



# North Shore in Demand: A Massachusetts Regional Workforce Strategies Initiative

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# Purpose of Presentation

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1. Provide a review of labor market development in the North Shore to help local leaders think through education, training and development strategies
2. Prepared an analysis of North Shore Region around six major topics:
  - **Labor demand context**
  - Analysis of payroll employment structure and trends; understanding overall demand trends; industry structure of employment
  - Analysis of occupational and educational implications of payroll employment growth
  - Analysis of unmet labor market needs – identification of potential area of skill shortages

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- **Labor Supply Context**
  - Analysis of trends in size and composition of population and labor force in the North Shore
  - Post-secondary institutional source of labor supply to occupations in the North Shore
  - Career and technical education institutional labor supply in the North Shore

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

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

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

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

## Percentage Distribution of the Civilian Labor Force by Age, 2005-06

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

## Percentage Distribution of the Civilian Labor Force by Educational Attainment, 2005-06

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

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%

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)

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	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%

Trends in Total Non Agricultural Wage and Salary  
Employment Levels by Major Industry Sector 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	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%

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

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

## Industry Employment Trends: North Shore Workforce Area

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

## Detailed Industry Employment Structure: North Shore Workforce Area

NAICS	Industries	3 <sup>rd</sup> Q 2007	%
<b>31-33</b>	<b>Manufacturing</b>	<b>19,945</b>	<b>100.0%</b>
311	Food Manufacturing	2,137	10.7%
325	Chemical Manufacturing	1,298	6.5%
332	Fabricated Metal Product Manufacturing	2,153	10.7%
333	Machinery Manufacturing	3,699	18.5%
334	Computer and Electronic Product Mfg	3,142	15.8%
335	Electrical Equipment	1,156	5.8%
3391	Medical Equipment	691	3.5%
	All Other Manufacturing	5,669	28.4%

## Detailed Industry Employment Structure: North Shore Workforce Area (Cont.)

NAICS	Industries	3rd Q 2007	%
<b>44-45</b>	<b>Retail Trade</b>	<b>26,090</b>	<b>100.0%</b>
441	Motor Vehicle and Parts Dealers	3,048	10.7%
443	Electronics and Appliance Stores	1,021	4.0%
444	Building Material & Garden Supply Stores	2,043	7.8%
445	Food and Beverage Stores	6,458	24.8%
446	Health and Personal Care Stores	1,795	6.8%
448	Clothing and Clothing Accessories Stores	2,916	11.2%
452	General Merchandise Stores	3,203	12.2%
4541	Electronic Shopping and Mail Order Houses	1,120	4.3%
	All Other Retail Trade	2,540	9.7%

## Detailed Industry Employment Structure: North Shore Workforce Area (Cont.)

NAICS	Industries	3rd Q 2007	%
<b>54</b>	<b>Professional and Technical Services</b>	<b>8,394</b>	<b>100.0%</b>
5411	Legal Services	1,208	14.4%
5412	Accounting and Bookkeeping Services	1,034	12.3%
5413	Architectural and Engineering Services	1,124	13.3%
5415	Computer Systems Design and Rel Services	882	10.5%
5416	Management & Technical Consulting Svc	867	10.3%
5417	Scientific Research and Development Svc	834	10.0%
5418	Advertising	1,288	15.3%
	All Other Professional and Technical Services	1,157	13.8%

## Detailed Industry Employment Structure: North Shore Workforce Area (Cont.)

NAICS	Industries	3rd Q 2007	%
<b>56</b>	<b>Administrative and Waste Services</b>	<b>7,297</b>	<b>100.0%</b>
5613	Employment Services	2,254	30.9%
5617	Services to Buildings and Dwellings	2,753	37.7%
	All Other Administrative and Waste Services	2,290	31.4%
<b>61</b>	<b>Educational Services</b>	<b>11,870</b>	<b>100.0%</b>
6111	Elementary and Secondary Schools	8,121	68.4%
6113	Colleges and Universities	2,439	20.5%
	All Other Educational Services	1,310	11.1%

