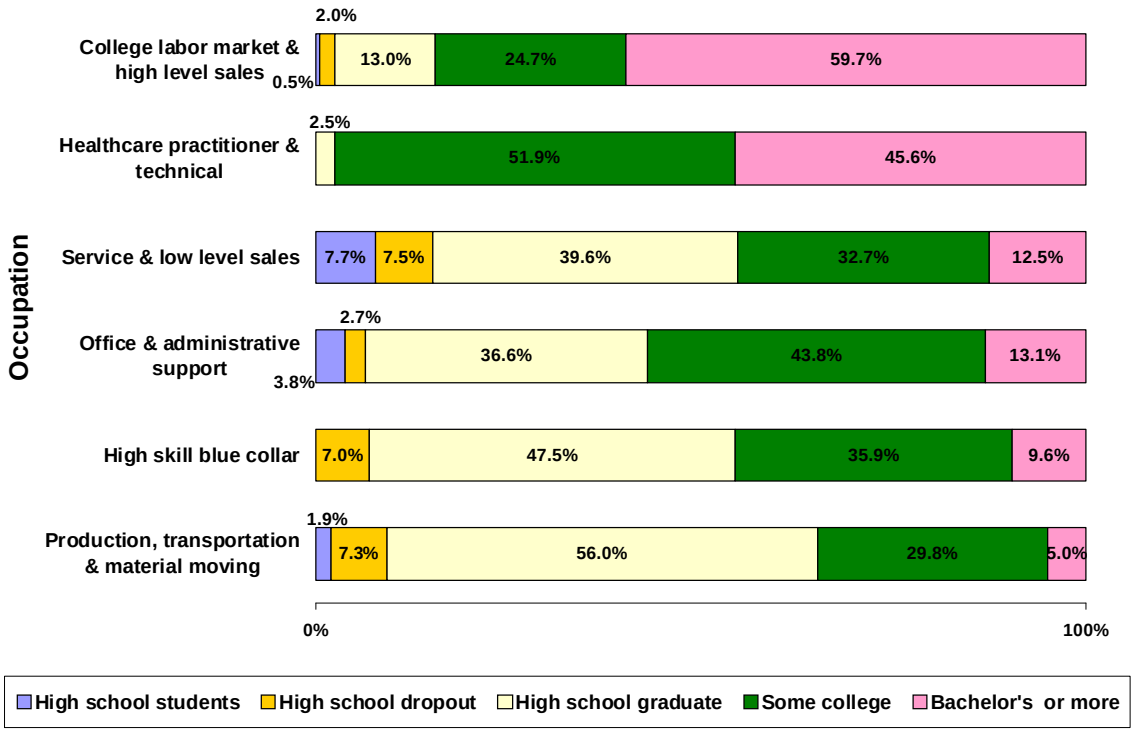
An examination of the occupational staffing patterns of industries presented in the previous section provides information about the demand for specific types of workers that arises from a change in employment across different industry sectors. The occupational classification is based upon the duties 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 Berkshire County area demonstrates the sharp difference in the educational attainment of workers employed in different occupations. Workers employed in college labor market occupations had large shares of college graduates with a bachelor's degree or a higher level of education. Nearly 60 percent of Berkshire County workers employed in these occupations had a bachelor's degree or higher level of education. Another one-quarter had some postsecondary education below the bachelor's degree level. Almost 85 percent of the workers in these college labor market 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 healthcare practitioner and technical occupations. Over 45 percent of the workers employed in these occupations in the Berkshire County area were college graduates with a bachelor's or higher level of education and over one-half (52 percent) had completed some postsecondary education below the bachelor's degree level.

Workers in the office and administrative support occupations also were more likely to have some college education, although most had completed a college education below the bachelor's degree level. Over 43 percent of Berkshire County workers in this occupation had completed some college education below the bachelor's degree level and only 13 percent had a bachelor's degree or higher level of education. Over one-third of the office and administrative support workers (37 percent) had a high school diploma with no postsecondary education.

Chart 1:
Percentage Distribution by Educational Attainment of Employed Individuals Who Worked in the Berkshire County 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. More than half of the workers in high skill blue collar jobs and 56 percent of production, transportation and material moving workers had completed only a high school level of education and earned a high school diploma or a

GED certificate. Nearly 36 percent of the workers in high skill blue collar occupations and 30 percent in production and transportation occupations had completed some postsecondary education below the bachelor's degree level. Bachelor's degrees were less common among these workers—about 10 percent among high skill blue collar workers, and only 5 percent among production and transportation workers. These occupations had somewhat higher 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 7 percent of high skill blue collar and the same share of production and transportation and material moving workers were high school dropouts.

Low level sales occupations such as cashiers, counter clerks and retail salespersons and service occupation workers are more likely to be staffed by young workers. Nearly 8 percent of the Berkshire County area workers who were employed in these occupations were high school students, making this occupation a large employer of teens. Nearly 40 percent of the workers in this occupation were high school graduates, one-third had completed postsecondary education below the bachelor's degree level and fewer than 13 percent had completed a bachelor's degree or higher level of education.

Growth and decline in occupational employment in a region provides very clear signals regarding the demand for education in the region. Employment growth in the retail trade sector would not place a strong demand for college graduates whereas increases in employment in the healthcare sector or the professional and technical service sector will result in higher employment in college labor market occupations and therefore an increase in the demand for college graduates and workers with high skills and high levels of literacy proficiencies.

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.

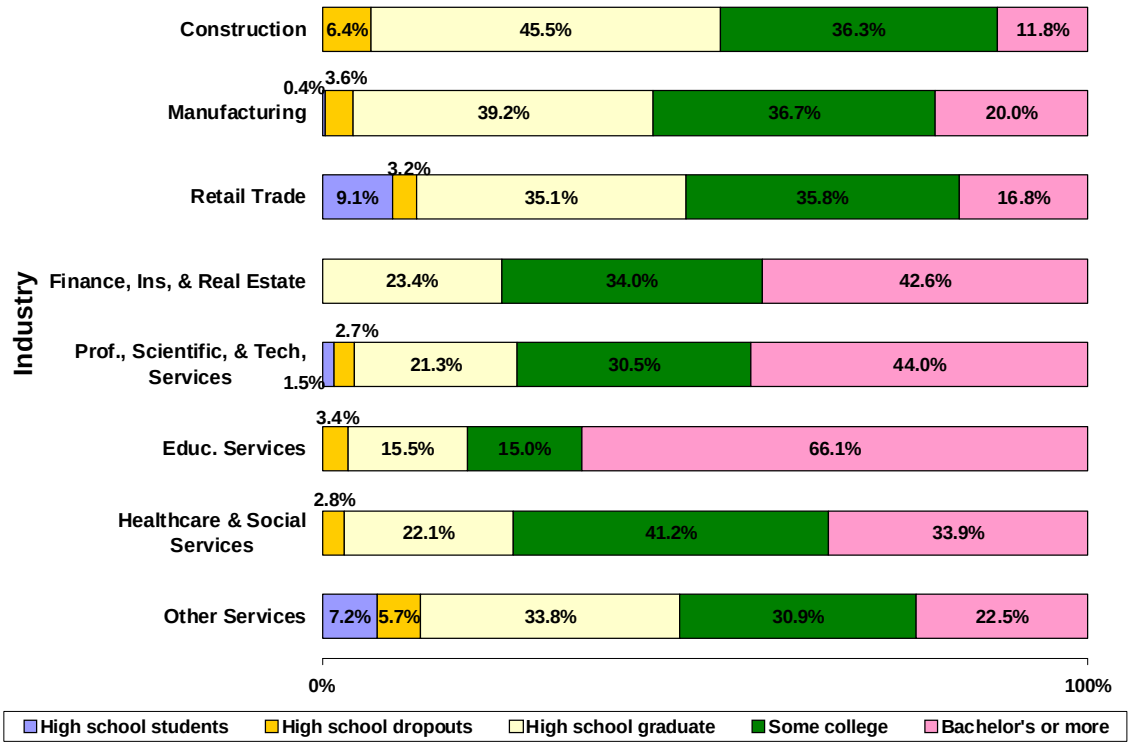
An examination of the educational attainment of workers in the Berkshire County area within the eight industry sectors highlights sharp difference across industries. Our discussion starts with the industry with the most college graduates. College graduates account for two-thirds of all workers in the educational services industries, 44 percent in the professional, scientific, and technical services industries, and nearly 43 percent of all Berkshire County area workers employed in the finance, insurance, and real estate sectors.

These sectors also had sizable proportions of workers with some college education below the bachelor's degree level (though lower for the educational services industry). In fact, a majority of the workers in these three industries had completed at least some higher education in the form of some college below the bachelor's degree level or a bachelor's degree or a higher degree. Eighty-one percent of workers in the education services sector, 77 percent in the financial, insurance, and real estate sectors, and 75 percent in the professional, scientific and technical services sector had completed some postsecondary education below, at, or above the bachelor's degree level. These industries employed some high school graduates (16 percent in educational service, 21 percent in professional and technical services, and 23 percent in finance, insurance, and real estate sector) but almost no high school dropouts.

In a previous segment we found that workers employed in the healthcare and social services industries in the Berkshire County 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 office and administrative support positions. 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 34 percent had earned a bachelor's or higher degree. The rest had some college education below the bachelor's degree level. Over one-fifth (22 percent) of all workers in these industries had only a high school level education and about 3 percent were high school dropouts.

Chart 2:
Percentage Distribution by Educational Attainment of Employed Individuals Who Worked in the Berkshire County 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.

The miscellaneous (other) services sector, which contains firms that provide administrative support and waste management, arts, entertainment, recreation, accommodation, food services, and public services, generally consists of more workers with high school diplomas but fewer with college degrees. Under 6 percent were high school dropouts and one-third had a high school diploma or a GED but no postsecondary

education. Workers with some college education below the bachelor's degree level comprised 31 percent of all workers employed in these industries. About 23 percent had a college degree.

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 a somewhat larger a share of high school students (9 percent versus 7 percent) and half as many high school dropouts (3 percent versus 6 percent). The larger share of high school students in both these industries means that the retail trade and miscellaneous service sectors provide 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 Berkshire County area's retail trade workers had only earned a high school diploma or a GED certificate. One-sixth had earned a bachelor's or a higher level degree and 36 percent had some college education below the bachelor's degree level.

The construction industry had workers with the lowest educational credentials. Over 6 percent had failed to earn a high school diploma or a GED certificate and 46 percent had terminated their education after graduating from high school. Over 36 percent had completed some college education and 12 percent had a bachelor's or a higher degree. Workers in the manufacturing sector had somewhat better education levels that those in the construction sector. Fewer than 4 percent had failed to graduate from high school, 39 percent had a high school diploma or a GED and 37 percent had completed some college. The remaining one-fifth had earned a bachelor's or a higher degree.

The education of workers in the Berkshire County 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 Berkshire County area and its occupational staffing patterns and educational requirements 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, and
- available for work at the time of the survey.[18]

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 (BLS) 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

[18] 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, 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.[19] 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.

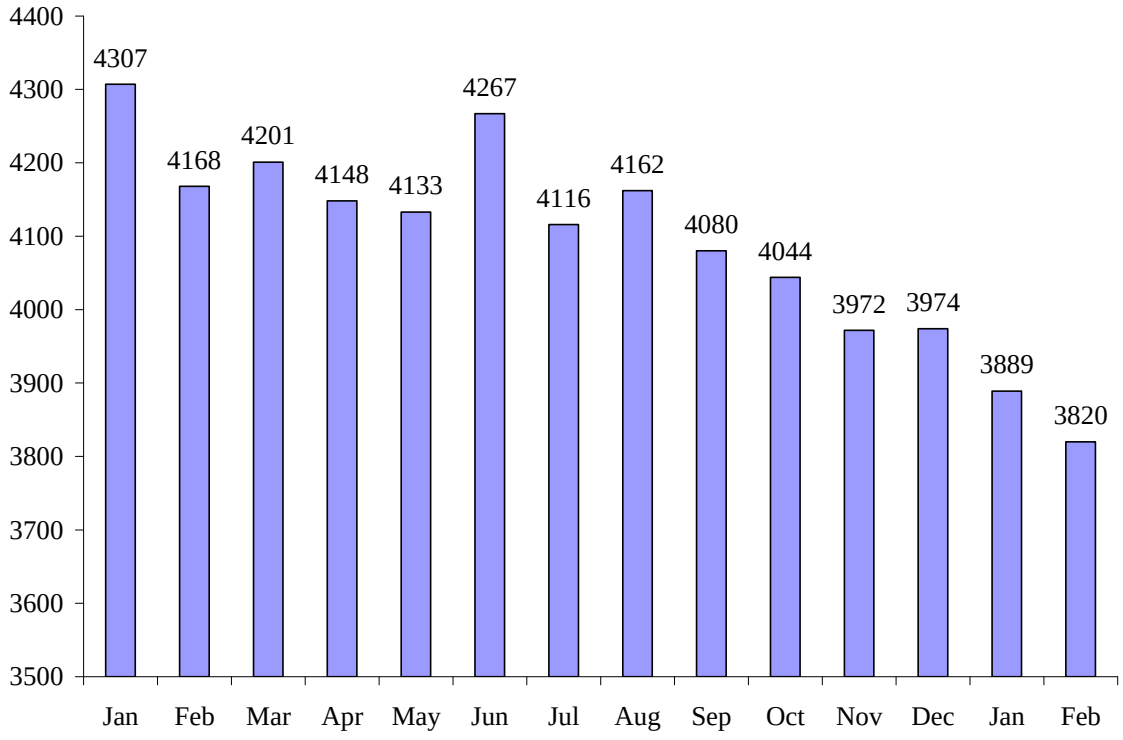
Trends in Job Vacancies in the Nation

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

[19] 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 unfilled labor 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.

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

Despite the context of overall declines in payroll employment in recent months, the JOLTS survey still found 3.8 million unfilled jobs during February of 2008.

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 through reduced hiring and rising separations, including layoffs. The trade, transportation and utilities sector along with retail trade producers also experienced sharp reductions over the year 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)

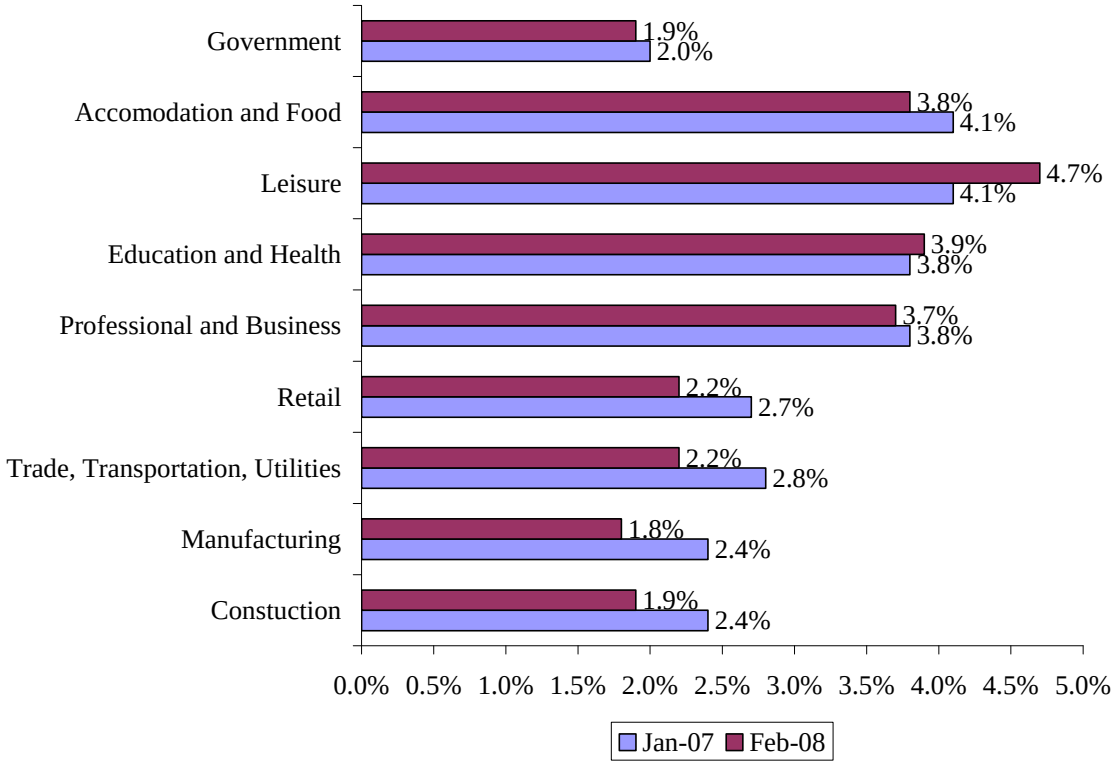
Industry Sector	Jan-07	Feb-08	Absolute Change	Relative Change
Construction	191	140	-51	-27%
Manufacturing	344	246	-98	-28%
Trade, Transportation, Utilities	763	611	-152	-20%
Retail	424	346	-78	-18%
Professional and Business	707	695	-12	-2%
Education and Health	714	748	34	5%
Leisure	566	516	-50	-9%
Accommodation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

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 during 2007 into early 2008. 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

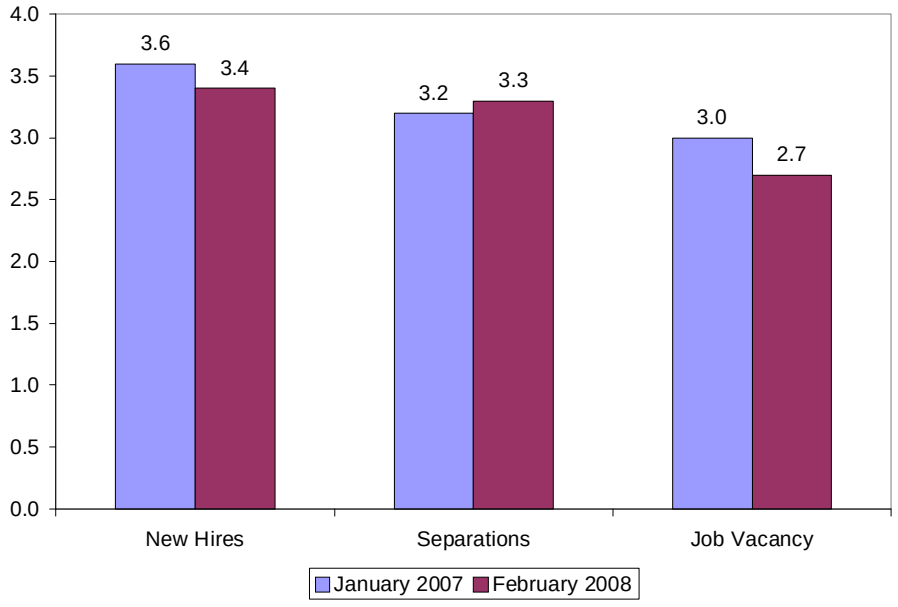
The data reveal that the two major industry sectors with the highest vacancy rates were the accommodation and food industry and leisure and hospitality industry. In February 2008, the job vacancy rate was 4.7 percent in the leisure and hospitality sector

and 3.8 percent in the accommodation and food industry. The job vacancy rates in both these sectors were sharply above the overall vacancy rate of 2.7 percent 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 between nearly 4 and 5 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

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

that became open due to replacement needs. Indeed, during the same month 4.485 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.[20] 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[21]

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 finding suggests a very high relative level of movement of workers in and out of jobs in the industry. Indeed, these data imply 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

[20] The new hire rate = new hires per month/ monthly payroll employment and the separation rate = total separations per month/monthly payroll employment

[21] 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.

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)

Industry Sector		New Hires	Separations	Job Vacancies
Total	Number	4,638	4,485	3,820
	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

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 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 that 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.

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 had a new hire rate that was 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 begun conducting a job vacancy survey by occupation and industry that can shed important insight into some of these issues. The data from this survey are discussed below.

Job Vacancies in Massachusetts

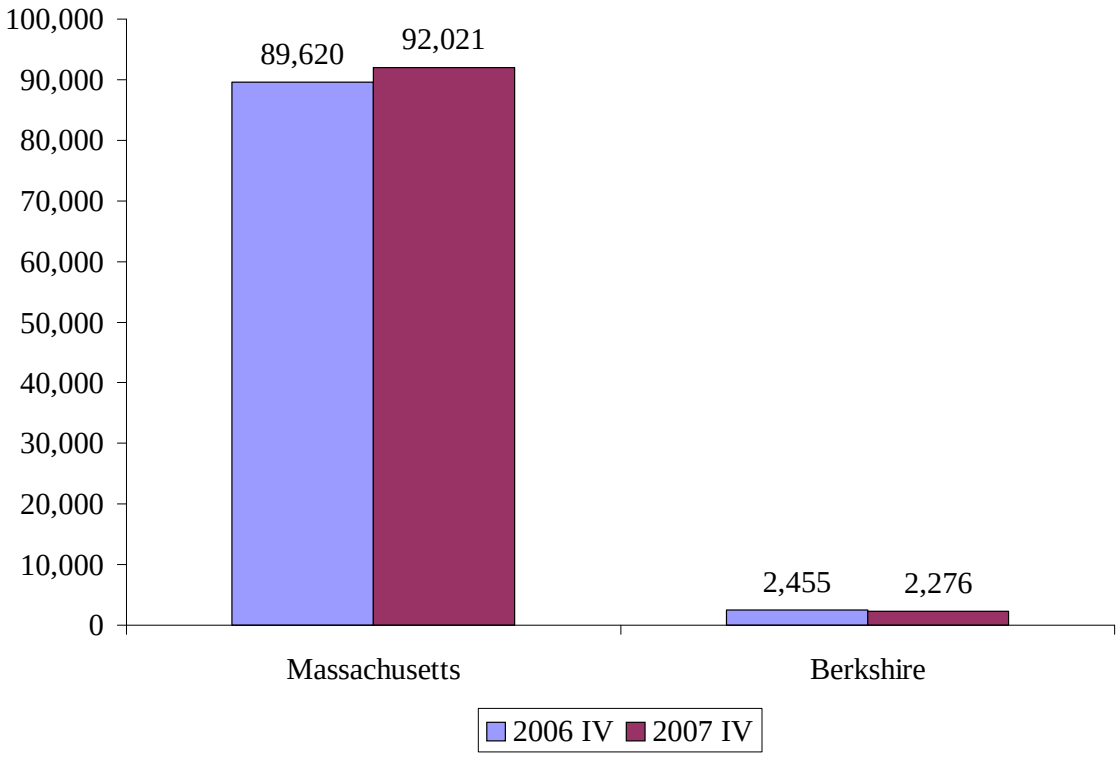
Several years ago the Massachusetts Department of Labor and Workforce Development began a survey of business establishments in the state designed to measure job vacancies by occupation and industry. Unlike other surveys conducted by DWD's Labor Market Information Unit, the Job Vacancy Survey (JVS) is 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 program 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 complementary sources of information about labor market demand conditions at the state and national level. 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.[22]

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 contrast, the Berkshire

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

region posted a decline in the number of unfilled jobs between the end of 2006 and 2007. In the Berkshire region, the number of job vacancies fell from 2,455 in the fourth quarter of 2006 to 2,276, a relative reduction of 7 percent over the period. The job vacancy rate in the state remained essentially unchanged in the 3.1 to 3.2 percent range over the period. The job vacancy rate in the Berkshire region of 4.4 percent was well above the state mean vacancy rate and despite the decline in the number of job vacancies in the region the Berkshire job vacancy rate was still the highest of all regions in Massachusetts at the end of 2007 at 4.1 percent.[23]

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

[23] The state job vacancy rate is calculated as simply the ratio of job vacancies to payroll employment levels or JVR= JV/ 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.

As in the nation as a whole, the number of job vacancies and the job vacancy rate varied systematically by industry sector in the state. The largest number of job vacancies statewide was concentrated in the Healthcare sector, where about 20,000 payroll jobs remained unfilled at the end of the fourth quarter of 2007. The Healthcare 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 fourth largest numbers of job vacancies statewide were concentrated in Retail Trade and Accommodation and Food Services

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

industries. Together these two industry sectors had 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.[24] 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 Berkshire region of the state exhibited an industrial pattern of job vacancies that is different from the state's pattern, with the Berkshire region having a disproportionately heavy concentration of all of its unfilled jobs in the Accommodations and Food Services and Retail Trade sectors. Accommodations and Food Services had a very high job vacancy rate of 7.5 percent. Indeed, this industry sector accounted for one fifth of all vacant jobs in the region at the time of the survey. The Retail Trade sector also posted a large number of unfilled jobs accounting for about another one fifth of all vacant jobs in the region. Both of these sectors have much higher shares of all unfilled jobs than was the case statewide.

The healthcare industry in the region had a total of 434 jobs vacant at the end of 2007, also accounting for about one fifth of all vacant jobs in the Berkshire region. The job vacancy rate in the healthcare industry was 4.2 percent. The Healthcare industry in Berkshire, like that of the state as a whole, employs above average shares of workers with post secondary education, frequently in health related occupational fields. Like the state, the comparatively high job vacancy rate in the region's health delivery system may be indicative of specific occupational skills shortages in the health professions.

