



## **Northeast Labor Market Blueprint**

A Regional Planning Initiative of the  
Massachusetts Workforce Skills Cabinet

*Submitted on March 30, 2018*

# REGIONAL PLANNING BLUEPRINT - NORTHEAST

## Introduction:

Across Massachusetts, economic growth is currently constrained by a labor shortage that many jobseekers cannot fill because they don't possess requisite skills. For the past nine months, in partnership with the Massachusetts Workforce Skills Cabinet, the Merrimack Valley, North Shore, and Greater Lowell Workforce Boards led a region-wide planning effort to develop strategies that bridge this gap. Included in this effort were the region's workforce, economic development, education, and business leaders.

The resultant Northeast Regional Labor Market Blueprint outlines priority and critical industries and occupations and strategies to support these industries and occupations.

The Blueprint is a focal point for resource allocations and programs that will strengthen the Northeast economy now and into the future. The Blueprint will help to:

- **Coordinate and leverage a variety of localized efforts** across three systems that may focus on the same businesses, occupations or industry pathways
- **Improve connectedness between employers** and education/workforce systems
- **Develop new state level strategies and/or align existing state-level resources** to respond to regional priorities or common priorities that emerge across all seven regions

Ultimately, this regional approach will provide opportunities for us to improve performance and outcomes for our customers (both companies and job-seekers) as well as partner organizations.

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<b>I. Introduction</b>		
Describe the process of creating a regional plan.		
<b>Regional Planning Team.</b> Describe the different <b>partner organizations</b> brought together to be a part of the <b>Regional Planning Team</b> (K-12 District, Vocational Technical School, Community College, State University, Workforce Development Board, Massachusetts Office of Business Development, Regional Economic Development Organization, Regional Planning Authority, and more).		
<b>Individual Name</b>	<b>Individual Title</b>	<b>Organization Name</b>
Dan Rivera	Mayor	City of Lawrence
Kevin Murphy	City Manager	City of Lowell
Shannon Norton	Executive Director	Career Center of Lowell
Kim Driscoll	Mayor	City of Salem
Nancy Stager	Executive Vice President	Eastern Bank
William Lupini	Superintendent	Essex Agricultural and Technical School
Kathleen Holman	Vice Principal	Essex Agricultural and Technical School
John Lavoie	Superintendent	Greater Lawrence Technical School
Nancy McGovern	Senior Program Manager	Greater Lowell Workforce Dev. Board
Peter Farkas	Executive Director	Greater Lowell Workforce Dev. Board
Salah Khelifaoui	Superintendent	Lowell Public Schools
Robert Buontempo	Director	Lynn Vocational Technical Institute
Juan Yepez	President and Co-Owner	Mainstream Global
Mark Bruso	Manager of Labor Market Research	Mass Bio Ed Foundation
Maria DiStefano	Business Services Rep	Mass. Office of Business Development
Joe Bevilacqua	President and CEO	Merrimack Valley Chamber of Commerce
Peter Matthews	President and CEO	Merrimack Valley Credit Union
Karen Conard	Executive Director	Merrimack Valley Planning Commission
Susan Almono	Deputy Director	Merrimack Valley WIB
Rafael Abislaiman	Executive Director	Merrimack Valley WIB
Marc Draisen	Executive Director	Metropolitan Area Planning Council
Steve Winter	Principal ED Planner	Metropolitan Area Planning Council
Judy Burke	Executive Director of Institutional Advancement	Middlesex Community College
Dr. James Mabry	President	Middlesex Community College
Laura Swanson	Executive Director	North Shore Alliance for Eco. Dev.
Mark Whitmore	Executive Director	North Shore Career Center
Pat Gentile	President	North Shore Community College
Karen Hynick	Vice President	North Shore Community College
Dianne Paltergill	Dean	North Shore Community College
Mary Sarris	Executive Director	North Shore WIB
Ed O'Sullivan	Director of Programs/Operations	North Shore WIB
Dr. Lane Glenn	President	Northern Essex Community College
George Moriarty	ED of Workforce Development and Corporate Relations	Northern Essex Community College
Beverly Woods	Executive Director	Northern Middlesex Council of Gov.
Jay Donovan	Asst. Director/Economic Dev.	Northern Middlesex Council of Gov.
Sister Eileen Burns, SNDdeN	Executive Director	Notre Dame Education Center, Lawrence
Stephen Maser	Associate Director of Employer Relations	Salem State University
Pat Merservey, John D. Keenan	President	Salem State University
Lauren Hubacheck	Assistant Dean of Student Success and Transition	Salem State University
Steven Tello	Vice Provost – Innovation & Workforce Dev.	University of Massachusetts Lowell
Linda Rohrer	Executive Director	ValleyWorks Career Center
Maureen Lynch	Superintendent	Whittier Regional Vocational Technical HS

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**Regional Planning Process.** Describe your region's process to develop Labor Market Blueprint.

The Northeast Region developed the Labor Market Blueprint using a combination of data, interviews, focus groups, and existing research. This information gathered was used to both inform the Blueprint and help to align the goals of the three partners: economic development, workforce development, and education. The Northeast Region worked to include and gain input from all three partners. Specifically, the Region utilized the state's prepared list of organizations to include in the process and invited other important stakeholder groups and individuals to the first meeting. The core group of the Regional Planning Team continued to provide feedback, guidance, and input throughout the planning process.

Following the first two sessions with the Regional Planning Team, the Northeast Region issued an RFP to engage a consultant organization to help guide the development of the Blueprint. It also created a leadership team to review the proposals. Five proposals were received and reviewed both individually and as a group in order to select the final awardee, Camoin Associates. After engaging Camoin Associates the Regional Planning Team met three more times to review data, come to consensus around vision, mission, and goals, and continue the conversation around how to work collectively.

**Business Engagement.** Describe how the Team engaged business to develop the blueprint, including the number of businesses engaged, the industries businesses associate with, and the format of engagement the team employed.

The Northeast Region engaged local businesses through a set of focus groups *that* gathered information related to private sector workforce issues. Focus groups were held throughout the region and engaged business from different industries, with an intentional focus on Manufacturing; Education; Professional, Scientific and Technical; as well as Health Care. In total, 31 companies were directly engaged in the process. An additional 500 companies were engaged through Greater Lawrence and North Shore surveys, *conducted* independently from the regional planning process but within the same time period. Several business representatives were *also members of* the Regional Planning Team.

Businesses that participated in the planning process included:

Lowell General Hospital  
Watermark  
Laser Services  
Microsemi  
Santander Bank  
Nova Biomedical  
Excell Solutions  
Sunrun Inc.  
Holiday Inn  
Greater Lowell Health Alliance  
Sage Bank  
Lowell Community Health Center  
Krohne  
Microline Surgical  
Bomco Inc.  
Eastern Bank  
Lynn Area Chamber of Commerce  
Innovent  
Boston Centerless  
Arwood

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North Shore Medical Center  
North Shore Chamber of Commerce  
Greater Lawrence Family Health Center  
Imagine That!  
CopyLab  
Magellan Aerospace  
Mainstream Global  
Haverhill Chamber  
Merrimack Valley Credit Union  
Homisco  
Merrimack Valley Chamber of Commerce

### II. Where are we now?

Describe the current state of your region, including an analysis of industries, occupations, demographic shifts, and gaps between employer demand and employee supply.

#### Regional Context

Utilize the information provided through state data sets and additional local analysis to highlight the region's unique geography, communities, population growth/change, education demographics, workforce history, high-level industry trends, etc.

#### Describe critical trends in population change in the next decade that will have an impact on the workforce.

Since 2012, the Northeast Region has seen a 3.9% increase in *the* population, gaining over 38,000 residents. This trend is projected to continue with the region projected to gain an additional 26,000 residents over the next five years, an additional 2.6% increase. The age cohorts projected to see the largest increase in population are residents 70-74, 75-79, and 25-29. They are projected to increase by 28%, 30%, and 13%, respectively. Over the next five years, the Northeast Region is projected to add nearly 8,500 people between the ages of 25-29. This is important for the workforce because adding a large number of people between the ages of 25-29 will increase the labor and talent pool for local employers. Furthermore, the addition of nearly 19,000 residents over the next five years between the ages of 70-79 will affect the workforce as well because they will require particular services related to aging, such as specific types of healthcare, and home health aides. The population age cohorts that are projected to decline within the next five years include people ages 45-49 and 50-54, projecting to decrease by 13% and 11%, respectively, totaling a loss of nearly 18,000 residents.