## Detailed Industry Employment Structure: North Shore Workforce Area (Cont.)

<b>NAICS</b>	<b>Industries</b>	<b>3rd Q 2007</b>	<b>%</b>
<b>62</b>	<b>Health Care and Social Assistance</b>	<b>28,280</b>	<b>100.0%</b>
621	Ambulatory Health Care Services	9,733	34.4%
622	Hospitals	8,686	30.7%
623	Nursing and Residential Care Facilities	6,951	24.6%
624	Social Assistance	2,910	10.3%
<b>72</b>	<b>Accommodation and Food Services</b>	<b>15,883</b>	<b>100.0%</b>
721	Accommodation	1,370	8.6%
722	Food Services and Drinking Places	14,513	91.4%

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

Major Occupations	Constr.	Non-Durable Manuf.	Durable Manuf.
Total Workers	16,557	6,496	21,399
Business & tech. college labor market	15%	27%	40%
Other college labor market	0%	1%	1%
Healthcare practitioner & technical	0%	0%	0%
Service	2%	0%	0%
High level sales	0%	8%	3%
Low level sales	0%	3%	0%
Office & Administrative support	4%	14%	6%
High skilled blue collar	75%	3%	5%
Production occupations	1%	36%	42%
Transportation & material moving	2%	7%	2%

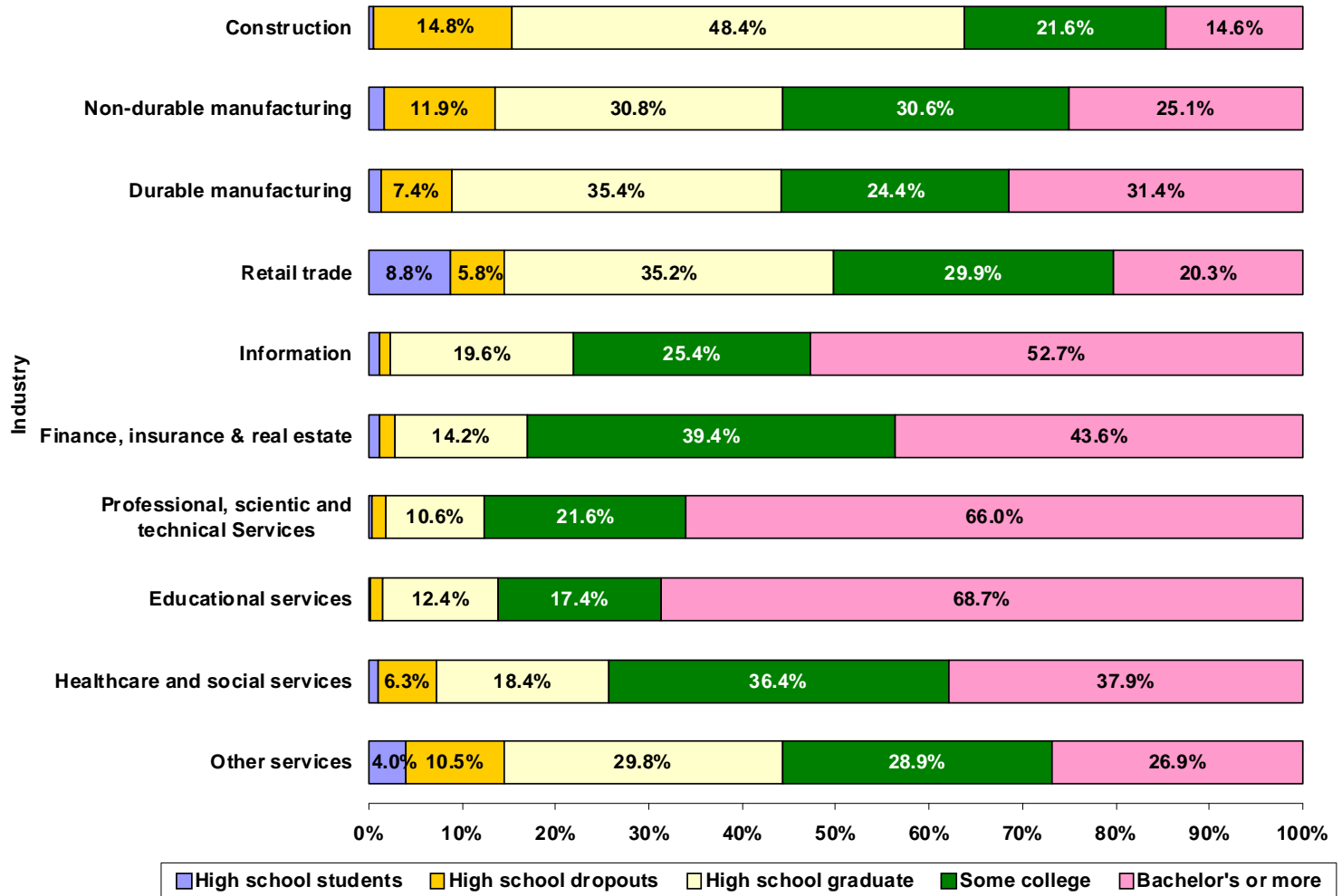
## Occupational Staffing Patterns of Selected Industries in the North Shore Area and Massachusetts, 2005-06 (cont.)