[24] 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 Berkshire Region, Fourth Quarter 2007

Industry	Number of Job Vacancies	Job Vacancy Rate	Industry	Number of Job Vacancies	Job Vacancy Rate
Utilities	*	*	Professional & Technical Services	*	*
Construction	*	*	Management	*	*
Manufacturing	137	2.5%	Administrative & Support & Waste Services	52	4.0%
Wholesale Trade	*	*	Educational Services	138	2.0%
Retail Trade	420	5.0%	Healthcare	434	4.2%
Transportation & Warehousing	83	7.7%	Arts, Entertainment & Recreation	*	*
Information	22	2.2%	Accommodation & Food Services	471	7.5%
Finance & Insurance	*	*	Other Services	20	1.0%
Real Estate, Rental & Leasing	16	2.7%	Public Administration	*	*

Source: Massachusetts Department of Labor and Workforce Development, unpublished data, April, 2008
*Suppressed due to confidentiality.

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.[25]

[25] 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/

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)

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.[26] 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 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 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.

[26] These are occupations that employ well above average shares of workers with an associate's degree or higher.

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.

In the Berkshire region the job vacancy rates in SEIT fields were quite high relative to statewide vacancy rates in those occupational areas. The Berkshire vacancy

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

Occupation	Number of Job Vacancies	Job Vacancy Rate	Occupation	Number of Job Vacancies	Job Vacancy Rate
Management Occupations	51	1.8%	Protective Service	*	*
Business and Financial Operations	23	1.2%	Food Preparation and Serving Related	286	4.5%
Computer and Mathematical	25	2.9%	Building and Grounds Maintenance	57	2.2%
Architecture and Engineering	51	6.4%	Personal Care and Service	*	*
Life, Physical, and Social Services	28	6.5%	Sales and Related	296	4.2%
Community and Social Services	25	2.0%	Office and Administrative Support	266	2.7%
Legal	*	*	Farming, Fishing, and Forestry	*	*
Education, Training and Library	100	2.0%	Construction and Extraction	40	1.3%
Arts, Design, Entertainment, Sports and Media	*	*	Installation, Maintenance, and Repair	25	1.3%
Healthcare Practitioner and Technical	171	4.5%	Production	113	2.7%
Healthcare Support	140	6.9%	Transportation and Material Moving	211	9.1%

Source: Massachusetts Department of Labor and Workforce Development, unpublished data, April, 2008
*Suppressed due to confidentiality.

rate in the engineering field was 6.4 percent compared to a 4.2 percent rate statewide. The share of unfilled jobs in life and physical sciences in the Berkshire region was 6.5 percent, above the very high statewide vacancy rate of 5.6 percent. The only SEIT field with a below average vacancy rate was the computer and mathematical scientists field which had 2.9 percent of its jobs unfilled at the time of the survey, well below the statewide rate of 4.2 percent in that occupation. It is important to note that while the SEIT vacancy rates were relatively high compared to the state, vacancies in this field account for just under 5 percent of all job vacancies in the region, a proportion that is equal to just 40 percent of the statewide share of 11.5 percent of vacancies in SEIT fields.

The vacancy rate in the health care practitioner field was well above the average vacancy rate for the Berkshire region with a vacancy rate of 4.5 percent. 171 professional health care jobs were vacant at the time of the survey. Again, these data are suggestive of 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 just 1.8 percent, well below that of the occupation statewide. The regional vacancy rate in the business and financial fields of 1.2 percent was also well below 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 12 percent 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. Sales occupations, including retail sales workers, had a vacancy rate of 4.2 percent with nearly 300 sales positions vacant at the time of the survey.

Job vacancy rates in blue collar occupations including construction, production and transportation jobs in the region were quite mixed relative to the overall vacancy rate in the region. The vacancy rate for more skilled blue collar workers was quite low. The vacancy rate for installation, maintenance and repair workers was 1.3 percent at the time

of the survey. However, the number of jobs open for transportation workers was among the highest of any occupation in the state at 9.1 percent. The healthcare support occupations had vacancy rates that were in excess of 6.5 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 Certificates in the Berkshire County Workforce Area

Introduction

A key component of developing strategies to address state and regional workforce development needs is the understanding of 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 institutions that offer non-degree post secondary certificates. These certificates also called awards, 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 certificates in the Berkshire 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 certificates in the Berkshire region relative to the entire state of Massachusetts, the New England region and the nation. Trends in degrees and certificates awarded are also presented by higher education sector (public and private) and by major field of study.

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 annual data on 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.[27] 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 Berkshire 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 Berkshire region each year for the past five years, by specific field of study. We have also included, on the CD, a matrix of fields of study that allows the user to easily identify individual schools that have produced graduates in a particular field of study.

[27] 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.

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. These connections between the CIP codes and labor demand classifications facilitate 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 certificates 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 to 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 are 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.[28] Instead, the

[28] 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

IPEDS non-degree certificate data largely include only certificates awarded by colleges and universities that also award undergraduate degrees. 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 program. A few others (about 200 nationally) voluntarily report IPEDS information even though they are not Title IV eligible.[29]

Institutional Supply at the Associate's Degree Level

Over the last ten years, the undergraduate output at the associate's degree level has varied in Berkshire County and wider geographical areas. As the findings in Table 1 show, 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 the New England region and the state of Massachusetts fell. In further contrast, the number of associate's degrees awarded during these ten years in Berkshire County barely changed at all.

Table 1: Trends in the Number of Associate's Degrees Conferred in the U.S., New England, Massachusetts and Berkshire County, 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%
Berkshire County	343	344	1	0%

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

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

proposed to NCES that all institutions on these vendor lists be included in the IPEDS completions data reporting system.

[29] 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.

reduction in the number of associate's degrees conferred, while the New England region witnessed a decline of five percent.

In contrast to these trends of noticeable change, in Berkshire County the output of associate's degrees remained almost exactly the same. During this ten year period only one additional associate's degree was granted in this area, from 343 degrees in 1996 to 344 degrees in 2006.

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

As the total number of associate's degrees granted has changed over the past ten years in Berkshire County, Massachusetts, New England and the nation, the data provided in Table 2, Chart 1, and Chart 2 examine trends in the number of associate's degrees awarded by sector of the higher education system. These data track the trends in associate's degrees awarded separately for public and private 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 (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 public colleges (a 52 percent increase versus a 26 percent increase, respectively).

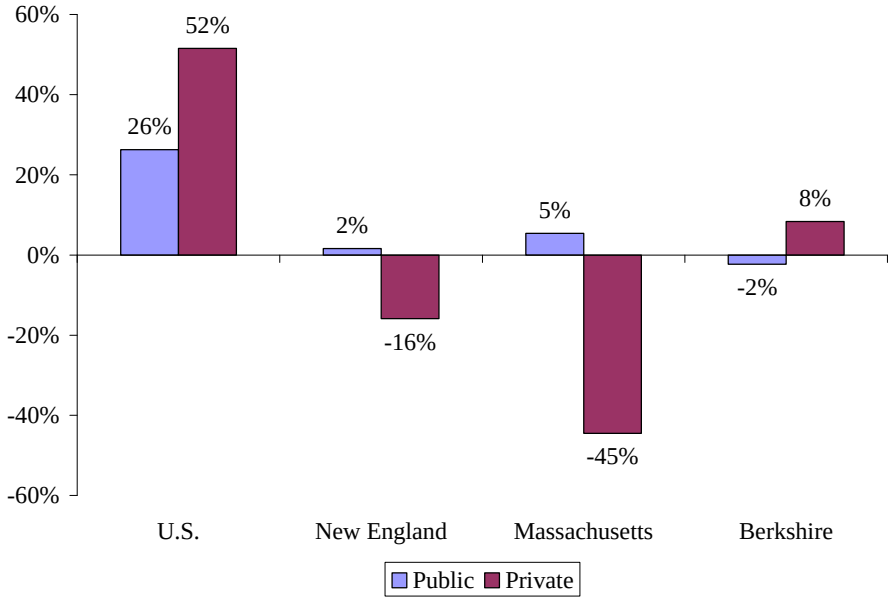
In stark contrast to the nation, the overall number of associate's degrees awarded by higher education institutions in New England and Massachusetts fell between 1996 and 2006. In both the region and the state, all of these declines were concentrated exclusively among private colleges. In New England, although the number of associate's degrees granted by public colleges increased modestly between 1996 and 2006 (a two percent rise), this increase was counterbalanced by a large reduction of 1,698 associate's degrees conferred by private colleges in the region during this same ten year period. Similarly, in Massachusetts a small rise of five percent in the number of associate's

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

Sector	1996	2006	Absolute Change	Relative Change
U.S.				
Public	454,452	573,941	119,489	26%
Private	103,406	156,702	53,296	52%
New England				
Public	17,746	18,027	281	2%
Private	10,694	8,996	-1,698	-16%
Massachusetts				
Public	8,213	8,659	446	5%
Private	4,469	2,480	-1,989	-45%
Berkshire County				
Public	259	253	-6	-2%
Private	84	91	7	8%

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

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 Berkshire County, 1996 to 2006

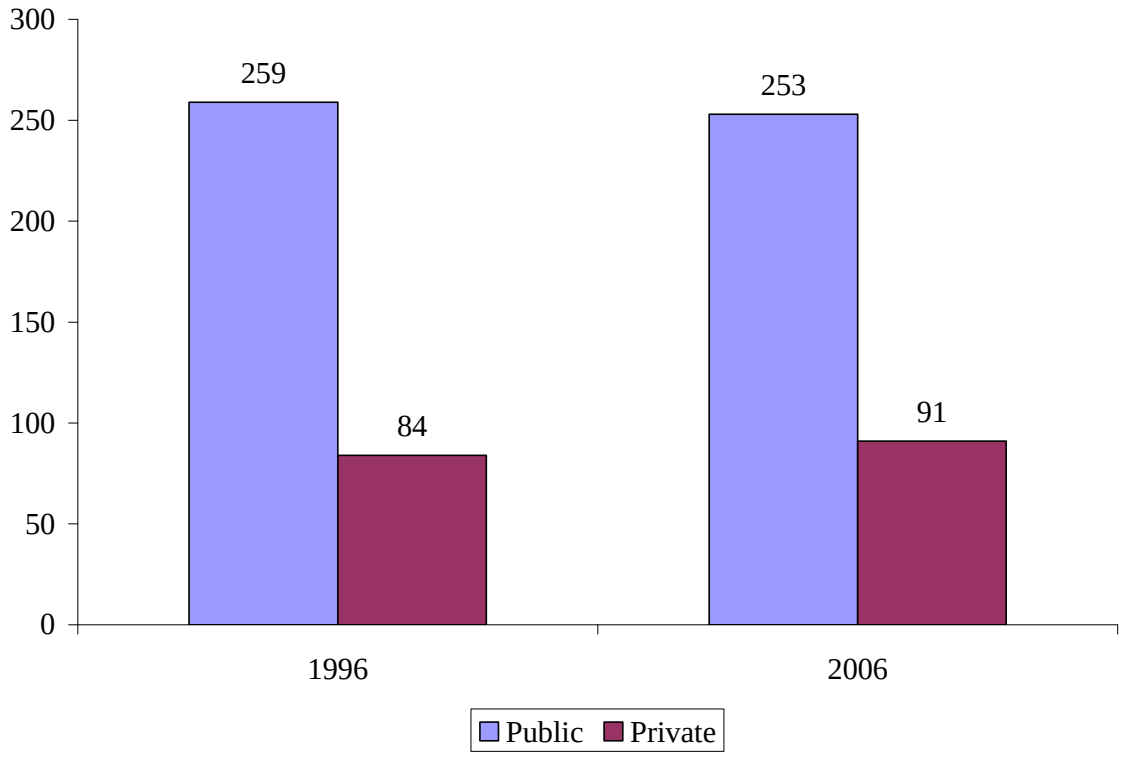


Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

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 time period. The number of associate's degrees awarded by Massachusetts private colleges fell from 4,469 degrees in 1996 to 2,480 degrees in 2006.

The marginal increase in the number of associate's degrees awarded in Berkshire County between 1996 and 2006 occurred among private colleges that increased the number of associate's degrees granted by seven degrees. However, this modest increase was almost completely counterbalanced by public colleges in Berkshire County, which reduced the number of associate's degrees conferred by six degrees.

Chart 2: The Number of Associate's Degrees Conferred in Berkshire County, 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

Although the public higher education sector in Berkshire County reduced the number of associate's degrees granted between 1996 and 2006, it continued to account for almost three quarters of all associate's degrees granted in this area (74 percent).

Trends in Fields of Study of Associate's Degree Certificates

Although the overall number of associate's degrees awarded by the higher education system in Berkshire County only increased marginally between 1996 and 2006, the number of associate's degrees awarded by most of the broad major fields of study changed considerably during this period of time (Table 3).

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

	1996	2006	Absolute Change	Relative Change
Criminal Justice	24	30	6	25%
Health Sciences	69	62	-7	-10%
Business	55	43	-12	-22%
Engineering & Computer Science	26	13	-13	-50%
Education	0	0	0	0%
Law	0	0	0	0%
Arts & Humanities	150	191	41	27%
Sciences	19	5	-14	-74%
Personal Services	0	0	0	0%
Total	343	344	1	0%

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 increase was experienced in arts and humanities, where the number of associate's degrees conferred increased by 41 degrees between 1996 and 2006. There was also a significant – albeit smaller - increase in the number of associate's degrees granted in criminal justice, from 24 degrees in 1996 to 30 degrees in 2006.

Largely offsetting these absolute increases in the output of associate's degrees conferred were considerable decreases in the number of these degrees awarded in sciences (a decrease of 14 degrees), engineering and computer science (a decrease of 13

degrees), business (a decrease of 12 degrees), and health sciences (a decrease of seven degrees).

In contrast to these changes, there was no change in the number of associate's degrees awarded in education, law and personal services. Not a single associate's degree was granted in each of these fields of study in Berkshire County in 1996 as well as in 2006.

Current Distribution of Associate's Degrees

The findings from Table 4 also highlight that the major field of study structure of associate's degree program output in Berkshire County in 2006, as measured by the distribution of associate's degrees awarded in this area 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 in the same year.

As in the other geographical areas, the biggest share of all associate's degrees awarded in Berkshire County in 2006 was in the arts and humanities fields of study (56 percent). However, the shares awarded in arts and humanities in the state, New England region, and the nation, were considerably smaller than the share in Berkshire County, with 31 percent of all associate's degrees being awarded in this field of study in Massachusetts, 27 percent in New England and 41 percent in the nation.

Berkshire County awarded the second biggest share of all associate's degrees in health sciences in 2006 (18 percent). This was relatively comparable to the shares granted in health sciences in Massachusetts (23 percent), New England (21 percent) and the nation (19 percent). Berkshire County also awarded the same share of all associate's degrees in sciences as Massachusetts, New England and the nation did in 2006 (one percent).

In contrast, the share of associate's degrees conferred in criminal justice in 2006 was larger in Berkshire County than in any of the other geographical areas. Nine percent of all associate's degrees were awarded in this field of study in Berkshire County in 2006,

slightly more than in Massachusetts (seven percent) and New England (six percent) and more than double the size of the share in the nation (four percent).

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

Major Field of Study	Berkshire County	Massachusetts	New England	U.S.
Criminal Justice	9%	7%	6%	4%
Health Sciences	18%	23%	21%	19%
Business	13%	19%	21%	14%
Engineering & Computer Science	4%	13%	14%	13%
Education	0%	3%	2%	2%
Law	0%	1%	1%	1%
Arts & Humanities	56%	31%	27%	41%
Sciences	1%	1%	1%	1%
Personal Services	0%	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

Conversely, Berkshire County awarded a smaller share of all conferred associate's degrees in engineering and computer science in 2006 than the other geographical areas did. Berkshire County only awarded four percent of all associate's degrees in this field, three times smaller than the shares granted in Massachusetts (13 percent), New England (14 percent) and the nation (13 percent). The share of associate's degrees conferred in business in Berkshire County (13 percent) was also smaller than the shares awarded in this field in the other geographical areas. Although it was only slightly smaller than the share in the nation (14 percent), it was noticeably smaller than the share in Massachusetts and New England (19 percent and 21 percent, respectively). Furthermore, while Berkshire County awarded zero percent of all associate's degrees in education, law and personal services in 2006, all the other geographical areas granted higher (albeit, still small) shares of all associate's degrees in these fields of study. The share of all associate's degrees granted in education in Massachusetts was three percent, while in both New England and the nation it was two percent. Meanwhile, one percent of all associate's degrees were granted in law in Massachusetts, New England and the

nation. In personal services, two percent of all associate's degrees were awarded in Massachusetts, while New England granted seven percent and the nation conferred four percent.

Institutional Supply at the Bachelor's Degree Level

Over the last ten years the trend in the number of degrees awarded at the bachelor's degree level by colleges located in the nation, the New England region and the state of Massachusetts has been very different from the Berkshire County area. As the findings in Table 5 reveal, while the output of bachelor's degrees from the higher education systems in the nation, New England and Massachusetts increased between 1996 and 2006, the number of bachelor's degrees granted in Berkshire County fell slightly.

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

Table 5: Trends in the Number of Bachelor's Degrees Conferred in the U.S., New England, Massachusetts and Berkshire County, 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%
Berkshire County	885	855	-30	-3%

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

students who earned a bachelor's degree increasing by only 15 percent over this same ten year period. This is a rate of increase equal to only 56 percent of the rate of growth in bachelor's degree production in the nation.

This upward trend was not reflected in Berkshire County, where the output of bachelor's degrees awarded during this ten year period of time fell by three percent, from 885 degrees in 1996 to 855 degrees in 2006. This negative growth in new bachelor's degree production suggests that Berkshire County does not have a sufficient supply of new labor at this institutional level, especially relative to in the state, the region and the nation as a whole.

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

As the number of bachelor's degrees granted has changed over the past ten years in Berkshire County, Massachusetts, New England and the nation, the data provided in Table 6, Chart 3, and Chart 4 reveal that the sources and rate of this change by sector of the higher education system has varied by geographic 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 period of time 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).

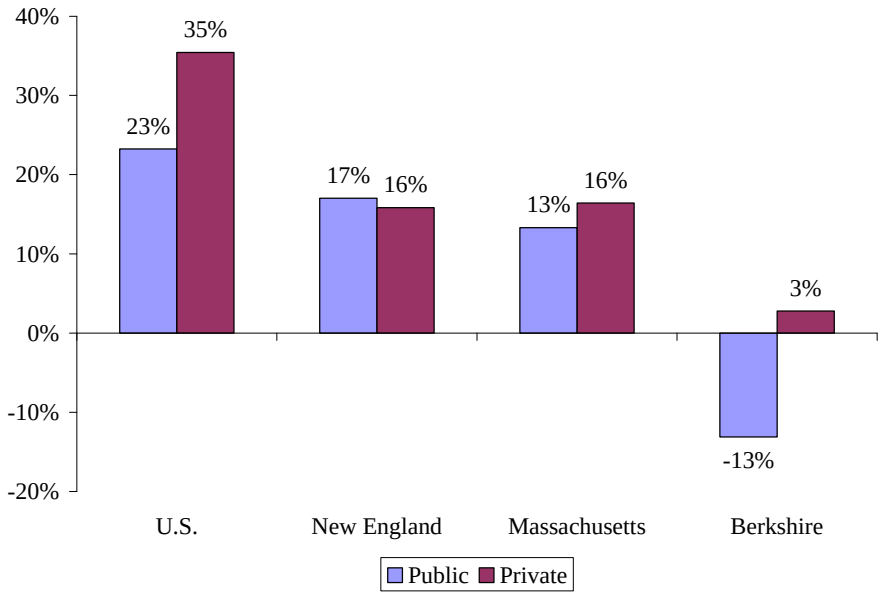
Both public and private colleges in New England and Massachusetts increased their overall output of bachelor's degrees at a slower pace than their counterparts across the nation. In Massachusetts, private colleges increased the number of bachelor's degrees

Table 6: Trends in the Number of Bachelor's Degrees Awarded in the U.S., New England, Massachusetts and Berkshire County, 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%
Berkshire County				
Public	343	298	-45	-13%
Private	542	557	15	3%

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

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 Berkshire County, 1996 to 2006

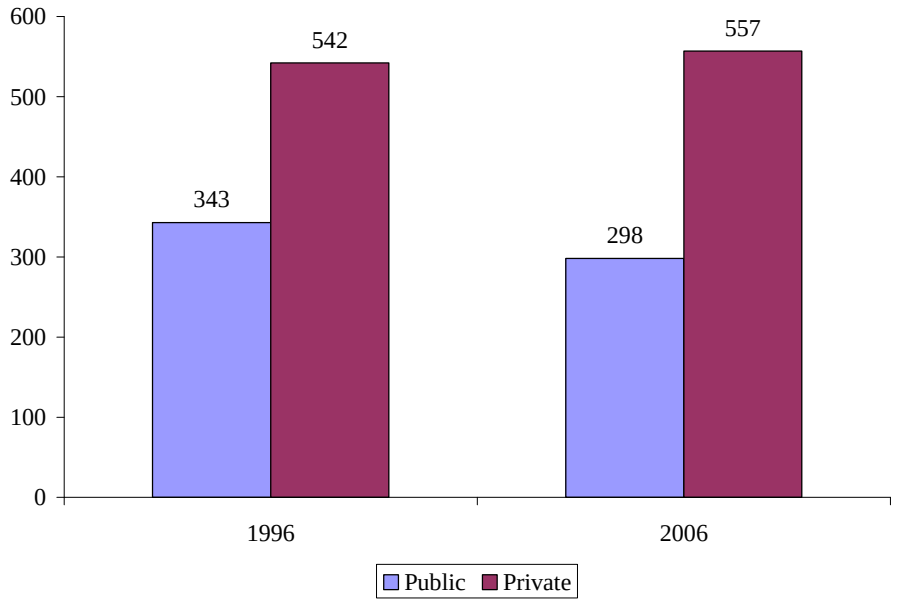


Source: National Center of Education Statistics, *Integrated Post Secondary Education Data System*, various years, Tabulation by Center for Labor Market Studies, Northeastern University, March 2008

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 awarded by 17 percent between 1996 and 2006, while private schools in the region increased the number of these degrees awarded by 16 percent.

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 amongst 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 7,730, accounting for 58 percent of the total increase of bachelor's degrees in this region.

Chart 4: The Number of Bachelor's Degrees Conferred by Higher Education Sector in Berkshire County, 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

In Berkshire County the contraction in the number of bachelor's degrees conferred between 1996 and 2006 was concentrated exclusively among public higher education institutions, which reduced the number of these degrees granted by 13 percent, from 343 degrees in 1996 to 298 degrees in 2006. Although private higher education institutions in Berkshire County increased the number of bachelor's degrees awarded by 15 degrees during this ten year period, this increase was not big enough to counterbalance the decrease in granted bachelor's degrees that took place in the public higher education sector in Berkshire County at the same time.

As a consequence of these changes during the past ten years, the private higher education sector in Berkshire County extended its share of the distribution of all bachelor's degrees awarded in this region, from about 61 percent in 1996 to about 65 percent in 2006.

Trends in Fields of Study of Bachelor's Degree Certificates

Over the last ten years as the output of bachelor's degrees has decreased by a total of three percent in Berkshire County, there have also been considerable changes in the composition of the broad fields of study in which students have earned these degrees (Table 7).

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

Major Field of Study	1996	2006	Absolute Change	Relative Change
Criminal Justice	0	0	0	0%
Health Sciences	2	0	-2	-100%
Business	90	47	-43	-48%
Engineering & Computer Science	20	15	-5	-25%
Education	21	5	-16	-76%
Law	0	0	0	0%
Arts & Humanities	590	565	-25	-4%
Sciences	162	163	1	1%
Personal Services	0	0	0	0%
Total	885	855	-30	-3%

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 decrease in the output of bachelor's degrees was in business, where the number of degrees granted almost halved from 90 in 1996 to 47 in 2006. Other – albeit smaller – absolute decreases in the number of bachelor's degrees awarded also occurred in arts and humanities (a decrease of 25 degrees), education (a decrease of 16 degrees), engineering and computer science (a decrease of five degrees) and health sciences (a decrease of two degrees).

The only field of study which experienced an increase in the number of bachelor's degrees awarded in Berkshire County between 1996 and 2006 was sciences. However, this increase was marginal, with only one additional bachelor's degree being awarded in sciences in 2006 in comparison to 1996.

Meanwhile, in criminal justice, law and personal services there was no change in the number of bachelor's degrees awarded. In 1996 as well as 2006, not a single bachelor's degree was conferred in each of these fields of study by higher education institutions in the Berkshire County area.

Current Distribution of Bachelor's Degrees

As highlighted by Table 8, the major field of study structure of bachelor's degree program output in Berkshire County in 2006 is very different from those of the higher education systems in the state of Massachusetts, the New England region and the nation as a whole.

As in Berkshire County in 2006, the biggest share of all bachelor's degrees was conferred in arts and humanities in Massachusetts, New England and the nation. Two-thirds of all bachelor's degrees were conferred in this field of study in Berkshire County, representing a share that is considerably bigger than the shares in Massachusetts (48 percent), New England (47 percent) and, especially, the nation (39 percent).