*Source of data: Emsi 2017.4 class of worker*

#### Describe critical trends in regional demographics that will have an impact the workforce. Age, education, etc.

Within the Northeast Region there is an average number of millennial residents compared to the nation, defined as being between the ages of 20-34. The Northeast Region currently has an estimated 200,000 millennials, which is marginally lower than the national average for an area this size of 211,000. The supply of millennials can both mitigate and exacerbate the workforce supply challenges that occur due to high labor force participation and low unemployment. However, having a large talent pool is attractive for employers.

Additionally, the Northeast Region has an average portion of the population who are at or near retirement age. The number of people in the region who are considered to be retiring soon, defined as people ages 65 and older, total over 155,000, which is very close to the national average of 158,000 people per a population grouping of our region's size.

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The population of the Northeast Region shows a slight lack of racial diversity, with over 70% of the population identifying as White, Non-Hispanic, followed by the next largest cohort of 13.4% of population identifying as White, Hispanic, and another 6.6% identifying as Asian, Non-Hispanic. Some areas of the Region have a much lower number of people who identify themselves as White. These areas most notably include the cities of Lynn, Lowell and Lawrence. Over the next five years, the number of people identifying as White, Hispanic is projected to increase by 12%, adding nearly 17,000 residents. Additionally, the number of people identifying as Asian Non-Hispanic, and Black Non-Hispanic, are projected to increase by 12% and 10%, respectively, adding nearly 12,000 residents in total.

*Source of data: Emsi 2017.4 class of worker*

**Describe past and current high-level industry trends affecting workforce needs** (i.e. growing, declining, emerging industries).

Within the Northeast Region, Health Care and Social Assistance is the largest industry and fastest growing with over 90,000 jobs in 2017 continued growth projected through 2022. Government is the next largest industry with nearly 62,500 jobs in 2017, followed by Manufacturing with nearly 54,000 and Retail Trade with nearly 50,000. Manufacturing at the broadest level has seen declines in number of job, however when considering regional replacement demand, the demand for manufacturing workers is high. Construction as well as Professional, Scientific, and Technical Services industries are both mid-sized industries with 26,000 and 30,000 jobs, respectively. Construction saw significant growth over the last five years but that is projected to slow down to 6% growth over the next five years. Professional, Scientific, and Technical Services has shown relatively steady job numbers with no substantial growth projected. However, both industries have high earnings per job, and are important to supporting other industries in the economy. Overall, the economy has seen a 6% growth in jobs over the last five years (26,790 new jobs added) and it is projected to continue to grow by 3% through 2022.

*Source of data: Emsi 2017.4 class of worker*

**Describe critical trends in occupational employment history** in the region (i.e. growing, declining, emerging occupations).

The Northeast Region has seen a growth in Health Care related occupations since 2012, including Personal Care Aides (adding 3,337 jobs since 2012, a 64% increase) and Home Health Aides (2,372 additional jobs, a 71% increase). One area that is struggling is Childcare Workers, with significant job loss since 2012, including a loss of 1,347 jobs or 24%. This may have to do with the increased educational requirements for child care professionals, and will have an impact on the overall economy as it becomes harder for parents to work.

Projections related to occupation growth/decline suggest that there will continue to be demand for Health Care Professionals between 2017 and 2022 including Home Health Aides (1,770 more jobs, 30% growth), Personal Care Aides (1,976 more jobs, 26% growth by 2017), and Registered Nurses (1,082 more jobs, 10% growth).

Manufacturing related occupations continue to decline in overall number, but the need for replacement jobs is significant as older workers continue to retire. All companies express an urgent need for skilled production workers, but they find it difficult to attract them because much of the public does not know how clean, technologically advanced, and competitive our advanced manufacturers have become. In addition, the societal pressures to pursue a four-year college degree immediately after high school has had an impact on the middle skill manufacturing labor force.

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Professional, Scientific, and Technical services related occupations also show significant need for new workers because of high replacement demand as the occupations face high levels of retirement. The PST sector covers a broad range of industries that provide specialized including legal, accounting, engineering, architectural, advertising, consulting, and computer services. In addition, the presence of PST occupations across all industries, i.e., IT jobs, increases the importance of this sector across the entire northeast economy.

*Source of data: Emsi 2017.4 class of worker*

### **What are the top three challenges facing the region's business and industry over the next five years?**

- 1) The Northeast Region has a **low unemployment** rate which results in businesses across all industries, competing for labor and facing subsequent challenges finding the labor necessary to fill open positions. High replacement demand due in part from high levels of retirement are exacerbating this issue as employers are losing employees with decades of experience.
- 2) **Transportation** issues continue to pose a challenge to companies. Workers are unable to utilize public transportation to get to their jobs due to scheduling conflicts and inadequate service.
- 3) **Decrease in pre-employment private training support:** employer financial contributions in training programs designed to prepare entry level workers to access careers in priority occupations and industries has been declining for various reasons and for many years. Training is increasingly paid by Federal and State entities, which find it more and more difficult to fill the gap left by decreased private pre-employment training.

### **What are the top three opportunities related to business and industry in your region over the next five years?**

- 1) The Northeast Region has a **successful partnership model** to address skill shortages and promote economic growth across the region (Northeast Advanced Manufacturing Consortium: NAMC). Replicating this partnership within priority industries and occupation clusters will create an opportunity to further engage employers, workers, educators and supporting organizations in promoting economic and workforce growth.
- 2) **Continued growth in certain sectors** (including health care, retail, and others) of the economy present an opportunity for employers to continue to adapt their hiring, training, and retraining practices as there are continuous shifts in the demographics of the workforce.
- 3) The **changing demographics of the region's workforce** offers tremendous opportunities for collaboration between employers and workforce development partners.

### **Industry Demand Analysis (NAICS)**

Utilize your region's criteria and labor market data (i.e. data packages and excel tool) developed for the regional planning teams to explore the following questions in discussion and develop consensus for each section.

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### What top three industries are most important to the region's economic success and why?

The Northeast Region Planning Team decided that **Advanced Manufacturing, Professional and Technical Services, and Health Care and Social Assistance** are the top three priority industries in the region. These three industries were selected after reviewing the data provided by the State, reviewing additional data provided by the consulting team, and facilitation of a significant amount of discussion during the planning sessions. In addition to the three priority industries, the Northeast Region also believes Construction, Education, Life Sciences, and Financial Services are critical to the region's economic success and each sub-region will continue to pursue, alone and together, initiatives to support those industries.

The following is a high-level summary of why the three priority industries were selected:

**1) Advanced Manufacturing** – Overall, the manufacturing industry is very important to the Northeast region's economic success for a number of reasons:

- *Size:* With nearly 54,000 jobs in the Region in 2017, it is the 3<sup>rd</sup> largest 2-digit industry sector by number of jobs and accounts for 11% of all jobs.
- *Concentration (Location Quotient):* The Manufacturing sector has the second highest LQ among all 2-digit industries, it has a higher concentration than national average with LQ of 1.45 in 2017.
- *Wealth Generation and Wages:* The Manufacturing sector has significantly higher average earnings per job, \$116,722 in 2017 compared to \$69,056 for all industries. It also provides a net income gain for investors, owners and employers. That gain pays taxes that helps make public health care, government and other social service jobs possible.
- *Replacement Demand:* The Manufacturing sector is facing an aging workforce that is creating demand for replacement jobs, specifically including: Team Assemblers; Carpenters; Electricians; First-Line Supervisors of Production and Operating Workers; Inspectors, Testers, Sorters, Samplers, and Weighers; Machinists; Packaging and Filling Machine Operators and Tenders.

The region recognizes that the manufacturing industry is experiencing an overall decline in terms of number of jobs; however, the industry continues to play an important role in the economy and therefore needs support and investment in order to maintain it and stabilize or reverse the decline.

**2) Professional and Technical Services** – The Professional and Technical Services industry is important to the Northeast region's economic success for a number of reasons:

- *Wages:* The earning potential for Professional and Technical Services sector is high, with wages over \$105,000 on average.
- *Impact on Other Industries:* The Professional and Technical Services industry serves many other industries including Manufacturing and Health Care and Social Assistance. Its role in the larger economy makes it important to support and enhance as it will subsequently benefit many other industries and the overall regional economy.

