

**Hampshire County
Industry Snapshots
and
Crosscutting Themes**

**A Compendium to the Hampshire County Agenda for
Growth and Opportunity**

June 2014



Overview

Included in this document are snapshots on eight key industry sectors and four crosscutting themes that surfaced from FutureWorks' extensive research from secondary data, interviews, and existing reports and studies. This research is the foundation upon which the consulting team assessed the strengths and opportunities in the Hampshire County economy and how the county economy relates to the rest of the Pioneer Valley. Contents in this document include:

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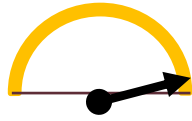
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Educational Services

Total Employment

Jobs (2013)



19,802 Jobs

Growth

% Change (2004-2013)



US: 21.5%

Industry Concentration

Location Quotient
Relative to US (2013)



Average Earnings

Average Earnings Per
Job (2013)



US: \$41,869

Establishments

Number of
Establishments (2012)

131



One out of every five jobs in the county is in educational services. The industry has a concentration in Hampshire County that is five-and-one-half times greater than the industry nationally (LQ 5.69).

The industry is made up of roughly 11,000 private sector jobs and 8,000 jobs associated with the University of Massachusetts.

Five of the 10 largest employers in the county are in educational services. These employers are large anchor institutions that help stabilize the regional economy—they bring top-level leadership, local buying power, and continuity in jobs to the county.

The industry also produces substantial wealth. It generates the county's highest Gross Regional Product (GRP), produces new talent for business, and has the potential to spawn new economic activity through research, patents, and commercialization of products and ideas.

UMass alone generates \$181 million in research and it recently established an Innovation Institute to organize and be more responsive to private industry. Some note that local benefits coming from R&D at the Five Colleges are not fully realized.

About one-third of the jobs in the industry are teaching positions (postsecondary instructors) and another one-fourth are office support positions (secretaries, clerks). The next three largest occupational groups are management, building and maintenance, and computer/IT.

Program areas of strength that relate to boosting local industry have been noted as computer science, polymers, electrical engineering, kinesiology, food science, and gaming. At least two institutions are noted for their entrepreneurial programs (Hampshire College and UMass).

Key Institutions

K-12 education and postsecondary educational institutions represent the large majority of the educational services sector. The following tables show the number of institutions that make up the education sector in the county and region. There are far more jobs among the region's postsecondary colleges than jobs in the K-12 system.

Hampshire County Public School Districts, K-12, 2012			
District Name	Students	Teachers	Schools
Amherst	1,214	113	3
Amherst-Pelham	1,545	126	2
Belchertown	2,518	177	5
Chesterfield-Goshen	169	15	1
Easthampton	1,592	124	5
Gateway	1,084	86	5
Granby	1,095	82	3
Hadley	700	47	2
Hampshire	787	62	1
Hatfield	482	40	2
Hilltown Cooperative Charter Public	165	14	1
Northampton	2,704	203	6
Northampton-Smith Vocational Agricultural	434	47	1
Pelham	123	10	1
Pioneer Valley Chinese Immersion Charter	241	25	1
Pioneer Valley Performing Arts Charter Public	397	40	1
South Hadley	1,999	159	4
Southampton	544	40	1
Ware	1,259	84	3
Westhampton	137	13	1
Williamsburg	156	17	2
Totals	19,345	1,524	51

Degree-Granting Colleges within 50 Miles of Downtown Northampton, 2013

Name	Type	Student population	Undergraduate students
American International College	4-year, Private not-for-profit	3,607	1,492
Amherst College	4-year, Private not-for-profit	1,817	1,817
Anna Maria College	4-year, Private not-for-profit	1,455	1,037
Assumption College	4-year, Private not-for-profit	2,813	2,281
Bay Path College	4-year, Private not-for-profit	2,370	1,558
Becker College	4-year, Private not-for-profit	1,826	1,826
Berkshire Community College	2-year, Public	2,503	2,503
Branford Hall Career Institute-Springfield Campus	< 2-year, Private for-profit	653	653
Clark University	4-year, Private not-for-profit	3,503	2,352
College of Our Lady of the Elms	4-year, Private not-for-profit	1,576	1,268
College of the Holy Cross	4-year, Private not-for-profit	2,926	2,926
Fitchburg State University	4-year, Public	6,889	4,163
Greenfield Community College	2-year, Public	2,437	2,437
Hallmark Institute of Photography	< 2-year, Private for-profit	72	72
Hampshire College	4-year, Private not-for-profit	1,461	1,461
Holyoke Community College	2-year, Public	7,164	7,164
Massachusetts College of Liberal Arts	4-year, Public	1,799	1,600
Mount Holyoke College	4-year, Private not-for-profit	2,347	2,325
Mount Wachusett Community College	2-year, Public	4,731	4,731
Nichols College	4-year, Private not-for-profit	1,413	1,202
Quinsigamond Community College	2-year, Public	8,991	8,991
Salter College-Chicopee	2-year, Private for-profit	110	110
Smith College	4-year, Private not-for-profit	3,212	2,664
Springfield College	4-year, Private not-for-profit	3,284	2,267
Springfield College-School of Human Services	4-year, Private not-for-profit	1,856	1,367
Springfield Technical Community College	2-year, Public	7,011	7,011
University of Massachusetts-Amherst	4-year, Public	28,236	21,928
Western New England University	4-year, Private not-for-profit	3,802	2,695
Westfield State University	4-year, Public	6,081	5,370
Williams College	4-year, Private not-for-profit	2,124	2,070
Worcester Polytechnic Institute	4-year, Private not-for-profit	5,957	3,952
Worcester State University	4-year, Public	6,221	5,307
Total Enrollments		130,362	108,715

Source: National Center for Education Statistics, 2014

Additional Findings

The educational services sector also contains businesses related to education. These include smaller assessment and counseling services to larger companies such as Pearson Evaluation Systems Group, which employs about 250 people in Hadley. The scale of these private, for-profit businesses is hard to pinpoint because their employment statistics are spread across a number of different industry classifications.

In terms of employment, there are significant employment opportunities within educational services, not only in teaching, but also in administration, support, and maintenance. Approximately, 20 percent of the employment in educational services is in administration and support positions. That proportion rises when other technical roles, such as IT and technicians, are included.

Many of the positions in support and administration are middle-skill jobs that offer good job opportunities and may not require a bachelor's or above. Creating pathways and connections into these opportunities is important to help Hampshire County residents gain better access to job opportunities in this sector. This would be particularly important in creating connections among immigrant, ethnic, and racial minorities who need better employment opportunities.

Despite the scale and size of employment in many of the institutions, there are few programs designed in the county for local residents that align training and education with employment needs in the sector.

There are a number of other initiatives led by the colleges and universities focused on the development of Hampshire County. These include technology-related initiatives such as those outlined in the sections of the report on entrepreneurship and technology transfer. They also include community development efforts, such as internships, community service programs, housing development programs, and physical and land development initiatives. Moreover, each college maintains a community outreach or liaison function within its administrative office. These offices manage the relationships between the colleges and cities and towns, and respond to community needs. Five Colleges, Inc. is also a significant consortium that organizes and carries out efforts on behalf of the five elite colleges and universities in the county.

Not surprisingly, many other ongoing efforts at the colleges and universities are focused on non-county audiences. For example, technology transfer and research programs at UMass and other colleges are often focused on state, national, and international companies, but not particularly focused on local firms. There are existing and emerging partnerships between the colleges and universities and Springfield and Holyoke. UMass and Baystate Health have a new effort focused on development in Springfield. Community service and internship programs at both Smith College and Mount Holyoke College focus on poor neighborhoods and service organizations in Springfield and Holyoke. Most of the internship programs focus on state, national, and international placements (with less robust engagement with local firms, for a number of reasons).

While the relationships between “town and gown” are generally positive, there appear to be more opportunities to connect and coordinate efforts across the colleges to include a stronger focus on the county, in particular the many positive efforts that occur at the department level or at colleges in isolation from one another. Some of these include:

- *Business support and development:* Hampshire County hosts a significant number of entrepreneurs and smaller firms that could benefit from better access to postsecondary resources, such as university and college research and technical assistance.
- *Internships and engagement around employment:* Many local firms report difficulty in finding employees with the right talents, and there appears to be opportunity for businesses to work with colleges and universities to develop more robust internships and recruiting opportunities.
- *Talent retention and employment:* Many of the students (either from New England, nationally, or internationally) who come to college in this area will leave after graduation. Hampshire County is losing population in the post-college age group. The county and colleges could collaborate on strategies to retain talented graduates in the region.
- *Access for lower income people and people of color in the county:* There appear to be opportunities to integrate and give access to marginalized populations by scaling up existing efforts, such as innovative outreach and service programs that target these Hampshire County populations.