Major Occupations	Prof., Scientific & Tech. Services	Educ. Services	Healthcare & Social Services	Other Services
Total Workers	11,133	16,109	27,078	39,338
Business & tech. college labor market	55%	11%	13%	16%
Other college labor market	18%	65%	13%	7%
Healthcare practitioner & technical	4%	3%	30%	1%
Service	1%	9%	29%	50%
High level sales	5%	0%	0%	2%
Low level sales	0%	1%	0%	2%
Office & Administrative support	14%	8%	15%	10%
High skilled blue collar	0%	1%	0%	6%
Production occupations	1%	0%	0%	3%
Transportation & material moving	0%	0%	1%	3%

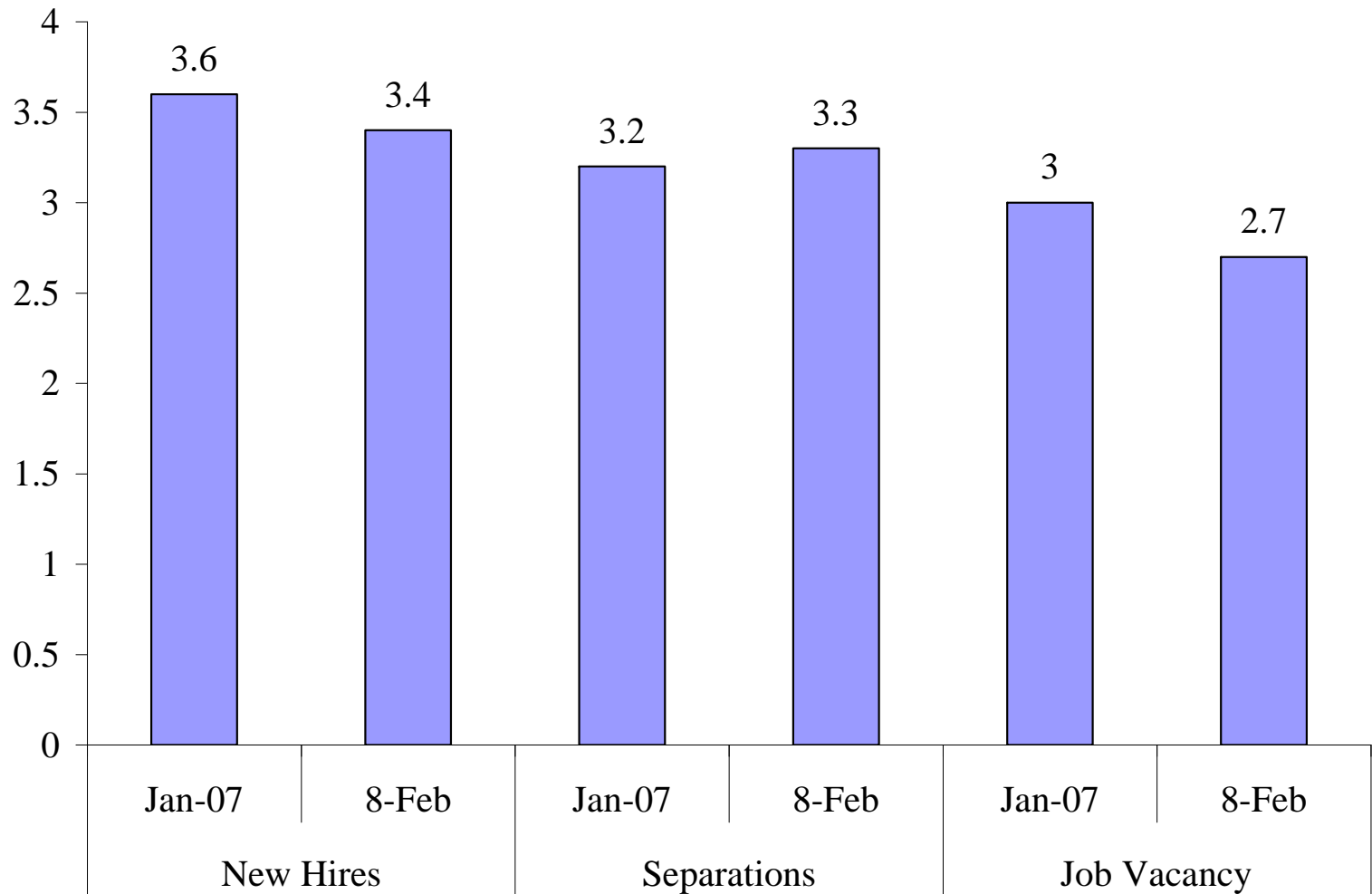
## Occupational Staffing Patterns of Selected Industries in the North Shore Area and Massachusetts, 2005-06 (cont.)

Major Occupations	Retail Trade	Information	Finance, Ins. & Real Estate
Total Workers	26,120	4,213	11,771
Business & tech. college labor market	5%	24%	38%
Other college labor market	1%	22%	0%
Healthcare practitioner & technical	2%	0%	0%
Service	6%	1%	3%
High level sales	18%	13%	19%
Low level sales	35%	6%	3%
Office & Administrative support	19%	24%	34%
High skilled blue collar	5%	7%	2%
Production occupations	2%	3%	0%
Transportation & material moving	7%	1%	0%

