

Worcester Regional Chamber of Commerce

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Worcester Regional Economic Competitiveness Outlook

Worcester Regional Chamber of Commerce

Overview

The Worcester Regional Competitiveness Outlook was prepared on behalf of the Worcester Regional Chamber of Commerce by April Anderson Lamoureux and Jessica Casey of Anderson Strategic Advisors, LLC. This document summarizes the findings of the investigation, and recommends ways in which the Worcester Regional Chamber of Commerce may work with its partners to enhance efforts to recruit, retain and incubate businesses in the region.

In summary, the report finds that Worcester has experienced positive demographic shifts and industry growth trends that make the region attractive for companies in the innovation sectors. Leveraging the past and current efforts of partner organizations, the Chamber has an outstanding opportunity to recruit innovation companies to locate in the Greater Worcester Region.

Study Area

The Worcester Regional **Economic Competitiveness** Outlook analyzes demographic, workforce and business sector data for Worcester and the county. The investigation reveals the three primary business sectors presenting the greatest opportunity for growth in the region, as well as two sectors that are in a state of decline. The investigation analyzes the economic competitiveness of the region, including consideration of the practices of the 36 communities located within the catchment area of the Worcester Regional Chamber of Commerce Membership Map. This report offers the Chamber strategies and tools to enhance the region's economic competitiveness and business recruitment and retention efforts.

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Regional Demographic Overview

The following summarizes the general demographic characteristics of the City of Worcester and the region.

Demographic and Economic Characteristics

- Between 2000 and 2010, Worcester's population grew 4.9%, compared to 4.8% growth in Boston and 3.1% growth in Massachusetts.
- During the same time period, the number of families in Worcester grew by 1.9%, compared to 1.0% in Boston and 1.7% in Massachusetts, and households grew by 2.4% in Worcester, while Boston grew by 5.5% and Massachusetts by 4.2%. This indicates that while Worcester experienced an increase in families, a larger proportion of the growth was unattached individuals (representative of singles, or individuals living with roommates as opposed to family members).
- Between 2000 and 2010, the number of housing units increased by 5.5% in Worcester, 8.2% in Boston and 7.1% in Massachusetts. The slower rate of housing unit growth during this period, providing few new housing options for families, is likely a contributor to the higher rate of growth of the unattached individual population in Worcester versus family growth.

Table 1: General Demographics

DEMOGRAPHIC CHARACTERISTICS

	City of Worcester	
	2000	2010
Resident Population	172,648	181,045
Total Households	67,028	68,613
Owner- Occupied Housing	29,054	30,530
Rental- Occupied Housing	37,9747	38,083

Change, 2000 to 2010			
City of Worcester	City of Boston	Massachusetts	
4.9%	4.8%	3.1%	
2.4%	5.5%	4.2%	
5.1%	11.1%	5.2%	
0.3%	2.8%	2.6%	

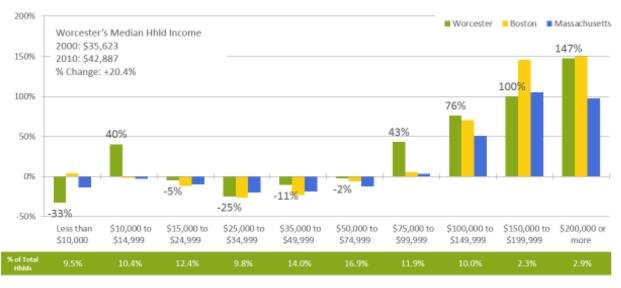
Source: 2000 and 2010 Census

• Between 2000 and 2010, Worcester's median household income rose from \$35,623 to \$42,887, an increase of 20.4%. During the same time period the median income in Boston

- rose from \$39,629 to \$49,893, an increase of 25.9%, and in Massachusetts from \$50,502 to \$62,072, an increase of 22.9%.
- The number of households earning between \$15,000 and \$74,000 in Worcester per year decreased by 11.3% between 2000 and 2010. This income group represents 53.1% of the households in Worcester.
- The income bracket that experienced the largest decrease (-25.1%) in households was \$25,000 to \$34,000. In Boston, the number of families in this income bracket decreased by 26.5% and in Massachusetts by 20.2%.
- The number of households in Worcester earning over \$75,000 per year increased by 66.0% between 2000 and 2010. In 2010, this group represented 27% of the total number of households in Worcester.
- The income bracket representing the largest percentage of growth between 2000 and 2010 was in households earning over \$200,000, with an increase of 147.3%. This income group included 799 households in 2000, and increased to 1,976 in 2010. This income group also experienced high growth in Boston (150.1%) and in Massachusetts (97.3%) between 2000 and 2010.

Figure 1: Household Income, Change 2000 to 2010





Source: 2000 and 2010 Census

Note: "% of total hhlds" indicates percent of total Worcester households in each income bracket in 2010 (For example, 9.5% of households in Worcester earned less than \$10,000 per year in 2010).

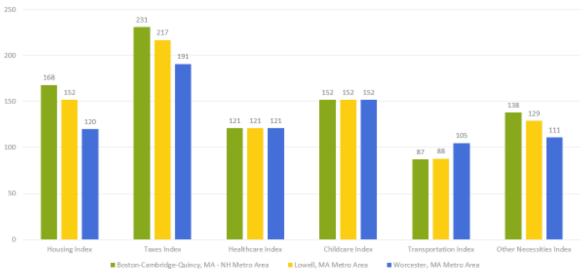
Cost of Living

FindtheData.org publishes an annual cost of living index that analyzes certain geographic areas and takes into account such things as childcare, healthcare, housing, food, transportation, and tax expenses. The following analysis was completed utilize the data provided by FindtheData.org.

- FindtheData.org defines the nationwide average cost of living score as 100. Therefore, if a geographic area has a score of 110, it is 10% higher than the U.S average. Index values above 100 represent higher than average costs, whereas index values below 100 signify expenses below the national average.
- The overall cost of living index for the Worcester Metro Area is 130, which is significantly lower in comparison to the Boston-Cambridge-Quincy-NH Metro Area with an overall index of 144 and the Lowell Area with an overall index of 139.
- The cost of living in the Worcester Metro Area is lower than or equal to the comparison locations in all areas, except transportation, where the cost index in the Worcester Metro Area is higher than the comparison locations.

Figure 2: Cost of Living Index, 2013, Worcester Metro Area compared with the Boston-Cambridge-Quincy-NH Metro Area and the Lowell, MA Metro Area





Source: FindtheData.org

Commuting

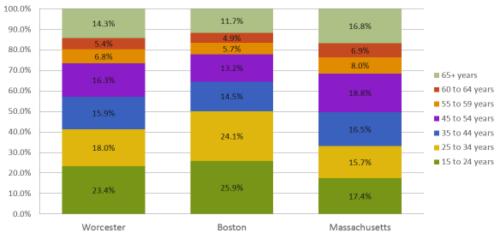
- Between 2000 and 2010, Worcester experienced a large decrease in workers carpooling (-24.0%), taking public transportation (-9.0%) and walking (-14.9%).
- Interestingly, during the same time period the number of people working from home increased by over 150%, from 1,267 to 3,272. This is in comparison to an increase of 84.6% in Boston and an increase in 36.8% in Massachusetts.