Healthcare

Total Employment

Jobs (2013)



7,799 Jobs

Growth

% Change (2004-2013)



US: 21.6%

Industry Concentration

Location Quotient Relative to US (2013)



0.98

Average Earnings

Average Earnings Per Job (2013)



US: \$59,499

Establishments

Number of Establishments (2012)



273

Healthcare is the second largest industry in the county with 7,799 jobs. Its concentration in Hampshire County is roughly equivalent to the industry average across the nation (location quotient of 0.98).

There are three distinct segments in healthcare—doctors' offices and outpatient clinics, nursing and long-term care facilities, and hospitals.

The largest segment in the county is doctors' offices and outpatient clinics. These establishments represent more than half of the jobs in the industry, or 4,089 jobs. The segment grew by 27 percent, or 876 jobs, from 2004 to 2013. This was the largest growth among the industry's three segments

The second largest segment is nursing and long-term care facilities. These facilities had 2,224 jobs in the county in 2013. This segment also grew over the last decade by 355 jobs, or 19 percent.

Hospitals is the smallest segment in healthcare and is the only one that declined over the last decade. It dropped from 1,594 jobs in 2004 to 1,466 jobs in 2013, a decline of 8 percent.

Hospitals also have the highest wages in the industry, averaging \$57,628 per job in 2013. Next are jobs in doctors' offices and outpatient clinics at \$50,223. Nursing and long-term care had an average wage of \$30,159.

Life sciences has a small foothold in the county. There were 361 jobs in life sciences in the county. And, the industry in the county is roughly 40 percent the size of the industry as a whole in the U.S. (location quotient of 0.38).

Key Initiatives

- The University of Massachusetts (UMass) is constructing new science-oriented lab and teaching buildings at its Amherst campus, including a life sciences building. Much of the financing for the life sciences building comes from a \$95 million grant made through the Massachusetts Life Sciences Center (MLSC). In addition to the new infrastructure, more than 200 faculty at UMass specialize in health and biomedical research.
- Baystate Health is in the early implementation stages of its Health Informatics & Technology Innovation Center. Located in Springfield, the center has plans to be a late-stage accelerator offering healthcare data, access, and space to innovators to simulate or demonstrate solutions using data assets from Baystate Health. Participants will have the opportunity to pilot in a live clinical environment, to consult with users and experts, and to get product to market.
- The Massachusetts Green High Performance Computing Center received a \$4.54 million grant from the MLSC for a computer system to facilitate bioinformatics research with the participating universities as well as commercial enterprises. Most of the projects are not focused on applying the research in the local economy.
- Greenfield Community College, Holyoke Community College, and Springfield Technical Community College, as well as other colleges and training entities in the Pioneer Valley, offer extensive training in healthcare.

Additional Findings

National healthcare policy and financing, and major demographic trends, are the biggest influencers on the growth and structures of local healthcare institutions.

Industry leaders say there is a strong movement to delivering healthcare through outpatient, community-based care options. That will likely limit job growth in hospitals in the county and the Pioneer Valley. The trend appears to match recent growth of the industry in the county.

Cooley Dickinson is the largest healthcare employer in the county. After Cooley Dickinson, the two largest employers in the industry are ServiceNet and Clinical and Support Operations. In addition, the influence of Baystate Health in the county is significant. Leaders of that system say that more than a thousand of its workers are residents of Hampshire County.

Currently, life sciences has a very thin presence in the county and its potential for growth is relatively undefined. More than 200 faculty at UMass specialize in health and biomedical research, and the university is constructing new lab and teaching buildings. For the most part, the orientation of the research and infrastructure is not focused on applications in the local economy.

Some say the Cooley Dickinson/Massachusetts General Hospital relationship has potential for new smaller entrepreneurial activity, yet that potential is still undefined.

Fazzi Associates is a national leader in consulting and medical coding solutions for the community-based care segment of the industry. It has significant health informatics capabilities.

The shortage of skilled and credentialed healthcare workers is a significant constraint to current employers in the industry. The largest occupational grouping is nurses and nursing assistants. Some note that IT skills and workers is a huge need in the industry. Seventy-seven percent of the industry's workers are female.

Creative Industries

Total Employment

Jobs (2013)



5,292 Jobs

Growth

% Change (2004-2013)



US: -0.2%

Industry Concentration

Location Quotient
Relative to US (2013)



Average Earnings

Average Earnings Per
Job (2013)



US: N/A

Establishments

Number of
Establishments (2012)



The creative industries is the sixth largest industry in the county, with 5,292 jobs. The county has a concentration of jobs in this industry that is 1.6 times greater than the average in the U.S.

The largest segments of the industry are:

- media and film (990 jobs)
- design (850 jobs)
- visual arts and crafts (830 jobs)
- performing arts (725 jobs)
- cultural heritage and museums (142 jobs).

Self-employed and sole-proprietors make up 70 percent of the jobs in the industry.

Studies on the industry in the Pioneer Valley note that a unique set of characteristics make this cluster of economic activity ripe for growth, including a well-educated population, presence of assets and consumers through the colleges and universities, and relatively low cost of living.

The nexus of this industry appears to be in Easthampton, Northampton, and Amherst, each serving a particular niche. Easthampton is a growing center for living and studio space for the industry, in part because of relatively inexpensive real estate costs in the town. Northampton is a center for live performances and a complimentary retail scene. Amherst and Hadley offer a mix of both, plus a large consumer base associated with the colleges. The Hill Towns are home to a relatively large concentration of specialty crafts and studios.

Key Organizations and Initiatives

Local arts councils and networks

- There are 19 arts councils that provide small arts grants to artists and nonprofit organizations. These include Northampton Center for the Arts and Easthampton City Arts+. These two organizations also organize special arts-related events throughout the year, provide networking opportunities, and offer space for performances.
- The Arts Extension Service operates extensive arts internship programs for students at the Five Colleges in arts management and classes in the business of art.
- There are a number of formal and informal organizations, such as the Hilltown Artisan Guild and Straw Dog Writers Guild, which provide support to poets, photographers, visual artists, and sculptors.

Regional and state-level organizations

- Plug into the Creative Valley is a networking effort organized by the Western Massachusetts Economic Development Council (EDC). Opportunities to network and develop collaboration occur on a monthly basis at different locations throughout the Pioneer Valley.
- Creative Network for the Pioneer Valley is a new and emerging program affiliated with the statewide office of the Massachusetts Creative Economy Industry effort. The network is a partnership of the Western Massachusetts EDC, the Fostering Art Culture Project in Franklin County, several business improvement districts (BIDs), the Berkshire Film Collaborative, the Franklin County Chamber of Commerce, and Massachusetts Digital Games Institute (MassDiGI). The five-part statewide action agenda is business development, access to capital, visibility, talent attraction, and space.
- The Fostering Art Culture Project was initiated in 2006 to grow Franklin County's creative economy. Partners include the Franklin County Community Development Corporation, the Franklin Chamber of Commerce, the Regional Employment Board, the town of Shelburne Falls, and RiverCulture. The effort has organized several creative summits and continues to organize monthly networking sessions.
- MASSCreative is a nonprofit, statewide advocacy organization that builds support for the arts and creative economy through the legislative process and through its MASSCreative Action Network.
- The Massachusetts Creative Industries Office coordinates the Massachusetts Creative Industries Council and the Creative Economy Network. The Massachusetts Cultural Council is a state agency with a portfolio of programs and projects that includes support for Cultural Districts, hireCulture, the Massachusetts Cultural Data Project, the Commonwealth Awards, and the Cultural Facilities Fund.

- The New England Foundation for the Arts (NEFA) is the go-to source on arts and the creative economy for New England. NEFA recently launched Common Ground, a new database of artists, arts organizations, and businesses.

Additional Findings

Hampshire County has four strong, yet varied, geographic nodes of creative activity:

- Northampton has the strongest concentration of art galleries, music, entertainment, and two highly recognized performing art spaces in the Academy of Music Theatre and the Calvin Theatre, a new performing arts space with the Center for the Arts, and several first-rate performing arts spaces and programs at Smith College. The Arts & Industry Building in Florence offers production space for dozens of creatives who work in all art forms.
- Easthampton has several hundred thousand square feet of space in older industrial buildings that house hundreds of creative enterprises. These buildings include Eastworks, Paragon Arts, Mill 180, and One Cottage Street. Easthampton City Arts+ has become an effective focal point for these creative enterprises, and a number of other downtown arts spaces and activities have made the city a magnet for young, edgy art and creative work.
- Amherst and Hadley are home to a number of creative assets that come from its universities. This includes several museums, exhibit spaces, performing arts spaces, art galleries, and degree programs in the arts (including literary arts history). Each town has a number of independent art galleries. Amherst is home to large events like Amherst Live.
- The Hill Towns have a large and eclectic concentration of visual artists. Scattered throughout the towns are sculptors, photographers, furniture makers, filmmakers, potters, ceramists, basket makers, glass blowers, writers, and fabric artists. Snow Farm is one of the largest centers for artistic and creative instruction in New England. It serves as a focal point for much of these visual art and craft assets.