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



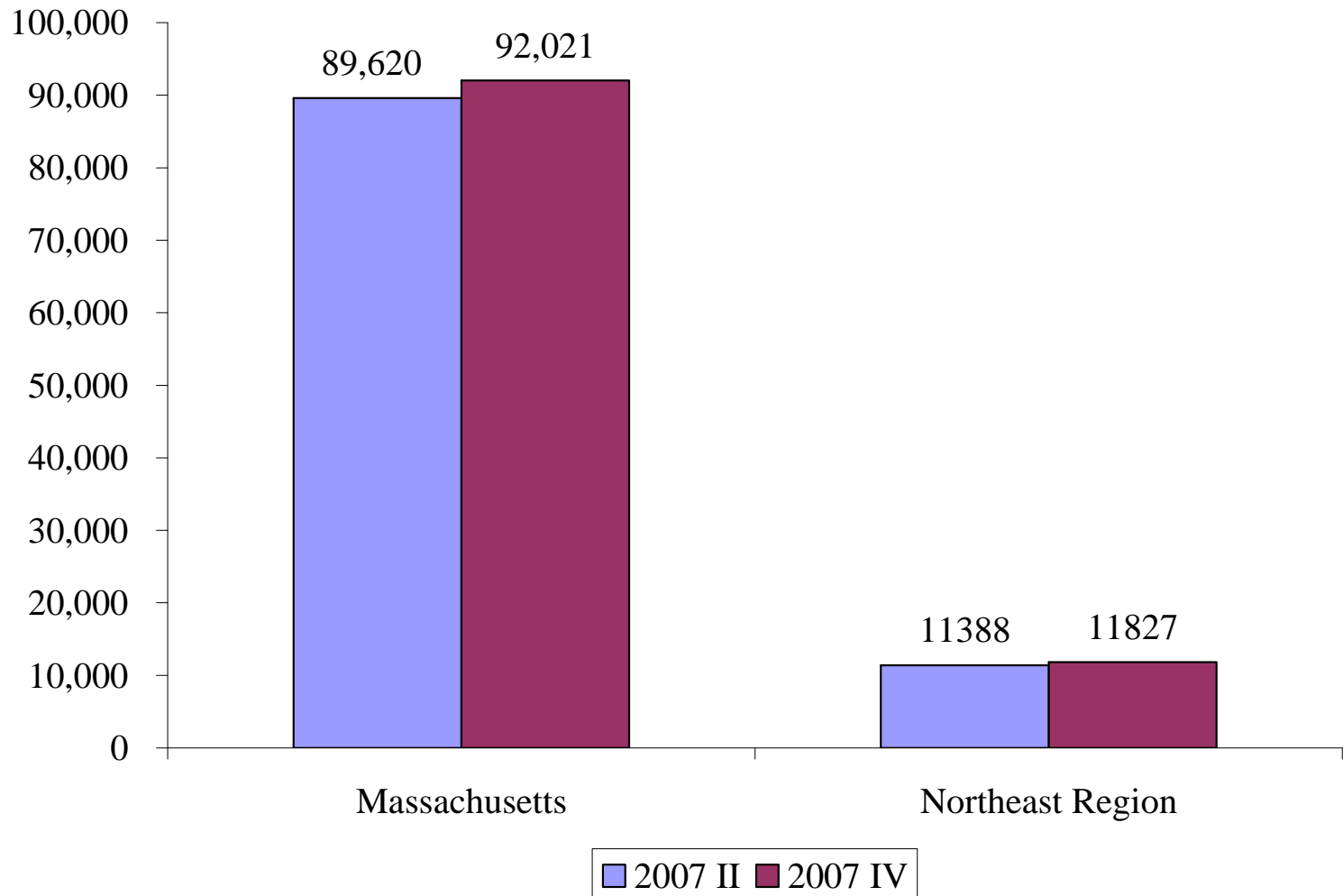
# Trends in the New Hires Rate, Separation Rate and Job Vacancy Rate in the United States, January 2007 to February 2008 (Seasonally Adjusted)



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

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

# Trends in the number of Job Vacancies in Massachusetts, Fourth Quarter 2006 to Fourth Quarter 2007



## 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%

## The Number of Job Vacancies and the Job Vacancy Rate of Major Industry Sectors in the Northeast Region, Fourth Quarter 2007

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

## 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%

# The Number of Job Vacancies and the Job Vacancy Rate of Major Occupations in the North Shore Region, Fourth Quarter 2007