Workforce

- Between 2000 and 2010, Worcester's labor force increased by 11.5%, compared with 18.4% in Boston and 8.4% in Massachusetts. The labor force refers to all people classified in the civilian labor force (people classified as employed or unemployed) plus members of the U.S. Armed Forces.
- In 2010:
 - 87.4% of the civilian labor force was employed, compared to 87.1% in Boston and
 89.8% in Massachusetts.
 - 23.4% of the workforce population in Worcester was between 15 and 24 in 2010, representing a large population entering the workforce between 2000 and 2010.
 - 41.4% of Worcester's workforce was 34 years old or under, compared to 50% in Boston and 33.1% in Massachusetts.
 - 57.2% was 44 years old or younger, compared to 64.6% in Boston and 49.6% in Massachusetts.
 - 18.2% of the Worcester population was between 0 and 14 years, compared to
 13.9% in Boston and 17.7% in Massachusetts.
 - 19% of the Worcester County population was between 0 and 14 years, which
 means that both the City of Worcester and Worcester County are expected to see
 larger groups of young people entering the workforce over the next two decades,
 as compared to Massachusetts or Boston.

Figure 3: Age of the Working Population, 15 years and Older, Worcester, 2010

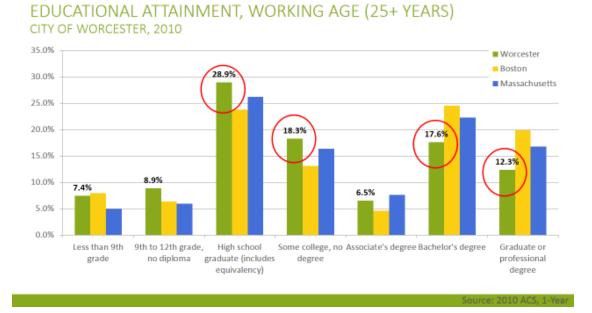
AGE OF THE WORKING POPULATION CITY OF WORCESTER, 2010



o In Worcester, 30% of the population was over the age of 25 had a bachelor's degree or higher, in comparison to Boston at 44.3% and Massachusetts at 39%.

83.7% of Worcester's population over the age of 25 had a greater than high school education, in comparison to Boston at 85.8% and Massachusetts at 89.1%.

Figure 4: Educational Attainment, Working Age, 25 years and Older, 2010



Industry Sectors Data Set

This section analyzes dominant industry sectors in the City of Worcester and Worcester County with a focus on potential growth sectors.

For the purposes of this investigation, data was collected from the United States Census Bureau using the North American Industry Classification System (NAICS) codes. All data has been sourced using the 2010 1-Year Estimates American Community Survey for Worcester, Boston, and Massachusetts, the 2000 and 2010 County Business Patterns for Worcester County, and the 2007 and 2011 Economic Census for Worcester County.

As defined by the U.S. Department of Commerce: United States Census Bureau, NAICS was developed under the direction and guidance of the Office of Management and Budget (OMB) as the standard for use by Federal statistical agencies in classifying business establishments for the collection, tabulation, presentation, and analysis of statistical data describing the U.S. economy. Use of the standard provides uniformity and comparability in the presentation of these statistical data. NAICS is based on a production-oriented concept, meaning that it groups establishments into industries according to similarity in the processes used to produce goods or services. NAICS replaced the Standard Industrial Classification (SIC) system in 1997.

This section compares the strength of industry sectors in Worcester County to those of Suffolk County using Location Quotients. Location Quotients determine which industries make the

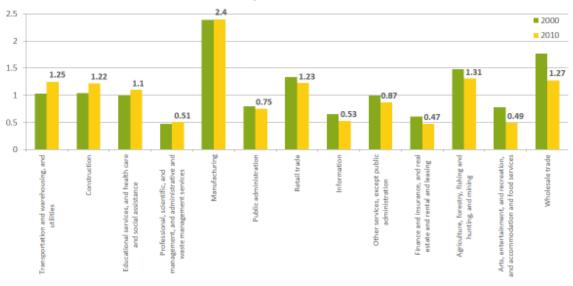
region or county in this case unique. The ratio calculates the concentration of a particular industry, cluster, occupation, or demographic group in comparison to a different geography. Further, a Location Quotient over 1.0 means that the sector is strong enough that it pulls employees from outside of the region because the local workforce does not satisfy the demand of employers. This is true for a number of sectors in Worcester County, but particularly for manufacturing.

Change between 2000 and 2010 in Industry Sectors

- Over the past decade, manufacturing has been a very strong industry sector in
 Worcester in comparison to Boston (2.4 times stronger). This means that the workforce
 demands of manufacturers in Worcester cannot be met by the city's workforce and
 therefore, employees are traveling into the region for employment in this sector.
- Other strong sectors in comparison to Boston, with an increase between 2000 and 2010 include Transportation, Warehousing, and Utilities; Construction, and Educational Services, Health Care, and Social Assistance. Other strong sectors that did not experience an increase are Retail, Agriculture and Wholesale Trade. There was a significant decline in the strength of Wholesale Trade from 1.77 in 2000 to 1.27 in 2010 however the sector continued to draw employees from outside the city in 2010.

Figure 5: Industry Sectors, Location Quotients Comparing Worcester to Boston, 2000 to 2010

CONCENTRATION OF INDUSTRY SECTORS, LOCATION QUOTIENT WORCESTER IN COMPARISON TO BOSTON, 2000 AND 2010



Note: The Location Quotients ratio calculates the concentration of a particular industry, cluster, occupation, or demographic group in comparison to a different geography.

Workforce, by Industry Sector

- Between 2000 and 2010, Worcester experienced an employment increase of 4.1%, from 77,475 to 80,669. Population growth between 2000 and 2010 was 4.9%.
- During the same time period, Boston experienced an employment increase of 11.3%, and Massachusetts experienced an increase of 2%.
- Between 2000 and 2010, five industry sectors experienced growth in Worcester, including:
 - o Educational services, and health care and social assistance
 - Professional, scientific, and management, and administrative and waste management services
 - Construction
 - o Agriculture, forestry, fishing and hunting, and mining
 - o Transportation and warehousing, and utilities
- During the same time period, eight sectors experienced a decline:
 - Manufacturing
 - o Wholesale trade
 - o Retail trade
 - Information
 - o Finance and insurance, and real estate and rental and leasing
 - o Arts, entertainment, and recreation, and accommodation and food services
 - o Other services, except public administration
 - o Public administration

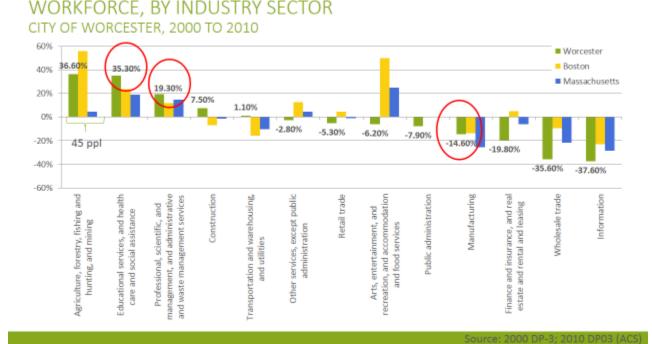
Table 2: Industry Sector Change, Employment, City of Worcester, 2000 and 2010

INDUSTRY SECTOR CHANGE, EMPLOYMENT CITY OF WORCESTER, 2000 TO 2010

Industry, as defined in the American Community Survey	2000	2010	Change, 2000 t	o 2010
Agriculture, forestry, fishing and hunting, and mining	123	168	45	36.6%
Educational services, and health care and social assistance	21,405	28,956	7,551	35.3%
Professional, scientific, and management, and administrative and waste management services	5,665	6,758	1,093	19.3%
Construction	3,166	3,404	238	7.5%
Transportation and warehousing, and utilities	3,374	3,411	37	1.1%
Other services, except public administration	3,733	3,628	-105	-2.8%
Retail trade	9,156	8,671	-485	-5.3%
Arts, entertainment, and recreation, and accommodation and food services	5,722	5,370	-352	-6.2%
Public administration	3,304	3,044	-260	-7.9%
Manufacturing	11,636	9,934	-1,702	-14.6%
Finance and insurance, and real estate and rental and leasing	5,138	4,119	-1,019	-19.8%
Wholesale trade	2,736	1,761	-975	-35.6%
Information	2,317	1,445	-872	-37.6%

Source: ACS 1-Year Estimates, Worcester

Figure 6: Industry Sector Workforce, City of Worcester compared with Boston and Massachusetts, Change 2000 to 2010



Growth and Decline Sectors

Based on industry sector change between 2000 and 2010, the Manufacturing sector, Educational Services, Health Care and Social Assistance sector, and the Professional, Scientific and Technical sector have been identified as growth sectors and the Information and Wholesale Trade sectors have been identified as decline sectors.