**3) Health Care and Social Assistance** – The Health Care and Social Assistance industry is important to the Northeast Region's economic success for a number of reasons:

- *Size:* Health Care and Social Assistance accounts for over 90,000 jobs in 2017 in the Northeast, and is the largest industry.
- *Replacement Demand:* The industry experiences high turnover that will require replacement of existing positions and continually finding new employees.
- *High Growth:* The Health Care and Social Assistance has growth in the past and the industry is projected to continue growing at a rate of 12% projected growth or the addition of 10,770 jobs by 2022.



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- *Concentration* (Location Quotient): The industry has a high concentration of jobs in the Northeast Region, with a location quotient of 1.45 in 2017.

### **What three industries currently face the most significant workforce development challenges?**

**1) Health Care and Social Assistance** – The Health Care and Social Assistance industry is facing significant workforce development challenges due to constant openings and lack of skilled/qualified people to fill the open positions. Technological changes in health care and industry credentialing have raised the entry level skill expectations and require constant update of skills in the existing workforce. Companies have openings for long periods of time and struggle to fill them due to lack of applicants. For entry level positions like certified nurse assistants and personal care assistants, low pay and traditionally undesirable hours make it difficult to get people to apply for the positions.

**2) Advanced Manufacturing** – The Advanced Manufacturing industry is facing high levels of replacement demand as long-term employees retire, leaving companies without the institutional knowledge or skilled employees to fill the positions. Declining interest in manufacturing has also impacted the industry's ability to fill positions and keep workers long-term. Changing technology and increasing skills requirements of the workforce place pressure on workforce development providers to constantly change their offerings and adapt to the modern industry.

**3) Professional and Technical Services**– The Professional and Technical Services industry is facing a challenge as the number of young people pursuing STEM degrees is not great enough to keep up the pace with job openings and employer demand.

### **Occupational Demand Analysis (SOC)**

Utilize your region's criteria and labor market data (i.e. data packages and excel tool) developed for the regional planning teams to explore the following questions in discussion and develop consensus for each section.

**What are the top occupations or occupational groups in which the region is facing the most significant employee shortages?** Utilize the regional occupational list that ranks of 3, 4 and 5 star occupations for the region and determine those with significant shortages based upon the "supply" data for the region, input from business, organizations and other input.

**Registered Nurses** is facing the highest level of employee shortages, with nearly 800 openings as reported in the information provided by the State.

Other occupations facing employee shortages include and are considered vital to the Region:

- Heavy and Tractor Trailer Truck Drivers (410 openings)
- Software Developers, Applications (342 openings)
- Industrial Engineers (318 openings)
- Social and Human Service Assistants (258 openings)
- Accountants and Auditors (256 openings)

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**Which occupations offer a “career pathway” for workers to move to higher skills and wages, especially workers starting at entry-level?** (Add 1 or 2 star occupations not included above that are entry-level yet important because of a career pathway or cluster.)

Based on the information provided by the State, the following occupations offer career pathways and are considered vital to the Region:

- Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
- Helpers Production Workers, Packers and Packagers

### Workforce Supply

Using the regional planning data tool and packages, review information on existing unemployed workers, graduates coming from educational pipelines and other data on workforce supply.

**What are the top three broad labor supply challenges facing the region over the next five years based on the existing workforce in the region** (e.g. retirement and aging of population, low high school graduation rate, education or workforce skills of existing labor pool, limited language proficiency, etc.)?

1. **Transportation** – For many employees and job seekers in the region, transportation is a significant barrier. People with access to transportation find traffic a challenge. Additionally, many people who use public transportation find that its routes and schedules do not align with their job sites and work shifts.
2. **Age of workers** – Many workers are nearing retirement age in key industries such as Manufacturing. An aging workforce and increased number of retirements drives up replacement demand in many industries and because of this, businesses are losing employees with years of experience and institutional knowledge. Particularly in the Manufacturing industry, there is a need to replace retirees but there is a lack of interest among young people to enter the industry.
3. **Lack of awareness about industries and related occupations** – There is a lack of knowledge and awareness around available industries and occupations in the region. Making people aware of occupational opportunities is the first step in a career pathway, and without awareness people cannot access or utilize the existing career pathways. Additionally, there is a lack of understanding that in many cases, career pathways will involve multiple industry sectors and numerous occupations. Job seekers are unaware of the available opportunities.

**What are the top three labor supply opportunities facing the region over the next five years based on the existing workforce in the region?**

1. **Clearly Defined Career Pathways** – Creating and promoting clearly defined career pathways will be valuable for both the supply- and demand-side of the workforce. Creating these clearly defined pathways will showcase opportunities that are available and create motivation for job seekers to enter a new career.
2. **Manufacturing and Health Care have a racially diverse workforce** – Within the Manufacturing and Health Care industry, nearly one in five workers identify as Non-white; Professional, Scientific, and Technical has the lowest representation of Hispanics and Latinos, while healthcare has the highest.
3. **Prevalence of IT across all industries** – provides opportunities for employment in many sectors and at many skill levels, as well as the opportunity to provide high wage positions as education and training is accessed by workers.

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**Based upon UI Claimant population, what is the region's largest supply of unemployed workers by job type?**

As of the October 2017 UI statistics, within the Northeast Region as a whole, including Greater Lowell, Lower Merrimack Valley, and the North Shore, the industries experiencing the highest number of claimants include: Health Care and Social Assistance with 1,036 in total; this is followed by Administrative & Support, Waste Management & Remediation Services with 1,002 in total; and Professional, Scientific, and Technical Services with 997. These three industries experience a high employee turnover rate due to a variety of reasons. Within Professional, Scientific, and Technical Services and Health Care there is high turnover rate due to changing work priorities, disruptive technology, and the prevalence of contract work. While there is a high churn rate, in general, quickly reenter the workforce due to the high number of vacancies for skilled workers within the industries claimants.

**Lower Merrimack Valley:** As of the October 2017 UI statistics, the industries experiencing the highest number of claimants include: Administrative & Support, Waste Management & Remediation Services with 429; followed by Manufacturing with 415; and Health Care and Social Assistance with 403. These are the only job sectors experiencing over 400 claimants as of January 2018.

**North Shore:** As of the October 2017 UI statistics, the industries experiencing the highest number of claimants include: Health Care and Social Assistance with 381; this is followed by Professional, Scientific, and Technical Services with 322. These are the only industries experiencing over 300 claimants.

**Greater Lowell:** As of the October 2017 UI statistics, the industries experiencing the highest number of claimants include: Professional, Scientific, and Technical Services with 313, the only industry with over 300 claimants. However, this is closely followed by Administrative & Support, Waste Management & Remediation Services with 296; and Manufacturing with 284.

**What are the characteristics of unemployed and under employed workers in the region?**

Characteristics of the unemployed and under employed show similarities among the three regions. Specifically, the education level facing the most claimants include High School or GED, age groups generally facing the most claimants fall between 45-54 and 55-64, and people identifying as White face the most claimants in all regions.

**Lower Merrimack Valley:** As of the October 2017 UI statistics, there have been 3,262 claimants in the Lower Merrimack Valley region. Of those claimants, there 1,697 males and 1,565 females, showing a nearly even split between male and female customers. The following are additional characteristics of the unemployed and underemployed workers in the Lower Merrimack Valley region:

- **Age:** The two age groups with the largest number of unemployed workers year to date, include those aged 45-54, with 848 individuals, followed by people aged 55-64 with 716 claimants.
- **Education:** The majority of claimants have a HS/GED as the highest level of education at 1,022, this is followed by those with a Bachelor's degree at 634 claimants.
- **Race:** Over 2,050 of the claimants identify as White, followed by over 1,100 identifying as Hispanic or Latino.

**North Shore:** As of the October 2017 UI statistics, there have been 2,834 claimants in the North Shore region. Of the total claimants, there were 1,458 males and 1,376 females. The following are additional characteristics of the unemployed and underemployed workers in the North Shore region:

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- **Age:** The two age groups with the largest number of claimants, include those aged 55- 64, with 702 claimants, followed by people aged 45-54 with 702. Claimants' age trends are similar to that of Lower Merrimack Valley and Greater Lowell.
- **Education:** The vast majority of the claimants have a HS/GED as the highest level of education at 833 claimants, this is followed by those with a Bachelor's degree at 724 claimants. This trend is also similar to that of Lower Merrimack Valley and Greater Lowell.
- **Race:** Over 2,200 of the claimants identify as White, followed by 382 Hispanic or Latino.

