CAPE & ISLANDS
WORKFORCE INVESTMENT BOARD

WORKFORCE DEVELOPMENT POLICY BLUEPRINT,
2009

August, 2009
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Board of Directors

<table>
<thead>
<tr>
<th>Workforce Investment Board Members</th>
<th>WIB Role</th>
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<tbody>
<tr>
<td>Chris Richards</td>
<td>Chair</td>
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<tr>
<td>Denise Dever</td>
<td>Vice-Chair</td>
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<td>Jeffrey Luce</td>
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<tr>
<td>Teri Whelan</td>
<td>Past Chair</td>
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<td>Barbara Kessler</td>
<td>Clerk</td>
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<td>Peter Allard</td>
<td>Member</td>
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<td>Sally Bowles</td>
<td>Member</td>
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<td>Denise Dever</td>
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<td>Kristina Dower</td>
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<td>Daniel Dray</td>
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<td>Deneen Hatch</td>
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<td>Paula Hersey</td>
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<td>Bev Horan</td>
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<td>Peter Karlson</td>
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<td>David Sampson</td>
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<td>Kathleen Schatzberg, Ed.D.</td>
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<td>Angela Shwom</td>
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<td>Larry Thayer</td>
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<td>Phyllis Whitney</td>
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<td>David Willard</td>
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<td>William Zammer</td>
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EXECUTIVE SUMMARY

The Center for Policy Analysis was retained by the Cape and Islands Workforce Investment Board to update its 2005 Workforce Policy Regional Blueprint. The purpose of the Blueprint is to provide an overall analysis of the Workforce Investment Area’s economy while identifying the needs and gaps in the local labor market. The Blueprint includes four major sections: an economic base analysis, a demographic analysis, a cluster and sector analysis, and an occupational analysis.

Cluster Analysis

The Cape and Islands Workforce Investment Area has several identifiable business clusters, which consist of firms in two or more related sectors that are linked together through customer, supplier, labor market, or other relationships. The Workforce Investment Area’s key business clusters are identified in this report as critical existing or emerging. Critical clusters are defined as related groups of businesses that account for 3 percent or more of total employment in the Workforce Investment Area. Emerging clusters are ones that have shown substantial employment growth during the study time period.

Our analysis identified five critical existing industry clusters and three emerging industry clusters in the Cape and Islands Workforce Investment Area. Sub-clusters were also identified within three of these clusters. As the table below shows, the Hospitality cluster is the area’s largest and accounts for more than 1 in five jobs (20.7%). Other critical clusters include Health Services (12.6% of total employment), Construction (8.2% of total employment), Knowledge Intensive (6.8% of total employment), and Financial Services (3.7% of total employment).

<table>
<thead>
<tr>
<th>Sector</th>
<th>% of Total Employment</th>
<th>% Change 03-08</th>
<th>% Change 08-13</th>
<th>Avg. Earnings</th>
<th># Establishments</th>
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</thead>
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<tr>
<td>Critical Clusters</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hospitality</td>
<td>20.7%</td>
<td>2.6%</td>
<td>-1.8%</td>
<td>$23,389</td>
<td>3,141</td>
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<tr>
<td>Retail</td>
<td>6.9%</td>
<td>0.1%</td>
<td>-2.0%</td>
<td>$25,891</td>
<td>1,639</td>
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<tr>
<td>Food &amp; Drinking Places/Accommodations</td>
<td>13.2%</td>
<td>3.5%</td>
<td>-3.0%</td>
<td>$21,832</td>
<td>1,340</td>
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<tr>
<td>Arts &amp; Culture</td>
<td>0.6%</td>
<td>13.7%</td>
<td>26.5%</td>
<td>$28,671</td>
<td>162</td>
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<tr>
<td>Health Services</td>
<td>12.6%</td>
<td>10.9%</td>
<td>14.5%</td>
<td>$47,956</td>
<td>644</td>
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<tr>
<td>Construction</td>
<td>8.2%</td>
<td>7.4%</td>
<td>-0.8%</td>
<td>$48,125</td>
<td>1,818</td>
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<tr>
<td>Knowledge Intensive</td>
<td>6.8%</td>
<td>-0.3%</td>
<td>7.1%</td>
<td>$47,232</td>
<td>1,170</td>
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<td>Educational Services</td>
<td>1.6%</td>
<td>6.1%</td>
<td>2.0%</td>
<td>$32,378</td>
<td>105</td>
</tr>
<tr>
<td>High Technology</td>
<td>1.6%</td>
<td>-10.9%</td>
<td>11.7%</td>
<td>$61,882</td>
<td>152</td>
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<tr>
<td>Professional Services</td>
<td>3.6%</td>
<td>2.3%</td>
<td>7.4%</td>
<td>$47,429</td>
<td>913</td>
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<tr>
<td>Financial Services</td>
<td>3.7%</td>
<td>-11.1%</td>
<td>-6.8%</td>
<td>$52,202</td>
<td>776</td>
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<tr>
<td>Emerging Clusters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Marine Industry</td>
<td>2.6%</td>
<td>5.7%</td>
<td>-3.9%</td>
<td>$44,833</td>
<td>186</td>
</tr>
<tr>
<td>Marine Science &amp; Technology</td>
<td>1.3%</td>
<td>-6.9%</td>
<td>-10.1%</td>
<td>$56,648</td>
<td>29</td>
</tr>
<tr>
<td>Marine Services</td>
<td>1.3%</td>
<td>21.6%</td>
<td>2.0%</td>
<td>$33,508</td>
<td>157</td>
</tr>
<tr>
<td>Distribution</td>
<td>2.1%</td>
<td>12.7%</td>
<td>12.5%</td>
<td>$52,581</td>
<td>505</td>
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<tr>
<td>Social Services</td>
<td>2.0%</td>
<td>18.8%</td>
<td>23.1%</td>
<td>$25,932</td>
<td>181</td>
</tr>
<tr>
<td>WIA Total</td>
<td>-</td>
<td>1.7%</td>
<td>3.8%</td>
<td>$38,397</td>
<td>11,600</td>
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</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
Dun & Bradstreet Imarket (For Several Industries in Marine Services Only)
Six of the Workforce Investment Area’s eight major clusters experienced employment growth between 2003 and 2008. The highest percentage job growth occurred in Social Services (18.8%), Distribution (12.7%), and Health Services (10.9%), while the Knowledge Intensive (-0.3%) and Financial Services (-11.1%) clusters shed employment over this period. The Workforce Investment Area experienced significantly higher levels of employment growth in the Construction, Distribution, and Social Service industry clusters in comparison to the state, while it lost a greater share of employment in the Financial Services cluster.

The Workforce Investment Area added a net total of 1,791 new jobs from 2003 to 2008 and is projected to add 4,177 jobs over the next five years (see Figure 9). Six of the Workforce Investment Area’s eight clusters added jobs from 2003 to 2008, with the highest number of jobs added in Health Services (+1,360 jobs) and Construction (+621 jobs). Conversely, employment in Financial Services declined by 510 jobs. Health Services is projected to add the most jobs in the next five years (+2,010 jobs), while the Construction (-75 jobs) and Marine Industry (-114 jobs) clusters are projected to lose jobs over this period.
**Occupational Analysis**

It is estimated that 4,177 new jobs will be created in the Cape and Islands Workforce Investment Area between 2008 and 2013 (EMSI 2009, v2). Importantly, this does not include vacancies created by retirement, relocation, and other forms of job turnover that require replacement hiring. A cluster-specific occupational analysis was conducted to determine the projected net job increase in the twenty-five fastest growing occupations in the Cape and Islands Workforce Investment Area as identified by their Standard Occupational Classification code. The occupations in this analysis include only those found in clusters that have been identified as critical or emerging. In other words, the identified occupations are projected to grow significantly from 2008 to 2013 and they are also in demand for one or more clusters projected to expand over the next five years. Consequently, the occupations that meet these criteria are expected to be among the most critical to the economic vitality of the Cape and Islands Workforce Investment Area in the coming years.

The occupations that are projected to have the highest numerical growth over the next five years include:

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
<th>% Change, 2008-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered nurses</td>
<td>299</td>
<td>16.0%</td>
</tr>
<tr>
<td>Sales representatives, wholesale and manufacturing</td>
<td>186</td>
<td>19.4%</td>
</tr>
<tr>
<td>Personal and home care aides</td>
<td>173</td>
<td>20.2%</td>
</tr>
<tr>
<td>Home health aides</td>
<td>168</td>
<td>20.2%</td>
</tr>
<tr>
<td>Nursing aides, orderlies, and attendants</td>
<td>131</td>
<td>9.6%</td>
</tr>
<tr>
<td>Social and human service assistants</td>
<td>127</td>
<td>30.2%</td>
</tr>
<tr>
<td>Customer service representatives</td>
<td>86</td>
<td>10.3%</td>
</tr>
<tr>
<td>Medical assistants</td>
<td>78</td>
<td>20.1%</td>
</tr>
<tr>
<td>Medical secretaries</td>
<td>72</td>
<td>12.2%</td>
</tr>
<tr>
<td>Physicians and surgeons</td>
<td>70</td>
<td>14.0%</td>
</tr>
<tr>
<td>Mental health counselors</td>
<td>65</td>
<td>34.9%</td>
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<tr>
<td>Food preparation workers (except cooking &amp; service)</td>
<td>58</td>
<td>4.9%</td>
</tr>
<tr>
<td>Mental health and substance abuse social workers</td>
<td>53</td>
<td>32.7%</td>
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<tr>
<td>Office clerks, general</td>
<td>50</td>
<td>4.5%</td>
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<tr>
<td>Licensed practical and licensed vocational nurses</td>
<td>49</td>
<td>8.9%</td>
</tr>
<tr>
<td>Food preparation &amp; serving workers, including fast food</td>
<td>46</td>
<td>1.7%</td>
</tr>
<tr>
<td>Rehabilitation counselors</td>
<td>37</td>
<td>29.9%</td>
</tr>
<tr>
<td>Self-enrichment education teachers</td>
<td>37</td>
<td>20.5%</td>
</tr>
<tr>
<td>Dental hygienists</td>
<td>37</td>
<td>19.5%</td>
</tr>
<tr>
<td>Psychiatric technicians</td>
<td>36</td>
<td>21.6%</td>
</tr>
<tr>
<td>Receptionists and information clerks</td>
<td>35</td>
<td>6.0%</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>34</td>
<td>3.0%</td>
</tr>
<tr>
<td>Child care workers</td>
<td>33</td>
<td>11.8%</td>
</tr>
<tr>
<td>Carpenters</td>
<td>33</td>
<td>2.8%</td>
</tr>
<tr>
<td>Preschool teachers, except special education</td>
<td>32</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

*Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2*
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1.00 INTRODUCTION

1.10 Cape and Islands Workforce Investment Board

The Cape and Islands Workforce Investment Board (C&I WIB) is a quasi-public regional agency responsible for overseeing publicly funded vocational education and training programs on Cape Cod and the Islands. The WIB is a private non-profit 501c(3) corporation formed to carry out the mandates of the federal Workforce Investment Act of 1998. The agency was established in 1982 as a Private Industry Council that served both Cape Cod and the Greater New Bedford area. The original service delivery area was split in 1992 due to Cape Cod’s growing population and its unique economic and workforce development needs. The new local agency was renamed the Cape Cod, Martha's Vineyard, and Nantucket Regional Employment Board. The organization adopted its current name when the Workforce Investment Act was implemented on July 1, 2000.

The chief role of the WIB is to ensure that public sector investments in education and training match up with local private sector needs. To meet this role, the WIB guides the formation of a regional workforce development system, serving as a major link between the region's economic development agencies, training providers, educational institutions, and employers. The WIB administers a number of federal and state programs including the Career Opportunities Center in Hyannis (the federal one-stop career center), the School-to-Careers program, the Youth Council, the state Workforce Training Fund, and federally funded programs operated by JTEC.

1.20 Workforce Investment Area Policy Blueprint

The Center for Policy Analysis was retained by the WIB to update its 2005 Workforce Development Policy Blueprint. The purpose of the Blueprint is to provide an overall analysis of the Workforce Investment Area’s economy while identifying the needs and gaps in the local labor market. The Blueprint includes four major sections:

- **Economic Base Analysis:** Includes a description of the Cape and Islands Workforce Investment Area, an overview of historical and recent economic trends, description of the transportation and educational infrastructure, data on employment and wages, and the identification of the Workforce Investment Area’s largest sectors and industries.

- **Demographic Analysis:** Provides a statistical profile of the area’s population including race/ethnicity, age, educational attainment, income, and housing and identifies trends in the region’s demographic development.

- **Cluster and Sector Analysis:** Identifies the area’s key business clusters based on employment ratios and rates of change in employment from 2003 to 2008. The Workforce Investment Area’s key business/industrial clusters are identified as critical and emerging.

- **Occupational Analysis:** Estimates the net job increases for the fastest growing occupations in the Workforce Investment Area. The occupations selected for analysis include only those found in clusters that are critical and emerging. Thus, these occupations will not only be projected to experience significant growth, they will be in demand by one or more major industry groups critical to the economic vitality of the WIA.
2.00 ECONOMIC AND INDUSTRIAL BASE ANALYSIS

2.10 Description of the Area

The Cape Cod and Islands Workforce Investment Area consists of twenty-three towns in Barnstable (Cape Cod), Dukes (Martha’s Vineyard), and Nantucket Counties (see Figure 2). The area occupies 551 square miles and has a population of 248,191 (U.S. Census, 2007). The area is bordered by the Cape Cod Canal to the west, Cape Cod Bay to the north, and Nantucket Sound to the south. The islands of Martha’s Vineyard and Nantucket lie approximately seven and thirty miles offshore respectively in Nantucket Sound. The region’s fragile ecosystem is characterized by pristine beaches, beautiful oceans and bays, quaint villages, and is home to a diverse mix of plant and animal life.

Cape Cod (Barnstable County) accounts for approximately 90 percent of the region’s total population, employment, and personal income and nearly three-quarters (72%) of its landmass. The area’s major towns are Barnstable, Falmouth, and Yarmouth, which account for 42.7 percent of the area’s population. Because Martha’s Vineyard and Nantucket are islands, the area is often considered to have three sub-regions (Cape Cod, Martha’s Vineyard, and Nantucket), although all three share many of the same economic, demographic, and environmental characteristics.

Figure 1

Cape Cod & Islands Workforce Investment Area
2.20 Economic History

In 1620, Cape Cod was the Pilgrims’ first landfall, although they quickly sailed on to establish Plymouth Colony in eastern Massachusetts. At that time, the Wampanoag Indians inhabited Cape Cod and European settlement of the Cape proceeded slowly. However, by the 1630s, the Cape’s fertile soil was attracting small groups of settlers, who migrated from Plymouth and the Bay Colony (Greater Boston) to establish the Cape’s first European settlements in Barnstable, Sandwich, and Yarmouth. In less than a decade, Cape Cod became the “granary of Plymouth Colony” due to the successful cultivation of corn and wheat by its growing settlements.

The cranberry was added to the Cape’s list of agricultural products in 1683, when settlers began making juice from wild berries supplied to them by the Indians. In 1810, Captain Henry Hall of Dennis domesticated the cranberry by transplanting wild vines from the shoreline to his property and spreading sand on them to increase their yield. Captain Hall’s technique was quickly copied by others and by 1820 the Cape’s cranberry growers were exporting a part of their crop to Europe. The number of cranberry growers increased steadily throughout the 19th century, particularly after Abraham Lincoln declared the first national day of Thanksgiving in 1863. Although cranberry acreage has been declining on the Cape and Nantucket since 1946, the area’s cranberry bogs still account for about 10 percent of the state’s total acreage.

Additional settlers were attracted to the Cape & Islands region by growth in the whaling, fishing, and shellfishing industries. The whaling industry actually began on the Cape in the 1630s as whales were routinely found beached in large numbers along the Cape’s shoreline during the off-season by farmers (Stevens, 1936). The Cape’s farmers supplemented their income by stripping beached whales for their blubber and oil, which was sold profitably throughout New England. Once the whale hunt moved off-shore, Nantucket emerged as a center of the world’s whaling industry, which remained its chief source of income and employment for more than 150 years (Kittredge, 1930; Williams, 1977). The Cape & Island’s non-agricultural land-based economy mainly supported the whaling and fishing industries. The production of ropes, ships, canvas, and anchors were the primary manufacturing activities of the time (Lovell, 1984; Kittredge, 1930), or the economy was otherwise reliant on maritime resources such as salt and glass making (Lovell, 1984).

Despite the growth of whaling, fishing, and related manufacturing industries in the 19th century, much of the Cape & Islands remained undeveloped and isolated well into the 20th century. In the 1920s, the region became a chic summer destination for the so-called New York intellectuals. Eugene O’Neill established the Provincetown Players and he was soon followed by other literary figures seeking to escape the hustle and bustle of New York City during the Roaring ’20s (Krahulik, 2005). However, it was not until after the Second World War that the Cape and Islands become a major attraction for out-of-state travelers seeking an inexpensive family summer vacation. By the 1950s, the hospitality industry had emerged as the region’s leading industry. During the last two decades, tourism has been complemented by a growing retirement industry, while efforts to further diversify the economy have capitalized on the region’s attractive quality of life to promote an emerging high-technology and professional services sector.


2.30 Economic Overview

The Cape and Islands region was one of the fastest growing economic areas in Massachusetts during the 1990s as measured by growth in its population, labor force, new business establishments, and total employment. However, its rate of growth slowed considerably in the 2000s. Cape Cod and the Islands is a unique region in Massachusetts because more than half of its economic base depends on the hospitality industry, retirees, second-home owners, and Cape and Islands residents who work in other parts of the state.\(^1\) Visitors are drawn by the area’s spectacular coastline, quaint shops, historic villages and other attractions. In 2006, a fly over and other roadway enhancements were completed at the Sagamore Rotary. These enhancements have improved access to the Cape and may provide a boost to the hospitality industry, which remains the economic bedrock of the Cape Cod and Islands region. It is estimated that six million tourists visit Cape Cod each year and that nearly two-thirds (65%) of all visitors to the Cape arrive in the summer and early fall months. A distinct characteristic of the area’s economy, when compared to the rest of the state, is that this annual seasonal fluctuation is overlaid on top of its long-term growth and the regular fluctuations of the nation’s business cycle.

The Cape and Islands region has already begun to expand its economic base by spreading its resort economy into the “shoulder seasons” by adding and shifting growth in the hospitality industry from the summer season into the early spring and late fall.\(^2\) This strategy has been moderately successful – measured in part by an increase in permanent tourism industry employment – but the need remains to diversify the region’s economy beyond the hospitality cluster (Barrow 2005a). Thus, economic development planners at both the regional and local level are working to shift new growth in the tourist economy into the shoulder seasons, while promoting the development of light-clean industries, such as health care, professional services, and selected niches in high technology (Barrow et al. 2005b, 2005c). These industries generally provide high-wage jobs and have less impact on the environment than traditional manufacturing or other large facilities.

The Cape’s year round economy has grown significantly in the last decade, but its hospitality industry remains highly seasonal, because it depends on factors such as weather and the economic condition of those regions that supply its tourist trade (Barrow and Borges 2003; Barrow 2001). To lessen the economic impacts of the slow winter months, Cape Cod officials have taken steps to lengthen the tourism season by attracting tourists during the shoulder periods in the early spring and late fall. The Cape Cod Chamber of Commerce has aggressively implemented a strategy to increase tourist visitations during the spring and fall shoulder seasons when total room demand on the Cape declines by 50,000 to 100,000 per month from the peak summer months (June through August). One focus of this strategy is to attract small conferences and getaway weekends from nearby metropolitan areas. The promotion of getaway weekends is designed as a complement to shoulder season conferences, since business and professional conferences are frequently scheduled from Monday through Thursday, while getaway weekends attract visitors on Fridays and Saturdays (Hunter Interests 1996).

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While the tourist and seasonal resident dollar is a vital cog in the Cape’s economic engine, the growing number of tourists is also threatening the Cape’s fragile environment. The Cape has unsurpassed beaches, ponds, marshes, bays and dunes. Furthermore, the water needs of the region are served by a single source aquifer. To protect this ecosystem, much of the planning in the region is focused on balancing economic growth with the preservation of the region’s environment.

The Cape Cod Commission is responsible for developing a Regional Policy Plan for Barnstable County every five-years which sets Minimum Performance Standards for all developments with a regional impact. The Cape Cod Commission’s Regional Policy Plan was adopted in 1991 and revised in 1996, 2002, and 2009. The Regional Policy Plan does not change or alter any existing local, state, or federal regulations, but establishes performance standards in addition to existing regulations. Specifically, the Regional Policy Plan:

sets forth a vision for promoting clean industries and resource-based industries that minimize environmental impacts; expanding the non-resort economy to promote year-round jobs; expanding the technology sector and supply of highly paid, highly skilled jobs; promoting the region’s telecommunications infrastructure to better serve high-tech, home, and small businesses; concentrating economic development in existing downtowns and village centers where infrastructure and transit can better serve growth; and encouraging the reuse and development of existing structures rather than building new ones (Cape Cod Commission 2002b).