The Education, Health Care and Social Assistance sector employs the largest number of workers in Worcester County with 71,277 employed. This sector experienced an increase of employment of 13.1% between 2000 and 2010 and the number of establishments grew by 263 during the same time period. In comparison with Suffolk County, the Educational Services, Health Care and Social Assistance gained strength in Worcester County between 2000 and 2010, and is now equivalent in strength to Suffolk County.

While the Manufacturing sector experienced a decline in the employed workforce between 2000 and 2010, it continued to represent the second largest employment sector with 31,279 employed in the County in 2010. This sector experienced decline in the three largest subsectors, but saw an increase in employment in other subsectors, which indicates the Manufacturing sector in Worcester County was diversifying between 2000 and 2010. Worcester County has a strong manufacturing cluster in comparison to Suffolk County.

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Between 2000 and 2010, the Professional, Scientific and Technical Services sector grew its employment base by 32.6% and the number of establishments in Worcester County increased by 125. Each subsector within this sector grew in employment between 2000 and 2010, with the highest growth occurring in the Computer Systems Design and Related Services subsector and the Scientific Research and Development services subsector. In 2010, almost one quarter (24.7%) of the sector accounted for those employed in the Computer Systems Design and Related Services subsector. This sector is not nearly as strong a cluster in Worcester County as it is in Suffolk County, but there appears to be great growth potential based on the growth trends in Worcester County over the last decade.

The two decline sectors, Information and Wholesale Trade, both experienced substantial decline in employment between 2000 and 2010. This may relate to a changing marketplace where workers are shifting from a specific information position to an employment opportunity that has a broader skill set that is categorized under a different classification code. For example, an employee may shift from a paper based communications role (captured in the Information sector) to an online marketing analyst website role (captured in the Professional, Scientific and Technical Services sector).

Growth Sector 1: Manufacturing

As defined by the U.S. Department of Commerce: United States Census Bureau, the Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. Establishments in the manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment.

The U.S. Department of Commerce: United States Census Bureau states that subsectors in the Manufacturing sector generally reflect distinct production processes related to material inputs, production equipment, and employee skills. In the machinery area, where assembling is a key activity, parts and accessories for manufactured products are classified in the industry of the finished manufactured item when they are made for separate sale.

It should be noted that Worcester and Worcester County experienced decreases in manufacturing employment between 2000 and 2010. In fact, decreases in manufacturing employment has been a national trend for two decades, as some manufacturers moved operations overseas to reduce cost, and others utilized technology in their operations to improve outputs with less manpower. However, this trend has started to reverse in Massachusetts, as recognized by nationally-acclaimed economist, Barry Bluestone in *Staying Power II: A Report Card on Manufacturing in Massachusetts 2012*, published by The Kitty and Michael Dukakis Center on Urban and Public Policy at Northeastern University. In this report, Dr. Bluestone states that the number of manufacturing firms in Massachusetts increased in 2011, for the first time since 2002, demonstrating that the sector is stabilizing after the Great Recession and growing in strength throughout Massachusetts, but particularly in the Gateway Cities. In his report, Dr. Bluestone conducted a survey of 700

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Massachusetts-based manufacturers revealing that 70% of those manufacturers expected to have more employees in 2017 than they did in 2012, demonstrating profound optimism for growth across the sector.

Further evidence of anticipated job growth for the Manufacturing sector can be found in the state's Executive Office of Labor and Workforce Development industry employment projections for 2010-2020. The state data suggests that the Manufacturing sector in Central Massachusetts will grow employment by 13.7%, or 3,225 jobs, over the decade between 2010 and 2020. The follow data assesses how the sector has performed in the region between 2000 and 2010.

2000 (County) 54,998 employed 1,310 establishments

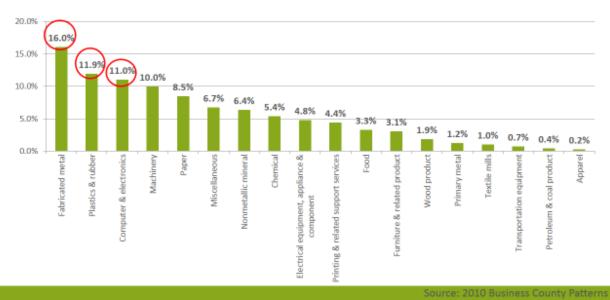


2010 (County) 31,279 employed 973 establishments

- Between 2000 and 2010, Worcester experienced a decrease in manufacturing employment of 14.6%, or 1,702 people. During the same time period, Worcester County experienced a decrease in manufacturing employment of 43.1%, or 23,719.
- Regardless of the workforce employment loss, the Manufacturing sector in Worcester County continued to be the strongest sector in the region between 2000 and 2010, in comparison to Suffolk County and Massachusetts as a whole.
- In 2010, the average annual wage for the Manufacturing sector in Worcester County was \$55,879.
- In 2000 and 2010, the three largest Manufacturing subsectors in Worcester County were Fabricated Metal Production, Computer and Electronic Product, and Plastics and Rubber Product and each of these subsectors experienced a decline in workforce.
- In 2000, these three largest subsectors represented 41.9% of total manufacturing employment in Worcester County, which declined to 39% in 2010, shedding a combined 10,739 employees in these subsectors over the decade. However, the three subsectors remained dominant in 2010.

Figure 7: Manufacturing Subsectors Workforce, Worcester County, 2010

MANUFACTURING WORKFORCE, SUBSECTORS WORKESTER COUNTY, 2010

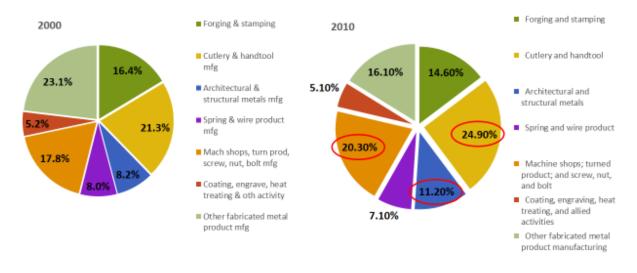


- The Fabricated Metal Production Manufacturing subsector experienced maintained its position as the most dominant subsector in Worcester County in 2010, representing 16% of the total employment in the sector with 5,097 employees.
- Within the Fabricated Metal Production Manufacturing subsector,
 - The Other Fabricated Metal Manufacturing subsector, which was most dominant in 2000, declined in employment most significantly between 2000 and 2010, by 867 employees. The Forging and Stamping subsector also declined sharply between 2000 and 2010, by 840 employees.
 - The Other Fabricated Metal Manufacturing subsector and Forging and Stamping subsector also lost market share of sales between 2000 and 2010, dropping 7% and 1.8% respectively over the decade.
 - However, some of the less dominant subsectors in 2000 experienced sales growth over the decade, including Architectural and Structural Metals by 3%; Cutlery and Handtools by 3.6%; and Machine Shops, Turned Product, Nut and Bolt by 2.5%.