**Greater Lowell:** As of the October 2017 UI statistics, there have been 2,405 claimants in the Greater Lowell region. Of the total claimants, there were 1,317 males and 1,088 females. The following are additional characteristics of the unemployed and underemployed workers in the Greater Lowell region:

- **Age:** The three age groups with the largest number of claimants, include those aged 45-54, with 618 claimants, followed by people aged 55-64 with 544, and 25-34 with 534.
- **Education:** The majority of claimants have a HS/GED as the highest level of education at 787 claimants, this is followed by those with a Bachelor's degree at 526 claimants.
- **Race:** Over 1,700 of the claimants identify as White, followed by 291 identifying as Asian, and then 258 Hispanic or Latino.

### **Describe the universe of the region's existing pipelines of new workers (credentials) across public and private secondary and post-secondary institutions.**

- Highest and lowest number of new graduates by credential/CIP?
- How does retention of graduates in your region influence supply?

There are multiple colleges and trade schools in the Northeast Region including but not limited to the University of Massachusetts-Lowell, Salem State University, Middlesex Community College, North Shore Community College, Endicott College, Northern Essex Community College, Merrimack College, Gordon College, Lynn Vocational Technical Institute, Essex Agricultural and Technical High School, Greater Lawrence Vocational Technical High School, Whittier Technical High School, Nashoba Valley Vocational School, Shawsheen Regional Technical High School, and Greater Lowell Technical High School . In 2016, there were over 12,000 college and technical school graduates in the region.

*Source of data: Emsi 2017.4 class of worker*

These institutions have varying focus areas and graduate students with all levels of degrees from Associates to Doctorates.

### **The highest number of new graduates** are completing the following programs (2015):

520201-Business Administration and Management, General	1368
240101-Liberal Arts and Sciences/Liberal Studies	689
420101-Psychology, General	643
513801-Registered Nursing/Registered Nurse	605
430103-Criminal Justice/Law Enforcement Administration	523
240102-General Studies	350
110401-Information Science/Studies	284
430104-Criminal Justice/Safety Studies	246
230101-English Language and Literature, General	203

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260101-Biology/Biological Sciences, General

198

Source: State credential asset mapping dataset provided

In terms of the **lowest number of new graduates** as related to the priority industries, it came out during the focus groups that there is need for additional engineering graduates, IT workers, health care workers, and those with knowledge and ability related to manufacturing and production. With the exception of health care, the region lacks educational programming sufficient to meet this demand.

The Region has a large number of public colleges and therefore a good number of graduates tend to stay close to home following graduation. However, proximity to the Boston metro area and the transportation infrastructure of Route 128, I-93, I-95, and I-495 make commuting outside of the Region possible and attractive to graduates. There are statistics indicating that 77,000 more area residents commute out of the Region than into the Region each day. For example, the Region's hospitals compete for health care professionals that are drawn towards the higher pay and prestige of employment in the Boston teaching hospitals.

### III. Where do we want to go?

Describe the collectively developed criteria, industry and occupational priorities, vision, mission, and goals for your region.

#### Criteria for Priority Industries/Occupations

The regional kick-off meetings with the WSC suggested a number of foundational criteria to prioritize industries and occupations, including existing job openings, jobs with low barriers to entry, jobs that lead to career pathways, and occupations with high demand (current openings, short/long term projections), and self-sustaining wages.

#### **STATE CRITERIA**

- High employer demand
- High demand and high wage (4-5 Star Occupations)
- Talent Gaps (Ratio of Supply to Demand)
- Career Pathways

#### **REGIONAL CRITERIA**

- What additional criteria are important to your Regional Planning Team?
- Supportive employers
  - Industry resilience
  - Aligned with Economic Development Strategies
  - High location quotient
  - Anticipated high replacement demand
  - Career pathways including 3 star occupations

#### Priority Industries and Occupations

Using your regional context and mutually agreed upon regional criteria, list your priority regional industries and occupations or occupational groups.

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**List your 2-3 priority industries by 2-digit NAICS.** Where you choose to prioritize an industry that does not fit neatly into a 2-digit NAICS code (i.e. creative economy), note where it would best fit (i.e. Arts and Recreation) and describe the portion of the 2-digit industry you are prioritizing. For each selection, write a brief justification of your choice.

- **NAICS 31-33 Advanced Manufacturing:** The Northeast Region is prioritizing Advanced Manufacturing due to its size, concentration, and importance within the overall economy.
- **NAICS 54 Professional, Scientific and Technical Services:** The Northeast Region is prioritizing Professional, Scientific, and Technical Services due to its role in serving other industries within the regional economy and high earnings potential.
- **NAICS 62 Health Care and Social Services:** The Northeast Region is prioritizing Health Care and Social Services due to its size, growth projections, and high location quotient.

**List 3 to 5 priority occupations or occupational groups by SOC code (4-8 digit, as necessary).**

Include a short description justifying the choices. In building the list regions should consider:

- the list of top 4 and 5 star occupations identified in the previous section (green)
- occupations that are part of a career pathway (but maybe lower stars) and;
- a further prioritization of those occupations on the list experiencing a constricted “supply” of workers or new graduates with necessary skills (credentials, degrees, apprenticeships etc.) for occupations.

The Northeast Region worked hard to capture priority occupational groups that serve the priority industries, meet the criteria, and include career ladder/pathway opportunities. This list is extensive, providing job seekers with many choices for career growth. The Northeast region has experience with virtually all these occupations, so will continue to advocate and then support training in these areas and know our job seekers will value the diversity of offerings across the workforce and education systems.

### Health Care and Social Assistance

- **Health Care Practitioners and Technical** occupations were selected as a priority for the region due to the industry/occupation growth, career ladder opportunities, and high earnings potential level opportunities.
- **Direct Care and Support** occupations were identified as a priority due to the career ladder opportunities (many jobs have entry level positions without requiring more than high school diploma or GED) and high demand (projected industry and occupation growth).
- **Health Care Administration** occupations were selected as they provide non-clinical opportunities with career ladder potential and are in high demand according to employer input.

### Professional, Scientific, and Technical

- **Computer Related and IT Support** occupations were selected due to the demand for IT fluency across all sectors. These jobs have high hourly wages (average of around \$47.30) and high replacement demand.
- **Engineering** occupations were selected as a priority based on feedback from the focus groups, supply gap, and earnings potential (average hourly earnings of around \$49.20)
- **Engineering Technician** occupations were selected due to career ladder opportunities (Associate’s degree is typical entry level education) and high replacement demand.

### Manufacturing

- **Supervisor** occupations were selected based on information gained from the employer focus groups around needs and difficulty finding qualified applicants. These occupations also provide high earnings potential (average of over \$60 an hour in earnings) and stability.

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- **Assemblers/Production Workers/Machinists** occupations were identified during the focus groups and Workforce Development Board surveys as a priority due to challenges related to finding qualified workers to fill these jobs and high replacement demand. These positions present career ladder opportunities.
- **Inspectors/Testers/Quality Control** occupations are a priority due to high replacement demand and supply gap.

**Industries and Occupations – Critical but not Prioritized. (OPTIONAL)** If the team would like to describe industries and occupations that are notable in your region but not prioritized during this regional prioritization process, please list them here with a description of what makes the industry/occupation significant.

### **Critical Industries and Occupations**

- **Construction:** The Construction industry has been identified as a critical industry for the Northeast region due to the significant demand pressure that is put on local systems to fill jobs when there are major projects. The industry also offers solid career pathways and opportunities for high wages.

Within the Construction industry, the following are critical occupations:

- o HVAC mechanics, installers
- o Architectural and Civil Drafters
- o Construction Laborers and Other Trades
- o Heavy Equipment Operators, Truck Drivers
- o Environmental Remediation

- **Education:** The Education industry is critical to the Northeast Region due to the solid career pathways that exist and the ongoing demand for educational service providers. The change in training requirements has put a strain on the industry's ability to attract and retain experienced teachers and that is impacting all areas of the economy as parents struggle with child care.

Within the Education industry, the following are critical occupations:

- o Preschool Teachers
- o Teacher Assistants
- o Elementary Teachers

- **Life Sciences:** Sectors involved in Life Sciences industry are critical to the Northeast Region due to the role that it plays as a subset of the priority industries and the high wages that are possible within the category.

