The Central MA Regional Workforce Blueprint

2018-2022

March, 2018

CENTRAL MASSACHUSETTS
**WORKFORCE
INVESTMENT BOARD**
guiding resources for a stronger workforce

NORTH CENTRAL MASSACHUSETTS
WORKFORCE INVESTMENT BOARD
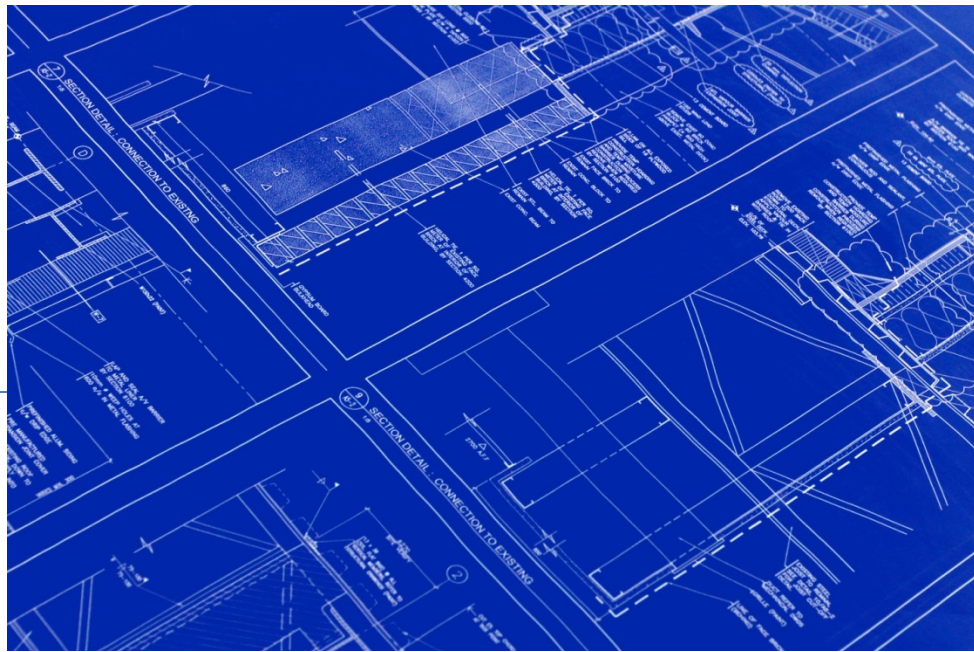
Introduction

The federal Workforce Innovation and Opportunity Act (WIOA) was signed into law on July 22, 2014, and is the first legislative reform of the public workforce system in fifteen years. WIOA supersedes the Workforce Investment Act of 1998 and retains and amends the Adult Education and Family Literacy Act, the Wagner-Peyser Act, and the Rehabilitation Act of 1973, and establishes the publicly-funded national network of Federal, State, regional, and local agencies and organizations that provide a range of employment, education, training, and related services and supports to help all jobseekers secure good jobs while providing businesses with the skilled workers they need to compete in the global economy.

Among other requirements, WIOA calls for local regions to develop strategies and shared service models among the federally-funded partners, including;

- **The Adult Program (Title I of WIOA),** as part of the Department of Career Services (DCS), Executive Office of Labor and Workforce Development (EOLWD);
- **The Dislocated Worker Program (Title I),** as part of the Department of Career Services (DCS), EOLWD;
- **Trade Adjustment Assistance for Workers Programs** (Activities authorized under chapter 2 of Title II of the Trade Act of 1974 (19 U.S.C. 2271 et seq.)), as part of DCS, EOLWD;
- **Jobs for Veterans State Grants Program** (Programs authorized under 38, U.S.C. 4100 et. seq.) as part of DCS, EOLWD;
- **The Wagner—Peyser Act Program** (Wagner—Peyser Act, as amended by Title III), as part of DCS, EOLWD; and
- **The Youth Program (Title I),** as part of the Department of Career Services (DCS), EOLWD;
- **The Adult Education and Family Literacy Act Program** (Title II), as part of Adult and Community Learning Services (ACLS), Department of Elementary and Secondary Education (DESE) Executive Office of Education (EOE);
- **The Vocational Rehabilitation Program** (Title I of the Rehabilitation Act of 1973, as amended by Title IV), as part of the Massachusetts Rehabilitation Commission (MRC) and Massachusetts Commission for the Blind (MCB), Executive Office of Health and Human Services (EOHHS).
- **Federal—state unemployment compensation program**, as part of the Department of Unemployment Assistance (DUA), EOLWD;
- **Temporary Assistance for Needy Families Program** (42 U.S.C. 601 et seq.) as part of Department of Transitional Assistance (DTA), EOHHS;
- **Employment and Training Programs under the Supplemental Nutrition Assistance Program**, (Programs authorized under section 6(d)(4) of the Food and Nutrition Act of 2008 (7 U.S.C.2015(d)(4))), as part of DTA, EOHHS and

- **Senior Community Service Employment Program** (Programs authorized under title V of the Older Americans Act of 1965 (42 U.S.C. 3056 et seq.)), as part of the Executive Office of Elder Affairs (EOEA).

To accomplish this, local Workforce Development Boards have convened their local partner representatives to establish a Memorandum of Understanding (MOU) detailing service referrals and delivery, data sharing procedures, Career-Center operations, and career pathway supports.

As part of WIOA, the Governor of each State is required to submit a Unified or Combined State Plan to the U.S. Secretary of Labor that outlines a four-year workforce development strategy for the State's workforce development system. As detailed in the Commonwealth's WIOA State Plan, the Baker Administration has launched several initiatives to better coordinate the broadly defined workforce system with the needs of business as well as focus on expanding the impact on job outcomes for individuals with barriers to employment. One of these initiatives is the Workforce Skills Cabinet, which was created to align the resources of the Executive Office of Labor and Workforce Development, the Executive Office of Education and the Executive Office of Housing and Development – the State agencies that administer the major federal and state programs for job seekers and employers.

Through the Workforce Skills Cabinet, the Commonwealth has established a regional planning process to align the priorities of each region for the agencies within the Workforce Skills Cabinet's three secretariats. In this way, the Commonwealth is utilizing the required WIOA Regional Planning process to create this new, integrated regional planning process across the economic, education and workforce Secretariats.
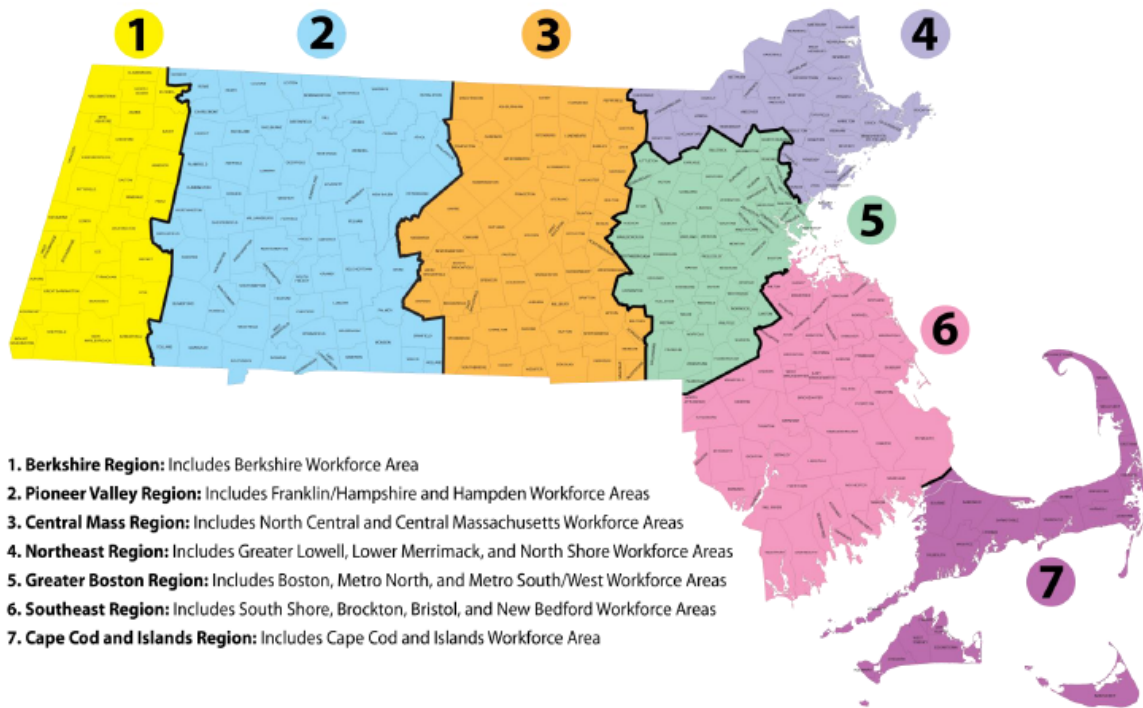
On a regional basis, this process seeks to scale up regional workforce development models that provide workers with the skills employers demand. The process is designed to ensure that regional employers, educators, and workforce training officials are coordinated in a way that creates strong talent pipelines for in-demand jobs.

The purpose of the regional planning under the Workforce Skills Cabinet and WIOA is to use the same regional boundaries between economic development, workforce, education and key partners. Each region has therefore been asked to identify business demand for skills, create regional strategies, and align existing resources to this process. The goal is to ensure that regional employers, educators, and workforce training officials are coordinated in a way that creates strong talent pipelines, for both middle-skilled and highly skilled jobs. The regional planning will support the development of cross-secretariat partnerships formed to support sector initiatives/career pathway initiatives that includes education and training, credential attainment, work-based learning (OJTs or apprenticeships), etc.

Local Workforce Development Boards (working as multi-region partners) were tasked with convening regional leaders in partnership with education and economic development partners to coordinate strategic workforce priorities, activities, and performance metrics (see attachment 1: Regional Planning Context Diagram).

The Workforce Skills Cabinet combined the Commonwealth's 16 workforce development regions into seven Workforce Skills Cabinet Planning regions:

Regional Structure – Workforce Skills Cabinet Planning Regions

1. **Berkshire Region:** Includes Berkshire Workforce Area
2. **Pioneer Valley Region:** Includes Franklin/Hampshire and Hampden Workforce Areas
3. **Central Mass Region:** Includes North Central and Central Massachusetts Workforce Areas
4. **Northeast Region:** Includes Greater Lowell, Lower Merrimack, and North Shore Workforce Areas
5. **Greater Boston Region:** Includes Boston, Metro North, and Metro South/West Workforce Areas
6. **Southeast Region:** Includes South Shore, Brockton, Bristol, and New Bedford Workforce Areas
7. **Cape Cod and Islands Region:** Includes Cape Cod and Islands Workforce Area

Specifically, the goals of each region were to:
- Identify the growing industries and occupations to be prioritized by system partners that will assist in the economic growth of the region.
- Develop a joint set of action steps to address skills gaps within these industries/occupations.
- Align and drive programming and service delivery across the three secretariats to meet the needs of the priority industries/occupations.
- Help more residents gain the credentials, education and job skills needed for successful careers within high-demand career pipelines.

The following individuals were invited to be a part of the regional planning process[1]:

Individual Name	Individual Title	Organization Name
Joshua Froimson	Manager, Business Excellence	AbbVie
Janet Pierce	Executive Director	Central MA Regional Planning Commission
Lauren Morano	Program Manager	Central MA Workforce Investment Board
Jeffrey Turgeon	Executive Director	Central MA Workforce Investment Board
Jeannie Hebert	President and CEO	Central Regional EDA Partnership
Mary Jo Bohart	Director, Economic Development	City of Fitchburg
Maribel Cruz	Economic Development Coordinator	City of Gardner
Lisa Marrone	Economic Development Coordinator	City of Leominster
Sue Mailman	President	Coghlin Electrical Contractors
Ashley Armstrong	Contract Manager, Employment Services Program	Department of Transitional Assistance
Joyce Clemence	Director, Southbridge Office	Department of Transitional Assistance
Andre Ravenelle	Superintendent	Fitchburg Public Schools
Peter Milano	Senior Director, Business Development	Mass. Office of Business Development
Glenn Eaton	Executive Director	Montachusett Regional Planning Commission

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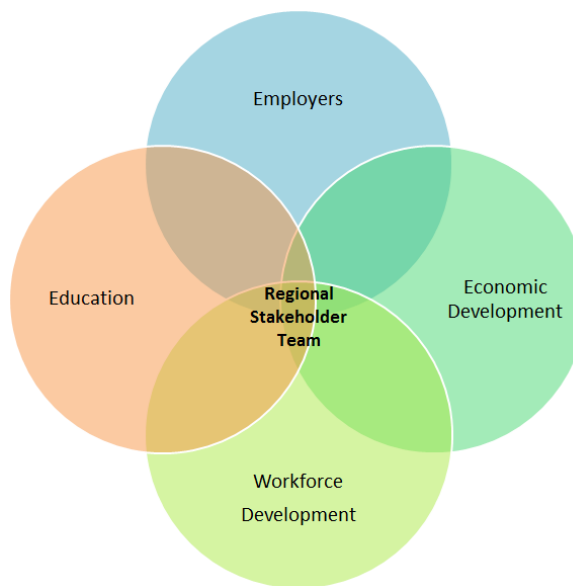[1] Participation among invited members varied throughout the planning process

Sheila Harrity	Superintendent	Montachusett Regional Vocational School
Rachel Frick Cardelle	Interim Vice President, Lifelong Learning and Workforce Development	Mount Wachusett Community College
Joseph Stiso	Vice President for Planning, Development and Institutional Research	Mount Wachusett Community College
Veronica Guay	Assistant Dean	Mount Wachusett Community College
Roy Nascimento	President and CEO	North Central MA Chamber of Commerce
Penny Doolittle	Deputy Director	North Central MA Workforce Investment Board
Tim Sappington	Executive Director	North Central MA Workforce Investment Board
Paul Morano	Assistant Chief Development Officer – Business and Community Development	City of Worcester, Executive Office of Economic Development
Gail Carberry*	President	Quinsigamond Community College
Robin Hooper	Community Life Senior Manager	The Community Builders, Inc.
Jil Wonoski	Marketing Consultant	Tri-State Truck Center
Tim Murray	President and CEO	Worcester Chamber of Commerce
Kelsey Lamoureux	Director	Worcester Jobs Fund
Karen Pelletier	Director of Higher Ed-Business Partnership	Worcester Regional Chamber of Commerce

Russ Pottle	Dean, School of Humanities and Social Sciences	Worcester State University
Linda Larrivee	Dean, School of Education, Health and Natural Sciences	Worcester State University
Kyle Brenner	Principal	Worcester Technical High School
Carlene Campanale	Deputy Director	Workforce Central Career Center

President Carberry retired from Quinsigamond Community College during the planning process

Description of the Regional Planning process:

As noted previously, the Central MA region consists of the Central MA and North Central MA Workforce Development Areas. The two local workforce development boards, the Central MA Workforce Investment Board (CMWIB) and the North Central MA Workforce Investment Board (NCMWIB), have fully embraced the concept of collaborative regional workforce planning and have assembled a strong and diverse team of stakeholder representatives from private industry, education, workforce development, and economic development. The region has conducted three full team planning sessions since the start of the planning process (April, July, October) and during these sessions the stakeholders have reviewed regional population demographics, labor market information, and the additional data necessary to confirm industry priorities and supply gaps in our region, including the results of a survey conducted specifically for use in the planning process (see attachment 2: Business Survey). This survey was sent to over 550 of the region's businesses by the two Workforce Development Boards and on their behalf by the regions' three One-Stop Career Center and local Chamber of Commerce partners. Seventy-three businesses responded to the survey, yielding detailed information regarding their priorities, challenges, and needs. These results were analyzed and discussed at the third regional planning session.

The planning team also established a Regional Planning Core Team, consisting of representatives of the two workforce development boards, education (Mount Wachusett Community College), and economic development (City of Worcester). This core team has met several times over the same period to assist the full team with refining the population and labor market data used to make final decisions about priority industry sectors, priority occupations within those sectors, educational opportunities and economic development issues. During this time we have also completed the administrative tasks associated with the planning process, including development of the project budget and scope of work, as well as our core team Memorandum of Understanding outlining our project staffing and work plan.