A revised Regional Policy Plan (2008, 14) that went into effect on January 16, 2009 continues to emphasize that “the growth policy for Barnstable County...is to guide growth toward areas that are adequately supported by infrastructure and away from areas that must be protected for ecological, historical, or other reasons.” As a result, economic development planners are emphasizing the recruitment and development of light-clean industries, such as high technology and professional services firms. Light clean industries generally provide high wage jobs while having less of an impact on the environment than traditional manufacturing. The region’s relatively high level of educational attainment provides an opportunity to develop emerging industries in high technology areas such as marine and environmental technology, software development, web development, and management consulting. However, the area has had less success in attracting high-tech industries because of its geographic isolation, and thus economic development efforts have focused on developing existing industries and on entrepreneurs who want to start new businesses (Cape Cod Commission 2002a). Meanwhile, efforts to lengthen the resort season by attracting tourists during shoulder periods in the early spring and late fall have been moderately successful.
2.40 Transportation Infrastructure

The principal highways on Cape Cod are U.S. Route 6 and State Routes 6A, 28, 151 and 132. State Route 3, Interstate 495, and Interstate 195 all converge near the Upper Cape and provide quick access to destinations west and north of the Cape. Automobile and passenger ferry service to Martha’s Vineyard and Nantucket is offered from Falmouth and Hyannis (Barnstable), while passenger ferry service to Boston departs from Provincetown during the summer months. Passenger service to Martha’s Vineyard is also available from New Bedford from May through September.

Automobile and truck access to the Cape is limited to the Bourne and Sagamore bridges via Route 25 and Route 3 respectively. In 2006, a fly over and other roadway enhancements were completed at the Sagamore Rotary. The Cape’s limited road access and its relative geographic isolation can make getting to and from the area difficult, especially during the busy summer months. Average daily traffic has grown by roughly 3 to 4 percent each year, which has put an increasingly heavy burden on area roadways. This congestion also discourages many residents and visitors from driving to destinations outside of Cape Cod, which reinforces the region’s relative isolation from other parts of the state. The absence of an extensive and well-developed highway system may also be a deterrent to business expansion, since transportation infrastructure remains an important factor in business location decisions.3

The Cape and Islands can also be reached via three Primary Commercial Service airports located in Hyannis, Nantucket, and Martha’s Vineyard.4 The three airports combined annually accounted for 529,727 passenger enplanements in 2007, an increase of 15.3 percent from 2001. The importance of the region’s airports to its economic vitality and accessibility is evident in the fact that whether measured in terms of itinerant operations or enplanements, the Nantucket, Barnstable, and Martha’s Vineyard airports are the second, third, and fourth busiest airports, respectively, in the state of Massachusetts (U.S. DOT 2007).

Cape Cod is accessible by air with connecting flights from Logan (Boston) and T.F. Green (Providence) airports to Barnstable Municipal Airport in Hyannis. Barnstable Municipal Airport (HYA) has two asphalt runways of 5,252 feet and 5,425 feet, as well as a control tower and instrument landing system (ILS). HYA is serviced by Nantucket Airlines, Cape Air, Island Air, US Air, and Colgan Air. Over $10 million of the State Transportation Bond Bill was allocated in 1997 for the expansion and renovation of the airport’s terminal. Annual passengers enplanements increased from 167,522 in 2004 to 204,152 in 2007 (21.9%). The lower Cape is also accessible by air with a limited number of air taxi flights from Logan (Boston) to Provincetown Municipal Airport, although 91 percent of the airport’s operations are transient general aviation. Provincetown Municipal Airport has one runway, but no traffic control tower.

Martha’s Vineyard Airport (MVY) in Vineyard Haven is served by Cape Air and US Airways Express. There is year-round scheduled service to the Martha’s Vineyard Airport from Boston, Hyannis,

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3 For example, Christmas Tree Shops, with its headquarters on Cape Cod, moved the company’s main distribution center to Middleboro because of transportation issues. The Cape Cod 2000 Regional Transit Plan from the Metropolitan Planning Organization (prepared by the Cape Cod Commission) estimates that at least $525 million is needed over the next 25 years to maintain Cape Cod’s roads and bridges (not including the Bourne and Sagamore Bridges) (Cape Cod Commission 2002a).

4 A commercial airport is any public airport that annually enplanes 2,500 or more passengers and receives scheduled passenger service of aircraft. A primary airport is a commercial service airport that annually enplanes 0.01 percent or more of the total number of passengers enplaned annually at all commercial service airports (U.S. DOT 1993, G-3).
Nantucket, New Bedford, and Providence. During the summer season, direct flights are provided to Newark, New York City, and Washington D.C. MVY has two asphalt runways of 5,500 feet and 3,297 feet, as well as a control tower and instrument landing system (ILS). Annual passengers enplanements decreased from 50,161 in 2004 to 49,205 in 2005 (1.9%).

Nantucket Memorial Airport (ACK) is served by nine airlines, including Cape Air, Colgan Air, Continental Airlines, Delta Airlines, Island Airlines, JetBlue Airways, Nantucket Airlines, Nantucket Shuttle, and US Airways Express. ACK, a Primary Commercial Service facility, has three asphalt runways of 6,303 feet, 3,999 feet, and 3,125 feet, as well as a control tower and instrument landing system (ILS). Total annual passenger enplanements increased from 243,313 in 2004 to 282,197 in 2007 (16.0%).

The Cape Cod Regional Transit Authority provides public transportation from Falmouth to Hyannis. Additional bus service runs on a regular schedule to Yarmouth, Dennis, Harwich, Chatham, Orleans, and Woods Hole. Bonanza Bus Lines also provides service from Hyannis to Fall River and New Bedford and then on to Providence and New York. Trolley service is offered on a seasonal basis in many Cape towns. These lines connect to the Plymouth and Brockton bus service, which provides bus service to downtown Boston, Logan Airport, and Provincetown. In Barnstable County, more residents are using public transportation to commute to work, from 911 workers in 1989 to 1,436 in 1999. However, only 1.4 percent of Barnstable County residents use public transportation compared to 8.7 percent statewide (U.S. Census 2000; Melo and Coleman 2002).

Commuter rail service from Boston currently extends to Kingston and Plymouth and many Cape residents drive to these stations and take the rail to northern destinations. The Cape Cod Transit Taskforce is currently working to restore regular passenger rail service to the Cape. A draft 5-year Public Transportation Plan for Cape Cod (2002-2006) recommends improved bus service and other non-automobile forms of transportation such as seasonal rail service and bicycle lanes. The estimated cost over five years to implement and operate the plan’s initiatives is $60 million.
2.50 Higher Education Institutions

The Cape and Islands Workforce Investment Area is served by four institutions of higher education. Cape Cod Community College in Barnstable is a two-year public community college that offers associate degrees in forty-seven fields. Approximately 4,000 full- and part-time students attend the college. The College offers degree and certificate programs and training for business and industry. The College is fully accredited by the New England Association of Schools and Colleges.

The Massachusetts Maritime Academy, located in Bourne, is a specialized co-educational maritime and engineering college. It enrolls approximately 1,200 students and offers Bachelor of Science Degrees in Emergency Management, Facilities Engineering, International Maritime Business, Marine Engineering, Marine Safety, Environmental Protection, Marine Transportation and Master of Science Degrees in Emergency Management and Facilities Management. The Academy awards about 125 baccalaureate degrees in these fields each year, while its Division of Continuing Education offers an array of specialized certificate programs (Massachusetts Maritime Academy 2002).

The academy’s Center for Maritime Training offers courses for professional mariners seeking to upgrade their professional skills and receive certification in the U.S. Coast Guard’s Standards of Training, Certification, and Watchkeeping for Seafarers (STCW). The center also provides customized training programs for seagoing and maritime operations personnel. The academy’s Center for Marine Environmental Protection & Safety provides training and certification in hazardous materials and oil spill response, while its commercial services division offers a Marina Management Certificate Program that prepares individuals for careers in marina and boatyard management.

Woods Hole Oceanographic Institution (WHOI) in Falmouth is the largest independent oceanographic institution in the world. The Massachusetts Institute of Technology (MIT) and WHOI share a cooperative academic program leading to graduate degrees in oceanography and oceanographic engineering. This program enrolls about 125 graduate students and awards approximately 20 to 25 master’s and doctoral degrees each year (WHOI, 2009). Eighteen-month Postdoctoral Scholar awards are also offered to recent recipients of doctorates in the fields of chemistry, engineering, geology, geophysics, mathematics, meteorology, physics, and biology as well as oceanography. Various fellowships are also offered by the Institution.

The Marine Biological Laboratory (MBL) is the oldest private marine laboratory in the country and employs 275 scientists and support staff working in such fields as cell and developmental biology, ecology, microbiology, molecular evolution, global infectious disease, neurobiology, and sensory physiology. The MBL was established in 1888 as a non-profit institution devoted to research and education in basic biology. The MBL occupies more that 100 acres in Woods Hole. One hundred buildings comprise the plant, including six research laboratory buildings, two administration buildings, and a variety of support buildings. The MBL offers graduate courses in embryology, physiology, neurobiology, microbiology, and parasitology.  

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5 Marine Biological Laboratory; http://www.mbl.edu/about/index.html
2.60 Employment, Business Establishments, and Wages

2.61 Employment and Unemployment

Employment in the Workforce Investment Area increased at a slower rate than it did statewide from 2003 to 2008. Average annual employment in the Workforce Investment Area was 110,221 in 2008, an increase of 1.7 percent from 2003. Employment increased by 2.8 percent statewide over this time (see Table 1).

Table 1

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2008</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce Area</td>
<td>108,430</td>
<td>110,221</td>
<td>1.7%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>3,190,247</td>
<td>3,280,207</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

2.62 Unemployment

The average unemployment rate in June of 2009 in the Cape and Islands Workforce Investment Area was 6.9 percent, which compares to a state unemployment rate of 8.7 percent. The region’s unemployment rate continues to fluctuate between seasonal extremes as a result of its hospitality-based industries. For example, the region’s unemployment rate was 11.4 percent in January 2008 (above the statewide average of 8.1 percent) and 6.9 percent six months later in June of 2009 (compared to 8.7 percent for the state). As Figure 2 demonstrates, average unemployment rates in the area have generally been higher than the statewide average throughout the business cycle. However, the area’s unemployment rate has fallen into line with statewide unemployment trends during the last business cycle (2001-2008), which is an indication that there’s been some reduction in seasonal employment fluctuations.

Figure 2

Cape & Islands WIA Unemployment Rate
1990 to 2009

[Graph showing the unemployment rate from 1990 to 2009 for Cape & Islands WIA and Massachusetts, indicating a trend towards alignment with statewide trends.]
2.63 **BUSINESS ESTABLISHMENTS**

The Cape and Islands added 884 (+8.4%) net new business establishments between 2001 and 2007. The Cape and Island’s economy has long been distinguished from other regions of the state by its reliance on small businesses and proprietorships. For example, 92 percent of all Cape and Islands businesses have less than 20 employees (C&I WIB, 2009) and approximately 14 percent of the region’s residents are self-employed, which is more than twice the statewide average of 6.4 percent (U.S. Census 2000).

2.64 **WAGES AND INCOME**

Average annual earnings in the area are $38,397, or 45.0 percent below the statewide average of $55,674 (EMSI, 2008). The region’s hospitality industry has a significant impact on average wage levels, which are well below statewide averages due to seasonal unemployment in the hospitality industry and the large number of low-wage or part-time jobs in related service occupations.

However, wage data alone conveys an overly pessimistic picture of residents’ economic situation. Much of the seasonal volatility and low-wage jobs impact high school students, college students, and temporary foreign workers, who migrate to the Cape and Islands during the resort season specifically for temporary employment. Many seasonal jobs are also held by moonlighters, homemakers, and retirees, who supplement family income by working temporarily during the resort season, but do not rely exclusively on this seasonal income.

Consequently, when one examines data on total personal income (from all sources) for the region, income for year-round residents compares favorably to the state as a whole (see section 3.20 below). From 2000 to 2007, the area’s total personal income increased by 33.8 percent, while it increased by 29.8 percent statewide. Most importantly, total personal income per capita for the Cape and Islands is $48,276, which is 98.5 percent of the statewide average of $48,995 (BEA 2000, 2007).

The different pictures conveyed by a simplistic reading of ES-202 wage data versus data on total personal income reveals that there is much more disposable income on the Cape and Islands than would appear to be the case if one looks only at wage data. Much of the seasonal income generated by the region’s hospitality cluster supplements year-round household income as moonlighters, homemakers, retirees, and high school students enter the seasonal labor market. Personal income data also supports the conclusion that the “retirement industry” has emerged as a significant regional export that brings additional income to the region. This income helps fuel growth in the region’s residential real estate, health care, retail, financial services, and professional services industries on a year-round basis.

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6 Total personal income includes wages (ES-202) as well as income from all other sources, including pensions, Social Security, interest, dividends, rent, proprietor’s income, and capital gains.
2.70 Occupational Mix

Table 2 shows the occupational make-up of the Cape and Islands Workforce Investment Area and of Massachusetts. The largest differences between the Workforce Investment Area and the state are highlighted. Food preparation and serving related workers (14.8%), office and administrative support occupations (13.9%), and sales and related occupations (12.6%) make-up the largest occupation sectors in the Workforce Investment Area.

<table>
<thead>
<tr>
<th>Description</th>
<th>WIA</th>
<th>State</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management occupations</td>
<td>4.5%</td>
<td>5.7%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Business and financial operations occupations</td>
<td>3.1%</td>
<td>5.2%</td>
<td>-2.1%</td>
</tr>
<tr>
<td>Computer and mathematical science occupations</td>
<td>1.4%</td>
<td>3.7%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Architecture and engineering occupations</td>
<td>1.3%</td>
<td>2.3%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Life, physical, and social science occupations</td>
<td>1.0%</td>
<td>1.6%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Community and social services occupations</td>
<td>1.9%</td>
<td>2.0%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Legal occupations</td>
<td>0.5%</td>
<td>0.8%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Education, training, and library occupations</td>
<td>6.8%</td>
<td>6.6%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Arts, design, entertainment, sports, and media occupations</td>
<td>1.3%</td>
<td>1.6%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Healthcare practitioners and technical occupations</td>
<td>5.6%</td>
<td>6.3%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Healthcare support occupations</td>
<td>3.4%</td>
<td>3.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Protective service occupations</td>
<td>2.2%</td>
<td>2.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Food preparation and serving related occupations</td>
<td>14.8%</td>
<td>8.2%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Building and grounds cleaning and maintenance occupations</td>
<td>5.7%</td>
<td>3.6%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Personal care and service occupations</td>
<td>3.8%</td>
<td>2.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Sales and related occupations</td>
<td>12.6%</td>
<td>10.2%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Office and administrative support occupations</td>
<td>13.9%</td>
<td>16.7%</td>
<td>-2.8%</td>
</tr>
<tr>
<td>Farming, fishing, and forestry occupations</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Construction and extraction occupations</td>
<td>4.8%</td>
<td>3.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Installation, maintenance, and repair occupations</td>
<td>3.2%</td>
<td>3.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Production occupations</td>
<td>2.3%</td>
<td>5.3%</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Transportation and material moving occupations</td>
<td>4.4%</td>
<td>4.9%</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Military Occupations</td>
<td>1.2%</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

*Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2*
2.80 Largest Employment Sectors

2.81 Largest Employment Sectors by Major Industry

The five largest employment sectors in the Cape and Islands Workforce Investment Area are Retail Trade (16.6%), Accommodation and Services (16.2%), Government (15.5%), and Health Care and Social Assistance (14.5%) (see Figure 3).

Figure 3

Largest Employment Sectors, 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v.2
2.82 **LARGEST EMPLOYMENT SECTORS: NUMERICAL CHANGE IN EMPLOYMENT, 2003 TO 2008**

Between 2003 and 2008, the Workforce Investment Area added employment in eleven of the twenty major employment sectors, with the highest number of jobs added in Health Care and Social Assistance (1,650), Accommodation and Food Service (638 jobs), and Construction (597 jobs) (see Figure 4).

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**Figure 4**

*Cape & Islands Workforce Area*

Numerical Employment Change, 2003 to 2008

*Source: EMSI Covered Employment - 2nd Quarter 2009 v.2*
The greatest percentage change in the Workforce Investment Area’s major employment sectors occurred in wholesale trade (17.0%), arts, entertainment and recreation (15.5%), administrative and waste services (12.3%), and health care and social assistance (11.5%) (see Figure 5).

**Figure 5**

Cape & Islands Workforce Area
Percent Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v.2
2.90 **Largest Industries by Employment**

Table 3 lists the major industries in the Cape and Islands Workforce Investment Area by size of employment. These industries are sub-sectors of the major industries presented in the previous charts. A majority of the Workforce Investment Area’s largest industries are in the retail and health services sectors.

<table>
<thead>
<tr>
<th>Description</th>
<th>Jobs, 2008</th>
<th>% of Total Empl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food services and drinking places</td>
<td>13,451</td>
<td>12.2%</td>
</tr>
<tr>
<td>Local government</td>
<td>12,381</td>
<td>11.2%</td>
</tr>
<tr>
<td>Ambulatory health care services</td>
<td>5,755</td>
<td>5.2%</td>
</tr>
<tr>
<td>Food and beverage stores</td>
<td>5,514</td>
<td>5.0%</td>
</tr>
<tr>
<td>Professional and technical services</td>
<td>4,749</td>
<td>4.3%</td>
</tr>
<tr>
<td>Accommodation</td>
<td>4,439</td>
<td>4.0%</td>
</tr>
<tr>
<td>Specialty trade contractors</td>
<td>4,332</td>
<td>3.9%</td>
</tr>
<tr>
<td>Nursing and residential care facilities</td>
<td>4,179</td>
<td>3.8%</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>4,096</td>
<td>3.7%</td>
</tr>
<tr>
<td>Hospitals</td>
<td>3,952</td>
<td>3.6%</td>
</tr>
<tr>
<td>Amusements, gambling, and recreation</td>
<td>2,799</td>
<td>2.5%</td>
</tr>
<tr>
<td>Construction of buildings</td>
<td>2,471</td>
<td>2.2%</td>
</tr>
<tr>
<td>Clothing and clothing accessories stores</td>
<td>2,244</td>
<td>2.0%</td>
</tr>
<tr>
<td>Social assistance</td>
<td>2,112</td>
<td>1.9%</td>
</tr>
<tr>
<td>State government</td>
<td>2,074</td>
<td>1.9%</td>
</tr>
<tr>
<td>Building material and garden supply stores</td>
<td>1,959</td>
<td>1.8%</td>
</tr>
<tr>
<td>Credit intermediation and related activities</td>
<td>1,664</td>
<td>1.5%</td>
</tr>
<tr>
<td>Motor vehicle and parts dealers</td>
<td>1,579</td>
<td>1.4%</td>
</tr>
<tr>
<td>Miscellaneous store retailers</td>
<td>1,559</td>
<td>1.4%</td>
</tr>
<tr>
<td>Membership associations and organizations</td>
<td>1,496</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

*Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2*
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3.00 DEMOGRAPHIC ANALYSIS

3.10 Population

The Cape and Islands Workforce Investment Area has a total population of 248,191, which is an increase of 0.59 percent since 2000 (U.S. Census Bureau STF3 file and American Community Survey) (see Table 4). It is estimated that Nantucket experienced the largest population increase over this period, while the population of Barnstable County declined by .02 percent over this period.

The area’s population increased at a faster rate than the state as a whole from 1980 to 2000. For example, from 1980 to 1990, the area’s population increased by 26.3 percent compared to 5.0 percent for the state. During the 1990’s, the area’s population continued to outpace the statewide rate, increasing by 20.8 percent compared to a 5.5 statewide. Much of the growth was fueled by retirees and commuters to the South Shore and Boston.

Table 4

<table>
<thead>
<tr>
<th>Area</th>
<th>2000</th>
<th>2007</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnstable County</td>
<td>222,230</td>
<td>222,175</td>
<td>-0.02%</td>
</tr>
<tr>
<td>Dukes County</td>
<td>14,987</td>
<td>15,485</td>
<td>3.3%</td>
</tr>
<tr>
<td>Nantucket</td>
<td>9,520</td>
<td>10,531</td>
<td>10.6%</td>
</tr>
<tr>
<td>WIA Total</td>
<td>246,737</td>
<td>248,191</td>
<td>0.6%</td>
</tr>
<tr>
<td>State</td>
<td>6,349,097</td>
<td>6,449,755</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau American Community Survey

However, estimates show that the state’s population growth (1.6%) exceeded the Workforce Investment Area’s growth (0.6%) between 2000 and 2007. The slowdown in population growth may be a result of high housing costs, which makes it difficult for many residents to purchase a home, particularly younger residents who grew up on the Cape and Islands and move to areas with more affordable housing and job opportunities. In fact, Barnstable County has the oldest median age in New England, with twice the percentage of people over 65 as the average U.S. county, and this is partly the result of an out-migration of younger residents (Chase, 2009). For example, the percentage of Cape and Islands residents who are aged 20 to 34, the years when most people are in the full time workforce and raising families, declined by 4.0 percent from 1990 to 2007. Similarly, the under age 20 age cohort declined by 3.0 percent (see Figure 6). The out-migration of these residents is a workforce and economic development issue, since many are the area’s brightest students and skilled individuals leave to attend college or to find opportunities that are not available on the Cape or Islands.
3.20 Race/Ethnicity

In general, the population statewide is more diverse than in the Cape and Islands Workforce Investment Area. Ninety-four percent of residents in the Cape and Islands (94.0%) are white Caucasian compared to 79.6 percent statewide (U.S. Census 2000). African Americans are the largest ethnic minority on the Cape and Islands at 2.1 percent of the population, followed by Hispanics (1.4%), and Asians (0.6%). Residents of “other races” make up 1.8% of the area’s population.

