

PLEASE SEND INQUIRIES TO:

Kevin Coughlin

MASSHIRE GREATER LOWELL WORKFORCE BOARD

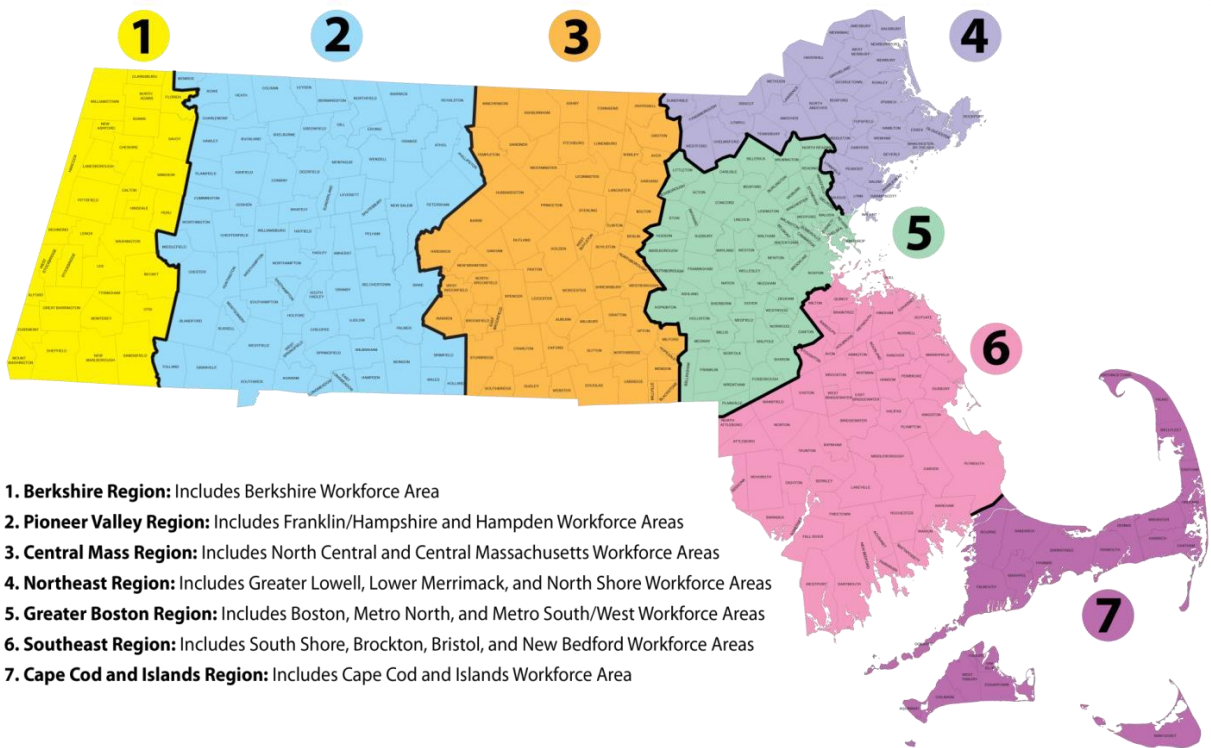
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INTRODUCTION

The Regional Workforce Skills Planning Initiative was launched in April 2017 with the aim of fostering strategic alignment between state and local programs, policies and resources to fuel job growth and address employer demand for talent across the Commonwealth.

The original Regional Labor Market Blueprints—developed through a comprehensive year-long planning process that involved local, regional, and state leadership from workforce development, education, and economic development, and input from business and community stakeholders—reflected a collective understanding of regional priorities and strategy for investments in seven regions across the Commonwealth: Berkshire, Pioneer Valley, Central, Southeast, Cape, Greater Boston, and Northeast.

In order to promote a better understanding of the current and projected needs of the workforce system, a second round of regional labor market data packages was released in 2019.



I. Where are we now?

Describe the current state of your region, including a summary of regional industry and occupational priorities, demographic shifts, and gaps between employer demand and employee supply.

Priority Industries and Occupations

The three priority industries in the Northeast region remain:

Industry	NAIC Code
Advanced Manufacturing	31-33
Health Care & Social Assistance	62
Professional, Scientific, & Technical/IT*	54

* IT occupations cross industry sectors.

The following occupational groups within the priority industries include:

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.
- **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/Information Technology

- **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.

Advanced 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.

- **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.

Regional Context

Are there any new demographic, labor pool or talent pipeline considerations that will have an impact on labor supply in your region?

As of May 2019, the total population for the Northeast is 595,687. According to the Bureau of Labor Statistics 576,710 were employed and 18,977 were unemployed. There are fewer unemployed workers in the Northeast as of May 2019 than the prior year. The overall labor force has also increased by about 5,000, as some people who previously were no longer looking for work have returned to the labor market and are having success finding employment.

The Northeast's median annual wage has increased since 2015 and is the second highest of any region in the State after Greater Boston. The median wage was \$42,225 in 2015 and it is \$45,698 in 2018. (*DUA/Occupational Employment Statistics, 2018 Wages*).

The educational requirements for employment are projected to remain the same having the same shares of jobs that require BA+ (29%); AS, Cert. or Some College (12%), and HS or Below (59%) in 2026 as in 2016. (*Bureau of Labor Statistics, Occupational Employment Statistics, 2026 Projections*).

Have there been any developments related to business and industry that will have an impact on workforce demand in your region?