Within the Life Sciences industries, the following are critical occupations:

- o Lab Technicians
- o Lab Technologists
- o Biological Technicians

- **Financial Services:** The Financial Services sector continues to be critical to the Northeast Region's economy due to the change nature of the industry and the increased demand for those with information technology skills throughout.

Within the Financial Services industry, the following are critical occupations:

- o IT Occupations at all levels

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### Assets

For each of the selected **priority industries and occupations (purple section)**, articulate existing assets and gaps in capacity.

**Credential Asset Mapping Tool.** For priority industries and occupations that require credentials, use the Credential Asset Mapping Tool in Attachment 1 to demonstrate assets and gaps for each priority industry and occupation.

See Attachment A.

**Non-Credential Asset and Gap Analysis.** For priority industries and occupations that **do not** require a credential, describe what existing assets in the region can meet the employer demand, and where systemic gaps prevent meeting employer demand.

All of our priority industries and occupation require credentials at some level.

### Vision, Mission, Goals.

Using your articulated priority industries, occupations, and existing assets, articulate your broader vision, mission, and goals.

**Vision.** State 2-5 things that you hope will be true in your region 10 years through the lens of education, workforce development, and economic development to address the priority industries and occupations identified in the Blueprint. Consider questions such as, Which industries will thrive? What are the living standards and educational levels of your population?

Job seekers and businesses in northeastern Massachusetts benefit from timely and more efficient activities jointly planned by employers and public-sector education, economic development, and workforce development.

**Mission.** State what each set of core partners has agreed to do in order to achieve your vision. What will educational partners do? What will economic development partners do? What will workforce development partners do?

A skilled and educated workforce is the backbone of a strong and competitive economy. The mission of the Northeast Regional Planning Team is to create a workforce development ecosystem – managed and supported by the Region’s economic development, workforce training, and education partners – that ensures our region has the talent needed to sustain a strong and competitive future for employers and jobseekers.

- Our **education partners** will work with the workforce development and economic development partners to establish and promote nimble education and career training programs that align with the needs of employers, job seekers, existing workforce, and career pathways. Education partners will



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utilize provided resources to motivate youth and provide training and re-training to the current workforce. In addition, education partners will participate as partners in grants that support the workforce in priority and critical industries.

- Our **economic development** partners will work with the education and workforce partners to engage the business community and municipalities to articulate workforce demands; participate in partnerships and programs for training; and help the core partners support the attraction of private investment that benefit from the region's strengths and assets. In addition, economic development partners will participate as partners in grants that support the workforce in priority and critical industries.
- Our **workforce development** partners will work with our education and economic development partners to support priority and critical industries through expanded training options that respond to evolving skill needs and provide opportunities to create greater balance between supply of workers and demand for skills. In addition, workforce development partners will participate as partners in grants that support the workforce in priority and critical industries.

**Goals.** Describe your *shared* goals for 2018, 2020, and 2022. Note that goals listed here should be those that need participation of players from multiple entities and across two or three of the systems for accomplishment.

<b>By 2018, we will...</b>	<b>By 2020, we will...</b>	<b>By 2022, we will...</b>
<p>Increase understanding of the region's economic development, workforce development, and education services resources through completion of first annual resource inventory focused on education and training opportunities for our priority industries. This will also include a review of existing ESOL programs, particularly those that are focused on our urban areas to ascertain where additional resources should be focused.</p> <p>Increase participation in the Northeast Advanced Manufacturing Coalition (NAMC) cross-region sector initiative by 100 students and 10 industry participants.</p>	<p>Additional awareness of the Northeast Regional Planning Team's efforts by increasing the distribution list, use of social media, by 50%.</p> <p>Advise the State in establishing and providing data for a dashboard. Identify key data points and sources and establish regular data reporting times from all partners.</p> <p>Increase number of completions in priority occupations by 1% or 100 completions per year.</p> <p>Establish a second industry sector initiative from among the priority industries and targeted training to serve the industry sector</p>	<p>Positive movement in the total job numbers for priority industries.</p> <p>Increase number of completions in priority occupations by 1% or 100 completions per year.</p>

See Attachment B for more detail on goals, timeframe, strategies, and lead.

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### IV. How do we get there?

Describe the strategies you will jointly employ to align the work of multiple systems around your shared vision, mission, and goals.

#### Shared Strategies

While each system may make changes in individual programming to align with the region's priorities, all systems will need to commit to shared changes in the following areas, stated below. Describe how your region will work collaboratively in the following two areas.

**Continuous Communication.** How often and in what way will you meet to review progress towards shared goals and make course corrections?

The Northeast Region plans to meet every other month for the first year to establish baseline communication, coordination, and continue to make progress towards the goals, therefore participating in six meetings for the first year. After the first year this meeting schedule will be reviewed and task forces created as necessary to continue towards implementation. An annual dashboard will also be established to measure progress towards goals and allow opportunities for goal review and refinement.

**Shared Measurement Systems.** What data and measurement systems will you rely on to support shared understanding of how well you are meeting your goals and making progress towards a shared vision?

- Number of jobs in the priority industries
- Number of participants attending training through WDB/Career Center training in priority and critical industries
- Number of people on distribution list for Regional Planning related material – attendance at meetings
- Information from state-developed dashboard built jointly with Regional Planning Teams

**Other Shared Strategies.** What other shared strategies will the region adopt to ensure progress towards the common agenda?

- Using workforce development, economic development, and educational partners – create an inventory of existing resources for employers and job seekers. Compare inventory needs of priority and critical industries and occupations.
- Identify any areas of duplication, gaps, or needs for adjustments to better meet needs.
- Review inventory annually to make changes.
- Issue 1 press release announcing the new name of the Northeast Regional Planning Team and connect with media 10 other times including state of the art communication techniques.
- Distribute 6 e-newsletters per year with articles from all partners.
- Host 1 regional Economic Summit in the region to help strengthen the bond between the three core partners and establish culture of collaboration.
- Prepare 1 annual report highlighting success and coordinated efforts.
- Advise the State in establishing and providing data for a dashboard. Identify key data points and sources and establish regular data reporting times from all partners.
- Publish and promote the complete dashboard through distribution list, press, and social media.

#### Mutually Reinforcing Activities

To ensure that the work each partner is doing is supportive of the common agenda, describe the specific activities regional partners have committed to doing.

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**Education.** Describe the changes in programming, recruitment, retention and placement strategies, assessment, tracking, or other strategies specific educational partners have committed to in order to meet shared regional goals.

- Host semi-annual open house to invite students, teachers, parents, and others to better understand programs in priority industries.
- Conduct review of training capacity and faculty at all levels to ensure needs of students and needs of teachers are being met.
- Work with high schools and community colleges to bring work readiness training into the curriculum including resume writing, career exploration, good work habits, communication, and problem solving skills.

**Workforce Development.** Describe the changes in programming, employer relations, recruitment, retention and placement strategies tracking, or other strategies specific workforce development partners have committed to in order to meet shared regional goals.

- Promote manufacturing as a career opportunity through press release and a targeted media campaign.
- Outline career pathway(s) for each of the priority occupations.
- Identify any gap in training and establish programs to fill for targeted occupations.
- Apply for 2 new funding sources for programs and initiatives that target priority industries and occupations.
- Create 1 new training program geared towards the priority occupations.
- Create streamlined pathways into priority occupations that allow high school students (through Early College) and adult learners to earn credit towards Associates degree that can then be applied towards certificate programs and Bachelor's degree.
- Establish evaluation criteria and reporting schedule for all programs and sector initiatives

**Economic Development.** Describe the changes in economic development strategy that economic development partners have committed to in order to meet shared regional goals.

- Conduct outreach to additional manufacturing sector employers to gauge interest in participating.
- Obtain funding of at least one training activity through organizations and companies to support completions in priority occupations.
- Focus attraction and retention efforts on priority industries
- Establish a task force charged with assessing and tracking emerging industry and occupation trends that may dramatically impact the "future of work" in the Northeast region. Consider impact on the priority industries as part of annual planning process. (Begin meeting in 2018 with regular updates to the larger group)

### V. Conclusion

**Conclusion.** Describe any closing remarks, next steps, or considerations.

The Merrimack Valley, North Shore and Greater Lowell WIB regions are each unique. We appreciate the opportunity to work across agencies and regions to learn and better understand the labor market commonalities in northeast Massachusetts and to develop a work plan for the next four years. This regional approach will provide opportunities for us to improve performance and outcomes for our customers (both companies and job-seekers) as well as partner organizations. We also appreciate the collaboration exhibited by the three members of the Workforce Skills Committee to support this work plan. Implementation of this work plan will be critical to moving our region forward, and will require continued support, financially and policy-wise, from the state to meet work plan goals. We believe that this support will be forthcoming, and look forward to success that will benefit companies and job seekers across our region.