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

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

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

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

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

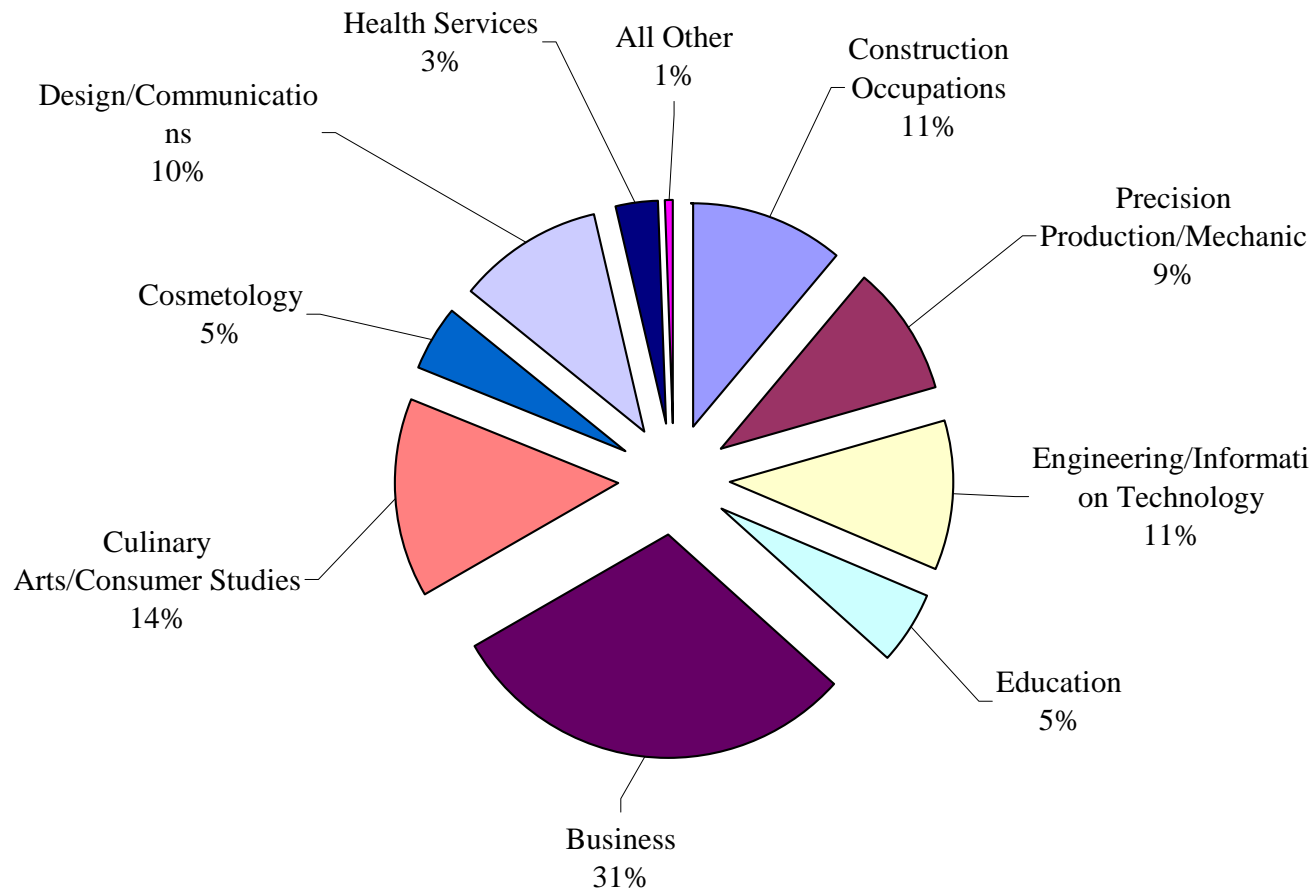
## Trends in Associate's Degrees Awarded by North Shore Colleges, by Broad Major Field of Study, 1996 to 2006