The core team developed a mid-point presentation indicating preliminary planning outcomes and initial outlines of strategies and goals. This presentation was delivered publicly on October 25th, allowing regional stakeholders and interested members of the public an opportunity to view and share their feedback with the core team. Following this, the core team also developed a summary planning presentation that was shared with a statewide group of workforce peers and staff from the three Secretariats in mid-November and, following further refinement, the presentation was shared with the three Secretariats themselves and selected staff on December 11, 2017. Feedback from all of these sessions has been used to guide the development and refinement of this document.

Description of the current state of our region:

The Central MA region consists of 61 communities, anchored by New England's second largest city, Worcester, as well the twin cities of Fitchburg and Leominster. The region borders three other regional labor markets: Pioneer Valley, Northeast, and Metro
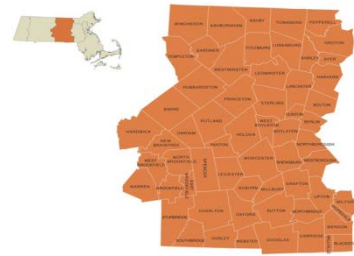
South/West. The total population of the two regions is 821,808[2] with a labor force of 440,133. The region boasts of natural attractions such as Mount Wachusett, Lake Quinsigamond, and Purgatory Chasm, as well as historic sites dating back to the local Native American tribes and prominent locations from the French and Indian War, the American Revolution, and later, the Industrial Revolution.

Ashburnham	Gardner	Millville	Sterling
Ashby	Grafton	New Braintree	Sturbridge
Auburn	Groton	North Brookfield	Sutton
Ayer	Hardwick	Northborough	Templeton
Barre	Harvard	Northbridge	Townsend
Berlin	Holden	Oakham	Upton
Blackstone	Hopedale	Oxford	Uxbridge
Bolton	Hubbardston	Paxton	Warren
Boylston	Lancaster	Pepperell	Webster
Brookfield	Leicester	Princeton	West Boylston
Charlton	Leominster	Rutland	West Brookfield
Clinton	Lunenburg	Shirley	Westborough
Douglas	Mendon	Shrewsbury	Westminster
Dudley	Milford	Southbridge	Winchendon
East Brookfield	Millbury	Spencer	Worcester
Fitchburg			

From: Labor Market Trends in the Central Mass Region 2012 www.bostonfed.org/neppc

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[2] 2010 US Census data

Our region also features prominently as a bellwether for the US economy, being built upon agriculture at the start of our nation and then moving during the industrial age to become a major force in development of machine-powered manufacturing through the start of the 20th century centered around the abundant water power of our rivers and streams. This rise of manufacturing, however, has given way to other industries over the past fifty years. Healthcare, retail, and human services have grown to take a larger role as manufacturing, especially traditional manufacturing, has faded. In the recent past, state and local officials have made a concerted effort to invest in the life-sciences industry and have had success in attracting bio-tech/bio-medical companies to the region and supporting the growth of new life-science firms.

In terms of employment rates, the Central MA region continues to mirror the state as a whole economically; our region's unemployment rate hovers around 4% -- a low rate by historical standards.

State and Regional Unemployment Rate

Central Mass unemployment rates tend to exceed those of the Commonwealth by .1 - .4%.
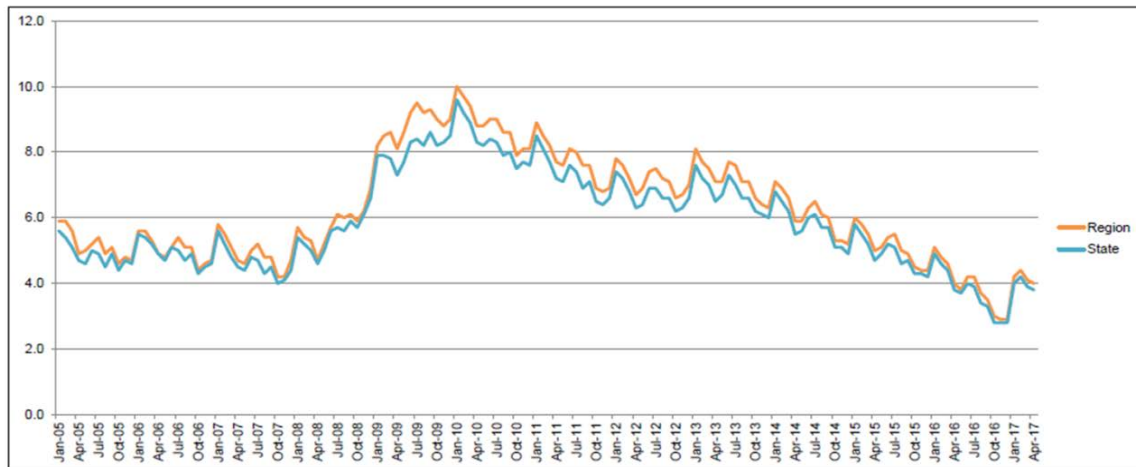
Source: Bureau of Labor Statistics, 2005-2017 Seasonally Unadjusted Data

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This low rate, however, masks some of the challenges our region's workforce faces. First, this low rate indicates that many residents in the region actively seeking work are able to find it – making the labor market for these workers more competitive and therefore harder for employers to find candidates without raising wages. But there are additional challenges associated with this data that are less obvious. This includes the fact that the official unemployment rate as announced by the United States Bureau of Labor Statistics (BLS), the "U-3" rate, only includes those who are in the labor force and actively looking for work within the previous four weeks. If a person is unemployed and was looking for work in the last year, but not in the past four weeks, the individual is considered a "discouraged worker" by the BLS, and not counted in the U-3 rate. If you were to broaden the U-3 measure to count these

discouraged workers (plus those working part time who wish full-time work) as the BLS does in its U-6 measure, the unemployment rate in Central MA climbs to 7.6%, fully double the statewide U-3 rate of 3.8%. Yet even this statistic, as broad as it is, only includes those who have looked for work in the past year. If you were to measure those who have given up looking for work for more than one year, the statistic no doubt climbs much higher still -- but it is difficult to measure since this population, being much harder to define from available data, is not tracked by the BLS and has thus been largely made invisible in official statistics. According to economists at ShadowStats.com, this rate nationally is far above the official 4.9% U-3 and 9.7% U-6 rates, standing in 2016 at an eye-popping 23%. It stands to reason that this tracks with our Central MA region as well since our aging workforce (discussed further in the following section) was hard hit in the great recession of 2008 – 2009 and many potentially productive members of our society have simply fallen off the radar of unemployment statistics altogether.

Put another way, the percentage of the civilian population that is working took a large hit following the great recession. Nationally, this ratio fell in 2008 from more than 63% before the crisis hit to below 59% -- indicating a massive exodus from the workforce. This ratio has yet to fully recover, slowly climbing back up above 60% in 2017, but still lagging far below the previous level. Supporting employment for these long term discouraged workers will prove an ongoing challenge to the region, both in

connecting with these people and in providing the higher level of services required to return them to employability, but it is also an opportunity to address worker shortages.
Another challenge in the current state of our region is the ongoing high unemployment rate among our region's youth, especially youth of color. The state unemployment rate for young people 16 to 24 stood at 6.7%, far exceeding the overall annual average rate for the State (3.3%). The unemployment rate for young men stood even worse, at 7.8% and youth of color was worse still.

In terms of our region's economy and quality of life, the Central MA region's median wage ranks third among the State's seven planning regions.

Median Wage

Central Mass median wages are third to the Northeast and Greater Boston, and higher than its neighbor to the west (Pioneer Valley).

Annual Median

Region	Median Wage
Berkshire	$36,317
Cape and Islands	$38,433
Central	$40,646
Greater Boston	$53,153
Northeast	$42,225
Pioneer Valley	$38,601
Southeast	$38,797
State	$46,690
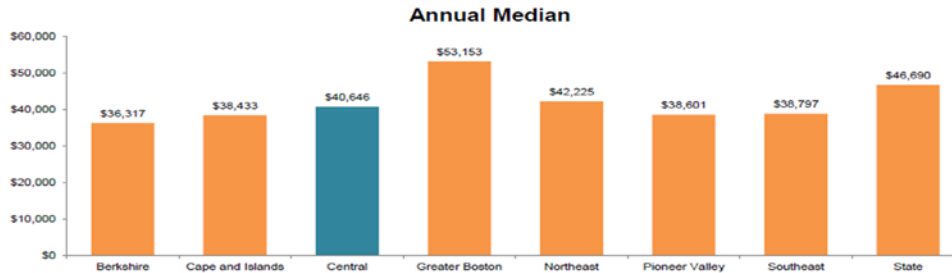
The Worcester Metropolitan Statistical Area (MSA) was ranked by *Area Development Magazine,* a publication covering corporate site selection and relocation, as 126th out of the 394 MSA's ranked nationally based on performance in four key categories: "Prime Workforce," "Economic Strength," "Year-Over-Year Growth," and "Five-Year Growth." This ranks it 9th among the 15 New England MSA's. However, when looking at the rank for the Prime Workforce factor alone (considered by economic development experts as a critical criteria for corporate site selection and business growth), the Worcester MSA falls to 14th out of 15 in new England, and 284th nationally. Prime workforce indicators include the number of workers aged 18–44, their education level, total inward migration of these high-value workers into the community, and wages (over one-, three-, and five-year periods). Of particular note is the fact that Worcester's rank is 378th for the three-year inward migration of workers 25-44 with a Bachelor's Degree or above, and the low rate of growth for this population over the past three years. More optimistically, the Worcester MSA rank zooms up to 59th nationally (and 7th in New England) for Economic Strength, with key factors for ranking MSA's in this category including per capita real gross metropolitan product (GMP), manufacturing/goods-producing employment, employment net growth, and local area unemployment rate changes over one-, three-, and five-year periods. These rankings, therefore, should be taken with a grain of salt; for instance, having high growth in the percent of the prime-workforce with a bachelor's degree is far more difficult to achieve when you begin with a relatively high level.

And Worcester County, which includes almost all of the planning region's communities, is ranked by the analysts at Niche.com for quality of life as 7th out of the Commonwealth's 13 counties (5th best for raising a family), and Worcester County is ranked 624th out of 2,774 counties nationally.

Critical trends in regional demographics that impact the workforce:

The planning team has identified two demographic trends in our region that appear to have a large impact on our workforce as we move forward. The first is our aging population which is already having an impact in several industries, including manufacturing and other "traditional" trades. Many of the older, more experienced workers are retiring and this is leaving gaps that are proving difficult for employers to fill as younger workers are not choosing to enter these fields in numbers sufficient to the need. For example, there are a significant number of maintenance mechanics and machine operator positions that will be available as the current

> Changing demographics in the population will have far-reaching effects on the labor force, the economy, and employment over the 2016–26 decade. The overall labor force participation rate is projected to decline as older workers leave the labor force, constraining economic growth. The aging baby-boomer segment of the population will drive demand for healthcare services and related occupations.
>
> *-- US BLS; Projections overview and highlights, 2016–26*

workforce retires in the next 3-5 years. Without new candidates to replace these workers, the shortage will grow critical, jeopardizing the ability of these companies to meet customer demand, let alone growth opportunities they would need to forgo. Similarly, diesel technicians, construction workers, and other so-called "hard-trades" appear to be of less interest to many youth. Some have argued that youth are counseled from an early age that a college degree offers them a better career path, and thus look to go that route instead of a hands-on profession that is not aligned with the degree-track academic system. Beyond this, it would appear that many youth seek jobs that offer more social rewards, aka, a higher level of esteem, since society seems to devalue income derived from physical labor.

A corollary issue we are seeing with an aging workforce is that many older workers do not appear to be equipped with the appropriate skill set to work in a technology-rich workplace, such as advanced manufacturing. For instance, many older workers/job seekers are not familiar with Computer-Numeric Control (CNC) machining, which is becoming the norm within the manufacturing industry. CNC machining is an automated process and requires knowledge of software and programming. While we have already completed a large amount of CNC training in our region, we will need to do more in order to upskill our aging existing workers and prepare our younger workforce.

> **It is well understood that in order to foster strong economic growth in the future, the Central MA region needs to align the education of its labor force to meet the demands of the region's employers. The higher education institutions in the region can play a key role in influencing the future supply of workers with post-secondary degrees. This supply will be critical to help meet the demographic challenges posed by the aging workforce and the increasing demand for educated workers.**
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> **-- Labor Market Trends in Massachusetts Regions: Central Mass; Boston Federal Reserve**

A further issue related to our aging population is the need it will bring for increased medical care and other social services as the population moves into the post-retirement stage of life. This demographic shift will significantly impact many of our region's larger industry sectors, such as healthcare and the level of staff necessary to care for our region's seniors.

The second critical trend we are seeing is growth of our immigrant and refugee populations. While these new Americans bring the potential to fill many supply gaps in our priority industries, they also often present with more potential barriers to employment. Some of the barriers we are already seeing include a lack of English language proficiency, limited education beyond high school (or credentials that do not transfer here from their previous countries), and a lack of job-specific skills. It has been reported that the waiting list for our region for English for Speakers of Other Languages (ESOL) classes is greater than 1,000 candidates. These people's lives are largely on hold as their ability to work in living-wage jobs is significantly impaired by their lack of English fluency.

Past and current high-level industry trends impacting workforce needs:

There are numerous high level industry trends occurring in our region that are impacting workforce needs, such as the rise of technology and automation, changes to business operations and management practices, issues involving the "pay squeeze" for some industries, and employer responses to public policy changes.

Increase in technology and automation

Increasing technology has been a major driving trend in our region, like others throughout the Commonwealth and beyond. Technology has always impacted workforce in a variety of ways and continues to do so today. In the past, new technology such as the harnessing of electricity provided power to factories and freed them from the need to be near the rivers which drove the machinery. Gas motors forever changed the way we transport goods and materials – and changing the mix of workers needed to build and maintain the new automobiles and trucks, and the roads they ride on. Today, we see the rise of automated manufacturing, self-checkout kiosks in markets and gas stations, and now the growth of the "gig economy" made possible by

the use of real-time online platforms. This rise in technology has reduced the need for employees doing lower-level, repetitive functions, and so, teen employment has dropped as a result. The gig-economy allows people the freedom to pick and choose when and how they wish to offer their services, but the work comes with little or no benefits, job security, or growth potential – an Uber driver is pretty unlikely to advance up the company ranks. In Information Technology, project-based gig work may be well paying, but comes with the stress of not knowing what work may be available in the future, and workers are more and more competing with talent based oversees since production can be shared seamlessly over the world-wide web.

Automation in the manufacturing sector is creating greater efficiencies for manufacturers and yielding ever-higher productivity as companies are able to produce more goods with less workers, leading to layoffs in this industry. Unfortunately for employers, they are in a race with a generational shift as older workers begin to retire in greater numbers, overwhelming their ability to replace these aging workers with machines. And the jobs that remain in advanced manufacturing require ever more comfort with the use of computers to interface with the new machines on the shop floor. Our vocational-technical high schools are already attempting to address this need by adding programs in engineering, advanced manufacturing and robotics, but not at a high enough scale to prepare the number of workers necessary to replace the existing workforce preparing to retire. Further, a significant number of the students attending these schools are going off to college after graduation, and not directly to our region's shop floors.

In the transportation industry there has been significant research on the development of autonomous (so called driver-less) vehicles and discussion in the workforce development world regarding the disruption this will have upon employment as drivers. Discussions with local distribution industry professionals indicate that this innovation is many years away from having an impact locally – while the technology may be rapidly advancing, the prohibitive cost of buying and maintaining an autonomous delivery truck will prevent wide scale implementation and any noticeable decline in local jobs driving. More imminent, these professionals suggest, is the greater utilization of automation in the sorting, handling, and preparation of products as they move through the distribution network. Beyond the short term, it is anticipated that delivery trucks, even autonomous ones, will still need a human presence on board for the foreseeable future to ensure the safe handling and delivery of goods and material.

Changes to business operations and management practices

Another high level industry trend that is affecting workforce development is the changing management structures that businesses utilize, such as the rise of outsourcing for much non-core business administrative and support services like human resources, payroll processing, marketing, custodial/janitorial services, etc. Businesses have also turned to the use of third-

party temp firms to fill short term employment needs or for greater screening for identifying qualified candidates for "permanent" status as a company employee. Businesses have increasingly turned to these alternate organizational models in order to achieve greater efficiency, however, they have also had some unintended consequences, including a lowering of business reputations in the community-labor pool, and a decrease in the ability to promote from within as talented entry level support staff learn about the business and further advance their careers through company-sponsored education and professional development.