Table 5

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Cape &amp; Islands 1990</th>
<th>Cape &amp; Islands 2000</th>
<th>Massachusetts 1990</th>
<th>Massachusetts 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>94.9%</td>
<td>94.0%</td>
<td>85.1%</td>
<td>79.6%</td>
</tr>
<tr>
<td>African American</td>
<td>1.6%</td>
<td>2.1%</td>
<td>5.0%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Asian</td>
<td>0.5%</td>
<td>0.6%</td>
<td>2.4%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Other</td>
<td>1.8%</td>
<td>1.8%</td>
<td>2.8%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.2%</td>
<td>1.4%</td>
<td>4.8%</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau
3.30 **Total Personal Income Per Capita**

Total personal income per capita increased by 33.8 percent in the Workforce Investment Area and 29.8 percent statewide. From 2000 to 2007, total personal income per capita for the Workforce Investment Area is $48,276, which is 98.5 percent of the statewide average of $48,995 (BEA 2000, 2007).

<table>
<thead>
<tr>
<th>Area</th>
<th>2000</th>
<th>2007</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnstable County</td>
<td>$35,748</td>
<td>$47,640</td>
<td>33.3%</td>
</tr>
<tr>
<td>Dukes County</td>
<td>$35,464</td>
<td>$52,221</td>
<td>47.3%</td>
</tr>
<tr>
<td>Nantucket County</td>
<td>$45,072</td>
<td>$55,884</td>
<td>24.0%</td>
</tr>
<tr>
<td>WIA Total</td>
<td>$36,091</td>
<td>$48,276</td>
<td>33.8%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>$37,753</td>
<td>$48,995</td>
<td>29.8%</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis

3.40 **Educational Attainment**

The Workforce Investment Area’s population is more educated than the state as a whole, which is partly attributable to the region’s highly educated retirement community. More than ninety-one percent (91.7%) of Cape and Islands residents have a high school diploma, compared to 84.8 percent statewide. A higher percentage of Cape and Islands residents have a Bachelor’s degree or higher (34.1%) compared to residents statewide (33.2%) (see Figure 7).

![Educational Attainment, 2000](source: U.S. Census Bureau STF3 File)
There are only small differences in educational attainment levels between the sub-regions. In Barnstable County, 91.8 percent of residents have a high school diploma, compared to 90.4 percent of residents in Martha’s Vineyard and 91.6 percent of residents in Nantucket. In Barnstable County, 33.6 percent of residents have a Bachelor’s Degree or higher, while 38.4 percent of residents in Martha’s Vineyard, and 38.5 percent of residents in Nantucket have a Bachelor’s degree or higher (US Census 2000).

A major component of Cape Cod’s economic development strategy is to attract and expand light-clean industries such as high technology and professional services firms. These industries generally pay high wages while having smaller environmental impacts in comparison to traditional manufacturing firms. The region’s relatively high level of educational attainment, and the above average performance of its public high school students, provide an opportunity to develop these emerging industries on the Cape.

While there are no research universities or four-year colleges in the Workforce Investment Area to support technology transfer in the traditional sense, the Workforce Investment Area’s knowledge-intensive sector can capitalize on its attractive quality of life, high levels of educational attainment, and increasingly developed broadband infrastructure to support the emergence of firms that occupy specialized niches in research (WHOI), training (MMA), and intellectual property development (e.g., software, switching technology, web development, environmental technology, etc.) as opposed to large-scale manufacturing facilities.

Even where these firms do not create large numbers of new jobs, as with manufacturing facilities, they have the capacity to generate significant amounts of regional export revenue through research grants, patent sales, license, royalty, and consulting income. Since many of these firms are individual proprietorships or professional corporations they avoid many of the land use and population pressures created by manufacturing facilities. The most notable example is Woods Hole Oceanographic Institution, which has a total operating budget of $156.5 million, including $129.1 million in sponsored research revenues. Nearly all of this income accrues from the regional export of research, educational, and financial services, which attract students and scholars, government-sponsored research grants, private donations, and endowment income (WHOI, 2007).

Another variant of this model is the National Graduate School (NGS) in Falmouth, which offers a Masters of Science degree in Quality Systems Management, Homeland Security and Defense, and Environmental Quality Management as well as a doctorate degree in Quality Systems Management. The NGS focuses on working professionals who are looking for an accelerated weeknight or weekend graduate program in business. The NGS delivers its program at multiple locations throughout the country.

However, a potential challenge to this strategy is that many of the area’s brightest students leave the area to attend colleges and universities off-Cape. These individuals are less likely to return to the area if there are no jobs available that match their skills. The result is that the region loses the type of potential hi-tech entrepreneurs, who fuel the expansion of the knowledge-intensive sector. The challenge for the Workforce Investment Area is to find a way not only to sustain its high level of educational performance, but to provide avenues for educated residents to apply their knowledge and skills in the local area in ways that seed further business growth in this cluster.
3.50 Housing

The supply of moderately priced housing for year round Cape and Islands residents and seasonal workers is shrinking as housing costs escalate at a faster rate than the state. The median single family home price on the Cape and Islands in 2008 was $345,000, which is 10.9 percent above the statewide average ($311,000). While median home prices decreased in both the Workforce Investment Area and the state since 2004, the median price decreased at more than twice the level statewide (8.5%) in comparison to the Workforce Investment Area (4.2%) (see Table 7).

Nevertheless, the median single family home price for the Cape and Islands region ($345,000) is 23.3 percent below the Greater Boston average of $450,000 (MA Association of Realtors). Due to this disparity, the Cape and Islands region continues to attract an influx of commuters to Falmouth, Sandwich, and Mashpee, which ultimately drive up prices and create an affordability crisis for many long-term residents who work on the Cape. Compounding the housing affordability issue is the fact that more homes are being purchased by seasonal residents, which further reduces the housing supply.

<table>
<thead>
<tr>
<th>Year</th>
<th>WIA</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>$360,000</td>
<td>$340,000</td>
</tr>
<tr>
<td>2005</td>
<td>$400,000</td>
<td>$360,000</td>
</tr>
<tr>
<td>2006</td>
<td>$392,250</td>
<td>$350,000</td>
</tr>
<tr>
<td>2007</td>
<td>$390,000</td>
<td>$345,500</td>
</tr>
<tr>
<td>2008</td>
<td>$345,000</td>
<td>$311,000</td>
</tr>
</tbody>
</table>

Source: MA Association of Realtors
4.00 CLUSTER AND SECTOR ANALYSIS

The Cape and Islands Workforce Investment Area has several identifiable business clusters, which consist of firms in two or more related sectors that are linked together through customer, supplier, labor market, or other relationships. A cluster is “a geographically proximate group of interconnected companies and associated institutions,” which can include end-product or service companies, suppliers of specialized inputs, components, machinery, and services” (Porter 2002, 199). Clusters may also include producers of complementary products or services, specialized infrastructure providers (e.g., telecommunications, internet), government, and other institutions that provide specialized training, education, information, research, and technical support to a cluster’s key firms.

Clusters emerge in geographic concentrations mainly to take advantage of natural resources, specialized labor pools, industry-specific infrastructure, inter-modal transportation networks, and other threshold externalities attributable to business clusters. Cluster analysis often provides a deeper insight into the sources of competitive advantage because it captures “linkages, complementarities, and spillovers of technology, skills, information, marketing, and customer needs that cut across firms and industries” (Porter 2002, 205).

The Workforce Investment Area’s key business clusters are identified in this report as critical or emerging clusters. Critical clusters are defined as related groups of businesses that employ 3 percent or more of total employment in the Workforce Investment Area and that have reached a level of industrial maturity and stability, where future employment growth is likely to be incremental and dependent on overall state, national, or regional economic growth. Emerging clusters are ones that have shown substantial employment growth during the study time period. An emerging cluster can fall below the 3 percent threshold if it is showing rapid growth (e.g., from 1% to 2% of total employment).

While employment declined in several industries that are part of the clusters identified in this report, employment losses should not be interpreted as an assessment of the profitability and financial health of an industry, the demand for its products or services, or the condition of individual firms within an industry. An industry can be reducing total employment, while increasing annual output, sales, and profits through organizational restructuring or technological innovations that allow firms in the industry to produce greater volumes of a good or service with fewer employees. It is also possible for individual firms to be stable or expanding within a declining industry due to higher productivity, superior marketing, or the capture of niche markets where they face little competition from other firms in the industry. The term also does not describe the quality of the jobs created or lost in a particular industry, since an expanding employment sector can be creating low-wage jobs with few benefits, while a declining sector could be restructuring its workforce to rely more heavily on high-wage skilled employees that achieve higher rates of productivity due to their use of technology.
Our analysis identified five critical industry clusters and three emerging industry clusters in the Cape and Islands Workforce Investment Area. Sub-clusters were also identified within three of these clusters (see Table 8). The hospitality sector accounts for more than one in five jobs (20.7%) in the Workforce Investment Area, followed by Health Services (12.6%), Construction (8.2%), Knowledge Intensive (6.8%), and Financial Services (3.7%).

The major employment sectors within the clusters are:

- Food Service & Drinking Places (10,088 jobs)
- Accommodations (4,439 jobs)
- Specialty Trade Contractors (4,332 jobs)
- Nursing and Residential Care Facilities (4,179 jobs)
- Hospitals (3,952 jobs)
- Amusement & Recreational Facilities (2,799 jobs)
- Construction of Buildings (2,471 jobs)
- Food & Beverage Stores (1,930 jobs)
- Offices of Physicians (1,880)
- Commercial Banks (1,664 jobs)

### Table 8
**Critical and Emerging Clusters**

<table>
<thead>
<tr>
<th>Sector</th>
<th>% of Total Employment</th>
<th>% Change 03-08</th>
<th>% Change 08-13</th>
<th>Avg. Earnings</th>
<th># Establishments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Critical Clusters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitality</td>
<td>20.7%</td>
<td>2.6%</td>
<td>-1.8%</td>
<td>$23,389</td>
<td>3,141</td>
</tr>
<tr>
<td>Retail</td>
<td>6.9%</td>
<td>0.1%</td>
<td>-2.0%</td>
<td>$25,891</td>
<td>1,639</td>
</tr>
<tr>
<td>Food &amp; Drinking Places / Accommodations</td>
<td>13.2%</td>
<td>3.5%</td>
<td>-3.0%</td>
<td>$21,832</td>
<td>1,340</td>
</tr>
<tr>
<td>Arts &amp; Culture</td>
<td>0.6%</td>
<td>13.7%</td>
<td>26.5%</td>
<td>$28,671</td>
<td>162</td>
</tr>
<tr>
<td>Health Services</td>
<td>12.6%</td>
<td>10.9%</td>
<td>14.5%</td>
<td>$47,956</td>
<td>644</td>
</tr>
<tr>
<td>Construction</td>
<td>8.2%</td>
<td>7.4%</td>
<td>-0.8%</td>
<td>$48,125</td>
<td>1,818</td>
</tr>
<tr>
<td>Knowledge Intensive</td>
<td>6.8%</td>
<td>-0.3%</td>
<td>7.1%</td>
<td>$47,232</td>
<td>1,170</td>
</tr>
<tr>
<td>Educational Services</td>
<td>1.6%</td>
<td>6.1%</td>
<td>2.0%</td>
<td>$32,378</td>
<td>105</td>
</tr>
<tr>
<td>High Technology</td>
<td>1.6%</td>
<td>-10.9%</td>
<td>11.7%</td>
<td>$61,882</td>
<td>152</td>
</tr>
<tr>
<td>Professional Services</td>
<td>3.6%</td>
<td>2.3%</td>
<td>7.4%</td>
<td>$47,429</td>
<td>931</td>
</tr>
<tr>
<td>Financial Services</td>
<td>3.7%</td>
<td>-11.1%</td>
<td>-6.8%</td>
<td>$52,202</td>
<td>776</td>
</tr>
<tr>
<td><strong>Emerging Clusters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine Industry</td>
<td>2.6%</td>
<td>5.7%</td>
<td>-3.9%</td>
<td>$44,833</td>
<td>186</td>
</tr>
<tr>
<td>Marine Science &amp; Technology</td>
<td>1.3%</td>
<td>-6.9%</td>
<td>-10.1%</td>
<td>$56,648</td>
<td>29</td>
</tr>
<tr>
<td>Marine Services</td>
<td>1.3%</td>
<td>21.6%</td>
<td>2.0%</td>
<td>$33,508</td>
<td>157</td>
</tr>
<tr>
<td>Distribution</td>
<td>2.1%</td>
<td>12.7%</td>
<td>12.5%</td>
<td>$52,581</td>
<td>505</td>
</tr>
<tr>
<td>Social Services</td>
<td>2.0%</td>
<td>18.8%</td>
<td>23.1%</td>
<td>$25,932</td>
<td>181</td>
</tr>
<tr>
<td><strong>WIA Total</strong></td>
<td>-</td>
<td>1.7%</td>
<td>3.8%</td>
<td>$38,397</td>
<td>11,600</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
Dun & Bradstreet Imarket (For Several Industries in Marine Services Only)
4.01 Percentage Employment Change

Total employment in the Workforce Investment Area grew by 1.7 percent from 2003 to 2008, which compares to a growth rate of 2.9 percent statewide (see Figure 8). Six of the Workforce Investment Area’s eight major clusters experienced employment growth over this period. The highest percentage job growth occurred in Social Services (18.8%) Distribution (12.7%), and Health Services (10.9%), while the Knowledge Intensive (-0.3%) and Financial Services (-11.1%) clusters shed employment over this period. The Workforce Investment Area experienced significantly higher levels of employment growth in the Construction, Distribution, and Social Service industry clusters in comparison to the state, while it lost a greater share of employment in the Financial Services cluster.

Figure 8

Percentage Employment Change By Cluster, 2003 to 2008

4.02 Numerical Employment Change and Projection

The Workforce Investment Area added a net total of 1,791 new jobs from 2003 to 2008 and is projected to add 4,177 jobs over the next five years (see Figure 9). Six of the Workforce Investment Area’s eight clusters added jobs from 2003 to 2008, with the highest number of jobs added in Health Services (+1,360 jobs) and Construction (+621 jobs). Conversely, employment in Financial Services declined by 510 jobs. Health Services is projected to add the most jobs in the next five years (+2,010), while the Construction (-75) and Marine Industry (-114) clusters are projected to lose jobs over this period.

Figure 9

Numerical Employment Change and Projection By Cluster
4.03 Average Annual Earnings

Nine of the sixteen clusters and sub-clusters have average annual earnings above the Workforce Investment Area average of $38,397. The highest annual earnings are in high technology ($61,882), Marine Science and Technology ($56,648), Distribution ($52,581), and Financial Services ($52,202). The lowest average annual earnings are found in the hospitality cluster and sub-clusters. The largest percentage differences between each cluster and the WIA average are in High Technology (61.2%), Marine Science and Technology (47.5%), Distribution (36.9%), and Financial Services (36.0%).

Only three of the Workforce Investment Area’s clusters and sub-clusters have annual average earnings above the statewide averages for each cluster, and all are in the Hospitality cluster. The largest percentage differences between the WIA and state averages are in the Marine Industry (-58.7%), Arts and Culture (-53.6%), Financial Services (-52.0%), and Marine Science and Technology (-50.8%).

Table 9

<table>
<thead>
<tr>
<th>Sector</th>
<th>WIA Avg. Earnings</th>
<th>% Difference from WIA Avg. ($38,397)</th>
<th>% Difference from State Cluster Avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Clusters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitality</td>
<td>$23,389</td>
<td>-39.1%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Retail</td>
<td>$25,891</td>
<td>-32.6%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Food &amp; Drinking Places/Accommodations</td>
<td>$21,832</td>
<td>-43.1%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Arts &amp; Culture</td>
<td>$28,671</td>
<td>-25.3%</td>
<td>-53.6%</td>
</tr>
<tr>
<td>Health Services</td>
<td>$47,956</td>
<td>24.9%</td>
<td>-6.4%</td>
</tr>
<tr>
<td>Construction</td>
<td>$48,125</td>
<td>25.3%</td>
<td>-14.7%</td>
</tr>
<tr>
<td>Knowledge Intensive</td>
<td>$47,232</td>
<td>23.0%</td>
<td>-40.5%</td>
</tr>
<tr>
<td>Educational Services</td>
<td>$32,378</td>
<td>-15.7%</td>
<td>-38.1%</td>
</tr>
<tr>
<td>High Technology</td>
<td>$61,882</td>
<td>61.2%</td>
<td>-37.7%</td>
</tr>
<tr>
<td>Professional Services</td>
<td>$47,429</td>
<td>23.5%</td>
<td>-40.8%</td>
</tr>
<tr>
<td>Financial Services</td>
<td>$52,202</td>
<td>36.0%</td>
<td>-52.0%</td>
</tr>
<tr>
<td>Emerging Clusters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine Industry</td>
<td>$44,833</td>
<td>16.8%</td>
<td>-58.7%</td>
</tr>
<tr>
<td>Marine Science &amp; Technology</td>
<td>$56,648</td>
<td>47.5%</td>
<td>-50.8%</td>
</tr>
<tr>
<td>Marine Services</td>
<td>$33,508</td>
<td>-12.7%</td>
<td>-45.0%</td>
</tr>
<tr>
<td>Distribution</td>
<td>$52,581</td>
<td>36.9%</td>
<td>-26.4%</td>
</tr>
<tr>
<td>Social Services</td>
<td>$25,932</td>
<td>-32.5%</td>
<td>-7.2%</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
Dun & Bradstreet InMarket (For Several Industries in Marine Services Only)
4.10 Critical Existing Clusters

4.11 Hospitality

Cape Cod and the Islands are a leading tourist destination for Massachusetts, New England, and Mid-Atlantic residents. It is estimated that in 2007, the Cape and Islands Workforce Investment Area received $1.1 billion from domestic travelers. These travel expenditures benefited county residents with $279.9 million in payroll income and 11,190 jobs (Travel Industry Association, 2008). While efforts to lengthen the tourism season by attracting visitors during the early spring and late fall have been moderately successful, the area’s hospitality industry remains seasonal and cyclical. In particular, the industry is highly sensitive to factors such as weather and the economic condition of other regions and states that fuel its tourist trade.

The Hospitality cluster is the largest in the Workforce Investment Area and includes fourteen major groups (see Table 10). The cluster accounts for 20.7 percent of the region’s total employment (22,838 jobs), which is nearly twice the statewide percentage (10.4%). Hospitality continues to be the economic engine of the Workforce Investment Area, with total employment increasing from 20.5 percent in 2003 to 20.7 percent in 2008. The largest industries in the cluster are food service and drinking places (10,088 jobs), accommodations (4,439 jobs), amusement and recreational facilities (2,799 jobs), and food and beverage stores (1,930 jobs), and its largest employers are Ocean Edge Resort and Golf Club, Seacrest Ocean Resort and Conference Center, Chatham Bars Inn, Coonamessett Inn, Popponesset Inn, Cape Codder Resort and Spa, and Orleans Inn and Restaurant.