A larger share of all bachelor's degrees was also conferred in sciences in Berkshire County than in the other geographical areas. Nearly one-fifth (19 percent) of all bachelor's degrees was awarded in sciences in Berkshire County in 2006, more than

twice the size of the shares awarded in Massachusetts, New England and the nation (eight percent).

Conversely, Berkshire County conferred a considerably smaller share of all bachelor's degrees than Massachusetts, New England and the nation did in business, engineering and computer science and education. While Berkshire County colleges and universities only conferred five percent of all bachelor's degrees in business in 2006, Massachusetts, New England and the nation granted shares about four times as big (19 percent, 19 percent and 22 percent, respectively). Also, the two percent share of all bachelor's degrees that Berkshire County institutions granted in engineering and computer science in 2006 was about four times smaller than the shares awarded in Massachusetts, New England and the nation (nine percent, eight percent and nine percent, respectively). The one percent share of all bachelor's degrees awarded in education in Berkshire County in 2006 was also smaller than the shares awarded in this field of study in Massachusetts (three percent), New England (four percent) and the nation (seven percent).

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

	Berkshire County	Massachusetts	New England	U.S.
Criminal Justice	0%	3%	2%	2%
Health Sciences	0%	6%	7%	8%
Business	5%	19%	19%	22%
Engineering & Computer Science	2%	9%	8%	9%
Education	1%	3%	4%	7%
Law	0%	0%	0%	0%
Arts & Humanities	66%	48%	47%	39%
Sciences	19%	8%	8%	8%
Personal Services	0%	0%	1%	1%
Undesignated Field of Study	7%	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

Furthermore, the shares of all conferred bachelor's degrees awarded in criminal justice, health sciences and personal services by the higher education system in Berkshire County in 2006 were zero. In contrast, each of the other geographical areas awarded shares above zero in these fields of study. The shares of all bachelor's degrees awarded in criminal justice were three percent in Massachusetts and two percent in both New England and the nation. In health sciences, the shares of all of bachelor's degrees granted were six percent in Massachusetts, seven percent in New England and eight percent in the nation. Meanwhile, although Massachusetts, like Berkshire County, awarded zero percent of all conferred bachelor's degrees in personal services, both New England and the nation awarded one percent of all bachelor's degrees in these fields of study.

Institutional Supply at the Undergraduate non Degree Certificate Level

Over the last ten years the undergraduate output at the non-degree certificates level has changed in Berkshire County and wider geographical areas. As the findings in Table 9 reveal, the number of certificates granted at the undergraduate non-degree level by the higher education systems in the nation, the New England region, the state of Massachusetts and the Berkshire County area increased between 1996 and 2006, with dramatically higher rates of growth in Berkshire County relative to the other areas.

The number of undergraduate non-degree certificates 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 certificates 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 certificate by five percent (from 21,904 certificates to 23,003 certificates). This is a rate of growth equal to only 31 percent of the rate of growth in undergraduate non-degree certificate 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 certificate increasing by six percent

over this same ten year period of time (from 9,828 certificates in 1996 to 10,379 certificates 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.

Table 9: Trends in the Number of Undergraduate Non-Degree Certificates Conferred in the U.S., New England, Massachusetts and Berkshire County, 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%
Berkshire County	43	170	127	295%

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

This upward trend was also reflected in Berkshire County, where the number of undergraduate non-degree certificates granted increased from 43 certificates in 1996 to 170 certificates in 2006, an increase of 295 percent in only ten years. This rate of growth in Berkshire County was 18 times faster than that in the nation, 59 times faster than that in New England and 49 times faster than that in Massachusetts over the same ten year period. This exceptionally strong growth in new undergraduate non-degree certificates suggests that Berkshire County has a healthy new supply of labor at this institutional level, even more so, relatively, than in the state, the region and the nation as a whole.

Sources of Undergraduate Non-Degree Certificates Change in the Higher Education Sector

As the number of undergraduate non degree certificates granted has increased over the past ten years in Berkshire County, Massachusetts, New England and the nation, the data provided in Table 10, Chart 5 and Chart 6 reveal that the sources and rate of this change by sector of the higher education system has varied by geographic area.

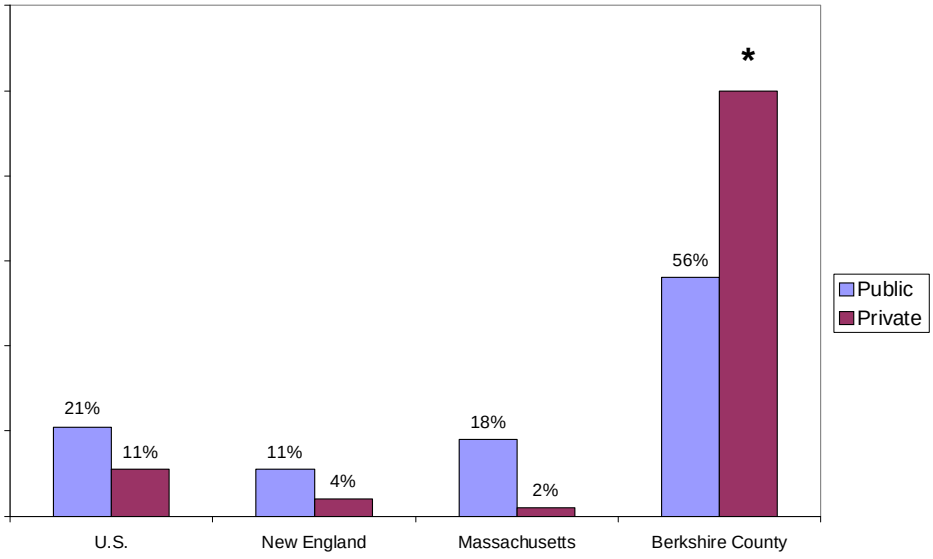
In the nation as a whole, public colleges accounted for two-thirds of the total rise in undergraduate non-degree certificates granted between 1996 and 2006, with public colleges expanding their certificates output by almost 66,000 over this ten year period, an

Table 10: Trends in the Number of Undergraduate Non-Degree Certificates Awarded in the U.S., New England, Massachusetts and Berkshire County, 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%
Berkshire County				
Public	43	67	24	56%
Private	0	103	103	Infinite increase

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

Chart 5: Rate of Change in the Number of Undergraduate Non-Degree Certificates Awarded by Higher Education Sector in the U.S., New England, Massachusetts and Berkshire County, 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

increase of 21 percent. In contrast, private colleges accounted for only one third of the total rise in non-degree undergraduate certificates granted in the nation. The number of certificates conferred by these institutions increased by over 33,000 between 1996 and 2006, representing an increase of 11 percent.

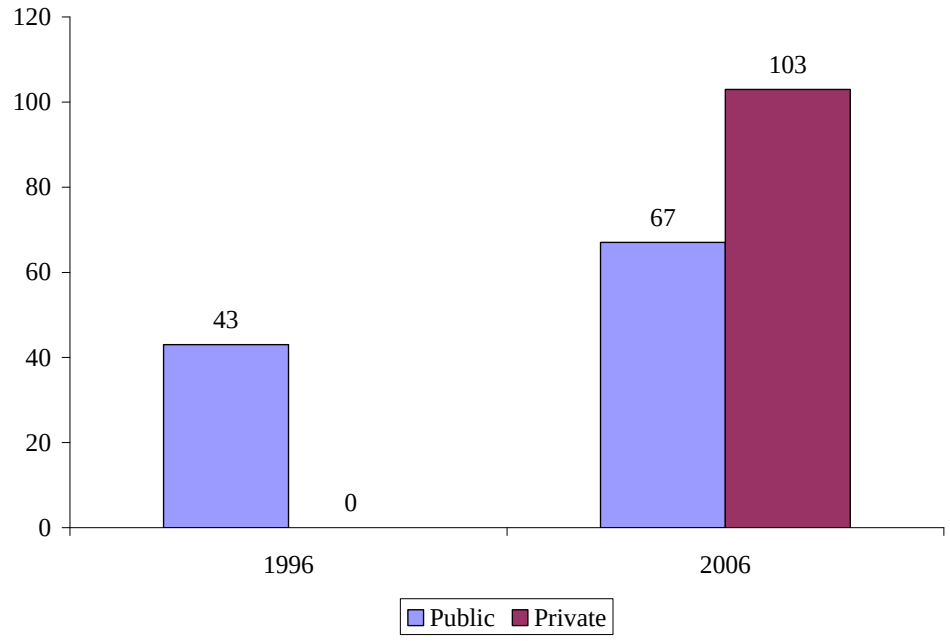
In comparison to the nation, the rate of increase in the total number of conferred undergraduate non-degree certificates was slower in both New England and Massachusetts. However, just as in the nation, in Massachusetts public colleges accounted for the majority of the total rise in non-degree undergraduate certificates (79 percent), expanding their output of certificates by 18 percent over this ten year period, from 2,463 in 1996 to 2,899 in 2006. Private colleges in Massachusetts only accounted for 21 percent of the total rise in undergraduate non-degree certificates in the state over this ten year period, increasing the number of certificates 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 certificates 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 certificates conferred, with the number of certificates that 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 certificates granted in the region over this ten year period (43 percent), increasing the number of certificates they gave by 471 between 1996 and 2006.

Meanwhile, the large increase in the number of undergraduate non-degree certificates in Berkshire County between 1996 and 2006 occurred in both the public and the private higher education sectors, although in the private sector to a much greater extent. Over eight tenths (81 percent) of the overall increase in the number of undergraduate non-degree certificates came from private colleges, which increased the number of these certificates granted from zero in 1996 to 103 in 2006. Although the public higher education sector also increased the number of undergraduate non-degree certificates awarded during this ten year period – from 43 in 1996 to 67 in 2006 – this

accounted for less than one fifth (19 percent) of the overall increase in these certificates granted in Berkshire County during this period of time.

Chart 6: The Number of Undergraduate Non Degree Certificates Awarded by Higher Education Sector in Berkshire County, 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 trends over the past ten years, the distribution of conferred undergraduate non-degree certificates in Berkshire County has come to be dominated by the private rather than the public higher education sector. Although the public higher education sector in Berkshire County accounted for all undergraduate non-degree certificates conferred in 1996, by 2006 the public sector accounted for less than half of all these granted certificates (39 percent), while the private higher education sector accounted for 61 percent.

Trends in Fields of Study of Undergraduate Non-Degree Certificates

Over the last ten years, as the output of undergraduate non degree certificates has increased dramatically by a total of 295 percent in Berkshire County, there have also been some considerable changes in the number of certificates awarded across broad major fields of study (Table 11).

Between 1996 and 2006 the largest absolute increase occurred in health sciences, where the number of undergraduate non-degree certificate awards increased by 66, from 31 certificates in 1996 to 97 certificates in 2006. Other – albeit smaller - absolute increases in the number of undergraduate non-degree certificates also occurred in business (an increase of 27 certificates), arts and humanities (an increase of 15 certificates), education (an increase of 13 certificates) and law (an increase of ten certificates).

Table 11: Trends in Undergraduate Non-Degree Certificates Awarded by Berkshire County Colleges, by Broad Major Field of Study, 1996 to 2006

	1996	2006	Absolute Change	Relative Change
Criminal Justice	0	0	0	0%
Health Sciences	31	97	66	213%
Business	2	29	27	1350%
Engineering & Computer Science	0	0	0	0%
Education	0	13	13	-
Law	0	10	10	-
Arts & Humanities	0	15	15	-
Sciences	0	0	0	0%
Personal Services	10	6	-4	-40%
Total	43	170	127	295%

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

During this time of expansion in the overall number of undergraduate non-degree certificates granted in Berkshire County, the only field of study which experienced a decline in the number of these certificates given was personal services, where the number of certificates fell from ten in 1996 to six in 2006.

Meanwhile in criminal justice, engineering and computer science and sciences there was no change in the number of undergraduate non-degree certificates that were awarded in Berkshire County between 1996 and 2006. Zero certificates were given in each of these fields of study in 1996 as well as in 2006.

Current Distribution of Certificates

The findings from Table 12 also highlight that the mix of program offerings, as measured by the distribution of undergraduate non-degree certificates awarded in Berkshire County during 2006, is quite different from those of the higher education systems in the state of Massachusetts, the New England region and the nation as a whole.

As in Berkshire County in 2006, Massachusetts, New England and the nation granted the biggest share of all undergraduate non-degree certificates in health sciences. Over half of all certificates were awarded in this field of study in Berkshire County (57 percent), comparable to the share in Massachusetts (52 percent), although considerably larger than the shares granted in New England (45 percent) and the nation (43 percent).

Berkshire County granted the second largest share of all undergraduate non-degree certificates in 2006 in business (17 percent). This was almost six times bigger than the share in Massachusetts (three percent), more than four times bigger than the share in New England (four percent) and almost double the size of the share in the nation (nine percent). Similarly, institutions in Berkshire County granted a significantly bigger share of all undergraduate non-degree certificates in education in 2006 (eight percent) than Massachusetts, New England or the nation did (one percent in each of these areas). Berkshire County also granted larger shares of all undergraduate non-degree certificates in both law and arts and humanities than the other geographical areas did. In 2006, Berkshire County granted six percent of all undergraduate non degree certificates in law, at least three times bigger than the shares in Massachusetts, New England and the nation (two percent, two percent and one percent, respectively). The nine percent share of all of these certificates that Berkshire County granted in arts and humanities in 2006 was also bigger than the shares in Massachusetts (six percent), New England (four percent) and the nation (four percent).

Table 12: Distribution of Undergraduate Non Degree Certificates Conferred by Broad Major Fields of Study in Berkshire County, Massachusetts, New England and the U.S., 2006

	Berkshire County	Massachusetts	New England	U.S.
Criminal Justice	0%	1%	1%	4%
Health Sciences	57%	52%	45%	43%
Business	17%	3%	4%	9%
Engineering & Computer Science	0%	10%	22%	23%
Education	8%	1%	1%	1%
Law	6%	2%	2%	1%
Arts & Humanities	9%	6%	4%	4%
Sciences	0%	2%	1%	0%
Personal Services	4%	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

Conversely, Berkshire County awarded a smaller share of all undergraduate non-degree certificates in certain fields of study than Massachusetts, New England and the nation did. In 2006, Berkshire County awarded zero percent of all undergraduate non-degree certificates in engineering and computer science. This stands in contrast to the larger shares awarded in this field of study in Massachusetts (ten percent), New England (22 percent) and the nation (23 percent). Similarly, the four percent share awarded in Berkshire County in personal services was almost six times smaller than the share in Massachusetts (23 percent), five times smaller than the share in New England (20 percent) and almost four times smaller than the share in the nation (15 percent). Also, although the nation, like Berkshire County, awarded a zero percent share of all undergraduate non-degree certificates in sciences in 2006, Massachusetts awarded two percent and New England awarded one percent. The zero percent share of all undergraduate non-degree certificates granted in Berkshire County in criminal justice in 2006 was also smaller than the shares awarded in Massachusetts, New England and the nation (1 percent, 1 percent and 4 percent, respectively).

Secondary Career and Technical Education Program Completions in the Berkshire County 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 10th grade English Language Arts, Mathematics and Science and Engineering Technology MCAS proficiency tests. These students also complete a course of study that meets the program guidelines of either the federal Perkins Reauthorization Act of 2006 or 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."[30]

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 education) in the specific occupational field. In addition, schools must provide equipment

[30] 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.

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 fields related to their occupational concentration while in high school.[31] 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 Berkshire County region. Indeed, during 2007 vocational technical programs in the area granted high school diplomas to 366 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 standards and have a high rate of positive outcomes after completing high school as measured by post secondary enrollment and employment outcomes after graduation.

[31] Unpublished tables, prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education, Malden, Massachusetts, September 2007.

The Occupational Structure of Secondary Career and Technical Education Awards

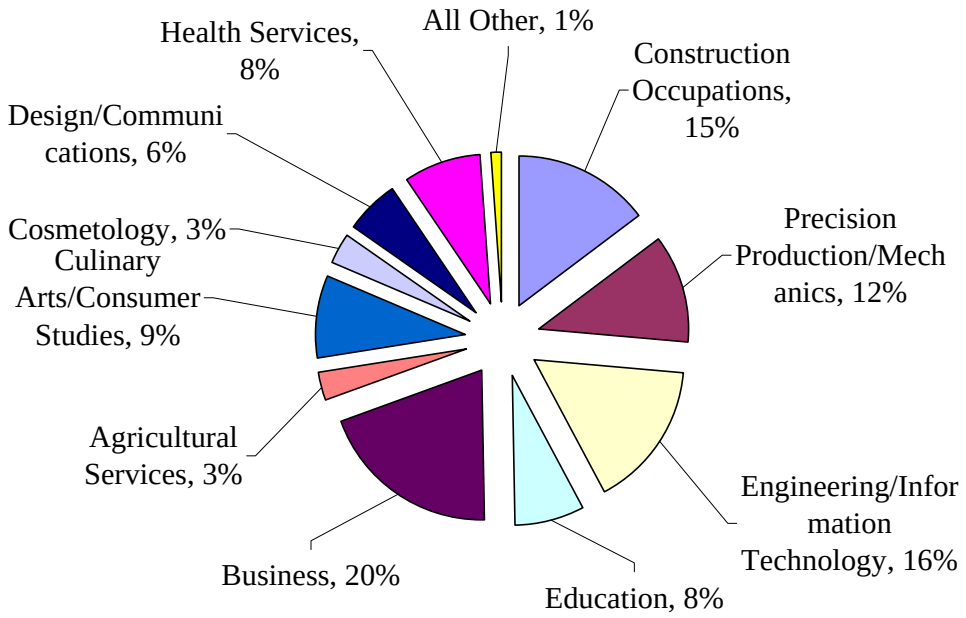
The range of fields of study offered by secondary career and technical education institutions in the Massachusetts is quite wide. CLMS found 55 distinct (and well populated) vocational technical education programs in the state. These programs cover an array of occupational fields ranging from precision production fields, to engineering technology related fields to a number of health occupations. In the Berkshire County the 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 often 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.

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

Chart 1:

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

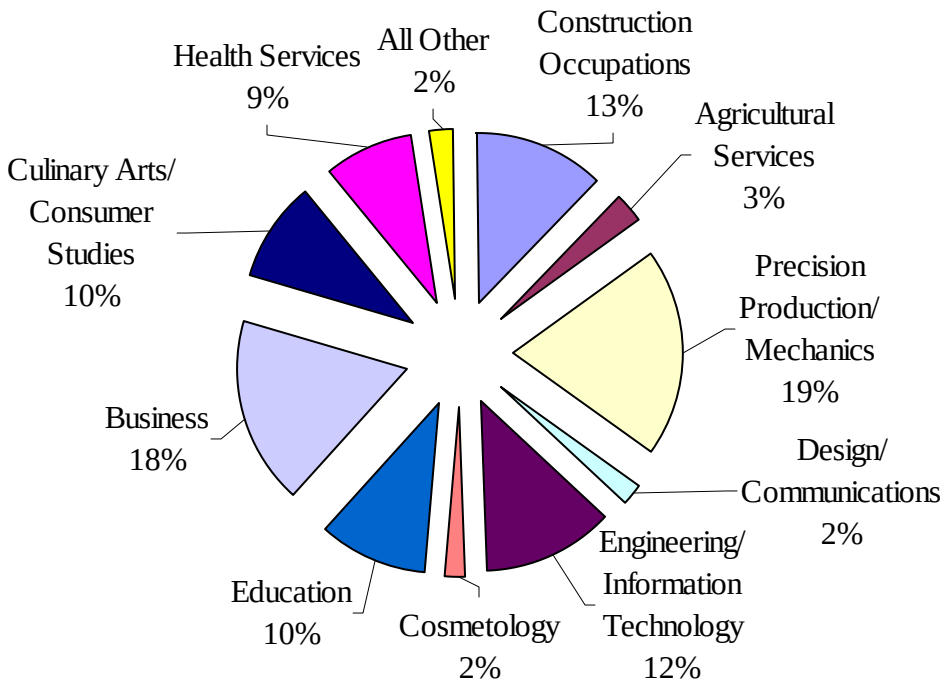


Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University.

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 Berkshire County is structured

somewhat differently than the state as whole as measured by the occupational composition of fields of study of recent program graduates. Berkshire County career and technical education programs are more heavily concentrated in precision production compared to the state as a whole. Precision production fields account for 19 percent of all

Chart 2:
The Percent Distribution of Class of 2007 Career and Technical Education Secondary Graduates in the Berkshire County, 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.

diplomas awarded during 2007 in the region and was the single largest area of secondary occupational specialization in the region. The business fields of study accounted for an additional 18 percent of all vocational technical awards during 2007, followed by awards in the construction trades that accounted for 13 percent of regional vocational technical graduates in the Berkshire region. The Berkshire region graduated about 12 percent of all vocational technical secondary students in an engineering/information technology specialty area.

Culinary arts accounted for about one in ten vocational technical awards in the region, compared to 9 percent in the state, while design and communications fields including graphic communications programs represented just 2 percent of awards, as compared to 6 percent in the state. The Berkshire region's career and technical education system had 8 percent of its 2007 graduates complete a course of study in the health services field compared to 9 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 Berkshire County, by Occupational Field of Study

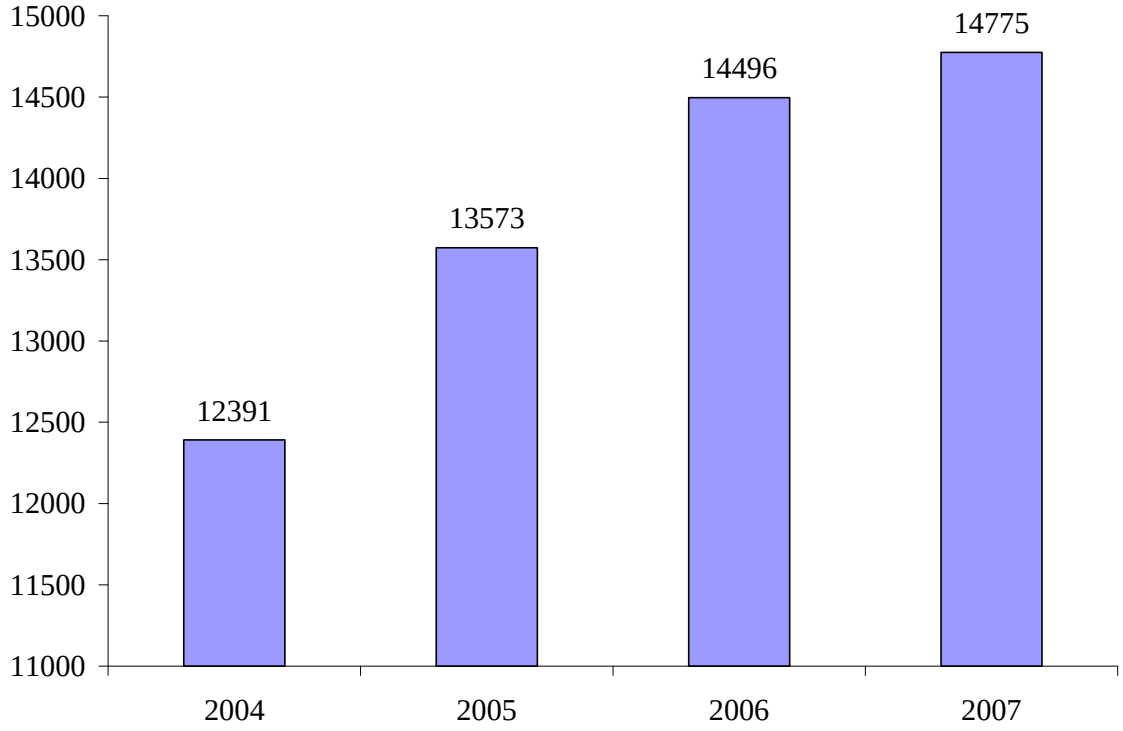
Major Occupational Field of Study	Massachusetts	Berkshire County
Construction Occupations	15%	13%
Precision Production/Mechanics	12%	20%
Engineering/Information Technology	16%	12%
Education	8%	10%
Business	20%	18%
Agricultural Services	3%	3%
Culinary Arts/Consumer Studies	9%	10%
Cosmetology	3%	2%
Design/Communications	6%	2%
Health Services	8%	9%
All Other	1%	2%
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 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 Massachusetts 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.[32]

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

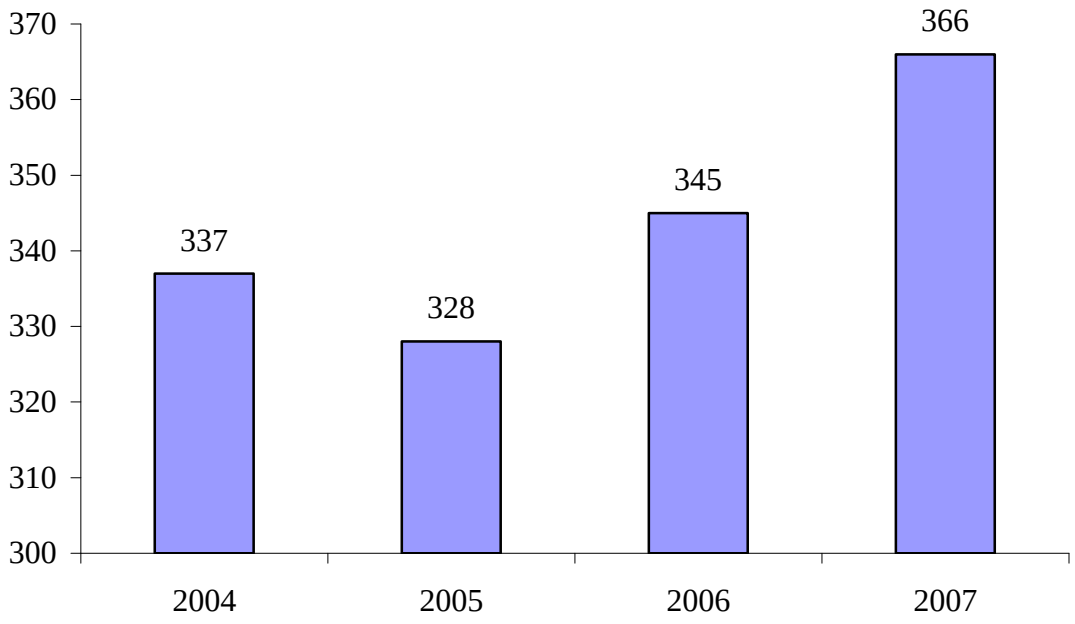


Source: Unpublished data files prepared by the Career and Technical Education Unit, Massachusetts Department of Elementary and Secondary Education. Tabulations by the Center for Labor Market Studies, Northeastern University.