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Figure 8: Fabricated Metal Product Manufacturing Subsector, Worcester County, Market Share of Sales in 2000 and 2010, Snapshot

FABRICATED METAL PRODUCT MANUFACTURING SALES WORCESTER COUNTY, 2000 AND 2010

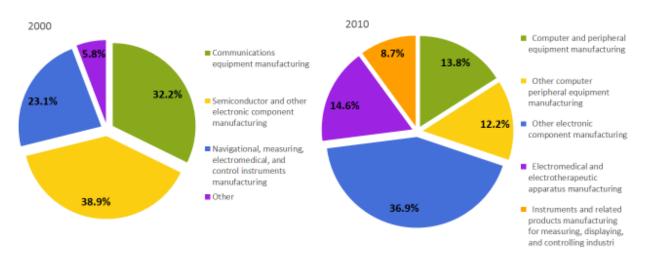


Source: 2010 Business County Pattern

- The Computer and Electronic Product Manufacturing subsector has changed significantly in the last decade. As evidence of such market changes, NAICS redefined this subsector and its classifications, and therefore the change between 2000 and 2010 cannot be determined. However:
 - In 2000, over 70% of the County's Computer and Electronic Product Manufacturing employment base was working in Communications Equipment manufacturing and Semiconductor and Other Electronic Component manufacturing.
 - By 2010, 36.9% of Worcester County's Computer and Electronic Product manufacturing sales were derived from Other Electronic Computer manufacturing, 14.6% from Electromedical and Electrotheraputic Apparatus manufacturing, and 13.8% from Computer and Peripheral equipment manufacturing.

Figure 9: Computer and Electronic Product Manufacturing, Worcester County, Market Share of Sales in 2000 and 2010, Snapshot

COMPUTER AND ELECTRONIC PRODUCT MANUFACTURING SALES WORCESTER COUNTY, 2000 AND 2010



Source: 2010 Business County Pattern

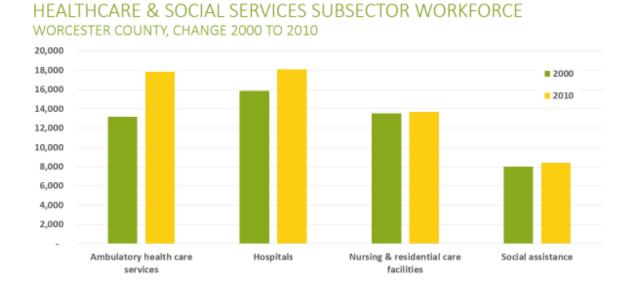
Growth Sector 2: Education & Health

As defined by the U.S. Department of Commerce: United States Census Bureau, the Healthcare and Social Assistance sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. The industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector share this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

The state's industry employment projections for 2010-2020 suggest that the Education Sector in Central Massachusetts will grow by employment 17.8% over the decade, and the Healthcare and Social Assistance sector in Central Massachusetts will grow employment by 26.6% over the decade. The following data assesses how this sector has performed in the region over the decade between 2000 and 2010.

- Between 2000 and 2010, employment in Healthcare and Social Assistance sector grew by 14.8% in Worcester County.
- Employment grew in every subsector, but the most significant growth occurred in the Ambulatory health care services subsector, which includes physician offices, imaging and diagnostic laboratories, ambulance services and home health care services.
- The number of employees working in physician offices increased from 3,183 to 4,293 in Worcester County.
- The subsector with the second most significant growth over the decade is Hospitals, and the number of employees working in hospitals increased from 15,868 to 18,083, with 1,628 of the employment growth occurring in general medical and surgical hospitals.
- In 2010, the average annual wage for the Health sector in Worcester County was \$46,647.

Figure 10: Healthcare and Social Assistance Subsector Workforce, Worcester County, Change between 2000 and 2010



As defined by the U.S. Department of Commerce: United States Census Bureau, the Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects. This instruction and training is provided by specialized establishments, such as schools, colleges, universities, and training centers. These establishments may be privately owned and operated for profit or not for profit, or they may be publicly owned and operated. They may also offer food and/or accommodation services to their students.

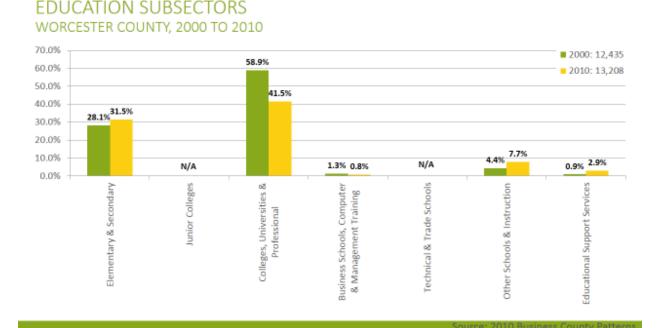
2000 (County) 12,435 employed 198 establishments



2010 (County) 13,208 employed 276 establishments

- Between 2000 and 2010, the Educational Services employment base increased by from 12,435 to 13,208 or by 6.2% in Worcester County, and the number of establishments (schools) increased from 198 to 276.
- In 2010, the average annual wage for the Educational Services subsector in Worcester County was \$33,670.
- Worcester County experienced a decrease in the number of people employed in colleges, universities and professional schools by 1,820, or 25.1%. The number of establishments in this subsector decreased by one.
- County data for Technical and Trade Schools for 2000 is suppressed; however, it can be
 determined that this subsector experienced growth. In 2000, Worcester County had 14
 technical and trade schools and in 2010 that number nearly doubled with 27. In addition,
 in 2010, over 15% of employees in the educational services sector were employed by
 technical and trade schools.
- It is important to note that the US Census defines an establishment as a single physical location where business is conducted or where services or industrial operations are performed. Therefore, the County may not have added 13 new technical and trade schools in the region over the decade, however the US Census data shows that 13 new physical locations report operating as a technical or trade school. This may include new trade or training programs being offered at an existing school, community center or other training facility.

Figure 11: Educational Services Subsectors Employment, Worcester County, 2000 and 2010



Note: "N/A" indicates that the 2000 data was suppressed and therefore a direct analysis cannot be made, however the US Census Bureau reports 2,055 employees in trade schools in 2010. Also in 2010, the US Census Bureau reports 3 employees in junior colleges, which does not compute with the activity in the region. It is likely that the junior colleges in the area were classified as colleges and universities in 2010.

Growth Sector 3: Professional, Scientific & Technical

As defined by the U.S. Department of Commerce: United States Census Bureau, the Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this sector specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services.

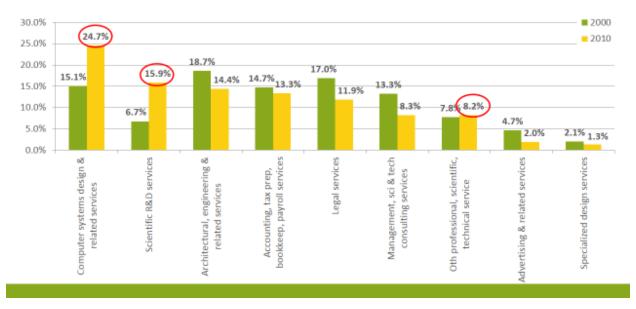
In the state's employment projections for 2010-2020, the Professional, Scientific, and Technical Services sector is projected to grow employment by 37.7% across Central Massachusetts. The following data assesses how this sector has performed in the region between 2000 and 2010.

2000 (County)
2010 (County)
10,720 employed
1,704 establishments
2010 (County)
14,218 employed
1,829 establishments

- Between 2000 and 2010, the Professional, Scientific and Technical Services sector increased by 32.6% or by 3,498 employees in Worcester County.
- In 2010, the average annual wage for the Professional, Scientific and Technical Services sector in Worcester County was \$68,805.
- Four subsectors, Scientific R&D; Computer Systems Design and Related Services; Accounting, Tax-prep, Bookkeeping, Payroll services; and Other Services experienced an employment increase over the decade.
- Four subsectors, Advertising and Related Services; Management, Sci- and Tech-Consulting Services; Specialized Design Services; and Legal Services, experienced a decline in employment over the decade.