<table>
<thead>
<tr>
<th>Table 10</th>
<th>Hospitality Cluster Definition</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Total Employment</td>
<td>Jobs</td>
<td>Avg. Earnings</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>20.7%</td>
<td>22,838</td>
</tr>
<tr>
<td>Cluster Industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail &amp; Accommodations (Sub-Cluster)</td>
<td>6.9%</td>
<td>7,657</td>
</tr>
<tr>
<td>Food &amp; Beverage Stores</td>
<td>1.8%</td>
<td>1,930</td>
</tr>
<tr>
<td>Health &amp; Personal Care Stores</td>
<td>0.3%</td>
<td>383</td>
</tr>
<tr>
<td>Gasoline Stations</td>
<td>0.1%</td>
<td>38</td>
</tr>
<tr>
<td>Clothing &amp; Clothing Accessories Stores</td>
<td>0.7%</td>
<td>795</td>
</tr>
<tr>
<td>Sporting Goods/Headquarters/Musical Instrument Stores</td>
<td>0.1%</td>
<td>81</td>
</tr>
<tr>
<td>General Merchandise Stores</td>
<td>0.4%</td>
<td>452</td>
</tr>
<tr>
<td>Miscellaneous Store Retailers</td>
<td>11.1%</td>
<td>1,169</td>
</tr>
<tr>
<td>Amusement &amp; Recreational Facilities</td>
<td>2.5%</td>
<td>2,799</td>
</tr>
<tr>
<td>Food Service/Drinking Places/Accommodations (Sub-Cluster)</td>
<td>13.2%</td>
<td>14,527</td>
</tr>
<tr>
<td>Food Service &amp; Drinking Places</td>
<td>9.2%</td>
<td>10,088</td>
</tr>
<tr>
<td>Accommodations</td>
<td>4.0%</td>
<td>4,439</td>
</tr>
<tr>
<td>Arts &amp; Culture (Sub-Cluster)</td>
<td>0.6%</td>
<td>653</td>
</tr>
<tr>
<td>Graphic Designers &amp; Commercial Artists</td>
<td>0.1%</td>
<td>39</td>
</tr>
<tr>
<td>Art Dealers</td>
<td>0.1%</td>
<td>96</td>
</tr>
<tr>
<td>Performing Arts/Spectator Sports/Related Industries</td>
<td>0.2%</td>
<td>255</td>
</tr>
<tr>
<td>Museums, Historical Sites</td>
<td>0.2%</td>
<td>263</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

In calculating the direct economic impacts of the hospitality industry, it is estimated that 35 percent of total annual employment in Food & Beverage Stores, Health & Personal Care Stores, Clothing & Clothing Accessory Stores, and General Merchandise Stores is Hospitality related. These estimates are based on summer sales figures shared with the principal investigators in past research. It is estimated that 75 percent of total annual employment in Miscellaneous Store Retailers and Food Service & Drinking Places is Hospitality related. It is estimated that 100 percent of total annual employment in the remainder of the cluster’s industries is Hospitality related.
4.11a. **Earnings and Establishments**

Average annual earnings in the cluster ($23,389) are the second lowest among the Workforce Investment Area’s major industry clusters and are 64.2 percent below the area’s average of $38,397, although they are above the statewide hospitality industry average of $22,531 (see Table 10). Earnings range from a low of $19,387 in clothing and clothing accessory stores to $38,352 for art dealers. The highest number of establishments is found in food service and drinking places (977), followed by miscellaneous store retailers (364), and accommodations (363).

4.11b. **Top Occupations**

The top occupations in the Hospitality cluster include waiters and waitresses (4,121 jobs) and cashiers (3,155 jobs) (see Table 11).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiters and waitresses</td>
<td>4,121</td>
</tr>
<tr>
<td>Cashiers, except gaming</td>
<td>3,155</td>
</tr>
<tr>
<td>Combined food preparation and serving workers, including fast food</td>
<td>2,587</td>
</tr>
<tr>
<td>Retail salespersons</td>
<td>2,079</td>
</tr>
<tr>
<td>Cooks, restaurant</td>
<td>1,650</td>
</tr>
<tr>
<td>Stock clerks and order fillers</td>
<td>1,122</td>
</tr>
<tr>
<td>Maids and housekeeping cleaners</td>
<td>1,093</td>
</tr>
<tr>
<td>Food preparation workers</td>
<td>1,060</td>
</tr>
<tr>
<td>Bartenders</td>
<td>910</td>
</tr>
<tr>
<td>Dishwashers</td>
<td>900</td>
</tr>
</tbody>
</table>
411c. Percentage Employment Change

Employment in the Hospitality cluster grew by 2.6 percent from 2003 to 2008, which compares to a growth rate of 4.4 percent statewide (see Figure 10). Hospitality employment in the Workforce Investment Area increased in seven of the fourteen industries, most significantly in performing arts/spectator sports, and related industries (54.5%), graphic designers (14.0%), and amusement and recreation (13.7%). Employment declined most significantly in art dealers (-26.0%) and gas stations (-24.3%). The Workforce Investment Area experienced significantly larger levels of employment growth in the performing arts and spectator sports in comparison to the state, while the cluster lost a significantly greater share of employment in art dealers and gas stations.

Figure 10
411d. Numerical Employment Change and Projection

The Workforce Investment Area experienced a net increase of 580 jobs in the Hospitality cluster from 2003 to 2008, but is projected to lose 408 jobs over the next five years (see Figure 11). Seven of the Workforce Investment Area’s fourteen clusters added jobs from 2003 to 2008, with the highest number of jobs added in Food Service and Drinking Places (+422 jobs) and amusement and recreational facilities (+337 jobs). Conversely, 181 jobs were lost in miscellaneous store retailers. Museums and historical sites (+96 jobs) is projected to add the most jobs in the next five years, while accommodations (-391 jobs) and miscellaneous store retailers (-180 jobs) are projected to lose the most jobs over this period.

Figure 11

Hospitality: Numerical Employment Change and Projection

Source: EMSI Covered Employment - 2nd Quarter 2009
v. 2
4.111 Hospitality Sub-Cluster: Retail

The Retail sub-cluster comprises establishments engaged in retailing merchandise and accounts for 6.9 percent of the Workforce Investment Area’s total employment (7,657 jobs), nearly twice the statewide percentage of 3.7 percent (see Table 12). The largest industries in the sub-cluster are amusement and recreational facilities (2,799 jobs), food and beverage stores (1,930 jobs), and miscellaneous store retailers (1,169 jobs). Retail’s share of the Workforce Investment Area’s total employment declined from 7.1 percent in 2003 to 6.9 percent in 2008 and declined from 3.8 percent to 3.7 percent statewide over this period. The sub-cluster’s largest private employers in the area are Stop and Shop, CVS, Dunkin’ Donuts, Windfall Market, Christmas Tree Shops, Shaw’s, Roche Brothers Market, and Macy’s.

### Table 12
Retail Sub-Sector Cluster Definition

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total Employment</td>
<td># Jobs</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>6.9%</td>
<td>7,657</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food &amp; Beverage Stores</td>
<td>1.8%</td>
<td>1,930</td>
</tr>
<tr>
<td>Health &amp; Personal Care Stores</td>
<td>0.3%</td>
<td>383</td>
</tr>
<tr>
<td>Gasoline Stations</td>
<td>0.1%</td>
<td>58</td>
</tr>
<tr>
<td>Clothing &amp; Clothing Accessories Stores</td>
<td>0.7%</td>
<td>785</td>
</tr>
<tr>
<td>Sporting Goods/Hobby/Musical Instrument Stores</td>
<td>0.1%</td>
<td>81</td>
</tr>
<tr>
<td>General Merchandise Stores</td>
<td>0.4%</td>
<td>452</td>
</tr>
<tr>
<td>Miscellaneous Store Retailers</td>
<td>1.1%</td>
<td>1,169</td>
</tr>
<tr>
<td>Amusement &amp; Recreational Facilities</td>
<td>2.5%</td>
<td>2,799</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4.111a Earnings and Establishments

Annual average earnings in the sub-cluster are $25,891, which is 15.8 percent higher than the statewide cluster average of $21,789, but 32.6 percent lower than the average annual wage for all industries in the Workforce Investment Area ($38,397) (see Table 12). Earnings range from a low of $19,387 in clothing and clothing accessory stores to $31,566 in health & personal care stores. The highest number of establishments is found in miscellaneous store retailers (364) and clothing and clothing accessory stores (346).
4.111b. Top Occupations

The top occupations in the Retail cluster include cashiers (2,748 jobs), retail salespersons (1,968 jobs), and stock clerks and order fillers (1,103 jobs) (see Table 13).

Table 13
Top Retail Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cashiers, except gaming</td>
<td>2,748</td>
</tr>
<tr>
<td>Retail salespersons</td>
<td>1,968</td>
</tr>
<tr>
<td>Stock clerks and order fillers</td>
<td>1,103</td>
</tr>
<tr>
<td>First-line supervisors/managers of retail sales workers</td>
<td>679</td>
</tr>
<tr>
<td>Packers and packagers, hand</td>
<td>358</td>
</tr>
<tr>
<td>Customer service representatives</td>
<td>174</td>
</tr>
<tr>
<td>General and operations managers</td>
<td>124</td>
</tr>
<tr>
<td>Counter attendants, cafeteria, food concession, and coffee shop</td>
<td>120</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>115</td>
</tr>
<tr>
<td>Laborers and freight, stock, and material movers, hand</td>
<td>113</td>
</tr>
</tbody>
</table>

4111c. Percentage Employment Change

Employment in the Retail sub-cluster grew by 0.1 percent from 2003 to 2008, which compares to a growth rate of 0.8 percent statewide (see Figure 12). Employment increased in two of the eight industries, most significantly in amusement and recreational facilities (13.7%) and in health and personal care stores (7.6%). Employment declined most significantly in gasoline stations (-24.3%), sporting goods, hobbies and musical instrument stores (-15.2%), and general merchandise stores (-14.5%).

Figure 12
Retail: Percentage Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4111d. Numerical Employment Change and Projection

The Workforce Investment Area added a net total of 4 jobs in the Retail sub-cluster from 2003 to 2008 but is projected to lose 152 jobs over the next five years (see Figure 13). Two of the sub-cluster’s industries added jobs from 2003 to 2008, while six lost jobs over this period, with the highest number of jobs lost in miscellaneous retail (181 jobs). Only food and beverage stores (+80 jobs), health and personal care stores (+4 jobs), and clothing and clothing accessory stores (+2 jobs) are projected to grow over the next five years. Miscellaneous retail (-180 jobs) is projected to shed the most jobs over this period.

**Figure 13**

![Retail: Numerical Employment Change and Projection](image-url)

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.112 **SUB-CLUSTER: FOOD SERVICE, DRINKING PLACES, & ACCOMMODATIONS**

The Food Service, Drinking Places, and Accommodations sub-cluster comprises establishments that provide customers with lodging and/or preparing meals, snacks, and beverages. The cluster includes both accommodation and food services because the two activities are often combined at the same establishment. The sub-cluster accounts for 13.2 percent of the Workforce Investment Area’s total employment (14,527 jobs), which is more than twice the statewide percentage of 6.2 percent (see Table 14). The sub-cluster’s share of the Workforce Investment Area’s total employment increased from 12.9 percent in 2003 to 13.2 percent in 2008, while it increased from 6.0 percent to 6.2 percent statewide over this period. The sub-cluster’s largest private employers are Ocean Edge Resort and Golf Club, Seacrest Ocean Resort and Conference Center, Chatham Bars Inn, Coonamessett Inn, Popponesset Inn, Cape Codder Resort and Spa, and Orleans Inn and Restaurant.

Interviews with two of the major Hospitality employers in the area confirm that these businesses are planning to hire additional employees, primarily line cooks and servers. Both employers noted that they have had difficulties finding qualified candidates from the local employee pool. This is particularly true of cooks, who often lack experience in a higher-end restaurant environment.

<table>
<thead>
<tr>
<th>Table 14</th>
<th>Food Service, Drinking Places, &amp; Accommodations Sub-Sector Cluster Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster &amp; Industry</td>
<td>% Total Employment</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>13.2%</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
</tr>
<tr>
<td>Food Service &amp; Drinking Places (Sub-Cluster)</td>
<td>9.2%</td>
</tr>
<tr>
<td>Accommodations</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

*Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2*

4.112a. **Earnings and Establishments**

Average annual earnings in the cluster are $21,832, which is 11.6 percent higher than the statewide cluster average ($19,555), but 43.1 percent lower than the average annual earnings for all industries in the Workforce Investment Area ($38,397) (see Table 14). Earnings range from a low of $19,896 in Food Service & Drinking places to $26,234 for Accommodations. The highest number of establishments is found in Food Service and Drinking places (977), followed by Accommodations (363).
4.112b. Top Occupations

The top occupations in the sub-cluster include waiters and waitresses (3,550 jobs), food preparation and serving workers (2,226 jobs), and restaurant cooks (1,418 jobs) (see Table 15).

Table 15
Top Food Service, Drinking Places, & Accommodations Occupations

| Occupation                                                      | # Jobs |
|                                                               |       |
| Waiters and waitresses                                        | 3,550 |
| Combined food preparation and serving workers, incl. fast food | 2,226 |
| Cooks, restaurant                                              | 1,418 |
| Dishwashers                                                    | 748   |
| First-line supervisors/managers of food preparation and        | 735   |
| serving workers                                                |       |
| Food preparation workers                                       | 689   |
| Bartenders                                                     | 677   |
| Counter attendants, cafeteria, food concession, and coffee shop| 556   |
| Hosts and hostesses, restaurant, lounge, and coffee shop       | 537   |
| Dining room and cafeteria attendants and bartender helpers     | 503   |

4112c. Percentage Employment Change

Employment in the sub-cluster grew by 3.5 percent from 2003 to 2008, which compares to a growth rate of 6.3 percent statewide (see Figure 14). Employment increased in both of the sub-cluster’s industries, although the Workforce Investment Area experienced a lower level of employment growth in these industries in comparison to the state.

Figure 14
Food Service, Drinking Places, & Accommodations
Percentage Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4112d. Numerical Employment Change and Projection

The sub-cluster added a net total of 498 jobs in the Workforce Investment Area from 2003 to 2008, but is expected to lose nearly as many jobs (430) over the next five years (see Figure 15). Both industries in the sub-cluster added jobs from 2003 to 2008, with the highest number of jobs added in Food Service and Drinking Places (+422 jobs). Accommodations (-391 jobs) is projected to lose the most jobs in the next five years.

Figure 15
4.113 **HOSPITALITY SUB-CLUSTER - ARTS & CULTURE**

The arts are an important contributor to national, state, and local economies. The arts and culture industry in Massachusetts provides direct employment and income-producing activities to thousands of the state’s residents, yet cultural assets are frequently overlooked as drivers of economic activity. In Massachusetts, the creative economy accounts for 3.5% of employment, or 116,299 jobs (The New England Council 2001) with a total economic impact of $3.4 billion in 2000 (New England Foundation for the Arts 2003). Massachusetts’ exceptional cultural offerings contribute to the competitive strength of the state’s economy by serving as a tourist attraction and by creating a high quality of life for citizens (Center for Policy Analysis, 2005a).

The Arts and Culture sub-cluster includes four industries: graphic designers and commercial artists, art dealers, performing arts, spectator sports, and related industries, and museums and historical sites. The sub-cluster accounts for 0.6 percent of the Workforce Investment Area’s total employment (653 jobs), slightly higher than the statewide percentage of 0.5 percent (see Table 16). Arts and Culture’s share of the Workforce Investment Area’s total employment increased by 0.1 percent from 2003 to 2008, while it remained steady at the statewide level over this period. Establishments in this sub-cluster primarily include sole proprietors.

### Table 16

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th></th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total Employment</td>
<td># Jobs</td>
<td>Avg. Earnings</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>0.6%</td>
<td>653</td>
<td>$28,671</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphic Designers &amp; Commercial Artists</td>
<td>0.1%</td>
<td>39</td>
<td>$37,953</td>
</tr>
<tr>
<td>Art Dealers</td>
<td>0.1%</td>
<td>96</td>
<td>$38,352</td>
</tr>
<tr>
<td>Performing Arts/Spectator Sports/Related Industries</td>
<td>0.2%</td>
<td>255</td>
<td>$26,493</td>
</tr>
<tr>
<td>Museums, Historical Sites</td>
<td>0.2%</td>
<td>263</td>
<td>$25,880</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4.113a. **Earnings and Establishments**

Average annual earnings in the sub-cluster are $28,671, which is 53.6 percent lower than the statewide cluster average ($61,822) and 25.3 percent lower than the average annual earnings for all industries in the Workforce Investment Area ($38,397) (see Table 16). Earnings range from a low of $25,880 in museums and historical sites to $38,352 for art dealers. The highest number of establishments is found in performing arts/spectator sports/related industries (63), art dealers (56), and museums and historical sites (28).
4.113b. Top Occupations

The top occupations in the sub-cluster include actors (67 jobs), musicians and singers (29 jobs), and ushers, lobby attendants and ticket takers (26 jobs) (see Table 17).

Table 17
Top Arts & Culture Hospitality Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actors</td>
<td>67</td>
</tr>
<tr>
<td>Musicians and singers</td>
<td>29</td>
</tr>
<tr>
<td>Ushers, lobby attendants, and ticket takers</td>
<td>26</td>
</tr>
<tr>
<td>Tour guides and escorts</td>
<td>22</td>
</tr>
<tr>
<td>Producers and directors</td>
<td>21</td>
</tr>
<tr>
<td>Curators</td>
<td>20</td>
</tr>
<tr>
<td>Retail salespersons</td>
<td>15</td>
</tr>
<tr>
<td>Security guards</td>
<td>14</td>
</tr>
<tr>
<td>Self-enrichment education teachers</td>
<td>14</td>
</tr>
<tr>
<td>Museum Technicians and Conservators</td>
<td>12</td>
</tr>
</tbody>
</table>

4113c. Percentage Employment Change

Employment in the sub-cluster grew by 13.7 percent from 2003 to 2008, which compares to a growth rate of 9.2 percent statewide (see Figure 16). Arts and Culture employment in the Workforce Investment Area increased in three of the four industries, most significantly in performing arts/spectator sports, while employment declined in art dealers (-26.0%). The Workforce Investment Area experienced significantly higher levels of employment growth in the performing arts and spectator sports in comparison to the state, while the cluster lost a greater share of employment in art dealers.

Figure 16
Arts & Culture Percentage Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

Center for Policy Analysis  University of Massachusetts Dartmouth - 37 -
4113d. Numerical Employment Change and Projection

The Workforce Investment Area added a net total of 79 jobs in the Arts and Culture sub-cluster from 2003 to 2008 and is projected to add 173 jobs over the next five years (see Figure 17). Three of the Workforce Investment Area’s four industries added jobs from 2003 to 2008, with the highest number of jobs added in performing arts and spectator sports (+90 jobs). Conversely, 34 jobs were lost in the arts dealers industry. Museums and historical sites (+96 jobs) and performing arts and spectator sports (+94) are projected to add the most jobs in the next five years, while art dealers (-18) is projected to lose 34 jobs over this period.

Figure 17

Arts & Culture: Numerical Employment Change and Projection

<table>
<thead>
<tr>
<th>Industry</th>
<th>2003 to 2008</th>
<th>2008 to 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Total</td>
<td>79</td>
<td>173</td>
</tr>
<tr>
<td>Performing Arts, Spectator Sports, &amp; Related Industries</td>
<td>90</td>
<td>94</td>
</tr>
<tr>
<td>Museums, Historical Sites</td>
<td>17</td>
<td>96</td>
</tr>
<tr>
<td>Graphic Designers &amp; Commercial Artists</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Art Dealers</td>
<td>-34</td>
<td>(18)</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.12 **Health Services**

The Health Services cluster comprises establishments providing health care for individuals. The cluster accounts for 12.6 percent (13,886 jobs) of total employment in the Workforce Investment Area, which compares to 12.5 percent of total employment statewide (see Table 18). Nursing and residential care facilities (4,179 jobs) and hospitals (3,952 jobs) account for the largest share of employment in the cluster. Health services’ share of the Workforce Investment Area’s total employment increased the most of any cluster since 2003, rising 1.0 percent from 2003 to 2008. The cluster’s largest private employers in the include Cape Cod Hospital, Falmouth Hospital, Cape Cod Healthcare, JML Care Center, Martha’s Vineyard Hospital, RHCI, and the Visiting Nurses Association.

The continued aging of the Workforce Investment Area’s population, its attractiveness to retirees, and the extension of health care coverage will continue to fuel growth in this sector. However, current economic conditions have created a tight job market for nurses and many other health related occupations. This is confirmed by interviews with several large Health Services employers on Cape Cod, who indicate that they plan to hire nurses to fill vacancies but not to fill new positions.8

Despite the current recession, a nursing shortage is expected to intensify as baby boomers age and the need for health care grows (American Association of Colleges and Nursing, 2009). The nursing shortage is also projected to grow due to a ‘graying’ of the nursing profession (Buerhaus, Peter I., David I. Auerbach, and Douglas O. Staiger, 2009) and because nurses continue to leave the profession for other occupations due to environmental stresses and other factors (Center for Policy Analysis, 2005b). Thus, the long term employment outlook in the cluster is optimistic.

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>% Total Employment</th>
<th># Jobs</th>
<th>Avg. Earnings</th>
<th>Establishments</th>
<th>% Total Employment</th>
<th>Avg. Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices of Physicians</td>
<td>1.7%</td>
<td>1,880</td>
<td>$ 62,966</td>
<td>207</td>
<td>1.5%</td>
<td>$ 77,626</td>
</tr>
<tr>
<td>Offices of Dentists</td>
<td>0.8%</td>
<td>850</td>
<td>$ 45,295</td>
<td>138</td>
<td>0.7%</td>
<td>$ 47,356</td>
</tr>
<tr>
<td>Offices of Optometrists</td>
<td>0.4%</td>
<td>495</td>
<td>$ 34,277</td>
<td>124</td>
<td>0.4%</td>
<td>$ 37,306</td>
</tr>
<tr>
<td>Outpatient Care Centers</td>
<td>0.6%</td>
<td>658</td>
<td>$ 42,936</td>
<td>20</td>
<td>0.6%</td>
<td>$ 55,816</td>
</tr>
<tr>
<td>Medical Laboratories</td>
<td>0.1%</td>
<td>95</td>
<td>$ 95,603</td>
<td>14</td>
<td>0.1%</td>
<td>$ 56,803</td>
</tr>
<tr>
<td>Home Health Care Services</td>
<td>1.5%</td>
<td>1,635</td>
<td>$ 32,577</td>
<td>27</td>
<td>0.7%</td>
<td>$ 33,916</td>
</tr>
<tr>
<td>Other Ambulatory Health Care Services</td>
<td>0.1%</td>
<td>141</td>
<td>$ 44,037</td>
<td>5</td>
<td>0.2%</td>
<td>$ 41,210</td>
</tr>
<tr>
<td>Hospitals</td>
<td>3.6%</td>
<td>3,952</td>
<td>$ 65,765</td>
<td>14</td>
<td>5.3%</td>
<td>$ 57,976</td>
</tr>
<tr>
<td>Nursing and Residential Care Facilities</td>
<td>3.8%</td>
<td>4,179</td>
<td>$ 32,373</td>
<td>95</td>
<td>2.9%</td>
<td>$ 31,864</td>
</tr>
</tbody>
</table>

8 Two of the Workforce Investment Area’s larger nursing and residential care facilities plan to hire a limited number of CNAs to fill new positions.
4.12a. Earnings and Establishments

Annual average earnings in the cluster are $47,956, which is 6.4 percent lower than the statewide average ($51,225) in Health Services, but 24.9 percent higher than the average annual earnings for all industries in the Workforce Investment Area ($38,397) (see Table 18). Earnings range from a low of $32,373 in nursing and residential care facilities to $95,603 for medical laboratories. The highest number of establishments is found in offices of physicians (207 establishments), followed by offices of dentists (138 establishments) and offices of optometrists (124 establishments).