To Understand Rising Inequality, Consider the Janitors at Two Top Companies, Then and Now

By Neil Irwin
www.nytimes.com

ROCHESTER — Gail Evans and Marta Ramos have one thing in common: They have each cleaned offices for one of the most innovative, profitable and all-around successful companies in the United States.

For Ms. Evans, that meant being a janitor in Building 326 at Eastman Kodak's campus in Rochester in the early 1980s. For Ms. Ramos, that means cleaning at Apple's headquarters in Cupertino, Calif., in the present day.

In the 35 years between their jobs as janitors, corporations across America have flocked to a new management theory: Focus on core competence and outsource the rest. The approach has made companies more nimble and more productive, and delivered huge profits for shareholders. It has also fueled inequality and helps explain why many working-class Americans are struggling even in an ostensibly healthy economy.

The $16.60 per hour Ms. Ramos earns as a janitor at Apple works out to about the same in inflation-adjusted terms as what Ms. Evans earned 35 years ago. But that's where the similarities end.

Ms. Evans was a full-time employee of Kodak. She received more than four weeks of paid vacation per year, reimbursement of some tuition costs to go to college part time, and a bonus payment every March. When the facility she cleaned was shut down, the company found another job for her: cutting film.

Ms. Ramos is an employee of a contractor that Apple uses to keep its facilities clean. She hasn't taken a vacation in years, because she can't afford the lost wages. Going back to school is similarly out of reach. There are certainly no bonuses, nor even a remote possibility of being transferred to some other role at Apple.

Yet the biggest difference between their two experiences is in the opportunities they created. A manager learned that Ms. Evans was taking computer classes while she was working as a janitor and asked her to teach some other employees how to use spreadsheet software to track inventory. When she eventually finished her college degree in 1987, she was promoted to a professional-track job in information technology.

Less than a decade later, Ms. Evans was chief technology officer of the whole company, and she has had a long career since as a senior executive at other top companies. Ms. Ramos sees the only advancement possibility as becoming a team leader keeping tabs on a few other janitors, which pays an extra 50 cents an hour.

They both spent a lot of time cleaning floors. The difference is, for Ms. Ramos, that work is also a ceiling.

Pay-Squeeze

Another trend in our region is the trend whereby employers have been caught in a "pay squeeze" affecting their ability to pay workers more in times of greater employer demand; unfortunately, we are seeing across some of our priority industries such as manufacturing, health care and social assistance that salaries are not increasing at a rate keeping up with the demand (for instance, manufacturing saw a 2.95% increase in total wages over the past 10 year period and health care an increase of 4.99% total wages, both below the regional average for all industries of 7.82% and far lower than the increased hiring demand would anticipate). One possible reason for this is that while the Commonwealth has increased minimum wage over the past three years, the ability of the employers to pay their workers a higher wage relative to the minimum wage is being capped by the funding available on the revenue side. In health care,

this is largely a result of a public reimbursement system that caps the rate of funding and therefore leaves the revenue side flat while employers in other industries around them (including fast food and retail) have increased their pay due to the minimum wage mandate. This is also occurring in child development centers where staff pay rates are highly dependent on the public voucher supports available to the Centers for the moderate and low-income families they serve. Without a raise in the voucher rates, paying

Pay Cap – Candidate Pool Model

staff more is a very difficult proposition. Similarly, local manufacturers have faced pressure from their customers to meet the prices of their competitors, many of which are in countries with much lower pay rates, such as China. This pay-cap issue therefore alters the natural labor-market and the increase in pay expected in order to entice more people to seek employment in that field – especially if the work requires an investment in a potential candidate's time and money for training in order to be qualified for the job(s) available. This, in and of itself, has large implications for the public workforce system, as it suggests increased training alone may not be sufficient to meet the demand.

Employer Responses to Public Policy

As noted previously, the Commonwealth's increase in the minimum wage has fostered changes in the labor-market at the lower end of the pay scale. Employers in numerous sectors that pay

at or slightly above minimum wage have had to adjust their budgets to accommodate the rise in hourly staff pay. For some, this has not appeared to have been a major burden as slight increases in product prices has offset the additional labor costs.

Another operational trend we've identified is that costs to employers for health insurance continue to climb and this trend is not anticipated to change any time soon. At the Federal level, the Affordable Care Act (ACA) appears to be slowly being dismantled and the actual coverage for services is declining. Our smallest employers often cannot afford to offer health insurance to their employees. Massachusetts law allows employers of fewer than 50 full-time equivalent positions to choose whether or not to offer health insurance. Since our region has many small companies – in fact the average number of employees per company is just below 38 -- workers in our region often have to purchase health insurance through the Massachusetts Health Connector at their own cost. The rising cost of health care puts upward pressure on insurance premiums. In response, employers and health plans try to limit premium increases using strategies such as offering more high-deductible plans and increasing co-payments, co-insurance, and out-of-pocket maximums. These approaches represent a cost shift from insurers and employers to workers and further complicate the labor market as workers fear the loss of employer-sponsored health insurance and employers must decide how to meet the rising costs.

Critical trends in occupational employment history in the region:

Shifting of the region's Industry/Occupational Mix

As noted previously, the industrial base of the Central MA region has shifted the past several decades from a largely manufacturing focused economy to one that is more balanced between industry sectors, including healthcare, education, professional services, and retail. While this shift has meant less dependency upon a single industry sector, it has also meant the loss of many family-supporting wage jobs for those with limited formal education.

There continues to be a rising need for health care workers at most levels of clinical services and at a variety of health care providers, including community health centers and patient triage clinics, long term care facilities, and hospitals. According to the US Census Bureau's Longitudinal Employer-Household Dynamics – Quarterly Workforce Information Explorer platform, this equates to an increase over the past seven years of 13,500 employees in our region (60,266 to 73,576).

During this same timeframe, educational services (including teachers and teacher assistants) has grown nearly seven thousand employees (from 33,672 to 40,553), the food and accommodation sector has seen a growth of more than 2,100 employees (24,559 to 26,700), construction 2,300 employees (13,016 to 15,839), transportation and warehousing has grown

more than 1,600 positions (9,526 to 11,212), while professional, scientific and technical services has grown from 14,386 to 15,209. Manufacturing has been rather flat overall with an additional 900 employees (35,396 to 36,302) but is expecting a large number of retirements in the next several years due to the average age of its existing workforce, and retail has fallen slightly from 38,337 to 38,200, yet remains one of the largest employment sectors in our region, especially for those with limited formal education or credentials.

One sector we are seeing a significant rise in is the life sciences sector. Fortunately, with four public institutions of higher education in our region offering training/education to prepare people for careers at various levels of this growing sector, we are well positioned to take advantage of this opportunity.

Top three challenges facing the region's businesses and industry over the next five years:

A survey of local businesses helped planners identify the top challenges facing employers regionally. Overwhelmingly, employers identified finding and retaining talent as their top challenge, followed by controlling costs, and expanding markets. Within the challenge of finding and retaining talent, the most significant factors involved included the aging of our workforce, lack of work-readiness/social-emotional skills, and barriers to employment such as English language competency, unreliable transportation, criminal background concerns, and substance abuse.

Top 3 regional workforce priority industries:

Based upon the State criteria and regional criteria set by the planning team (see section III below) the following industries were deemed priority industries for the region:

Healthcare & Social Assistance

Multiple OCCUPATIONAL pathways
• CNA, LPN, RN, Pharmacy Tech, Direct Care Worker

Largest employment (20.3%) sector

Wide spectrum of entry level jobs and wage earning potential

Manufacturing

OCCUPATIONS
• CNC Machinist, Quality Control Technician, Production Worker

Fourth largest (11.5%) employment cluster

High employer need (22K+ short term openings), good average wages ($39K)

Low educational barrier to employment

Transportation, Warehousing and Logistics

OCCUPATIONS
• Commercial Drivers, Diesel Technicians

High employer need and engagement, good average wages

($34.3K for Class-B; $53.2K for Diesel Tech)

Low barriers to employment, offers strong pool of candidates

Additionally, the following industries were identified as critical industries for our region:

Professional and Tech Services	Construction	Retail/Hospitality	Education
Occupational Groups: Software/Web Developer, Cyber Security, Bio-manufacturing Technicians	Occupational Group: HVAC Mechanics, Apprenticeship Trade Occupations	Combined, these two sectors form region's 2nd largest employment sector (19.5%)	Region's 3rd largest employment sector (12.7%)
Anticipated growth of STEM fields, including IT and life sciences	High employer need, low educational barriers, large pool of candidates	Low educational barriers, multiple industry pathways	Strong wages with average sector wage $64K
High average wage sector – Web Developer - $59.9K; Bio-manufacturing $44.9K	Strong wages – HVAC $55K; Building Trades $52.7K		

Industries currently facing the most significant workforce development challenges:

The planning team has identified Healthcare & Social Assistance, Manufacturing, and Transportation, Warehousing, and Logistics as facing the most significant workforce development challenges, followed by the critical industries identified above, Professional and Technical Services, Construction, Retail/Hospitality, and Education.

The top occupations or occupational groups in which the region is facing the most significant employee shortages:

The top occupational groups in which the region is facing the most significant employee shortages are:

- Occupational Group 1: Health Occupations
    - Certified Nursing Assistant, LPN, RN, Pharmacy Tech and Direct Care Worker
        › *High employer need (61,000+ short term openings) and engagement, low educational barrier for some career pathway entries, strong wages for higher level occupations ($82,000 RN average)*

> *Supply and demand ratio of qualified candidates to demand for these occupations also indicate high need (CNA has .63 qualified candidates for each opening, Pharmacy Technician .23, LPN .65, and RN just .05)*

- Occupational Group 2: Manufacturing Occupations
  - CNC Machinist, Quality Control Technician, Production Worker
  > *High employer need (22,000+ short term openings) and engagement, good average wages - especially with experience ($39,900 sector average), fairly low educational barrier*
  > *The number of machinists is anticipated to grow by 7.76% in the Central MA Workforce Development Area and 9.13% in the North Central WDA by 2024, fueled by the anticipated need to replace existing workers due to retire*

- Occupational Group 3: Professional, Scientific, and Technical Services Occupations
  - Software/Web Developer, Cyber Security, Bio-manufacturing Technicians
  > *High anticipated growth, strong wages (Web Developers earn a mean annual salary of $108,401 according to job postings for the Worcester Metropolitan Statistical Area on Burning Glass; Bio-manufacturing technicians earn an average annual wage of $44,900 according to the US Bureau of Labor Statistics)The supply to demand ratio indicates a large gap in web developers as there are only .12 qualified candidates for each opening in this field*
  > *Life sciences employment anticipated to grow by 5.68% by 2024 in the Central MA WDA*

- Occupation Group 4: Transportation, Warehousing and Logistics Occupations
  - Commercial Drivers; Diesel Technicians
  > *High employer need and engagement, good wages ($34,300 average for Class-B; $53,200 for Diesel Tech), low educational barrier, strong pool of candidates*
  > *The supply to demand ratio indicates there are only .29 qualified candidates for each heavy truck driver opening in this field (.37 for light truck drivers), and .51 candidates for each Diesel Technician position*

- *Occupational Group 5: Construction Occupations*
  - HVAC Mechanics, Apprenticeship Trade Occupations
  > *High employer need, strong wages (HVAC - $55,500; Building Trades - $52,700), low educational barrier, large pool of candidates*
  > *Apprenticeship trade occupations offer employees a nationally-recognized credential supported through paid hands-on work and related training instruction (RTI)*
  > *The supply to demand ratio indicates there only .73 qualified candidates for each HVAC opening*

Occupations offering a "career pathway" for workers to move to higher skills and wages, especially workers starting at entry-level:

We are fortunate in our region that we have several occupations that offer a career pathway for workers that are supported by a strong network of career development and educational institutions. It is our goal to strengthen articulation agreements between regional partners to ensure students seeking to enter or advance in their careers will have access to education and training linked together to scaffold their success. As a regional strategy we are also supporting the development of a strong apprenticeship system to allow workers to advance their careers through paid hands-on work and formal education. Apprenticeships and associated pre-apprentice training has been established in the building trades, manufacturing, commercial drivers, diesel technicians, and pharmacy technicians.

We have created regional career pathway charts developed to assist students, parents, guidance counselors, job seekers, and others about the variety of jobs in a given industry and the education/work experience necessary to advance from one level of employment to the next. (See attachment 3: Regional Career Pathway Charts)

The most significant broad labor supply challenges and opportunities facing the region over the next 5 years based on existing regional workforce:

The most significant broad labor challenges facing the region over the next five years are:

- *Aging workforce*

- *Lack of employment readiness & social/emotional skills*

- *Increase in share of workforce needing English skills*

- *Limited transportation*

Aging workforce

Based on our recent employer survey, the most significant challenge facing our businesses is finding and retaining talent. Employers report the loss of older workers as they retire is creating larger supply gaps within our priority industries and this is bolstered by the data of our region's workforce (25.5%) is aged 55 or older. The added challenge is that these workers are often the most experienced so when they retire, it is difficult to replace them with workers with the same level of knowledge and skill set.

Lack of employment readiness & social/emotional skills

Employers also report that they often see job candidates and new hires that do not have the necessary "soft-skills" needed for performance in the workplace. These skills include time management, communication, social-emotional awareness, and teamwork. Complicating this challenge is the fact that these skills are hard to measure and also difficult to teach in a classroom setting.

Increase in share of workforce needing English skills
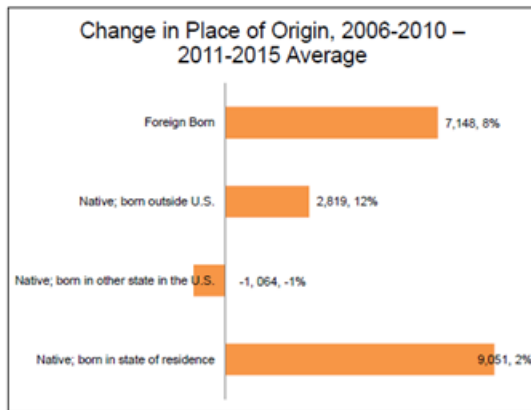
Lastly, the regional demographic trends indicate that the region's population growth has been fueled by net inflow of New Americans (immigrants, refugees).

Over the past decade, the share of foreign born residents has grown by 8%, and the percent of residents in the region of Hispanic ethnicity has grown by 14%.

This inflow of New Americans includes a significant portion that have limited English communication skills. Regionally, it is reported that 8% of residents have limited English proficiency. In order to overcome their barriers to employment, this population typically requires remedial services in English Speakers of Other Languages (ESOL) and/or Adult Basic Education (ABE) classes. Depending upon their past work experience, they may also need occupational training prior to being hired. A small percentage of our immigrant/refugee population may arrive highly skilled but non-credentialed here in the U.S. They may also be faced with a language barrier and/or a need for an additional certification or credential before being hired. Unfortunately, the current wait list for enrollment into ESOL classes is more than 1,000 and funding for additional classes is limiited. Further expanding this trend is the recent arrival of more than 600 evacuees from Puerto Rico now living in the Central MA region. At this time, many have not declared their intention to stay, but given their limited English proficiency, additional ESOL resources will be necessary.
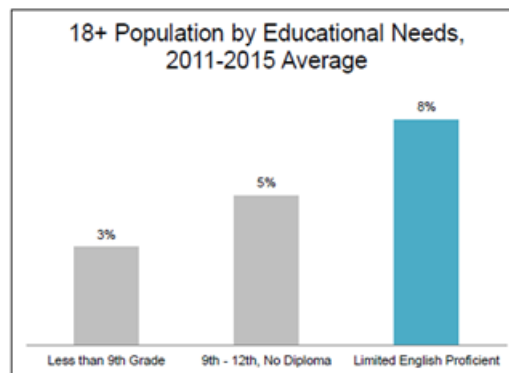
Limited Transportation

The Central MA area contains a few cities, numerous towns, and also rural communities. This variety affords residents opportunities to experience the rich diversity of these various communities; however, it makes transportation a challenge for those without a dependable vehicle. Public transportation is available throughout much of the region through fixed bus routes from the Montachusett Regional Transit Authority which serves 21 communities in the northern part of our region and the Worcester Regional Transit Authority which serves 35 communities. Connection to the MBTA commuter rail service is offered in Fitchburg, Leominster, and Worcester, and paratransit service is also available throughout most of the region. Unfortunately, given the limited amount of fixed route service outside of Worcester and Fitchburg, utilizing public transportation for employment outside these cities is often not a viable option for job seekers/employees.