Figure 12: Professional, Scientific & Technical Subsector, Employment, Worcester County, Change 2000 to 2010

PROFESSIONAL, SCIENTIFIC & TECHNICAL SUBSECTORS, EMPLOYMENT WORCESTER COUNTY, 2000 TO 2010

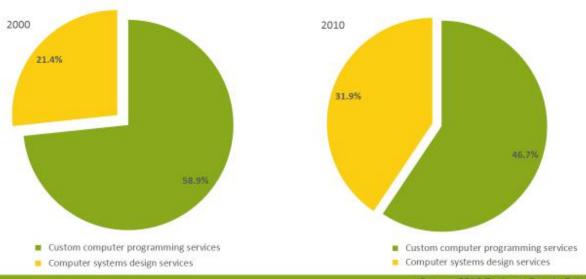


• The Scientific Research and Development subsector in Worcester County increased by 37.7%, or from 719 employees in 2000 to 2,265 in 2010. The number of establishments grew from 41 to 64 across the County.

- Research and development in the Physical, Engineering, and Life Sciences (except biotechnology) is included in this subsector (NAICS 541712).
- Life sciences is not expressly categorized by NAICS, however based on the Economic Census data collected in Worcester County, the number of Life Sciences establishments between 2007 and 2011 increased and by 2011, the Life Sciences sector employed 928 people with an annual payroll of \$88,368,000.
- This means that approximately half of the employees in Scientific Research and Development employees in the county worked in the Research and Development in the Physical, Engineering and Life Sciences field in 2011.
- The Computer Systems Design and Related Services subsector increased by 46.3%, or 1,882 employees, going from 285 establishments in 2000 to 329 in 2010.
 - The Custom Computer Programming Services subsector in Worcester County grew by 1,308 employees, or 36.7%, going from 121 establishments in 2000 to 159 in 2010. This sector includes video game development.
 - The Computer Systems Design Services subsector increased by 44.9%, or 233 employees across the county, but decreased the number of establishments 108 establishments in 2000 to 97 in 2010.
 - O Both subsectors grew, but the proportion of employees working in the Computer Systems Design Services subsector increased from just over one-fifth of the employment population in the sector to almost one-third. Worcester County is beginning to see a stronger dominance in computer systems design services.

Figure 13: Computer Systems Design and Related Subsector, Employment, Worcester County, 2000 and 2010

COMPUTER SYSTEMS DESIGN AND RELATED SERVICES SUBSECTOR WORCESTER COUNTY, 2000 AND 2010



Source: 2010 Business County Pattern

Decline Sector 1: Information

As defined by the U.S. Department of Commerce: United States Census Bureau, the Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.

The main components of this sector are the publishing industries, including software publishing, and both traditional publishing and publishing exclusively on the Internet; the motion picture and sound recording industries; the broadcasting industries, including traditional broadcasting and those broadcasting exclusively over the Internet; the telecommunications industries; Web search portals, data processing industries, and the information services industries.

The expressions "information age" and "global information economy" are used with considerable frequency today. The general idea of an "information economy" includes both the notion of industries primarily producing, processing, and distributing information, as well as the idea that every industry is using available information and information technology to reorganize and make themselves more productive.

For the purposes of NAICS, it is the transformation of information into a commodity that is produced and distributed by a number of growing industries that is at issue. The Information sector groups three types of establishments: (1) those engaged in producing and distributing information and cultural products; (2) those that provide the means to transmit or distribute these products as well as data or communications; and (3) those that process data. Cultural products are those that directly express attitudes, opinions, ideas, values, and artistic creativity; provide entertainment; or offer information and analysis concerning the past and present. Included in this definition are popular, mass-produced products as well as cultural products that normally have a more limited audience, such as poetry books, literary magazines, or classical records.

- Between 2000 and 2010, the City of Worcester experienced a decline of 872 employees, or 37.6% in the Information sector, compared to a decline of 23.1% in Boston, and a decline of 28.5% in Massachusetts.
- In 2010, the Information sector was representative of less than 2% of the total workforce in the City (second lowest only to Agriculture, Forestry, Fishing and Hunting, and Mining).

Decline Sector 2: Wholesale Trade

As defined by the U.S. Department of Commerce: United States Census Bureau, the Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The merchandise described in this sector includes the outputs of agriculture, mining, manufacturing, and certain information industries, such as publishing.

This sector comprises two main types of wholesalers: merchant wholesalers that sell goods on their own account and business-to-business electronic markets, agents, and brokers that arrange sales and purchases for others generally for a commission or fee.

- Between 2000 and 2010, the City of Worcester experienced a decline of 975 employees, or 35.6% in the Wholesale Trade sector, compared to a decline of 9.5% (522 employees) in Boston, and a decline of 21.9% (22,593 employees) in Massachusetts.
- In 2010, the Wholesale Trade sector was representative 2.2% of the total workforce in the City (third lowest only to Information and Agriculture, Forestry, Fishing and Hunting, and Mining).

What do the Growth Sectors care most about?

When companies are thinking about growing or relocating, they have a set of criteria that drives their decision making process. The criteria differ by sector, but the following summarizes the common site selection criteria required by each of the targeted Growth Sectors highlighted in this investigation.

Skilled Labor

Across all of the Growth Sectors, the availability of a skilled workforce is paramount when deciding where to locate. This is particularly true in the Manufacturing sector, where the availability of a skilled labor pool is the very top priority. In addition to an already skilled workforce, manufacturers also prioritize the availability of a well-managed workforce training infrastructure to train and retrain the workforce on new and evolving technologies. As revealed by Dr. Barry Bluestone in *Staying Power II: A Report Card on Manufacturing in Massachusetts 2012*, 61% of Massachusetts' based manufacturers worry about the supply of appropriately skilled labor, and this creates an opportunity for Worcester. With an already strong Manufacturing sector, combined with a significant concentration of educational and training establishments, the Greater Worcester Region has a unique opportunity to establish and brand itself as a world-class location for manufacturing specific training that is designed to meet industry needs in real time.

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Additionally, the Education & Health sector and Professional, Scientific & Technical sector value the concentration of well-educated professionals with a bachelor's degree or higher. Worcester's education profile for bachelor degree holders mirrors that of the nation, with 30% of the population over the age of 25 having a bachelor's degree or higher. But Worcester's competitive advantage is its young and growing population that will be entering the workforce over the next decade. Further, Worcester's significant concentration of colleges, technical schools and training facilities can be leveraged to prepare the regional workforce for demands of the innovation economy.

Cost

Real estate cost and overall tax liability continue to be a decision making factor for companies in every sector, however some sectors are more price sensitive than others. Manufacturers are particularly cost sensitive in order to maintain an end-product price advantage in a highly competitive marketplace.

Generally, the real estate costs in Worcester County are significantly lower than those in the Greater Boston area, workforce costs (wages) in Worcester County are lower than in the Greater Boston area, and the cost of living in Worcester County is lower than in Greater Boston. Each of these factors present a cost advantage for businesses to locate in the Greater Worcester Region, as compared with the Greater Boston Region or the MetroWest.

Cluster Development

Life sciences and technology companies thrive on clustering in areas close to competitors, research & development facilities, suppliers and institutions of higher learning. According to nationally-recognized economist Michael Porter of Harvard University, clustering benefits local companies by increasing productivity, enhancing innovation and stimulating entrepreneurship. Seeing that the Scientific R&D subsector in Worcester grew 31.7% between 2000 and 2010, this tradition of clustering has evidently already taken shape in Worcester. The region, through its partners such as Massachusetts Biomedical Initiatives, Becker College, UMass Medical School and Worcester Polytechnic Institute, have supported clustering through advanced research, technology commercialization and incubating young, cutting edge companies. The historic and ongoing efforts of these partner organizations, coupled with the existing industry clusters in the region, are another competitive advantage for business recruitment of innovation companies to the region.