In general, the COVID-19 crisis has brought havoc to our economy, with unimaginable impacts on companies and workers in our area. While the impact on Manufacturing and IT have been reasonably small – about 6% of new UI claims have come from these industries, Healthcare has not fared as well – representing about 17% off all UI claimants. Healthcare providers furloughed workers who are not involved with COVID care. In addition, as we know, the retail and food service industries has been devastated. We cannot underscore enough this crisis and the need for systemic support of the workforce system so we can provide re-training to workers who are not able to return to their original positions

Healthcare and Social Assistance is the largest industry in the Northeast. Manufacturing is the second largest industry and has seen some small employment growth since 2016. However, manufacturing paid the highest total wages in in the Northeast in 2018 and grew by 3% since 2016. Health Care & Social Assistance and & Technical Services follow with the next highest total wages paid in 2018 in the region. (*Department of Unemployment Assistance/Bureau of Labor Statistics Quarterly Census of Employment and Wages, Q3 2016 – 2018*).

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The number of Manufacturing establishments in the Northeast has remained fairly stable since 2016. In the last year, Raytheon was the employer with the highest number of job postings in the Northeast (1,133), followed by ZOLL Medical Corporation (502), General Electric (452) and Pfizer (413). (*Burning Glass 2019*). 34% of workers in Manufacturing in the Northeast have a high school diploma or less. 27% of workers in Manufacturing have some college or an Associate Degree and 34% have a bachelor's degree or higher. This educational attainment mix has been relatively stable since 2015.

(*US Census Longitudinal Employer-Household Dynamics: Quarterly Workforce Indicators, Q2 2015 – 2018*).

Manufacturing workers in the Northeast are predominantly male. Females make up about 30% (18,381) of workers in Manufacturing in the region. Approximately 47,822 people, 80% of all Manufacturing workers in the Northeast are White, although the percentage of non-white workers has increased since 2015. 2,686 of the manufacturing workforce are Black or African American, 7,500 are Asian, and 1,406 are other. (*US Census Longitudinal Employer-Household Dynamics: Quarterly Workforce Indicators, Q2 2018*).

More than 2,000 Health Care and Social Assistance establishments were added in the Northeast between 2016 and 2018, driven primarily by the increase in Individual and Family Services. Over the last 12 months, Lahey Health posted the most jobs in the Northeast, with 1,409, followed by Beverly Hospital, a subsidiary of Lahey Health, with 1,251. (*Burning Glass 2019*). Nearly 60% of workers in Healthcare and Social Assistance have some college or higher level of education in the Northeast.

(*US Census Longitudinal Employer-Household Dynamics: Quarterly Workforce Indicators, Q2 2015 – 2018*).

There are far more women than men working in Healthcare and Social Assistance, overall. 67,755 people in the healthcare workforce are female and 18,833 are male. While nearly 80% of workers in the Healthcare and Social Assistance sector are white in the Northeast, since 2015, growth in employment has been increasing for Black or African American, Asian, and Hispanic or Latino populations. 67,118 people in the workforce are White (1% increase from 2015), 11,832 Black or African American (16% increase), 4,920 (26% increase), and 2,717 Other. (*US Census Longitudinal Employer-Household Dynamics: Quarterly Workforce Indicators, Q2 2018*).

The Northeast is home to more than 3,500 establishments in the Professional and Technical Services sector, which includes computer systems design, legal, management and technical consulting, and accounting and bookkeeping services. In the last year, H&R Block had the most job postings in the Northeast with 246, followed by AECOM Technology Corp. (145) and Lantheus Medical Imaging (141). (*DUA/BLS Quarterly Census of Employment and Wages, Q3 2016 – 2018*). Nearly 50% of workers in the Professional and Technical Services sector in the Northeast have a bachelor's degree or higher, while nearly 25% have some college or an Associate degree. (*US Census Longitudinal Employer-Household Dynamics: Quarterly Workforce Indicators, Q2 2015 – 2018*).

More than 85% percent of workers in the Professional and Technical Services Sector in the Northeast are white, although the number of workers of other races is increasing. With 3,036 employees, Asian workers now make up 10% of industry employment. (*US Census Longitudinal Employer-Household Dynamics: Quarterly Workforce Indicators, Q2 2018*).

II. How are we doing?

Focusing Resources

Resource Acquisition

Advanced Manufacturing

Northeast Advanced Manufacturing Consortium (NAMC) is partnership including industry, academia, and workforce development established to promote sustained support for manufacturing within the Northeast. It includes 4 workforce development boards and their career centers, 4 community colleges, and 11 vocational & comprehensive high schools. Jointly, NAMC has received several grants to support advanced manufacturing in the region.

- **GE Foundation**. The region has received a multi-year grant designed to firmly establish dependable, on-going adult manufacturing training capacity with an initial focus on the North Shore section of the region. In addition to funding training slots in three of our vocational tech schools, the Advanced Manufacturing Training Expansion Program (AMTEP) provides academic support through North Shore Community College to enhance the pipeline of trainees, evaluation funding to learn what is working best in the region, and help with building a pool of teachers available for current and future cycles. The funding will also provide marketing support around manufacturing to ensure that the high school manufacturing slots are fully enrolled across the region. GEF funding will gradually be reduced during this term of this grant, as the Northeast Team, along with our partners in the Metro North region, build other sources of funding for this effort.
- **Apprenticeship Grants**. The region, through the MassHire North Shore Board, has secured state & federal funding to support the workforce development system in developing registered apprenticeships for manufacturers. To date, there are 170 registered apprenticeships in manufacturing.
- **Re-Entry Grant**. MassHire Greater Lowell Workforce Board received a planning & implementation grant from Commonwealth Corporation to train returning citizens from the Middlesex House of Correction and Jail as machine operators at Shawsheen Valley Technical High School. Unfortunately, the program was postponed due to COVID-19.
- **Executive Office of Housing & Economic Development (EOHED)**. NAMC, through the MassHire Metro North Workforce Board, has received funding the last several years to train under and unemployed in welding, machining, and electronic assembly. The training occurs throughout the Northeast at the region's vocational technical high schools. The MassHire Career Centers provide assessment, case management, and job placement services.
- **TRAIN Grant**. Middlesex Community College in collaboration with Shawsheen Valley Technical High School provided training for up to 20 long-term unemployed, underemployed, and new to the workforce participants in electronic assembly. The MassHire Lowell Career Center assisted with recruitment, assessment, case management, and job placement assistance.