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

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

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

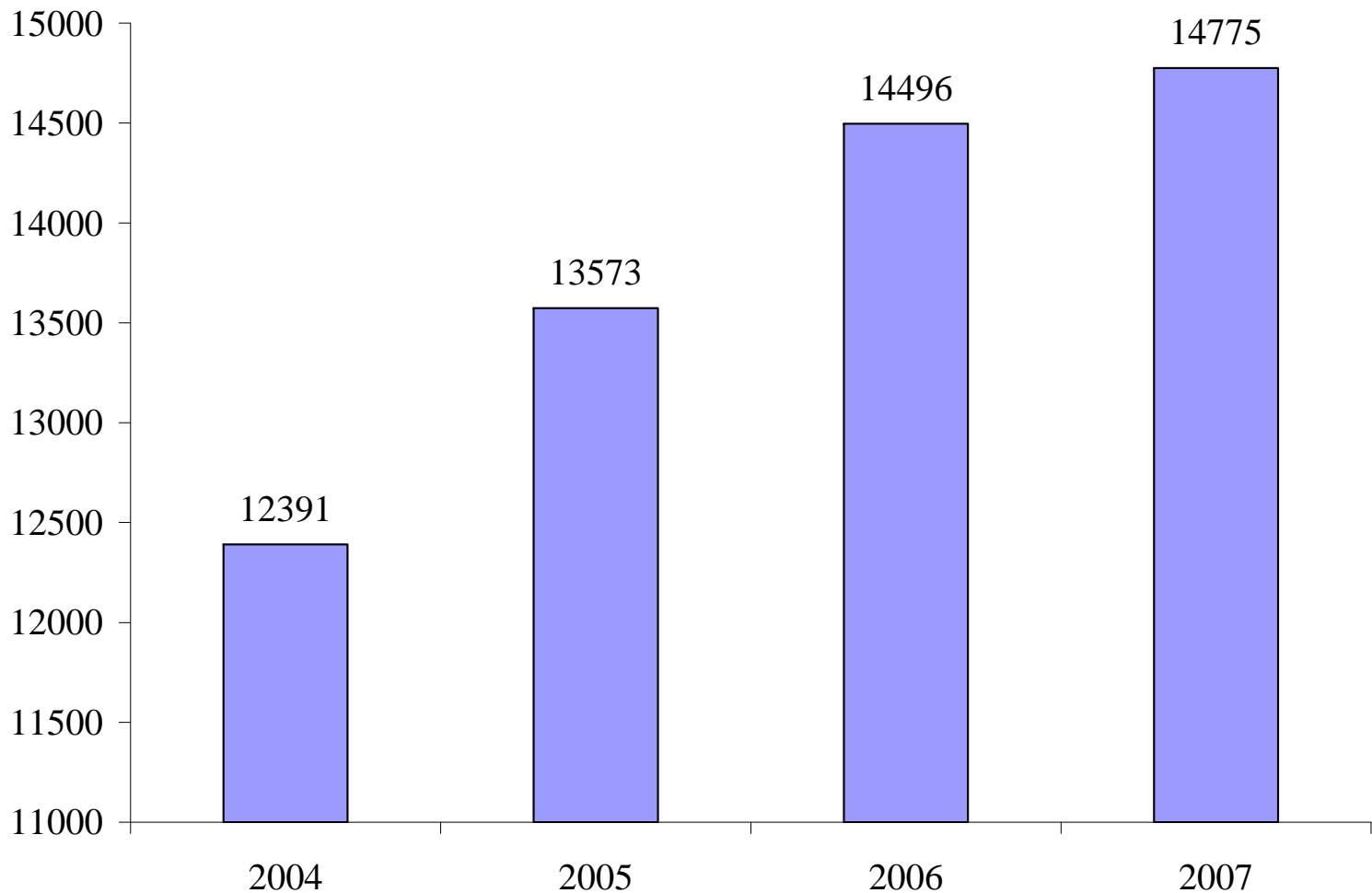
# The Percent Distribution of Class of 2007 Career and Technical Education Secondary Graduates in the North Shore Region, by Major Occupational Field of Study