Location & Access

Worcester's central location and strong transportation infrastructure – including highway, air and rail, both for commuters and freight - are positive attributes that appeal to all of the Growth Sectors.

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Worcester is conveniently located in the center of the state with access to Boston, Hartford and Providence within a one hour drive, and Manchester, NH in one hour and fifteen minutes. Worcester has its own airport, but is also easily accessible to Logan Airport in Boston, TF Green Airport in Providence, Manchester-Boston Regional Airport, and Bradley Airport in Hartford.

Worcester has great highway access with Route 290 running through the City, and intersecting with Interstates 90, 190, 395 and 495, providing access to all points North, South, East and West.

According to Destination Worcester, one million people live within a 25-mile radius of Worcester, six million within a 50-mile radius, and eight million within a 75-mile radius. This volume of consumers in relative close proximity to Worcester provides significant purchasing power for retailers.

Industrial and distribution users prioritize access to major routes and site access that facilitates heavy truck traffic with minimal impact on the community. The Wholesale Trade and Manufacturing sectors are likely to be the most influenced by location and access as a primary driver of siting decisions, however the ability to attract a workforce and customer base from a large geographic area, and facilitate easy travel – by road, air or rail – appeals to a variety of companies.

Ease of Doing Business

Due to outstanding global competition for business development, predictability is vitally important to businesses. Businesses and site selectors have been known to base early site selection decisions on the initial friendliness of a community, and how welcome the company feels to do business in a particular location. Therefore, it is important for municipalities to take some proactive steps that indicate they are interested in attracting new businesses to their community. That means that the region must be ready to accept and site new businesses when the opportunities are presented. Real estate must be readily available, zoning must be updated to allow for the types of uses that the community is seeking to attract, and permits and approvals must be granted in a reasonable timeframe. Some of this work has begun throughout the region, and there are existing real estate assets that are prepared to support new business growth nearly immediately.

Worcester's Value Proposition

It is clear that the Greater Worcester Region has a compelling story to tell. It is recommended that the Worcester Regional Chamber of Commerce define the region's value proposition as follows:

- Worcester is GROWING. Between 2000 and 2010, Worcester experienced greater population growth than Boston, or Massachusetts and a higher growth of families than Boston or Massachusetts. During this same period, Worcester's employment increased twice that of the state, and the number of households earning \$75,000 or more per year grew by 66%.
- Worcester is COST COMPETITIVE. Worcester's real estate costs are less than Boston on average, the region's workforce costs are lower than Boston, and the cost of living is lower in the Greater Worcester Region than in the Greater Boston Region.
- Worcester is ACCESSIBLE. Worcester is conveniently located in the center of the state with access to Boston, Hartford and Providence within a one hour drive, and Manchester, NH within one hour and fifteen minutes. By car, air, or train, Worcester is easily accessible from all directions points North, South, East and West. Worcester has its own airport, but is also approximately an hour from four major regional airports Logan International Airport in Boston, TF Green Airport in Providence, Manchester-Boston Regional Airport, and Bradley Airport in Hartford.
- Worcester's Workforce is YOUNG and EDUCATED. In 2010, nearly 25% of Worcester's workforce was age 15 to 24, 84% of the workforce had greater than a high school education, and 30% had a bachelor's degree or higher. Also in 2010, both Worcester and Worcester County had higher concentrations of people age 0 to 14 than Boston or Massachusetts, providing a larger volume of young workers that will be entering the workforce over coming decade.
- Worcester's INNOVATION ECONOMY is THRIVING. Between 2000 and 2010,
 Worcester's Manufacturing sector was 2.4 times stronger than that of Boston, the
 Scientific Research & Development subsector grew employment by 31.7%, and the
 Computer Systems Design and Related Services subsector, which includes digital game
 development, grew employment by 46.3%.

Recruit, Retain, Incubate: Chamber Recommendations

The Chamber, as the business development arm of the region, is uniquely poised to market the region's value proposition to companies in the target sectors with the goal of attracting new and growing businesses to the region. The Chamber is encouraged to pursue the following strategies to enhance opportunities to recruit, retain and incubate businesses in the Greater Worcester Region.

Promote the Region's Value Proposition

While other regions are attempting to build an educated workforce, forge relationships with higher education, create innovation clusters, or attract young people and families to fuel their workforce, these assets already exist in Worcester County. These factors

enable the region to compete for businesses with the Greater Boston Region and the MetroWest, where many of the innovation companies are currently based. Now it is the job of the Chamber to ensure that the business community - locally, regionally and globally – understand Worcester's value proposition and consider Worcester as a premiere location to locate their business. It is recommended that the Chamber develop and implement a targeted promotional campaign that is intended for C-level corporate executives, real estate brokers, site selectors and other corporate decision makers. Through a targeted media campaign, promotional print material and web-based marketing presence, the Chamber can positively impact the perception of doing business in the Greater Worcester Region.

Targeted Networking

To market the region effectively, the Chamber must build off existing assets and design a business recruitment network that is unmatched in the Commonwealth. It is recommended that the Chamber utilize a strategy of targeted networking, such as exhibiting at trade shows and hosting special events for key decision makers. The following is a list of major trade shows that the Chamber should consider attending to connect with businesses in the target sectors and to connect with commercial real estate development practitioners.

Table 3: Trade Shows in Target Sectors

	No. of	
Trade Show	Attendees	Industry
Fabtech Expo	35,000	Manufacturing, fabricated metal
Game Developers Conference	23,000	Game developers & designers
PaxEast	80,000	Game developers, Games
International Plastics Showcase	60,000	Manufacturing, plastics
BIO International Convention	20,000	Biotech
RECon Las Vegas/ICSC	34,000	Retail, Commercial real estate
Medical Design & Manufacturing		Manufacturing, Medical device
CoreNET	3,000	Commercial real estate

Whether hosting a booth or simply attending a trade show, it is recommended that the Chamber arrange one on one networking meetings with key decision makers representing growing companies in the targeted sectors. The Chamber, perhaps in coordination with a partner organization or regional business group, should also consider hosting small-group special events, such a dinners, cocktail functions or other special outings, for select decision makers during these trade shows. These small group

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events give the Chamber an opportunity to build personal relationships with influential individuals and pitch a targeted audience on the region's value proposition.

As the Chamber's business development program matures, it is recommended that the Chamber consider integrating an international networking strategy into the recruit, retain, and incubate model. There are a variety of government, private and non-profit groups whose mission is to make international economic development connections, and it will be worthwhile for the Chamber to pursue targeted international networking in countries with strong clusters in the Growth Sectors.

Forge Relationships with the Real Estate Community

The real estate community, including brokers, developers and site selectors, are often the best source of business recruitment leads. They know when company leases are expiring, which companies are looking for new space, and what matters most to these companies during the site selection process. It is recommended that the Chamber form and nurture strong relationships with the commercial real estate community across Massachusetts. To do so, it is recommended that the Chamber consider joining and participating in Massachusetts-based real estate organizations, such as the National Association of Industrial Office Properties, New England Women in Real Estate, and the Massachusetts Chapter of the International Council of Shopping Centers. Additionally, it is recommended that the Chamber host familiarity tours of prime development parcels and buildings in the region for real estate professionals. Ensuring that these targeted real estate professionals realize and understand Worcester's value proposition will enable them to bring new opportunities to the region through their client base.