The top 3 broad labor supply opportunities facing the region over the next 5 years based on the existing workforce in the region:

The top broad labor supply opportunities facing the region over the next 5 years based on our existing workforce in the region includes integration of New Americans into the workforce, incumbent staff development, and expanding the labor pool to non-traditional workers.

Integration of New Americans into the workforce

As noted previously, the growth of our region's workforce has been fueled by the influx of people born outside the United States settling in our region. This includes immigrants, refugees, and other foreign-born residents legally able to work in the US. The definition could also be expanded to include evacuees from Hurricane Maria arriving from Puerto Rico (who, while US citizens, still face many of the same barriers to employment as New Americans, including assimilation into a new culture, learning a new language, and overcoming the dispossession of property).

Incumbent staff development

The second opportunity is increasing the skills of existing staff to meet company demand. This requires employer commitment to employee mentoring, training and development, but may be done more easily than attempting to lure workers from outside the region, especially for entry and middle-level jobs that typically do not pay enough to entice people to uproot their residence and requires additional costs to employers attempting to have a meaningful presence away from the location they're hiring in.

Some of the ways businesses might develop their employees could include:

- Skills training, either in-house or through outside training centers
- Opportunities for promotion and/or career development
- Coaching and mentoring
- Offering tuition reimbursement
- Encouraging pursuit of continuing education
- Development of a formal Registered Apprenticeship to promote a set career advancement pathway for staff

Employees report feeling valued when they see that the company in investing in them. This growth and development help employees expand their knowledge, skills and abilities and apply the competencies they have gained to new situations. This translates into positive gains for the organization by enhancing organizational effectiveness, improving work quality and helping business to attract and retain top talent.

Expansion of the traditional labor pool

A third opportunity exists in expanding the existing labor pool through skill preparation, training, and work support for non-traditional workers in various industries. This includes increased hiring of people with a disability in manufacturing, expanded career opportunities for people with criminal backgrounds/ex-prisoners, and older workers seeking a second career.

UI Claimant population and the region's largest supply of unemployed workers by job type:

A review of the UI Claimant reports for the month of December, 2017 indicates that there were 7,801 claimants for the region and the average weekly wage claim was $974.99. Of these claimants, 5.8% were between ages 20-24, 23% ages 25-34, 21% were ages 35-44, 22.8% were ages 45-54, and 20.1% were ages 55-64.

In terms of occupational backgrounds:

- 1,059 had Management backgrounds
- 1,026 had Construction and Extraction backgrounds
- 914 had Office and Administrative Support backgrounds
- 704 had Building and Grounds Maintenance backgrounds
- 518 had Production backgrounds

Characteristics of unemployed and underemployed workers in the region:

The four prominent characteristics of the unemployed and underemployed workers in our region that the regional planning team identified are:

- Older workers & long-tern unemployed
- Lower formal education level
- Lack of English proficiency
- Geographic location/transportation

Many of our older workers continue to struggle with finding full-time employment and a significant portion of them are long-term unemployed. Their biggest challenge is that they come with years of experience and often at a fairly high salary. They find themselves trapped by employer stereotypes such as not sticking around long (flight risk) and costing too much in terms of salary, health insurance and retirement. Businesses often do not want to take a chance on these older workers. Another issue facing the long-term unemployed workers is discrimination based on the duration of their unemployment. They are often faced with an uphill battle when competing for employment with currently-working younger job applicants. We need to work with our business partners to more clearly understand that hiring should be based on one's ability to do the job, not his or her age or current employment status.

Education level is another characteristic of our unemployed and underemployed workers. Some workers only have a high school diploma or high school equivalency credential when employers require a college degree. Many are raising families and don't have the resources and/or time to step away from the work world and return to school. Working with our education partners, we need to continue to come up with alternative ways to help these workers get the education or training they need. Possibilities include tuition reimbursement from the employer, evening or weekend classes, and online education.

As noted previously, there exists a very high need in our region for ESOL classes. One of the biggest barriers to employment right now is the lack of English proficiency in our job seekers combined with the fact that our local, publicly-funded ESOL programs have extensive waiting lists. One way for us to address this issue is to educate our business partners and encourage them to apply for a Workforce Training grant to provide ESOL training for their workers.

Description of the region's existing pipelines of new workers (credentials) across public and private secondary and post-secondary institutions:

There are a large number of educational institutions and training entities in Central MA and an extensive amount of career-related education and training that is already taking place or anticipated to begin over the course of the next two years. Educational institutions in the Central MA region include three public universities (the University of Massachusetts Medical School in Worcester, Fitchburg State University, and Worcester State University), two community colleges (Quinsigamond Community College and Mount Wachusett Community College), several private four-year colleges (Nichols, Holy Cross, Assumption, Anna Maria, Cummings School of Veterinary Medicine at Tufts University, Massachusetts

> **Maximizing Our Educational Resources**
>
> Our region is fortunate to have three state universities. Of these, Worcester State University and Fitchburg State Universities were fairly recently awarded university status. Unfortunately, because of the statutory language set at the time, WSU and FSU can only grant doctoral degrees via collaboration with a doctoral granting institution. This creates a barrier to program development. For example, the WSU Occupational Therapy (OT) program is facing this challenge as the Accreditation Council for Occupational Therapy Education (ACOTE) recently mandated that the entry-level degree for occupational therapists must transition from a master's-level to a clinical doctoral-level (OTD) by July 2027. Once the new ACOTE mandate takes effect in 2027, only programs accredited at the clinical doctoral level will be able to maintain or receive accreditation. This ACOTE mandate puts the OT program at WSU, one of only two such programs at public state universities in MA, in an untenable situation because it cannot confer clinical doctoral degrees. The inability to confer this degree would cause this program to close and leave the private institutions as the only option for OT education. In other words, if WSU's OT Program cannot transition to an entry-level clinical doctoral program, Central Massachusetts will have no options for affordable and accessible OT education.

College of Pharmacy, Becker, Clark, and Worcester Polytechnic Institute), as well the Grafton and Shriver Job Corps Centers, and five vocational schools, which offer both day and evening programs; Montachusett Regional Vocational Technical High School, Worcester Technical High School, Bay Path Regional Vocational High School, Blackstone Valley Vocational High School, and the Leominster High School Center For Technical Education Innovation (additionally, the Assabet Valley Vocational High School is located on the edge of our region, providing programming to day and evening students residing in our region). We also have numerous Career Technical Education (CTE) providers including the Worcester Community Action Council, the Fieldstone School, Youth Opportunities Upheld (YOU), Inc., Training Resources of America, the South Middlesex Opportunity Council, Worcester Public Schools Night Life and Adult Basic Education Center.

These regional education and training partners, and others not mentioned by name above, are doing much to align their efforts with the demands of our region's employers. Some of these efforts include:

- Worcester State University (WSU) is leading a multi-year effort to encourage interest among high school students in careers in K-12 education, with a particular focus on

encouraging students of color to consider this career path. It's grounded in their Education Department and let by WSU's Associate Dean of Education, Dr. Raynold Lewis, with special emphasis on identifying potential students from the Worcester Public Schools.

- WSU also has a long history in the area of teaching English to non-native speakers, and currently boast of three outlets in that regard: through the Latino Education Institute, WSU offers English language training and assistance to both students in the local school system and their parents; through their Intensive English Language Institute (and the WSU Graduate & Continuing Education division) that offers a collegiate-focused preparation program suitable for students and professionals; and a graduate level program for teachers of ESL.
- The Worcester Public Schools (WPS) is involved in numerous efforts as well to expand access to high quality CTE. These include:
    - o Worcester Technical High School is expanding enrollment over the next two years to its maximum capacity of 1,500 students from the current enrollment of 1,400 students.
    - o WPS is also expanding program offerings at their academic high schools. North High School will be offering Business Technology along with its existing Allied Health program. Burncoat High School will continue its Automotive program and Doherty its Engineering program. South High will continue its Diesel Technology and Automotive program and the new proposed facility will be designed for a an expanded Diesel Technology program, Culinary program, and Early Childhood program.
    - o Innovative Pathways proposal – WPS is designing four new CTE pathways: Allied Health, IT, Advanced Manufacturing, and Construction. These will be offered as two consecutive years of course work leading to an industry recognized credential in the pathway and include coursework that qualifies for dual enrollment credit. Included in these programs are college and career counseling and either a capstone project or summer internship. The programs are designed to run after our school day releases (proposed 2:30) for students at the comprehensive schools that would like Career and Technical Education. The courses will be part of the students high school day and it is projected that rather than it be an extension to their day it be part of their day and start later at their homeschool (i.e. start at 9:00 am rather than 7:00 am and end their day later at WTHS in their technical program). WPS is projecting approximately 120 students credentialed per year (15 students/pathway x 4 pathways x 2 cohorts/year), with expansion possible with additional funding availability.
    - o Additionally, WPS is running an afterschool biotechnology program funded by The MA Life Sciences Center that provides training in the biotechnology field, including a summer intern experience, to 20 students annually from the district's four comprehensive high schools (Doherty, North, Burncoat, and South).

- o WPS, in partnership with QCC is offering an evening certificate HVAC program for 15 students at WTHS. This program is currently a certificate program that QCC is looking to move to an Associates program in the near future, with possible Pell eligibility.
  - o WPS is also looking to expand its Night Life (evening CTE program) to offer area residents access to additional in-demand, affordable, short-term CTE programs.
- QCC is working to offer new educational offerings and training modalities to meet anticipated vacancies in high priority industries (i.e. accelerated programs, "boot camp" fast track programming) and has existing programming that targets priority industries, such as Advanced Manufacturing Boot Camp and a Coding Boot Camp QCC is also working on the following:
  - o Integrating employers into QCC's Early College grant for Healthcare and Manufacturing career pathways.
  - o QCC will develop and offer a new logistics certificate and develop a bridge program designed as a pathway from ESL to a career technical certificate and/or Associates Degree.
  - o QCC will develop and pilot competency based programs in Manufacturing and IT that provide a pathway to high wage employment.
  - o QCC will also leverage the Worcester Downtown Connect partnership model to secure funding and provide training and wrap around services to improve the readiness skills of the region's labor force and serve as the foundation for providing the region with a training system that addresses their work force needs (the WDC is a partner organization that is committed to providing services in a collaborative, comprehensive model coordinated and delivered from a central hub with enhanced linkage to the core Downtown partners – Workforce Central, QCC, the Worcester Credit Union, Worcester Community Action Council, and Community Connections Coalition (WCCC)).
  - o Additionally, QCC, in partnership with Worcester Polytechnic Institute and Associated Industries of MA, has received $4 million investment from the Commonwealth to develop a state of the art photonics training center.
- Fitchburg State University offers a number of online only and evening program options at both the graduate and undergraduate level geared towards individuals who work full or part-time and need greater flexibility in their schedules. These programs are in areas such as business, nursing and education and align with regional workforce needs to prepare or advance students in their careers. FSU additionally offers several on-line undergraduate degree completion options including programs in business administration, RN-BS in Nursing and Interdisciplinary Studies to provide access to working adults who would like to finish their bachelor's degree and apply their real-world experience to their education. The University also offers several other programs that align with the regional blueprint, these include:
  - o Fitchburg State University's Center for Professional Studies offers Department of Elementary and Secondary Education grant-funded professional development

courses for Para-educators. Courses are free for public-school Para-educators and also provide a small stipend upon successful completion of the course.

- o Online and face-to-face Massachusetts Tests for Educator Licensure preparation workshops to aspiring teachers in our region, and has hosted a series of Cultural Competency courses for local educators and school administrators that helped them to improve their understanding of the depth and scope of various issues around race and culture, and how they impact public schools in the United States.
- o The Nypro Learning Institute to offer online plastics technology courses to those who work in the manufacturing industry.
- o An occupational/vocational education bachelors of science degree that is available to students at off-campus vocational technical school sites located across Massachusetts. The program offers up to 12 credits in recognition of the work experiences of the participating students through the University. Candidates may apply for the trade experience through the Life Experience Credit Assistance Program after completing 80 credits in the program. FSU also offers a 4 plus 1 Criminal Justice Program that allows students to earn a Bachelor's of Science in Criminal Justice and move on to Complete a Master's in Criminal Justice in one year. This program will lead to a certificate of completion from the Massachusetts Municipal Police Training Committee. These qualifications allow the student to apply for any Massachusetts municipal police department, or that of any other state with a reciprocal agreement. Students will complete a total of 30 credits: eight 3-credit courses that concentrate in criminal justice studies and a 6-credit practicum, with both skills and academic components.
- Additionally, Fitchburg State University and Mount Wachusett Community College are collaborating with Leominster High School, Fitchburg High School, Gardner High School and Sizer Charter School to expand on existing Early College pathways for students who are interested in health care, pre-engineering, information technology and other STEM careers. The initiative provides deep career exploration beginning in 9th grade, and students have the opportunity to gain 12 or more college credits, and even a credential, prior to high school graduation. All three regional chambers have agreed to support this initiative, which will help to ensure alignment with regional needs and priorities. Currently, 588 students are being served each semester via existing early college programming at MWCC; this collaborative will result in roughly 1,200 students/semester within 3 years
- Further programming available through MWCC includes:
  - o Project Healthcare, which MWCC runs at Leominster High School and at Fitchburg High School, engages 161 students who are interested in the field of health care in intensive career exploration within the field of health care, and FHS students even have the opportunity to gain Certified Nursing Assistant Certification prior to graduation from MWCC's accredited program.

- MWCC partners with Montachusett Technical Vocational Regional High School to offer EMT courses and two biotechnology courses, preparing students for careers in these fields. EMT students may sit for the exam once they turn 18, and upon completion of the course.
- Career Services at MWCC has been aligned with the Brewer Center for Civic Learning & Community Engagement to ensure that volunteerism, service learning and internships are wrapped into the career preparation and resume/portfolio work for students. These experiences are noted on the official student transcript, including the total number of hours, and MWCC staff have worked with area employers to bring their attention to this important component that speaks to verified experience in our communities.
- Upward Bound Math and Science at MWCC provides intensive support for first-generation and low-income students interested in STEM in Athol Middle and High School, Gardner Middle and High School, Murdock Middle and High School, and Sizer Charter School. The program provides tutoring and mentoring during the school year, as well as field trips to colleges and other experiences that will support student exploration of different STEM careers. In addition, two intensive summer programs are run each year, one for Middle School students held at MWCC's Gardner Campus, and one for high school students held at Fitchburg State University. The summer high school program provides dual enrollment courses in addition to a deep exploration of STEM concepts and experiences in a residential setting over six weeks. Students in this federal program are supported all the way into their first year in college.
- MWCC has expanded its advanced manufacturing training capacity to encompass additional skill levels and certifications through funding from the U.S. Department of Labor. Short-term training is available through partnership with Middlesex, Northern Essex and North Shore Community Colleges and their associated WIBs in the areas of machine tool technology, electronics technology, automation and robotics, and quality systems. MWCC has developed and shared curriculum leading to American Society for Quality certification and Fanuc Robotics certification. These programs provide middle skills for employment and are aligned with college credit programs. Efforts are underway to establish registered apprenticeship opportunities at Devens and other area employers that encompass existing job skill requirements and identify related training necessary to advance.
- MWCC continues to explore partnerships and alignment with other educational institutions including Quinsigamond CC and Greenfield CC, as well as defining pathways to manufacturing engineering technology programs under development at UMass – Lowell and Northeastern University. Efforts to connect and align with area vocational, comprehensive, charter, and alternative schools are underway. The emphasis on this approach is identifying educational and career pathways that fit a range of student situations, ranging from "At-risk,

economically challenged" to "seeking pertinent and cost-effective higher education pathways."

