

Where do we want to go?

Based on the data analysis and three facilitated discussions conducted for this study, this section identifies the industry and occupational priorities, vision, mission, and goals for Northeast Massachusetts.

Priority Industries & Occupations

TOP THREE REGIONAL WORKFORCE PRIORITY INDUSTRIES BY 2-DIGIT NAICS

1. Manufacturing (31-0000)
2. Health Care and Social Assistance (62-0000)
3. Professional, Scientific, and Technical Services (54-0000)

LIST OF NOTABLE INDUSTRIES BUT NOT PRIORITY INDUSTRIES

1. Clean Energy or Climate Tech industries (hybrid of industries)
2. Construction (23-0000)
3. Education (61-0000)

LIST 3-5 PRIORITY OCCUPATIONS OR OCCUPATIONAL GROUPS BY SOC CODE FROM THE “HIGH DEMAND” LIST

1. Software Developers (15-1252)
2. Industrial Machinery Mechanics (49-9041)
3. General and Operations Managers (11-1021)
4. Behavioral health occupations
 - a. Substance Abuse, Behavioral Disorder, and Mental Health Counselors (21-1018)
5. Nursing occupations (with emphasis on a nursing career pathway)
 - a. Nurse Practitioners (29-1171)
 - b. Registered Nurses (29-1141)
 - c. Licensed Practical and Licensed Vocational Nurses (29-2061)

LIST OF NOTABLE OCCUPATIONS BUT NOT PRIORITY OCCUPATIONS

1. Construction occupations (47-0000)
 - a. Carpenters (47-2031)
 - b. Electricians (47-2111)
 - c. Plumbers, Pipefitters, and Steamfitters (47-2152)

Assets

Northeast Massachusetts is well positioned as a location to grow the emerging sectors seen as priority areas for the Massachusetts economy, including healthcare and life sciences, advanced manufacturing, and climate tech (e.g., Salem Offshore Wind as well as clean energy technologies and equipment).

Northeast Massachusetts combines innovation, a foundation of businesses and suppliers, and educational and research resources to nourish the growth and competitiveness of these industries.

Northeast Massachusetts' proximity to Boston-Cambridge also presents complementary opportunities to attract workers and businesses from one of the world's premier innovation hubs by capitalizing on the region's comparatively lower costs of living and doing business combined with noteworthy quality of life attributes (e.g., outdoor recreation, history, cultural activities, sports, etc.). While Northeast Massachusetts has a number of enviable assets and a legacy for industry (e.g., in advanced manufacturing), workforce development efforts will need to be responsive to current labor force and demographic trends to further the region's dynamism, competitiveness, and economic growth.

ADVANCED MANUFACTURING

- Existing advanced manufacturing cluster and ecosystem – Northeast Massachusetts is a leader in a number of advanced industries, including semiconductor manufacturing equipment, medical devices, computer hardware and software, and aircraft engines. The region is also strong in fabricated metals businesses which are frequently secondary and tertiary suppliers to other industries like robotics, medical equipment, missiles, submarines, etc.
- Workforce training in advanced manufacturing in the region, notably in the North Shore is supported by the Advanced Manufacturing Training and Expansion Program (AMTEP), a project derived from the Northeast Advanced Manufacturing Consortium (NAMC) and funded by a grant from the GE Foundation and managed by the Essex County Community Foundation and Northshore MassHire.
- Advanced manufacturing in Northeast Massachusetts is further supported by universities and educational institutions, including UMass Lowell, community colleges, technical high schools, and employer partnerships. Numerous manufacturers are actively involved in outreach to schools in the region, provide internships, and work with area colleges and universities to develop and customize workforce training.

HEALTH CARE

- Universities and educational institutions – Northeast Massachusetts have four schools that provide the region with graduates in nursing – UMass Lowell, Endicott College, Merrimack College, and Salem State University. Two-year degrees in nursing are provided by the region's three community colleges – North Shore Community College, North Essex Community College, and Middlesex Community College. On the innovation side (and straddling both health care and advanced manufacturing), UMass Lowell houses the Massachusetts Medical Device Development Center (M2D2) that works to commercialize technologies that raise healthcare outcomes.