Collaboration

Worcester's Economic Development Coordinating Council (EDCC), a collaboration of all of the area's economic development organizations, has designated the Worcester Regional Chamber of Commerce as the region's business development lead. This designation, coupled with the business community's financial pledge of \$1.2M for an Advancement Fund, enables the Chamber to serve as the key collaborator for business development and recruitment across the region. It is very powerful for a region to designate a single entity to set and implement the business development strategy across the region, and manage the associated collaborations and resources. The Chamber is encouraged to continue to leverage collaboration with the EDCC, other business groups, governmental agencies, and higher education to bring all available resources and expertise to bear for business development efforts across the Greater Worcester Region. A cohesive regional organizational structure that is motivated by the single goal of economic prosperity is an exceptional competitive advantage for the region.

Advocacy

The Chamber has direct experience with the business community and understands the areas of importance to businesses, particularly during the site selection process. Understanding business needs and implementing the strategies and policies that are necessary to compete regionally, nationally and internationally are vitally important to the region's economic success. Therefore, it is recommended that the Chamber continue to serve in an advocacy role for the business community with local governments, and continue to share best practices and advocate for policy advancements within local governments to improve business attraction to the region.

Figure 14: Worcester Regional Chamber of Commerce Membership Map, 2014



Regional Competitiveness Assessment

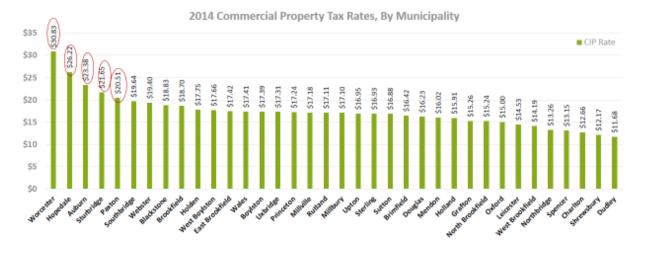
The best laid business development plans will falter without partnerships and timely responses from local governments. This section analyzes the practices of the 36 communities identified in the Worcester Regional Chamber of Commerce Core Membership Map catchment area. With the Chamber's advocacy role in mind, this section offers strategies and tools to help the Chamber to advocate for strong business friendly policies across the region.

Taxes

• Commercial tax rates in Massachusetts are applied per \$1,000 of property value. The median commercial property tax rate in the catchment area for 2014 is \$17.11, and the area's highest rate is Worcester at \$30.83 and the area's lowest rate is Dudley at \$11.68. Compare these rates with Boston at \$31.18 and the statewide median at \$17.10.

Figure 15: Commercial Property Tax Rates, Catchment Area Snapshot, 2014

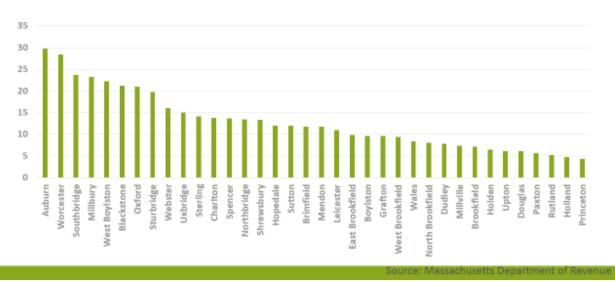
COST: REGION'S TAX RATES



- The commercial property tax rate in Boston is the 29th highest in the state and Worcester ranks 31st highest, at \$.35 lower than Boston.
- Hopedale, Auburn, Sturbridge and Paxton rank 52nd, 69th, 79th and 92nd respectively. No other communities in the catchment area rank in the top 100 highest commercial property rates in the Commonwealth for 2014.
- On average, the catchment area communities derive 12.84% of their total real estate value from commercial or industrial users. Auburn, with a commercial property tax rate of \$23.38 has the highest commercial tax base in the area at 29.8% of total value, and Worcester is a close second at 28.4%.
- Other communities within the catchment area that represent greater than 20% commercial tax base are Southbridge at 23.7% with a rate of \$19.64, Millbury at 23.2% with a CIP rate of \$17.10, West Boylston at 22.2% with a rate of \$17.66, Blackstone at 21.2% with a rate of \$18.83, and Oxford at 21% with a rate of \$15.00. The 2014 statewide median commercial tax base (as a percent of total value) is 12.7%.

Figure 16: Municipal Commercial/Industrial Tax Base, Percent of Total Value, Worcester Regional Chamber of Commerce Catchment Area, 2014

MUNICIPAL COMMERCIAL/INDUSTRIAL TAX BASE PERCENT OF TOTAL VALUE, 2014



- For comparison purposes, communities in close proximity to the region but outside of the Chamber's catchment area that are commonly considered competitors for business development purposes include:
 - Westborough with a commercial tax base of 36.5% at a commercial tax rate of \$19.29;
 - Marlborough at 33.4% with a rate of \$28.22;
 - Northborough at 26.3% with a rate of \$16.59;
 - Leominster at 22% with a rate of \$18.89;
 - o Fitchburg at 21.3% with a rate of \$26.32; and
 - o Hopkinton at 17.4% with a rate of \$17.63.

Figure 17: Worcester Compared with Competitor Communities, Municipal Commercial Tax Rates & Commercial Tax Base as Percent of Total Value, 2014

WORCESTER & COMPETITOR COMMUNITIES TAX RATES AND PERCENT OF COMMERCIAL TAX BASE, 2014



- Nine of the area's communities utilize Tax Incentive Financing (TIF) as a tool to attract new businesses. This program enables communities to negotiate reduced tax rates with commercial users over a defined period between 5 and 20 years. Comparatively, all of the six competitor communities referenced above utilize TIF.
- Five of the catchment area communities apply a split tax rate, assessing commercial users higher property tax rates than residential users. Those communities are Auburn, Hopedale, Sturbridge, Webster and Worcester. Only two of the competitor communities apply a split tax rate, Marlborough and Fitchburg. Split tax rates are less favorable to commercial users and are therefore considered as a negative characteristic for business development purposes.

Real Estate Cost

- It is difficult to compare the real estate costs of Worcester to Boston or the MetroWest region with precision because, unlike the Boston and MetroWest markets, comprehensive industry market data for the Greater Worcester real estate market does not exist.
- Cassidy Turley, a nationwide commercial brokerage company, released a 4th Quarter 2013 Boston Submarket research document that shows the MetroWest/West region, encompassing many of the competitor communities referenced above, commanded a

weighted average office rent of \$19.16 per square foot, and Boston overall commanded a weighted average office rent of \$43.31 per square foot.

- A weighted average office rent is not available for Worcester for the 4th Quarter 2013, so a direct comparison of office rents is not possible. However, Loopnet, an online commercial real estate service, offers a snapshot view of the current office lease rates in Worcester. In March 2014, Loopnet shows 31 office properties currently listed for lease in Worcester ranging from \$3.50 per square foot to \$22.00 per square foot. The average lease rate of these 31 properties is \$13.55 per square foot.
- The above snapshot, coupled with market feedback from commercial real estate brokers
 practicing in the Worcester area, provides sufficient evidence that office lease rates in
 Worcester are significantly less expensive on average than in the City of Boston or along
 the Route 495 corridor of the MetroWest region.

Ease of Doing Business

- There are 20 identified Chapter 43D Priority Development Sites in 9 communities in the catchment area, guaranteeing six month local permitting on those designated sites. These sites represent a variety of new build and rebuild opportunities for the region ranging from pad ready sites to redevelopment opportunities.
- Seven communities provide an easily accessible online permitting guide or checklist to guide applicants through the local permitting and regulatory process.
- Thirty-five communities provide some form of online permitting or downloadable applications which enables both residential and commercial users to find information easily.
- Eleven catchment area communities identify on their website a single point of contact
 for permitting or businesses. Clearly identifying a single point of contact who is
 available to new businesses interested in doing business in these communities is a very
 useful tool for site selectors and prospective users.