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## Attachment 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.	<b>Computer Related/IT Support</b> <b>15-1152.00 - Computer Network Support Specialists</b>
Type of Credential & Title of Credential	List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)	-Certification a) CCNA (Cisco Certified Network Associate) -On-the-Job Training -Apprenticeship certification -Associate degree (includes CCNA 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.	-Private training providers -Community College certificate and associate degree programs North Shore Community College Middlesex Community College Northern Essex Community College
Integrated/ Accelerated	Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?	-On-job-training and apprenticeship will have integrated work experience -Associate and certificate of completion may have internship component -OJT and apprenticeship will have integrated work experience
Online/ Classroom/ Work-based	Describe education environment and instructional methods.	Instruction is a combination of lecture and hands on lab experience
Pell-eligible?	Is the program Pell-eligible?	<u>YES</u> Associate Degree (College Credit) Certificate of Completion (College Credit) <u>NO</u> Private training providers Apprenticeship Certification
Fee?	What are the fees?	<u>Fees Set by Board of Trustees</u> • Associate Degree (College Credit) • Certificate of Completion (College Credit) <u>Fees Contingent Upon Length of Program</u> • Locally Recognized Certificate • Apprenticeship Certification <u>Private Training Providers</u> • Fees set based off length of program and stackable credentials offered

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Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	Yes. CCNA is an internationally recognized credential.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	Yes. The CCNA is the prerequisite for intermediate level Cisco system certifications such as CCNP (Certified Network Professional), and CCIE (Cisco Certified Internetwork Expert).
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	Yes, the credential is nationally recognized.
Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Non-credit – training providers Credit – community colleges
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	It is critical the education and training providers remain up-to-date on the industry recognized credentials accepted by employers.

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Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Computer Related/IT Support</b> <b>5-1151.00 - Computer User Support Specialists</b>
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	Certifications* a) CompTIA IT Fundamentals (baseline) b) CompTIA A+ *Note – courses offer various bundled certifications On-the-job training; Apprenticeship certificate; Associate degree (includes CompTIA IT and CompTIA A+)
Credential Provider	<i>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.</i>	Private training providers Community College certificate and associate degree programs North Shore Community College Middlesex Community College Northern Essex Community College
Integrated/ Accelerated	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?</i>	-On-job-training and apprenticeship will have integrated work experience -Associate and certificate of completion may have internship component -OJT and apprenticeship will have integrated work experience
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Instruction is a combination of lecture and hands on lab experience
Pell-eligible?	<i>Is the program Pell-eligible?</i>	<u>YES</u> Associate Degree (College Credit) Certificate of Completion (College Credit) <u>NO</u> Private training providers Apprenticeship Certification
Fee?	<i>What are the fees?</i>	<u>Fees Set by Board of Trustees</u> • Associate Degree (College Credit) • Certificate of Completion (College Credit) <u>Fees Contingent Upon Length of Program</u> • Locally Recognized Certificate • Apprenticeship Certification <u>Private Training Providers</u> • Fees set based off length of program and additional stackable credentials offered

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Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	Yes. Computing Technology Industry Association (CTIA) offers popular, industry vendor-neutral certifications. Jobseekers with multiple stackable credentials are more attractive candidates.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	Yes. CompTIA IT Fundamentals is an entry level credential to more advanced certifications such as CompTIA A+, and with, specialized experience, CompTIA Network+ and CompTIA Security +.  Other stackable credentials include MCSA (Microsoft Certified Solutions Associate), and MCSE (Microsoft Certified Solutions Expert)  Frequently, multiple certifications are bundled in the same training course.
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	Yes
Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Non-credit – training providers Credit – community colleges
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	It is critical that education and training providers remain up-to-date on the industry recognized credentials accepted by employers.

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Occupation	List the occupation the credential is for, including the SOC code.	<b>Engineering Technicians</b> 17-3027 - Mechanical Engineering Technicians 17-3026 - Industrial Engineering Technicians 17-30.27 - Mechanical Engineering Technicians
Type of Credential & Title of Credential	List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)	On-the-job training Apprenticeship certificate Associate's Degree
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.	North Shore Community College Middlesex Community College Northern Essex Community College
Integrated/ Accelerated	Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?	-On-job-training and apprenticeship will have integrated work experience -Associate and certificate of completion may have internship component -OJT and apprenticeship will have integrated work experience
Online/ Classroom/ Work-based	Describe education environment and instructional methods.	Classroom, hands-on lab
Pell-eligible?	Is the program Pell-eligible?	<u>YES</u> Associate Degree (College Credit) Certificate of Completion (College Credit) <u>NO</u> Locally Recognized Certificate Apprenticeship Certification
Fee?	What are the fees?	<u>Fees Set by Board of Trustees</u> <ul style="list-style-type: none"> <li>• Associate Degree (College Credit)</li> <li>• Certificate of Completion (College Credit)</li> </ul> <u>Fees Contingent Upon Length of Program</u> <ul style="list-style-type: none"> <li>• Locally Recognized Certificate</li> <li>• Apprenticeship Certification</li> </ul>
Employer-validated?	Do local employers validate the credential? If so, describe.	Employers Align and Validate Curriculum and Recognize the Credentials
Stackable?	Is the credential stackable with other certificates? If so, describe.	Yes. College credits can transfer to 4 year degree
Portable?	Are the credentials portable to other states/ industries? If so, describe.	Yes.
Credit/ Non-Credit?	Are they credit or non-credit?	Associate Degree (College Credit) Certificate of Completion (College Credit) Locally Recognized Certificate (Non-Credit)



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		Apprenticeship Certification (Non-Credit/Credit)
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	Rapid technological change will inevitably create pipeline gaps that may be identified and addressed in updated blueprints.

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Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Engineering</b> 17-2051 Civil Engineers 17-2071 Electrical Engineers 17-2072 Electronics Engineers, Except Co 17-2141 Mechanical Engineers
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	Bachelor's Degree
Credential Provider	<i>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.</i>	<u>Associate Degrees (transfer credits to 4 year school)</u> North Shore Community College Middlesex Community College Northern Essex Community College  <u>Bachelor Degrees</u> UMass Lowell Merrimack College
Integrated/ Accelerated	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?</i>	College programs may have internship programs
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Classroom, hands on lab, possible internships, online
Pell-eligible?	<i>Is the program Pell-eligible?</i>	Yes
Fee?	<i>What are the fees?</i>	<u>Fees Set by Board of Trustees</u> <ul style="list-style-type: none"> <li>• Associate Degree (College Credit)</li> <li>• Bachelor Degree (College Credit)</li> </ul>
Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	Employers Align and Validate Curriculum and Recognize the Credentials
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	Yes.
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	Yes.

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Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Associate and Bachelor Degrees (College Credit)
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	Ongoing and future demand for engineers requires that more young people obtain bachelor degrees in engineering.

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Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Manufacturing Supervisors</b>
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	Associate Degree/certificate; Non-credit program offered at various times based on need and request; Apprenticeship Certification is also available based on company interest
Credential Provider	<i>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.</i>	Middlesex, Northern Essex, and North Shore Community Colleges provide various certificates and AS degrees in business and skills needed in business; Non-credit programs providing training through the WTFP direct access program. Apprenticeship Related Instruction currently being done by Middlesex Community College for this occupation. Not clear on numbers receiving credentials in this area
Integrated/ Accelerated	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?</i>	Traditional educational experience at this point
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Traditional classroom structure for credit programs; non-credit training in a workshop setting; Apprenticeship course offered at companies
Pell-eligible?	<i>Is the program Pell-eligible?</i>	Credit programs only
Fee?	<i>What are the fees?</i>	Community College tuition rates for credit programs; non-credit programs currently funded through grants. Sustainability is an issue with this program.
Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	Employers accept community college associate degree and credit certificate; non-credit providing training customized to the employer specifications.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	College credit programs articulates to bachelor degree Non-credit program may be eligible for Prior Learning Credit should the student matriculate to credit program.
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	Yes – college degrees recognized across state lines

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Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Both
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	Yes – we need to formalize a non-credit certificate program that can easily be taken by adult workers interested in, or in line for, promotion to supervisory positions. The MCC apprenticeship RI course could easily be expanded to be available to more adult learners.