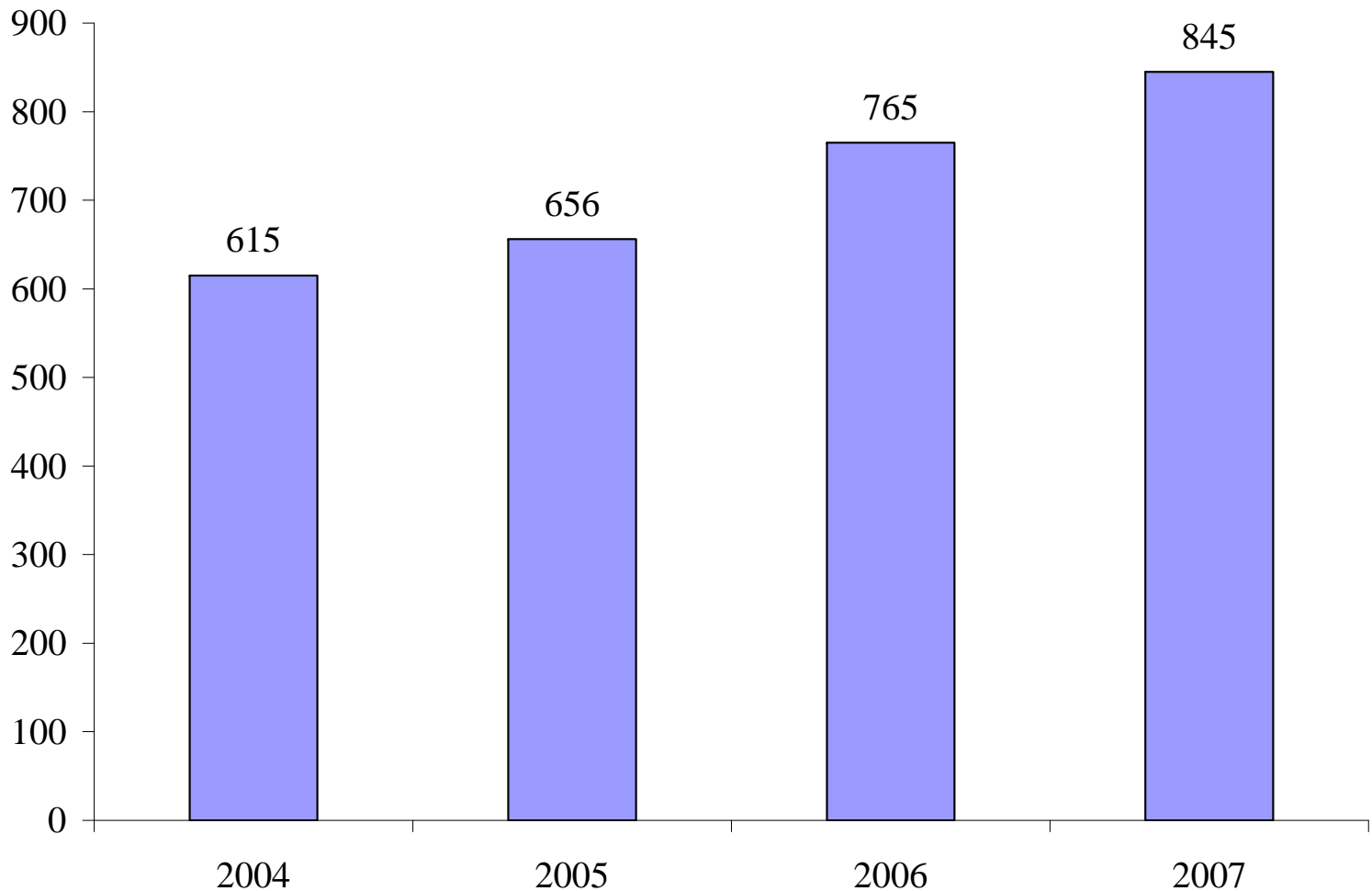
The Percent Distribution of Class of 2007 Career and Technical Education Secondary Graduates in Massachusetts and the North Shore Region, by Occupational Field of Study

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

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



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



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

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