Business Friendliness Strategies and Advocacy Recommendations

Through advocacy, the Chamber should encourage the 36 communities of the region to gain recognition as being "business friendly" for a competitive advantage over other regions of the state. This means implementing policies and procedures that establish clear rules for businesses and development, and then making those rules easy to find. There are a number of simple adjustments that communities can make to improve their business friendliness. There are also a number of innovative programs and tools available to municipalities that are aggressively seeking to enhance their commercial tax base, and adoption of these programs will also improve the competitive posture of the region. The following summarizes a number of these strategies and tools that Chamber may recommend to the catchment area communities.

Expedited Permitting

When competing nationally and internationally for businesses, it is prudent to consider the practices of other states. While six month permitting has taken hold as a reasonable standard in Massachusetts, it is important to keep in mind that some competitor states offer much more aggressive permitting timetables such as 30-day permitting or prepermitted sites. Therefore, meeting a six month permitting standard for commercial activity should be considered the *minimum* permitting benchmark for municipalities looking to grow their commercial tax base in Massachusetts, while still seeking ways to further reduce that six month permitting window wherever possible.

The Chapter 43D Expedited Permitting Program provides municipalities with a tool to guarantee six month permitting on certain Priority Development Sites. The program allows for its use on residential, commercial, industrial and mixed use zoned properties. Worcester was the first community in the state to adopt this program in 2007, and since that time 86 communities have adopted the program on 178 sites statewide. Nine of the 36 communities have designated a total of 20 "Priority Development Sites" in the region, representing approximately 11% of the designated six month permitting sites statewide, but there is an opportunity for the region as a whole to utilize this program more aggressively. These sites need not be limited to those currently available for new tenants or new development, but communities should also consider sites with existing users that may present expansion opportunity in the future. Expedited permitting can be an effective company retention tool to keep growing companies in the host community through growth cycles, as well as a business recruitment tool for new companies.

It is recommended that the Chamber encourage communities in the region to assess all commercial properties in their communities and consider whether six month permitting can be attained in these areas. Once it is determined that six month permitting can be

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reasonably met on particular sites, then communities should consider adopting Chapter 43D on those sites.

Further, the Chamber should recommended that communities evaluate the readiness of these sites to accept new development, including assessing available local infrastructure capacity. It should be noted that adoption of Chapter 43D provides for priority consideration for state financial assistance, including the annual MassWorks Infrastructure Grant Program and brownfields remediation programs administered by MassDevelopment, thus giving 43D communities greater access to the tools that will help to increase the development readiness of these priority sites.

The Chamber should encourage communities to review *A Best Practices Model for Streamlined Local Permitting* as written and published by The Massachusetts Association of Regional Planning Agencies for additional strategies and best practices to achieve streamlined permitting. Implementation of many of the best practices has begun across the region, however broader adoption of the best practices will provide greater predictability and transparency, which will enhance the region's business friendliness reputation and support the Chamber's business recruitment efforts.

Ease of Doing Business Best Practices

Some of the quickest ways to make it easier to do business in the region are also the least expensive. The Chamber should recommend that communities identify a single point of contact for permitting, or businesses, more generally. This individual must have the capacity and knowledge to guide the prospective user through the local siting and approval process, and help the prospective applicant to find answers to their questions. As an example, the Town of Southbridge uses its website to make a pitch to prospective businesses looking to locate in the Town and as part of that effort, provides direct contact information (email, phone) for an individual responsible for assisting businesses to locate in the community. This effort demonstrates that the Town of Southbridge wants new business and has the capacity and willingness to serve business needs.

The Chamber should also recommend that communities post as many permit applications online as is feasible to give current constituents, as well as prospective and new users the ability to obtain permit applications, fee schedules and other documents easily. The Town of Wales offers a great example of posting a comprehensive catalog of permits, applications and fee schedules in a clearly marked location on the Town's website.

Third, the Chamber should recommend that communities create a local permitting guide or checklist for prospective users, to assist applicants to understand the preferred permitting roadmap in the host community. The process of creating a development

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guide or checklist may also provide internal benefits to the community, such as highlighting operational inefficiencies or ambiguities among local staff. Additionally, making a step-by-step guide publicly available online is likely to reduce burdens on municipal staff by reducing the number of questions and phone calls received from prospective applicants. The Town of Grafton offers a permitting flow chart online that demonstrates the step-by-step process of obtaining permits in Grafton. Another example is the Town of Northbridge, which makes a comprehensive permitting guidebook available online to prospective businesses and residents.

It is recommended the Chamber assist communities in the catchment area to learn from the best practices already in place among other area communities to help improve the region's overall "business friendliness" status.

Tax Relief

It is recommended that the Chamber continue to advocate for a more competitive tax climate across the region. There are several strategies and tools available to help communities to reduce commercial tax burdens.

First, the Chamber should educate the minority of catchment area communities utilizing a split tax rate as to the long term economic benefit of implementing a single tax rate for residential and commercial users. There are 31 communities in the catchment area that utilize a single tax rate for all users and only five that utilize a split a tax rate.

Second, the Chamber should educate area communities on the benefits of Tax Incentive Financing (TIF), a tool that communities use to attract new businesses by temporarily lowering the tax burden on commercial users. TIF enables communities to negotiate with a business to reduce the municipal property tax burden on the incremental tax increase from an improved project by 5% to 100% over a defined period of time between 5 and 20 years. Utilizing this program can reduce the initial costs of doing business in the region, and serve as an incentive to attracting new businesses. Nine of the catchment area communities have used TIF.

Third, the Chamber should educate communities on the availability and benefits of sector-specific tax benefit programs, such as the Local Research & Development Tax Credit (Massachusetts General Law Chapter 59, Section 5(16)(3)). This tax credit enables communities to offer property tax exemptions to research and development corporations and limited liability companies that are engaged in manufacturing or research and development. This is a local option tool and only applies to communities that accept it, however it can be a useful tool to attract research and development companies, and to grow the research and innovation cluster that already exists in the Greater Worcester region.

Infrastructure Investment and Financing

The Chamber should consider working with businesses and municipalities in the region to prioritize the region's infrastructure projects that will have the largest positive impact on business recruitment efforts. Once prioritized, the Chamber should advocate for state and federal funding to advance those priority projects that support the greatest opportunity for business growth in the region. Several tools exist to support infrastructure financing including the state MassWorks Infrastructure Grant Program, federal Economic Development Administration Programs, and public-private partnership opportunities, such as District Improvement Financing.

District Improvement Financing (DIF) is a tool that was created by legislature in 2004 but not widely utilized, in part due to the time and administrative burdens on communities. However, the program was revised in 2012 to remove some of the administrative obstacles for communities, and it is now a more practical solution for infrastructure investment. The program enables communities to invest in infrastructure to unlock new investment in targeted development districts. The municipality issues bonds to improve the designated district, and appropriates a portion of the new property tax collected on the improved property to service the debt. The DIF bonds may be used to make infrastructure investments or improve municipal property, within a designated development district.

Conclusion

The Greater Worcester Region is an economic engine that has successfully recast its assets of the past while simultaneously growing strong clusters of innovation for the future. Through key strategic investments, stakeholder engagement, and a strong regional vision for economic development, the region has prepared for a coordinated business development strategy spanning 36 communities that is unmatched in the Commonwealth. The Worcester Regional Chamber of Commerce is the best agency to effectively lead and implement that strategy, and has already begun to do so with its recruit, retain and incubate business development model.

The data provided in this report will assist the Chamber to focus its efforts on recruiting businesses within the defined "Growth Sectors" and to build persuasive and effective pitches to encourage new and growing businesses to locate in the region. In addition, the region's competitiveness assessment and associated tools will assist the Chamber in its mission of advocacy among communities.

In conclusion, the Worcester Regional Chamber of Commerce, with support from its partner organizations and area communities, has an outstanding opportunity to enhance and leverage existing assets to realize great economic prosperity across the region for the future.