There is a rich and broad landscape of creative businesses, organizations, and individuals that make up the six segments of Hampshire County's creative economy. These include visual arts and craft, design, film and media, museums and heritage, literary arts and publishing, and performing arts. A database created for this project shows roughly 650 creative enterprises in the county. In addition to these enterprises, there are many individuals who are nationally recognized in their fields. A few of these include writers Jonathan Harr and Tracy Kidder; filmmakers Diane Garey and Lawrence Hott of Hott Productions; children's book writers Jane Yolen, Mo Willems, and Patricia MacLachlan; illustrators Barry Moser and Jane Dyer; members of the band Sonic Youth; painter Scott Prior; and poet and former Poet Laureate James Tate.

There are also many other creative individuals and small, specialized firms/enterprises with a national customer base and high visibility in their field. A few examples include:

- Charles Wiemeyer Design Company custom designs large-scale public art installations for publicly-funded building and development projects in major cities across the U. S. and Japan. The company is one of only a handful of designers that creates fabricated wood and metal products for this market.
- Tony Silva is a local musician and composer. He has more than 40 commissions for his work in modern dance, theater, and documentary films. His most recent composition was for the film *Walking in Two Worlds: Tribes & Timber in Alaska's Tongass Forest*. Silva also composed the music for Florentine Films' documentary on Frederick Law Olmsted.
- Flying Object is a Hadley-based enterprise that includes traditional letterpress printing, a bookstore, and a small performance space that features music and poetry. Flying Object is a membership-based operation that has 100 members from the Pioneer Valley and in the U.S., and attracts performers from New York, Chicago, and Los Angeles.
- Signature Sounds Recordings in Northampton is a record label enterprise founded in 1995. The firm has released more than 50 albums since its inception. It specializes in American Roots music. The firm developed the Parlor Room, an intimate concert space that has become a core element of the area's music scene.
- LogicTrail is based in Florence but works with companies and organizations throughout the U.S. Logic Trail is a six-person creative marketing and branding firm whose competition is companies in larger metro areas around the country. Clients include Carnegie Hall; HJ Weir, an international firm; and Keurig, maker of single-cup coffee brewers.
- Stone Soup Concrete is a high-end designer and manufacturer of soft-surface and textured concrete products for home kitchens and bathrooms, businesses in the restaurant industry, and outdoor accessories. The company's design aesthetic and product quality distinguish it in the marketplace. It is located in the Eastworks Building in Easthampton.
- Hudson Hills Press publishes and distributes illustrated books on Native American and Southwestern art, as well as books on painting, sculpture, photography, and museum collections from around the world. Hudson Hills Press works primarily with major museums and art galleries in North America and Europe.
- Sharon C. Mehrman Woodworking produces handcrafted heirloom quality furniture, home furnishings, and architectural wood fixtures. Each piece is individually designed and crafted from sustainably harvested wood.
- DIY/Maker Spaces have taken hold as the Do-It-Yourself movement gains traction. There are several locations in the region where creatives have the opportunity to create without the burden of high overhead costs. Art Alive in Amherst, Knack: the Art of Clever Reuse in

Easthampton, and the Beehive Sewing Studio in Northampton are but three examples of these spaces.

The strengths of the county's creative assets make it a nationally recognized destination that brings in world-class talent as well as visitors and creative consumers from throughout the Northeast. The attraction of visitors is especially important to the county's economy because they bring in income, which, in turn, helps generate jobs in the hospitality industry.

The county's five higher education institutions have a number of high-end creative assets, including their arts and creative-related museums (Beneski Museum of Natural History, Mount Holyoke College Art Museum, Smith College Museum of Art, the Mead Art Museum, and the University Museum of Contemporary Art at UMass), galleries, exhibit spaces, performing arts spaces, degree programs, as well as many of the faculty focused in creative disciplines. The Center for Design at Hampshire College is a laboratory for students to explore sculpture and fabrication. Several students from the center recently started their own cooperative fabrication business in Holyoke.

There are several challenges to growing the county's creative industries, including:

- There is no overall clearinghouse or coordinated communication system that leverages the rich creative assets in the county and helps to further capitalize on those assets. There is strong interest among creative individuals, businesses, and organizations for more opportunities to network and to form strategic partnerships that would lead to new products and services. And, even though there are several information and data sources on the creative economy, they are fractured and do not adequately capture the breadth of the businesses, organizations, and creative individuals in the county.
- The "brand" of the county's creative economy is weak. Most references to creative activity in the county are focused generally on "arts and culture" rather than the six segments that make up the creative economy.
- The four geographic nodes noted above are strong locational concentrations of creative activity. However, the nodes often function in silos and there is little cross-city or regional coordination and strategic collaboration to further elevate the creative economy and its revenue-generating capability.
- While the business community in the county is an active supporter of arts and culture, it does not adequately understand the richness and complexity of the creative economy, nor does it fully grasp the potential that creative entrepreneurs and creative businesses have as creative service and product suppliers for county businesses. For example, local commercial businesses frequently look outside the county for graphic and advertising services when those services exist in the county.
- The interviews and meetings with creative enterprises and individuals surfaced a lack of connection between the creative community and the technology community. Since

technology has fast become a critical asset in the production and distribution of creative content, more could be done to make the creative-tech connection in the county.

- There is frustration in the creative community as to the unrealized potential that could exist with stronger engagement with the county's higher education institutions. More student internships at local creative businesses and with creative entrepreneurs, for example, would provide a win-win for students and creatives, and more collaboration with key departments and creative businesses and organizations in the county could potentially benefit the degree programs and also inform and enhance the creative work within the creative community.

Manufacturing

Total Employment

Jobs (2013)



3,335 Jobs

Growth

% Change (2004-2013)



US: -15.2%

Industry Concentration

Location Quotient
Relative to US (2013)



0.54

Average Earnings

Average Earnings Per
Job (2013)



US: \$75,348

Establishments

Number of
Establishments (2012)

130



Manufacturing has a high wage and gross regional product for its size—the industry ranks fourth in GRP in the county (behind education, health, and retail).

The industry has declined faster than the U.S. as a whole over the last decade (-22.6 percent from 2004-2013) and its concentration is relatively thin in the county (location quotient of 0.54).

Almost 60 percent of the industry's workers in the county are 45 years and older and 75 percent are male.

Some note a shortage of skilled machinists in the county. Top occupations in the industry are team assemblers; first-line supervisors; machinists; paper goods machine setters, operators, and tenders; and production managers.

There are just about eight times as many manufacturing jobs in Franklin and Hampden counties combined (23,800 jobs) than in Hampshire County.

Franklin and Hampden counties have a relatively high manufacturing concentration (combined LQ of 1.2 relative to the U.S.). Franklin County's manufacturing LQ is 1.5.

Precision manufacturing is identified as a cluster of strength in the Pioneer Valley and Knowledge Corridor, although its presence in Hampshire County appears to be small.

According to the Pioneer Valley's Comprehensive Economic Development Strategy, precision machining in the Knowledge Corridor has a LQ of 3.4, and for the Springfield metropolitan area it is 2.7. Plastics manufacturing has a LQ of 2.5 in the Springfield MSA. Food processing is also mentioned as a segment for potential growth.

Key Organizations and Initiatives

There are a number of manufacturing-related efforts underway in the county and region:

- Middle Skills Academy Advanced Manufacturing Training (Greenfield Community College, Franklin County Regional Vocational Technical School, Franklin County employers) was recently organized by Greenfield Community College with state and private grants (largely from Franklin County employers). The Academy is focused on manufacturing training. It has a capacity for 20 students who enter basic manufacturing skills training as well as more advanced CNC and other precision skills training.
- Advanced Manufacturing Collaborative is a Massachusetts statewide initiative to support innovation in manufacturing technology, product innovation, and skills development. Though statewide, a considerable focus is on Western Massachusetts and Pioneer Valley, especially for workforce training. The collaborative is working to execute a five-point agenda: promoting manufacturing, workforce and education, technical assistance and innovation, access to capital, and cost of doing business. Its efforts include:
 - AMP it Up! is a statewide promotional campaign educating students, parents, teachers, and guidance counselors about manufacturing careers in the Commonwealth. Regional partnerships can apply for matching grants to expand the reach of their existing efforts to promote manufacturing careers.
 - Advanced Manufacturing Regional Partnership Academy is an effort to strengthen the support for the immediate needs of manufacturers at the local level. The Academy, building on its strong regional partnerships, is working with a team of experts from the University of Massachusetts to bring together regional partners to engage in quarterly Academy sessions in which best practices can be shared and practical challenges to meeting manufacturers' workforce needs can be addressed.
 - Massachusetts has developed new resources to support the state's Advanced Manufacturing Agenda. The FY2014 state budget dedicates over \$21 million in new state funds to support the needs of the state's manufacturers.
- Pioneer Valley Precision Manufacturing Training Program (PMTP) is a long-term, lower Pioneer Valley effort to increase the amount and coordination of precision machinist training available. It is premised on solid coordination among educators and industry, and is led by the Hampden County Regional Employment Board and governed by an industry advisory board and the Western Massachusetts Chapter of the National Tooling and Machining Association. The project has received considerable state and federal funds for incumbent and new worker training. It supports the Springfield Technical Community College and Asnuntuck Community College Manufacturing Technologies Pathway Program (MTP); On-the-Job Training program (OJT); Industry Fast Track program with Smith & Wesson and Roger L. Putnam Vocational Technical Academy; and Basic Skills Transition

Program (BSTP) at Springfield Technical Community College and Westfield Vocational Technical High School.