Information Technology/Professional, Scientific, & Technical

- **North Shore Community College** has secured several grants to provide IT training, including help desk, CompTIA, and other skills to residents. The MassHire North Shore Career Center recruited trainees for these programs and provided career coaching and placement assistance
- **MassHire Merrimack Valley Workforce Board (MMVWB)** has applied for a WCTF grant to support adults receive IT training including CompTIA certification.
- **MassHire Merrimack Valley Workforce Board** partnered with an area non-profit and Greater Lawrence Technical School to secure funding through EOHEd's Urban Agenda Grant Program. The grant allowed the team to support parents of Lawrence Public School students access IT training.

Healthcare and Social Assistance

- **North Shore Community College** has also applied for federal dollars for Community Health Worker/ Recovery Coach through the HRSA-Opioid Impacted Support Training Grant, which will include apprenticeship training that NAMC and the career centers will support.
- **MassHire Merrimack Valley Workforce Board** participated in a joint U.S Department of Labor grant application with the State and Franklin Hampshire to support the individuals impacted by the opioid crisis. Training opportunities to include health worker, recovery coach, paramedic & EMT.
- **Healthcare Workforce Hub Initiative.** The region, through the MassHire North Shore Board, has applied for a planning grant through Commonwealth Corporation. If funded, led by the workforce boards, in phase one will involve convening healthcare providers to discuss and determine existing and emerging healthcare workforce challenges. Phase two involves partnership/management and program implementation for up to 2 ½ years.
- **Year-round YouthWorks.** Two rounds of CNA & home health aide training for low-income youth, ages 16-21 years old at Greater Lowell Technical High School.
- **National Health Emergency Dislocated Worker.** U.S. Department of Labor through the Massachusetts Executive Office of Labor and Workforce Development (EOLWD) awarded the MassHire Greater Lowell Workforce Board a \$2.4M grant to support job seekers dislocated from the workforce due to the opioid crisis. Job seekers attended training for the following occupations: addiction recovery counselors, recovery coaches, community health workers, and more.
- **Pharmacy Technician Training.** Greater Lowell Technical High School received a Career & Technical Implementation Grant to train approximately 40 unemployed participants.
- **Medical Assisting Training.** Middlesex Community College received a WCTF grant to train two cohorts of medical assistants. The MassHire Lowell Career Center supported the program with assessment, case management, and job placement.

Resource Allocation

The MassHire North Shore Workforce Board has revised their individual training account (ITA) policy to support only training in the priority and critical industries. In addition, the MassHire North Shore Career

Center has continued their policy of ensuring that the career center is organized by priority industries to guarantee the industries are receiving the proper attention.

The MassHire Greater Lowell Workforce Board has re-allocated a portion of its WIOA out-of-school youth funding for training dedicated specifically to the priority industries and occupations.

For the Connecting Activities and YouthWorks programming, there is a strong emphasis on placing youth at subsidized and unsubsidized work-based learning experiences.

Expanding Pipelines

Pipeline Expansion

NOTE – many of the grants awarded to the region under Resource Acquisition also fall under Pipeline Expansion.

Advanced Manufacturing

The General Electronic Foundation grant greatly increases the number and frequency of adult training slots in manufacturing. The slot levels have increased from 60 slots per year to between 150 – 200 per year. NAMC and the workforce boards have also supported the vocational technical schools’ applications for “After Dark” programming for comprehensive high school students.

Information Technology/Professional, Scientific, & Technical

The community colleges have increased enrollments in entry level IT programs, particularly in the networking and customer support activities.

Innovation Pathway Designations The region’s three workforce boards have partnered with the following comprehensive high schools that have received the following Innovation Pathway designations through the Department of Elementary and Secondary Education.

District	Pathway Sector(s)	Designation Date
Danvers High School	Manufacturing; Information; Environmental & Life Science; Healthcare & Social Assistance; Business & Finance	Spring 2019
Haverhill High School	Healthcare & Social Assistance	Spring 2020
Lawrence High School	Healthcare & Social Assistance; Business & Finance	Spring 2020

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Lowell High School	Healthcare & Social Assistance; Environmental & Life Sciences	Spring 2019
Tewksbury Memorial High School	Manufacturing	Spring 2018

The workforce boards continue to partner with local school districts on new Innovation Pathway applications.

Pipeline Improvement

Advanced Manufacturing

The region’s apprenticeship programs allow for adults who enter careers at the lower levels of the career ladder to move up into high level positions such as Quality Tech, Cell Leader, and CNC Programmer.

Healthcare & Social Assistance

The HRSA OISD grant, if funded, will add several new training programs for community health workers and substance abuse coaches working in this relatively new and very critical industry subsector.