- o MWCC is addressing the continuous educational needs of local Emergency Medical Staff by adding non college credit paramedic programs at their Devens Campus that meet state and national accreditation standards. EMS can now access training for Pre-hospital Trauma, Advanced Medical Life Support, Pediatric and Geriatric Advanced Life Support, EKG, Tactical Emergency Casualty Care and Advanced Cardiovascular Life Support.
- o MWCC Devens is developing a non-credit Certified Nursing Aide program to speak to the high demand of CNA's in the North Central Mass area, as well as not-for-credit training and education programs related to employment in cybersecurity and additional occupations where regional skills gaps exist.
- o In addition to the Workforce Preparation efforts described above, MWCC is expanding to address needs related to professional development of existing employees. This will provide training opportunities for professionals in technical education, biopharmaceutical processing, facilities, sustainability, and other important local industries to maintain status, and to advance, within a chosen profession. This effort supports ongoing Workforce Training Fund efforts by providing additional technical resources for WTF projects.
- In addition, Montachusett Regional Vocational Technical School has a fifty-year history of providing students in North Central Massachusetts with a high-quality vocational-technical education. In recent years, the school has made efforts to ensure programs are aligned to current industry standards and regional workforce needs, making decisions based on data provided by the local Workforce Investment Board and the Executive Office of Labor and Workforce Development. These resources, coupled with feedback from the school's expansive Program Advisory Committee, confirm that the North Central region's most viable industries are Healthcare and Manufacturing, and as a result, the school has made significant enhancements to both programs. These enhancements include:
  - o Health Occupations program provides students in grades 9-12 with opportunities to earn a number of industry-recognized credentials, including Clinical Medical Assistant, Certified Nursing Assistant, CPR, and First Aid. In addition, during the students' senior year, they are enrolled in a Dual Enrollment program, in collaboration with Mount Wachusett Community College. Students are able to take the Emergency Medical Technician Training program, earning 8 college credits at no charge, and are able to sit for the certification exam upon graduation.
  - o Collaboration with manufacturers has resulted in revised curriculum, donated equipment and materials, and grant funding for updated certification programs. In March 2017 the school was awarded a $435,000 Skills Capital Grant and was able to renovate the Machine Technology program. In addition to purchasing four new CNC machines, instructors and representatives from the L.S. Starratt

Company developed a plan to incorporate a Clean Room environment to the instructional setting, so students would graduate with the metrology and precision measurement skills necessary to be successful in this environment. Students in the school's Machine Technology program are now able to earn additional industry-recognized credentials, as the school is now the only high school in the nation to offer two levels of Starrett/NC3 certification and training in precision measurement.

o To ensure the school meets the needs of the community, our Continuing Education program has expanded to include a number of workforce readiness programs, with emphasis placed on healthcare and manufacturing. People that are unemployed, under employed, or those seeking new career pathways may enroll in any of the following programs offered during the evening at Monty Tech, developing skills and earning credentials needed to fill local workforce needs:

- EKG Technician
- Phlebotomy Technician
- Certified Nurse Aide
- Certified Home Health Aide
- Medical Assistant
- MACWIC Level I and Level II Certifications
- Welding I and II

Central MA Region Workers by Educational Attainment

- Less than high school: 7.6%
- High school or equivalent, no college: 19.5%
- Some college or Associate degree: 24.0%
- Bachelor's degree or advanced degree: 26.8%
- Educational attainment not available (workers aged 29 or younger): 22.2%
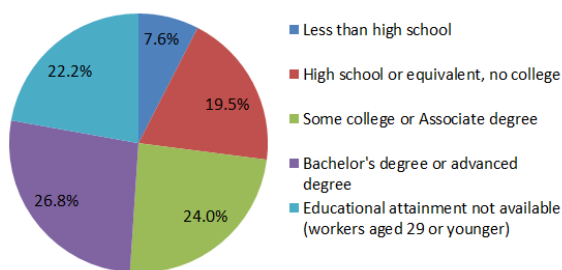
Although our region boasts many education and training providers – for instance the Worcester metropolitan statistical area (MSA) graduated 2,232 college students in 2015 with degrees in business, management, finance, accounting, computer science, engineering, and legal services, the fact remains that far too many of our region's residents are not able to reach the first rung of the career ladder and are in need of additional education. This includes the development of additional ABE and ESOL programming aligned with regional employer demand to help prepare our most vulnerable residents gain entry level employment and set the foundation for continued career training and academic coursework.

III.   WHERE DO WE WANT TO GO?

Criteria for Priority Industries and Occupations:

The regional planning team adopted the State criteria for selection of priority industries and occupations:

- High Employer Demand
- High Demand and High Wage (4-5 Star Occupations)
- Talent Gaps
- Career Pathways

The regional planning team also developed additional criteria it felt were important to help us identify industries and occupations that might best fit with higher need job seekers to ensure they are not overlooked in this process:

- Strong Employer engagement (employers willing to become actively engaged in working with workforce system stakeholders)
- Low barriers to employment (employment opportunities that do not by their nature exclude residents with barriers to employment, such as those that exclusively seek bachelor's degrees or above)
- Alignment with high need job-seeker populations (employment opportunities that may be available to job seekers currently ready for employment or those with the ability to gain readiness with short term education, training and support)

Priority industries by 2-digit NAICS code:

The priority industries that the regional planning team selected are:

- Healthcare and Social Assistance (NAICS Code 62)
- Manufacturing (NAICS Codes 31-33)
- Transportation, Warehousing and Logistics (NAICS Code 48-49)

We selected these industries as priorities in our region primarily due to a high need for workers in these areas and the fact that they offer defined career pathways for residents in our region that face barriers to employment, such as the long-term unemployed, people lacking formal education credentials, criminal backgrounds, or limited English skills. It should be noted that Information Technology, while not selected as a priority industry, is selected as an occupational cluster due to the fact that jobs in this field span a variety of industries. Also, while these three

industries are named here as priorities, we recognize the need to balance our planning efforts with the need to be responsive to employer demand and the agility to take advantage of opportunities that emerge over the next four years which are not currently known.

The rationale for selecting the healthcare and social assistance as a priority industry in our region reflects the size of this sector and large volume of jobs, as well as the constant need employers within this industry state they have for trained workers. While the entry level jobs such as Certified Nursing Assistant (CNA), Personal Care Assistant (PCA), Home Health Aid (HHA) and direct care workers often suffer from lower pay due to low public reimbursement rates, with additional education and/or training, there are opportunities to move into higher-level positions. Our region is also desperate for the qualified human services staff necessary to fight the opioid crisis, such as Addiction Counselors, whose impact then helps others qualify to enter the workforce.

The largest education priority currently is for child development center teachers. Most centers now require at least 50% of their staff to have a minimum of an associate's degree. However, due to public voucher reimbursement rates, the starting salaries can be low. There is also a great need for Special Education Instructors and Applied Behavioral Analysis Specialists. These programs do require an advanced degree but starting salaries are generally between $30,000 and $40,000 per year. There are also numerous career pathways available for education jobs but most, if not all, will require further education.

For manufacturing, entry level jobs in demand include production workers such as assemblers and machine operators. Wages in manufacturing are slowly starting to rise but have been held down due to the increase in foreign competition. In manufacturing, there are plenty of career pathways available to entry-level workers. In order to move up the ladder, most of these positions will require some additional training such as a certificate or credential and a few may require an associate's degree. It is because of the opportunities to advance that manufacturing is a priority industry in our region. Similarly, we have selected transportation, warehousing and logistics due to large and steady employer demand for staff in these fields that typically have above average entry level pay (such as commercial drivers), low barriers for candidates, including many opportunities that are available to people with criminal backgrounds, and strong employer engagement.

Regional priority occupations or occupational groups by SOC code:

The priority occupation groups the regional planning team identified are:

- Healthcare Practitioners Occupations (SOC Code: 29-0000)
- Production Occupations (SOC Code 51-0000)

- Computer and Mathematical Occupations (SOC Code 15-0000)
- Transportation and Material Moving Occupations (SOC Code 53-0000)
- Construction Occupations Construction and Extraction Occupations (SOC Code 47-0000)

As noted previously regarding the selection of priority industries, choosing priority limited number of specific occupations poses the challenge of predicting an uncertain future and movements of multiple economic and social forces. While we offer strong rationale for the selected priority occupations, we recognize that being a demand-driven system means that other occupations may also need to become priorities for the region in the future.

The occupations we have chosen were identified based upon the State and regional criteria listed above. Healthcare practitioners form the largest employment sector in our region and CNA's, LPN's, RN's, as well as Pharmacy Technicians and Direct Care staff) are in extremely high demand as evidenced by the more than 8,000 separate jobs posted online (as tabulated by Burning Glass) last year in the Worcester MSA)Additionally, there are several high-quality training programs in our region that provide potential healthcare workers with the certification(s) required to enter or advance in this field. We have also learned from our DTA partners that many of their adult and Title 1 clients are interested in the healthcare field, so these opportunities are also a good fit for many of our region's more vulnerable job seekers.

Production occupations were selected due to the large employer demand our region faces as our existing manufacturing workforce enters retirement age. Among the specific jobs in this group, CNC machinists continue to be in demand throughout the manufacturing industry. As our manufacturers automate more and more of their production lines, they require trained operators to program and run the CNC machines. This is also a priority occupation where we are fortunate to have several strong training programs in our region that offer a certificate for CNC machining. There is a supply challenge due to many machinists who do not have training in the new technology thereby rendering much of their previous experience obsolete. Again, with the training support from our partners, we can re-train these workers to become CNC machinists, as well as increase the number of young people trained for entry into this field. The region has chosen Computer and Mathematic occupations due to the anticipated continued growth of employment in this occupational group which spans across a variety of industries, including healthcare, warehousing, retail, manufacturing, etc. Jobs in this occupational group include software developers which have a high demand -- there were more than 800 positions posted in the Worcester MSA last year as tabulated by Burning Glass, and this demand is anticipated to grow faster than average with strong wages (the mean advertised salary for software/web developers is more than $108,000 annually).

Transportation and Material Moving occupations were identified in our region based upon the fact that there is strong demand, fairly low employment barriers (including opportunities for people with criminal records and or low formal education), and the opportunity to earn a living

wage. Among these are jobs as commercial drivers which offer in-demand employment opportunities with a strong salary. The starting salary for commercial drivers in the region is typically somewhere between $19.00 and $23.00 per hour, and there were more than 1,200 driver positions posted in the Worcester MSA last year as tabulated by Burning Glass. This high demand has been noted by local Commercial Driver License training providers who report their students often receive a job offer before he/she has even completed the training.

Our final occupational group selected is Construction and Extraction. Jobs in this group include the so-called "hard trades" such as electrical, carpentry, plumbing, roofing, and masonry. This group of occupations requires little formal education for entry and is often more flexible when reviewing candidates with past missteps, language barriers, or other challenges job seekers face. Workers in these trades are often affiliated with organized labor unions and employer-sponsored associations which offer apprenticeship opportunities leading to strong post-secondary education and long-term formal (and portable) industry credentialing, along with the chance to earn living wages.

Credential Asset Mapping Tool:

Please see attachment 4: Central MA Credential Asset Mapping Charts created to support the blueprint.

Non-credential Asset and Gap Analysis:

There are several existing assets in our region that we can use to meet employer demand for skilled workers. The number one complaint from businesses is that workers are lacking soft skills. We are fortunate that many education and training programs offer classes that address aspects of workplace readiness, including the *Bounce Program* offered at the Workforce Central Career Centers. Bounce is a week-long training workshop that helps job seekers gain confidence, learn how to utilize goal setting techniques and increase their employability skills. It also offers practical tools for combining seamless technical and literacy skills. Going forward, we are planning an expansion of the Bounce program to reach more job seekers. Another tool utilized within the region to help train soft skills is the Signal Success program from the Commonwealth Corporation. This comprehensive curriculum helps young people develop essential soft skills for future success. Additionally, we are looking at developing a standardized soft skills training program that could be made available to all regional partners, including high schools, post-secondary schools, and adult training programs.

The most essential assets in our region are our ESOL and ABE programs. With the influx of New Americans and workers who never finished high school, we are seeing an increased demand for

these services. Adult basic education classes help workers strengthen their academic skills and/or complete their high school equivalency. Even with the most basic of entry level jobs, it is nearly impossible to earn a decent wage without a high school diploma. The ABE program is a great way to get these job seekers the basic education they need to be successful. Because of the wait lists that currently exist in our region for ABE programs, we are also seeking to expand the use of the Career Readiness Initiative/ACT Work Keys resource to local training and community partners. This web-based assessment and learning management system can provide a scalable, cost-efficient tool for multiple venues across our region.

ESOL is our most in-demand program in the region. We have extensive waiting lists at all of our career centers and also at partner agencies who offer ESOL training. A large part of increasing demand for ESOL services is due to businesses telling us that it is difficult for them to hire workers who cannot understand or speak English. The language barrier creates additional concerns with giving direction, basic communication skills, supervision and safety. We are continually looking for ways to increase capacity for ESOL services in our region. This will allow us to help more job seekers enter the workplace and, in turn, increase economic development throughout our region.

Vision, Mission, Goals

The regional planning team established the following vision statement for our efforts:

> *The residents of Central MA have the skills needed to live prosperous, productive lives which support a strong regional economy.*

Mission Statement:
> *Our mission as a collaboration of Central MA workforce stakeholders is to create a responsive and connected workforce system that prepares residents throughout their lives for living wage career opportunities by meeting the labor demand needs of our local businesses.*

> *To support this mission, we as partners collectively agree to take ownership for actively engaging with our partners to integrate our services and develop programming that aligns with our region's workforce needs.*

The regional goals that the planning team has established are:

Goal 1: Align and coordinate regional Education, Workforce Development, and Economic Development systems.

- Convene Partnership leaders twice annually to review progress and regional labor market information, and to adjust programming and planning as necessary

- Interconnect existing workforce structures and membership between the partner systems to ensure real-time communication and programmatic alignment
    - Workforce Development Boards, Youth Councils, and Adult/Career Center subcommittees
    - Mass BizWorks regional team
    - Central and North Central WIOA Partner oversight groups
    - School industry advisory committees

- Collect business service performance and outcome data from all stakeholders to create a comprehensive regional "dashboard" report for public audience to highlight the value we collectively bring to businesses, including the development of qualified labor for the region's employers

Goal 2: Provide industry with a training system responsive to workforce needs

- Create a real-time regional Mass BizWorks "response-team" to serve as the connection between businesses in need and system partners (see attachment 5 - Regional Demand-Driven Programming Development)

- Integrate business need feedback into regional Youth Council, Career Center, and partner program development processes

- Implement MA EOLWD Recruitment Solutions Initiative (RSI) referral process at all of the region's MassHire Career Centers

Goal 3: Improve the foundational and work readiness/soft skills of our region's labor force

- Increase exposure to soft skills in high schools, colleges, training programs and career centers through the creation and expanded access to career readiness training materials

- Increase career awareness activities in the region's high schools

- Build stronger foundational computer skills for residents (both youth and adults)

Goal 4: Close the skills gap for priority industries and occupations

- Establish regional baseline measures for priority industries/ occupation goals and set target goals, including:
  - Decrease vacancy rate
  - Increase the number of CTE program placements
  - Improve the supply/demand ratio
  - Increase the business utilization percentage rate for MassBizWorks-affiliated partner services
  - Improve career center/WIOA Partner performance (number of businesses served, job orders, job referrals, and hiring)

- Expand Career Technical Education (CTE), both day and evening, for priority industries/occupations

- Increase exposure in secondary education to high priority industries

- Expand incumbent worker career advancement and Registered Apprenticeships for priority industries

- Increase contextualized ABE and ESOL programming that trains for high priority industries

- Expand articulation agreements between education and training institutions for priority industries/occupations

Goal Achievement Timeline

By 2018, we will:

- Formalize the regional blueprint Partnership Leadership group and begin holding bi-annual meetings

- Create and develop ESOL support and integration with needed training

- Develop a work-readiness framework for education and training programs

- Establish a regional Mass BizWorks team and a peer-to-peer platform

- Design, develop and implement a soft skills training program at our Career Centers

- Share blueprint with school districts and training providers within the region

- Plan for expanded CTE programming for priority industries/occupations

- Implement RSI operationally at all regional MassHire Career Centers

- Review baseline measures and establish target goals for key metrics, including:
  - The number of K-12 IT coding & cybersecurity programs

  - The number of students participating in career awareness activities in the region for priority industries/occupations

  - ABE, ESOL educational capacity

  - Secondary and post-secondary CTE educational capacity

  - Priority industry/occupational vacancy rates, supply-demand ratios, business utilizations rates (for MassBizWorks), and career center/WIOA Partner performance (number of businesses served, job orders, job referrals, and hiring)

  - Existing Registered Apprentice programs

  - The number (and dollar value) of incumbent worker trainings and participants in Workforce Training Fund projects

By 2020, we will:

- Expand IT coding and cybersecurity learning into a minimum of four new K-12 school districts

- Expand the number of students participating in career awareness activities in the region for priority industries/occupations by 10%

- Expand secondary and post-secondary CTE programming in priority industries and occupations, including training for incumbent workers, by 10%

- Expand ESOL educational opportunities, including ESOL contextualized for priority industries and occupations by a minimum of 10%

- Create a minimum of two new articulation agreements between education and training providers for all priority industries/occupations

- Create a regional business services dashboard

- Meet target goals established for business services for vacancy rates, supply-demand ratios, business utilizations rates (for MassBizWorks), and career center/WIOA Partner performance (number of businesses served, job orders, job referrals, and hiring)

- Establish at least one new Registered Apprentice program in the region's priority industries

By 2022, we will:

- Expand IT coding and cybersecurity learning into a minimum of eight new K-12 school districts

- Expand the number of students participating in career awareness activities in the region for priority industries/occupations by 20%

- Expand secondary and post-secondary CTE programming in priority industries and occupations, including training for incumbent workers, by 20%

- Expand ESOL educational opportunities, including ESOL contextualized for priority industries and occupations by a minimum of 20% and establish ESOL classes contextualized for all priority industries/occupations

- Establish a minimum of four new CTE programs that are Pell Grant eligible for all priority industries/occupations

- Create a minimum of three new articulation agreements between education and training providers for all priority industries/occupations

- Meet target goals established for business services for vacancy rates, supply-demand ratios, business utilizations rates (for MassBizWorks), and career center/WIOA Partner performance (number of businesses served, job orders, job referrals, and hiring)

- Establish at least two new Registered Apprentice programs within the region's priority industries

IV.   HOW DO WE GET THERE?

The regional planning team has identified several strategies to achieve our goals. These include:

Strategy	Responsible entity	Deadline
Sharing accountability through a Regional Partner Leadership Team (RPLT)	All (CMWIB to serve as convener)	June 30, 2018
Development of baseline measures and key metrics and a public outcomes dashboard report to measure our progress	RPLT	June 30, 2018
Creation of articulation agreements between educational and training institutions	K-12, higher-ed, other training partners	Two established by Jan. 1, 2020; four by Jan. 1, 2022
Expanding contextualized ABE and ESOL programming for priority industries/occupations	ABE and ESOL provider partners	Increase of 10% by Jan. 1, 2020; and 20% by Jan. 1, 2022
Alignment of CTE programs with industry needs and expansion of off-hours programming at our Vocational Technical high schools and other training facilities	CMWIB, K-12, higher-ed, other training partners	Increase of 10% by Jan. 1, 2020; and 20% by Jan. 1, 2022
Creation of apprenticeships across priority industries	CMWIB	Create 1 new RA by Jan. 1, 2020; and 2 new RA's by Jan. 1, 2022
Expansion of a regional Mass BizWorks peer-to-peer team and real-time online platform to support their work	MassBizWorks	June 30, 2018
Utilizing and inter-weaving existing structures and frameworks to support our work	RPLT	June 30, 2018

Continuous Communication

We plan to meet with our entire regional planning group twice per year. This will help us identify changes in industry trends and be able to make changes in our course direction, if needed. We will continue to have regular communication with our core team through quarterly meetings to assess progress and needs. We will also use our regional workforce development board meetings and the previously noted existing regional committees and workgroups (including WIOA partner groups, the Mass BizWorks regional team, and school industry advisory committees) to actively engage employers, share relevant information, and drive new programming.

Shared Measurement Systems

In order to ensure that we, as a region, are consistently making progress toward a shared vision, we will utilize updated data from the State and from our partner sources. Some of the data that we will look at will include:

- Enrollment, graduation, and employment by education/training program
- Employer vacancy rate by industry
- Supply/demand ratio
- Increase the business utilization percentage rate
- Improve career center/WIOA Partner performance (number of businesses served, job orders, job referrals, and hiring)

Other Shared Strategies

Our two workforce development areas have a strong history of partnership and shared service delivery. This includes our previous work on the implementation of a multi-million dollar federal grant to promote Science, technology, Engineering, and Math (STEM) through our career centers and the creation of a virtual STEM Career Center (STEMPower). This project earned the Workforce Solutions Group Partnership of the Year Award in 2009. Other projects we currently collaborate on or share programs between our two regions that may be utilized in support of this blueprint include:

- STEM K-16 pipeline membership
- YouthWorks Summer and Year-Round employment
- WIOA Youth
- School to Career Connecting Activities
- National Emergency Grant and Trade Adjustment Act grants

Mutually Reinforcing Activities

Our partners have pledged to offer significant support for accomplishing the goals of this regional blueprint. These include:

Education:

- Create/expand CTE programs for priority industries/occupations (high school, afterschool & evening, college); including Pell-eligible programs
    - It is anticipated that MWCC, QCC, WSU, and FSU alone will create 20+: new training programs in the priority industries/occupations between

now and 2022, including fast-track (boot camp) style programs and competency-based programs.

- MWCC has identified up to 14 new programs that may be launched aligned with priority industries/occupations.
- QCC will also develop a bridge program designed as a pathway from ESL to a career technical certificate and/or Associates Degree.
- WSU: has re-launched its Center for Industry and Enterprise to foster closer connectivity with priority industries/occupations.
- FSU, in partnership with MWCC and area high schools will develop a STEM careers pathway program to increase the number of students going on to STEM-related college and employment.

- Workforce Development:
  - Utilize demand-driven approach at region's MassHire Career Centers – increase referrals to job openings and training in priority industries/occupations
  - Increase soft-skills training for career center customers
  - Prioritize the priority industries/occupation for WIOA Youth, YouthWorks subsidized youth employment placements, and other youth career development programs
  - Increase services to businesses in priority industries/occupations, including referrals to Workforce Training Fund and other resources

- Economic Development:
  - Increase the number of business referrals from ED to workforce in priority industries/occupations
  - Align business services/support data between ED and workforce systems – establish data sharing platform

Concluding Remarks

"Workforce Boards are in the investment business; we invest in "human capital," and the benefit is down the road. It is high risk, and there are many ways to do it wrong."

-- Paul Harrington

"It's tough to make **predictions,** especially about the **future**." – Yogi Berra

It is obviously difficult to predict future employer needs. Nonetheless, it is imperative that our systems align around a shared vision and set of priorities to work from. While taking a demand-driven approach is, by its nature reactive, planning is inherently proactive, and the balance between these two concepts is what this blueprint represents. We intend to create a framework between our three systems (education, workforce, and economic development) that is at once responsive and agile, while also walking firmly in a set direction.

In order to achieve that balance, and success there are a number of additional considerations. These include:

- State Support will be critical. Support from the Commonwealth will be necessary to gather the necessary data to measure our progress toward meeting our impact goals and for steering our systems forward.
- The importance of available funding cannot be overstated; goals are difficult to predict without a clear understanding of resource availability - achieving growth would not be realistic if potential budget cuts materialize.
  Therefore, given the unpredictability of public resources, we need to look for additional sources of support, including potential support from business partners.
- Major obstacles to job seeker success and workforce-related issues are beyond our direct control (such as transportation, immigration policy, governmental healthcare and employment/employer policies, and job seeker work preferences to name but a few). It is difficult to influence, predict, or address the many issues that affect workforce development success. Strong partnerships beyond our three systems may help play an important role.

The CMWIB and NCMWIB wish to thank the many public and private partners involved in the creation of this blueprint. Their time and expertise helped drive the planning process forward and keep our efforts on track. We look forward to working closely with these partners and beyond as we implement the strategies outlines in this blueprint to achieve our collective goals.

Workforce Skills Cabinet—Regional Workforce Blueprint Plan

Goals

1. Build shared understanding of the planning region's labor market supply and demand conditions
2. Build shared understanding of anticipated changes and challenges in the region's ability to meet labor market needs
3. Build consensus around priority sectors and occupations, ensuring the process gives full consideration to wages and career pathways within priority sectors and occupations
4. Create shared understanding of the outcomes each region wants to achieve in relation to priority sectors and occupations
5. Identify existing assets and regional collaborations to be leveraged
6. Identify role and understand strengths/capacity of each regional planning group sector to achieve outcomes.
7. Develop consensus around a clear strategy and work plan to achieve agreed-upon regional outcomes

Local Workforce Board Strategic Plan

- Local workforce goals, aligned with multi-region plan
- Local strategies for addressing goals

Local WIOA Partner MOU

- MA DCS, MA DTA, MA DUA, MassRehab, ABE Providers, Job Corps
- Coordination of local partner service delivery & sharing of resources

Educational Planning:

K-12; Higher Ed; ESL; ABE
- Capital Skills Grants
- Chapt. 74 programs
- College & Career Pathway grants
- STEM Pipeline grants

Economic Development Planning:

Regional CEDS; MOBD
- Urban Agenda grants
- Workforce Housing projects

State Workforce Planning:

- WCTF
- WTFP
- New Pathway/Sector/ Population projects

Local Annual WIOA Plan

- Specific uses of WIOA dollars
- Coordination with career Center, WIOA Youth activities, & Career Pathway Efforts

NORTH CENTRAL MASS

WORKFORCE INVESTMENT BOARD

CENTRAL MASSACHUSETTS
WORKFORCE INVESTMENT BOARD

Workforce Skills Cabinet Central MA Blueprint Business Survey Results

Central MA

Oct. 18, 2017

Survey Results

Electronic survey sent out via email to 400+ employers through the CMWIB, NCMWIB, and partners (including MassMEP and career center business customers), 70+ responses

What Industry is your business/organization?
Answered: 68   Skipped: 0

How many employees do you have?
Answered: 67   Skipped: 1

Respondents by Location

Other includes:
construction, hospitality, fabrication, environmental, security, B2B services

Top Challenges

- Finding staff
- Increasing regulations
- Staff turnover/retention
- Marketing/sales growth
- Keeping pace with growth
- Industry changes
- minimum wage increase
- Increased global competion
- Language barriers
- Protection of intellectual property
- Technological change
- Managing diversity
- Housing

Second Challenge

- finding staff
- staff turnover/retention
- health care costs
- sales
- new markets
- minimum wage increase
- transportation
- new technology
- staff training
- income inequality
- organizational culture
- working capital lending
- efficiency
- taxes
- economy - product demand
- economic uncertainty
- competition
- location

Third Challenge

- finding staff
- federal/state regulations
- staff turnover/retention
- facility space
- competition
- staff training
- healthcare costs
- corporate restructuring
- new technology
- online retail
- expansion/growth
- minimum wage increase
- creating an inclusive culture
- manufacturing industry decloine
- sales
- international export challenges

Which of your occupations (if any) are facing significant employee/candidate shortages?

Occupation	Count
entry level laborer	5
Cert. Nurse Assist	4
production workers	4
machine operator	3
NA	3
warehouse	3
Engineers - mech., Elec., Chem, civil	3
maintenace mechanic	3
sales staff	3
CDL driver	2
Restaurant staff	2
customer service	2
Call Center - inside sales	2
diesel tech./mechanic	2
direct care staff	2
direct support professional	2
LPN/RN	2
delivery assopciate	1
tehnicians	1
experience machine operator	1
security	1
gluer operator	1
toolmakers	1
IT Technician	1
sheet metal workers	1
lab assistant	1
tellers	1
medical assistant	1
cooks	1
project manager	1

If you have a challenge filling vacancies, what strategies have you successfully employed?

Strategy	Count
Online job postings	8
Career Fair/College Fair	8
Social media - Facebook, Linkedin, etc.	7
Employee referrals	6
Temp agencies	6
NA	5
Word of Mouth	3
Military	3
Career Center	2
Sign on bonuses	2
HS Co-op students	2
Moving location near talent pool	1
Community Outreach	1
Increasing pay structure	1
Recruit from Puerto Rico	1
Hire and train in-house	1
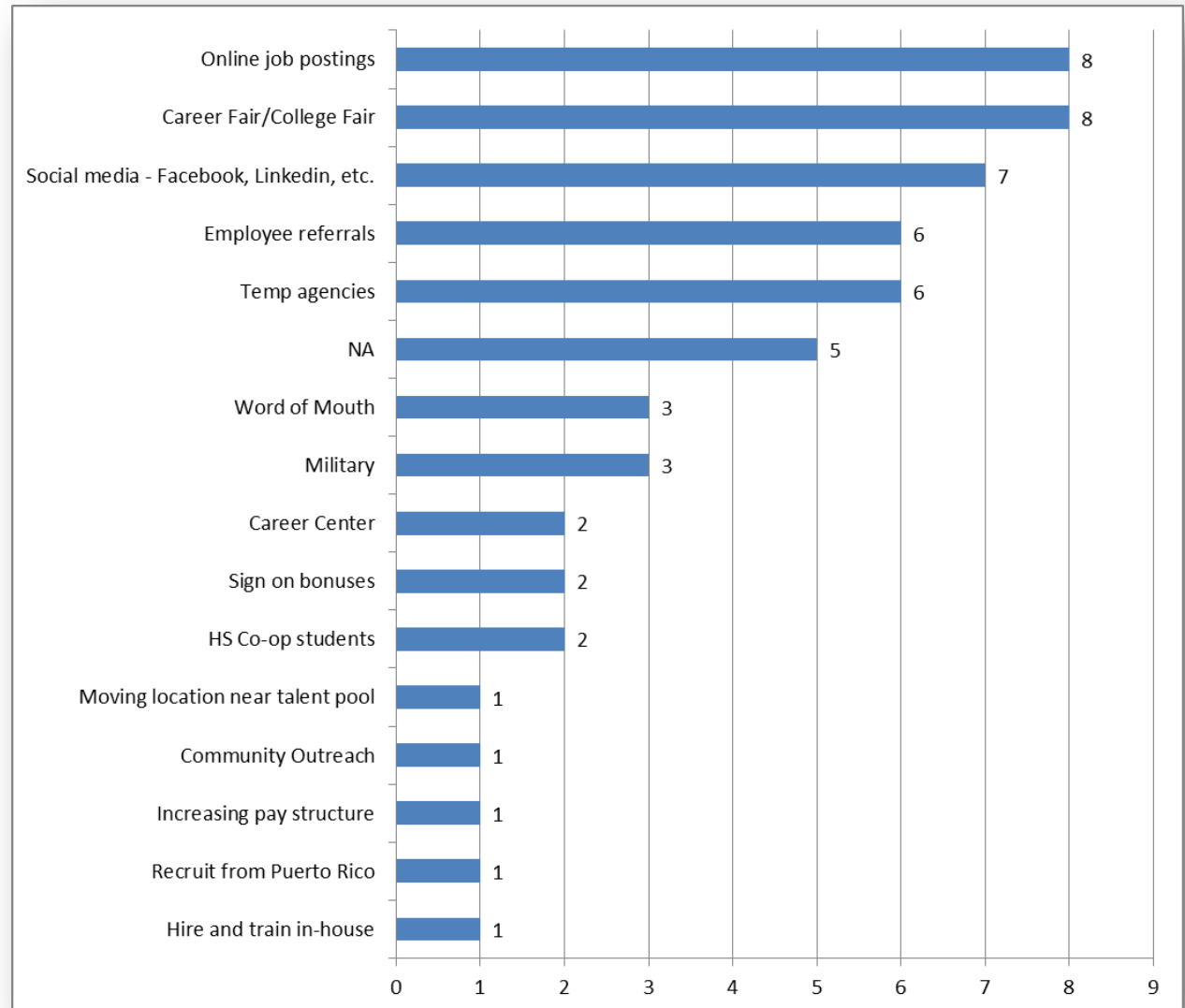
What partnerships or strategies have you pursued that were not ultimately successful? Why?

- Job Boards and print ads - too many applicants without the required skills (several replies)
- Staffing firms - don't produce enough quality candidates
- WIB/Career Center job fair --The resumes collection were almost completely irrelevant to the positions we had.
- Recruiting via Veterans Inc. No resumes are generally submitted for our openings.
- Career Centers - at appears that clientele is entry level; not enough qualified candidates
- job fairs are a valiant effort but generally a waste of time. it's too broad of a selection not focused a cattle call.
- Agencies, Internet, Job Fairs - Lack of people that want to work
- Paper ads have not resulted in hires
- Tried state program to offer CDL to unemployed, participants did not want to do physical labor involved in waste collections
- There isn't a pipeline of skilled workers. Available labor does not have the skills and motivation to learn new skills.
- Mass MEP-graduates at lower level than our needs
- Sign on Bonus, employee referral bonus - no significant impact on recruitment
- longer probationary period - they still can't show up to work every day
- Working with some community organizations - may not have provided job coaching as promised or candidates were not qualified.
- hoping hire veterans or released prisonsers
- Partnering with multiple staffing agencies - causes confusion for supervisors
- Ziprecruiter - low quality candidates

What are the top three opportunities for your business/organization over the next 5 years?

Chart 1:
- growth — 11
- finding skilled workers — 6
- Diversifying industries we serve — 6
- retention — 3
- improving technology — 2
- online shopping experience — 1
- government contracts — 1
- online marketing — 1
- recycling/efficiency improvement — 1
- market penetration — 1
- gain market share — 1
- lower taxes — 1
- apprenticeship — 1
- acquisition of other providers — 1
- improved products — 1

Chart 2:
- employee training
- efficiency gains
- controlling costs
- new markets
- new equipment
- financial gains
- hiring
- recruitment from Puerto Rico
- automation
- public - private partnerships
- consumer taste trends
- more manufacturing in USA
- growth
- increased brand recognition
- staff retirements
- improved toolmaking and design

Chart 3:
- growth
- improved technology
- diversifying products
- staff training
- increased pricing
- succession planning
- economic growth in region
- staff hiring
- increased facility space
- staff apprenticeship
- competition
- promotion of company values
- grw
- new equipment
- work based learning for students
- mergers

Challenges facing our businesses

According to our data, research, and engagement with employers, we understand that the top 3 challenges facing regional businesses are…

1. *Finding & retaining talent*

2. *Meeting regulations (including min. wage, healthcare)*

3. *Finding new customers/markets*

Also: Increased competition, facility space, and changing technology

Talent concerns: finding skilled workers (mixed technical occupations, "soft skills," and English language proficiency), wage/salary expectations, and transportation.

Construction

ENTRY LEVEL – Helpers, Entry-Level Trainees

LEVEL 1

High School Diploma/GED	General Math	Equipment Usage	Active Listening	Communication Skills

Average wage: $15/hr

ENTRY LEVEL – Laborers, Painters, Roofers, Construction & Maintenance

LEVEL 2

Successful Apprenticeship testing, HSD/GED	Equipment operation, monitoring & repair	Geometry/Algebra	Technical Reading Comprehension

Average wage: $17/hr

MIDDLE SKILLS – Journeyman Laborer, Carpenters, Plumbers, Electricians, Masons

LEVEL 3

Successful completion of Apprenticeship training program	Time Management, Installation, Repair, Mathematics	Active Listening, Reading Comprehension

Average wage: $20-30/hr

MIDDLE SKILLS – Job Site Foreman, Supervisor, Superintendent

LEVEL 4

Journeyperson plus experience Computer Skills including CAD and MS Office	Communication Skills, Leadership Skills, Organization & Interpersonal Skills

Average wage: $38-40/hr

Executive Level – Engineers, Project Managers, Managers

LEVEL 5

Bachelor's Degree and/or exp. or applicable technical certification/degree
Reading Comprehension, Critical Thinking, Coordination, Instructing, Mathematics, Time Management, Personnel Management, Logistics Management, Budget Management.

Average wage: $50-52/hr

Note: All salary data taken from Salary.com for Worcester, MA area.

Education

LEVEL 1

ENTRY LEVEL – Teacher Aide

Some college generally required; high school diploma acceptable	Assist teacher reinforce instruction	Organizational Skills	Supervise students outside of the classroom	Helping teacher with clerical work

Average wage: $11/hr

LEVEL 2

ENTRY LEVEL – Primary & Secondary Education Teacher

Degree in teaching or in a specialized subject with a certificate in education Knowledge of CPR	Presenting lessons in a comprehensive manner and use visual/audio means to facilitate learning	Well-organized and committed. Creative and energetic. Strong moral values and discipline	Collaborate with other teachers, parents and stakeholders and participate in regular meetings

Average wage: $27/hr

LEVEL 3

MIDDLE SKILLS – School Principal

BS in education, school counseling or a related field. MS in educational leadership or educational administration	Managing the finances and budget; making sure facilities are safe and secure; meeting with teachers and parents as part of measuring progress	Supporting teachers in their disciplinary decisions; and supervising and monitoring all categories of school staff, including teachers, counselors and media specialists

Average wage: $51/hr

LEVEL 4

MIDDLE SKILLS – Professor, Post-Secondary

Master's degree and more than 21 postgraduate hours. Most tenured professors and department heads have a PHD or a Doctorate.	Formulate and teach from a daily lesson plan to dispense the required information to students in a systematic and sequential format. Professors must develop evaluative measures to determine the student's level of comprehension and conceptualization

Average wage: $38/hr

LEVEL 5

Executive Level – Dean of Education

Master's Degree or Doctorate
5+ years of managerial experience. Manages administrative functions of the college of education. Develops college strategic initiatives and participates in university long-term planning and policy setting. Leads college in fundraising and cultivating relationships with donors. Provides senior level administrative leadership in areas of curriculum development, institutional assessment and improvement, human resource, faculty development and performance appraisals, budget and finance, and facilities planning and management.

Average wage: $60/hr

Note: All salary data taken from Salary.com for Worcester, MA area.

Healthcare

LEVEL 1

ENTRY LEVEL – Certified Nursing Assistant

Diploma from CNA program State Certification	Compassionate and enjoy helping others	Medical record charting software skills	Phenomenal communication skills	Must have hands-on supervised clinical work

Average wage: $15/hr

LEVEL 2

ENTRY LEVEL – Registered Nurse

BS or other diploma from a nursing program Valid nursing license	Monitor patient's condition and assess their needs to provide the best possible care and advice	Excellent knowledge of nursing care methods and procedures	A team player with excellent communication and interpersonal skills

Average wage: $33/hr

LEVEL 3

MIDDLE SKILLS – Hospital Administrators

BS degree in Healthcare Administration, Business Administration or relevant field	Deep understanding of all administrative hospital procedures, from creating work schedules and communicating with doctors to budgeting and maintaining supplies	Organizational and leadership skills to supervise employees and ensure compliance with policies and regulations.

Average wage: $32/hr

LEVEL 4

MIDDLE SKILLS – Physician's Assistant

BS/MA in Physician Assistant Studies, Health Science or Medical Science Proven work experience as a physician assistant or nurse Knowledge of medical guidelines and procedures regarding examination, therapy and recovery	Apply medical techniques and principles under the direction of a physician and deal with a diverse set of patients offering them care and encouragement

Average wage: $76/hr

LEVEL 5

Executive Level – Physician, Internal Medicine

Doctor of Medicine degree (MD) and valid license to practice the profession
Conduct examinations to ill patients and evaluate symptoms to determine their condition
Prescribe medications or drugs and provide comprehensive instructions for administration
Excellent knowledge of infectious diseases, their symptoms and epidemiology
Broad knowledge of common medication, side effects and contraindications
In-depth knowledge of legal medical guidelines and medicine best practices

Average wage: $104/hr

Note: All salary data taken from Salary.com for Worcester, MA area.

Hospitality

LEVEL 1

ENTRY LEVEL – Guest Services Staff, Housekeeper

High school degree	Customer-oriented and friendly	Working quickly without compromising quality	Knowledge of English language	Prioritization and time management skills

Average wage: $12/hr

LEVEL 2

ENTRY LEVEL – Cook

Passionate and creative	Team builder/team player	Excellent Communication Skills	Excellent Organizational Skills

Average wage: $12/hr

LEVEL 3

MIDDLE SKILLS – HR Manager

BS/MS degree in Human Resources or related field In-depth knowledge of labor law and HR best practices	Develop and implement HR initiatives aligned with overall business strategy. Bridge management and employee relations by addressing demands, grievances or other issues.	Support current and future business needs through the development, engagement, motivation and preservation of human capital

Average wage: $43/hr

LEVEL 4

MIDDLE SKILLS – Food & Beverage Manager

Culinary school diploma or degree in food service management or related field Proven food and beverage management exp. Working knowledge of various computer software programs (MS Office, restaurant management software, POS)	Forecast, plan and manage all F&B orders, staff and finance. Maximize sales and revenue through customer satisfaction and employee engagement. Establish targets, KPI's, schedules, policies and procedures

Average wage: $46/hr

LEVEL 5

Executive Level – Hotel Manager

Degree in Business Administration, Hotel/Hospitality Management or relevant field Supervise work at all levels (receptionists, kitchen staff, maids, office employees etc.) and set clear objectives. Plan activities and allocate responsibilities to achieve the most efficient operating model. Manage budgets/expenses, analyze and interpret financial information and monitor sales and profits. Reliable with ability to multi-task and work well under pressure.

Average wage: $52/hr

Note: All salary data taken from Salary.com for Worcester, MA area.

Human Services

LEVEL 1

ENTRY LEVEL – Residential Living Assistant, Activity Aide, Job Coach, Residential Counselor

High School Diploma or Equivalent	0-2 Years Related Experience	Background Knowledge of the Industry	Strong Communication Skills – Written & Verbal	Detail Oriented

Average Wage: $11 -$12/hr

LEVEL 2

ENTRY LEVEL – Residential Living Supervisor, Activity Director

Associate's Degree 4 Years' Exp. in the Field	Planning & Implementation of Programs	Knowledge of Concepts, Practice & Procedures	Strong Leadership Abilities

Average Wage: $20/hr

LEVEL 3

MIDDLE SKILLS – Medical Social Worker, Juvenile Counselor, Substance Abuse Counselor, Career Counselor

BA (Master's Degree in Social Work Preferred) 2-4 Years of Exp. in the Field	Diagnosis & Treatment Methods, Knowledge of Medical Procedures	Excellent Communication & Organizational Skills

Average Wage: $29 - $31/hr

LEVEL 4

MIDDLE SKILLS – Social Work Manager

Master's Degree in Social Work 5 Years' Experience Supervisory Techniques Knowledge of Policies & Procedures	Excellent Leadership Abilities, Communication and Organizational Skills, Exercises Considerable Independent Judgment

Average Wage: $40/hr

LEVEL 5

Executive Level – Top Behavioral Health Executive, Clinical Psychologist

Master's Degree / PhD - 15 Years' Exp. In the Field
Experienced Leader, Strong Clinical & Business Acumen, Proven Financial
Management Skills, Maintaining Positive Partnerships with Stakeholders,
Knowledge of Regional & National trends in Behavioral Health

Average Wage: $44 - $48/hr

Information Technology

ENTRY LEVEL – Technical Support Analyst

LEVEL 1

Help Desk Experience	Problem Solving Skills	Excellent Communication Skills	Strong Customer Service Skills	Operating Systems

Average Wage: $16/hr

ENTRY LEVEL – Programmer

LEVEL 2

Analyzing Information	Problem Solving Skills	Software Development Fundamentals	Attention to Detail

Average Wage: $32/hr

MIDDLE SKILLS – Web Developer

LEVEL 3

JavaScript, JQuery, HTML, HTML5, CSS, CSS3	Ability to Meet Strict Deadlines	Security Principles

Average Wage: $33/hr

MIDDLE SKILLS – Database Administrator

LEVEL 4

Bachelor's Degree in Computer Science Certifications Preferred	Database Security, Promoting Process Improvement, Problem Solving, Presenting Technical Information, Operating Systems

Average Wage: $34/hr

MIDDLE SKILLS – Software Engineer

LEVEL 5

Master's Degree/MBA Preferred
Analyzing Information, Software Design, Software Debugging, Software Documentation, Software Testing, Problem Solving, Teamwork, Software Development

Average Wage: $39/hr

Note: All salary data taken from Salary.com for Worcester, MA area.

Manufacturing (MACWIC* Model)

LEVEL 1
ENTRY LEVEL – Assembler, Warehouse

Shop Math	Blueprint Reading	Metrology & Quality Inspection	Safety	Work Readiness

Average wage: $11/hr

LEVEL 2
ENTRY LEVEL – Machine Operator, Inspector

Lean Manufacturing or Problem Solving	CNC Milling Concepts & Hands-On	CNC Lathe Concepts & Hands-On	Introduction to Programming & GD&T

Average wage: $13/hr

LEVEL 3
MIDDLE SKILLS – Machine Operator, Quality Assurance

100 hours Advanced CNC	40 Hours CAD/CAM & 10 hour OSHA General Industry	Career Prep: Résumé Writing, Interviewing, Work Readiness

Average wage: $16/hr

LEVEL 4
MIDDLE SKILLS – Machinist, QA Supervisor

Certificate of Applied Manufacturing Technology	600 hours of structured, monitored OJT

Average wage: $20/hr

LEVEL 5
MIDDLE SKILLS – Machinists, Management

A.S. Degree in Manufacturing Technology

Average wage: $28/hr

Note: All salary data taken from Salary.com for Worcester, MA area. *Information courtesy of the Manufacturing Advancement Center Workforce Innovation Collaborative
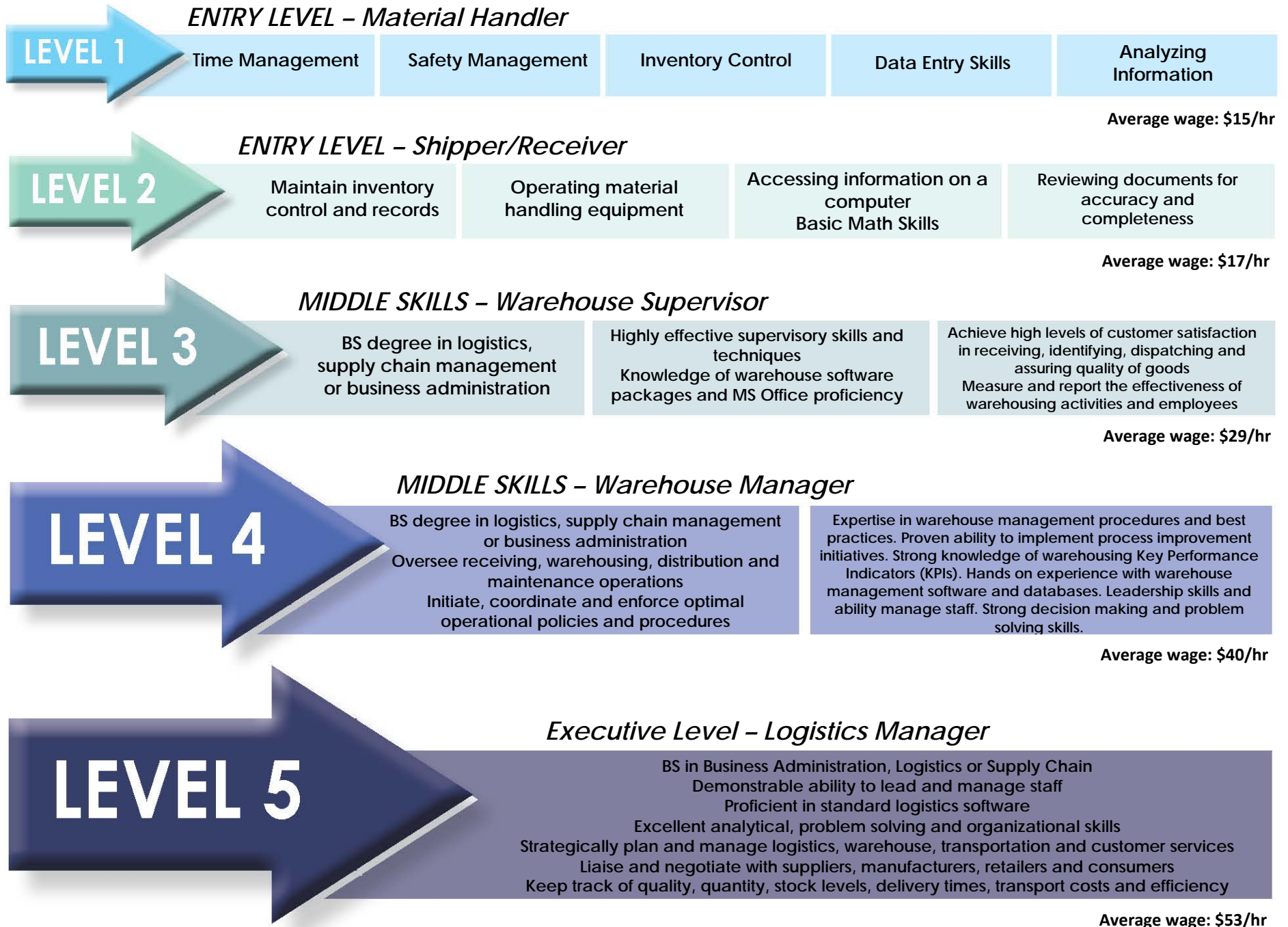
Retail

ENTRY LEVEL – Retail Salesperson, Sales Associate, Cashier

LEVEL 1

Customer Service Skills	Meeting Sales Goals	Product Knowledge	Basic Knowledge of Mathematics	Excellent Communication Skills

Average wage: $11/hr

ENTRY LEVEL – Account Representative

LEVEL 2

BA/BS degree in Business Administration, Sales or relevant field	Develop trusted advisor relationships with key accounts	Exp. with CRM software (e.g. Salesforce, CRM or HubSpot) and MS Office	Excellent listening, negotiation and presentation abilities

Average wage: $26/hr

MIDDLE SKILLS – Assistant Store Manager

LEVEL 3

BSc/BA in Business Administration or relevant field; MSc/MA is a plus	Good math skills with the ability to create and analyze reports, spreadsheets and sales statistics	Coordinate daily customer service operations. Evaluate employee performance and identify hiring and training needs

Average wage: $21/hr

MIDDLE SKILLS – Head Store Manager

LEVEL 4

BS degree in Business Administration or relevant field. Customer management skills, Strong organizational skills, Good communication and interpersonal skills	Develop business strategies to raise customers' pool, expand store traffic and optimize profitability. Meet sales goals by training, motivating, mentoring and providing feedback to sales staff. Powerful leading skills and business acumen

Average wage: $28/hr

Executive Level – Area Manager

LEVEL 5

BSc/BA in business administration, retail management or similar field
Lead a team of store managers towards effective collaboration and attainment of goals
Exercise sound financial management skills to ensure stores are profitable and stay within budget
Knowledge of performance evaluation metrics and principles
Sound understanding of optimization of store operations and standards for success
Working knowledge of ERP software

Average wage: $49/hr

Note: All salary data taken from Salary.com for Worcester, MA area.

Transportation, Distribution & Logistics

LEVEL 1 — *ENTRY LEVEL – Material Handler*

Time Management	Safety Management	Inventory Control	Data Entry Skills	Analyzing Information

Average wage: $15/hr

LEVEL 2 — *ENTRY LEVEL – Shipper/Receiver*

Maintain inventory control and records	Operating material handling equipment	Accessing information on a computer / Basic Math Skills	Reviewing documents for accuracy and completeness

Average wage: $17/hr

LEVEL 3 — *MIDDLE SKILLS – Warehouse Supervisor*

BS degree in logistics, supply chain management or business administration	Highly effective supervisory skills and techniques / Knowledge of warehouse software packages and MS Office proficiency	Achieve high levels of customer satisfaction in receiving, identifying, dispatching and assuring quality of goods / Measure and report the effectiveness of warehousing activities and employees

Average wage: $29/hr

LEVEL 4 — *MIDDLE SKILLS – Warehouse Manager*

BS degree in logistics, supply chain management or business administration / Oversee receiving, warehousing, distribution and maintenance operations / Initiate, coordinate and enforce optimal operational policies and procedures	Expertise in warehouse management procedures and best practices. Proven ability to implement process improvement initiatives. Strong knowledge of warehousing Key Performance Indicators (KPIs). Hands on experience with warehouse management software and databases. Leadership skills and ability manage staff. Strong decision making and problem solving skills.

Average wage: $40/hr

LEVEL 5 — *Executive Level – Logistics Manager*

BS in Business Administration, Logistics or Supply Chain
Demonstrable ability to lead and manage staff
Proficient in standard logistics software
Excellent analytical, problem solving and organizational skills
Strategically plan and manage logistics, warehouse, transportation and customer services
Liaise and negotiate with suppliers, manufacturers, retailers and consumers
Keep track of quality, quantity, stock levels, delivery times, transport costs and efficiency

Average wage: $53/hr

Note: All salary data taken from Salary.com for Worcester, MA area.

Attachment 4: Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Registered Nurse (RN), 29-1141
Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	BA Degree Plus License (NCLEX) National Council Licensure Examination
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	Anna Maria College - 12 Fitchburg State University – 61 MCPHS University – 207 Mount Wachusett Community College – 79 Quinsigamond Community College – 107 University of Massachusetts Medical School Worcester – 44 Worcester State University – 43
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	Basic learners could matriculate by starting as an Certified Nurses Aid, or Home Health Aids then move on to a pathway to an LPN (License Practical Nurse)
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	Classroom and practical experience
Pell-eligible?	*Is the program Pell-eligible?*	Yes
Fee?	*What are the fees?*	State College tuition rates
Employer-validated?	*Do local employers validate the credential? If so, describe.*	Yes RN's are in high demand in our region and most medical institutions require RN's to have their Bachelor's degree
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	RN's are at the top of the stack
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	Yes RN's are recognized nationally
Credit/ Non-Credit?	*Are they credit or non-credit?*	These are credit programs
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	There is a current shortage and that shortage is projected to grow.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Pharmacy Technician, 31-9095
Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	Award of less than 1 academic year, Degree, Certification
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	Anna Maria College – 0 Monty Tech evening – 15 Quinsigamond Community College – 9
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	Yes, students participate in an externship
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	This program may be completed 50% or more online through QCC
Pell-eligible?	*Is the program Pell-eligible?*	Degree programs are Pell eligible
Fee?	*What are the fees?*	QCC - $400
Employer-validated?	*Do local employers validate the credential? If so, describe.*	Yes, credential is recognized by local employers
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	A Pharmacy Technician can go on to become a Lead Technician or Pharmacist
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	Once an individual is nationally certified, they can work in any state in the US
Credit/ Non-Credit?	*Are they credit or non-credit?*	Credit
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Working to better connect

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	List the occupation the credential is for, including the SOC code.	Licensed Practical Nurse, 29-2061
Type of Credential & Title of Credential	List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)	Award of at least 1 but less than 2 academic years; National Council Licensure Examination (NCLEX) and graduation from a board certified nursing program
Credential Provider	List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.	Assabet Valley Regional Technical School – 34 Blackstone Valley Voc. Regional School – 23 Mount Wachusett Community College – 41 Southern Worcester County Reg. Voc. School District (Bay Path) – 21 Quinsigamond Community College – 56 Monty Tech Regional High School and Worcester Regional Vocational High School
Integrated/ Accelerated	Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?	LPN's are required to have work experience. Basic learners would matriculate through Certified Nurses Aid or Home Health Aid programs
Online/ Classroom/ Work-based	Describe education environment and instructional methods.	Classroom instruction plus practical experience on site in a Healthcare facility
Pell-eligible?	Is the program Pell-eligible?	Degree programs are Pell eligible
Fee?	What are the fees?	Fee's vary; on average $212 per credit hour at MWCC
Employer-validated?	Do local employers validate the credential? If so, describe.	Yes LPN is a nationally recognized credential
Stackable?	Is the credential stackable with other certificates? If so, describe.	Yes LPN's can earn a Bachelor's Degree and become BSN's and RN's
Portable?	Are the credentials portable to other states/ industries? If so, describe.	Yes this is a nationally recognized credential
Credit/ Non-Credit?	Are they credit or non-credit?	Credit

Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	LPN's are in demand and there are shortages, improved marketing strategies could have an impact.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	List the occupation the credential is for, including the SOC code.	Heavy and Tractor-Trailer Truck Drivers - 53-3032.00
Type of Credential & Title of Credential	List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)	Commercial Driver's License (CDL) Class A
Credential Provider	List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.	Worcester Jobs Fund (WJF): 2 individuals
Integrated/ Accelerated	Is the training integrated with work experience and/or accelerated for adult learners? If no, how do basic learners matriculate?	Yes
Online/ Classroom/ Work-based	Describe education environment and instructional methods.	Training consist of classroom occupational training and hands-on over the road driving administered by a licensed and accredited training provider. Participants are prepared to take the written exam for the learners permit (required in order to get a license) and the CDL Class A road test through the MA Registry of Motor Vehicles. Participants must also pass vision test as a part of the learner's permit and a Department of Transportation physical for the road test. This permit is a pre-requisite to obtaining CDL Class A. Additional work-readiness training and placement services are provided.
Pell-eligible?	Is the program Pell-eligible?	No
Fee?	What are the fees?	$30 for the permit test, $35 for the road test and $30 for the CDL endorsement, renewable every 5 years. A required background check will also cost $86.50. An approximate training cost which includes all fees, books/supplies and classroom/road training is $4,000 per participant. The Worcester Jobs Fund provides training and funding for the permit and road test free

		to eligible qualified applicants.
Employer-validated?	*Do local employers validate the credential? If so, describe.*	Through the RMV employers are able to validate and confirmed the permit and license credentials.
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	Yes. Individuals can obtain additional endorsements on their license such as air breaks, hazmat, pig (attached forklift), tankers and doubles/triples (pulling 2 or 3 trailers).
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	A CDL A is similar to other driver's licenses and allows the driver to operate in other states (21 years or older) as long as the license is valid.
Credit/ Non-Credit?	*Are they credit or non-credit?*	Non-credit
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Although formalized training is not required to obtain a permit and take the road test, the costs and required equipment (tractor-trailer) associated with testing mandate individuals invest in some form of training. Presently there are no CDL training providers permanently established in the Central MA region. The nearest schools are in Chicopee and Avon, MA (more than 55 miles away from Worcester). Since there is a clear skills gap between job seekers and employers in our region that will continue to grow if mechanisms are not put in place such as an established training center for CDL Class A.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	List the occupation the credential is for, including the SOC code.	Bus Drivers, Transit and Intercity - 53-3021.00/ Bus Drivers, School or Special Client - 53-3022.00/Light Truck or Delivery Services Drivers - 53-3033.00
Type of Credential & Title of Credential	List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)	Commercial Driver's License (CDL) Class B
Credential Provider	List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.	Worcester Jobs Fund (WJF): 15 individuals
Integrated/ Accelerated	Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?	Yes
Online/ Classroom/ Work-based	Describe education environment and instructional methods.	Training consist of classroom occupational training and hands-on over the road driving administered by a licensed and accredited training provider. Participants are prepared to take the written exam for the learners permit (required in order to get a license) and the CDL Class B road test through the MA Registry of Motor Vehicles. Participants must also pass vision test as a part of the learner's permit and a Department of Transportation physical for the road test. This permit is a pre-requisite to obtaining CDL Class B. Additional work-readiness training and placement services are provided.
Pell-eligible?	Is the program Pell-eligible?	No
Fee?	What are the fees?	$30 for the permit test, $35 for the road test and $30 for the CDL endorsement, renewable every 5 years. A required background check will also cost $86.50. Approximate training costs which includes all fees and training is $4,000 per participant. The Worcester Jobs Fund provides training and funding for the permit and road test free

		to eligible qualified applicants.
Employer-validated?	*Do local employers validate the credential? If so, describe.*	Through the RMV employers are able to validate and confirmed the permit and license credentials.
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	Yes. Individuals can obtain additional endorsements on their license such as passenger and school buses.
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	A CDL Class B is similar to other driver's licenses and allows the driver to operate in other states (21 years or older) as long as the license is valid.
Credit/ Non-Credit?	*Are they credit or non-credit?*	Non-credit
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Although formalized training is not required to obtain a permit and take the road test, the costs and required equipment (vehicle) associated with testing mandate individuals invest in some form of training. Presently there are no CDL training providers permanently established in the Central MA region. The nearest schools are in Chicopee and Avon, MA (more than 55 miles away from Worcester). Since there is a clear skills gap between job seekers and employers in our region that will continue to grow if mechanisms are not put in place such as an established training center for CDL Class B.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Computer Numerical Control Operator 51-410
Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	No credentials required

Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	
Pell-eligible?	*Is the program Pell-eligible?*	
Fee?	*What are the fees?*	
Employer-validated?	*Do local employers validate the credential? If so, describe.*	
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	
Credit/ Non-Credit?	*Are they credit or non-credit?*	
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Gaps exist as older workers leave the workforce and there are limited to no skilled workers to replace them.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Quality Control Technician - 19-4099.01

Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	No credentials required
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	
Pell-eligible?	*Is the program Pell-eligible?*	
Fee?	*What are the fees?*	
Employer-validated?	*Do local employers validate the credential? If so, describe.*	
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	
Credit/ Non-Credit?	*Are they credit or non-credit?*	
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Gaps exist as older workers leave the workforce and there are limited to no skilled workers to replace them.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Helpers--Production Workers - 51-9198.00

Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	No credentials required
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	
Pell-eligible?	*Is the program Pell-eligible?*	
Fee?	*What are the fees?*	
Employer-validated?	*Do local employers validate the credential? If so, describe.*	
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	
Credit/ Non-Credit?	*Are they credit or non-credit?*	
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Gaps exist as older workers leave the workforce and there are limited to no skilled workers to replace them.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Bus and Truck Mechanics and Diesel Engine Specialists - 49-3031.00
Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	No credentials required
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	
Pell-eligible?	*Is the program Pell-eligible?*	
Fee?	*What are the fees?*	
Employer-validated?	*Do local employers validate the credential? If so, describe.*	
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	
Credit/ Non-Credit?	*Are they credit or non-credit?*	
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Gaps exist as older workers leave the workforce and there are limited to no skilled workers to replace them.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Software Developers, Systems Software - 15-1133.00
Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	Bachelor's degree in Computer Science preferred. Adobe Systems Adobe ActionScript Hot technology ; Apache Maven Hot technology ; Microsoft PowerShell Hot technology ; Verilog; C++ Hot technology ; jQuery Hot technology ; Microsoft ActiveX Hot technology ; Python and other programming languages as requested.
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	Quinsigamond Community College Mount Wachusett Community College
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	Yes
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	Classroom and work-based learning
Pell-eligible?	*Is the program Pell-eligible?*	Degree programs are Pell eligible
Fee?	*What are the fees?*	Fees vary; State College tuition rates
Employer-validated?	*Do local employers validate the credential? If so, describe.*	Yes, credential is recognized by local employers
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	Other programming languages
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	Yes
Credit/ Non-Credit?	*Are they credit or non-credit?*	Credit

| Gaps? | *Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?* | Gaps exist as older workers leave the workforce and there are limited to no skilled workers to replace them. |

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Biological Technicians - 19-4021.00
Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	No credentials required
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	
Pell-eligible?	*Is the program Pell-eligible?*	
Fee?	*What are the fees?*	
Employer-validated?	*Do local employers validate the credential? If so, describe.*	
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	
Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	
Credit/ Non-Credit?	*Are they credit or non-credit?*	

Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Gaps exist as older workers leave the workforce and there are limited to no skilled workers to replace them.

Credential Asset Mapping Tool

Complete one credential asset map for each priority occupation that requires a credential.

Occupation	*List the occupation the credential is for, including the SOC code.*	Information Security Analysts - 15-1122.00
Type of Credential & Title of Credential	*List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)*	Bachelor's degree in Computer Science preferred. Nagios Hot technology ; Sniffer Investigator; Symantec Blue Coat Data Loss Prevention; Wireshark Hot technology ; Bash; Linux Hot technology ; Microsoft Hyper-V Server; Microsoft Windows ; AJAX Hot technology ; Django Hot technology ; JavaScript Object Notation JSON
Credential Provider	*List all training/ education providers that provide this credential in your region. For each provider, list the average number of individuals receiving the credential per year.*	Quinsigamond Community College
Integrated/ Accelerated	*Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?*	Yes
Online/ Classroom/ Work-based	*Describe education environment and instructional methods.*	Classroom and work-based learning
Pell-eligible?	*Is the program Pell-eligible?*	Yes
Fee?	*What are the fees?*	Fees vary; State College tuition rates
Employer-validated?	*Do local employers validate the credential? If so, describe.*	Yes, credential is recognized by local employers
Stackable?	*Is the credential stackable with other certificates? If so, describe.*	Other programming languages

Portable?	*Are the credentials portable to other states/ industries? If so, describe.*	Yes
Credit/ Non-Credit?	*Are they credit or non-credit?*	Credit
Gaps?	*Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?*	Gaps exist as older workers leave the workforce and there are limited to no skilled workers to replace them.

Attachment 5: Central MA Demand-Driven Program Development

BSR & Partner Business Staff

- Business customer intelligence gathering
- Job-demand Feedback to Counselors/ITA process
- Identify pathway project needs
- Assist CMWIB in setting industry pathway priorities

- Career Center BSR's Recruiters
- WIOA & WSC Partner Business Services Staff

Central MA BizWorks Committee

- Align partner business service efforts
- Share LMI and best practices
- Bring needs back to local regions/Boards

- Central, North Central, & MetroWest Career Center BSRs & WIBS, Rapid Response,, WIOA Partners Business services staff, Econ Dev.

Regional Program Committees

- Review business data/LMI
- Design industry pathway projects
- Gather, align & prioritize resources

- CMWIB and NCWIB Youth Council and Career Center subcommittees
- WIOA partner committees
- School industry advisory Committees