The demand for secondary vocational education programs by students in the Berkshire 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.[33] During 2004 career and technical education programs granted a total of 337 high school diplomas to students who had completed a course of study in a specific

[32] 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
[33] Brenda J. Boute, "High Demand Cited in Push for Trade School, *The Boston Globe*, September 5, 2004

Chart 4:
Trends in the Total Number of Secondary Career and Technical Education Graduates in the Berkshire County area, 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 366 secondary career and technical education diplomas awarded in the region during 2007. This increase represents a modest 9 percent increase in the number of secondary vocational education awards, a rate of increase that was less than one half the 19 percent statewide rise in secondary technical education awards observed statewide over the 2004 to 2007 period.

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

Major Occupational Field of Study	2004	2005	2006	2007	Absolute Change	Relative Change
Construction Occupations	1,782	1,880	2,024	2,156	374	21%
Precision Production/Mechanics	1,411	1,589	1,680	1,753	342	24%
Engineering/Information Technology	2,193	2,262	2,344	2,320	127	6%
Education	399	548	600	649	250	63%
Business	2,723	2,907	3,144	2,915	192	7%
Agricultural Services	421	418	419	464	43	10%
Culinary Arts/Consumer Studies	1,003	974	1,246	1,292	289	29%
Cosmetology	409	461	462	499	90	22%
Design/Communications	694	724	724	875	181	26%
Health Services	930	1,176	1,224	1,221	291	31%
Technology Education	248	404	459	468	220	89%
All Other	178	230	170	163	-15	-8%
Total	12,391	13,573	14,496	14,775	2,384	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 1,221 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."[34] Secondary career and technical education programs operate very large engineering and information technology programs. With more than 2,300 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.

Growth in the number of secondary career and technical education diplomas in the Berkshire County region was much more heavily concentrated in a few program areas compared to statewide trends. In the Berkshire region, the health services field including medical assistant graduates led the increase in the number of vocational awards in the region. Between 2004 and 2007 the number of awards in the health related occupational specialties increased from just 3 awards to 29 awards by 2007. The culinary arts programs also sharply increased their number of graduates over the period. During 2004 a

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

total of 14 high school students graduated with a specialty in culinary arts. By 2007 this number rose to 35, a very sharp relative rise in completions in this field. The education specialty, including early education assistants also posted a considerable increase in the number of students graduating in this field. Finally the construction trades posted a one-third rise in the number of students who completed a vocational education program in this area.

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

Major Occupational Field of Study	2004	2005	2006	2007	Absolute Change	Relative Change
Construction Occupations	35	39	44	46	11	31%
Precision Production/Mechanics	66	51	59	72	6	9%
Engineering/Information Technology	81	55	58	45	-36	-44%
Education	24	27	34	38	14	58%
Business	69	83	68	66	-3	-4%
Agricultural Services	20	25	12	10	-10	-50%
Culinary Arts/Consumer Studies	14	19	20	35	21	150%
Cosmetology	7	4	10	7	0	0%
Design/Communications	6	10	7	7	1	17%
Health Services	3	15	32	32	29	967%
All Other	12	0	1	8	-4	-33%
Total	337	328	345	366	29	9%

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 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 Berkshire County 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 Berkshire County Workforce Area

Berkshire County

Total Non-Institutional Population (16+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
Total	90,863	92,255	1,392	1.5%
Gender				
Male	42,264	42,541	277	0.7%
Female	48,599	49,714	1,115	2.3%
Race				
White, non-Hispanic	87,142	86,043	-1,099	-1.3%
Black, non-Hispanic	1,157	1,891	734	63.4%
Hispanic	1,254	2,110	856	68.3%
Other, non-Hispanic	1,310	2,211	901	68.8%
Citizenship Status				
Born abroad	3,497	4,189	692	19.8%
Native born	87,366	88,066	700	0.8%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
16-24	10,462	12,084	1,622	15.5%
25-34	13,513	12,415	-1,098	-8.1%
35-44	17,668	15,745	-1,923	-10.9%
45-54	17,311	18,185	874	5.0%
55-64	11,376	13,974	2,598	22.8%
65+	20,533	19,853	-680	-3.3%

Educational Attainment	2000	05-06 Avg	Absolute Change	Relative Change
Currently Enrolled in Secondary School	4,121	4,023	-98	-2.4%
High school dropout	12,583	9,126	-3,457	-27.5%
High school graduate	29,937	29,182	-755	-2.5%
Some college, no degree	17,112	18,164	1,052	6.1%
Associate's degree	6,390	8,117	1,727	27.0%
Bachelor's degree	12,578	13,704	1,126	9.0%
Master's degree or more	8,142	9,940	1,798	22.1%

Berkshire County

Civilian Labor Force (16+)	05-06 Avg Civilian Labor Force	05-06 Avg CLFPR	Composition of the Labor Force
Total	60,993	66.1%	100.0%
Gender			
Male	29,492	69.3%	48.4%
Female	31,501	63.4%	51.6%
Race			
White, non-Hispanic	56,427	65.6%	92.5%
Black, non-Hispanic	1,470	77.7%	2.4%
Hispanic	1,467	69.5%	2.4%
Other, non-Hispanic	1,629	73.7%	2.7%
Citizenship Status			
Born abroad	2,665	63.6%	4.4%
Native born	58,328	66.2%	95.6%

Age Group	05-06 Avg	05-06 Avg	Composition of the Labor Force
16-24	8,571	70.9%	14.1%
25-34	10,732	86.4%	17.6%
35-44	13,824	87.8%	22.7%
45-54	15,525	85.4%	25.5%
55-64	9,534	68.2%	15.6%
65+	2,808	14.1%	4.6%

Educational Attainment	05-06 Avg	05-06 Avg	Composition of the Labor Force
Currently Enrolled in Secondary School	2,068	51.4%	3.4%
High school dropout	2,624	28.8%	4.3%
High school graduate	17,399	59.6%	28.5%
Some college, no degree	14,012	77.1%	23.0%
Associate's degree	6,752	83.2%	11.1%
Bachelor's degree	10,705	78.1%	17.6%
Master's degree or more	7,434	74.8%	12.2%

Berkshire County

Total Non-Institutional Population	2000	05-06 Avg	Absolute Change	Relative Change
Total	114,396	111,331	-3,065	-2.7%
Gender				
Male	53,980	52,321	-1,659	-3.1%
Female	60,416	59,010	-1,406	-2.3%
Race				
White, non-Hispanic	108,658	102,614	-6,044	-5.6%
Black, non-Hispanic	1,887	2,422	535	28.4%
Hispanic	1,722	2,784	1,062	61.7%
Other, non-Hispanic	2,129	3,511	1,382	64.9%
Citizenship Status				
Born abroad	3,690	4,339	649	17.6%
Native born	110,706	106,992	-3,714	-3.4%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
Under 16	23,533	19,036	-4,497	-19.1%
16-24	10,462	12,084	1,622	15.5%
25-34	13,513	12,415	-1,098	-8.1%
35-44	17,668	15,786	-1,882	-10.7%
45-54	17,311	18,185	874	5.0%
55-64	11,376	13,974	2,598	22.8%
65+	20,533	19,853	-680	-3.3%

Educational Attainment (For 3+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
Currently Enrolled in Secondary School	22,668	18,597	-4,071	-18.0%
High school dropout	17,569	10,339	-7,230	-41.2%
High school graduate	29,937	29,182	-755	-2.5%
Some college, no degree	17,112	18,204	1,092	6.4%
Associate's degree	6,390	8,117	1,727	27.0%
Bachelor's degree	12,578	13,704	1,126	9.0%
Master's degree or more	8,142	9,940	1,798	22.1%

Massachusetts

Total Non-Institutional Population (16+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
Total	4,788,971	4,925,682	136,711	2.9%
Gender				
Male	2,260,322	2,350,430	90,108	4.0%
Female	2,528,649	2,575,252	46,603	1.8%
Race				
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%
Citizenship Status				
Born abroad	782,661	933,222	150,561	19.2%
Native born	4,006,310	3,992,460	-13,850	-0.3%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
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%

Educational Attainment	2000	05-06 Avg	Absolute Change	Relative Change
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

Civilian Labor Force (16+)	05-06 Avg Civilian Labor Force	05-06 Avg CLFPR	Composition of the Labor Force
Total	3,369,817	68.4%	100.0%
Gender			
Male	1,753,898	74.6%	52.0%
Female	1,615,919	62.7%	48.0%
Race			
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%
Citizenship Status			
Born abroad	629,794	67.5%	18.7%
Native born	2,740,023	68.6%	81.3%

Age Group	05-06 Avg	05-06 Avg	Composition of the Labor Force
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%

Educational Attainment	05-06 Avg	05-06 Avg	Composition of the Labor Force
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

Total Non-Institutional Population	2000	05-06 Avg	Absolute Change	Relative Change
Total	6,127,254	6,211,127	83,873	1.4%
Gender				
Male	2,945,404	3,010,717	65,313	2.2%
Female	3,181,850	3,200,410	18,560	0.6%
Race				
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%
Citizenship Status				
Born abroad	851,578	998,513	146,935	17.3%
Native born	5,275,676	5,212,615	-63,061	-1.2%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
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%

Educational Attainment (For 3+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
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

Total Non-Institutional Population (16+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
Total	10,471,904	10,949,262	477,358	4.6%
Gender				
Male	4,969,159	5,243,037	273,878	5.5%
Female	5,502,745	5,706,225	203,480	3.7%
Race				
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%
Citizenship Status				
Born abroad	1,413,994	1,662,428	248,434	17.6%
Native born	9,057,910	9,286,834	228,924	2.5%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
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%

Educational Attainment	2000	05-06 Avg	Absolute Change	Relative Change
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

Civilian Labor Force (16+)	05-06 Avg Civilian Labor Force	05-06 Avg CLFPR	Composition of the Labor Force
Total	7,521,725	68.7%	100.0%
Gender			
Male	3,924,171	74.8%	52.2%
Female	3,597,554	63.0%	47.8%
Race			
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%
Citizenship Status			
Born abroad	1,126,542	67.8%	15.0%
Native born	6,395,183	68.9%	85.0%

Age Group	05-06 Avg	05-06 Avg	Composition of the Labor Force
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%

Educational Attainment	05-06 Avg	05-06 Avg	Composition of the Labor Force
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

Total Non-Institutional Population	2000	05-06 Avg	Absolute Change	Relative Change
Total	13,450,470	13,783,286	332,816	2.5%
Gender				
Male	6,497,802	6,699,832	202,030	3.1%
Female	6,952,668	7,083,455	130,787	1.9%
Race				
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%
Citizenship Status				
Born abroad	1,543,213	1,784,503	241,290	15.6%
Native born	11,907,257	11,998,783	91,526	0.8%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
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%

Educational Attainment (For 3+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
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.

Total Non-Institutional Population (16+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
Total	208,782,718	224,204,853	15,422,135	7.4%
Gender				
Male	99,903,746	108,181,231	8,277,485	8.3%
Female	108,878,972	116,023,623	7,144,651	6.6%
Race				
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%
Citizenship Status				
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%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
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%

Educational Attainment	2000	05-06 Avg	Absolute Change	Relative Change
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.

Civilian Labor Force (16+)	05-06 Avg Civilian Labor Force	05-06 Avg CLFPR	Composition of the Labor Force
Total	148,191,267	66.1%	100.0%
Gender			
Male	79,261,521	73.3%	53.5%
Female	68,929,746	59.4%	46.5%
Race			
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%
Citizenship Status			
Born abroad	23,547,389	66.9%	15.9%
Native born	124,643,878	65.9%	84.1%

Age Group	05-06 Avg	05-06 Avg	Composition of the Labor Force
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%

Educational Attainment	05-06 Avg	05-06 Avg	Composition of the Labor Force
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.

Total Non-Institutional Population	2000	05-06 Avg	Absolute Change	Relative Change
Total	272,837,866	289,865,830	17,027,964	6.2%
Gender				
Male	132,687,496	142,041,117	9,353,621	7.0%
Female	140,150,370	147,824,714	7,674,344	5.5%
Race				
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%
Citizenship Status				
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%

Age Group	2000	05-06 Avg	Absolute Change	Relative Change
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%

Educational Attainment (For 3+ Year Olds)	2000	05-06 Avg	Absolute Change	Relative Change
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 Berkshire County Workforce Area

Berkshire County ES-202 Average Monthly Employment, 2004-2007

2 Digit

Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
Total, All Industries	62,915	64,087	1,172	1.9%
11 - Agriculture, Forestry, Fishing & Hunting	198	167	-31	-15.7%
21 - Mining	146	109	-37	-25.3%
23 - Construction	3,699	3,787	88	2.4%
31-33 - Manufacturing	6,398	5,661	-737	-11.5%
DUR - Durable Goods Manufacturing	2,121	2,089	-32	-1.5%
NONDUR - Non-Durable Goods Manufacturing	4,277	3,572	-705	-16.5%
22 - Utilities	272	298	26	9.6%
42 - Wholesale Trade	1,055	1,185	130	12.3%
44-45 - Retail Trade	8,802	8,943	141	1.6%
48-49 - Transportation and Warehousing	1,094	1,094	0	0.0%
51 - Information	1,174	1,093	-81	-6.9%
52 - Finance and Insurance	1,945	2,123	178	9.2%
53 - Real Estate and Rental and Leasing	751	831	80	10.7%
54 - Professional and Technical Services	2,563	2,696	133	5.2%
55 - Management of Companies and Enterprises	837	604	-233	-27.8%
56 - Administrative and Waste Services	2,508	2,480	-28	-1.1%
61 - Educational Services	6,437	6,271	-166	-2.6%
62 - Health Care and Social Assistance	9,767	11,084	1,317	13.5%
71 - Arts, Entertainment, and Recreation	1,771	2,095	324	18.3%
72 - Accommodation and Food Services	8,118	8,028	-90	-1.1%
81 - Other Services, Ex. Public Admin	3,264	3,250	-14	-0.4%
92 - Public Administration	2,114	2,288	174	8.2%

Massachusetts ES-202 Average Monthly Employment, 2004-2007

2 Digit

Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
Total, All Industries	3,139,881	3,236,217	96,336	3.1%
11 - Agriculture, Forestry, Fishing & Hunting	7,956	7,518	-438	-5.5%
21 - Mining	1,974	1,594	-380	-19.3%
23 - Construction	159,762	158,057	-1,705	-1.1%
31-33 - Manufacturing	313,608	294,964	-18,644	-5.9%
DUR - Durable Goods Manufacturing	205,621	195,180	-10,441	-5.1%
NONDUR - Non-Durable Goods Manufacturing	107,987	99,785	-8,202	-7.6%
22 - Utilities	13,970	13,396	-574	-4.1%
42 - Wholesale Trade	135,538	138,426	2,888	2.1%
44-45 - Retail Trade	355,455	348,784	-6,671	-1.9%
48-49 - Transportation and Warehousing	100,564	100,802	238	0.2%
51 - Information	92,519	94,852	2,333	2.5%
52 - Finance and Insurance	173,224	182,744	9,520	5.5%
53 - Real Estate and Rental and Leasing	46,550	45,094	-1,456	-3.1%
54 - Professional and Technical Services	228,408	252,712	24,304	10.6%
55 - Management of Companies and Enterprises	64,989	61,401	-3,588	-5.5%
56 - Administrative and Waste Services	170,375	180,429	10,054	5.9%
61 - Educational Services	252,159	269,921	17,762	7.0%
62 - Health Care and Social Assistance	451,949	488,020	36,071	8.0%
71 - Arts, Entertainment, and Recreation	62,046	64,971	2,925	4.7%
72 - Accommodation and Food Services	260,673	268,410	7,737	3.0%
81 - Other Services, Ex. Public Admin	117,750	128,741	10,991	9.3%
92 - Public Administration	130,413	135,383	4,970	3.8%

Berkshire County ES-202 Average Monthly Employment, 2006-2007

2 Digit

Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
Total, All Industries	64,307	64,087	220	0.3%
11 - Agriculture, Forestry, Fishing & Hunting	188	167	21	11.2%
21 - Mining	121	109	12	9.9%
23 - Construction	3,952	3,787	165	4.2%
31-33 - Manufacturing	6,147	5,661	486	7.9%
DUR - Durable Goods Manufacturing	2,180	2,089	91	4.2%
NONDUR - Non-Durable Goods Manufacturing	3,966	3,572	394	9.9%
22 - Utilities	268	298	-30	-11.2%
42 - Wholesale Trade	1,205	1,185	20	1.7%
44-45 - Retail Trade	8,822	8,943	-121	-1.4%
48-49 - Transportation and Warehousing	1,084	1,094	-10	-0.9%
51 - Information	1,075	1,093	-18	-1.7%
52 - Finance and Insurance	2,056	2,123	-67	-3.3%
53 - Real Estate and Rental and Leasing	843	831	12	1.4%
54 - Professional and Technical Services	2,836	2,696	140	4.9%
55 - Management of Companies and Enterprises	722	604	118	16.3%
56 - Administrative and Waste Services	2,563	2,480	83	3.2%
61 - Educational Services	6,029	6,271	-242	-4.0%
62 - Health Care and Social Assistance	10,623	11,084	-461	-4.3%
71 - Arts, Entertainment, and Recreation	2,095	2,095	0	0.0%
72 - Accommodation and Food Services	8,090	8,028	62	0.8%
81 - Other Services, Ex. Public Admin	3,314	3,250	64	1.9%
92 - Public Administration	2,274	2,288	-14	-0.6%

Massachusetts ES-202 Average Monthly Employment, 2006-2007

2 Digit

Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
Total, All Industries	3,200,233	3,236,217	35,984	1.1%
11 - Agriculture, Forestry, Fishing & Hunting	7,749	7,518	-231	-3.0%
21 - Mining	1,842	1,594	-248	-13.5%
23 - Construction	161,049	158,057	-2,992	-1.9%
31-33 - Manufacturing	298,840	294,964	-3,876	-1.3%
DUR - Durable Goods Manufacturing	196,222	195,180	-1,042	-0.5%
NONDUR - Non-Durable Goods Manufacturing	102,618	99,785	-2,833	-2.8%
22 - Utilities	13,068	13,396	328	2.5%
42 - Wholesale Trade	137,726	138,426	700	0.5%
44-45 - Retail Trade	349,751	348,784	-967	-0.3%
48-49 - Transportation and Warehousing	99,927	100,802	875	0.9%
51 - Information	93,745	94,852	1,107	1.2%
52 - Finance and Insurance	181,868	182,744	876	0.5%
53 - Real Estate and Rental and Leasing	46,161	45,094	-1,067	-2.3%
54 - Professional and Technical Services	246,776	252,712	5,936	2.4%
55 - Management of Companies and Enterprises	61,790	61,401	-389	-0.6%
56 - Administrative and Waste Services	176,723	180,429	3,706	2.1%
61 - Educational Services	264,293	269,921	5,628	2.1%
62 - Health Care and Social Assistance	471,170	488,020	16,850	3.6%
71 - Arts, Entertainment, and Recreation	63,976	64,971	995	1.6%
72 - Accommodation and Food Services	264,944	268,410	3,466	1.3%
81 - Other Services, Ex. Public Admin	124,406	128,741	4,335	3.5%
92 - Public Administration	134,428	135,383	955	0.7%

Berkshire County ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	Total, all industries	62,915	64,087	1,172	1.9%
	Goods-Producing Domain	10,442	9,724	-718	-6.9%
	Natural Resources and Mining	345	276	-69	-20.0%
11	Agriculture, Forestry, Fishing & Hunting	198	167	-31	-15.7%
111	Crop Production	78	53	-25	-32.1%
1114	Greenhouse and Nursery Production	46	27	-19	-41.3%
1119	Other Crop Farming	14	14	0	0.0%
112	Animal Production	78	67	-11	-14.1%
1121	Cattle Ranching and Farming	55	50	-5	-9.1%
113	Forestry and Logging	8	0	-8	-100.0%
1133	Logging	8	0	-8	-100.0%
115	Agriculture & Forestry Support Activity	34	43	9	26.5%
1152	Support Activities for Animal Production	31	34	3	9.7%
1153	Support Activities for Forestry	0	9	9	NA
21	Mining	146	109	-37	-25.3%
212	Mining (except Oil and Gas)	139	109	-30	-21.6%
2123	Nonmetallic Mineral Mining and Quarrying	139	109	-30	-21.6%
	Construction	3,699	3,787	88	2.4%
23	Construction	3,699	3,787	88	2.4%
236	Construction of Buildings	820	863	43	5.2%
2361	Residential Building Construction	601	684	83	13.8%
2362	Nonresidential Building Construction	219	179	-40	-18.3%
237	Heavy and Civil Engineering Construction	669	692	23	3.4%
2371	Utility System Construction	67	31	-36	-53.7%
2373	Highway, Street, and Bridge Construction	504	532	28	5.6%
238	Specialty Trade Contractors	2,210	2,232	22	1.0%
2381	Building Foundation/Exterior Contractors	363	406	43	11.8%
2382	Building Equipment Contractors	1,094	1,024	-70	-6.4%
2383	Building Finishing Contractors	356	365	9	2.5%
2389	Other Specialty Trade Contractors	398	437	39	9.8%
	Manufacturing	6,398	5,661	-737	-11.5%
31-33	Manufacturing	6,398	5,661	-737	-11.5%
DUR	Durable Goods Manufacturing	2,121	2,089	-32	-1.5%
NONDUR	Non-Durable Goods Manufacturing	4,277	3,572	-705	-16.5%
311	Food Manufacturing	154	148	-6	-3.9%
3113	Sugar/Confectionery Product Manufacture	0	20	20	NA
3118	Bakeries and Tortilla Manufacturing	90	81	-9	-10.0%
312	Beverage & Tobacco Product Manufacturing	31	25	-6	-19.4%
3121	Beverage Manufacturing	31	25	-6	-19.4%
313	Textile Mills	106	0	-106	-100.0%
314	Textile Product Mills	167	209	42	25.1%
3141	Textile Furnishings Mills	167	209	42	25.1%
321	Wood Product Manufacturing	200	175	-25	-12.5%

Berkshire County ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
3211	Sawmills and Wood Preservation	19	0	-19	-100.0%
3219	Other Wood Product Manufacturing	181	165	-16	-8.8%
322	Paper Manufacturing	1,679	1,169	-510	-30.4%
3221	Pulp, Paper, and Paperboard Mills	1,501	1,095	-406	-27.0%
3222	Converted Paper Product Manufacturing	179	74	-105	-58.7%
323	Printing and Related Support Activities	652	607	-45	-6.9%
3231	Printing and Related Support Activities	652	607	-45	-6.9%
325	Chemical Manufacturing	629	592	-37	-5.9%
326	Plastics & Rubber Products Manufacturing	850	796	-54	-6.4%
3261	Plastics Product Manufacturing	850	796	-54	-6.4%
327	Nonmetallic Mineral Product Mfg	421	468	47	11.2%
3272	Glass and Glass Product Manufacturing	57	65	8	14.0%
3273	Cement & Concrete Product Manufacturing	87	333	246	282.8%
332	Fabricated Metal Product Manufacturing	476	549	73	15.3%
3321	Forging and Stamping	40	43	3	7.5%
3323	Architectural and Structural Metals	45	67	22	48.9%
3327	Machine Shops and Threaded Products	91	109	18	19.8%
3328	Coating, Engraving & Heat Treating Metal	124	110	-14	-11.3%
333	Machinery Manufacturing	572	487	-85	-14.9%
3332	Industrial Machinery Manufacturing	236	206	-30	-12.7%
3335	Metalworking Machinery Manufacturing	307	275	-32	-10.4%
334	Computer and Electronic Product Mfg	35	26	-9	-25.7%
3345	Electronic Instrument Manufacturing	10	0	-10	-100.0%
335	Electrical Equipment and Appliances	75	41	-34	-45.3%
3351	Electric Lighting Equipment Mfg	31	0	-31	-100.0%
3359	Other Electrical Equipment & Components	44	23	-21	-47.7%
337	Furniture and Related Product Mfg	18	28	10	55.6%
3371	Household and Institutional Furniture	15	27	12	80.0%
339	Miscellaneous Manufacturing	210	202	-8	-3.8%
3391	Medical Equipment and Supplies Mfg	0	143	143	NA
3399	Other Miscellaneous Manufacturing	190	59	-131	-68.9%
	Service-Providing Domain	52,473	54,363	1,890	3.6%
	Trade, Transportation and Utilities	11,223	11,520	297	2.6%
22	Utilities	272	298	26	9.6%
221	Utilities	272	298	26	9.6%
2211	Power Generation and Supply	107	129	22	20.6%
42	Wholesale Trade	1,055	1,185	130	12.3%
423	Merchant Wholesalers, Durable Goods	426	481	55	12.9%
4231	Motor Vehicle/Part Merchant Wholesalers	20	25	5	25.0%
4232	Furniture & Furnishings Merchant Whsle	22	0	-22	-100.0%
4233	Lumber and Supply Merchant Wholesalers	6	0	-6	-100.0%
4234	Commercial Goods Merchant Wholesalers	98	73	-25	-25.5%