Skills Capital Grant Program Award Recipients

In FY’20, the region received over \$2.9M in Skills Capital grants in support of the region’s priority and critical occupations/occupations.

1. Danvers High School ----- \$150,000

Innovation Pathways: Information Technology and Manufacturing

Funding will purchase the installation of equipment to increase opportunities for students and to support Danvers High School to launch new Information Technology and Manufacturing Innovation Pathways. The funding will support new computer hardware to ensure our technical and college-level courses across the three sectors have the necessary technology to run industrybased software programs. Funding will leverage external funding, in professional development, training, and equipment provided by Project Lead the Way and MA STEMHub.

2. Essex North Shore Agricultural and Technical School District ----- \$499,995 Veterinary Science Program

Essex North Shore Agricultural and Technical School District grant will improve and expand Veterinary Science career and technical education opportunities to students on the North Shore and Cape Ann. The program will be expanded through a partnership with MSPCA Angell Animal Medical Center to become a functioning full-service veterinary hospital. Resources will support renovations in the current Veterinary Science laboratory and for the purchase of state-of-the-art large and small animal equipment students will find in the workplace.

3. Greater Lowell Technical High School ----- \$381,051

Health Science Expansion

The grant will support Greater Lowell Technical High School's expansion of Health Science Cluster of health assisting and medical assisting programs to meet the growing needs of the local industry. Additionally, the school provides a post-secondary practical nurse program. Funding will support the school to put in place patient simulation centers and patient care training stations to allow for increased enrollment. Additionally, funding will support the creation of a centralized equipment and materials center and upgrade several learning spaces with instructional equipment that will allow for better collaboration, the use of technology and credentialing of students.

4. Middlesex Community College ----- \$250,000

Dental Hygiene and Dental Assisting

The college's dental programs lead to a Dental Hygiene associate degree or a certificate in Dental Assisting. Dental Hygiene students gain the skills and knowledge to take National Dental Hygiene Board and Commission on Dental Competency Assessment (CDCA) examinations and provide quality dental-hygiene care in various settings. Dental Assisting graduates prepare for the Dental Assisting National Board exam and can perform clinical supportive procedures. The programs enroll nearly 80 students a year. Grant funds will fund updating to industry standards operatories in the Dental Hygiene Clinic as well as operatories in the Dental Assisting Clinic. Upgrades include patient chairs, stools, delivery units, dental lights, and cabinets.

5. Whittier Regional Vocational Technical High School ----- \$409,225 Heating, Ventilation, Air-Conditioning, and Refrigeration Program

The grant funding will provide Whittier Regional Vocational Technical High's Heating, Ventilation, Air-Conditioning, and Refrigeration program provide capabilities to prepare students on residential, commercial, and light commercial equipment and therefore will be able to increase the number of qualified technicians in our region. The program serving high school vocational students and postsecondary evening students will gain instructional training equipment related to gas heat, oil burner technologies, rooftop heating and cooling units, ice machines, refrigeration and freezers units, ductless high- efficiency heat pumps, and air conditioning systems.

6. North Shore Community College, Danvers ---- \$385,684 Healthcare

North Shore Community College is establishing a Funeral Services program within the Personal Services Pathway. The Associate of Applied Science Degree in Funeral Services responds to regional employer demand. The program will provide hands-on, project-based experiences for Funeral Service students and incumbent workers seeking additional training in the field. The proposed project will create a modern Funeral Services laboratory with situations and settings students will encounter when they participate in their field experiences and future careers at local funeral homes: consultation area, viewing room/chapel, a simulated embalming lab and mortuary lab. Lab equipment will include gurneys, embalming machines, instruments and supplies, mortuary model and table, and restorative supplies for the mortuary lab. The credential awarded are Associate degree and Type Six Licenses for Funeral Directors/Managers/Embalmers.

7. Northern Essex Community College, Haverhill -----\$185,136 Robotics and Automation Technology

Northern Essex Community College (NECC) will launch a new program in Robotics and Automation Technology in collaboration with Greater Lawrence Technical School and Lawrence High School. Machinists, production workers, quality control, programmers, inspectors, testers, and manufacturing supervisors are among the highest demand occupations cited by the Regional Labor Market Blueprint. The partnership will support adult workers as well as high school students enrolled in the engineering and Advanced Manufacturing vocational programs. Funding will support the purchase equipment Electronic Motor Controls, Fault Troubleshooting systems, Motor Braking System, PLC Motor Controls as well as Seimans Smart Factory Learning System, Haas Control Simulators.

8. Center for Manufacturing Technology (CMT) - \$311,131: The Center for Manufacturing Technology provides unemployed and underemployed individuals in Essex, Middlesex and Suffolk counties with industry-recognized credentials and meaningful employment outcomes. The grant will support the purchase and installation of equipment in the Introduction to General Machine Shop Practices, and Advanced Machining CNC Milling and Turning training programs. The new equipment will provide students with access to industry-standard mills, lathes, sheet metal equipment and machinist tool and inspection kits.

9. Danvers High School - \$205,000: The high school plans to launch a new Health Care Simulation and Training Center that will give students experience to practice care management skills needed to pursue a career in health care. Students will be prepared to become Certified Nursing Assistants (CNA), as well as enter a variety of degree or certification programs in health care at North Shore Community College.

10. Shawsheen Valley Technical School \$200,000: The school will outfit its newly approved Engineering Technology program with industry-standard equipment, including a variety of engineering training systems and 3D printers, to enable students to attain sought-after industry credentials. Students completing this program will be prepared to help engineers design, develop, test and manufacture industrial machinery, consumer products, and other equipment. Students graduating from this program are poised to pursue post-secondary education in engineering. The same equipment will help train unemployed and underemployed adults in the evening program, who upon completion can be employed as manufacturing technicians or advance their careers in related advanced manufacturing or engineering fields.