- Manufacturing Advancement Center Workforce Innovation Collaborative is a membership and fee-for-service organization that supports precision machining and manufacturing. Local manufacturing companies could use it to access better training resources.

Educational resources

- Springfield Technical Community College offers programming in precision manufacturing, robotics (CIM), engineering technology, and related manufacturing associate's degree and certificate programs.
- Holyoke Community College offers engineering courses (electrical), robotics, and computer science engineering-related courses designed for transfer options to four-year colleges.
- Smith Vocational Technical High School offers courses in electrical and manufacturing technology. Apparently, the school's programs are relatively small and not tied into manufacturing training programs either in Franklin or in Hampshire counties

Additional Findings

This is a slow to no growth sector in which there is limited potential for absolute growth in the number of firms and a more likely scenario of a continuing slow decline in the manufacturing sector in the county. Much of the loss of manufacturing has already happened.

Hampshire County has a much lower concentration of manufacturing firms than the state as a whole.

There is a relatively small number of manufacturing firms in Hampshire County. There are very few large firms of more than 100 employees. Firms that are in Hampshire County are in precision machining, chemicals, films and polymers and spinoffs from the fabric and coatings industry in Northampton and Easthampton, and electronics/optical related to spinoffs and heritage from Kollmorgen (e.g., L3-KEO, smaller optical companies in Easthampton).

Many skilled workers travel north and south of the county for employment at high wages. There is demand for skilled workers in those areas. This would point toward a strategy of helping Hampshire County residents gain skills they need to respond to whatever local demand there is and to be prepared to work in areas outside the county.

The strongest employment demand is for machinist and precision manufacturing, but most of that demand comes from outside the county.

Despite the declines, earnings in manufacturing are high ranging from nearly \$100K in electronic and computer manufacturing (showing increases in employment in that sector) to about \$45K in wood products (showing considerable decline in overall employment).

The greatest need is a supply of skilled workers, in particular for technicians and professional-engineers. Manufacturing sector training and development programs mainly focus their efforts in Hampden and Franklin counties.

Manufacturers also said they felt isolated, unconnected, and relatively under-recognized in the county. In part, that feeling of isolation comes from the lack of proximity of other similar manufacturing companies in the county. For example, the small number of manufacturers in any specific technology means it is hard to create a pool of talent in either technical or managerial fields. It also means there is not much of a local information network among companies in the industry and limited opportunities to share technical information, according to the manufacturers interviewed. Manufacturers also reported that the regulatory environment is inhospitable and suspicious of their growth. There is also a perception that few organizations work for their interests and that the chambers have a stronger orientation to “downtown” businesses.

At the same time, there were some manufacturers that expressed interest in building stronger connections in Hampshire County; in particular, there was interest in building relationships with education (secondary and postsecondary) around internships and access to graduates. There was not much interest in building connections around technology, in part due to the perception that technical knowledge is not locally available and it is too hard to access.

Food and Agriculture

Total Employment

Jobs (2013)



2,273 Jobs

Food and agriculture is a smaller, but growing, industry. In 2013, there were 2,273 jobs in the industry. About 1,000 of these jobs are in farms and 550 in food service contractors and caterers—the two largest segments.

Growth

% Change (2004-2013)



US: 3.6%

Food and agriculture grew by more than 500 jobs (30.8 percent) in the last decade. Over half of that growth came from food service contractors (300 new jobs). Other growth came in farm employment (140 new jobs).

Industry Concentration

Location Quotient Relative to US (2013)



Almost 70 percent of the jobs in agriculture are self-employed and sole-proprietor establishments.

The number of farms in the county has increased according the U.S. Census of Agriculture. The last census shows county growth from 542 farms in 2002 to 799 farms in 2012, slightly higher than the number of farms in Franklin County.

Average Earnings

Average Earnings Per Job (2013)



US: \$33,776

In addition, total income produced by Hampshire County farms has increased 27 percent over the last five years. Farm income in real dollars jumped from \$38,617,000 in 2007 to \$49,229,000 in 2012.

Hampshire County is the biggest vegetable producer in the state.

Establishments

Number of Establishments (2012)

102



Key Organizations and Initiatives

Key organizations

- Community Involved in Sustaining Agriculture (CISA) is the leading food and agriculture-related organization and network in the region. Its major thrust is to “scale up the local food system” with strategies to create more demand for local farms and food (Be A Local Hero, Buy Locally Grown program™), facilitate better market regulation, and provide technical assistance to facilitate a tighter local food system.
- Pioneer Valley Growers Association is a marketing and distribution cooperative of produce growers to supermarket chains within Massachusetts and throughout New England.
- PVGrows is a network of stakeholders dedicated to connecting, sharing, and matching goals and expertise in order to promote growth of the Pioneer Valley food system. The network includes a new PVGrows Loan Fund to finance farms, restaurants, food retailers, food processors, and wholesalers with loans ranging from \$1,000 to \$250,000.

College, university, and postsecondary resources

- The Center for Agriculture, Food and the Environment at the University of Massachusetts is a portal through which individuals, industries, and agencies connect with scientists and educators and bring together programs from Stockbridge School of Agriculture, UMass Extension, and the Massachusetts Agricultural Experiment Station.
- Food, Farm, and Sustainability Institute at Hampshire College and Hampshire College Farm Center is a working farm and educational center for the college.
- Amherst College Book & Plow Farm is a working farm that supplies the Amherst College food service provider with fresh vegetables.
- Smith College Office of Environmental Sustainability integrates environmentally sustainable practices into institutional operations. It is located in the Center for the Environment, Ecological Design, and Sustainability.
- Greenfield Community College’s Farm and Food Systems initiative offers an Associate of Arts degree.
- Smith Vocational and Agricultural High School offers a program in Agricultural Mechanics/Animal Science.

Other area organizations/initiatives

- Fertile Ground is a farm-to-school initiative (Williamsburg).
- New England Small Farm Institute is a nonprofit educational organization that promotes small farm development (Belchertown).
- Nuestras Raices is a grassroots urban agricultural nonprofit organization (Hokyo).
- New Lands Farm is a refugee farmer collective run by Lutheran Social Services (Springfield).
- Gardening the Community is a food justice organization engaged in youth development, urban agriculture, and sustainable living (Springfield).
- Seeds of Solidarity Education Center is a community-based agriculture and training program rooted in the North Quabbin area (Orange).
- Collaborative Regional Alliance for Farmer Training is a cooperative effort of local organic and biodynamic farms organized to enhance educational opportunities for farm apprentices.

Additional Findings

The industry has heightened importance to the county because of the region's farming legacy, links to land preservation, the county's strong green ethos, connections to farm-to-table and local food establishments, and fit with the county's small town character.

Leaders identify food processing and distribution as two segments of the industry in the Pioneer Valley primed for growth.

A barrier to that growth is the county's food processing capacity and distribution infrastructure. Leaders identify food processing and distribution as two key support channels that would help grow revenues in the industry and help stabilize enterprises.

The industry is in good position to penetrate nearby markets for community-supported agriculture (CSA) products. Leaders say that Hampden County, in particular, is relatively underserved and that food and agricultural enterprises are already making headway into Boston markets.

The ability to earn a living income from relatively small acreage requires adding new types of value to products, such as providing the consumer with an experience based on both process and product, reaching certain niche markets, or producing complementary products for the energy sector or other sectors.

The industry appears to be well organized, with CISA being a strong advocate for and provider of services to the industry. One of CISA's major thrusts is to pump up the market for "local foods," thereby increasing demand for farmer products.

Large institutions in the area, such as colleges, hospitals, and school systems, are increasingly large buyers of local food. In 2013, UMass Amherst became the largest food-service provider in the nation to sign on to the Real Food Campus Commitment, a promise to buy from local food systems. Places like the Hatfield Public School District are providing farm-to-table in their cafeterias, and Amherst College's Book & Plow Farm is supplying the college's food service provider with fresh vegetables.