4.12b. Top Occupations

The top occupations in the cluster include registered nurses (1,842 jobs), nursing aides, orderlies, and attendants (1,425 jobs), and home health aides (778 jobs) (see Table 19).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered nurses</td>
<td>1,842</td>
</tr>
<tr>
<td>Nursing aides, orderlies, and attendants</td>
<td>1,425</td>
</tr>
<tr>
<td>Home health aides</td>
<td>778</td>
</tr>
<tr>
<td>Personal and home care aides</td>
<td>634</td>
</tr>
<tr>
<td>Medical secretaries</td>
<td>578</td>
</tr>
<tr>
<td>Licensed practical and licensed vocational nurses</td>
<td>540</td>
</tr>
<tr>
<td>Physicians and surgeons</td>
<td>493</td>
</tr>
<tr>
<td>Medical assistants</td>
<td>382</td>
</tr>
<tr>
<td>Dental assistants</td>
<td>263</td>
</tr>
<tr>
<td>Receptionists and information clerks</td>
<td>243</td>
</tr>
</tbody>
</table>
412c. Percentage Employment Change

Employment in the cluster grew by 10.9 percent from 2003 to 2008, which compares to a growth rate of 12.4 percent statewide (see Figure 18). Employment in the Workforce Investment Area increased in all nine industries, most significantly in outpatient care centers (70.6%), offices of optometrists (26.8%), and other ambulatory health care services (21.1%). The Workforce Investment Area experienced significantly greater levels of employment growth in outpatient care centers in comparison to the state, while the cluster grew at a slower rate than it did statewide in hospitals, nursing and residential facilities, home health care services, and offices of dentists.

![Figure 18](image)

Health Services Percentage Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

412d. Numerical Employment Change and Projection

The Workforce Investment Area added 1,360 net jobs in Health Services from 2003 to 2008 and is projected to add 2,010 jobs over the next five years (see Figure 19). All nine of the Workforce Investment Area’s sub-clusters added jobs from 2003 to 2008, with the highest number of jobs added in hospitals (+434 jobs) and outpatient care centers (+272 jobs). Hospitals (+565) are projected to add the most jobs in the next five years, followed by outpatient care centers (+272 jobs).

![Figure 19](image)

Health Services: Numeric Employment Change and Projection

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.13 CONSTRUCTION

The Construction cluster comprises establishments primarily engaged in the construction of buildings or engineering projects as well as building materials and supplies dealers. The cluster accounts for 8.2 percent of total employment (9,003 jobs) in the Workforce Investment Area, which compares to 4.8 percent of total employment statewide (see Table 20). Construction’s share of total employment increased by 0.5 percent from 2003 to 2008, while it declined by 0.3 percent statewide over this period. The largest employers in the cluster include Relico/Brewer Electric and Utilities and McShane Construction, although a majority of the construction establishments in the Workforce Investment Area employ 10 persons or less.

The Cape and Islands construction industry depends primarily on demand for residential and light commercial buildings so much of its vitality is linked to the region’s population and tourism growth. Consequently, as the region approaches its build-out limit, construction firms are shifting their focus from new construction to rehabilitation, renovations, and additions and expanding into post-construction services, such as interior decorating, landscaping, lawn care, preparing and closing summer homes for occupancy, and even house sitting services. Some home builders are changing from construction firms into diversified home services and real estate management firms, which pay generally lower wages than construction. Another reason for the gap between statewide and Cape construction wages (see below) is that the Cape’s construction industry does not generally benefit from the types of government-funded mega-projects, such as the Big Dig, Boston Convention Center, or commuter rail projects that pay higher construction wages because of the state’s prevailing wage law.

The construction industry is very cyclical and its sustainability is connected to the overall health of the economy. Much of the growth in the Workforce Investment Area from 2003 has been driven by residential development, which has slowed during the current recession. Accordingly, while employment in the cluster grew by 7.4 percent from 2003 to 2008, it is expected to decline by 2.9 percent over the next five years.

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>% Total Employment</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Jobs</td>
<td>Avg. Earnings</td>
<td>Avg. Earnings</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>8.2%</td>
<td>9,003</td>
<td>$48,125</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction of Buildings</td>
<td>2.2%</td>
<td>2,471</td>
<td>$56,028</td>
</tr>
<tr>
<td>Heavy &amp; Civil Engineering Construction</td>
<td>0.5%</td>
<td>579</td>
<td>$49,303</td>
</tr>
<tr>
<td>Specialty Trade Contractors</td>
<td>3.9%</td>
<td>4,332</td>
<td>$44,022</td>
</tr>
<tr>
<td>Building Materials and Supplies Dealers</td>
<td>1.5%</td>
<td>1,621</td>
<td>$46,620</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4.13a. Earnings and Establishments

Annual average earnings in the cluster are $48,125, which is 14.7 percent lower than the statewide Construction average ($56,391), but 25.3 percent higher than the average annual earnings for all industries in the Workforce Investment Area statewide ($38,397) (see Table 20). Earnings range from a low of $44,022 for specialty trade contractors to $56,028 for construction of buildings. The highest number
of establishments is found in specialty trade contractors (1,003), followed by construction of buildings (649) and building materials and supplies dealers (110).

4.13b. Top Occupations

The top occupations in the Construction cluster includes carpenters (1,127 jobs), construction laborers (745 jobs), and retail sales persons (688 jobs) (3,155 jobs) (see Table 21).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenters</td>
<td>1,127</td>
</tr>
<tr>
<td>Construction laborers</td>
<td>745</td>
</tr>
<tr>
<td>Retail salespersons</td>
<td>688</td>
</tr>
<tr>
<td>First-line supervisors/managers of construction trades and</td>
<td>465</td>
</tr>
<tr>
<td>extraction workers</td>
<td></td>
</tr>
<tr>
<td>Plumbers, pipefitters, and steamfitters</td>
<td>435</td>
</tr>
<tr>
<td>Electricians</td>
<td>406</td>
</tr>
<tr>
<td>Heating, air conditioning, and refrigeration mechanics and</td>
<td>260</td>
</tr>
<tr>
<td>installers</td>
<td></td>
</tr>
<tr>
<td>Painters, construction and maintenance</td>
<td>247</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>245</td>
</tr>
<tr>
<td>Office clerks, general</td>
<td>218</td>
</tr>
</tbody>
</table>

413c. Percentage Employment Change

Employment in the cluster grew by 7.4 percent from 2003 to 2008, which compares to a growth rate of -2.9 percent statewide (see Figure 20). Construction employment in the Workforce Investment Area increased in all four industries, most significantly in heavy and civil engineering construction (19.6%), construction of buildings (15.0%), and specialty trade contractors (4.4%). The Workforce Investment Area experienced significantly higher levels of employment growth in the heavy and civil engineering construction and construction of buildings sectors in comparison to the state.

Figure 20
413d. **Numerical Employment Change and Projection**

The Workforce Investment Area added 621 net jobs in the Construction cluster from 2003 to 2008, but is projected to lose 75 jobs over the next five years (see Figure 21). All four of the Workforce Investment Area’s sub-clusters added jobs from 2003 to 2008, with the highest number of jobs added in construction of buildings (+321 jobs) and specialty trade contractors (+181 jobs). Construction of buildings (+154 jobs) is projected to add the most jobs in the next five years, while heavy and civil engineering (-172 jobs) and specialty trade contractors (-97 jobs) are projected to lose employment over this period.

**Figure 21**

![Construction: Numerical Employment Change and Projection](image)

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.14 Knowledge Intensive Sector

The Knowledge Intensive cluster includes industries that create and disseminate knowledge (Fornatt, Moss, and Tilly 2001). These industries include educational institutions, high technology manufacturing such as measuring and analyzing equipment, high-tech services such as computer programming and data processing, and professional services, such as advertising and law firms. The Knowledge Intensive cluster accounts for 6.8 percent of total employment (7,541 jobs) in the Workforce Investment Area, which is about half the statewide percentage of 14.5 percent (see Table 22). The cluster’s share of the Workforce Investment Area’s total employment decreased by 0.2 percent from 2003 to 2008, while employment increased by 0.5 percent statewide over this period. The cluster’s largest private employers include Dialogic, Infinium, Advanced Computer Technology, Teledyne Benthos, SSA Global, Cantata Technology, and Convention Data Services.

Table 22
Knowledge Intensive Cluster Definition

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total Employment</td>
<td># Jobs</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>6.8%</td>
<td>7,541</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Services (Sub Cluster)</td>
<td>1.6%</td>
<td>1,798</td>
</tr>
<tr>
<td>Elementary &amp; Secondary Schools</td>
<td>0.5%</td>
<td>599</td>
</tr>
<tr>
<td>Junior Colleges</td>
<td>0.5%</td>
<td>600</td>
</tr>
<tr>
<td>Colleges, Universities, Professional Schools</td>
<td>0.02%</td>
<td>19</td>
</tr>
<tr>
<td>Business Schools/Computer &amp; Management Training</td>
<td>0.005%</td>
<td>5</td>
</tr>
<tr>
<td>Technical &amp; Trade Schools</td>
<td>0.01%</td>
<td>16</td>
</tr>
<tr>
<td>Other Schools &amp; Instruction</td>
<td>0.3%</td>
<td>340</td>
</tr>
<tr>
<td>Educational Support Services</td>
<td>0.05%</td>
<td>54</td>
</tr>
<tr>
<td>Libraries &amp; Archives</td>
<td>0.2%</td>
<td>166</td>
</tr>
<tr>
<td>High Technology (Sub Cluster)</td>
<td>1.6%</td>
<td>1,770</td>
</tr>
<tr>
<td>Pharmaceutical &amp; Medicine Mfg.</td>
<td>0.1%</td>
<td>128</td>
</tr>
<tr>
<td>Computer &amp; Electronic Product Mfg.</td>
<td>0.4%</td>
<td>483</td>
</tr>
<tr>
<td>Broadcasting</td>
<td>0.1%</td>
<td>145</td>
</tr>
<tr>
<td>Internet Publishing &amp; Broadcasting</td>
<td>0.03%</td>
<td>30</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0.4%</td>
<td>425</td>
</tr>
<tr>
<td>Internet Service Providers &amp; Data Processing</td>
<td>0.1%</td>
<td>151</td>
</tr>
<tr>
<td>Other information services</td>
<td>0.2%</td>
<td>166</td>
</tr>
<tr>
<td>Software Publishers</td>
<td>0.1%</td>
<td>91</td>
</tr>
<tr>
<td>Computer systems design and related services</td>
<td>0.1%</td>
<td>151</td>
</tr>
<tr>
<td>Professional Services (Sub Cluster)</td>
<td>3.5%</td>
<td>3,972</td>
</tr>
<tr>
<td>Newspaper, Periodical, Book, &amp; Directory Publishers</td>
<td>0.7%</td>
<td>779</td>
</tr>
<tr>
<td>Legal Services</td>
<td>0.6%</td>
<td>673</td>
</tr>
<tr>
<td>Accounting</td>
<td>0.4%</td>
<td>467</td>
</tr>
<tr>
<td>Architectural, Engineering, &amp; Related Services</td>
<td>0.8%</td>
<td>897</td>
</tr>
<tr>
<td>Industrial Design Services</td>
<td>0.1%</td>
<td>105</td>
</tr>
<tr>
<td>Management, Scientific, Technical Consulting Services</td>
<td>0.4%</td>
<td>495</td>
</tr>
<tr>
<td>Advertising &amp; Related Services</td>
<td>0.1%</td>
<td>106</td>
</tr>
<tr>
<td>Other professional and technical services</td>
<td>0.4%</td>
<td>451</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.14a. Earnings and Establishments

Annual average earnings in the Knowledge Intensive cluster are $47,232, which is 40.5 percent lower than the statewide cluster average ($79,437), but 23.0 higher than the average annual earnings for all industries in the Workforce Investment Area ($38,397) (see Table 22). Earnings range from a low of $20,888 in technical and trade schools to $95,637 in colleges, universities, and professional schools. The highest number of establishments is found in legal services (225) and management, scientific, technical consulting services (189).

4.14b. Top Occupations

The cluster’s top occupations include lawyers (248 jobs), accountants and auditors (231 jobs), and computer software engineers (systems software) (204 jobs) (see Table 23).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawyers</td>
<td>248</td>
</tr>
<tr>
<td>Accountants and auditors</td>
<td>231</td>
</tr>
<tr>
<td>Computer software engineers, systems software</td>
<td>204</td>
</tr>
<tr>
<td>Office clerks, general</td>
<td>185</td>
</tr>
<tr>
<td>Executive secretaries and administrative assistants</td>
<td>172</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>166</td>
</tr>
<tr>
<td>Customer service representatives</td>
<td>148</td>
</tr>
<tr>
<td>Management analysts</td>
<td>143</td>
</tr>
<tr>
<td>Secretaries, except legal, medical, and executive</td>
<td>140</td>
</tr>
<tr>
<td>Veterinary technologists and technicians</td>
<td>126</td>
</tr>
</tbody>
</table>
414c. Percentage Employment Change

Employment in the Knowledge Intensive cluster decreased by 0.3 percent from 2003 to 2008, while employment in the cluster grew by 6.0 percent statewide (see Figure 22). Employment increased in thirteen of the twenty-five industries, most significantly in educational support services (154.4%), and pharmaceutical and medicine manufacturing. Employment declined most significantly in software publishers (-55.4%) and technical and trade schools (-51.9%).

The Workforce Investment Area experienced significantly higher levels of employment growth in educational support services, pharmaceutical and medicine manufacturing, and Internet service providers and web search portals/data processing in comparison to the state, while the cluster lost a significantly greater share of employment in software publishing and technical and trade schools.

Figure 22


Source: EMSI Covered Employment - 2nd Quarter 2009 v.

Cluster Total
Educational Support Services
Pharmaceutical & Medicine Mfg.
Other Information Services
Libraries & Archives
Internet Service Providers & Web Search Portals, Data Processing
Other Professional and Technical Services
Industrial Design Services
Other Schools & Instruction
Accounting
Computer & Electronic Product Mfg.
Management, Scientific, & Technical Consulting Services
Newspaper, Periodical, Book, & Directory Publishers
Elementary & Secondary Schools
Business Schools & Computer & Management Training
Junior Colleges
Broadcasting
Architectural, Engineering, & Related Services
Legal Services
Internet Publishing & Broadcasting
Advertising & Related Services
Computer Systems Design and Related Services
Telecommunications
Colleges, Universities, Professional Schools
Technical & Trade Schools
Software Publishers

State
WIA
414d. Numerical Employment Change and Projection

The Workforce Investment Area’s Knowledge Intensive cluster experienced a net decline of 25 jobs from 2003 to 2008, but is projected to add 537 jobs over the next five years (see Figure 23). Despite an overall decline in the number of jobs from 2003 to 2008, fourteen of the cluster’s twenty-five industries added jobs over this period, led by other professional and technical services (+99 jobs). The computer and electronic product manufacturing industry is projected to add the most jobs in the next five years (+101 jobs), while and elementary and secondary schools (-76 jobs) and software publishers (-56 jobs) are projected to lose the most jobs over this period.

Figure 23

Knowledge Intensive: Net Employment Change and Projection

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.141 KNOWLEDGE INTENSIVE SUB-CLUSTER: EDUCATIONAL SERVICES

The Educational Services sub-cluster includes K-12 education, colleges and universities, libraries, and vocational schools. The sub-cluster accounts for 1.6 percent (1,798 jobs) of total employment in the Workforce Investment Area, which is less than half the statewide percentage of 3.9 percent (see Table 24). Junior Colleges (600 jobs) and elementary and secondary schools (599 jobs) account for the largest share of employment in the sub-cluster. Educational services’ share of the Workforce Investment Area’s total employment has not changed since 2003, while it grew by 0.2 percent statewide over this period. The Workforce Investment Area’s largest private employers in educational services are Cape Cod Academy, Riverview School, Cape Cod Collaborative, and the May Center for Child Development, although the single largest employer in this sector is Cape Cod Community College.

Table 24

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total Employment</td>
<td># Jobs</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>1.6%</td>
<td>1,798</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary &amp; Secondary Schools</td>
<td>0.5%</td>
<td>599</td>
</tr>
<tr>
<td>Junior Colleges</td>
<td>0.5%</td>
<td>600</td>
</tr>
<tr>
<td>Colleges, Universities, Professional Schools</td>
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<td>16</td>
</tr>
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<td>340</td>
</tr>
<tr>
<td>Educational Support Services</td>
<td>0.05%</td>
<td>54</td>
</tr>
<tr>
<td>Libraries &amp; Archives</td>
<td>0.2%</td>
<td>166</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4.141a. Earnings and Establishments

Annual average earnings in the sub-cluster are $32,378, which is 38.1 percent lower than the statewide Educational Services average ($52,307) and 15.7 percent lower than the average annual wage for all industries in the Workforce Investment Area ($38,397) (see Table 24). Earnings range from a low of $20,888 in technical and trade schools to $95,637 for colleges, universities and professional schools. The highest number of establishments is found in other schools and instruction (52), followed by libraries and archives (16) and elementary and secondary schools (14).
4.141b. Top Occupations

The top occupations in the Educational Services sub-cluster are elementary school teachers (120 jobs), teacher assistants (114 jobs), and self-enrichment education teachers (105 jobs) (see Table 25).

Table 25
Top Educational Service Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postsecondary teachers</td>
<td>260</td>
</tr>
<tr>
<td>Elementary school teachers, except special education</td>
<td>120</td>
</tr>
<tr>
<td>Teacher assistants</td>
<td>114</td>
</tr>
<tr>
<td>Self-enrichment education teachers</td>
<td>111</td>
</tr>
<tr>
<td>Secondary school teachers, except special and vocational education</td>
<td>105</td>
</tr>
<tr>
<td>Middle school teachers, except special and vocational education</td>
<td>71</td>
</tr>
<tr>
<td>Special education teachers</td>
<td>55</td>
</tr>
<tr>
<td>Coaches and scouts</td>
<td>37</td>
</tr>
<tr>
<td>Teachers and instructors, all other</td>
<td>29</td>
</tr>
<tr>
<td>Education administrators, elementary and secondary school</td>
<td>25</td>
</tr>
</tbody>
</table>

4141c. Percentage Employment Change

Employment in the Educational Services sub-cluster grew by 6.1 percent from 2003 to 2008, which compares to a growth rate of 9.0 percent statewide (see Figure 24). Educational Services employment in the Workforce Investment Area increased in four of the eight industries, most significantly in educational support services (154.4%), libraries and archives (45.5%), and other schools and instruction (13.6%). Employment declined most significantly in technical and trade schools (-51.9%) and colleges, universities, and professional schools (-33.8%). The Workforce Investment Area experienced significantly higher levels of employment growth in the educational support services sector in comparison to the state, while the cluster lost a significantly greater share of employment in technical and trade schools and colleges, universities and professional schools industries.
4141d. Numerical Employment Change and Projection

The Workforce Investment Area added 104 net jobs in the Educational Services sub-cluster from 2003 to 2008 and is projected to add 37 jobs over the next five years (see Figure 25). Four of the sub-cluster’s eight industries added jobs from 2003 to 2008, with the highest number of jobs added in libraries and archives (+52 jobs) and other schools and instruction (+41 jobs). Conversely, 17 jobs were lost in technical and trade schools. Other schools and instruction (+83 jobs) is projected to add the most jobs in the next five years, while elementary and secondary schools (-76 jobs) are projected to lose the most jobs over this period.

**Figure 25**

**Educational Services: Numerical Employment Change and Projection**

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.142  **KNOWLEDGE INTENSIVE SUB-CLUSTER – HIGH TECHNOLOGY**

A firm is defined as high technology if it uses advanced technological knowledge to develop innovative products, processes, or utilizes the latest technology in production (UMass Donahue Institute, 2005a). Most of the industries in the sub-cluster are the type of light-clean industries that Cape and Islands officials are attempting to attract to the region. These industries generally pay high salaries and wages, while having smaller environmental impacts in comparison to traditional manufacturing firms.