Berkshire County ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
4235	Metal and Mineral Merchant Wholesalers	47	40	-7	-14.9%
4236	Electric Goods Merchant Wholesalers	25	20	-5	-20.0%
4237	Hardware & Plumbing Merchant Wholesalers	76	81	5	6.6%
4238	Machinery & Supply Merchant Wholesalers	115	148	33	28.7%
4239	Misc Durable Goods Merchant Wholesalers	18	0	-18	-100.0%
424	Merchant Wholesalers, Nondurable Goods	528	530	2	0.4%
4241	Paper/Paper Product Merchant Wholesalers	210	221	11	5.2%
4243	Apparel/Piece Goods Merchant Wholesalers	0	52	52	NA
4244	Grocery Product Merchant Wholesalers	103	94	-9	-8.7%
4246	Chemical Merchant Wholesalers	60	40	-20	-33.3%
4249	Misc Nondurable Goods Merchant Whsle	100	109	9	9.0%
425	Electronic Markets and Agents/Brokers	100	174	74	74.0%
4251	Electronic Markets and Agents/Brokers	100	174	74	74.0%
44-45	Retail Trade	8,802	8,943	141	1.6%
441	Motor Vehicle and Parts Dealers	937	767	-170	-18.1%
4411	Automobile Dealers	661	511	-150	-22.7%
4412	Other Motor Vehicle Dealers	97	86	-11	-11.3%
4413	Auto Parts, Accessories, and Tire Stores	179	170	-9	-5.0%
442	Furniture and Home Furnishings Stores	322	353	31	9.6%
4421	Furniture Stores	103	100	-3	-2.9%
4422	Home Furnishings Stores	219	253	34	15.5%
443	Electronics and Appliance Stores	242	245	3	1.2%
4431	Electronics and Appliance Stores	242	245	3	1.2%
444	Building Material & Garden Supply Stores	782	723	-59	-7.5%
4441	Building Material and Supplies Dealers	584	582	-2	-0.3%
4442	Lawn & Garden Equipment/Supplies Stores	198	141	-57	-28.8%
445	Food and Beverage Stores	2,283	2,367	84	3.7%
4451	Grocery Stores	1,731	1,814	83	4.8%
4452	Specialty Food Stores	311	305	-6	-1.9%
4453	Beer, Wine, and Liquor Stores	241	249	8	3.3%
446	Health and Personal Care Stores	451	445	-6	-1.3%
4461	Health and Personal Care Stores	451	445	-6	-1.3%
447	Gasoline Stations	262	264	2	0.8%
4471	Gasoline Stations	262	264	2	0.8%
448	Clothing and Clothing Accessories Stores	964	1,141	177	18.4%
4481	Clothing Stores	687	871	184	26.8%
4482	Shoe Stores	175	176	1	0.6%
4483	Jewelry, Luggage & Leather Goods Stores	101	94	-7	-6.9%
451	Sporting Goods/Hobby/Book/Music Stores	437	421	-16	-3.7%
4511	Sporting Goods/Musical Instrument Stores	302	288	-14	-4.6%
4512	Book, Periodical, and Music Stores	135	133	-2	-1.5%
452	General Merchandise Stores	855	1,025	170	19.9%

Berkshire County ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
4521	Department Stores	777	906	129	16.6%
4529	Other General Merchandise Stores	78	119	41	52.6%
453	Miscellaneous Store Retailers	497	488	-9	-1.8%
4531	Florists	52	41	-11	-21.2%
4532	Office Supply, Stationery & Gift Stores	232	213	-19	-8.2%
4533	Used Merchandise Stores	100	116	16	16.0%
4539	Other Miscellaneous Store Retailers	113	118	5	4.4%
454	Nonstore Retailers	770	704	-66	-8.6%
4541	Electronic Shopping & Mail-Order Houses	218	207	-11	-5.0%
4543	Direct Selling Establishments	550	497	-53	-9.6%
48-49	Transportation and Warehousing	1,094	1,094	0	0.0%
484	Truck Transportation	252	203	-49	-19.4%
4841	General Freight Trucking	90	82	-8	-8.9%
4842	Specialized Freight Trucking	162	121	-41	-25.3%
485	Transit and Ground Passenger Transport	306	331	25	8.2%
4853	Taxi and Limousine Service	106	73	-33	-31.1%
4854	School and Employee Bus Transportation	144	139	-5	-3.5%
488	Support Activities for Transportation	87	83	-4	-4.6%
4881	Support Activities for Air Transport	44	57	13	29.5%
492	Couriers and Messengers	134	0	-134	-100.0%
	Information	1,174	1,093	-81	-6.9%
51	Information	1,174	1,093	-81	-6.9%
511	Publishing Industries	471	454	-17	-3.6%
5111	Newspaper, Book, & Directory Publishers	452	430	-22	-4.9%
5112	Software Publishers	19	24	5	26.3%
512	Motion Picture & Sound Recording Ind	92	83	-9	-9.8%
5121	Motion Picture and Video Industries	86	76	-10	-11.6%
515	Broadcasting (except Internet)	115	103	-12	-10.4%
5151	Radio and Television Broadcasting	84	53	-31	-36.9%
5152	Cable and Other Subscription Programming	0	50	50	NA
516	Internet Publishing and Broadcasting	65	0	-65	-100.0%
5161	Internet Publishing and Broadcasting	65	0	-65	-100.0%
517	Telecommunications	259	224	-35	-13.5%
5171	Wired Telecommunications Carriers	0	219	219	NA
518	ISPs, Search Portals, & Data Processing	26	0	-26	-100.0%
5181	ISPs and Web Search Portals	24	0	-24	-100.0%
519	Other Information Services	147	224	77	52.4%
5191	Other Information Services	147	224	77	52.4%
	Financial Activities	2,696	2,954	258	9.6%
52	Finance and Insurance	1,945	2,123	178	9.2%
522	Credit Intermediation & Related Activity	1,070	1,206	136	12.7%
5221	Depository Credit Intermediation	1,041	1,137	96	9.2%

Berkshire County ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5222	Nondepository Credit Intermediation	21	17	-4	-19.0%
5223	Activities Rel to Credit Intermediation	8	52	44	550.0%
523	Financial Investment & Related Activity	200	187	-13	-6.5%
5231	Security & Commodity Investment Activity	82	75	-7	-8.5%
5239	Other Financial Investment Activities	118	112	-6	-5.1%
524	Insurance Carriers & Related Activities	642	702	60	9.3%
5242	Insurance Agencies, Brokerages & Support	283	269	-14	-4.9%
525	Funds, Trusts & Other Financial Vehicles	32	29	-3	-9.4%
5251	Insurance and Employee Benefit Funds	22	18	-4	-18.2%
53	Real Estate and Rental and Leasing	751	831	80	10.7%
531	Real Estate	482	562	80	16.6%
5311	Lessors of Real Estate	89	155	66	74.2%
5312	Offices of Real Estate Agents & Brokers	207	226	19	9.2%
5313	Activities Related to Real Estate	185	181	-4	-2.2%
532	Rental and Leasing Services	269	270	1	0.4%
5321	Automotive Equipment Rental and Leasing	53	48	-5	-9.4%
5322	Consumer Goods Rental	196	207	11	5.6%
	Professional and Business Services	5,908	5,780	-128	-2.2%
54	Professional and Technical Services	2,563	2,696	133	5.2%
541	Professional and Technical Services	2,563	2,696	133	5.2%
5411	Legal Services	340	318	-22	-6.5%
5412	Accounting and Bookkeeping Services	232	299	67	28.9%
5413	Architectural and Engineering Services	1,239	1,316	77	6.2%
5414	Specialized Design Services	53	31	-22	-41.5%
5415	Computer Systems Design and Rel Services	261	336	75	28.7%
5416	Management & Technical Consulting Svc	95	112	17	17.9%
5417	Scientific Research and Development Svc	88	48	-40	-45.5%
5418	Advertising and Related Services	84	63	-21	-25.0%
5419	Other Professional & Technical Services	170	172	2	1.2%
55	Management of Companies and Enterprises	837	604	-233	-27.8%
551	Management of Companies and Enterprises	837	604	-233	-27.8%
5511	Management of Companies and Enterprises	837	604	-233	-27.8%
56	Administrative and Waste Services	2,508	2,480	-28	-1.1%
561	Administrative and Support Services	2,232	2,208	-24	-1.1%
5611	Office Administrative Services	341	0	-341	-100.0%
5613	Employment Services	501	522	21	4.2%
5614	Business Support Services	237	137	-100	-42.2%
5615	Travel Arrangement & Reservation Service	216	161	-55	-25.5%
5616	Investigation and Security Services	63	111	48	76.2%
5617	Services to Buildings and Dwellings	856	909	53	6.2%
5619	Other Support Services	17	21	4	23.5%
562	Waste Management and Remediation Service	276	272	-4	-1.4%

Berkshire County ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
5621	Waste Collection	84	79	-5	-6.0%
5622	Waste Treatment and Disposal	68	72	4	5.9%
5629	Remediation and Other Waste Services	124	121	-3	-2.4%
	Education and Health Services	16,204	17,355	1,151	7.1%
61	Educational Services	6,437	6,271	-166	-2.6%
611	Educational Services	6,437	6,271	-166	-2.6%
6111	Elementary and Secondary Schools	4,228	3,857	-371	-8.8%
6113	Colleges and Universities	1,724	1,904	180	10.4%
6114	Business, Computer & Management Training	84	72	-12	-14.3%
6116	Other Schools and Instruction	198	240	42	21.2%
6117	Educational Support Services	32	9	-23	-71.9%
62	Health Care and Social Assistance	9,767	11,084	1,317	13.5%
621	Ambulatory Health Care Services	2,574	2,719	145	5.6%
6211	Offices of Physicians	1,079	1,130	51	4.7%
6212	Offices of Dentists	377	444	67	17.8%
6213	Offices of Other Health Practitioners	192	188	-4	-2.1%
6214	Outpatient Care Centers	387	341	-46	-11.9%
6216	Home Health Care Services	327	453	126	38.5%
6219	Other Ambulatory Health Care Services	213	162	-51	-23.9%
622	Hospitals	2,975	3,305	330	11.1%
6221	General Medical and Surgical Hospitals	2,855	3,174	319	11.2%
623	Nursing and Residential Care Facilities	2,993	3,779	786	26.3%
6231	Nursing Care Facilities	1,911	1,843	-68	-3.6%
6232	Residential Mental Health Facilities	837	1,512	675	80.6%
6233	Community Care Facility for the Elderly	245	424	179	73.1%
624	Social Assistance	1,225	1,281	56	4.6%
6241	Individual and Family Services	728	739	11	1.5%
6242	Emergency and Other Relief Services	108	48	-60	-55.6%
6243	Vocational Rehabilitation Services	68	100	32	47.1%
6244	Child Day Care Services	321	394	73	22.7%
	Leisure and Hospitality	9,890	10,123	233	2.4%
71	Arts, Entertainment, and Recreation	1,771	2,095	324	18.3%
711	Performing Arts and Spectator Sports	389	608	219	56.3%
7111	Performing Arts Companies	274	474	200	73.0%
7115	Independent Artists/Writers/Performers	35	0	-35	-100.0%
712	Museums, Parks and Historical Sites	435	486	51	11.7%
7121	Museums, Parks and Historical Sites	435	486	51	11.7%
713	Amusement, Gambling & Recreation Ind	947	1,001	54	5.7%
7131	Amusement Parks and Arcades	0	37	37	NA
7139	Other Amusement & Recreation Industries	912	964	52	5.7%
72	Accommodation and Food Services	8,118	8,028	-90	-1.1%
721	Accommodation	2,806	2,842	36	1.3%

Berkshire County ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
7211	Traveler Accommodation	2,369	2,336	-33	-1.4%
7212	RV Parks and Recreational Camps	297	454	157	52.9%
7213	Rooming and Boarding Houses	140	52	-88	-62.9%
722	Food Services and Drinking Places	5,312	5,186	-126	-2.4%
7221	Full-Service Restaurants	2,893	2,993	100	3.5%
7222	Limited-Service Eating Places	1,811	1,857	46	2.5%
7223	Special Food Services	455	213	-242	-53.2%
7224	Drinking Places (Alcoholic Beverages)	154	123	-31	-20.1%
	Other Services	3,264	3,250	-14	-0.4%
81	Other Services, Ex. Public Admin	3,264	3,250	-14	-0.4%
811	Repair and Maintenance	444	429	-15	-3.4%
8111	Automotive Repair and Maintenance	410	380	-30	-7.3%
8112	Electronic Equipment Repair/Maintenance	7	10	3	42.9%
8113	Commercial Machinery Repair/Maintenance	12	21	9	75.0%
8114	Household Goods Repair and Maintenance	15	18	3	20.0%
812	Personal and Laundry Services	744	778	34	4.6%
8121	Personal Care Services	302	348	46	15.2%
8122	Death Care Services	115	147	32	27.8%
8123	Drycleaning and Laundry Services	281	242	-39	-13.9%
8129	Other Personal Services	46	40	-6	-13.0%
813	Membership Organizations & Associations	1,381	1,436	55	4.0%
8132	Grantmaking and Giving Services	46	48	2	4.3%
8133	Social Advocacy Organizations	99	171	72	72.7%
8134	Civic and Social Organizations	780	721	-59	-7.6%
8139	Professional and Similar Organizations	97	121	24	24.7%
814	Private Households	695	607	-88	-12.7%
8141	Private Households	695	607	-88	-12.7%
	Public Administration	2,114	2,288	174	8.2%
92	Public Administration	2,114	2,288	174	8.2%
921	Executive, Legislative, & Gen Government	825	829	4	0.5%
9211	Executive, Legislative, & Gen Government	825	829	4	0.5%
922	Justice, Public Order, and Safety Activi	894	952	58	6.5%
9221	Justice, Public Order, and Safety Activi	894	952	58	6.5%
924	Administration of Environmental Programs	23	0	-23	-100.0%
9241	Administration of Environmental Programs	23	0	-23	-100.0%
925	Community and Housing Program Admin	95	89	-6	-6.3%
9251	Community and Housing Program Admin	95	89	-6	-6.3%
926	Administration of Economic Programs	54	48	-6	-11.1%
9261	Administration of Economic Programs	54	48	-6	-11.1%

Massachusetts ES-202 Average Monthly Employment, 2004-2007

All NAICS

NAICS	Description	2004 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	Total, all industries	3,139,881	3,236,217	96,336	3.1%
	Goods-Producing Domain	483,299	462,133	-21,166	-4.4%
	Natural Resources and Mining	9,929	9,112	-817	-8.2%
11	Agriculture, Forestry, Fishing & Hunting	7,956	7,518	-438	-5.5%
111	Crop Production	4,183	3,806	-377	-9.0%
1112	Vegetable and Melon Farming	940	878	-62	-6.6%
1113	Fruit and Tree Nut Farming	721	856	135	18.7%
1114	Greenhouse and Nursery Production	1,835	1,710	-125	-6.8%
1119	Other Crop Farming	684	358	-326	-47.7%
112	Animal Production	627	648	21	3.3%
1121	Cattle Ranching and Farming	302	316	14	4.6%
1123	Poultry and Egg Production	105	77	-28	-26.7%
1125	Animal Aquaculture	60	100	40	66.7%
1129	Other Animal Production	144	137	-7	-4.9%
113	Forestry and Logging	130	120	-10	-7.7%
1132	Forest Nursery/Gathering Forest Products		11	11	NA
1133	Logging	95	109	14	14.7%
114	Fishing, Hunting and Trapping	1,767	1,625	-142	-8.0%
1141	Fishing	1,767	1,624	-143	-8.1%
115	Agriculture & Forestry Support Activity	1,248	1,318	70	5.6%
1151	Support Activities for Crop Production	64	61	-3	-4.7%
1152	Support Activities for Animal Production	1,168	1,225	57	4.9%
1153	Support Activities for Forestry	16	32	16	100.0%
	Mining	1,974	1,594	-380	-19.3%
212	Mining (except Oil and Gas)	13	1,548	1,535	11807.7%
2111	Oil and Gas Extraction	13		-13	-100.0%
212	Mining (except Oil and Gas)	1,844		-1,844	-100.0%
2123	Nonmetallic Mineral Mining and Quarrying	1,844	1,548	-296	-16.1%
213	Support Activities for Mining	117	37	-80	-68.4%
2131	Support Activities for Mining	117	37	-80	-68.4%
	Construction	159,762	158,057	-1,705	-1.1%
23	Construction	159,762	158,057	-1,705	-1.1%
236	Construction of Buildings	33,730	33,004	-726	-2.2%
2361	Residential Building Construction	20,185	19,142	-1,043	-5.2%
2362	Nonresidential Building Construction	13,545	13,862	317	2.3%
237	Heavy and Civil Engineering Construction	26,550	25,237	-1,313	-4.9%
2371	Utility System Construction	5,122	5,197	75	1.5%
2372	Land Subdivision	1,552	1,550	-2	-0.1%
2373	Highway, Street, and Bridge Construction	18,843	17,299	-1,544	-8.2%
2379	Other Heavy Construction	1,034	1,191	157	15.2%
238	Specialty Trade Contractors	99,482	99,816	334	0.3%
2381	Building Foundation/Exterior Contractors	15,658	15,785	127	0.8%
2382	Building Equipment Contractors	45,697	45,613	-84	-0.2%
2383	Building Finishing Contractors	22,637	22,011	-626	-2.8%
2389	Other Specialty Trade Contractors	15,489	16,406	917	5.9%
	Manufacturing	313,608	294,964	-18,644	-5.9%
31-33	Manufacturing	313,608	294,964	-18,644	-5.9%
DUR	Durable Goods Manufacturing	205,621	195,180	-10,441	-5.1%

Massachusetts ES-202 Average Monthly 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	-7.6%
311	Food Manufacturing	22,370	22,814	444	2.0%
3112	Grain and Oilseed Milling	463	578	115	24.8%
3113	Sugar/Confectionery Product Manufacture	1,870	1,735	-135	-7.2%
3114	Fruit, Vegetable, & Specialty Foods Mfg	1,675	1,981	306	18.3%
3115	Dairy Product Manufacturing	2,800	2,798	-2	-0.1%
3116	Animal Slaughtering and Processing	2,098	2,061	-37	-1.8%
3117	Seafood Product Preparation & Packaging	2,320	2,512	192	8.3%
3118	Bakeries and Tortilla Manufacturing	8,777	8,297	-480	-5.5%
3119	Other Food Manufacturing	2,199	2,818	619	28.1%
312	Beverage & Tobacco Product Manufacturing	2,809	2,688	-121	-4.3%
3121	Beverage Manufacturing	2,802	2,687	-115	-4.1%
313	Textile Mills	8,637	5,204	-3,433	-39.7%
3131	Fiber, Yarn, and Thread Mills	998	241	-757	-75.9%
3132	Fabric Mills	4,247	2,541	-1,706	-40.2%
3133	Textile and Fabric Finishing and Fabric	3,392	2,423	-969	-28.6%
314	Textile Product Mills	2,759	3,120	361	13.1%
3141	Textile Furnishings Mills	1,352	1,152	-200	-14.8%
3149	Other Textile Product Mills	1,407	1,968	561	39.9%
315	Apparel Manufacturing	4,150	3,013	-1,137	-27.4%
3151	Apparel Knitting Mills		64	64	NA
3152	Cut and Sew Apparel Manufacturing	3,539	2,715	-824	-23.3%
3159	Accessories and Other Apparel Mfg		234	234	NA
316	Leather and Allied Product Manufacturing	2,097	1,698	-399	-19.0%
3161	Leather and Hide Tanning and Finishing	143	69	-74	-51.7%
3162	Footwear Manufacturing	1,348	1,224	-124	-9.2%
3169	Other Leather Product Manufacturing	607	405	-202	-33.3%
321	Wood Product Manufacturing	3,477	3,040	-437	-12.6%
3211	Sawmills and Wood Preservation	306	233	-73	-23.9%
3212	Veneer and Engineered Wood Products	303	323	20	6.6%
3219	Other Wood Product Manufacturing	2,868	2,484	-384	-13.4%
322	Paper Manufacturing	14,101	12,028	-2,073	-14.7%
3221	Pulp, Paper, and Paperboard Mills	3,116	2,923	-193	-6.2%
3222	Converted Paper Product Manufacturing	10,985	9,105	-1,880	-17.1%
323	Printing and Related Support Activities	16,380	15,759	-621	-3.8%
3231	Printing and Related Support Activities	16,380	15,759	-621	-3.8%
324	Petroleum & Coal Products Manufacturing	1,326	1,121	-205	-15.5%
3241	Petroleum & Coal Products Manufacturing	1,326	1,121	-205	-15.5%
325	Chemical Manufacturing	16,451	18,353	1,902	11.6%
3251	Basic Chemical Manufacturing	1,139	1,164	25	2.2%
3252	Resin, Rubber, and Synthetic Fibers	2,074	3,147	1,073	51.7%
3253	Agricultural Chemical Manufacturing	84	116	32	38.1%
3254	Pharmaceutical & Medicine Manufacturing	7,050	9,291	2,241	31.8%
3255	Paint, Coating, & Adhesive Manufacturing	2,169	1,941	-228	-10.5%
3256	Cleaning Compound and Toiletry Mfg	1,350	1,045	-305	-22.6%
3259	Other Chemical Preparation Manufacturing	2,584	1,650	-934	-36.1%
326	Plastics & Rubber Products Manufacturing	16,906	13,986	-2,920	-17.3%
3261	Plastics Product Manufacturing	15,118	12,902	-2,216	-14.7%

Massachusetts ES-202 Average Monthly 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	-39.4%
327	Nonmetallic Mineral Product Mfg	6,721	6,829	108	1.6%
3271	Clay Product & Refractory Manufacturing	1,128	1,164	36	3.2%
3272	Glass and Glass Product Manufacturing	1,399	1,569	170	12.2%
3273	Cement & Concrete Product Manufacturing	2,172	2,346	174	8.0%
3279	Other Nonmetallic Mineral Products	2,021	1,733	-288	-14.3%
331	Primary Metal Manufacturing	5,694	4,700	-994	-17.5%
3311	Iron and Steel Mills and Ferroalloys	77	27	-50	-64.9%
3312	Purchased Steel Product Manufacturing	583	743	160	27.4%
3313	Alumina and Aluminum Production	413	316	-97	-23.5%
3314	Other Nonferrous Metal Production	3,228	2,543	-685	-21.2%
3315	Foundries	1,393	1,071	-322	-23.1%
332	Fabricated Metal Product Manufacturing	36,341	34,753	-1,588	-4.4%
3321	Forging and Stamping	2,672	2,312	-360	-13.5%
3322	Cutlery and Handtool Manufacturing	6,195	4,803	-1,392	-22.5%
3323	Architectural and Structural Metals	6,419	6,385	-34	-0.5%
3324	Boilers, Tanks, and Shipping Containers	974	956	-18	-1.8%
3325	Hardware Manufacturing	444	321	-123	-27.7%
3326	Spring and Wire Product Manufacturing	918	738	-180	-19.6%
3327	Machine Shops and Threaded Products	10,475	10,638	163	1.6%
3328	Coating, Engraving & Heat Treating Metal	4,164	4,177	13	0.3%
3329	Other Fabricated Metal Product Mfg	4,080	4,423	343	8.4%
333	Machinery Manufacturing	22,008	20,594	-1,414	-6.4%
3331	Ag., Construction, and Mining Machinery	317	210	-107	-33.8%
3332	Industrial Machinery Manufacturing	6,482	6,012	-470	-7.3%
3333	Commercial & Service Industry Machinery	4,224	3,298	-926	-21.9%
3334	HVAC and Commercial Refrigeration Equip	1,175	1,141	-34	-2.9%
3335	Metalworking Machinery Manufacturing	3,961	3,544	-417	-10.5%
3336	Turbine and Power Transmission Equipment	1,350	1,867	517	38.3%
3339	Other General Purpose Machinery Mfg	4,500	4,521	21	0.5%
334	Computer and Electronic Product Mfg	74,279	71,224	-3,055	-4.1%
3341	Computers and Peripheral Equipment	15,963	14,044	-1,919	-12.0%
3342	Communications Equipment Manufacturing	6,916	5,326	-1,590	-23.0%
3343	Audio and Video Equipment Manufacturing		3,962	3,962	NA
3344	Semiconductor and Electronic Components	19,546	18,976	-570	-2.9%
3345	Electronic Instrument Manufacturing	28,278	28,575	297	1.1%
3346	Magnetic Media Manufacture & Reproducing	559	340	-219	-39.2%
335	Electrical Equipment and Appliances	11,214	11,845	631	5.6%
3351	Electric Lighting Equipment Mfg	2,219	2,565	346	15.6%
3352	Household Appliance Manufacturing	538	596	58	10.8%
3353	Electrical Equipment Manufacturing	4,979	4,307	-672	-13.5%
3359	Other Electrical Equipment & Components	3,478	4,377	899	25.8%
336	Transportation Equipment Manufacturing	14,000	14,407	407	2.9%
3361	Motor Vehicle Manufacturing	204	191	-13	-6.4%
3362	Motor Vehicle Body and Trailer Mfg	461	461	0	0.0%
3363	Motor Vehicle Parts Manufacturing	1,717	1,220	-497	-28.9%
3364	Aerospace Product & Parts Manufacturing	11,100	11,917	817	7.4%
3366	Ship and Boat Building	453	556	103	22.7%