The area's college students have a tremendous appetite and energy to do something in the field of food and agriculture. The students are fueled by the ubiquitous "sustainability" program focus at each of the area colleges. Moreover, while farmers generally are limited in the time they have to innovate and add value to their products, students are eager to find ways to use their technical competencies to create new products and processes.

Financing is difficult for small farms and local food establishments. Financing challenges include access to and fit with traditional financing; access to, fit with, and availability of alternative financing; and business operation specifics (including, for example, cash flow circumstances, like purchasing raw inputs in the growing season but not realizing income or profit until winter).

Hospitality and Tourism

Total Employment

Jobs (2013)



4,139 Jobs

Hospitality and tourism has 4,139 jobs in the county. It has grown more than 20 percent in the last decade, and the industry has a larger concentration in Hampshire County than in the U.S. as a whole (LQ 1.32).

Growth

% Change (2004-2013)



US: 13.1%

Hospitality and tourism in the county is tightly linked to the creative industries. More than 60 percent of the jobs in the industry (2,400+ jobs) come from independent artists and promoters, agents, performing art venues, and museums.

There is a very small number of establishments in the industry, in part because two in five jobs are independent, self-employed, or sole-proprietors. Most of these are creative individual proprietors.

There are roughly 600 jobs in hotels and lodging in the county.

Industry Concentration

Location Quotient
Relative to US (2013)



County wages in hospitality and tourism are roughly half the U.S. average.

In 2012, tourism expenditures in Hampshire County were almost \$120 million, which, in turn, generated 860 jobs. Those same expenditures generated local tax receipts of roughly \$3.2 million, up from \$2.7 million in tax receipts from tourism in 2008.

Average Earnings

Average Earnings Per
Job (2013)



US: \$29,644

Hampshire County ranks 13 out of 14 counties in the state in terms of economic impact generated from tourism. Only Franklin County had less tourism expenditures than Hampshire in the state.

The location of a casino in the region will clearly affect the nature and overall impact of the industry in the county.

Establishments

Number of
Establishments (2012)

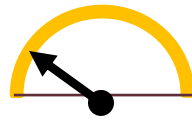
123



IT and Digital Technologies

Total Employment

Jobs (2013)



2,058 Jobs

Growth

% Change (2004-2013)



US: 7.0%

Industry Concentration

Location Quotient
Relative to US (2013)



0.61

Average Earnings

Average Earnings Per
Job (2013)



\$75,329

US: \$102,919

Establishments

Number of
Establishments (2012)

153



IT and digital technologies is a relatively small, but growing, industry in the county. Over the last 10 years it grew by 13 percent, from 1,828 jobs in 2004 to 2,058 jobs in 2013. These jobs are from software publishers, computer and instrument manufacturers, and IT services in the county.

The industry's makeup includes IT and computer systems firms, gaming, design content for the web, computer and instrument manufacturers, and small software companies.

Around one-third of the jobs in this industry are self-employed and sole-proprietors. The wages are relatively high for the county, although still more than \$25,000 below the national average.

Many people classify this diverse range of economic activity as "hidden tech." Likewise, some define the industry by not only those who make technology, but also those who are technologically savvy and rely on technology for economic pursuits in other industries.

There are almost 2,700 jobs in IT and digital-related occupations in the county using this broader occupational definition that cuts across industries.

The county has concentrations among multimedia artists and animators (such as gaming) and IT-related research services.

Key Organizations and Initiatives

There is a small group of IT and digital technology companies that network informally in the county. These are mostly entrepreneurs who have small IT and digital companies that share talent and face similar growth issues.

“Hidden-Tech” was an emergent group of IT and digital technology individuals and businesses that organized networking opportunities, advocated for the industry and professionals, and was involved in organizing and branding the industry. There is a sense that the group has largely faded and no longer plays a prominent role in the county.

There are a number of other formal and informal groups of “techies.” One is Ignite Amherst, a gathering of entrepreneurs and techies that select different topics of focus each time they meet. The chambers have young professional networks that become a home for some of the technology-oriented professionals in the region.

Click Workspace is a private co-working space and incubator with a location in Northampton. It houses space for many IT-related service providers and has plans to grow in the county.

Tech Foundry, launched in Springfield, provides labs, workshops, and training content in partnership with employers to develop young IT talent in the Pioneer Valley. A primary target constituency of the Tech Foundry is nontraditional students and young adults left out of the economic mainstream. As part of the project, Tech Foundry’s president has said that there is interest in moving a satellite of the program to Hampshire County.

Additional Findings

The presence of high-technology manufacturing has declined steadily in the region, although there is a concentration in aerospace manufacturing in the southern portion of the Pioneer Valley and in north-central Connecticut. One of the larger high-technology-related manufacturers still left in the county is L3-KEO, formerly Kollmorgen Electro-Optical. It makes sophisticated optics equipment and employs about 340 people at its Village Hill location.

Constraints to growth noted by some are the lack of appropriately rehabbed space and space that is wired to handle high demands for bandwidth. Some tech leaders say the county lacks places where technology-oriented professionals and entrepreneurs can connect, share ideas, and create products together.

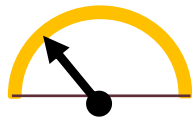
The demand for IT-trained workers cuts across industries. Employers from financial services, education, and healthcare say that there is high demand for IT workers and technologists in their industries. This includes some of the chief executives from the region's largest employers. They say demand for IT workers at their workplaces outstrips supply.

Companies that produce IT products (e.g., gaming) or provide IT services say that they get much of their younger tech talent (ages 25 to 30) from the local universities. Their biggest constraint is finding tech talent that has mid- or senior-level experience.

Financial Services

Total Employment

Jobs (2013)



2,880 Jobs

Growth

% Change (2004-2013)



US: 24.4%

Industry Concentration

Location Quotient
Relative to US (2013)



Average Earnings

Average Earnings Per
Job (2013)



US: \$81,497

Establishments

Number of
Establishments (2012)

147



The financial services industry is a relatively small employer. In 2013, there were 2,880 financial services jobs in Hampshire County. As an industry, financial services has a relatively small concentration in the county, about half of the typical concentration of the industry in the U.S. (LQ 0.58).

About one in five of the jobs in the industry (roughly 600 jobs) are personal financial advisors. Another one in seven jobs are sales agents in the industry (425 jobs), and one in 14 are tellers (200 jobs).

The four principal local banks in the county are Florence Savings Bank, Easthampton Savings Bank, People's Bank, and United Bank. Country Bank, headquartered in Ware, is also a large employer.

Over the last decade, the industry has grown by 50 percent, twice as fast as the national average. Almost all of that growth (700+ jobs) has come from an increase in jobs with securities and investment firms.

Just south of Hampshire County, there are more than 13,000 jobs in financial services. The industry in Hampden County is dominated by the headquarters of MassMutual in Springfield.

Despite the location of MassMutual in its county, Hampden County does not have a higher than average concentration of activity in financial services than the rest of the country.

Additional Findings

- Technology has been a key to banking, both nationally and in Hampshire County, and its importance to the financial sector will increase in the future. One consequence of this trend may be a de-emphasis on physical buildings and a decline in walk-in banking customers. This could clearly have an impact on the number of people who are employed at local banks.
- The four principal local banks in the county are Florence Savings Bank, Easthampton Savings Bank, People's Bank, and United Bank. The assets of these local banks range roughly between \$1.2 billion to slightly less than \$2 billion.
- There has been a significant shift by consumers and businesses in the county away from using the larger, national banks to local banks because of the financial recession, the questionable practices of the larger banks, and the popularity and success of the "Buy Local" movement in Hampshire County. As a result, local banks have slightly increased their market share in Hampshire County.
- Because there is little population and business growth, the market share of each of the local banks is stable, but flat. However, if the larger banks in the area further downsize or reduce their presence in Hampshire County, local banks could capture that customer base.
- One of the employment challenges of the banks is finding high-level senior staff and analysts.
- If a casino is located in Springfield, it could impact the ability of the local banks to recruit and retain tellers.
- In the area of wealth management, one of the segments of financial services, there are two key dynamics occurring in Hampshire County.
 - The larger national investment and wealth management firms, like, Smith Barney, Merrill Lynch, and Wells Fargo, have small offices in the county, but these are unlikely to grow here because of the modest size of the county's economy.
 - Because of the tarnished reputation of the larger firms, small, local investment and advisor firms, like Thomson Financial and the Davis Financial Group, may experience some very modest growth. This would especially be the case if the region continues to attract older, wealthier people of retirement age.
- Banking is such a highly regulated industry that there is very little a local organization or entity can do to make an impact on the industry's growth.