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Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Assembly Production Workers/Machinists</b>
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	MACWIC/NIMs for machining ETA AC/DC Certification for Electronics Welding – in development Several apprenticeships being implemented and in development.
Credential Provider	<i>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.</i>	NSCC, NECC, and MCC LVTI, ET, GLVT, GLTHS, Shawsheen, Whittier E-Team
Integrated/ Accelerated	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?</i>	Learners matriculate through the Career Centers, which provide preparation support including math, reading, and other related skills
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Classes are held at community colleges and technical high schools. On-line courses are available for certain parts of remediation as well as include Tooling U. Classes also include in-depth company tours where students observe skills in operation and companies observe students for potential hires.
Pell-eligible?	<i>Is the program Pell-eligible?</i>	Only the for-credit Associate Degree mentioned above is Pell-eligible
Fee?	<i>What are the fees?</i>	The cost of these programs is approximately \$6,000 for education/training and is grant funded. Other costs include case management, and related program management. Currently these fees are covered by grants and are at no cost to companies or students. Sustainability is a priority for this effort.
Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	Yes – we provide the credentials that the companies request.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	We are working with the community colleges to obtain college credit for prior learning for those graduates who matriculate into the Associate Degree programs.

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Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	The NIMS and the Electronics credentials are portable across states.
Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Primarily non-credit. Associate Degree is credit bearing.
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	The new welding effort is a reflection of a response to an emerging skill gap challenge

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Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Inspectors/Testers/QC</b>
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	ASQ: CQT, CQI, CQPA, CSSYB Also Yellow belt credentialing
Credential Provider	<i>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.</i>	NSCC, NECC, MCC, running course through 2020 through Tech Hire Grant – approximately 10 cycles over three years, with 12 people in each cycle.
Integrated/ Accelerated	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?</i>	This is a 6 week program that is classroom based. Career Centers provide remediation support prior to entrance.
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Classroom based with some online portions
Pell-eligible?	<i>Is the program Pell-eligible?</i>	No – although possible credit for prior learning should students chose to enroll in for-credit programs.
Fee?	<i>What are the fees?</i>	The cost of this program is approximately \$2500 per student, Currently, these is no charge to students as grant funding is available. Sustainability is an issue for this program.
Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	Yes – this is a relatively new program but local employers have provided validation for credentials included above.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	No – but again can be used as credit for prior learning should student matriculate into degree programs
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	Yes – these are national certificates
Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Non- credit until matriculation into credit programs
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	Many companies express a need for this credential. The challenge is that those with manufacturing experience generally do better in this area – in fact some of the



**REGIONAL PLANNING BLUEPRINT - NORTHEAST**

		credentials require this experience. Like any new area, these skills and the training required to learn them requires continual evaluation through each course cycle.
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## REGIONAL PLANNING BLUEPRINT - NORTHEAST

Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Medical Secretary 43-6013</b> <b>Medical &amp; Health Services Managers – 11-1911</b>
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	<b>Medical Secretary</b> <ul style="list-style-type: none"> <li>• In ONet Online – Education level required survey shows 41% have some college, no degree; 37% have HSD or equivalent; 20% have a post-secondary certificate.</li> <li>• A specific credential is not required, however, education listed below is recommended.</li> </ul> <b>Medical &amp; Health Services Managers</b> <ul style="list-style-type: none"> <li>• Associates in Health Care Administration</li> <li>• Bachelors in Health Care Administration</li> </ul>
Credential Provider	<i>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.</i>	<b>Medical Secretary</b> NECC – Medical Office Assistant Certificate (mostly online; internship) NSCC – Medical Office Support Certificate MSCC Medical Billing & Coding Certificate <b>Medical &amp; Health Services Managers</b> MSCC – Associates in Health Care Admin. (classroom & internship; some classes may be online) NSCC- Medical Administrative Assistant – Associates (classroom with hands on work experience) NECC Associates in Business Management: Healthcare Practice (classroom) UML – MS in Health Informatics and Management
	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how do basic learners matriculate?</i>	Some programs are integrated with a work experience. None are accelerated for adult learners; basic learners cannot matriculate.
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Most programs include classroom and hands-on work experience – i.e. internship – some classes online.
Pell-eligible?	<i>Is the program Pell-eligible?</i>	All are Pell eligible.
Fee?	<i>What are the fees?</i>	NECC tuition and fees are typical of all 3 community colleges. NECC: Tuition & Fees = \$202/credit. Certificates – about 20 credits; Associates Degree = about 60-64 credits. Bachelors about 125 credits.

## REGIONAL PLANNING BLUEPRINT - NORTHEAST

Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	They accept these credentials.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	Yes.
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	Yes
Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Credit and non-credit
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	Sufficient training exists – although it appears that a BA in Healthcare Management is lacking in the region.

## REGIONAL PLANNING BLUEPRINT - NORTHEAST

Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Certified Nurse Assistant (CNA) 31-1014</b>
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	Pass state-approved program and then obtain certification by passing DPH exam. Certification needs renewal every two years. CPR, First Aid and AED certification.
Credential Provider	<i>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.</i>	<ul style="list-style-type: none"> <li>- Notre Dame Education Center, 51</li> <li>- LARE Institute, 1</li> <li>- Northern Essex Community College - #</li> <li>- Northshore Community College, 92</li> <li>- Middlesex Community College, 17</li> <li>- NATA, Inc., 8</li> <li>- Training Unlimited, 3</li> <li>- -American Red Cross – 15 (estimate?)</li> </ul>
Integrated/ Accelerated	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how to basic learners matriculate?</i>	Yes. The training is Integrated with work experience.
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Combination of classroom and hands-on experience.
Pell-eligible?	<i>Is the program Pell-eligible?</i>	Yes sometimes – depends on the institution where the course is taken.
Fee?	<i>What are the fees?</i>	Programs range from \$3-5K and includes tuition, materials and exam certification fees.
Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	Yes, employers require all CNA's to have state certification.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	Yes. You can get pursue an associate's degree in health sciences and continue for a BS in Nursing, Health Care Admin., Public Health, Pharmaceutical, etc.
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	Many states have 'reciprocity' and one may transfer the certification. Every state is different.
Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Community colleges may offer college credits.
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	Sufficient training is available. The problem is the turnover rate with employers. Wage is so low CNAs don't remain in jobs.

## REGIONAL PLANNING BLUEPRINT - NORTHEAST

Occupation	<i>List the occupation the credential is for, including the SOC code.</i>	<b>Registered Nurse</b> (LPN = Licensed Practical Nurse / LVN = Licensed Vocational Nurse)SOC Code: 29-2061 (ADN = Associates Degree in Nursing) SOC: 29-1141 (BSN= Bachelor’s Degree in Nursing) SOC: 29-1141
Type of Credential & Title of Credential	<i>List the type of credential (e.g. Certificate, Degree, Certification, License, or Apprenticeship Certification)</i>	<ul style="list-style-type: none"> <li>• For LPN / LVN –Diploma</li> <li>• For ADN – Associate’s Degree</li> <li>• For BSN – Bachelor’s Degree</li> <li>• For LPN / LVN need to take the NCSBN NCLEX-PN exam.</li> <li>• For AND &amp; BSN – must pass NCSBN (National Council of State Boards of Nursing) NCLEX (National Council Licensure Exam) exam</li> <li>• Also must meet licensure requirements outlined by the Commonwealth of MA Board of Registration in Nursing.</li> <li>• All nursing programs have been approved by the MA Board of Registration in Nursing.</li> </ul>
Credential Provider	<i>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.</i>	LPN – Northern Essex Community College (NECC) – 19 grads in ’16; Middlesex and North Shore CCs as well. ADN – NECC – 46 grads in ’16; Middlesex and North Shore CCs also. BSN – Regis College at NECC UMass Lowell NSCC RN to Salem State University BSN
	<i>Is the training integrated with work experience and/or accelerated for adult learners? If no, how do basic learners matriculate?</i>	<ul style="list-style-type: none"> <li>• Not integrated with work experience or accelerated for adult learners. HSD or equivalency needed to enter programs.</li> <li>• NECC, MSCC, NSCC all have an accelerated LPN to RN offering.</li> </ul>
Online/ Classroom/ Work-based	<i>Describe education environment and instructional methods.</i>	Working toward any of the nurse credentials includes classroom, lab, and clinical work. NECC & NSCC have day options only. MSCC has part time/evening and day options. None of the programs are done online.
Pell-eligible?	<i>Is the program Pell-eligible?</i>	All are Pell eligible.
Fee?	<i>What are the fees?</i>	NECC tuition and fees are typical of all 3 community colleges.

## REGIONAL PLANNING BLUEPRINT - NORTHEAST

		NECC: Tuition & Fees = \$202/credit. LPN Certificate – 47 credits; Associates Degree = about 72 credits. Bachelors about 145 credits. Additional fees - all programs max. fees: Prior to program – up to \$200; during – approx.. \$1,500; After – Exam fee and state license application – about \$450.
Employer-validated?	<i>Do local employers validate the credential? If so, describe.</i>	They accept these credentials.
Stackable?	<i>Is the credential stackable with other certificates? If so, describe.</i>	Yes. All nursing certificates and degrees stack.
Portable?	<i>Are the credentials portable to other states/ industries? If so, describe.</i>	The exams are taken only once, but the license must be re-applied for in the state where the individual will work. Some states have joined the Nurse Licensure Compact so it's not necessary to re-apply.
Credit/ Non-Credit?	<i>Are they credit or non-credit?</i>	Credit
Gaps?	<i>Are there gaps in the pipeline for this occupation that require new strategies in the blueprint?</i>	Greater training / education capacity is needed in the region for all nursing professions.

## Attachment B

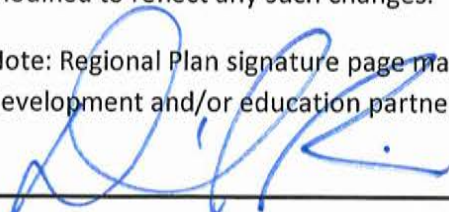
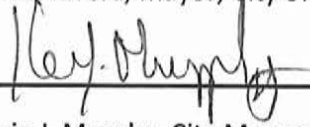

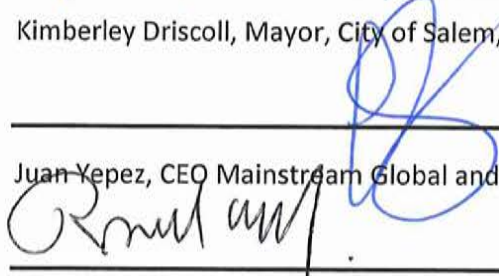
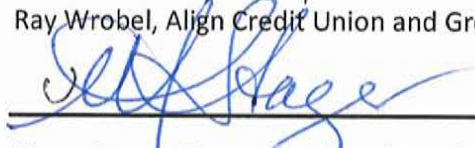
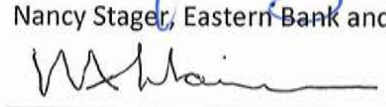
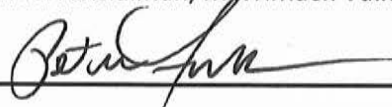
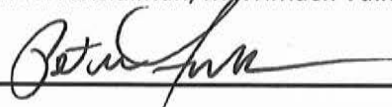
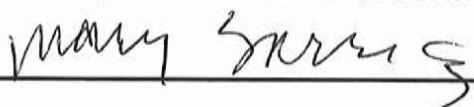
Northeast Region - Workforce Development Blueprint				
	Goal	Timeframe	Strategies	Lead
Foundational - All Industries	1. Increase understanding of the region's economic development, workforce development, and education services resources through completion of first annual resource inventory focused on priority industries	2018	a. Using workforce development, economic development, and educational partners – create an inventory of existing resources for employers and job seekers. Compare inventory needs of priority and critical industries and occupations.	Joint
			b. Identify any areas of duplication, gaps, or needs for adjustments to better meet needs.	Joint
			c. Review annually to make changes.	Joint
	2. Additional awareness of the Northeast Regional Planning Team's efforts by increasing the distribution list by 50%.	2020	a. Issue 1 press release announcing the new name of the Northeast Regional Planning Team and connect with media 10 other times including state of the art communication techniques.	Joint
			b. Distribute 6 e-newsletters per year with articles from all partners.	Joint
			c. Host 1 regional Economic Summit in the region to help strengthen the bond between the three core partners and establish culture of collaboration.	Joint
			d. Prepare 1 annual report highlighting success and coordinated efforts.	Joint
	3. Prepare annual evaluation dashboard.	2020	a. Advise the State in establishing and providing data for a dashboard. Identify key data points and sources and establish regular data reporting times from all partners.	Joint
			b. Publish and promote the complete dashboard through distribution list, press, and social media.	Joint
Industry Specific	4. Increase participation in the NAMC cross-region sector initiative by 100 students and 10 industry participants.	2018	a. Host semi-annual open house to invite students, teachers, parents, and others to better understand program.	EDU
			b. Conduct outreach to manufacturing sector employers to gauge interest in participating.	ED
			c. Promote manufacturing as a career opportunity through press release and a targeted media campaign.	WD
	5. Increase number of completions in priority occupations by 1% or 100 persons per year	2020	a. Conduct review of training capacity and faculty at all levels to ensure needs of students and needs of teachers are being met.	EDU
			b. Outline career pathway(s) for each of the priority occupations.	WD
			c. Identify any gap in training and establish programs to fill for targeted occupations. Increase work-based learning by 10%	WD
			d. Apply for 2 new funding sources for programs and initiatives that target priority industries and occupations.	WD
	6. Establish a second industry sector initiative and targeted training to serve the industry sector.	2020	e. Create 1 new training program geared towards the priority occupations.	WD
			f. Create streamlined pathways into priority occupations that allow high school students (through Early College) and adult learners to earn credit towards Associates degree that can then be applied towards certificate programs and Bachelor's degree.	WD
			g. Obtain funding of at least one training activity through organizations and companies to support completions in priority occupations.	ED
7. Positive movement in the total job numbers for priority industries.	2022	a. Establish evaluation criteria and reporting schedule for all programs and sector initiatives	WD	
		b. Focus attraction and retention efforts on priority industries	ED	
8. Continue increasing number of completions in priority occupations by 1% or 100 persons per year.	2022	c. Work with high schools and community colleges to bring work readiness training into the curriculum including resume writing, career exploration, good work habits, communication, and problem solving skills.	EDU	
		d. Establish a task force charged with assessing and tracking emerging industry and occupation trends that may dramatically impact the "future of work" in the Northeast region. Consider impact on the priority industries as part of annual planning process. (Begin meeting in 2018 with regular updates to the larger group)	ED	

Attachment F: Regional Planning Blueprint Signature Page

Pursuant to WIOA Sec. 106(c)(1) and (2) the undersigned submit and support the Regional Planning Blueprint and assure that the plan will be implemented as submitted, in order to meet the goals of the WSC's regional planning initiative.

Local Plan priorities and/or activities may change as a result of regional strategies developed through the regional planning process, and contained in the Regional Planning Blueprint. Local plans will be modified to reflect any such changes.

Note: Regional Plan signature page may include additional signatures; for example, economic development and/or education partners, or others as deemed appropriate by each region.

 _____	3/28/18
Daniel Rivera, Mayor, City of Lawrence, Chief Elected Official	Date
 _____	3/27/18
Kevin J. Murphy, City Manager, City of Lowell, Chief Elected Official	Date
 _____	3/28/18
Kimberley Driscoll, Mayor, City of Salem, Chief Elected Official	Date
 _____	3-28-18
Juan Yepez, CEO Mainstream Global and Acting Merrimack Valley WIB Chair	Date
 _____	3/26/18
Ray Wrobel, Align Credit Union and Greater Lowell WDB Chair	Date
 _____	3/30/18
Nancy Stager, Eastern Bank and North Shore WIB Chair	Date
 _____	3/28/18
Rafael Abislaiman, Merrimack Valley WIB, Executive Director	Date
 _____	3/26/18
Peter Farkas, Greater Lowell WDB, Executive Director	Date
 _____	3/29/18
Mary Sarris, North Shore WIB, Executive Director	Date