Massachusetts ES-202 Average Monthly 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	-9.0%
337	Furniture and Related Product Mfg	5,623	5,574	-49	-0.9%
3371	Household and Institutional Furniture	3,368	2,737	-631	-18.7%
3372	Office Furniture and Fixtures Mfg	1,488	2,196	708	47.6%
3379	Other Furniture Related Product Mfg	767	641	-126	-16.4%
339	Miscellaneous Manufacturing	26,264	22,214	-4,050	-15.4%
3391	Medical Equipment and Supplies Mfg	13,157	11,210	-1,947	-14.8%
3399	Other Miscellaneous Manufacturing	13,107	11,003	-2,104	-16.1%
	Service-Providing Domain	2,656,582	2,774,084	117,502	4.4%
	Trade, Transportation and Utilities	605,527	601,408	-4,119	-0.7%
22	Utilities	13,970	13,396	-574	-4.1%
221	Utilities	13,970	13,396	-574	-4.1%
2211	Power Generation and Supply	7,856	7,801	-55	-0.7%
2212	Natural Gas Distribution	2,750	2,820	70	2.5%
2213	Water, Sewage and Other Systems	3,365	2,775	-590	-17.5%
42	Wholesale Trade	135,538	138,426	2,888	2.1%
423	Merchant Wholesalers, Durable Goods	63,756	62,417	-1,339	-2.1%
4231	Motor Vehicle/Part Merchant Wholesalers	5,108	4,997	-111	-2.2%
4232	Furniture & Furnishings Merchant Whsle	2,390	2,122	-268	-11.2%
4233	Lumber and Supply Merchant Wholesalers	5,568	5,864	296	5.3%
4234	Commercial Goods Merchant Wholesalers	21,432	20,610	-822	-3.8%
4235	Metal and Mineral Merchant Wholesalers	1,721	1,764	43	2.5%
4236	Electric Goods Merchant Wholesalers	9,689	9,190	-499	-5.2%
4237	Hardware & Plumbing Merchant Wholesalers	4,796	5,003	207	4.3%
4238	Machinery & Supply Merchant Wholesalers	9,244	8,968	-276	-3.0%
4239	Misc Durable Goods Merchant Wholesalers	3,809	3,899	90	2.4%
424	Merchant Wholesalers, Nondurable Goods	47,010	48,735	1,725	3.7%
4241	Paper/Paper Product Merchant Wholesalers	5,061	4,890	-171	-3.4%
4242	Druggists' Goods Merchant Wholesalers	5,490	5,375	-115	-2.1%
4243	Apparel/Piece Goods Merchant Wholesalers	6,023	5,879	-144	-2.4%
4244	Grocery Product Merchant Wholesalers	16,387	18,120	1,733	10.6%
4245	Farm Product Merchant Wholesalers	214	177	-37	-17.3%
4246	Chemical Merchant Wholesalers	2,288	2,168	-120	-5.2%
4247	Petroleum Merchant Wholesalers	1,399	1,526	127	9.1%
4248	Alcoholic Beverage Merchant Wholesalers	3,289	3,805	516	15.7%
4249	Misc Nondurable Goods Merchant Whsle	6,859	6,796	-63	-0.9%
425	Electronic Markets and Agents/Brokers	24,771	27,273	2,502	10.1%
4251	Electronic Markets and Agents/Brokers	24,771	27,273	2,502	10.1%
44-45	Retail Trade	355,455	348,784	-6,671	-1.9%
441	Motor Vehicle and Parts Dealers	38,830	35,839	-2,991	-7.7%
4411	Automobile Dealers	27,389	24,892	-2,497	-9.1%
4412	Other Motor Vehicle Dealers	2,854	2,646	-208	-7.3%
4413	Auto Parts, Accessories, and Tire Stores	8,587	8,301	-286	-3.3%
442	Furniture and Home Furnishings Stores	12,917	12,513	-404	-3.1%
4421	Furniture Stores	5,823	5,212	-611	-10.5%
4422	Home Furnishings Stores	7,094	7,301	207	2.9%
443	Electronics and Appliance Stores	12,061	12,198	137	1.1%
4431	Electronics and Appliance Stores	12,061	12,198	137	1.1%

Massachusetts ES-202 Average Monthly 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	-3.3%
4441	Building Material and Supplies Dealers	25,677	24,510	-1,167	-4.5%
4442	Lawn & Garden Equipment/Supplies Stores	3,119	3,340	221	7.1%
445	Food and Beverage Stores	89,792	89,894	102	0.1%
4451	Grocery Stores	73,800	74,501	701	0.9%
4452	Specialty Food Stores	7,254	6,939	-315	-4.3%
4453	Beer, Wine, and Liquor Stores	8,739	8,453	-286	-3.3%
446	Health and Personal Care Stores	26,630	27,064	434	1.6%
4461	Health and Personal Care Stores	26,630	27,064	434	1.6%
447	Gasoline Stations	12,465	11,817	-648	-5.2%
4471	Gasoline Stations	12,465	11,817	-648	-5.2%
448	Clothing and Clothing Accessories Stores	39,379	40,630	1,251	3.2%
4481	Clothing Stores	31,044	32,147	1,103	3.6%
4482	Shoe Stores	3,994	4,401	407	10.2%
4483	Jewelry, Luggage & Leather Goods Stores	4,341	4,082	-259	-6.0%
451	Sporting Goods/Hobby/Book/Music Stores	17,720	16,906	-814	-4.6%
4511	Sporting Goods/Musical Instrument Stores	11,675	11,410	-265	-2.3%
4512	Book, Periodical, and Music Stores	6,045	5,497	-548	-9.1%
452	General Merchandise Stores	42,317	42,408	91	0.2%
4521	Department Stores	32,514	31,740	-774	-2.4%
4529	Other General Merchandise Stores	9,803	10,667	864	8.8%
453	Miscellaneous Store Retailers	23,355	20,302	-3,053	-13.1%
4531	Florists	2,878	2,249	-629	-21.9%
4532	Office Supply, Stationery & Gift Stores	12,131	10,035	-2,096	-17.3%
4533	Used Merchandise Stores	1,848	1,814	-34	-1.8%
4539	Other Miscellaneous Store Retailers	6,499	6,204	-295	-4.5%
454	Nonstore Retailers	11,193	11,362	169	1.5%
4541	Electronic Shopping & Mail-Order Houses	4,112	5,189	1,077	26.2%
4542	Vending Machine Operators	659	580	-79	-12.0%
4543	Direct Selling Establishments	6,422	5,594	-828	-12.9%
48-49	Transportation and Warehousing	100,564	100,802	238	0.2%
481	Air Transportation	8,895	8,069	-826	-9.3%
4811	Scheduled Air Transportation	8,598	7,662	-936	-10.9%
4812	Nonscheduled Air Transportation	297	407	110	37.0%
483	Water Transportation	1,087	1,238	151	13.9%
4831	Sea, Coastal & Great Lakes Transport	1,044	1,188	144	13.8%
4832	Inland Water Transportation	43	50	7	16.3%
484	Truck Transportation	16,925	16,424	-501	-3.0%
4841	General Freight Trucking	10,356	9,940	-416	-4.0%
4842	Specialized Freight Trucking	6,569	6,484	-85	-1.3%
485	Transit and Ground Passenger Transport	20,538	22,654	2,116	10.3%
4852	Interurban and Rural Bus Transportation	824	773	-51	-6.2%
4853	Taxi and Limousine Service	3,154	3,797	643	20.4%
4854	School and Employee Bus Transportation	6,011	6,572	561	9.3%
4855	Charter Bus Industry	1,206	1,305	99	8.2%
4859	Other Ground Passenger Transportation	2,096	2,239	143	6.8%
486	Pipeline Transportation	115	141	26	22.6%
4862	Pipeline Transportation of Natural Gas	114	123	9	7.9%

Massachusetts ES-202 Average Monthly 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	-14.1%
4871	Scenic/Sightseeing Transportation, Land	897	681	-216	-24.1%
4872	Scenic/Sightseeing Transportation, Water	1,163	1,083	-80	-6.9%
4879	Scenic/Sightseeing Transportation, Other		7	7	NA
488	Support Activities for Transportation	9,133	9,375	242	2.6%
4881	Support Activities for Air Transport	2,889	2,819	-70	-2.4%
4882	Support Activities for Rail Transport	98	78	-20	-20.4%
4883	Support Activities for Water Transport	451	456	5	1.1%
4884	Support Activities, Road Transportation	3,069	3,064	-5	-0.2%
4885	Freight Transportation Arrangement	2,099	2,345	246	11.7%
4889	Other Support Activities for Transport	526	613	87	16.5%
492	Couriers and Messengers	11,713	11,201	-512	-4.4%
4921	Couriers	11,043	10,619	-424	-3.8%
4922	Local Messengers and Local Delivery	670	582	-88	-13.1%
493	Warehousing and Storage	7,731	9,175	1,444	18.7%
4931	Warehousing and Storage	7,731	9,175	1,444	18.7%
	Information	92,519	94,852	2,333	2.5%
51	Information	92,519	94,852	2,333	2.5%
511	Publishing Industries	41,049	42,926	1,877	4.6%
5111	Newspaper, Book, & Directory Publishers	22,062	20,751	-1,311	-5.9%
5112	Software Publishers	18,988	22,175	3,187	16.8%
512	Motion Picture & Sound Recording Ind	5,261	5,697	436	8.3%
5121	Motion Picture and Video Industries	5,054	5,496	442	8.7%
5122	Sound Recording Industries	208	201	-7	-3.4%
515	Broadcasting (except Internet)	6,005	5,469	-536	-8.9%
5151	Radio and Television Broadcasting	5,196	4,727	-469	-9.0%
5152	Cable and Other Subscription Programming	809	742	-67	-8.3%
516	Internet Publishing and Broadcasting	2,182		-2,182	-100.0%
5161	Internet Publishing and Broadcasting	2,182		-2,182	-100.0%
517	Telecommunications	21,232	21,789	557	2.6%
5171	Wired Telecommunications Carriers	12,852	17,779	4,927	38.3%
5172	Wireless Telecommunications Carriers	2,486	2,365	-121	-4.9%
5173	Telecommunications Resellers	960		-960	-100.0%
5174	Satellite Telecommunications	58	64	6	10.3%
5175	Cable and Other Program Distribution	4,821		-4,821	-100.0%
5179	Other Telecommunications		1,581	1,581	NA
518	ISPs, Search Portals, & Data Processing	9,798	7,421	-2,377	-24.3%
5181	ISPs and Web Search Portals	2,535		-2,535	-100.0%
5182	Data Processing and Related Services	7,262	7,421	159	2.2%
519	Other Information Services	6,991	11,550	4,559	65.2%
5191	Other Information Services	6,991	11,550	4,559	65.2%
	Financial Activities	219,774	227,837	8,063	3.7%
52	Finance and Insurance	173,224	182,744	9,520	5.5%
522	Credit Intermediation & Related Activity	62,196	62,547	351	0.6%
5221	Depository Credit Intermediation	48,693	49,990	1,297	2.7%
5222	Nondepository Credit Intermediation	9,799	8,991	-808	-8.2%
5223	Activities Rel to Credit Intermediation	3,703	3,566	-137	-3.7%
523	Financial Investment & Related Activity	45,584	51,700	6,116	13.4%

Massachusetts ES-202 Average Monthly 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	-4.4%
5232	Securities and Commodity Exchanges	21	12	-9	-42.9%
5239	Other Financial Investment Activities	20,010	27,264	7,254	36.3%
524	Insurance Carriers & Related Activities	61,831	65,590	3,759	6.1%
5241	Insurance Carriers	39,094	43,536	4,442	11.4%
5242	Insurance Agencies, Brokerages & Support	22,737	22,054	-683	-3.0%
525	Funds, Trusts & Other Financial Vehicles	2,532	2,008	-524	-20.7%
5251	Insurance and Employee Benefit Funds	511	521	10	2.0%
5259	Other Investment Pools and Funds	2,022	1,487	-535	-26.5%
53	Real Estate and Rental and Leasing	46,550	45,094	-1,456	-3.1%
531	Real Estate	32,067	32,167	100	0.3%
5311	Lessors of Real Estate	9,795	10,125	330	3.4%
5312	Offices of Real Estate Agents & Brokers	10,501	8,734	-1,767	-16.8%
5313	Activities Related to Real Estate	11,771	13,308	1,537	13.1%
532	Rental and Leasing Services	14,045	12,412	-1,633	-11.6%
5321	Automotive Equipment Rental and Leasing	4,364	3,789	-575	-13.2%
5322	Consumer Goods Rental	6,351	5,546	-805	-12.7%
5323	General Rental Centers	1,479	1,113	-366	-24.7%
5324	Machinery & Equipment Rental & Leasing	1,852	1,964	112	6.0%
533	Lessors, Nonfinancial Intangible Assets	438	515	77	17.6%
5331	Lessors, Nonfinancial Intangible Assets	438	515	77	17.6%
	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%
541	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 Services	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 and Rel Services	42,970	52,055	9,085	21.1%
5416	Management & Technical Consulting Svc	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%
55	Management of Companies and Enterprises	64,989	61,401	-3,588	-5.5%
551	Management of Companies and Enterprises	64,989	61,401	-3,588	-5.5%
5511	Management of Companies and Enterprises	64,989	61,401	-3,588	-5.5%
56	Administrative and Waste Services	170,375	180,429	10,054	5.9%
561	Administrative and Support Services	160,444	169,624	9,180	5.7%
5611	Office Administrative Services	9,309	8,900	-409	-4.4%
5612	Facilities Support Services	420	630	210	50.0%
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 Service	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%
562	Waste Management and Remediation Service	9,931	10,805	874	8.8%
5621	Waste Collection	3,128	3,582	454	14.5%

Massachusetts ES-202 Average Monthly 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	5.6%
5629	Remediation and Other Waste Services	3,505	3,738	233	6.6%
	Education and Health Services	704,108	757,941	53,833	7.6%
61	Educational Services	252,159	269,921	17,762	7.0%
611	Educational Services	252,159	269,921	17,762	7.0%
6111	Elementary and Secondary Schools	134,875	142,644	7,769	5.8%
6112	Junior Colleges	6,974		-6,974	-100.0%
6113	Colleges and Universities	95,412	103,248	7,836	8.2%
6114	Business, Computer & Management Training	1,992	2,118	126	6.3%
6115	Technical and Trade Schools	1,893	2,362	469	24.8%
6116	Other Schools and Instruction	8,667	9,714	1,047	12.1%
6117	Educational Support Services	2,347	2,673	326	13.9%
62	Health Care and Social Assistance	451,949	488,020	36,071	8.0%
621	Ambulatory Health Care Services	127,191	140,132	12,941	10.2%
6211	Offices of Physicians	46,675	50,649	3,974	8.5%
6212	Offices of Dentists	19,779	20,967	1,188	6.0%
6213	Offices of Other Health Practitioners	11,471	12,507	1,036	9.0%
6214	Outpatient Care Centers	19,024	21,200	2,176	11.4%
6215	Medical and Diagnostic Laboratories	4,228	4,722	494	11.7%
6216	Home Health Care Services	19,346	23,053	3,707	19.2%
6219	Other Ambulatory Health Care Services	6,668	7,035	367	5.5%
622	Hospitals	171,763	185,219	13,456	7.8%
6221	General Medical and Surgical Hospitals	148,260	161,064	12,804	8.6%
6222	Psychiatric & Substance Abuse Hospitals	8,241	8,662	421	5.1%
6223	Other Hospitals	15,262	15,492	230	1.5%
623	Nursing and Residential Care Facilities	91,657	96,281	4,624	5.0%
6231	Nursing Care Facilities	57,413	57,895	482	0.8%
6232	Residential Mental Health Facilities	15,711	18,244	2,533	16.1%
6233	Community Care Facility for the Elderly	12,374	13,872	1,498	12.1%
6239	Other Residential Care Facilities	6,158	6,269	111	1.8%
624	Social Assistance	61,337	66,388	5,051	8.2%
6241	Individual and Family Services	26,064	30,656	4,592	17.6%
6242	Emergency and Other Relief Services	5,538	5,130	-408	-7.4%
6243	Vocational Rehabilitation Services	9,121	9,380	259	2.8%
6244	Child Day Care Services	20,614	21,223	609	3.0%
	Leisure and Hospitality	322,719	333,382	10,663	3.3%
71	Arts, Entertainment, and Recreation	62,046	64,971	2,925	4.7%
711	Performing Arts and Spectator Sports	9,776	11,027	1,251	12.8%
7111	Performing Arts Companies	3,831	3,463	-368	-9.6%
7112	Spectator Sports	2,827	2,723	-104	-3.7%
7113	Performing Arts and Sports Promoters	2,526	4,271	1,745	69.1%
7114	Agents and Managers for Public Figures	139	145	6	4.3%
7115	Independent Artists/Writers/Performers	453	426	-27	-6.0%
712	Museums, Parks and Historical Sites	6,359	6,379	20	0.3%
7121	Museums, Parks and Historical Sites	6,359	6,379	20	0.3%
713	Amusement, Gambling & Recreation Ind	45,912	47,565	1,653	3.6%
7131	Amusement Parks and Arcades	2,060	2,488	428	20.8%
7139	Other Amusement & Recreation Industries	43,662	44,935	1,273	2.9%

Massachusetts ES-202 Average Monthly 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	3.0%
721	Accommodation	37,647	38,183	536	1.4%
7211	Traveler Accommodation	34,693	35,611	918	2.6%
7212	RV Parks and Recreational Camps	2,286	2,226	-60	-2.6%
7213	Rooming and Boarding Houses	668	346	-322	-48.2%
722	Food Services and Drinking Places	223,026	230,227	7,201	3.2%
7221	Full-Service Restaurants	112,915	118,979	6,064	5.4%
7222	Limited-Service Eating Places	80,056	84,601	4,545	5.7%
7223	Special Food Services	21,209	19,120	-2,089	-9.8%
7224	Drinking Places (Alcoholic Beverages)	8,847	7,527	-1,320	-14.9%
	Other Services	117,750	128,741	10,991	9.3%
81	Other Services, Ex. Public Admin	117,750	128,741	10,991	9.3%
811	Repair and Maintenance	27,029	26,020	-1,009	-3.7%
8111	Automotive Repair and Maintenance	19,710	18,345	-1,365	-6.9%
8112	Electronic Equipment Repair/Maintenance	3,249	3,516	267	8.2%
8113	Commercial Machinery Repair/Maintenance	2,341	2,504	163	7.0%
8114	Household Goods Repair and Maintenance	1,730	1,654	-76	-4.4%
812	Personal and Laundry Services	35,898	37,735	1,837	5.1%
8121	Personal Care Services	17,892	18,789	897	5.0%
8122	Death Care Services	2,700	2,655	-45	-1.7%
8123	Drycleaning and Laundry Services	8,996	9,437	441	4.9%
8129	Other Personal Services	6,310	6,854	544	8.6%
813	Membership Organizations & Associations	35,741	39,848	4,107	11.5%
8131	Religious Organizations	722	767	45	6.2%
8132	Grantmaking and Giving Services	2,465	2,982	517	21.0%
8133	Social Advocacy Organizations	6,130	8,386	2,256	36.8%
8134	Civic and Social Organizations	19,055	19,762	707	3.7%
8139	Professional and Similar Organizations	7,369	7,951	582	7.9%
814	Private Households	19,083	25,139	6,056	31.7%
8141	Private Households	19,083	25,139	6,056	31.7%
	Public Administration	130,413	135,383	4,970	3.8%
92	Public Administration	130,413	135,383	4,970	3.8%
921	Executive, Legislative, & Gen Government	32,323	32,288	-35	-0.1%
9211	Executive, Legislative, & Gen Government	32,323	32,288	-35	-0.1%
922	Justice, Public Order, and Safety Activi	58,626	61,341	2,715	4.6%
9221	Justice, Public Order, and Safety Activi	58,626	61,341	2,715	4.6%
924	Administration of Environmental Programs	4,676	6,318	1,642	35.1%
9241	Administration of Environmental Programs	4,676	6,318	1,642	35.1%
925	Community and Housing Program Admin	5,698	5,569	-129	-2.3%
9251	Community and Housing Program Admin	5,698	5,569	-129	-2.3%
926	Administration of Economic Programs	7,704	7,928	224	2.9%
9261	Administration of Economic Programs	7,704	7,928	224	2.9%
928	National Security & International Affair	5,353	4,966	-387	-7.2%
9281	National Security & International Affair	5,353	4,966	-387	-7.2%

Berkshire County ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	Total, all industries	64,307	64,087	-220	-0.3%
	Goods-Producing Domain	10,408	9,724	-684	-6.6%
	Natural Resources and Mining	309	276	-33	-10.7%
11	Agriculture, Forestry, Fishing & Hunting	188	167	-21	-11.2%
111	Crop Production	63	53	-10	-15.9%
1114	Greenhouse and Nursery Production	37	27	-10	-27.0%
1119	Other Crop Farming	13	14	1	7.7%
112	Animal Production	74	67	-7	-9.5%
1121	Cattle Ranching and Farming	56	50	-6	-10.7%
113	Forestry and Logging	8	0	-8	-100.0%
1133	Logging	8	0	-8	-100.0%
115	Agriculture & Forestry Support Activity	43	43	0	0.0%
1152	Support Activities for Animal Production	33	34	1	3.0%
1153	Support Activities for Forestry	10	9	-1	-10.0%
21	Mining	121	109	-12	-9.9%
212	Mining (except Oil and Gas)	114	109	-5	-4.4%
2123	Nonmetallic Mineral Mining and Quarrying	114	109	-5	-4.4%
	Construction	3,952	3,787	-165	-4.2%
23	Construction	3,952	3,787	-165	-4.2%
236	Construction of Buildings	885	863	-22	-2.5%
2361	Residential Building Construction	695	684	-11	-1.6%
2362	Nonresidential Building Construction	190	179	-11	-5.8%
237	Heavy and Civil Engineering Construction	713	692	-21	-2.9%
2371	Utility System Construction	72	31	-41	-56.9%
2373	Highway, Street, and Bridge Construction	548	532	-16	-2.9%
238	Specialty Trade Contractors	2,354	2,232	-122	-5.2%
2381	Building Foundation/Exterior Contractors	426	406	-20	-4.7%
2382	Building Equipment Contractors	1,110	1,024	-86	-7.7%
2383	Building Finishing Contractors	378	365	-13	-3.4%
2389	Other Specialty Trade Contractors	441	437	-4	-0.9%
	Manufacturing	6,147	5,661	-486	-7.9%
31-33	Manufacturing	6,147	5,661	-486	-7.9%
DUR	Durable Goods Manufacturing	2,180	2,089	-91	-4.2%
NONDUR	Non-Durable Goods Manufacturing	3,966	3,572	-394	-9.9%
311	Food Manufacturing	147	148	1	0.7%
3113	Sugar/Confectionery Product Manufacture	0	20	20	NA
3118	Bakeries and Tortilla Manufacturing	83	81	-2	-2.4%
312	Beverage & Tobacco Product Manufacturing	27	25	-2	-7.4%
3121	Beverage Manufacturing	27	25	-2	-7.4%
313	Textile Mills	38	0	-38	-100.0%
314	Textile Product Mills	200	209	9	4.5%
3141	Textile Furnishings Mills	200	209	9	4.5%
321	Wood Product Manufacturing	242	175	-67	-27.7%
3219	Other Wood Product Manufacturing	233	165	-68	-29.2%
322	Paper Manufacturing	1,406	1,169	-237	-16.9%
3221	Pulp, Paper, and Paperboard Mills	1,328	1,095	-233	-17.5%
3222	Converted Paper Product Manufacturing	78	74	-4	-5.1%
323	Printing and Related Support Activities	650	607	-43	-6.6%