Entrepreneurship

Key Organizations and Initiatives

- Amherst Area Chamber of Commerce, Greater Easthampton Chamber of Commerce, Greater Northampton Chamber of Commerce, and South Hadley-Granby Chamber of Commerce provide support to traded sector enterprises and entrepreneurs by influencing the quality of the business environment in the county. They also host various networking events, policy forums, and workshops geared to support their efforts and needs.
- The Massachusetts Small Business Development Center Western Regional Office is part of a statewide program with outreach sites at the Greater Northampton and Amherst Area chambers of commerce. It offers assistance with business strategy, financing, loan assistance, marketing, and operational analysis.
- SCORE provides volunteer advisors and mentors to aspiring entrepreneurs and business owners.
- Common Capital is a community development finance institution with financing up to \$300,000 per business and business advisory services available.
- Valley CDC Small Business Development Program offers small business services to low- to moderate-income residents of Hampshire County. Services include business plan development, cash flow analysis, marketing, and getting access to community loan funds.
- River Valley Investors is a local angel investor network, and Long River Ventures is a group of seed and early-stage investors with a presence in region. The group has yet to make a Hampshire County investment. Its target investment range is \$500,000 to \$1 million.
- PVGrows is a new network of food and agricultural organizations that oversees a \$750,000 loan fund.
- Click Workspace is a private co-working space and incubator with locations in Northampton.
- Small business resources at the Five Colleges include:
 - Isenberg School of Management's Center for Entrepreneurship (C4E) offers students a Mentors and Ventures Program, and as part of that program runs the Elevator Pitch Competition.
 - Smith College's Center for Women and Financial Independence runs the Draper Business Plan Competition, an event in which student entrepreneurs compete with each other before a panel of judges for three prizes totaling \$20,000 (includes Mount Holyoke).

- Hampshire College Seed Fund for Entrepreneurship and Innovation was created by a \$1 million gift from alum and entrepreneur Michael Vlock. Each year, students are selected to use a portion of the funds to start business projects.
- Pre-Business Group at Amherst College holds seminars throughout the year in addition to other events that are designed to educate and assist students in preparing for a business education.
- The Harold Grinspoon Foundation provides support for entrepreneurship education, an annual conference, and pitch competitions among area colleges and universities. Each college has a Grinspoon-designated liaison who is in charge of a sum of money to be put toward encouraging entrepreneurship on campus.
- Business competitions in the area include:
 - Pioneer Valley Business Competition is a new effort to raise money for Pioneer Valley-based companies.
 - Smith College’s Center for Women and Financial Independence operates the Draper business competition.
 - The UMass Innovation Challenge offers \$65,000 in prizes each academic year to new innovation and business ideas.
- Entrepreneurial and small business networks include:
 - Valley Venture Mentors is a growing network that connects early-stage ventures with experienced mentor advisors.
 - Plug Into the Creative Valley is a network gathering of creatives.
 - Ignite Amherst is a gathering of entrepreneurs and techies with different topics of focus at each meeting.
 - Pioneer Valley Local First is a volunteer effort to encourage “buy and bank local.”
- Other regional resources include:
 - Business Growth Center at Springfield Technology Park (formerly Scibelli Enterprise Center);
 - Gasoline Alley Foundation, Springfield – social enterprise focus;
 - Franklin County Community Development Corporation Venture Center;
 - Western Massachusetts Food Processing Center;
 - Orange Innovation Center;

- Holyoke Innovation District; and
- Massachusetts Green High Performance Computing Center.

Additional Findings

There is a new, young entrepreneurial culture emerging in Hampshire County. The county has a relatively large number of self-employed entrepreneurs and small businesses with fewer than 15 employees. There are vibrant segments in IT and digital technologies, food and agriculture, and the creative economy. There are also small businesses clustered around sustainability and social enterprises.

The region needs more places where entrepreneurs can collect and center in one place. Entrepreneurship is best when ideas are shared, people are in close proximity, opportunities for peer-to-peer networking are available, and ideas and new thinking are encouraged. Nodes of these attributes exist in Hampshire County, but are largely dispersed or not geared to a cohesive narrative about growing new and small business.

A central challenge to growth in the region is the expansion of smaller, entrepreneurial firms into larger mid-sized firms. A recent study concludes that the region's smaller entrepreneurial firms with fewer than 15 employees often lack the managerial expertise to grow into a bigger company. In turn, that limits opportunities for a more diverse, stable set of job opportunities for area residents.

Capital is not a constraint. Financing experts note that there is enough capital to fund good business opportunities. These same experts note that financing can be constrained by thin managerial expertise among existing entrepreneurs and, at times, lack of industry familiarity among the financiers.

The county has an emerging ecosystem of business assistance and support for entrepreneurs. Promising efforts include a few private sector-led efforts and a number of business competitions and networks that are trying to hatch and fund new business ideas.

There is a rich pool of entrepreneurial energy and talent at the Five Colleges, although the scale of impact in the community is unclear. Most of the colleges have business competitions and entrepreneurial pitch contests geared to students. Moreover, area business schools and programs churn out young professionals often willing to take risks and eager to apply their newfound knowledge and skills. The "stickiness" of these students and competitions to the county remains under-realized.

A disconnect that runs through Hampshire County's entrepreneurial community is along class, ethnic, and racial lines. Not unlike many regions, minorities and disadvantaged populations tend to lie outside or on the margins of the entrepreneurial community and its support system.

The county's overall small number of firms in the aggregate and its rural, geographic dispersion make it difficult to apportion and specialize a whole class of entrepreneurial and small business assistance by specific industry segments (e.g., IT and digital technologies, food and agriculture, etc.).

Space is a constraint to entrepreneurial businesses looking to expand in the county.

Transportation

Key Organizations and Initiatives

Major organizations

- Pioneer Valley Planning Commission (PVPC) is the regional transportation and planning governance body. It sets the agenda, coordinates, prioritizes, and advocates for rail, roads, and more.
- Pioneer Valley Transit Authority (PVTA) is the region's public bus service. It is completing a new Comprehensive Service plan in the spring of 2014.
- The Route 9 Corridor Transportation Management Association is a group of big employers in the area that offer transportation and carpooling incentives to member employees.
- The Northampton transportation committee is coordinating new north-south rail service.

Area initiatives

- Pioneer Valley Regional Transportation Plan/Transportation Improvement Plan prioritizes roadway improvement and other transportation projects eligible for state and federal transportation funding.
- Our Next Future: Pioneer Valley Regional Sustainability Plan includes transportation-oriented development (TOD), rail, and alternative transportation priorities.
- PVTA Comprehensive Service Analysis was released in June 2014. The updated plan recommends minor modifications along existing routes (5.5 percent increase in funding) and/or service restructure for service express routes/expanded hours (8.8 percent increase in funding).
- Knowledge Corridor Rail Expansion project includes plans to restore a south-north rail line with a new station in Northampton and possible enhanced commuter rail options.

Additional Findings

Hampshire County's transportation future is intimately connected to the rest of the Pioneer Valley. Commuting patterns show a strong north-south flow of workers between Hampshire and Hampden counties, and a flow of workers north to Franklin County and further south to Hartford County in Connecticut. Moreover, the ridership counts that justify new funding and expanded services for the region are dependent on the population centers in

Springfield/Holyoke and in Connecticut. And, the PVPC is the designated entity to plan and coordinate federal and state priorities for transportation in the region.

The future of passenger rail is promising. The current Vermonter service, which runs one train per day through Hampshire County, will be vastly improved as a result of the ongoing efforts to expand rail along the Knowledge Corridor. New funding will allow the Vermonter to be re-routed to better serve the region's urbanized area with stops in Greenfield, Northampton, and Holyoke. Service should begin in 2014.

There are efforts to direct funding to purchase and refurbish recently "retired" MBTA trains to operate for the expanded north-south rail line.

Improvements connected to new rail service will likely unlock new development opportunities. Transportation leaders anticipate that reconnecting the cities to rail will lead to greater ridership; improved pedestrian, bicycle, and transit connectivity; and transit-oriented development opportunities.

The opportunity for transit-oriented development connected to Northampton's Union Station appears to be relatively undefined. Right now plans are for a relatively modest open-air platform, but a recent study marked the Northampton station with some of the strongest conditions to support TOD in the near-term.

The recently released PVTA Comprehensive Service Analysis could result in better and faster east-west bus transit. One scenario in the plan, albeit at a higher cost, calls for more frequent and longer running express buses between Amherst and Northampton. The PVTA has gained back two million of the three million riders it lost after earlier service reduction (in the 2000s); the PVTA plan will further increase ridership and help stabilize the agency.

The growing network of alternative on- and off-road trails is important to the county's quality of life and brand. County residents are twice as likely to get to work by bike or walk, or simply work at home, than the statewide average (18 percent of county residents compared to the statewide average of 9 percent). These alternative forms of trails, including bikeways, rail trails, and scenic by-ways, contribute to recreation and tourism as well as provide alternative means to get to work.