Shared Strategies

Continuous Communication

The Northeast regional planning team meet 3-4 times annually to discuss partnership building, grant development, sharing of best practices, and sharing of resources. At each of these meetings, the group discusses progress towards shared goals.

In addition, the Northeast Advanced Manufacturing Consortium (NAMC) meets quarterly to discuss the progress of the consortium including placement rates, gaps in service, and industry demands. The consortium is regularly updating curriculum and training content based off employer demand.

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

Appendix H includes the overall performance goals agreed upon by the Regional Planning team. These goals were discussed in several meetings leading up to a vote in our December 2019 meeting. Included are goals for workforce development, economic development, and education around our priority industries of healthcare, IT, and manufacturing.

Examples include increasing job postings at our Career Centers in these industries, increasing enrollments in relevant programs at our tech schools and colleges, and studying/increasing business permits for these industries.

III. Where do we want to go?

Priorities

We are ready to work with several health care companies in different subsectors on several programs, including HHA/CNA apprenticeships leading to nursing, housekeeping to clean tech to surgical tech pathway, and highly skilled schedulers with strong customer service skills. These and other ideas are being discussed and will become a reality through our new Health Care Hub planning grant.

Within advanced manufacturing, our regional goal is to continue the success of NAMC by pursuing state, federal, and private funding sources. This is a coordinated effort across the workforce boards, vocational technical high schools, and community colleges. New/enhanced areas of training will include robotics as well as photonics technicians, as part of the Mass Tech Collaborative new photonics initiative.

In IT, we hope to implement a Google IT Certification which includes customer service, networking, troubleshooting, security, and related skills. This new certification is being vetted by business and shows promise for entry-level employment through a primarily on-line learning environment.

Partnerships

Through the Healthcare Hub Planning grant, we envision developing a healthcare consortium to mirror the success of our advanced manufacturing consortium – NAMC. During the plan phase we will bring together three MassHire workforce regions North Shore, Merrimack Valley, and Greater Lowell Workforce Boards to establish an employer lead healthcare consortium that will assess and identify the current industry needs. This ‘demand driven’ consortium will ultimately ensure development of healthcare related training related programs for residents that meet the needs of the healthcare industry identified.

The Northeast Healthcare Hub (Hub) will recruit healthcare stakeholders including educators and employers representing acute care/outpatient services, long-term Care, community health, and home care services. A Business Leadership Team (BLT) will be developed comprising of healthcare employers interested and capable of providing quality direction and support to the Hub. The BLT will ensure that all curriculum developed and implemented meets the real-time needs of the Healthcare industry. In addition, there will be an Educational Leadership Team, comprised of community colleges and other training providers to respond to the ideas and concerns expressed by the Business Leadership Team, and to develop training responses as requested and required.

In order to identify current Healthcare industry needs members of the Hub will develop surveys and evaluation questions to disseminate to and interview healthcare employers. Evaluation will occur through surveying, one-on-one interviews, or focus groups. This data will be collected and analyzed along with quantitative data gathered through real-time labor market databases. The Hub will meet monthly to assess the data gathered, provide information on immediate industry needs, provide direction on how to meet these needs, and advice on how to determine training.

In addition, we hope to build a stronger understanding and a new consortium around IT once the Healthcare Hub is off the ground. This could involve a gathering of CIOs/CTOs from across the region, which would provide the basis upon which we move forward in this industry/occupation.

Employer Engagement

Employer engagement continues to be an integral part of the work of the Northeast region. This includes focus groups with employers with the priority and critical industries. As previously mentioned, the Healthcare Hub planning grant will heavily involve employer participation from acute care/outpatient services, long-term care, community health, and home care services. Their feedback and guidance will guide the region’s next steps.

Regarding manufacturing, NAMC is guided by the consortium’s business leadership team. The team is comprised of regional employers that communicate their workforce development, training, and overall business needs. NAMC pursues funding sources that will directly respond to their needs.

IV. Conclusion

Conclusion

We have found the regional planning process incredibly helpful on many levels and look forward to continuing this process. Our relationships with our economic development and education partners have strengthened through this work. Not only are these partners working with us on workforce issues – they have brought us in to help with economic development and education issues. The energy and commitment continue to grow with this work – we hope we can continue this well into the future.

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APPENDIX A. REGIONAL PLANNING TEAM ORGANIZATION

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Best Practice (BP) Documentation Tool	
<u>Best Practice Identification</u>	
Title	Pivoting to remote learning and back to lab learning in a time of global health crisis.
Strategic Alignment	Advanced manufacturing
Description	Our schools quickly moved to remote learning when the tech schools closed to the onset of COVID-19 to keep learning moving, then quickly moved back to lab learning as soon as opening was allowed. We have attached an evaluation of this work and have learned so much about maintaining program integrity and service to students during crises situations.
Results	Virtually all students were maintained, and we are waiting on job placement results now.
<u>Knowledge Management</u>	
Resources	Interested, creative, and committed teachers who care about the students and want the learning to continue.
Barriers	Some issues with technology but we were able to adjust/compensate through grant funding.
Timeline	Dedicated staff jumped right in and developed on-line learning curriculum and support.
Measurement	Our retention rates for students were very high – still be calculated – and working on job placements now.
Commentary	It's critical that we be able to make changes like this moving forward as we don't know what the future will bring. However, having made these types of changes once we should be able to make them quickly in the future. The commitment of instructors and related support staff, e.g., career center case managers and administrative staff, is critical.

APPENDIX C. BEST PRACTICE DOCUMENTATION (2 OF 3)

Best Practice (BP) Documentation Tool	
<u>Best Practice Identification</u>	
Title	Expanding the instructor pipeline
Strategic Alignment	The ongoing project is a concerted effort to increase the number of instructors available for adult manufacturing training programs.
Description	<ul style="list-style-type: none"> Candidates are recruited through area manufacturing companies – often current skilled employees or recently retired Candidates attend open houses at the tech schools to observe what happens in the classrooms and in the labs They then get the opportunity to “student teach” under the direction of experienced teachers Those who pass student teaching are provided with tuition to attend a community college course on how to become an adult education instructor They are then eligible to be hired for training cycles as they occur
Results	Despite the COVID interruptions, we have 4 additional instructors in the pipeline and anticipate repeating this program at least two to three times over the upcoming few years.
<u>Knowledge Management</u>	
Resources	<ul style="list-style-type: none"> Interested companies that help recruit potential teachers from their current or past workforce Helpful and committed schools that agree to have potential instructors in a “student teacher” mode. Funding to compensate potential teachers as they learn as well as funding to pay for the adult education course.
Barriers	COVID-19 postponed this program due to school closures. Now that schools are opened, we are starting the program again.
Timeline	The program entails about four months of recruitment and training before the instructors are ready to move into the instructor role.

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Measurement	Our goal is to have 10 – 15 additional instructors over the next 18 – 24 months. We now have 4 coming back to complete the project.
Commentary	The need for this project can't be underestimated –the time is now to take this challenge on.

APPENDIX C. BEST PRACTICE DOCUMENTATION (3 OF 3)

Best Practice (BP) Documentation Tool	
<u>Best Practice Identification</u>	
Title	Workforce Heat Mapping
Strategic Alignment	Manufacturing, healthcare, IT, and construction
Description	In collaboration with the Metropolitan Area Planning Council (MAPC), the region produced an interactive map that spatially visualize the concentrations of employees in healthcare, manufacturing, IT, and construction.
Results	Interactive map(s) that illustrate the relationships between worker/target population, career centers, and transit networks, as well as the availability of housing and average rental and homeownership prices to evaluate the comparative affordability of the region. Link to website/maps: bit.ly/MAPCJEDI
<u>Knowledge Management</u>	
Resources	Infrastructure and technical ability to develop the website/interactive maps
Barriers	No major barriers. The region contracted with MAPC to assist with the project
Timeline	Approximately 6 months.

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Measurement	The tool will assist partners in planning and understanding the local and regional connection between housing, transportation, and the employment.
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APPENDIX D. RESOURCE TRACKER

RESOURCE	APPLYING ENTITY	OCCUPATION	INDUSTRY	APPLICATION STATUS
GE Foundation	NAMC/North Shore WB	Machinists	Manufacturing	Awarded
EOHED	NAMC/Metro North WB	Production Occupations	Manufacturing	Awarded
Commonwealth Corporation – Re-Entry	MassHire Greater Lowell WB	Machinists	Manufacturing	Awarded
Dept of Higher Ed	Middlesex Community College	Electronic Assemblers	Manufacturing	Awarded
USDOE	North Shore Community College	Opioid Support	Healthcare	Applied
US Dept of Labor	State/Merrimack Valley/Franklin Hampshire	Opioid Support	Healthcare	Applied
Commonwealth Corporation – WCTF	MassHire Merrimack Valley WB	Medical Assistant	Healthcare	Awarded

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Commonwealth Corporation – Healthcare Hub	MassHire North Shore WB on behalf of the 3 WBs	Healthcare – all occupations	Healthcare	Applied
Commonwealth Corporation – Year-Round YouthWorks	MassHire Greater Lowell WB	Certified Nurse Assistants/Home Health Aides	Healthcare	Awarded
Career & Technical Implementation Grant	Greater Lowell Technical High School	Pharmacy Technicians	Healthcare	Awarded
Commonwealth Corporation – WCTF	Middlesex Community College	Medical Assistants	Healthcare	Awarded
US Dept of Labor	MassHire Greater Lowell WB	Various Healthcare Occupations	Healthcare	Awarded
Commonwealth Corporation - WCTF	Merrimack Valley WB	Help Desk/IT	IT	Applied
EOHED	Lawrence Community Works/GLTS/MMVWB	Help Desk/IT	IT	Awarded

APPENDIX E. PIPELINE CAPACITY TRACKER

PROGRAM	PROVIDER	OCCUPATION	INDUSTRY	CAPACITY CHANGE
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GE Foundation - AMTEP	NAMC/Essex Tech/LVTI/Gloucester High School/North Shore Community College	Machining	Manufacturing	150 – 200 seats per year
Innovation Pathways	Department of Elementary and Secondary Education	Various	Manufacturing, Healthcare, & IT	Increase high school student's exposure to priority occupations/industries

APPENDIX F. 2020 PROGRESS REPORT

GOAL	STRATEGY	PROGRESS
Increase additional awareness of the team's efforts by increasing the distribution list by 50%	Issue 1 press release & connect with media 10 times	<i>In Progress.</i>
	Distribute 6 newsletters per year with articles from all partners	
	Host regional Economic Summit	
	Prepare Annual Report highlighting success & coordinated efforts	
Prepare annual evaluation dashboard.	Advise the State in establishing & providing data for a dashboard. Identify key data points, sources, and establish regular data reporting times	<i>In Progress.</i> Working with the State on the implementation of "Workforce Connect"
	Publish & promote the complete dashboard through distribution list, press & social media.	
Increase # of completions in priority occupations by 1% or 100 persons per year	Conduct review training capacity and faculty at all levels to ensure needs of students and needs of teachers are being met	<i>In Progress.</i> Accomplishments: <ul style="list-style-type: none">- Shawsheen Valley Tech developed a new welding training
	Outline career pathway(s) for each priority occupation	

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<p>Establish a 2nd industry sector initiative and targeted training to serve industry</p>	<p>Identify any gap in training & establish programs to fill for targeted industries and occupations</p>	<p>program to response to industry demand.</p> <ul style="list-style-type: none"> - Middlesex Community College (MCC) & Nashoba Valley Tech have partnered on precision machining certificate program.
	<p>Apply for 2 new funding sources for programs and initiatives that target priority industries & occupations.</p>	
	<p>Create 1 new training program geared towards priority occupations</p>	
	<p>Create streamlined pathways into priority occupations that allow high school students & adult learners to earn credit</p>	
	<p>towards Associates degree that can be applied towards certificate programs & Bachelor's degree</p>	<ul style="list-style-type: none"> - MCC has developed an articulation agreement with the vocational tech schools for NAMC funded training. - - Obtained multipole funding sources for priority industries (see Appendix D) - - Through the Healthcare Hub grant, in FY'21 region plans on taking the next steps in developing a healthcare consortium
	<p>Obtain funding of at least one training activity through organizations & companies to support completions in priority occupations.</p>	

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APPENDIX H. SHARED MEASUREMENT TOOL

Shared Performance Measurement System Design			
	Standards/ Programming	Current Goal	Evidence of Progress
W O R K F O R C E D E V E L O P M E N T	Marketing	Additional awareness of the team’s efforts by increasing the distribution list, use of social media	Est system for tracking social media
	MOSES	Advise State in establishing & providing data for a dashboard. Identify key data points, sources, and establish regular data reports based on a biannual basis from all partners. Reports will be issued on June 30 th & December 31 st .	State begins work on dashboard by 6/30/20
	Sector Projects	Increase participation in NAMC cross-region sector initiative	100 additional students & 10 new companies involved
		Establish a 2 nd industry sector initiative from among priority industries and targeted training to serve the industry sector.	Collaborative for healthcare starts in FY’21
	Job Seeker Services	Increase number of completions in priority occupations	10 more completions by fiscal year
	Business Services	Increase job postings in priority industries	Increase postings by 5%
	Labor Market Research	Provide LMI to partners & stakeholders on a biannual basis. Identify relevant emerging industry & workforce trends.	LMI data released on 6/30 and 12/31.
E D U C A T	Marketing	Promote workforce dev programming to potential students. Refer interested students to MassHire Career Centers.	Enrollees increase by 3% - 5%
	Inventory	Share inventory of resources with regional planning team.	Inventory in use by team
	Curriculum Development	Actively participate in curriculum design for the second industry initiative.	New curriculum ready for piloting

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O R S	Increase number of students preparing for employment in priority industries	Track & report enrollments and graduates including placements where possible from programs relevant to priority industries.	Increase by annually by 5%
	Marketing	Promote region to outside for potential relocation or new establishment location.	# of permits pulled in priority industries year-to-year by 2%
	Inventory	Share inventory of resources with regional planning team.	Inventory includes reg. planning data
D E V	GIS Services	Provide GIS Mapping services to Regional Planning team on priority industries	Maps available to reg. planning team.

ADDENDUM – IMPACT OF COVID-19

1. How have your priority industries been impacted by COVID-19?

Analysis was completed using Burning Glass comparing top occupations, employers with the most job openings, and greatest skills in demand pre and post COVID-19. Data was pulled from 4/1/19 – 6/22/19 (pre COVID-19) and compared to data pulled 4/1/20 – 6/22/20 (post COVID-19) to get a snapshot in time on how COVID-19 has impacted our priority industries to date.

For the manufacturing industry the top five manufacturing occupations post COVID-19 are production workers, manufacturing/ production technician, software developer/engineer, electrical engineer, and manufacturing machine operator. Top five occupations remained similar pre COVID-19 and post COVID-10 with electrical engineer and manufacturing machine operator slightly more in need post COVID-19 changing from 6th and 9th on the list pre COVID-19. Top five employers with most job openings post COVID-19 are Raytheon (384 job postings), Pfizer (88), Lockheed Martin Corporation (73), ZOLL Medical Corporation (68), and Applied Materials (26). Top employers hiring was similar pre COVID-19 which were Raytheon (180 job postings), Zoll Medical Corporation (166), General Electric Company (164), Pfizer (113), and United Technologies Corporation (107). Lastly, top manufacturing skills in demand post COVID-19 are budgeting, scheduling, project management, quality assurance and control, and customer service. Top greatest skills in demand also remained relatively similar pre and post COVID-19.

For the IT industry the top five IT occupations post COVID-19 are software developer/engineer, computer support specialist, IT project manager, computer systems engineer/architect, and systems analyst. Occupations stayed similar pre and post COVID-19 except IT project manager is more in demand post COVID-19 being 9th on the list pre COVID-19. Top five employers with most job opening post COVID-19 are Leidos (13 job postings), Ebsco Industries (10), Mks Instruments (6), H&R Block (4), and Compass Systems & Programming (4). Pre COVID-19 top five employers with most job openings were Raytheon (53), Ebsco Industries (13), Infobahn Softworld Incorporated (12), NTT Data (11), and Kronos systems India Pvt Ltd (10). Lastly, top

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IT skills in demand post COVID-19 are software development, software engineering, project management, information technology industry knowledge, and Linux. Skills in greatest demand have changed a little, pre COVID-19 top five skills in demand included mechanical engineering, SQL, and technical support which are not in the top five post COVID-19.