Berkshire County ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
3231	Printing and Related Support Activities	650	607	-43	-6.6%
325	Chemical Manufacturing	662	592	-70	-10.6%
326	Plastics & Rubber Products Manufacturing	828	796	-32	-3.9%
3261	Plastics Product Manufacturing	828	796	-32	-3.9%
327	Nonmetallic Mineral Product Mfg	502	468	-34	-6.8%
3272	Glass and Glass Product Manufacturing	50	65	15	30.0%
3273	Cement & Concrete Product Manufacturing	384	333	-51	-13.3%
332	Fabricated Metal Product Manufacturing	509	549	40	7.9%
3321	Forging and Stamping	42	43	1	2.4%
3323	Architectural and Structural Metals	65	67	2	3.1%
3327	Machine Shops and Threaded Products	109	109	0	0.0%
3328	Coating, Engraving & Heat Treating Metal	111	110	-1	-0.9%
333	Machinery Manufacturing	544	487	-57	-10.5%
3332	Industrial Machinery Manufacturing	212	206	-6	-2.8%
3335	Metalworking Machinery Manufacturing	290	275	-15	-5.2%
334	Computer and Electronic Product Mfg	28	26	-2	-7.1%
335	Electrical Equipment and Appliances	46	41	-5	-10.9%
3359	Other Electrical Equipment & Components	25	23	-2	-8.0%
337	Furniture and Related Product Mfg	26	28	2	7.7%
3371	Household and Institutional Furniture	20	27	7	35.0%
339	Miscellaneous Manufacturing	167	202	35	21.0%
3391	Medical Equipment and Supplies Mfg	0	143	143	NA
3399	Other Miscellaneous Manufacturing	143	59	-84	-58.7%
	Service-Providing Domain	53,899	54,363	464	0.9%
	Trade, Transportation and Utilities	11,380	11,520	140	1.2%
22	Utilities	268	298	30	11.2%
221	Utilities	268	298	30	11.2%
2211	Power Generation and Supply	99	129	30	30.3%
42	Wholesale Trade	1,205	1,185	-20	-1.7%
423	Merchant Wholesalers, Durable Goods	521	481	-40	-7.7%
4231	Motor Vehicle/Part Merchant Wholesalers	27	25	-2	-7.4%
4233	Lumber and Supply Merchant Wholesalers	8	0	-8	-100.0%
4234	Commercial Goods Merchant Wholesalers	70	73	3	4.3%
4235	Metal and Mineral Merchant Wholesalers	47	40	-7	-14.9%
4236	Electric Goods Merchant Wholesalers	20	20	0	0.0%
4237	Hardware & Plumbing Merchant Wholesalers	82	81	-1	-1.2%
4238	Machinery & Supply Merchant Wholesalers	152	148	-4	-2.6%
424	Merchant Wholesalers, Nondurable Goods	496	530	34	6.9%
4241	Paper/Paper Product Merchant Wholesalers	199	221	22	11.1%
4243	Apparel/Piece Goods Merchant Wholesalers	0	52	52	NA
4244	Grocery Product Merchant Wholesalers	106	94	-12	-11.3%
4246	Chemical Merchant Wholesalers	47	40	-7	-14.9%
4249	Misc Nondurable Goods Merchant Whsle	92	109	17	18.5%
425	Electronic Markets and Agents/Brokers	189	174	-15	-7.9%
4251	Electronic Markets and Agents/Brokers	189	174	-15	-7.9%
44-45	Retail Trade	8,822	8,943	121	1.4%
441	Motor Vehicle and Parts Dealers	794	767	-27	-3.4%
4411	Automobile Dealers	511	511	0	0.0%

Berkshire County ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
4412	Other Motor Vehicle Dealers	101	86	-15	-14.9%
4413	Auto Parts, Accessories, and Tire Stores	183	170	-13	-7.1%
442	Furniture and Home Furnishings Stores	321	353	32	10.0%
4421	Furniture Stores	98	100	2	2.0%
4422	Home Furnishings Stores	222	253	31	14.0%
443	Electronics and Appliance Stores	222	245	23	10.4%
4431	Electronics and Appliance Stores	222	245	23	10.4%
444	Building Material & Garden Supply Stores	727	723	-4	-0.6%
4441	Building Material and Supplies Dealers	586	582	-4	-0.7%
4442	Lawn & Garden Equipment/Supplies Stores	141	141	0	0.0%
445	Food and Beverage Stores	2,375	2,367	-8	-0.3%
4451	Grocery Stores	1,839	1,814	-25	-1.4%
4452	Specialty Food Stores	294	305	11	3.7%
4453	Beer, Wine, and Liquor Stores	243	249	6	2.5%
446	Health and Personal Care Stores	472	445	-27	-5.7%
4461	Health and Personal Care Stores	472	445	-27	-5.7%
447	Gasoline Stations	258	264	6	2.3%
4471	Gasoline Stations	258	264	6	2.3%
448	Clothing and Clothing Accessories Stores	1,084	1,141	57	5.3%
4481	Clothing Stores	807	871	64	7.9%
4482	Shoe Stores	175	176	1	0.6%
4483	Jewelry, Luggage & Leather Goods Stores	102	94	-8	-7.8%
451	Sporting Goods/Hobby/Book/Music Stores	395	421	26	6.6%
4511	Sporting Goods/Musical Instrument Stores	271	288	17	6.3%
4512	Book, Periodical, and Music Stores	124	133	9	7.3%
452	General Merchandise Stores	1,009	1,025	16	1.6%
4521	Department Stores	900	906	6	0.7%
4529	Other General Merchandise Stores	109	119	10	9.2%
453	Miscellaneous Store Retailers	476	488	12	2.5%
4531	Florists	48	41	-7	-14.6%
4532	Office Supply, Stationery & Gift Stores	202	213	11	5.4%
4533	Used Merchandise Stores	95	116	21	22.1%
4539	Other Miscellaneous Store Retailers	131	118	-13	-9.9%
454	Nonstore Retailers	690	704	14	2.0%
4541	Electronic Shopping & Mail-Order Houses	0	207	207	NA
4543	Direct Selling Establishments	509	497	-12	-2.4%
48-49	Transportation and Warehousing	1,084	1,094	10	0.9%
484	Truck Transportation	250	203	-47	-18.8%
4841	General Freight Trucking	97	82	-15	-15.5%
4842	Specialized Freight Trucking	153	121	-32	-20.9%
485	Transit and Ground Passenger Transport	320	331	11	3.4%
4853	Taxi and Limousine Service	53	73	20	37.7%
4854	School and Employee Bus Transportation	153	139	-14	-9.2%
488	Support Activities for Transportation	77	83	6	7.8%
4881	Support Activities for Air Transport	51	57	6	11.8%
492	Couriers and Messengers	129	0	-129	-100.0%
	Information	1,075	1,093	18	1.7%
51	Information	1,075	1,093	18	1.7%

Berkshire County ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
511	Publishing Industries	457	454	-3	-0.7%
5111	Newspaper, Book, & Directory Publishers	435	430	-5	-1.1%
5112	Software Publishers	22	24	2	9.1%
512	Motion Picture & Sound Recording Ind	74	83	9	12.2%
5121	Motion Picture and Video Industries	68	76	8	11.8%
515	Broadcasting (except Internet)	98	103	5	5.1%
5151	Radio and Television Broadcasting	67	53	-14	-20.9%
5152	Cable and Other Subscription Programming	0	50	50	NA
517	Telecommunications	234	224	-10	-4.3%
5171	Wired Telecommunications Carriers	0	219	219	NA
518	ISPs, Search Portals, & Data Processing	11	0	-11	-100.0%
5181	ISPs and Web Search Portals	11	0	-11	-100.0%
519	Other Information Services	143	224	81	56.6%
5191	Other Information Services	143	224	81	56.6%
	Financial Activities	2,899	2,954	55	1.9%
52	Finance and Insurance	2,056	2,123	67	3.3%
522	Credit Intermediation & Related Activity	1,142	1,206	64	5.6%
5221	Depository Credit Intermediation	1,076	1,137	61	5.7%
5222	Nondepository Credit Intermediation	18	17	-1	-5.6%
5223	Activities Rel to Credit Intermediation	0	52	52	NA
523	Financial Investment & Related Activity	184	187	3	1.6%
5231	Security & Commodity Investment Activity	78	75	-3	-3.8%
5239	Other Financial Investment Activities	106	112	6	5.7%
524	Insurance Carriers & Related Activities	692	702	10	1.4%
5242	Insurance Agencies, Brokerages & Support	272	269	-3	-1.1%
525	Funds, Trusts & Other Financial Vehicles	39	29	-10	-25.6%
5251	Insurance and Employee Benefit Funds	26	18	-8	-30.8%
5259	Other Investment Pools and Funds	13	0	-13	-100.0%
53	Real Estate and Rental and Leasing	843	831	-12	-1.4%
531	Real Estate	580	562	-18	-3.1%
5311	Lessors of Real Estate	149	155	6	4.0%
5312	Offices of Real Estate Agents & Brokers	232	226	-6	-2.6%
5313	Activities Related to Real Estate	199	181	-18	-9.0%
532	Rental and Leasing Services	263	270	7	2.7%
5321	Automotive Equipment Rental and Leasing	49	48	-1	-2.0%
5322	Consumer Goods Rental	200	207	7	3.5%
	Professional and Business Services	6,121	5,780	-341	-5.6%
54	Professional and Technical Services	2,836	2,696	-140	-4.9%
541	Professional and Technical Services	2,836	2,696	-140	-4.9%
5411	Legal Services	323	318	-5	-1.5%
5412	Accounting and Bookkeeping Services	285	299	14	4.9%
5413	Architectural and Engineering Services	1,429	1,316	-113	-7.9%
5414	Specialized Design Services	35	31	-4	-11.4%
5415	Computer Systems Design and Rel Services	356	336	-20	-5.6%
5416	Management & Technical Consulting Svc	101	112	11	10.9%
5417	Scientific Research and Development Svc	74	48	-26	-35.1%
5418	Advertising and Related Services	67	63	-4	-6.0%
5419	Other Professional & Technical Services	167	172	5	3.0%

Berkshire County ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
55	Management of Companies and Enterprises	722	604	-118	-16.3%
551	Management of Companies and Enterprises	722	604	-118	-16.3%
5511	Management of Companies and Enterprises	722	604	-118	-16.3%
56	Administrative and Waste Services	2,563	2,480	-83	-3.2%
561	Administrative and Support Services	2,317	2,208	-109	-4.7%
5611	Office Administrative Services	329	0	-329	-100.0%
5613	Employment Services	546	522	-24	-4.4%
5614	Business Support Services	159	137	-22	-13.8%
5615	Travel Arrangement & Reservation Service	220	161	-59	-26.8%
5616	Investigation and Security Services	114	111	-3	-2.6%
5617	Services to Buildings and Dwellings	934	909	-25	-2.7%
5619	Other Support Services	16	21	5	31.3%
562	Waste Management and Remediation Service	245	272	27	11.0%
5621	Waste Collection	82	79	-3	-3.7%
5622	Waste Treatment and Disposal	78	72	-6	-7.7%
5629	Remediation and Other Waste Services	85	121	36	42.4%
	Education and Health Services	16,652	17,355	703	4.2%
61	Educational Services	6,029	6,271	242	4.0%
611	Educational Services	6,029	6,271	242	4.0%
6111	Elementary and Secondary Schools	3,696	3,857	161	4.4%
6113	Colleges and Universities	1,836	1,904	68	3.7%
6114	Business, Computer & Management Training	70	72	2	2.9%
6116	Other Schools and Instruction	233	240	7	3.0%
6117	Educational Support Services	7	9	2	28.6%
62	Health Care and Social Assistance	10,623	11,084	461	4.3%
621	Ambulatory Health Care Services	2,659	2,719	60	2.3%
6211	Offices of Physicians	1,131	1,130	-1	-0.1%
6212	Offices of Dentists	419	444	25	6.0%
6213	Offices of Other Health Practitioners	186	188	2	1.1%
6214	Outpatient Care Centers	364	341	-23	-6.3%
6216	Home Health Care Services	399	453	54	13.5%
6219	Other Ambulatory Health Care Services	159	162	3	1.9%
622	Hospitals	3,130	3,305	175	5.6%
6221	General Medical and Surgical Hospitals	3,005	3,174	169	5.6%
623	Nursing and Residential Care Facilities	3,577	3,779	202	5.6%
6231	Nursing Care Facilities	1,946	1,843	-103	-5.3%
6232	Residential Mental Health Facilities	1,378	1,512	134	9.7%
6233	Community Care Facility for the Elderly	254	424	170	66.9%
624	Social Assistance	1,258	1,281	23	1.8%
6241	Individual and Family Services	729	739	10	1.4%
6242	Emergency and Other Relief Services	68	48	-20	-29.4%
6243	Vocational Rehabilitation Services	75	100	25	33.3%
6244	Child Day Care Services	385	394	9	2.3%
	Leisure and Hospitality	10,185	10,123	-62	-0.6%
71	Arts, Entertainment, and Recreation	2,095	2,095	0	0.0%
711	Performing Arts and Spectator Sports	607	608	1	0.2%
7111	Performing Arts Companies	477	474	-3	-0.6%
7115	Independent Artists/Writers/Performers	32	0	-32	-100.0%

Berkshire County ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
712	Museums, Parks and Historical Sites	471	486	15	3.2%
7121	Museums, Parks and Historical Sites	471	486	15	3.2%
713	Amusement, Gambling & Recreation Ind	1,017	1,001	-16	-1.6%
7131	Amusement Parks and Arcades	38	37	-1	-2.6%
7139	Other Amusement & Recreation Industries	979	964	-15	-1.5%
72	Accommodation and Food Services	8,090	8,028	-62	-0.8%
721	Accommodation	2,766	2,842	76	2.7%
7211	Traveler Accommodation	2,247	2,336	89	4.0%
7212	RV Parks and Recreational Camps	417	454	37	8.9%
7213	Rooming and Boarding Houses	101	52	-49	-48.5%
722	Food Services and Drinking Places	5,325	5,186	-139	-2.6%
7221	Full-Service Restaurants	2,918	2,993	75	2.6%
7222	Limited-Service Eating Places	1,914	1,857	-57	-3.0%
7223	Special Food Services	351	213	-138	-39.3%
7224	Drinking Places (Alcoholic Beverages)	142	123	-19	-13.4%
	Other Services	3,314	3,250	-64	-1.9%
81	Other Services, Ex. Public Admin	3,314	3,250	-64	-1.9%
811	Repair and Maintenance	449	429	-20	-4.5%
8111	Automotive Repair and Maintenance	412	380	-32	-7.8%
8112	Electronic Equipment Repair/Maintenance	8	10	2	25.0%
8113	Commercial Machinery Repair/Maintenance	12	21	9	75.0%
8114	Household Goods Repair and Maintenance	17	18	1	5.9%
812	Personal and Laundry Services	764	778	14	1.8%
8121	Personal Care Services	300	348	48	16.0%
8122	Death Care Services	123	147	24	19.5%
8123	Drycleaning and Laundry Services	293	242	-51	-17.4%
8129	Other Personal Services	49	40	-9	-18.4%
813	Membership Organizations & Associations	1,511	1,436	-75	-5.0%
8132	Grantmaking and Giving Services	55	48	-7	-12.7%
8133	Social Advocacy Organizations	164	171	7	4.3%
8134	Civic and Social Organizations	751	721	-30	-4.0%
8139	Professional and Similar Organizations	130	121	-9	-6.9%
814	Private Households	590	607	17	2.9%
8141	Private Households	590	607	17	2.9%
	Public Administration	2,274	2,288	14	0.6%
92	Public Administration	2,274	2,288	14	0.6%
921	Executive, Legislative, & Gen Government	830	829	-1	-0.1%
9211	Executive, Legislative, & Gen Government	830	829	-1	-0.1%
922	Justice, Public Order, and Safety Activi	918	952	34	3.7%
9221	Justice, Public Order, and Safety Activi	918	952	34	3.7%
925	Community and Housing Program Admin	92	89	-3	-3.3%
9251	Community and Housing Program Admin	92	89	-3	-3.3%
926	Administration of Economic Programs	52	48	-4	-7.7%
9261	Administration of Economic Programs	52	48	-4	-7.7%

Massachusetts ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
	Total, all industries	3,200,233	3,236,217	35,984	1.1%
	Goods-Producing Domain	469,481	462,133	-7,348	-1.6%
	Natural Resources and Mining	9,592	9,112	-480	-5.0%
11	Agriculture, Forestry, Fishing & Hunting	7,749	7,518	-231	-3.0%
111	Crop Production	3,775	3,806	31	0.8%
1112	Vegetable and Melon Farming	861	878	17	2.0%
1113	Fruit and Tree Nut Farming	802	856	54	6.7%
1114	Greenhouse and Nursery Production	1,681	1,710	29	1.7%
1119	Other Crop Farming	429	358	-71	-16.6%
112	Animal Production	689	648	-41	-6.0%
1121	Cattle Ranching and Farming	327	316	-11	-3.4%
1123	Poultry and Egg Production	91	77	-14	-15.4%
1125	Animal Aquaculture	103	100	-3	-2.9%
1129	Other Animal Production	151	137	-14	-9.3%
113	Forestry and Logging	159	120	-39	-24.5%
1132	Forest Nursery/Gathering Forest Products	45	11	-34	-75.6%
1133	Logging	114	109	-5	-4.4%
114	Fishing, Hunting and Trapping	1,884	1,625	-259	-13.7%
1141	Fishing	1,884	1,624	-260	-13.8%
115	Agriculture & Forestry Support Activity	1,241	1,318	77	6.2%
1151	Support Activities for Crop Production	61	61	0	0.0%
1152	Support Activities for Animal Production	1,149	1,225	76	6.6%
1153	Support Activities for Forestry	31	32	1	3.2%
	Mining	1,842	1,594	-248	-13.5%
212	Mining (except Oil and Gas)	1,803	1,548	-255	-14.1%
2123	Nonmetallic Mineral Mining and Quarrying	1,803	1,548	-255	-14.1%
213	Support Activities for Mining	30	37	7	23.3%
2131	Support Activities for Mining	30	37	7	23.3%
	Construction	161,049	158,057	-2,992	-1.9%
23	Construction	161,049	158,057	-2,992	-1.9%
236	Construction of Buildings	34,208	33,004	-1,204	-3.5%
2361	Residential Building Construction	20,333	19,142	-1,191	-5.9%
2362	Nonresidential Building Construction	13,875	13,862	-13	-0.1%
237	Heavy and Civil Engineering Construction	26,054	25,237	-817	-3.1%
2371	Utility System Construction	5,160	5,197	37	0.7%
2372	Land Subdivision	1,582	1,550	-32	-2.0%
2373	Highway, Street, and Bridge Construction	18,136	17,299	-837	-4.6%
2379	Other Heavy Construction	1,176	1,191	15	1.3%
238	Specialty Trade Contractors	100,787	99,816	-971	-1.0%
2381	Building Foundation/Exterior Contractors	16,327	15,785	-542	-3.3%
2382	Building Equipment Contractors	46,177	45,613	-564	-1.2%
2383	Building Finishing Contractors	22,537	22,011	-526	-2.3%
2389	Other Specialty Trade Contractors	15,747	16,406	659	4.2%
	Manufacturing	298,840	294,964	-3,876	-1.3%
31-33	Manufacturing	298,840	294,964	-3,876	-1.3%
DUR	Durable Goods Manufacturing	196,222	195,180	-1,042	-0.5%
NONDUR	Non-Durable Goods Manufacturing	102,618	99,785	-2,833	-2.8%
311	Food Manufacturing	22,754	22,814	60	0.3%

Massachusetts ES-202 Average Monthly Employment, 2006-2007

All NAICS

NAICS	Description	2006 Third Quarter	2007 Third Quarter	Absolute Change	Relative Change
3111	Animal Food Manufacturing	95		-95	-100.0%
3112	Grain and Oilseed Milling	614	578	-36	-5.9%
3113	Sugar/Confectionery Product Manufacture	1,619	1,735	116	7.2%
3114	Fruit, Vegetable, & Specialty Foods Mfg	2,122	1,981	-141	-6.6%
3115	Dairy Product Manufacturing	2,910	2,798	-112	-3.8%
3116	Animal Slaughtering and Processing	1,974	2,061	87	4.4%
3117	Seafood Product Preparation & Packaging	2,391	2,512	121	5.1%
3118	Bakeries and Tortilla Manufacturing	8,513	8,297	-216	-2.5%
3119	Other Food Manufacturing	2,517	2,818	301	12.0%
312	Beverage & Tobacco Product Manufacturing	2,733	2,688	-45	-1.6%
3121	Beverage Manufacturing	2,733	2,687	-46	-1.7%
313	Textile Mills	6,051	5,204	-847	-14.0%
3131	Fiber, Yarn, and Thread Mills	406	241	-165	-40.6%
3132	Fabric Mills	2,962	2,541	-421	-14.2%
3133	Textile and Fabric Finishing and Fabric	2,682	2,423	-259	-9.7%
314	Textile Product Mills	2,651	3,120	469	17.7%
3141	Textile Furnishings Mills	1,374	1,152	-222	-16.2%
3149	Other Textile Product Mills	1,277	1,968	691	54.1%
315	Apparel Manufacturing	3,712	3,013	-699	-18.8%
3151	Apparel Knitting Mills	47	64	17	36.2%
3152	Cut and Sew Apparel Manufacturing	3,219	2,715	-504	-15.7%
3159	Accessories and Other Apparel Mfg		234	234	NA
316	Leather and Allied Product Manufacturing	2,478	1,698	-780	-31.5%
3161	Leather and Hide Tanning and Finishing	86	69	-17	-19.8%
3162	Footwear Manufacturing	1,479	1,224	-255	-17.2%
3169	Other Leather Product Manufacturing	913	405	-508	-55.6%
321	Wood Product Manufacturing	3,402	3,040	-362	-10.6%
3211	Sawmills and Wood Preservation	256	233	-23	-9.0%
3212	Veneer and Engineered Wood Products	301	323	22	7.3%
3219	Other Wood Product Manufacturing	2,845	2,484	-361	-12.7%
322	Paper Manufacturing	12,154	12,028	-126	-1.0%
3221	Pulp, Paper, and Paperboard Mills	3,063	2,923	-140	-4.6%
3222	Converted Paper Product Manufacturing	9,091	9,105	14	0.2%
323	Printing and Related Support Activities	16,106	15,759	-347	-2.2%
3231	Printing and Related Support Activities	16,106	15,759	-347	-2.2%
324	Petroleum & Coal Products Manufacturing	1,334	1,121	-213	-16.0%
3241	Petroleum & Coal Products Manufacturing	1,334	1,121	-213	-16.0%
325	Chemical Manufacturing	16,914	18,353	1,439	8.5%
3251	Basic Chemical Manufacturing	1,139	1,164	25	2.2%
3252	Resin, Rubber, and Synthetic Fibers	2,263	3,147	884	39.1%
3253	Agricultural Chemical Manufacturing	117	116	-1	-0.9%
3254	Pharmaceutical & Medicine Manufacturing	7,886	9,291	1,405	17.8%
3255	Paint, Coating, & Adhesive Manufacturing	2,000	1,941	-59	-3.0%
3256	Cleaning Compound and Toiletry Mfg	1,272	1,045	-227	-17.8%
3259	Other Chemical Preparation Manufacturing	2,237	1,650	-587	-26.2%
326	Plastics & Rubber Products Manufacturing	15,732	13,986	-1,746	-11.1%
3261	Plastics Product Manufacturing	14,542	12,902	-1,640	-11.3%
3262	Rubber Product Manufacturing	1,190	1,084	-106	-8.9%