As Table 26 shows, the high technology sub-cluster accounts for a lower percentage of the Workforce Investment Area’s employment (1.6%) than it does statewide (5.1%), and has lower ratios of employment in most of the sub-cluster’s industries. The largest industries in the cluster are computer and electronic product manufacturing (483 jobs) and telecommunications (425 jobs). The cluster’s largest private employers include Dialogic, Infinium, Advanced Computer Technology, Teledyne Benthos, SSA Global, Cantata Technology, and Convention Data Services.

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total Employment</td>
<td># Jobs</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>1.6%</td>
<td>1,770</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmaceutical &amp; Medicine Mfg.</td>
<td>0.1%</td>
<td>128</td>
</tr>
<tr>
<td>Computer &amp; Electronic Product Mfg.</td>
<td>0.4%</td>
<td>483</td>
</tr>
<tr>
<td>Broadcasting</td>
<td>0.1%</td>
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</tr>
<tr>
<td>Internet Publishing &amp; Broadcasting</td>
<td>0.03%</td>
<td>30</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0.4%</td>
<td>425</td>
</tr>
<tr>
<td>Internet Service Providers &amp; Data Processing</td>
<td>0.1%</td>
<td>151</td>
</tr>
<tr>
<td>Other information services</td>
<td>0.2%</td>
<td>166</td>
</tr>
<tr>
<td>Software Publishers</td>
<td>0.1%</td>
<td>91</td>
</tr>
<tr>
<td>Computer systems design and related services</td>
<td>0.1%</td>
<td>151</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

A major obstacle for high technology companies in the Workforce Investment Area may be the absence of well-developed and institutionalized channels into the high-end labor markets that support these industries. There are no four-year colleges or universities in the area to produce employees with the skills required for much of the high-tech field. Also, the lack of affordable housing is creating an environment where employers are having difficulty retaining and recruiting employees despite the region’s attractive quality of life. While annual average earnings in the area are below state averages, housing costs continue to rise, which makes it difficult for many residents to purchase a home. Similarly, skilled workers outside of the region may be increasingly reluctant to fill job vacancies because of high housing costs. Finally, college graduates who grew up in the area and would like to return to find employment often do not do so because there is very little affordable housing for first time home buyers.

Another important factor that may constrain the growth of high technology is the lack of a fully developed and redundant broadband infrastructure. While strides have been made in the past years to improve the area’s technology infrastructure, especially high speed (broadband) Internet access, there are still gaps in the system. For example, there are federal grants for which researchers at Woods Hole Oceanographic Institution cannot apply because they are disqualified by the limited broadband access in the area (Cape Cod Times, 2008).
One initiative to improve broadband technology is being undertaken by OpenCape Corporation, a region-wide collaboration led by Cape Cod Community College, Woods Hole Oceanographic Institution, and UMass-Dartmouth. OneCape is making plans to install a new regional high-speed communication network the length of Cape Cod. OpenCape has already completed some of this work and is seeking funding to continue broadband expansion through the National Telecommunications and Information Administration under its authority to grant funds under the “Broadband Technology Opportunities Program” of the American Recovery and Reinvestment Act (ARRA) of 2009 (see www.opencape.com).

4.142a. Earnings and Establishments

Average annual earnings in the high technology sub-cluster are $61,882, which is 37.7 percent lower than the statewide high technology average ($99,375) and 61.2 percent higher than the average annual earnings for all industries in the Workforce Investment Area ($38,397) (see Table 26). Earnings range from a low of $22,635 in other information services to $69,471 for computer and electronic product manufacturing. The highest number of establishments is found in telecommunications (46), followed by computer systems design and related services (39), and other information services (16).

4.142b. Top Occupations

The top occupations in the high technology sub-cluster are computer software engineers, systems software (107 jobs), customer service representatives (75 jobs), and telecommunications line installers and repairers (74 jobs) (see Table 27).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer software engineers, systems software</td>
<td>107</td>
</tr>
<tr>
<td>Customer service representatives</td>
<td>75</td>
</tr>
<tr>
<td>Telecommunications line installers and repairers</td>
<td>74</td>
</tr>
<tr>
<td>Computer software engineers, applications</td>
<td>70</td>
</tr>
<tr>
<td>Telecommunications equipment installers and repairers, except line installers</td>
<td>68</td>
</tr>
<tr>
<td>Sales representatives, wholesale and manufacturing, technical and scientific products</td>
<td>45</td>
</tr>
<tr>
<td>Sales representatives, services, all other</td>
<td>42</td>
</tr>
<tr>
<td>Computer support specialists</td>
<td>37</td>
</tr>
<tr>
<td>Computer systems analysts</td>
<td>36</td>
</tr>
<tr>
<td>Electrical and electronic engineering technicians</td>
<td>34</td>
</tr>
</tbody>
</table>
4142c. Percentage Employment Change

Employment in the sub-cluster declined by 10.9 percent from 2003 to 2008, which compares to a decrease of 1.0 percent statewide (see Figure 26). High Technology employment in the Workforce Investment Area increased in four of the nine industries, most significantly in pharmaceutical manufacturing (54.0%), other information services (45.5%), and ISPs/data processing (40.3%). Employment declined most significantly in software publishers (-55.4%) and telecommunications (-32.9%). The Workforce Investment Area experienced significantly higher levels of employment growth in pharmaceutical manufacturing in comparison to the state, while the sub-cluster lost a significantly greater share of employment in software publishers and telecommunications industries.

Figure 26

High Technology Percentage Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4142d. Numerical Employment Change and Projection

The WIA lost 217 net jobs in the High Technology sub-cluster from 2003 to 2008, but is projected to add 206 jobs over the next five years (see Figure 27). Four of the Workforce Investment Area’s nine clusters added jobs from 2003 to 2008, with the highest number of jobs added in other information services (+52 jobs) and pharmaceutical and medicine manufacturing (+45 jobs). Conversely, telecommunications experienced a net job loss of 208. Computer and electronic manufacturing (+101 jobs) is projected to add the most jobs in the next five years, while broadcasting (-228 jobs) and software publishers (-56) are projected to lose the most jobs over this period.

Figure 27

High Technology: Numerical Employment Change and Projection

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.143 KNOWLEDGE INTENSIVE SUB-CLUSTER – PROFESSIONAL SERVICES

Professional Services consists of establishments that specialize in performing services that require a high degree of expertise and training. The cluster accounts for 3.6 percent of total employment (3,972 jobs) in the Workforce Investment Area, which compares to 5.5 percent of total employment statewide (see Table 28). The cluster’s share of total employment has not changed since 2003, while it increased by 0.3 percent statewide over this period. The Workforce Investment Area’s largest private employer in professional services is the Cape Cod Times.

Table 28
Professional Services Sub-Cluster Definition

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>% Total Employment</th>
<th># Jobs</th>
<th>Avg. Earnings</th>
<th>Establishments</th>
<th>% Total Employment</th>
<th>Avg. Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Total</td>
<td>3.6%</td>
<td>3,972</td>
<td>$47,429</td>
<td>913</td>
<td>5.5%</td>
<td>$80,139</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspaper, Periodical, Book, &amp; Directory Publishers</td>
<td>0.7%</td>
<td>779</td>
<td>$39,244</td>
<td>49</td>
<td>0.6%</td>
<td>$66,877</td>
</tr>
<tr>
<td>Legal Services</td>
<td>0.6%</td>
<td>673</td>
<td>$48,404</td>
<td>225</td>
<td>0.9%</td>
<td>$81,655</td>
</tr>
<tr>
<td>Accounting</td>
<td>0.4%</td>
<td>467</td>
<td>$39,463</td>
<td>119</td>
<td>0.7%</td>
<td>$67,870</td>
</tr>
<tr>
<td>Architectural, Engineering, &amp; Related Services</td>
<td>0.8%</td>
<td>897</td>
<td>$54,590</td>
<td>175</td>
<td>1.3%</td>
<td>$80,053</td>
</tr>
<tr>
<td>Industrial Design Services</td>
<td>0.1%</td>
<td>105</td>
<td>$40,057</td>
<td>44</td>
<td>0.1%</td>
<td>$59,513</td>
</tr>
<tr>
<td>Management, Scientific, Technical Consulting Services</td>
<td>0.4%</td>
<td>495</td>
<td>$61,297</td>
<td>189</td>
<td>1.2%</td>
<td>$103,827</td>
</tr>
<tr>
<td>Advertising &amp; Related Services</td>
<td>0.1%</td>
<td>106</td>
<td>$47,125</td>
<td>37</td>
<td>0.4%</td>
<td>$80,489</td>
</tr>
<tr>
<td>Other professional and technical services</td>
<td>0.4%</td>
<td>451</td>
<td>$40,674</td>
<td>75</td>
<td>0.4%</td>
<td>$50,476</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4.143a. Earnings and Establishments

Average annual earnings in the sub-cluster are $47,429, which is 40.8 percent lower than the statewide average ($80,139), but 23.5 higher than the average annual wage for all industries in the Workforce Investment Area ($38,397) (see Table 28). Earnings range from a low of $39,244 in newspaper, periodical, book, and directory publishers to $61,297 for management, scientific, and technical consulting services. The highest number of establishments is found in legal services (225), followed by management, scientific, and technical consulting services (189) and architectural, engineering, and related services (175).
4.143b. Top Occupations

The top occupations in the Professional Services sub-cluster are lawyers (238 jobs) and accountants and auditors (202 jobs) (see Table 29).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawyers</td>
<td>238</td>
</tr>
<tr>
<td>Accountants and auditors</td>
<td>202</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>134</td>
</tr>
<tr>
<td>Office clerks, general</td>
<td>133</td>
</tr>
<tr>
<td>Executive secretaries and administrative assistants</td>
<td>133</td>
</tr>
<tr>
<td>Legal secretaries</td>
<td>128</td>
</tr>
<tr>
<td>Veterinary technologists and technicians</td>
<td>126</td>
</tr>
<tr>
<td>Paralegals and legal assistants</td>
<td>118</td>
</tr>
<tr>
<td>Management analysts</td>
<td>116</td>
</tr>
<tr>
<td>Civil engineers</td>
<td>112</td>
</tr>
</tbody>
</table>

4143c. Percentage Employment Change

Employment in the sub-cluster grew by 2.3 percent from 2003 to 2008, which compares to a growth rate of 10.1 percent statewide (see Figure 28). Professional Services employment in the Workforce Investment Area increased in five of the six industries, most significantly in other professional and technical services (28.3%), industrial design services (26.6%), and accounting (11.4%). Employment declined in architectural, engineering and related services (-6.0%).

![Figure 28](image-url)
Workforce Development Policy Blueprint, 2009

4143d. Numerical Employment Change and Projection

The Workforce Investment Area added 88 net jobs in the Professional Services sub-cluster from 2003 to 2008 and is projected to add 294 jobs over the next five years (see Figure 29). Five of the sub-cluster’s eight sectors added jobs from 2003 to 2008, with the highest number of jobs added in other professional and technical services (+99 jobs) and accounting (+48 jobs). Conversely, 63 jobs were lost in legal services and 57 jobs were lost in architectural and engineering services. Management, scientific and technical consulting services (+96) is projected to add the most jobs in the next five years, while industrial design services (-228 jobs) is projected to lose the most jobs over this period.

Figure 29

![Professional Services: Numerical Employment Change and Projection](image_url)

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.15 **FINANCIAL SERVICES**

The Financial Services cluster includes establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions. The cluster also includes insurance carriers and real estate. The cluster accounts for 3.7 percent (4,119 jobs) of total employment in the Workforce Investment Area, which is about 40 percent lower than the statewide percentage of 6.4 percent (see Table 30). Credit intermediation (commercial banks) accounts for the largest share of employment in the cluster (1.5% or 1,664 jobs). Financial services’ share of the Workforce Investment Area’s total employment declined from 4.3 percent of total employment in 2003 to 3.7 percent in 2008, while it decreased 0.1 percent statewide over this period. The Workforce Investment Area’s largest private employers in Financial Services are Cape Cod Five, TD Banknorth, Sovereign Bank, Bank of America, and New Seabury Properties.

Much of the decline in the insurance industry is due to consolidation and downsizing, while some auto insurers simply left the state during the 1990s. The banking industry is still undergoing a wave of mergers and acquisitions that introduce greater economies of scale and therefore reduce the demand for labor in the industry even though it continues to grow in other respects. The introduction of Automated Teller Machines (ATMs), and the development of online and telephone banking, have further reduced the demand for labor in the banking industry. However, rising incomes and an increasing number of baby boomers commuting to the Boston area, retirees, and second home owners will continue to inject money into the cluster and this may offset some employment losses over the long term. This is especially true since Barnstable County has the oldest median age in New England, with twice the percentage of people over 65 as the average U.S. county (Chase, 2009).

Employment in the real estate industry, which accounts for more than one in three jobs in the cluster, has declined during the current recession and the growth in this cluster will depend on the strength of the anticipated economic recovery and long-term demand for residential and commercial properties.

### Table 30
Financial Services Cluster Definition

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total Employment</td>
<td># Jobs</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>3.7%</td>
<td>4,119</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit intermediation and related activities</td>
<td>1.5%</td>
<td>1,664</td>
</tr>
<tr>
<td>Securities, commodity contracts, investments</td>
<td>0.3%</td>
<td>328</td>
</tr>
<tr>
<td>Insurance carriers and related activities</td>
<td>0.6%</td>
<td>690</td>
</tr>
<tr>
<td>Funds, trusts, and other financial vehicles</td>
<td>0.0%</td>
<td>10</td>
</tr>
<tr>
<td>Real Estate</td>
<td>1.3%</td>
<td>1,414</td>
</tr>
<tr>
<td>Title Abstract &amp; Settlement Offices</td>
<td>0.01%</td>
<td>12</td>
</tr>
</tbody>
</table>

*Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2*
4.15a. **Earnings and Establishments**

Average annual earnings in the cluster are $52,202, which is 52.0 percent lower than the statewide average in financial services ($108,659), primarily because the Workforce Investment Area has much lower levels of employment in the securities and commodities industries compared to the state (see Table 30). However, earnings are 36.0 percent higher than the average annual earnings for all industries in the Workforce Investment Area ($38,397). Earnings range from a low of $34,012 in real estate to $148,200 for securities, commodity contracts and investments. The highest number of establishments is found in real estate (381), followed by credit intermediation and related activities (191) and insurance carriers and related activities (110).

4.15b. **Top Occupations**

The top occupations in the Financial Services cluster are tellers (412 jobs), customer service representatives (255 jobs), and office clerks (202 jobs) (see Table 31).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tellers</td>
<td>412</td>
</tr>
<tr>
<td>Customer service representatives</td>
<td>255</td>
</tr>
<tr>
<td>Office clerks, general</td>
<td>202</td>
</tr>
<tr>
<td>First-line supervisors/ managers of office and administrative support workers</td>
<td>164</td>
</tr>
<tr>
<td>Maintenance and repair workers, general</td>
<td>153</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>149</td>
</tr>
<tr>
<td>Insurance sales agents</td>
<td>144</td>
</tr>
<tr>
<td>Loan officers</td>
<td>140</td>
</tr>
<tr>
<td>Financial managers</td>
<td>134</td>
</tr>
<tr>
<td>Executive secretaries and administrative assistants</td>
<td>134</td>
</tr>
</tbody>
</table>
415c. Percentage Employment Change

Employment in the cluster decreased by 11.0 percent from 2003 to 2008, which compares to a growth rate of 1.9 percent statewide (see Figure 30). The growth rate statewide is primarily due to the existence of large national and international financial services firms located in Boston. Financial Services employment in the Workforce Investment Area decreased in all six industries, most significantly in title abstract and settlement offices (-21.7%), funds, trusts, and other financial vehicles (-20.1%), and insurance carriers and related activities (13.4%).

![Figure 30: Financial Services Percentage Employment Change, 2003 to 2008](image)

415d. Numerical Employment Change and Projection

The Workforce Investment Area shed a net of 510 jobs in the Financial Services cluster from 2003 to 2008 and is projected to gain 278 jobs over the next five years (see Figure 31). None of the cluster’s six industries added jobs from 2003 to 2008, with the highest number of jobs lost in credit intermediation and related activities (-226 jobs) and real estate (-133 jobs). Insurance carriers and related activities (+23) is projected to add the most jobs in the next five years, while real estate (-228) and credit intermediation and related activities (-88) are projected to lose the most jobs over this period.

![Figure 31: Financial Services: Numerical Employment Change and Projection](image)
4.20 Emerging Clusters

4.21 DISTRIBUTION

The Distribution cluster includes five major groups. Wholesale trade - durable goods includes establishments primarily engaged in the wholesale distribution of durable goods, such as lumber and other construction materials. Wholesale trade - nondurable goods includes establishments engaged in the wholesale distribution of nondurable goods, including groceries and other related products. Truck transportation includes establishments furnishing local or long-distance trucking or transfer services. Electronic markets and agents and brokers includes establishments that arrange for the sale of goods owned by others. Warehousing and storage, the fifth industry in the cluster, comprises only a small portion of the cluster and includes establishments primarily engaged in operating warehousing and storage facilities for general merchandise and refrigerated goods.

Most of the activity in this cluster is supported by local demand, as there are very few large distribution firms shipping their products out of the Workforce Investment Area. The area’s congested transportation infrastructure is an obstacle to the development of large-scale distribution businesses. Thus, future growth in this cluster will mainly be a function of population and income growth and local demand generated by tourists.

The distribution cluster accounts for 2.1 percent (2,358 jobs) of total employment in the Workforce Investment Area, which is less than half the statewide percentage of 4.9 percent (see Table 32). However, the cluster has been identified as an emerging cluster because it is expected to grow by 12.5 percent over the next five years. In addition, the cluster’s share of the Workforce Investment Area’s total employment increased from 1.9 percent in 2003 to 2.1 percent in 2008, while it declined by 0.1 percent statewide over this period. The Workforce Investment Area’s largest private employer in Distribution is UPS.

Table 32

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total Employment</td>
<td># Jobs</td>
</tr>
<tr>
<td>Cluster Total</td>
<td>2.1%</td>
<td>2,358</td>
</tr>
<tr>
<td>Wholesalers - Durable Goods</td>
<td>0.5%</td>
<td>541</td>
</tr>
<tr>
<td>Wholesalers - Non-Durable Goods</td>
<td>0.7%</td>
<td>784</td>
</tr>
<tr>
<td>Electronic markets and agents and brokers</td>
<td>0.7%</td>
<td>726</td>
</tr>
<tr>
<td>Truck Transportation</td>
<td>0.3%</td>
<td>279</td>
</tr>
<tr>
<td>Warehousing &amp; Storage</td>
<td>0.02%</td>
<td>27</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.21a. **Earnings and Establishments**

The annual average wage in the cluster is $52,581, which is 26.4 percent lower than the statewide Distribution average ($71,472) and 37.0 percent higher than the average annual wage for all industries in the Workforce Investment Area ($38,397) (see Table 32). Earnings range from a low of $40,032 in warehousing and storage to $65,053 for electronic markets and agents and brokers. The highest number of establishments is found in electronic markets and agents and brokers (273), followed by wholesale - durable goods (92) and wholesale - non-durable goods (92).

4.21b. **Top Occupations**

The top Distribution occupations in the cluster are sales representatives (wholesale and manufacturing) (343 jobs), and truck drivers (247 jobs) (see Table 33).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales representatives, wholesale and manufacturing, except technical and scientific products</td>
<td>343</td>
</tr>
<tr>
<td>Truck drivers, heavy and tractor-trailer</td>
<td>247</td>
</tr>
<tr>
<td>Laborers and freight, stock, and material movers, hand</td>
<td>144</td>
</tr>
<tr>
<td>Sales representatives, wholesale and manufacturing, technical and scientific products</td>
<td>126</td>
</tr>
<tr>
<td>Truck drivers, light or delivery services</td>
<td>97</td>
</tr>
<tr>
<td>Stock clerks and order fillers</td>
<td>75</td>
</tr>
<tr>
<td>Customer service representatives</td>
<td>71</td>
</tr>
<tr>
<td>Office clerks, general</td>
<td>64</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>63</td>
</tr>
<tr>
<td>Shipping, receiving, and traffic clerks</td>
<td>62</td>
</tr>
</tbody>
</table>
421c. Percentage Employment Change

Employment in the cluster grew by 13.0 percent from 2003 to 2008, which compares to a growth rate of 1.4 percent statewide (see Figure 32). Distribution employment in the Workforce Investment Area increased in three of the five industries, most significantly in warehousing and storage (171.9%, although the smallest of the cluster’s industries), electronic markets and agents and brokers (121.7%), and wholesalers - non-durable goods (22.0%). Employment declined most significantly in wholesale - durable goods (-30.9%) and truck transportation (-14.9%). The Workforce Investment Area experienced significantly higher levels of employment growth in warehousing and storage and electronic markets and agents and brokers in comparison to the state, while the cluster lost a significantly greater share of employment in truck transportation and wholesalers - durable goods industries.