Trucking is the dominant form of the movement of goods in the Pioneer Valley. Trucking has 98 percent of the market. In part, that is because the county benefits from access to Route 91 and Route 90, and, therefore, has relatively good access to New York and Boston markets. Less robust commercial rail infrastructure as well as proximity of commercial airports, both high fixed-cost infrastructures, may constrain the region.

The voice of business in Hampshire County is not unified on transportation issues. Even though each Hampshire County city has representatives who participate in regional transportation decision-making, there appears to be little coordinated advocacy from business on the big catalytic transportation projects affecting the county.

Commercial Space

Key Commercial Space Projects

A number of the entrepreneurs interviewed for this project noted the difficulties they had in locating space as they progressed from start-up to more mature businesses. There are models of this kind of aggregated space listings that are designed to help a city or region grow a stronger entrepreneurial base.

Within the three larger communities in the county, Northampton, Easthampton, and Amherst, there is a wide range of space available for small enterprises and entrepreneurs, at a wide range of price points.

In these three communities, there are many building projects that were recently developed and several underway, and these projects will have an impact on the space that is available for businesses, small enterprises, and individuals. Following is a small sample of these development and building projects with a focus on the three major cities.

Northampton

The city has several larger buildings that house creative and other small enterprises and businesses. Among them are the Felt Building on West Street, the Arts & Industry Building in Florence, the complex of buildings on North Maple Street, and the cluster of buildings in Riverside, to name a few. Downtown, of course, is also home to perhaps hundreds of these same kinds of individuals and enterprises.

Additionally, there have been several recent developments that are part of the mix of commercial space, and they also house small firms and individuals. Examples include:

- Baystate Health recently moved into a 70,000-square-foot building in the renovated Hill and Dale Mall on North King Street.
- On Atwood Drive, two major medical buildings, one 40,000 square feet and the other 80,000 square feet, are devoted to medical and healthcare offices.
- The Northampton Community Arts Trust recently bought a 25,000-square-foot building on Hawley Street, and the Trust will be making major renovations and repairs to the building during the coming year. The space will be used for arts instruction and performance.
- In Village Hill, the Gatehouse building now houses Fazzi Associates, a home healthcare firm. The building is 16,000 square feet, and Fazzi Associates occupies most of the space. Mass. Development estimates that when commercial space is fully built out, there could be 300,000 square feet of commercial space.

Easthampton

Easthampton has become the center of gravity for hundreds of creative, IT, and other kinds of small firms and entrepreneurs. Because the cost of space in both Amherst and Northampton is so expensive, and because there is so much less expensive space in the older industrial buildings found along Pleasant, Union, and Cottage streets, the city has been the county's go-to place for live and work space.

The buildings that have been at the center of this gravitational pull are Eastworks, the Paragon Arts Building, One Cottage Street, and, more recently, Mill 180 and the Button Building. Collectively, there is more than a half million square feet of space in these buildings, and most of the space has been converted to a blend of live-work, retail, studio/production, and office use. Soon, Mill 180 will also house a new microbrewery; in fact, several breweries are being planned for Easthampton in the near future.

The city will most likely continue to be a destination for people and firms looking for small and affordable space. One reason is the \$2.7 million grant from the state (the second installment on a larger grant) for infrastructure improvements in back of six industrial buildings on Pleasant Street—Eastworks, the Paragon Arts Building, and Mill 180 are three of those buildings). The state grant conceivably opens up more than 100,000 square feet of new affordable space for entrepreneurs and small enterprises.

The second reason is that Cottage Street just received designation as a Cultural District from the state's Mass. Cultural Council. The designation provides tax benefits and incentives for art-related work. This will make Cottage Street even more attractive for creatives who want to work and sell their products.

Amherst

The space issue is clearly dominated by the three higher education institutions in the town, especially UMass. Off-campus student housing has been particularly difficult, and zoning codes that do not allow for greater density have been problematic. And, while there have been some commercial spin-off businesses that have moved into town, by and large Amherst has not been a center for the kind of entrepreneurial development that has occurred in other college towns and cities throughout the country.

Nonetheless, there has been some movement in the town toward a more open and flexible approach to both student housing and entrepreneurial development. Following are a few examples.

- The Boltwood project is a five-story mixed-use residential and retail development, the first high-density project in Amherst. The building has 20,000 square feet of space, with 12 apartments, one retail operation, and storage rooms. The developers of the building had 600 inquiries before the building was constructed.

- Kendrick Place will be a 55,000-square-foot building with private student housing that will accommodate more than 100 students in 26 apartments. There also will be shared space for study and meetings, as well as a café and a 3,000-square-foot space possibly for entrepreneurs and small firms.
- Olympia Place, still in the planning stages, will be 105,000 square feet and will accommodate 230 students. It will complement the kind of housing found in UMass's Commonwealth College, where the emphasis is on creating a community.
- The Trolley Barn is a project idea of W.D. Cows, Inc. in North Amherst. Current plans call for construction of a carefully designed building that will have roughly 14,000 square feet of commercial space and several residential units. The notion is to create more a village feel for parts of the North Amherst area and to tap into the space needs of students and small entrepreneurs at UMass.
- The Business Development Park was developed a number of years ago by Westmass Area Development on Venture Way, a short distance from the UMass campus. The idea was to create commercial and spin-off space for university-related activities. The three buildings in that development now house the Donahue Institute, Continuing Education, the National Collegiate Inventors and Innovators Alliance, and Evaluation Systems Group of Pearson, an educational testing firm.

Additional Findings

The significant increase in and the current restructuring of the healthcare field is driving the construction of new medical offices. As the Affordable Care Act takes effect, and the shift to small medical practices increases, the region could see more demand for space.

UMass has one of the highest rates of on-campus housing of any major university in the country. But, the increase in student enrollments and the lack of available space on campus has created significant pressure for more housing to be built off-campus, principally in Amherst.

In the fall of 2013, UMass and the town of Amherst formed a Town Gown Steering Committee to create a sound and rational plan for housing and economic development. An RFP was developed, and a consultant team is ready to be hired to create the plan. This signals a shift of sorts away from a more conservative and, at the time, adversarial approach to both issues, and it could pave the way for UMass and the town to accommodate more student housing. But, it is especially relevant for this Hampshire County agenda because it addresses head on many of the intractable barriers for leveraging the intellectual and research assets of the campus.

The cost of building and renting in Northampton is quite high and makes it very difficult for affordable space to be made available for small enterprises and entrepreneurs. For example, one of the buildings at Village Hill is 22,000 square feet, but it is estimated that it will cost at

least \$6 million to put that building on the market. Without some kind of public subsidy, the project faces considerable hurdles. There are also several buildable lots in the Village that could accommodate buildings in the 15,000- to 20,000-square-foot range, but the cost would be high.

As Easthampton has clearly demonstrated, creatives and other knowledge-based entrepreneurs and small enterprises want to live and work around people who share their interests and line of work. Unless Northampton and Amherst are able to create this kind of space, neither city will be a destination like Easthampton.

Many of the people interviewed for this project noted the potential that UMass has for spinning off new small firms and companies related to its Engineering and Life Sciences programs. While there has been a modest amount of commercial activity from UMass, the expectations have not come close to being realized. Part of the problem comes from the fact that the university is a public institution and, therefore, culturally very different from the MITs and Carnegie Melons of the world. Part of the problem stems from the perceived lack of financial resources in the region that are necessary to launch new firms and companies, and part of the problem is the lack of incubator and multitenant facilities that are common in many major metro areas and near research institutions.

Talent and Workforce Development

Key Organizations and Initiatives

Talent development infrastructure in the county largely consists of the secondary educational systems, postsecondary institutions serving the labor market, and adult education resources.

Secondary education

Approximately 7,700 students attend 13 public secondary schools in the county. The two largest high schools are Amherst Regional High School (ARHS) with over 1,300 students and Northampton High School (NHS) with about 900 students. Other schools range from about 200 to 800 students. One career and technical education system serves the county, Smith Vocational and Agricultural High School. It draws 450 students from schools throughout the area. Another nine private high schools enroll 1,600 students in settings ranging from schools that draw on a national student market (Williston Northampton School) to religious denomination-affiliated schools.

Hampshire County schools report a high proportion of students entering postsecondary education after graduation. However, that information is self-reported by students and is not a firm number. Reports from interviews of high school administrators at Northampton High School supplied estimates that about 65 percent of graduates entered a four-year school and about 10 percent enrolled in a local community college.

At Smith Vocational and Agricultural High School, administrators suggested that many students entered employment after graduation and that popular fields were agriculture, plumbing, cosmetology, healthcare, electrical trades, and engineering technology. There is a high demand from employers for graduates of manufacturing programs. Some school administrators report that there is very little interaction between Smith Vocational and other high schools.