- Healthcare/Behavioral Health Hub Grants – both the MassHire North Shore and Greater Lowell Workforce Boards have received funding from the Commonwealth to support investments in collaborative efforts focused on addressing healthcare and behavioral health workforce needs. The funding will provide training and placement services for hundreds of underemployed and incumbent worker participants in a range of professions, including technicians, nursing, counseling, and addiction recovery among many others.

PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES

- An appreciable recent development for Northeast Massachusetts is the Lowell Innovation Network Corridor (“LINC”) situated in the East Campus area of UMass Lowell that will augment both the advanced manufacturing and professional, scientific, and technical services sectors. Cambridge-based Draper Labs plans to expand to the corridor, potentially bringing in hundreds of staff focused on applied research and engineering related to microelectronics. The combination of Draper, UMass Lowell, and the presence of a cluster of regional tech businesses will help further cement Northeast Massachusetts as an innovation hub. Leveraging this new development, from the standpoints of workforce and economic development, represents a strategic opportunity for the region.

CLIMATE TECH/CLEAN ENERGY/CONSTRUCTION

- Salem Offshore Wind Terminal - One of the premier upcoming clean tech projects in Northeast Massachusetts is the Salem Offshore Wind terminal. This project will transform existing infrastructure to create a deep-water port capable of constructing and installing floating offshore wind in the Gulf of Maine. Construction is expected to create over 120 new jobs prior to operations and sustain up to 200 new jobs during operation. The company behind the project plans to work with local high schools, colleges, and nonprofits to provide Global Offshore Wind training and other workforce development programs necessary for the Offshore Wind Terminal to be able to hire locally once completed. Trades jobs related to construction, including electricians, welders, crane operators, machinery technicians, etc. will need to be filled for this major project.
- Climate Tech is a priority industry in the Mass Leads Act - Massachusetts is in the midst of a long-term transition to clean energy, with hundreds of millions of dollars pledged (as part of the Mass Leads Act) to reach the goal of net-zero carbon emissions. Similar to the successful effort to grow the Massachusetts life sciences industry into a global leader, the new climate tech initiative also supported by funds to develop a climate tech workforce in the state, is aimed to propel Massachusetts as a national and world leader to compete in the emerging clean energy sector.

Vision, Mission, Goals, Strategies and Outcomes

Vision

Job seekers and businesses in Northeast Massachusetts benefit from efficient, effective, innovative, inclusive, and equitable workforce initiatives jointly planned by employers and public sector education, economic development, and workforce development.

Mission

A skilled, educated, and diverse 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 provides career pathways and opportunities for our residents while ensuring our region has the talent needed to sustain a strong, competitive, and innovative economy in critical industries.

Goals, Strategies, and Outcomes

With the priority industries of advanced manufacturing, health care, and professional, scientific, and technical services, the Northeast Massachusetts region seeks to create a strong regional economy with career pathways to satisfying, living wage jobs for its residents.

The region wants to tap new sources of labor to provide employers with workers while also matching those workers with good, quality jobs. Many of these quality jobs in critical industries have entry level positions that do not require a college degree, and the regional planning team wants to build strong career pathways for workers who do not have a college degree or students who do not intend to pursue a four-year bachelor’s degree at a college or university.

Some broad goals and key strategies include:

- Implement strategies to get people into the labor market
- Help to define growing career and competency pathways in critical industries with employers and educational institutions
- Increase awareness of career pathways and industries through a marketing campaign
- Develop more partnerships with employers across the critical industries.

Some key themes that emerged in the facilitated discussions related to the vision, mission, and goals for the Northeast Massachusetts region include the following:

1. Equity
2. Collaboration
3. Community Engagement
4. Flexibility

Strategies for Northeast Massachusetts are discussed below as they relate to the four key themes.

1. EQUITY Employers being more flexible with the workers they hire

As the workforce boards and programming work to engage more diverse candidates in the labor market, employers need to do their part and be more flexible in their hiring requirements. For example, they should not have inflated educational requirements in job postings (i.e., a very high percentage of postings in Northeast Massachusetts require a bachelor's degree or higher when they are not needed) and instead do skills-based hiring as there is a disadvantage in which populations have more advanced degrees.