For the healthcare industry the top five healthcare occupations post COVID-19 are registered nurse, caregiver/personal care aide, nursing assistant, home health aide, and physician. Top occupations pre COVID-19 included licensed practical/vocation nurse instead of home health aide which was 9th on the list. Top five employers with most job openings post COVID-19 are Connected Home Care LLC (327 job postings), North Shore Medical Center (129), Genesis Healthcare Corporation (122), Lahey Clinic (114), and Lowell General Hospital (107). Pre COVID-19 the top five employers with most job openings were Beverly Hospital (338), Lahey Clinic (213), Genesis Healthcare Corporation (192), Lowell General Hospital (178), and Fresenius (110). Lastly, top healthcare skills in demand post COVID-19 are patient care, caregiving, cardiopulmonary resuscitation, home care, scheduling. Pre COVID-19 home care skills was 8th on the list and caregiving was 6th.

2. At this time, what do you envision to be the top 3-5 priority occupations impacted by COVID-19?

Data was pulled to identify the top occupations April – June of 2019 (pre COVID-19) and April – June 2020 (post COVID-19). Laborers and Freight, Stock, and Material Movers, Handlers launched to the top of occupations in need post COVID-19 being 20th on the list pre COVID-19. Home Health Aides also have increased in demand moving to 9th on the list post COVID-19 from 37th on the list pre COVID-19. Stock Clerks moved up to 16th on the list from 73rd pre COVID-19, Production Workers moved up to 18th from 57th pre (COVID-19), and Critical Care nurses moved to 29th on the list from 99th on the list pre COVID-19.

3. What education/training programs in your region are still available and able to retrain the unemployed population for job openings in your region?

The region's three workforce boards are in constant communication with our local education and training providers, including the community colleges and universities about their fluid plans for providing training. In Greater Lowell, an education and training provider meeting was held in late June. All training providers will keep the board and career center up to date on their decisions to move to all virtual, all in-person, or a hybrid. At this time, most providers will be offering 100% remote services.

Many of the vocational technical high schools reopened for adult learners this summer. Those that have not yet opened, plan on opening in the fall. This ensures that adult students receive the much-needed hands-on learning prior to job placement. Our companies have indicated that this hands-on learning is critical to beginning employment.

4. What are the overall top 3 challenges you anticipate in FY21 facing in deploying training solutions?

Drastic Cuts in WIOA Formula Funds.

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In FY'21, the Northeast region's three workforce regions experienced the following WIOA reductions for Dislocated Worker and Adult formula funds:

	Adult	Dislocated Worker
Greater Lowell	(\$53,302) or -13.6%	(\$42,189) or -8.9%
Merrimack Valley	(\$183,026) or -26.6%	(\$19,951) or -2.8%
North Shore	(\$63,981) or -16.3%	(\$25,778) or -4.6%
Northeast Region Combined	(\$300,310) or -20.4%	(\$84,918) or -5.2%

Compared to FY'20, a reduction of \$385k in funding will result in fewer job-seekers attending occupational skill training through the one-stop career centers. Unfortunately, there has been a consistent in steady cut in federal funding for skills training since FY'16. For perspective, the Greater Lowell region has experienced a combined \$642k decrease in Adult, Dislocated Worker, Youth funding from FY'16 to FY'21. Similarly, the North Shore WB has lost over 50% of its WIOA allocation during this same time frame.

Given that WIOA requires a full-service career center (fixed costs) in each WB region, cuts of this proportion drastically effect the availability of training funds through WIOA. With a regional June unemployment rate of 19.0% there will not be enough funding to meet the demand for retraining and upskilling, without continued investment by the State of MA and the federal government.

Digital Divide - Access to Technology & Remote Learning

As training and education providers shift to combination of virtual/remote and in-person services, it is a challenge to ensure all jobseekers have access to the proper technology to provide technical and overall support to adult learners tackling remote learning. For lower income job seekers, the cost of technology may need to be built into the overall cost of programming.

Burnout Factor and Full Learning Experience

Another challenge is jobseekers may not receive the full learning experience if training programs are provided 100% virtually due to COVID-19. For certain training program, i.e. machining, a participant needs to be provided in-person instruction to be prepared to enter the workforce. It can also be difficult to keep trainees fully engaged through remote learning experiences.

5. What are the largest challenges that you anticipate jobseekers in your region will face in attempting to return to work?

The region will face the following challenges as jobseekers return to the workforce:

- **Day Care** --- as more industries and occupations shift temporarily and permanently to remote work, jobseekers will have to find day care options for their young children. In addition, if secondary schools do not return to a traditional classroom experience, parents who are returning to work will need to find childcare for their children that are attending school remotely. This could be extremely difficult for individuals that do not work in an industry or occupation that allows them to work remotely.

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- **Workplace Safety** – Ensuring the health and safety of the workforce is paramount across all industries. As people return to work, it will be vital employers maintain safe and healthy conditions for their employees.
- **Retraining/Upskilling** – Low earning, low educated individuals have been disproportionately impacted by the health crisis. The accommodation/food services & retail industries have experienced the highest number of layoffs – temporary and permanent. We expect in the coming months for there to be a strong demand for retraining.