Postsecondary education

Reports state that there are 100,000 undergraduate and another 30,000 graduate students in the bi-state “Knowledge Corridor.” This includes sub-baccalaureate colleges—community colleges and technical schools like Greenfield, Holyoke, and Springfield Technical Community Colleges—as well as a range of baccalaureate colleges, including some of the highest ranked colleges in the country, flagship state university and state colleges, and a large number of private liberal arts and professional colleges. Public community colleges have campuses in Greenfield, Holyoke, and Springfield and draw considerable numbers of students from the county. Approximately 20 percent of Greenfield Community College’s enrollment resides in Hampshire County.

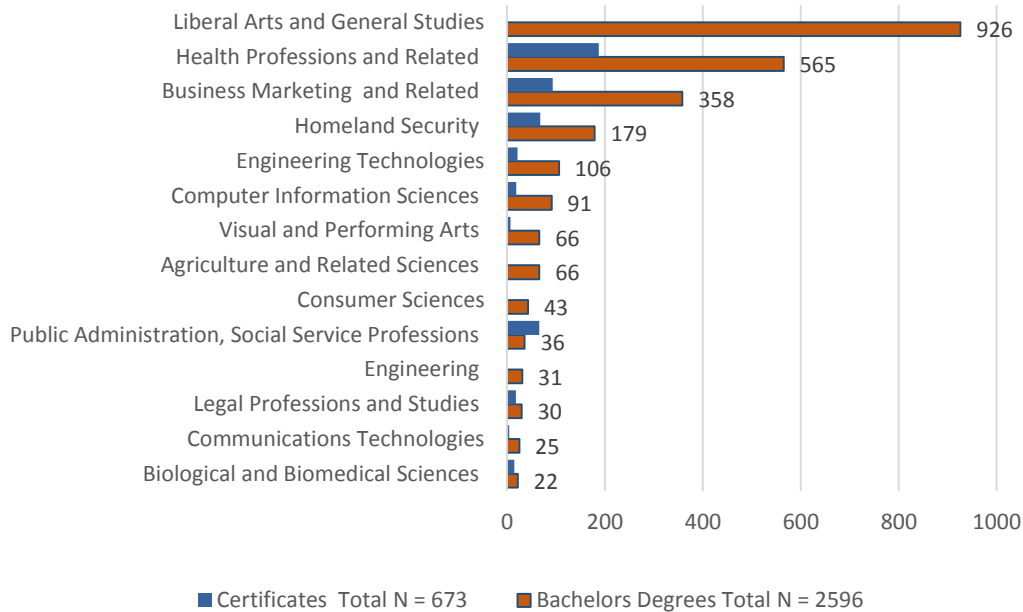
While the Five College Consortium includes the most prominent colleges in the county, there are many other postsecondary colleges in the region that serve the labor market. There are 18 colleges within a 40-mile radius of Northampton. These colleges awarded 18,200 undergraduate and graduate (master’s only) degrees in 2012. About 52 percent of those degrees, in order of total degrees awarded, were in business management, health professions, education, social services, social sciences, and liberal arts. UMass Amherst accounted for over one-third of the degrees awarded by colleges in the region. The following table shows total degrees and certificates (between one and two years of credit) awarded by area colleges in 2012:

Area College	All Degrees
University of Massachusetts Amherst	6,775
Westfield State University	1,332
Holyoke Community College	989
American International College	967
Springfield College	939
Springfield Technical Community College	905
Smith College	816
Western New England University	809
Springfield College-School of Human Services	778
Bay Path College	667
Mount Wachusett Community College	643
Mount Holyoke College	567
Williams College	555
Amherst College	442
College of Our Lady of the Elms	385
Anna Maria College	332
Greenfield Community College	319
Salter College-Chicopee	3
Total All Colleges	18,223

Many of those graduating with baccalaureate and graduate degrees will leave the area after graduation, depending on the college and its student market. However, those attending sub-baccalaureate programs—in community colleges and technical schools—are more likely to stay in the region and enter jobs. Moreover, many of the middle-skill jobs that employers report difficulties in filling require some postsecondary education, but less than a bachelor’s degree. Therefore, it is worth looking at how sub-baccalaureate education may impact the local labor market and provide education and skills needed by employers. Below is a chart showing the certificates (one year) and associate degrees awarded most frequently by colleges in the

Hampshire County area. Totals are shown for associate degrees awarded in each area of study. Almost 80 percent of those degrees are awarded in four fields: general studies, healthcare, business, and homeland security (criminal justice, etc.).

Hampshire County Area Colleges, Top Associate Degrees and Certificates Awarded, By Field of Study, 2011-2012



While many of the awards in sub-baccalaureate liberal arts and general studies programs are to students intending to transfer to a baccalaureate program (an unknown number), the concentration of degrees in a handful of fields and small number of degrees in technical and in high-demand occupations is striking.

Adult workforce development

Offering access to education for adults either in or out of the workforce is important in Hampshire County because of the aging of the population and the loss of population in younger age groups. To provide enough employees with the right skills to area employers, adults need access to education and training. Hampshire County hosts adult education programs in the form of Adult Basic Education, GED programs, ESOL, and basic skills training offered locally by nonprofit organizations, the Franklin-Hampshire Regional Employment Board (FHREB), and focused organizations such as the Center for New Americans, which is targeted to immigrant populations.

The FHREB also hosts and funds job training and skill training programs for adults. These are part of federal and state workforce programs and range from support for the Middle Skills

Academy in collaboration with Greenfield Community College to support and funding for certificate programs in areas such as Certified Nursing Assistant/Home Health Aide classes, tractor-trailer licensing classes (CDL), computer usage courses, and others offered through the three community colleges in the area. In addition, FHREB manages employment services for the unemployed and people with certain disabilities. While the FHREB provided employment services (job search and job counseling) to several thousand people in 2013, about 250 adults or youth entered training programs (140 adults and about 110 youth). Some number of individuals received funding for training through special grants and grant-funded programs in areas such as environmental and energy services initiatives. FHREB's main office is in Greenfield, but a facility is operated in Northampton that includes employment services and classrooms for training programs.

Additional Findings

In Northampton High School and Amherst Regional High School there are sharp differences in achievement among students based on race and ethnicity. While the populations of ethnic and racial groups at NHS, for example, are relatively small, the performance gaps are large. An administrator at NHS describes the student body as “diverse but divided.”

Administrators at both NHS and ARHS describe the programs for college bound graduates as robust, but note that those for non-college bound graduates are less developed. And while both state that relationships with employers and the larger community are strong, there are no specific programs or channels developed for avenues to employment in local companies. Students who do seek employment rather than college after high school are largely on their own. At Smith Vocational and Agricultural High School, there are strong employment relationships with local employers in construction and manufacturing industries.

Community colleges are an important resource for helping Hampshire County residents gain skills. Greenfield Community College offers some courses through Smith College and in collaboration with the James House in Northampton. However, these are either general education type courses or remedial and basic education courses. None of the community colleges in the county offer career or occupational courses or programs.

Even though the community colleges are in neighboring counties, transportation time and distance may discourage Hampshire County residents from obtaining the postsecondary education needed for entry into middle-skill jobs. Among immigrant and ethnic groups in Northampton that tend to be lower income, postsecondary attainment is particularly low. Yet, these groups are now driving the population growth in the county.

There are no organized relationships between towns in Hampshire County and the colleges to promote employment in the local labor market or to assist in connecting local residents to career and educational opportunities. This is the case for services that would promote access to education, internships, and work-based learning with local employers, and talent retention strategies.

At the Five Colleges, there is relatively little focus on developing talent for the local labor market and the focus is more statewide, national, and international. While local internships and recruiting opportunities are open to participation by local employers, there is no special focus on developing talent for local employers in any field.

Because of the prominence of the Five Colleges, the other colleges in the area comprise an important, but underutilized, resource in the local labor market. While several companies report that they hire graduates of these schools (Westfield State, etc.), recruiting and internships among students at these colleges appear to be ad hoc.

Despite the presence of both world-class and outstanding public and private regional colleges in the region, there is very little organized connection between the labor market in Hampshire County and the colleges. Some students at the colleges engage in internship programs and community-based learning programs, but these are not focused in Hampshire County. For example, a Smith College and Springfield Technical Community College project, with \$3 million in grant funding to interest students in STEM education and occupations was focused on students in Springfield.

FHREB, the Hampden County Regional Employment Board, and all the community colleges offer skills training and occupational initiatives supported by public or grant funds. Yet, it appears that these programs concentrate in either Franklin or in Hampden counties; there is outreach for some programs, but this is limited by resources and staffing. A FHREB program, STEMPower, designed to recruit area residents into STEM-related education and employment, offers a website and services at the facility in Northampton with seminars and information sessions for employers and jobseekers.

In general, issues related to talent and workforce development in Hampshire County seem to revolve around access, equity, alignment of need and resources and engagement between employers and educational institutions, talent retention, and channels to strengthen connections with local labor markets.

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