A regional planning team member discussed how some employers will say they are desperate for workers, but then are very selective about who they hire and only want the workers who have two or three years (or more years) of experience. The planning team wants employers to be more flexible and hire workers if they meet basic skills requirements and then train them after they are hired. Similarly, concerning language skills, employers can hire workers with limited English who can either communicate with a bilingual supervisor or can take English classes upon hiring. Again, being flexible in hiring practices can increase equity, it just requires more early-stage investment in training on the employer side.

A regional planning team member suggested that there could even be a subsidy or incentive for employers to hire entry level employees that might require more training. There could be programs at the state or regional level to help support employers who are willing to take on workers with less experience.

Other regional planning team members talked about how employers should invest more in employee retention through strategies like developing career pathways within their organization. Then they can show entry level employees ways to upskill to move up in the organization and earn more income. This can help employers with retention while also helping employees with upward mobility.

Reducing barriers for potential new workers

Initiatives such as dual language training, technical courses offered in Spanish, and wrap-around support (e.g., case managers, jobs placement specialists, resume assistance, etc.) are gaining traction in Northeast Massachusetts, helping to reduce barriers and facilitating integration into the region's workforce. These types of efforts need to become more universal in consideration of the shifting demographics of Northeast Massachusetts.

“And of course, we need to treat those people with respect, for them to come to work, meaning to go to training, learn to speak English proficiently, and eventually make your way to work, they need help financially along the way. We provided stipends last year in a lot of our training programs for people who attend, but this year we don't have the money for it at this point. We're hopeful the state picks that up and brings that over but they need to get financial help to re-enter the labor market and that you know includes food, transportation, daycare, everything you can imagine to get them to go to training to get back to work.”

Transportation is also a key factor in engaging new workers such as immigrants. Many potential workers do not own a car or have access to a car and thus cannot get to training or work. Providing or supporting

transportation to employment and training is an important strategy to remove barriers to new worker populations.

2. COLLABORATION

In order to achieve the goals and vision for the region, the regional planning team believes collaborative and collective workforce strategies will be essential.

Increased employer partnerships in different industries

Many of the goals and the vision of the regional planning team could be improved with increased partnerships with employers across different industries. Several planning team members discussed the disconnect with employers. Some industries, like manufacturing, have more partnerships than others, however, there could be increased partnerships across all industries. Working with employers can help ensure that the workforce training in high schools, community colleges, colleges, and universities is aligned with business needs. This can also increase placement into jobs after graduation of training programs.

A regional planning team member indicated, “High schools, community colleges, universities are all educating the workforce but the relationships with industry partners aren’t always there: Relationship building is huge, and it isn’t always happening.”

The regional planning team had concerns about the disconnect between training programs and employers. While some training programs work directly with employers in building their curriculum, not all programs are like this, which can make finding employment after training can be more difficult. The programs that work directly with employers have high placement rates because they are training for exactly what the hiring companies need. Collaboration with employers is something the regional planning team wants to improve as a key component of Northeast Massachusetts workforce development strategies in coming years.

One regional planning team member suggested that training programs have dedicated staff to building these relationships and partnerships with employers. This could also be an opportunity to hire older workers who are already retired or about to retire and leverage their experience and industry knowledge.

Collaboration in applying for funding

There was a suggestion to have funding or incentives that encourage collaboration. One regional planning team member said:

“The great thing is we have all those parties, and they're super capable, and they can do all the work. The challenge is that they're not funded or incentivized to work together. So it'd be great if there's there was more funding to enable that and get the educators around the table to articulate how we truly build a seamless career pathway for the individual, not for the institution, but as optimized for the individual so that they can be recruited, trained, and employed as fast as possible into these many living wage jobs that are available.”