Massachusetts ES-202 Average Monthly 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	0.4%
3271	Clay Product & Refractory Manufacturing	1,168	1,164	-4	-0.3%
3272	Glass and Glass Product Manufacturing	1,446	1,569	123	8.5%
3273	Cement & Concrete Product Manufacturing	2,421	2,346	-75	-3.1%
3279	Other Nonmetallic Mineral Products	1,753	1,733	-20	-1.1%
331	Primary Metal Manufacturing	4,965	4,700	-265	-5.3%
3311	Iron and Steel Mills and Ferroalloys	46	27	-19	-41.3%
3312	Purchased Steel Product Manufacturing	624	743	119	19.1%
3313	Alumina and Aluminum Production	290	316	26	9.0%
3314	Other Nonferrous Metal Production	2,842	2,543	-299	-10.5%
3315	Foundries	1,163	1,071	-92	-7.9%
332	Fabricated Metal Product Manufacturing	35,211	34,753	-458	-1.3%
3321	Forging and Stamping	2,450	2,312	-138	-5.6%
3322	Cutlery and Handtool Manufacturing	5,617	4,803	-814	-14.5%
3323	Architectural and Structural Metals	6,279	6,385	106	1.7%
3324	Boilers, Tanks, and Shipping Containers	906	956	50	5.5%
3325	Hardware Manufacturing	361	321	-40	-11.1%
3326	Spring and Wire Product Manufacturing	761	738	-23	-3.0%
3327	Machine Shops and Threaded Products	10,491	10,638	147	1.4%
3328	Coating, Engraving & Heat Treating Metal	4,194	4,177	-17	-0.4%
3329	Other Fabricated Metal Product Mfg	4,154	4,423	269	6.5%
333	Machinery Manufacturing	19,918	20,594	676	3.4%
3331	Ag., Construction, and Mining Machinery	267	210	-57	-21.3%
3332	Industrial Machinery Manufacturing	5,988	6,012	24	0.4%
3333	Commercial & Service Industry Machinery	3,310	3,298	-12	-0.4%
3334	HVAC and Commercial Refrigeration Equip	1,149	1,141	-8	-0.7%
3335	Metalworking Machinery Manufacturing	3,506	3,544	38	1.1%
3336	Turbine and Power Transmission Equipment	1,385	1,867	482	34.8%
3339	Other General Purpose Machinery Mfg	4,313	4,521	208	4.8%
334	Computer and Electronic Product Mfg	71,498	71,224	-274	-0.4%
3341	Computers and Peripheral Equipment	14,682	14,044	-638	-4.3%
3342	Communications Equipment Manufacturing	6,174	5,326	-848	-13.7%
3343	Audio and Video Equipment Manufacturing	3,821	3,962	141	3.7%
3344	Semiconductor and Electronic Components	18,827	18,976	149	0.8%
3345	Electronic Instrument Manufacturing	27,602	28,575	973	3.5%
3346	Magnetic Media Manufacture & Reproducing	393	340	-53	-13.5%
335	Electrical Equipment and Appliances	11,359	11,845	486	4.3%
3351	Electric Lighting Equipment Mfg	2,544	2,565	21	0.8%
3352	Household Appliance Manufacturing	567	596	29	5.1%
3353	Electrical Equipment Manufacturing	4,219	4,307	88	2.1%
3359	Other Electrical Equipment & Components	4,029	4,377	348	8.6%
336	Transportation Equipment Manufacturing	14,379	14,407	28	0.2%
3361	Motor Vehicle Manufacturing	188	191	3	1.6%
3362	Motor Vehicle Body and Trailer Mfg	430	461	31	7.2%
3363	Motor Vehicle Parts Manufacturing	1,524	1,220	-304	-19.9%
3364	Aerospace Product & Parts Manufacturing	11,677	11,917	240	2.1%
3366	Ship and Boat Building	482	556	74	15.4%
3369	Other Transportation Equipment Mfg	78	61	-17	-21.8%

Massachusetts ES-202 Average Monthly 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	1.1%
3371	Household and Institutional Furniture	2,859	2,737	-122	-4.3%
3372	Office Furniture and Fixtures Mfg	1,959	2,196	237	12.1%
3379	Other Furniture Related Product Mfg	695	641	-54	-7.8%
339	Miscellaneous Manufacturing	23,171	22,214	-957	-4.1%
3391	Medical Equipment and Supplies Mfg	11,888	11,210	-678	-5.7%
3399	Other Miscellaneous Manufacturing	11,283	11,003	-280	-2.5%
	Service-Providing Domain	2,730,752	2,774,084	43,332	1.6%
	Trade, Transportation and Utilities	600,472	601,408	936	0.2%
22	Utilities	13,068	13,396	328	2.5%
221	Utilities	13,068	13,396	328	2.5%
2211	Power Generation and Supply	7,565	7,801	236	3.1%
2212	Natural Gas Distribution	2,831	2,820	-11	-0.4%
2213	Water, Sewage and Other Systems	2,673	2,775	102	3.8%
42	Wholesale Trade	137,726	138,426	700	0.5%
423	Merchant Wholesalers, Durable Goods	63,420	62,417	-1,003	-1.6%
4231	Motor Vehicle/Part Merchant Wholesalers	5,181	4,997	-184	-3.6%
4232	Furniture & Furnishings Merchant Whsle	2,235	2,122	-113	-5.1%
4233	Lumber and Supply Merchant Wholesalers	5,997	5,864	-133	-2.2%
4234	Commercial Goods Merchant Wholesalers	20,906	20,610	-296	-1.4%
4235	Metal and Mineral Merchant Wholesalers	1,777	1,764	-13	-0.7%
4236	Electric Goods Merchant Wholesalers	9,444	9,190	-254	-2.7%
4237	Hardware & Plumbing Merchant Wholesalers	4,926	5,003	77	1.6%
4238	Machinery & Supply Merchant Wholesalers	9,271	8,968	-303	-3.3%
4239	Misc Durable Goods Merchant Wholesalers	3,683	3,899	216	5.9%
424	Merchant Wholesalers, Nondurable Goods	48,561	48,735	174	0.4%
4241	Paper/Paper Product Merchant Wholesalers	4,894	4,890	-4	-0.1%
4242	Druggists' Goods Merchant Wholesalers	4,711	5,375	664	14.1%
4243	Apparel/Piece Goods Merchant Wholesalers	6,835	5,879	-956	-14.0%
4244	Grocery Product Merchant Wholesalers	17,785	18,120	335	1.9%
4245	Farm Product Merchant Wholesalers	182	177	-5	-2.7%
4246	Chemical Merchant Wholesalers	2,205	2,168	-37	-1.7%
4247	Petroleum Merchant Wholesalers	1,522	1,526	4	0.3%
4248	Alcoholic Beverage Merchant Wholesalers	3,577	3,805	228	6.4%
4249	Misc Nondurable Goods Merchant Whsle	6,851	6,796	-55	-0.8%
425	Electronic Markets and Agents/Brokers	25,745	27,273	1,528	5.9%
4251	Electronic Markets and Agents/Brokers	25,745	27,273	1,528	5.9%
44-45	Retail Trade	349,751	348,784	-967	-0.3%
441	Motor Vehicle and Parts Dealers	37,040	35,839	-1,201	-3.2%
4411	Automobile Dealers	25,877	24,892	-985	-3.8%
4412	Other Motor Vehicle Dealers	2,774	2,646	-128	-4.6%
4413	Auto Parts, Accessories, and Tire Stores	8,390	8,301	-89	-1.1%
442	Furniture and Home Furnishings Stores	13,161	12,513	-648	-4.9%
4421	Furniture Stores	5,776	5,212	-564	-9.8%
4422	Home Furnishings Stores	7,385	7,301	-84	-1.1%
443	Electronics and Appliance Stores	12,492	12,198	-294	-2.4%
4431	Electronics and Appliance Stores	12,492	12,198	-294	-2.4%
444	Building Material & Garden Supply Stores	29,078	27,850	-1,228	-4.2%

Massachusetts ES-202 Average Monthly 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	-4.7%
4442	Lawn & Garden Equipment/Supplies Stores	3,360	3,340	-20	-0.6%
445	Food and Beverage Stores	89,974	89,894	-80	-0.1%
4451	Grocery Stores	74,134	74,501	367	0.5%
4452	Specialty Food Stores	7,162	6,939	-223	-3.1%
4453	Beer, Wine, and Liquor Stores	8,679	8,453	-226	-2.6%
446	Health and Personal Care Stores	26,721	27,064	343	1.3%
4461	Health and Personal Care Stores	26,721	27,064	343	1.3%
447	Gasoline Stations	12,029	11,817	-212	-1.8%
4471	Gasoline Stations	12,029	11,817	-212	-1.8%
448	Clothing and Clothing Accessories Stores	39,397	40,630	1,233	3.1%
4481	Clothing Stores	30,949	32,147	1,198	3.9%
4482	Shoe Stores	4,253	4,401	148	3.5%
4483	Jewelry, Luggage & Leather Goods Stores	4,194	4,082	-112	-2.7%
451	Sporting Goods/Hobby/Book/Music Stores	17,549	16,906	-643	-3.7%
4511	Sporting Goods/Musical Instrument Stores	12,003	11,410	-593	-4.9%
4512	Book, Periodical, and Music Stores	5,546	5,497	-49	-0.9%
452	General Merchandise Stores	40,210	42,408	2,198	5.5%
4521	Department Stores	30,406	31,740	1,334	4.4%
4529	Other General Merchandise Stores	9,804	10,667	863	8.8%
453	Miscellaneous Store Retailers	21,302	20,302	-1,000	-4.7%
4531	Florists	2,426	2,249	-177	-7.3%
4532	Office Supply, Stationery & Gift Stores	10,880	10,035	-845	-7.8%
4533	Used Merchandise Stores	1,814	1,814	0	0.0%
4539	Other Miscellaneous Store Retailers	6,181	6,204	23	0.4%
454	Nonstore Retailers	10,798	11,362	564	5.2%
4541	Electronic Shopping & Mail-Order Houses	4,309	5,189	880	20.4%
4542	Vending Machine Operators	566	580	14	2.5%
4543	Direct Selling Establishments	5,923	5,594	-329	-5.6%
48-49	Transportation and Warehousing	99,927	100,802	875	0.9%
481	Air Transportation	7,802	8,069	267	3.4%
4811	Scheduled Air Transportation	7,408	7,662	254	3.4%
4812	Nonscheduled Air Transportation	393	407	14	3.6%
483	Water Transportation	1,043	1,238	195	18.7%
4831	Sea, Coastal & Great Lakes Transport	1,011	1,188	177	17.5%
4832	Inland Water Transportation	31	50	19	61.3%
484	Truck Transportation	16,887	16,424	-463	-2.7%
4841	General Freight Trucking	10,408	9,940	-468	-4.5%
4842	Specialized Freight Trucking	6,479	6,484	5	0.1%
485	Transit and Ground Passenger Transport	21,690	22,654	964	4.4%
4852	Interurban and Rural Bus Transportation	926	773	-153	-16.5%
4853	Taxi and Limousine Service	3,529	3,797	268	7.6%
4854	School and Employee Bus Transportation	6,484	6,572	88	1.4%
4855	Charter Bus Industry	1,183	1,305	122	10.3%
4859	Other Ground Passenger Transportation	2,101	2,239	138	6.6%
486	Pipeline Transportation	130	141	11	8.5%
4862	Pipeline Transportation of Natural Gas	110	123	13	11.8%
487	Scenic and Sightseeing Transportation	1,774	1,772	-2	-0.1%

Massachusetts ES-202 Average Monthly 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	11.6%
4872	Scenic/Sightseeing Transportation, Water	1,160	1,083	-77	-6.6%
4879	Scenic/Sightseeing Transportation, Other		7	7	NA
488	Support Activities for Transportation	9,109	9,375	266	2.9%
4881	Support Activities for Air Transport	2,652	2,819	167	6.3%
4882	Support Activities for Rail Transport	78	78	0	0.0%
4883	Support Activities for Water Transport	446	456	10	2.2%
4884	Support Activities, Road Transportation	3,182	3,064	-118	-3.7%
4885	Freight Transportation Arrangement	2,244	2,345	101	4.5%
4889	Other Support Activities for Transport	508	613	105	20.7%
492	Couriers and Messengers	11,158	11,201	43	0.4%
4921	Couriers	10,558	10,619	61	0.6%
4922	Local Messengers and Local Delivery	600	582	-18	-3.0%
493	Warehousing and Storage	9,069	9,175	106	1.2%
4931	Warehousing and Storage	9,069	9,175	106	1.2%
	Information	93,745	94,852	1,107	1.2%
51	Information	93,745	94,852	1,107	1.2%
511	Publishing Industries	42,254	42,926	672	1.6%
5111	Newspaper, Book, & Directory Publishers	21,041	20,751	-290	-1.4%
5112	Software Publishers	21,213	22,175	962	4.5%
512	Motion Picture & Sound Recording Ind	4,752	5,697	945	19.9%
5121	Motion Picture and Video Industries	4,569	5,496	927	20.3%
5122	Sound Recording Industries	183	201	18	9.8%
515	Broadcasting (except Internet)	5,742	5,469	-273	-4.8%
5151	Radio and Television Broadcasting	5,115	4,727	-388	-7.6%
5152	Cable and Other Subscription Programming	627	742	115	18.3%
516	Internet Publishing and Broadcasting	2,347		-2,347	-100.0%
5161	Internet Publishing and Broadcasting	2,347		-2,347	-100.0%
517	Telecommunications	21,314	21,789	475	2.2%
5171	Wired Telecommunications Carriers	12,049	17,779	5,730	47.6%
5172	Wireless Telecommunications Carriers	2,721	2,365	-356	-13.1%
5173	Telecommunications Resellers	1,252		-1,252	-100.0%
5174	Satellite Telecommunications	53	64	11	20.8%
5175	Cable and Other Program Distribution	5,166		-5,166	-100.0%
5179	Other Telecommunications	74	1,581	1,507	2036.5%
518	ISPs, Search Portals, & Data Processing	10,109	7,421	-2,688	-26.6%
5181	ISPs and Web Search Portals	2,765		-2,765	-100.0%
5182	Data Processing and Related Services	7,345	7,421	76	1.0%
519	Other Information Services	7,227	11,550	4,323	59.8%
5191	Other Information Services	7,227	11,550	4,323	59.8%
	Financial Activities	228,028	227,837	-191	-0.1%
52	Finance and Insurance	181,868	182,744	876	0.5%
522	Credit Intermediation & Related Activity	64,121	62,547	-1,574	-2.5%
5221	Depository Credit Intermediation	50,187	49,990	-197	-0.4%
5222	Nondepository Credit Intermediation	10,228	8,991	-1,237	-12.1%
5223	Activities Rel to Credit Intermediation	3,706	3,566	-140	-3.8%
523	Financial Investment & Related Activity	48,589	51,700	3,111	6.4%
5231	Security & Commodity Investment Activity	24,468	24,424	-44	-0.2%

Massachusetts ES-202 Average Monthly 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	-47.8%
5239	Other Financial Investment Activities	24,097	27,264	3,167	13.1%
524	Insurance Carriers & Related Activities	65,497	65,590	93	0.1%
5241	Insurance Carriers	43,695	43,536	-159	-0.4%
5242	Insurance Agencies, Brokerages & Support	21,802	22,054	252	1.2%
525	Funds, Trusts & Other Financial Vehicles	2,776	2,008	-768	-27.7%
5251	Insurance and Employee Benefit Funds	501	521	20	4.0%
5259	Other Investment Pools and Funds	2,275	1,487	-788	-34.6%
53	Real Estate and Rental and Leasing	46,161	45,094	-1,067	-2.3%
531	Real Estate	32,802	32,167	-635	-1.9%
5311	Lessors of Real Estate	9,857	10,125	268	2.7%
5312	Offices of Real Estate Agents & Brokers	9,605	8,734	-871	-9.1%
5313	Activities Related to Real Estate	13,340	13,308	-32	-0.2%
532	Rental and Leasing Services	12,876	12,412	-464	-3.6%
5321	Automotive Equipment Rental and Leasing	4,022	3,789	-233	-5.8%
5322	Consumer Goods Rental	5,766	5,546	-220	-3.8%
5323	General Rental Centers	1,141	1,113	-28	-2.5%
5324	Machinery & Equipment Rental & Leasing	1,947	1,964	17	0.9%
533	Lessors, Nonfinancial Intangible Assets	483	515	32	6.6%
5331	Lessors, Nonfinancial Intangible Assets	483	515	32	6.6%
	Professional and Business Services	485,289	494,541	9,252	1.9%
54	Professional and Technical Services	246,776	252,712	5,936	2.4%
541	Professional and Technical Services	246,776	252,712	5,936	2.4%
5411	Legal Services	30,955	31,070	115	0.4%
5412	Accounting and Bookkeeping Services	19,443	20,350	907	4.7%
5413	Architectural and Engineering Services	41,553	41,459	-94	-0.2%
5414	Specialized Design Services	3,669	3,636	-33	-0.9%
5415	Computer Systems Design and Rel Services	47,853	52,055	4,202	8.8%
5416	Management & Technical Consulting Svc	35,604	34,703	-901	-2.5%
5417	Scientific Research and Development Svc	43,953	44,406	453	1.0%
5418	Advertising and Related Services	12,015	12,677	662	5.5%
5419	Other Professional & Technical Services	11,732	12,355	623	5.3%
55	Management of Companies and Enterprises	61,790	61,401	-389	-0.6%
551	Management of Companies and Enterprises	61,790	61,401	-389	-0.6%
5511	Management of Companies and Enterprises	61,790	61,401	-389	-0.6%
56	Administrative and Waste Services	176,723	180,429	3,706	2.1%
561	Administrative and Support Services	166,154	169,624	3,470	2.1%
5611	Office Administrative Services	8,644	8,900	256	3.0%
5612	Facilities Support Services	507	630	123	24.3%
5613	Employment Services	65,188	67,721	2,533	3.9%
5614	Business Support Services	9,339	9,841	502	5.4%
5615	Travel Arrangement & Reservation Service	6,721	6,678	-43	-0.6%
5616	Investigation and Security Services	17,076	17,163	87	0.5%
5617	Services to Buildings and Dwellings	54,580	54,456	-124	-0.2%
5619	Other Support Services	4,099	4,234	135	3.3%
562	Waste Management and Remediation Service	10,569	10,805	236	2.2%
5621	Waste Collection	3,416	3,582	166	4.9%
5622	Waste Treatment and Disposal	3,508	3,484	-24	-0.7%

Massachusetts ES-202 Average Monthly 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	2.6%
	Education and Health Services	735,463	757,941	22,478	3.1%
61	Educational Services	264,293	269,921	5,628	2.1%
611	Educational Services	264,293	269,921	5,628	2.1%
6111	Elementary and Secondary Schools	139,468	142,644	3,176	2.3%
6113	Colleges and Universities	101,163	103,248	2,085	2.1%
6114	Business, Computer & Management Training	2,056	2,118	62	3.0%
6115	Technical and Trade Schools	2,258	2,362	104	4.6%
6116	Other Schools and Instruction	9,421	9,714	293	3.1%
6117	Educational Support Services	2,855	2,673	-182	-6.4%
62	Health Care and Social Assistance	471,170	488,020	16,850	3.6%
621	Ambulatory Health Care Services	134,770	140,132	5,362	4.0%
6211	Offices of Physicians	48,937	50,649	1,712	3.5%
6212	Offices of Dentists	20,724	20,967	243	1.2%
6213	Offices of Other Health Practitioners	12,082	12,507	425	3.5%
6214	Outpatient Care Centers	20,723	21,200	477	2.3%
6215	Medical and Diagnostic Laboratories	4,420	4,722	302	6.8%
6216	Home Health Care Services	21,277	23,053	1,776	8.3%
6219	Other Ambulatory Health Care Services	6,607	7,035	428	6.5%
622	Hospitals	179,771	185,219	5,448	3.0%
6221	General Medical and Surgical Hospitals	156,217	161,064	4,847	3.1%
6222	Psychiatric & Substance Abuse Hospitals	8,771	8,662	-109	-1.2%
6223	Other Hospitals	14,784	15,492	708	4.8%
623	Nursing and Residential Care Facilities	93,825	96,281	2,456	2.6%
6231	Nursing Care Facilities	57,088	57,895	807	1.4%
6232	Residential Mental Health Facilities	17,711	18,244	533	3.0%
6233	Community Care Facility for the Elderly	13,296	13,872	576	4.3%
6239	Other Residential Care Facilities	5,731	6,269	538	9.4%
624	Social Assistance	62,804	66,388	3,584	5.7%
6241	Individual and Family Services	28,530	30,656	2,126	7.5%
6242	Emergency and Other Relief Services	4,935	5,130	195	4.0%
6243	Vocational Rehabilitation Services	8,478	9,380	902	10.6%
6244	Child Day Care Services	20,862	21,223	361	1.7%
	Leisure and Hospitality	328,920	333,382	4,462	1.4%
71	Arts, Entertainment, and Recreation	63,976	64,971	995	1.6%
711	Performing Arts and Spectator Sports	10,348	11,027	679	6.6%
7111	Performing Arts Companies	3,542	3,463	-79	-2.2%
7112	Spectator Sports	2,644	2,723	79	3.0%
7113	Performing Arts and Sports Promoters	3,512	4,271	759	21.6%
7114	Agents and Managers for Public Figures	137	145	8	5.8%
7115	Independent Artists/Writers/Performers	513	426	-87	-17.0%
712	Museums, Parks and Historical Sites	6,290	6,379	89	1.4%
7121	Museums, Parks and Historical Sites	6,290	6,379	89	1.4%
713	Amusement, Gambling & Recreation Ind	47,338	47,565	227	0.5%
7131	Amusement Parks and Arcades	2,174	2,488	314	14.4%
7139	Other Amusement & Recreation Industries	45,032	44,935	-97	-0.2%
72	Accommodation and Food Services	264,944	268,410	3,466	1.3%
721	Accommodation	37,544	38,183	639	1.7%

Massachusetts ES-202 Average Monthly 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	2.1%
7212	RV Parks and Recreational Camps	2,194	2,226	32	1.5%
7213	Rooming and Boarding Houses	476	346	-130	-27.3%
722	Food Services and Drinking Places	227,400	230,227	2,827	1.2%
7221	Full-Service Restaurants	116,055	118,979	2,924	2.5%
7222	Limited-Service Eating Places	82,804	84,601	1,797	2.2%
7223	Special Food Services	20,367	19,120	-1,247	-6.1%
7224	Drinking Places (Alcoholic Beverages)	8,174	7,527	-647	-7.9%
	Other Services	124,406	128,741	4,335	3.5%
81	Other Services, Ex. Public Admin	124,406	128,741	4,335	3.5%
811	Repair and Maintenance	26,257	26,020	-237	-0.9%
8111	Automotive Repair and Maintenance	18,724	18,345	-379	-2.0%
8112	Electronic Equipment Repair/Maintenance	3,212	3,516	304	9.5%
8113	Commercial Machinery Repair/Maintenance	2,565	2,504	-61	-2.4%
8114	Household Goods Repair and Maintenance	1,756	1,654	-102	-5.8%
812	Personal and Laundry Services	36,825	37,735	910	2.5%
8121	Personal Care Services	18,626	18,789	163	0.9%
8122	Death Care Services	2,642	2,655	13	0.5%
8123	Drycleaning and Laundry Services	8,949	9,437	488	5.5%
8129	Other Personal Services	6,608	6,854	246	3.7%
813	Membership Organizations & Associations	38,873	39,848	975	2.5%
8131	Religious Organizations	772	767	-5	-0.6%
8132	Grantmaking and Giving Services	2,705	2,982	277	10.2%
8133	Social Advocacy Organizations	7,904	8,386	482	6.1%
8134	Civic and Social Organizations	19,805	19,762	-43	-0.2%
8139	Professional and Similar Organizations	7,687	7,951	264	3.4%
814	Private Households	22,451	25,139	2,688	12.0%
8141	Private Households	22,451	25,139	2,688	12.0%
	Public Administration	134,428	135,383	955	0.7%
92	Public Administration	134,428	135,383	955	0.7%
921	Executive, Legislative, & Gen Government	32,643	32,288	-355	-1.1%
9211	Executive, Legislative, & Gen Government	32,643	32,288	-355	-1.1%
922	Justice, Public Order, and Safety Activi	60,619	61,341	722	1.2%
9221	Justice, Public Order, and Safety Activi	60,619	61,341	722	1.2%
924	Administration of Environmental Programs	6,261	6,318	57	0.9%
9241	Administration of Environmental Programs	6,261	6,318	57	0.9%
925	Community and Housing Program Admin	5,480	5,569	89	1.6%
9251	Community and Housing Program Admin	5,480	5,569	89	1.6%
926	Administration of Economic Programs	7,465	7,928	463	6.2%
9261	Administration of Economic Programs	7,465	7,928	463	6.2%
928	National Security & International Affair	5,072	4,966	-106	-2.1%
9281	National Security & International Affair	5,072	4,966	-106	-2.1%

Appendix C:
Occupational Staffing Patterns of Industries and Educational Attainment of Workers by Industries and Occupations in Massachusetts

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

Occupations	Transportation and Warehousing	Information	Finanace and Insurance	Real Estate, Rental and Leasing	Professional Scientic 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 Massachustts, ACS 2005-2006 Average

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accomodation 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 Massachustts, ACS 2005-2006 Average

Distribution of Industry by Occupation

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Whole- sale 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 Massachustts, ACS 2005-2006 Average

Distribution of Industry by Occupation

Occupations	Transportation and Warehousing	Information	Finanace and Insurance	Real Estate, Rental and Leasing	Professional Scientic 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 Massachustts, ACS 2005-2006 Average

Distribution of Industry by Occupation

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accomodation 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 Massachustts, ACS 2005-2006 Average

Distribution of Occupation by Industry

Occupations	Agri,Forestry, Fishing, and Hunting	Mining	Utilities	Construction	Non-Durable Manufacturing	Durable Manufacturing	Whole- sale 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 Massachustts, ACS 2005-2006 Average

Distribution of Occupation by Industry

Occupations	Transportation and Warehousing	Information	Finanace and Insurance	Real Estate, Rental and Leasing	Professional Scientic 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 Massachustts, ACS 2005-2006 Average

Distribution of Occupation by Industry

Occupations	Educational	Healthcare and Social	Arts, Entertainment and Recreation	Accomodation 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 Massachustts, ACS 2005-2006 Average

Occupations	<12 or 12, No H.S. Diploma	H.S. Diploma/GED	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 Massachustts, 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 Massachustts, 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 Massachustts, ACS 2005-2006 Average

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/ GED	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
Finanace 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, Scientic 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
Accomodation 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 Massachustts, ACS 2005-2006 Average

Distribution of Industry by Educational Attainment

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/ GED	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, Scientic 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 Massachustts, ACS 2005-2006 Average

Distribution of Educational Attainment by Industry

Industry	<12 or 12, No H.S. Diploma	H.S. Diploma/ GED	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, Scientic 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%