Figure 32

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
421d. Numerical Employment Change and Projection

The Workforce Investment Area added 266 net jobs in Distribution from 2003 to 2008 and is projected to add 295 jobs over the next five years (see Figure 33). Three of Workforce Investment Area’s five clusters added jobs from 2003 to 2008, with the highest number of jobs added in electronic markets and agents and brokers (+398 jobs) and wholesalers - non-durable goods (+141 jobs). Conversely, 242 jobs were lost in wholesalers - durable goods. Electronic markets and agents and brokers (+231) is projected to add the most jobs in the next five years, while wholesalers - durable goods (-226) is projected to lose the most jobs over this period.

Figure 33

[Diagram showing net employment change and projection for different clusters in Distribution from 2003 to 2008 and 2008 to 2013. The diagram includes bars for each cluster indicating the number of jobs gained or lost in each period.]

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.22 \textbf{MARINE INDUSTRY}

The marine industry consists of business sectors that are tied to the ocean and includes two sub-clusters: marine science and technology and marine services (Georgianna 2000; Hogan et al. 1991). Employment in the marine science and technology sub-cluster is primarily located at two locations: Woods Hole Oceanographic Institution and the Marine Biological Laboratory, both located at Woods Hole in Falmouth, although it includes manufacturing firms such as Teledyne Benthos and Hydroid (Barrow et al. 2005b; Barrow et al. 2005c). Both establishments generally employ individuals with a high degree of expertise and training. Conversely, the marine services sub-cluster is dispersed throughout the Workforce Investment Area and generally employs individuals with lower levels of education and skills in comparison to the marine science and technology sub-cluster, although employment in many of the sub-cluster’s industries require a high level of training.

The Marine Industry accounts for a higher percentage of employment in the Workforce Investment Area than it does statewide (2.6\% versus 1.7\%) (see Table 34). Scientific Research and Development Services (1,199 jobs) and marinas (599) account for the largest share of employment in the cluster. The cluster’s share of the Workforce Investment Area’s total employment increased from 2.5 percent in 2003 to 2.6 percent in 2008, while it increased by 0.2 percent statewide over this period. The Workforce Investment Area’s largest private employers in the marine industry include Woods Hole Oceanographic Institution, the Steamship Authority, the Marine Biological Laboratory, and Hy-Line Cruises.

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th align="right">% Total Employment</th>
<th align="right"># Jobs</th>
<th align="right">Avg. Earnings</th>
<th align="right">Establishments</th>
<th align="right">% Total Employment</th>
<th align="right">Avg. Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Total</td>
<td align="right">2.6%</td>
<td align="right">2,896</td>
<td align="right">$44,833</td>
<td align="right">186</td>
<td align="right">1.7%</td>
<td align="right">$108,679</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td align="right"></td>
<td align="right"></td>
<td align="right"></td>
<td align="right"></td>
<td align="right"></td>
<td align="right"></td>
</tr>
<tr>
<td>Marine Science &amp; Technology (Sub-Cluster)</td>
<td align="right">1.3%</td>
<td align="right">1,418</td>
<td align="right">$56,648</td>
<td align="right">29</td>
<td align="right">1.5%</td>
<td align="right">$115,137</td>
</tr>
<tr>
<td>Scientific Research &amp; Development Services</td>
<td align="right">1.1%</td>
<td align="right">1,199</td>
<td align="right">$56,440</td>
<td align="right">25</td>
<td align="right">1.3%</td>
<td align="right">$117,174</td>
</tr>
<tr>
<td>Search, Detection, Navigation Mfg.</td>
<td align="right">0.2%</td>
<td align="right">193</td>
<td align="right">$65,589</td>
<td align="right">4</td>
<td align="right">0.2%</td>
<td align="right">$100,266</td>
</tr>
<tr>
<td>Navigational Services to Shipping</td>
<td align="right">0.0%</td>
<td align="right">21</td>
<td align="right">No Data</td>
<td align="right">No Data</td>
<td align="right">0.0%</td>
<td align="right">$58,716</td>
</tr>
<tr>
<td>Navigational instruments repair services</td>
<td align="right">0.0%</td>
<td align="right">5</td>
<td align="right">No Data</td>
<td align="right">No Data</td>
<td align="right">0.0%</td>
<td align="right">$57,808</td>
</tr>
<tr>
<td>Marine Services (Sub Cluster)</td>
<td align="right">1.3%</td>
<td align="right">1,479</td>
<td align="right">$35,508</td>
<td align="right">157</td>
<td align="right">0.2%</td>
<td align="right">$60,885</td>
</tr>
<tr>
<td>Marine Construction</td>
<td align="right">0.1%</td>
<td align="right">125</td>
<td align="right">No Data</td>
<td align="right">17</td>
<td align="right">0.0%</td>
<td align="right">$69,075</td>
</tr>
<tr>
<td>Marine Paints</td>
<td align="right">0.0%</td>
<td align="right">5</td>
<td align="right">No Data</td>
<td align="right">1</td>
<td align="right">0.0%</td>
<td align="right">$57,800</td>
</tr>
<tr>
<td>Marine Construction Machinery</td>
<td align="right">0.0%</td>
<td align="right">11</td>
<td align="right">No Data</td>
<td align="right">2</td>
<td align="right">0.0%</td>
<td align="right">$49,536</td>
</tr>
<tr>
<td>Ship/Boat Building and Repairing</td>
<td align="right">0.1%</td>
<td align="right">77</td>
<td align="right">$27,635</td>
<td align="right">26</td>
<td align="right">0.0%</td>
<td align="right">$31,425</td>
</tr>
<tr>
<td>Marine supplies merchant wholesalers</td>
<td align="right">0.0%</td>
<td align="right">32</td>
<td align="right">$120,725</td>
<td align="right">2</td>
<td align="right">0.0%</td>
<td align="right">$215,622</td>
</tr>
<tr>
<td>Marine supply and boat dealers</td>
<td align="right">0.3%</td>
<td align="right">317</td>
<td align="right">$43,755</td>
<td align="right">34</td>
<td align="right">0.0%</td>
<td align="right">$39,321</td>
</tr>
<tr>
<td>Freight &amp; Passenger Transportation, incl. boat charters</td>
<td align="right">0.1%</td>
<td align="right">161</td>
<td align="right">No Data</td>
<td align="right">No Data</td>
<td align="right">0.0%</td>
<td align="right">$106,612</td>
</tr>
<tr>
<td>Scenic and Sightseeing Transportation, Water</td>
<td align="right">0.1%</td>
<td align="right">122</td>
<td align="right">$23,921</td>
<td align="right">26</td>
<td align="right">0.0%</td>
<td align="right">$22,151</td>
</tr>
<tr>
<td>Marine Cargo Handling</td>
<td align="right">0.0%</td>
<td align="right">5</td>
<td align="right">No Data</td>
<td align="right">1</td>
<td align="right">0.0%</td>
<td align="right">$57,634</td>
</tr>
<tr>
<td>Other Support Activities for Water Transportation</td>
<td align="right">0.0%</td>
<td align="right">25</td>
<td align="right">No Data</td>
<td align="right">No Data</td>
<td align="right">0.0%</td>
<td align="right">$53,321</td>
</tr>
<tr>
<td>Marinas</td>
<td align="right">0.5%</td>
<td align="right">599</td>
<td align="right">$44,716</td>
<td align="right">48</td>
<td align="right">0.1%</td>
<td align="right">$39,981</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

Employment is projected to decline between 2008 and 2013 and, therefore, does not meet the criteria for an emerging cluster. However, the majority of the employment decline is projected to be in scientific research and development, which primarily includes employment at Woods Hole Oceanographic Institute and the Marine Biological Laboratory. Although EMSI data projects a decline in this industry, in actuality it is more likely that employment at these institutions will level off or increase due to new investments in homeland security, oceanographic and atmospheric warning systems, and environmental monitoring of developing countries (UMass Donahue Institute, 2005b).
4.22a. Earnings and Establishments

Average annual earnings in the cluster are $44,833, which is 58.7 percent lower than the statewide Marine Industry average ($108,679), but 16.8 percent higher than the average annual earnings for all industries in the Workforce Investment Area ($38,397) (see Table 34). Earnings range from a low of $23,921 in scenic and sightseeing transportation to $120,725 for marine supplies merchant wholesalers. The highest number of establishments is found in marinas (48), followed by marine supply and boat dealers (34) and scenic and sightseeing transportation, water (26), and ship/boat building and repairing (26).

4.22b. Top Occupations

The top occupations in the Marine Industry cluster are sales representatives, wholesale and manufacturing (182 jobs) and retail salespersons (94 jobs) (see Table 35).

Table 35
Top Marine Industry Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales representatives, wholesale and manufacturing, except</td>
<td>182</td>
</tr>
<tr>
<td>technical and scientific products</td>
<td></td>
</tr>
<tr>
<td>Retail salespersons</td>
<td>94</td>
</tr>
<tr>
<td>Landscaping and groundskeeping workers</td>
<td>93</td>
</tr>
<tr>
<td>Sales representatives, wholesale and manufacturing,</td>
<td>79</td>
</tr>
<tr>
<td>technical and scientific products</td>
<td></td>
</tr>
<tr>
<td>Motorboat mechanics</td>
<td>71</td>
</tr>
<tr>
<td>Waiters and waitresses</td>
<td>62</td>
</tr>
<tr>
<td>Amusement and recreation attendants</td>
<td>58</td>
</tr>
<tr>
<td>Office clerks, general</td>
<td>46</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>44</td>
</tr>
<tr>
<td>General and operations managers</td>
<td>41</td>
</tr>
</tbody>
</table>
422c. Percentage Employment Change

Employment in the cluster grew by 5.7 percent from 2003 to 2008, which compares to a growth rate of 23.7 percent statewide (see Figure 34). Marine industry employment in the Workforce Investment Area increased in nine of the fifteen industries, most significantly in search, detection, and navigation manufacturing (710.0%), navigational services to shipping (320.4%), and other support activities for water transportation (150.0%). Employment declined most significantly in marine supplies merchant wholesalers (-47.0%) and scientific research and development services (-19.5%).

The Workforce Investment Area experienced significantly larger levels of employment growth in search, detection, and navigation manufacturing, navigational services to shipping, other support activities for water transportation, and marine construction in comparison to the state, while the cluster lost a significantly greater share of employment in marine supplies and merchant wholesalers and scientific research and development services.

Figure 34

Marine Industry Percentage Employment Change, 2003 to 2008
422d. Numerical Employment Change and Projection

The Workforce Investment Area added 157 jobs in the Marine Industry cluster from 2003 to 2008, but is projected to lose 114 jobs over the next five years (see Figure 35). Nine of the cluster’s fifteen industries added jobs from 2003 to 2008, with the highest number of jobs added in search, detection, and navigation manufacturing (+169 jobs) and marinas (+84 jobs). Conversely, 291 jobs were lost in scientific and research and development services, the cluster’s largest employer. Marine supply and boat dealers (+41) is projected to add the most jobs in the next five years, while scientific and research and development services (-179) is projected to lose the most jobs over this period.

![Figure 35: Marine Industry: Numeric Employment Change and Projection](image-url)
4.221  **MARINE INDUSTRY SUB-CLUSTER – MARINE SCIENCE & TECHNOLOGY**

The Marine Science and Technology sub-cluster accounts for a lower percentage of employment in the Workforce Investment Area than it does statewide (1.3% versus 1.5%) (see Table 36). As noted earlier, employment in the marine science and technology sub-cluster is primarily located at Woods Hole Oceanographic Institution and the Marine Biological Laboratory. The sub-cluster’s share of the Workforce Investment Area’s total employment decreased from 1.4 percent in 2003 to 1.3 percent in 2008, while employment increased by 0.3 percent statewide. The Workforce Investment Area’s largest private employers in marine science and technology include Woods Hole Oceanographic Institution and the Marine Biological Laboratory, which account for about 90 percent of employment in the sub-cluster.

The Cape and Islands Workforce Investment Board Strategic Plan (updated March 2009) identifies marine science and technology as an industry cluster that presents special opportunities, particularly in developing the industry as a national center for marine science. The presence of Woods Hole Oceanographic Institution and Marine Biological Laboratories, two internationally distinguished institutions, increase the likelihood of success in branding the Cape and Islands as centers for the marine sciences.

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>% Total Employment</th>
<th># Jobs</th>
<th>Avg. Earnings</th>
<th>Establishments</th>
<th>% Total Employment</th>
<th>Avg. Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Total</td>
<td>1.3%</td>
<td>1,418</td>
<td>$56,648</td>
<td>29</td>
<td>1.5%</td>
<td>$115,137</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific Research &amp; Development Services</td>
<td>1.1%</td>
<td>1,199</td>
<td>$56,440</td>
<td>25</td>
<td>1.3%</td>
<td>$117,174</td>
</tr>
<tr>
<td>Search, Detection, Navigation Mfg.</td>
<td>0.2%</td>
<td>193</td>
<td>$65,589</td>
<td>4</td>
<td>0.2%</td>
<td>$110,266</td>
</tr>
<tr>
<td>Navigational Services to Shipping</td>
<td>0.0%</td>
<td>21</td>
<td>No Data</td>
<td>No Data</td>
<td>0.0%</td>
<td>$58,716</td>
</tr>
<tr>
<td>Navigational instruments repair services</td>
<td>0.0%</td>
<td>5</td>
<td>No Data</td>
<td>No Data</td>
<td>0.0%</td>
<td>$57,808</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4.221a. **Earnings and Establishments**

Average annual earnings in the cluster are $56,648, which is 50.8 percent lower than the statewide average ($115,137) but 47.5 percent higher than the average annual wage for all industries in the Workforce Investment Area ($38,397) (see Table 36). Earnings range from a low of $56,440 in scientific research and development services to $65,589 for search, detection and navigation manufacturing. The highest number of establishments is found in scientific research and development services (25), followed by search, detection, and navigation manufacturing (4).
4.221b. **Top Occupations**

The top occupations in the cluster are medical scientists (98), Biological technicians (78), and computer software engineers (65) (see Table 37).

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical scientists, except epidemiologists</td>
<td>98</td>
</tr>
<tr>
<td>Biological technicians</td>
<td>78</td>
</tr>
<tr>
<td>Computer software engineers, systems software</td>
<td>65</td>
</tr>
<tr>
<td>Biochemists and biophysicists</td>
<td>59</td>
</tr>
<tr>
<td>Executive secretaries and administrative assistants</td>
<td>38</td>
</tr>
<tr>
<td>Computer software engineers, applications</td>
<td>30</td>
</tr>
<tr>
<td>Natural sciences managers</td>
<td>28</td>
</tr>
<tr>
<td>General and operations managers</td>
<td>23</td>
</tr>
<tr>
<td>Mechanical engineers</td>
<td>23</td>
</tr>
<tr>
<td>Electrical engineers</td>
<td>21</td>
</tr>
</tbody>
</table>

**Table 37**
Top Marine Science & Technology Occupations

4221c. **Percentage Employment Change**

Employment in the sub-cluster decreased by 6.9 percent from 2003 to 2008, which compares to an increase of 26.9 percent statewide (see Figure 36). Employment increased in two of the four industries, most significantly in search, detection and navigation manufacturing (710.0%). The Workforce Investment Area experienced significantly higher levels of employment growth in the search, detection and navigation manufacturing and navigational services to shipping in comparison to the state, while the sub-cluster lost a significantly greater share of employment in scientific research and development services industries.

**Figure 36**

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4221d. Numerical Employment Change and Projection

The Workforce Investment Area had a net loss of 106 jobs in the Marine Science and Technology sector from 2003 to 2008 and is projected to lose 143 jobs over the next five years (see Figure 37). Two of the cluster’s four industries added jobs from 2003 to 2008, with the highest number of jobs added in scientific research and development services (+169 jobs). Conversely, 291 jobs were lost in navigational instruments repair and maintenance services. Scientific research and development services (+30) is projected to add the most jobs in the next five years, while navigational instruments repair and maintenance services (-179) is projected to lose the most jobs over this period.

Figure 37

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.222 **MARINE INDUSTRY SUB-CLUSTER – MARINE SERVICES**

The Marine Services sub-cluster consists of industries that support various marine activities, including marine sales, ship/boat manufacturing, and passenger transportation. Marine services accounts for a much higher percentage of employment in the Workforce Investment Area than it does statewide (1.3% versus 0.2%) (see Table 38). Much of this employment is generated by demand from local residents and commuters, but it is also a function of demand generated by second home owners and tourists. Marine Services share of the Workforce Investment Area’s total employment increased from 2.5 percent in 2003 to 2.6 percent in 2008, while it remained steady statewide over this period. The Workforce Investment Area’s largest employers in Marine Services are the Steamship Authority and Hy-Line Cruises.

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>Cape &amp; Islands</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Total</td>
<td>1.3% 1,479</td>
<td>0.2% $60,885</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine Construction</td>
<td>0.1% 125 No Data</td>
<td>0.0% $69,075</td>
</tr>
<tr>
<td>Marine Paints</td>
<td>0.0% 5 No Data</td>
<td>0.0% $57,880</td>
</tr>
<tr>
<td>Marine Construction Machinery</td>
<td>0.0% 11 No Data</td>
<td>0.0% $49,536</td>
</tr>
<tr>
<td>Ship/Boat Building and Repairing</td>
<td>0.1% 77 $27,635</td>
<td>0.0% $31,425</td>
</tr>
<tr>
<td>Marine supplies merchant wholesalers</td>
<td>0.0% 32 $120,725</td>
<td>0.0% $215,622</td>
</tr>
<tr>
<td>Marine supply and boat dealers</td>
<td>0.3% 317 $43,755</td>
<td>0.0% $39,366</td>
</tr>
<tr>
<td>Freight &amp; Passenger Transportation, incl. boat charters</td>
<td>0.1% 161 No Data No Data</td>
<td>0.0% $106,612</td>
</tr>
<tr>
<td>Scenic and Sightseeing Transportation, Water</td>
<td>0.1% 122 $23,921</td>
<td>0.0% $22,151</td>
</tr>
<tr>
<td>Marine Cargo Handling</td>
<td>0.0% 5 No Data</td>
<td>0.0% $57,634</td>
</tr>
<tr>
<td>Other Support Activities for Water Transportation</td>
<td>0.0% 25 No Data No Data</td>
<td>0.0% $53,321</td>
</tr>
<tr>
<td>Marinas</td>
<td>0.5% 599 $44,716</td>
<td>0.1% $39,981</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

### 4.222a. Earnings and Establishments

Annual average earnings in the cluster are $35,508, which is 41.7 percent lower than the statewide average in Marine Services ($60,885) and 7.5 percent lower than the average annual earnings for all industries in the Workforce Investment Area ($38,397) (see Table 38). Earnings range from a low of $23,921 in scenic and sightseeing water transportation to $120,725 for marine supplies merchant wholesalers. The highest number of establishments is found in marinas (48), followed by marine supply and boat dealers (34) and ship/boat building and repairing (26), and scenic and sightseeing transportation, water (26).
4.222b. Top Occupations

The top occupations in the Marine Services sub-cluster are sales representatives (wholesale and manufacturing) (182 jobs) and retail salespersons (94 jobs) (93 jobs) (see Table 39).

Table 39
Top Marine Services Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales representatives, wholesale and manufacturing, except technical and scientific products</td>
<td>182</td>
</tr>
<tr>
<td>Retail salespersons</td>
<td>94</td>
</tr>
<tr>
<td>Landscaping and groundskeeping workers</td>
<td>93</td>
</tr>
<tr>
<td>Sales representatives, wholesale and manufacturing, technical and scientific products</td>
<td>79</td>
</tr>
<tr>
<td>Motorboat mechanics</td>
<td>71</td>
</tr>
<tr>
<td>Waiters and waitresses</td>
<td>62</td>
</tr>
<tr>
<td>Amusement and recreation attendants</td>
<td>58</td>
</tr>
<tr>
<td>Office clerks, general</td>
<td>46</td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks</td>
<td>44</td>
</tr>
<tr>
<td>General and operations managers</td>
<td>41</td>
</tr>
</tbody>
</table>

4222c. Percentage Employment Change

Employment in the sub-cluster grew by 1.7 percent from 2003 to 2008, which compares to a growth rate of 23.7 percent statewide (see Figure 38). Marine services employment in the sub-cluster increased in seven of its eleven industries, most significantly in scenic and sightseeing water transportation (45.4%), other support water activities (25.6%), and freight and passenger transportation (19.3%), which suggests that future growth in this sub-cluster will be linked to growth in the tourism industry. Employment declined most significantly in marine supplies wholesalers (-47.0%). The Workforce Investment Area experienced significantly higher levels of employment growth in the scenic and sightseeing water transportation in comparison to the state, while the sub-cluster lost a significantly greater share of employment in marine suppliers wholesalers industries.

Figure 38
Marine Services Percentage Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4222d. Numerical Employment Change and Projection

The Workforce Investment Area added 263 net jobs in the Marine Services from 2003 to 2008 and is projected to add 29 jobs over the next five years (see Figure 39). Seven of the eleven industries in the cluster added jobs from 2003 to 2008, with the highest number of jobs added in marinas (+84 jobs) and marine construction (+60 jobs). Conversely, 28 jobs were lost in marine supplies merchant wholesalers. Marine supply and boat dealers (+41) is projected to add the most jobs in the next five years, while marinas (-29) are projected to lose the most jobs over this period.

Figure 39

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
4.23 SOCIAL SERVICES

The Social Services cluster includes establishments providing social services and rehabilitation services to persons with social or personal problems and to the handicapped and disadvantaged. The composition of the cluster’s industries is similar in both the Workforce Investment Area and the state (see Table 40). The cluster’s share of the Workforce Investment Area’s total employment increased from 1.7 percent in 2003 to 2.0 percent in 2008, while it increased by 0.2 percent statewide. The Workforce Investment Area’s largest private employers in social services include Community Systems, Capeabilities, Thirwood Place, and Gilbough Centers.

The growth in Social Services is primarily driven by community needs and the social services cluster should continue to grow over the long-term. An aging population in the Workforce Investment Area and universal health care coverage in the state will continue to fuel demand for these types of services, especially for vocational rehabilitation services, which had the highest employment gains since 2003 and is projected to have the highest employment growth over the next five years.

Table 40
Social Services Cluster Definition

<table>
<thead>
<tr>
<th>Cluster &amp; Industry</th>
<th>% Total Employment</th>
<th># Jobs</th>
<th>Avg. Earnings</th>
<th>Establishments</th>
<th>% Total Employment</th>
<th>Avg. Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Total</td>
<td>2.0%</td>
<td>2,254</td>
<td>$25,932</td>
<td>181</td>
<td>2.2%</td>
<td>$27,937</td>
</tr>
<tr>
<td>Cluster Industries:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual &amp; Family Services</td>
<td>0.7%</td>
<td>764</td>
<td>$27,703</td>
<td>47</td>
<td>0.9%</td>
<td>$29,558</td>
</tr>
<tr>
<td>Community Food &amp; Housing/Other Relief Services</td>
<td>0.2%</td>
<td>169</td>
<td>$34,355</td>
<td>9</td>
<td>0.2%</td>
<td>$32,100</td>
</tr>
<tr>
<td>Vocational Rehabilitation Services</td>
<td>0.5%</td>
<td>529</td>
<td>$25,639</td>
<td>11</td>
<td>0.3%</td>
<td>$26,157</td>
</tr>
<tr>
<td>Child Day Care Services</td>
<td>0.6%</td>
<td>651</td>
<td>$23,376</td>
<td>93</td>
<td>0.7%</td>
<td>$22,517</td>
</tr>
<tr>
<td>Voluntary Health Organizations</td>
<td>0.0%</td>
<td>54</td>
<td>$52,304</td>
<td>7</td>
<td>0.0%</td>
<td>$51,234</td>
</tr>
<tr>
<td>Other Social Advocacy Organizations</td>
<td>0.1%</td>
<td>88</td>
<td>$31,039</td>
<td>14</td>
<td>0.1%</td>
<td>$40,413</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2

4.23a. Earnings and Establishments

Annual average earnings in the cluster are $25,932, which is 7.2 percent lower than the statewide average in Social Services ($27,937), and 32.5 percent lower than the average annual wage for all industries in the Workforce Investment Area ($38,397) (see Table 40). Earnings range from a low of $23,376 for child day care services to $52,304 for voluntary health organizations. The highest number of establishments are found in child day care services (93), followed by individual and family services (47), and other social advocacy organizations (14).
4.23b. Top Occupations

The top occupations in the Social Services cluster are preschool teachers (302 jobs), personal and home care aides (210 jobs), and social and human service assistants (189 jobs) (see Table 41).

Table 41
Top Social Services Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool teachers, except special education</td>
<td>302</td>
</tr>
<tr>
<td>Personal and home care aides</td>
<td>210</td>
</tr>
<tr>
<td>Social and human service assistants</td>
<td>189</td>
</tr>
<tr>
<td>Teacher assistants</td>
<td>149</td>
</tr>
<tr>
<td>Child care workers</td>
<td>145</td>
</tr>
<tr>
<td>Home health aides</td>
<td>76</td>
</tr>
<tr>
<td>Child, family, and school social workers</td>
<td>74</td>
</tr>
<tr>
<td>Rehabilitation counselors</td>
<td>66</td>
</tr>
<tr>
<td>Social and community service managers</td>
<td>64</td>
</tr>
<tr>
<td>Education administrators, preschool and child care</td>
<td></td>
</tr>
<tr>
<td>center/program</td>
<td>42</td>
</tr>
</tbody>
</table>

423c. Percentage Employment Change

Employment in the cluster grew by 18.8 percent from 2003 to 2008, which compares to a growth rate of 12.1 percent statewide (see Figure 40). Social Services employment in the Workforce Investment Area increased in five of the six industries, most significantly in voluntary health organizations (206.6%), vocational rehabilitation services (56.7%), and other social advocacy organizations (54.8%). The Workforce Investment Area experienced significantly larger levels of employment growth in voluntary health organizations in comparison to the state.

Figure 40
Social Services Percentage Employment Change, 2003 to 2008

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
423d. Numerical Employment Change and Projection

The Workforce Investment Area added 357 jobs in the Social Services cluster from 2003 to 2008 and is projected to add 521 jobs over the next five years (see Figure 41). Five of the cluster’s six industries added jobs from 2003 to 2008, with the highest number of jobs added in vocational rehabilitation services (+191 jobs) and individual and family services (+88 jobs). Conversely, 13 jobs were lost in child day care services. Vocational rehabilitation services (+231) and individual and family services (+88) are projected to add the most jobs in the next five years.

Figure 41

Social Services: Numerical Employment Change and Projection

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
5.00 OCCUPATIONAL ANALYSIS

It is estimated that 4,177 new jobs will be created in the Cape and Islands Workforce Investment Area between 2008 and 2013 (EMSI 2009, v2). Importantly, this does not include vacancies created by retirement, relocation, and other forms of job turnover that require replacement hiring. For example, the Massachusetts Department of Workforce Development’s Job Vacancy Survey estimates that there were 1,532 job vacancies in the Workforce Investment Area in the 4th quarter of 2008, with the highest vacancy rates in Health Services (6.6% vacancy rate) and Social Services (4.2%), which are two of the critical clusters identified in this report. However, the Job Vacancy Survey reports that job postings in the Workforce Investment Area fell by 46 percent over 2008 and the overall job vacancy rate dropped from 3.3 percent to 1.8 percent, which was the second-steepest decline reported by any of the state’s Workforce Investment Areas. These declines are likely the result of recession induced retrenchment in the Hospitality Cluster and other sectors affected by the volume of tourism (e.g., Marine Services, Distribution, Arts and Culture).

Despite this decline, more than 1 in 3 job postings (37%) in the 4th quarter of 2008 are in the critical clusters of Health and Educational Services. In addition, a significant percentage of postings occurred in Retail/Wholesale Trade, Transportation, and Utilities (40%). Because Retail Trade is a critical sub-cluster of the Hospitality cluster, it is estimated that over half of the job postings in the 4th quarter of 2008 are in occupations that fall within the Workforce Investment Area’s critical industries (see Table 42).

<table>
<thead>
<tr>
<th>Occupation</th>
<th>% Job Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Education</td>
<td>37%</td>
</tr>
<tr>
<td>Trade, Transportation &amp; Utilities</td>
<td>40%</td>
</tr>
<tr>
<td>Leisure, Hospitality &amp; Other Services</td>
<td>11%</td>
</tr>
<tr>
<td>Professional &amp; Business &amp; Information Services</td>
<td>11%</td>
</tr>
<tr>
<td>Financial Activities &amp; Public Administration</td>
<td>1%</td>
</tr>
<tr>
<td>Manufacturing, Construction &amp; Mining</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

In addition, the Executive Office of Labor and Workforce Development’s Regional LMI Profile reports that 9,004 individuals were collecting regular Unemployment Insurance on the Cape and Islands during March 2009. The largest occupational category, Food Preparation and Serving (17.4%), accounted for more than one in six of the Cape and Islands unemployment insurance claimants. This industry constitutes a large portion of total employment in the Workforce Investment Area and it is one that is significantly affected by recession induced reductions in both local demand and tourist demand for food services.

From an industry perspective, Accommodation and Food Services was the largest source of unemployment insurance claimants, accounting for almost one-fourth (24.2%) of total claims. This

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10 The Leisure, Hospitality and Other Services category does not directly match the cluster definition used in this report, which combines retail trade into the hospitality industry.
industry accounts for 9.2 percent of total employment in the Workforce Investment Area (EMSI, 2008), or over 10,000 jobs. Retail Trade (15.0%) and Construction (14.4%), two other critical clusters in the Workforce Investment Area, also account for a large share of unemployment claims (15% and 14.4% respectively). One important caveat is that unemployment claims in these occupations and industries are usually higher in March (the period of the data) than in the summer months due to the seasonality of the Workforce Investment Area’s economy. In any case, the combination of new job creation, current job vacancies, and an improving economic climate should result in a net increase in employment in the Workforce Investment Area over the next five years.

5.10 Fastest Growing Occupations

A cluster-specific occupational analysis was conducted to determine the projected net job increase in the twenty-five fastest growing occupations in the Cape and Islands Workforce Investment Area as identified by their Standard Occupational Classification code. The occupations in this analysis include only those found in clusters that have been identified as critical or emerging industries in the Cape and Islands Workforce Investment Area. In other words, the identified occupations are projected to grow significantly from 2008 to 2013 and they are also in demand for one or more industry groups projected to expand over the next five years. Consequently, the occupations that meet these criteria are expected to be among the most critical to the economic vitality of the Cape and Islands Workforce Investment Area in the coming years. The net job increase for each of the occupations was calculated using EMSI’s occupational tables. These occupations account for 48.5 percent (2,024 jobs) of the total projected job growth of 4,177.

Figure 42 shows the projected net job increase for the area’s fastest growing occupations. Importantly, the table shows the number of net new jobs created and does not include vacancies created by retirement, relocation, and other forms of job turnover that require replacement hiring. It is estimated that replacement hires create an additional 1 to 2 vacancies in an occupation for each new position added in that occupation.
Figure 42

Projected Employment Increase Among Top Growth Occupations:
2008 to 2013

Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
Figure 43 shows the percentage employment increase among the top growth occupations identified in the previous table. The absolute number of projected jobs is included in parenthesis beside each occupational category.

Figure 43

**Percentage Employment Increase Among Top Growth Occupations: 2008 to 2013**

- Mental health counselors (65) - 34.9%
- Mental health and substance abuse social workers (53) - 32.7%
- Social and human service assistants (127) - 30.2%
- Rehabilitation counselors (37) - 29.9%
- Psychiatric technicians (36) - 21.6%
- Self-enrichment education teachers (37) - 20.5%
- Personal and home care aides (173) - 20.2%
- Home health aides (168) - 20.2%
- Medical assistants (78) - 20.1%
- Dental hygienists (37) - 19.5%
- Sales representatives, wholesale and manufacturing (186) - 19.4%
- Registered nurses (299) - 16.0%
- Physicians and surgeons (70) - 14.0%
- Medical secretaries (72) - 12.2%
- Child care workers (33) - 11.8%
- Customer service representatives (86) - 10.3%
- Preschool teachers, except special education (32) - 10.0%
- Nursing aides, orderlies, and attendants (131) - 9.6%
- Licensed practical and licensed vocational nurses (49) - 8.9%
- Receptionists and information clerks (35) - 6.0%
- Food preparation workers (except cooking & service) (58) - 4.9%
- Office clerks, general (50) - 4.5%
- Bookkeeping, accounting, and auditing clerks (34) - 3.0%
- Carpenters (33) - 2.8%
- Food preparation & serving workers, including fast food (46) - 1.7%

*Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2*
5.20 Educational Requirements

Table 43 shows the Cape and Islands Workforce Investment Area’s twenty-five top growth occupations by the level of education required for entry into the occupation and average hourly wage. Fifteen of the twenty-five occupations do not require a college degree, while ten require some level of college education. These 25 occupations are expected to grow by 2,024 jobs over the next five years and 41.7 percent of these jobs will require some level of college education, with 16.6 percent requiring an Associate’s Degree and 11.1 percent requiring at least a Bachelor’s Degree.

However, occupations requiring only on-the-job training account for a majority (58.3%) of the projected employment growth in the Cape & Islands Workforce Investment Area. Thus, while significant employment growth is projected in several high-skill industries and occupations, the majority of the new jobs created over the next several years require basic skills.

Table 43

<table>
<thead>
<tr>
<th>Occupation</th>
<th>On the Job Training</th>
<th>Post Secondary Degree</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short Term</td>
<td>Moderate Long Term</td>
<td>Postsecondary Vocational</td>
<td>Assoc.</td>
</tr>
<tr>
<td>Child care workers (33)</td>
<td>X</td>
<td>X</td>
<td>$11.83</td>
<td></td>
</tr>
<tr>
<td>Receptionists and information clerks (35)</td>
<td>X</td>
<td>X</td>
<td>$9.57</td>
<td></td>
</tr>
<tr>
<td>Food preparation/serving workers, including fast food (46)</td>
<td>X</td>
<td>X</td>
<td>$9.02</td>
<td></td>
</tr>
<tr>
<td>Office clerks, general (50)</td>
<td>X</td>
<td>X</td>
<td>$9.85</td>
<td></td>
</tr>
<tr>
<td>Food preparation workers (except cooking &amp; service) (58)</td>
<td>X</td>
<td>X</td>
<td>$9.70</td>
<td></td>
</tr>
<tr>
<td>Home health aides (168)</td>
<td>X</td>
<td>X</td>
<td>$11.67</td>
<td></td>
</tr>
<tr>
<td>Personal and home care aides (173)</td>
<td>X</td>
<td>X</td>
<td>$11.66</td>
<td></td>
</tr>
<tr>
<td>Bookkeeping, accounting, and auditing clerks (34)</td>
<td>X</td>
<td>X</td>
<td>$11.31</td>
<td></td>
</tr>
<tr>
<td>Psychiatric technicians (36)</td>
<td>X</td>
<td>X</td>
<td>$12.61</td>
<td></td>
</tr>
<tr>
<td>Medical assistants (78)</td>
<td>X</td>
<td>X</td>
<td>$13.47</td>
<td></td>
</tr>
<tr>
<td>Customer service representatives (86)</td>
<td>X</td>
<td>X</td>
<td>$10.49</td>
<td></td>
</tr>
<tr>
<td>Social and human service assistants (127)</td>
<td>X</td>
<td>X</td>
<td>$13.01</td>
<td></td>
</tr>
<tr>
<td>Sales representatives, wholesale and manufacturing (186)</td>
<td>X</td>
<td>X</td>
<td>$20.71</td>
<td></td>
</tr>
<tr>
<td>Self-enrichment education teachers (37)</td>
<td>X</td>
<td>X</td>
<td>$17.76</td>
<td></td>
</tr>
<tr>
<td>Carpenters (33)</td>
<td>X</td>
<td>X</td>
<td>$21.87</td>
<td></td>
</tr>
<tr>
<td>Preschool teachers, except special education (32)</td>
<td>X</td>
<td>X</td>
<td>$15.02</td>
<td></td>
</tr>
<tr>
<td>Licensed practical and licensed vocational nurses (49)</td>
<td>X</td>
<td>X</td>
<td>$22.13</td>
<td></td>
</tr>
<tr>
<td>Medical secretaries (72)</td>
<td>X</td>
<td>X</td>
<td>$14.96</td>
<td></td>
</tr>
<tr>
<td>Nursing aides, orderlies, and attendants (131)</td>
<td>X</td>
<td>X</td>
<td>$13.12</td>
<td></td>
</tr>
<tr>
<td>Dental hygienists (37)</td>
<td></td>
<td>X</td>
<td>$34.80</td>
<td></td>
</tr>
<tr>
<td>Registered nurses (299)</td>
<td></td>
<td>X</td>
<td>$35.89</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation counselors (37)</td>
<td></td>
<td>X</td>
<td>$13.10</td>
<td></td>
</tr>
<tr>
<td>Mental health and substance abuse social workers (53)</td>
<td>X</td>
<td>X</td>
<td>$18.63</td>
<td></td>
</tr>
<tr>
<td>Mental health counselors (85)</td>
<td></td>
<td>X</td>
<td>$17.35</td>
<td></td>
</tr>
<tr>
<td>Physicians and surgeons (70)</td>
<td></td>
<td>X</td>
<td>$77.33</td>
<td></td>
</tr>
</tbody>
</table>

* Projected job growth, 2008 to 2013, in parentheses
Source: EMSI Covered Employment - 2nd Quarter 2009 v. 2
5.30 Standard Occupational Classification Descriptions

The 2000 Bureau of Labor Statistics’ Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of over 820 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 23 major groups, 96 minor groups, and 449 broad occupations. Each broad occupation includes detailed occupation(s) requiring similar job duties, skills, education, or experience.

Below are the occupational codes and descriptions of the twenty-five top growth occupations in the Workforce Investment Area.

43-3031 Bookkeeping, accounting, and auditing clerks

Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers.

47-2031 Carpenters

Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Include brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places.

39-9011 Child Care Workers

Attend to children at schools, businesses, private households, and child care institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Exclude "Preschool Teachers" (25-2011) and "Teacher Assistants" (25-9041).

43-4051 Customer service representatives

Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. Exclude individuals whose duties are primarily sales or repair.

29-2021 Dental hygienists

Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop X-rays, or apply fluoride or sealants.

35-3021 Food preparation & serving workers, including fast food

Perform duties which combine both food preparation and food service.
35-2021  Food preparation workers

Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.

31-1011  Home health aides

Provide routine, personal healthcare, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility.

29-2061  Licensed practical and licensed vocational nurses

Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.

31-9092  Medical assistants

Perform administrative and certain clinical duties under the direction of physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Exclude "Physician Assistants" (29-1071).

43-6013  Medical secretaries

Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.

21-1023  Mental health and substance abuse social workers

Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.

21-1014  Mental health counselors

Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental health. May help individuals deal with addictions and substance abuse; family, parenting, and marital problems; suicide; stress management; problems with self-esteem; and issues associated with aging and mental and emotional health. Exclude "Social Workers" (21-1021 through 21-1029), "Psychiatrists" (29-1066), and "Psychologists" (19-3031 through 19-3039).

31-1012  Nursing aides, orderlies, and attendants

Provide basic patient care under direction of nursing staff. Perform duties, such as feed, bathe, dress, groom, or move patients, or change linens. Exclude "Home Health Aides" (31-1011) and "Psychiatric Aides" (31-1013).
43-9061 Office clerks, general

Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring limited knowledge of office management systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of answering telephones, bookkeeping, typing or word processing, stenography, office machine operation, and filing.

39-9021 Personal and home care aides

Assist elderly or disabled adults with daily living activities at the person's home or in a daytime non-residential facility. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals. May provide meals and supervised activities at non-residential care facilities. May advise families, the elderly, and disabled on such things as nutrition, cleanliness, and household utilities.

29-1069 Physicians and surgeons

All physicians and surgeons not listed separately.

25-2011 Preschool teachers, except special education

Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification. Exclude "Child Care Workers" (39-9011) and "Special Education Teachers" (25-2041 through 25-2043).

29-2053 Psychiatric technicians

Care for mentally impaired or emotionally disturbed individuals, following physician instructions and hospital procedures. Monitor patients' physical and emotional well-being and report to medical staff. May participate in rehabilitation and treatment programs, help with personal hygiene, and administer oral medications and hypodermic injections.

43-4171 Receptionists and information clerks

Answer inquiries and obtain information for general public, customers, visitors, and other interested parties. Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization. Exclude "Switchboard Operators, Including Answering Service" (43-2011).

29-1111 Registered nurses

Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Include advance practice nurses such as: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by RNs who have specialized formal, post-basic education and who function in highly autonomous and specialized roles.
21-1015 Rehabilitation counselors

Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement.

41-4012 Sales representatives, wholesale and manufacturing

Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

25-3021 Self-enrichment education teachers

Teach or instruct courses other than those that normally lead to an occupational objective or degree. Courses may include self-improvement, nonvocational, and nonacademic subjects. Teaching may or may not take place in a traditional educational institution.

21-1093 Social and human service assistants

Assist professionals from a wide variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and social and community services and help clients obtain them. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or adult daycare. Exclude "Rehabilitation Counselors" (21-1015), "Personal and Home Care Aides" (39-9021), "Eligibility Interviewers, Government Programs" (43-4061), and "Psychiatric Technicians" (29-2053).
**SOURCES**


(Buerhaus, Peter I., David I. Auerbach, and Douglas O. Staiger, 2009). The Recent Surge In Nurse Employment: Causes And Implications. *Health Affairs.* Published online, see http://content.healthaffairs.org/cgi/content/abstract/hlthaff.28.4.w657.


Interview with Angela Bumpus, Director of Human Resources, Cape Heritage, Sandwich, Massachusetts.

Interview with Bill Zammer, Owner, Coonamessett Inn, Falmouth, Massachusetts.

Interview with Maureen Kalivas, Administrator, EPOCH Senior Healthcare of Brewster, Brewster, Massachusetts.

Interview with Colleen Dunn, Human Resources Manager, Falmouth Hospital, Falmouth, Massachusetts.

Interview with Sally Clements, Recruitment/Retention Coordinator, Home Instead Senior Care, Barnstable, Massachusetts.

Interview with Gwynne Seeidell, Director of Human Resources, Ocean Edge Resort, Brewster, Massachusetts.


Workforce Development Policy Blueprint, 2009