The region's many educational institutions are an asset, but they can be even stronger if they collaborate on strategies like career pathways. There are some existing partnerships between universities, colleges, technical schools, and employers. However, there could be increased collaboration and partnerships across different industries. The planning team member suggested a "backbone" organization to coordinate all of the different organizations and institutions with one mission and the same strategies. The workforce boards could potentially play this role as the backbone organization. A backbone organization is especially important with applying for funding. If there is funding that incentivizes collaboration, there needs to be one organizing entity.

3. COMMUNITY ENGAGEMENT

The regional planning team wants to continue to be responsive to the community's needs for both workers and employers. Community engagement can help with recruitment and can help to understand barriers to labor force participation and the workforce boards can design programs based on those needs. There was a suggestion for the workforce boards to have designated positions or liaisons for community engagement that are deeply involved with community organizations. The team wants to design programs that address the specific challenges that workers in the community are facing.

A regional planning team member noted that the career center has increased community engagement in terms of going out to recruit workers rather than waiting for them to come into the office. However, these initiatives require having designated staff for community outreach so there might be more resources needed to continue to increase engagement. These efforts, however, can be useful in understanding the needs of the community while also increasing awareness and recruitment.

Marketing and awareness campaign

The regional planning team discussed the need for marketing as a strategy to increase the awareness of career pathways in the community. In particular, for high school students but also for adult education as well. One regional planning team member commented that they need some type of "cool" marketing campaign to show the fun and good side of manufacturing jobs:

"The industries need to be involved in this. Something a lot cooler in terms of explaining what some of these industries are, manufacturing itself needs a "Got Milk" campaign - that there's upward mobility, that they're fun jobs, that there's very different elements of manufacturing. It's not your grandfather's manufacturing, it's not dirty."

Other regional team planning members discussed the lack of awareness among parents and high school students. They talked about how parents or counselors go to great lengths to review college options but provide little or no coverage on alternative career pathways like manufacturing or trades occupations. One planning team member said they think students should be learning of these pathways in elementary school so that there is increased awareness of pathways outside of going to a four-year college. Another planning team member specified that there is a need to show students how career pathways in manufacturing and trades can lead to longer-term economic prosperity without incurring tuition debt.

The regional planning team members want to market the career pathways in the critical industries to high school students and middle and elementary school students. This marketing would also be aimed at parents (including immigrant parents) who may not be aware of other opportunities for their children that do not include college. There could also be a separate marketing campaign for adults who are out of school but are unemployed or underemployed and unaware of these training opportunities and career paths.

One specific suggestion for marketing was to create detailed videos of jobs and training programs to show students the actual work that these programs entail. This could help because people often do not understand or are unable to readily visualize certain industries, so there is a need for general education of what industries exist and what they are. Another planning team member identified specific programs that could use increased awareness and education campaigns including advanced manufacturing, construction craft laborers, and marine technology.

4. FLEXIBILITY

Flexibility is an overarching theme that should be considered in all of the discussed strategies. Workforce needs are always evolving, and any workforce program needs to have some component of flexibility to adapt to change. For example, the regional planning team discussed nascent Artificial Intelligence (AI) technologies and how they might be able to anticipate changes in the workforce with new technological innovations.

Being adaptive to the future of work

The regional planning team emphasized the importance of being flexible or adaptable across many different aspects of workforce development. There have been changes to the workforce since COVID, and with a short labor supply, the employers need to adapt to the new working environment. One planning team member commented, “they can’t hire the way they used to hire.”

Another aspect that requires flexibility is workforce training itself, as it might need to respond to changing employer needs. A regional planning team member mentioned how the healthcare hub grant that they currently have is a three-year grant, but it’s broken up into three one-year chunks, so the grant programs can change over the course of the three-year term. They noted that this is important so they can be flexible with the types of training programs they are offering and who they are training.

Recommendations

In synopsis, the results of this analysis yield several high-level recommendations for Northeast Massachusetts to consider pursuing in coming years as they develop workforce programs and strategies.

1. Create workforce programs aimed at recruiting and adding to the skills of the Hispanic and immigrant population to expand the labor pool and increase labor force participation. There is an overrepresentation of Hispanic or Latino residents who are not in the labor force and lower educational attainment among this population. There should be more targeted programs for this population to remove barriers of entering the labor force such as language and transportation.

- a. Offer programs in multiple languages and encourage employers and training programs to hire or train non-English speakers, accommodating the different languages.
 - b. Provide transportation or incentives to employers to provide transportation to these populations to get them to workforce training and/or jobs.
 - c. Consider creating a workforce center that specializes in validating educational credentials of immigrants, providing ESOL programs, assisting with work permits, and helping find education and training programs.
 - d. Consider and support initiatives such as dual language training, technical courses offered in Spanish, and wrap-around support (e.g., case managers, jobs placement specialists, resume assistance, etc.) to facilitate integration into the workforce.
2. Increase awareness of career pathways in key industries (e.g., advanced manufacturing) and occupations (e.g., trades) in elementary, middle, and high schools, especially in comprehensive high schools.
 3. Engage retired or soon-to-be retired workers who have specific industry knowledge and can work part time jobs, assist with training, and pass on institutional knowledge. These workers can also be hired within workforce training programs to serve as liaisons with employers to help build relationships and increase collaboration.
 4. Increase partnerships with regional employers and encourage them to be more flexible in their hiring practices.
 5. Continue stipend programs as many people cannot take off work to attend training, even if the training is free. Free tuition income-based stipends and paid internships open up learning opportunities to a much wider range of the population, benefiting residents and employers.
 6. Support childcare initiatives, such as providing stipends for childcare, to help increase labor participation, particularly of the female population.
 7. Encourage multi-year grant terms for stability, continuity, and sustainability of workforce programs. The multi-year grants should also allow the workforce programs the flexibility to make modifications and adapt to the changing environment.
 8. Increase collaboration among workforce development partners. Strategic alliances among Northeast Massachusetts institutions, including a willingness to pool resources and expertise for mutual benefit, can be a force multiplier for the region by advancing workforce development. By formalizing connectivity between tech schools, community colleges, non-profits, workforce agencies, colleges, universities and businesses, Northeast Massachusetts can improve the effectiveness and encourage feedback loops of worker skills development, including training and matching residents with jobs.
 - a. Build on partnership opportunities like the potential shared campus model for Whittier

Regional Vocational Technical High School and Northern Essex Community College (NECC). The model has met with success elsewhere in the country and would enhance both vocational education and academic advancement, alongside workforce skill training. This type of partnership creates opportunities for new pathway programs to support the region's priority industries and expands the training capacity of the workforce training in the region.

9. Capitalize on UMass Lowell's LINC (Lowell Innovation Network Corridor) project for workforce opportunities. LINC is a transformative project that will be a catalyst for innovation, growth, and increased competitiveness for the Northeast Massachusetts region. Cambridge-based Draper is already planning to locate its microelectronics practice in LINC, bringing hundreds of jobs into the area. Following closely, Mass General Brigham will expand into LINC to collaborate with UMass Lowell on human performance (both cognitive and physical) research. These successes have transpired quickly even though the LINC initiative is still in its infancy. As the project gains momentum and recognition, LINC is expected to attract the attention of other employers and be a seedbed for startups. LINC also includes strengthening neighborhoods and the urban revitalization of a large swath of the city, which will generate jobs in other areas beyond tech, including in hospitality.
 - a. Workforce agencies, training providers, and educational institutions should coordinate with the LINC initiative to match workers with available jobs, develop curriculum reflective of LINC employer needs, and ensure structures are in place for immigrant and other communities to access and grow from the opportunities at LINC.

Methodology Notes

IPUMS USA

IPUMS USA (originally, the "Integrated Public Use Microdata Series") is a website and database providing access to over sixty integrated, high-precision samples of the American population drawn from sixteen federal censuses, from the American Community Surveys of 2000-present.

IPUMS USA supplies microdata, which means that it provides information about individual persons and households. This makes it possible for researchers to create tabulations tailored to their particular questions.

IPUMS data was used for some of the data in this report using Public Use Microdata Areas (PUMAs). The PUMAs in Northeast Massachusetts do not perfectly align with the 42 towns in the three workforce development areas, which was the region used for the majority of the report.

The IPUMS USA data used the PUMAs in the map below: