

WORKFORCE TRAINING AND DEVELOPMENT IN MASSACHUSETTS

Working Paper - MIT Open Learning Workforce Education Project

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EXECUTIVE SUMMARY

The Commonwealth of Massachusetts considers the development of an educated and skilled workforce as a central component of its overall responsibility to its citizens and business ecosystem. The workforce development system in Massachusetts is complex, consisting of a weave of initiatives, programs, and responsibilities collected over the course of successive political administrations and grafted together with a similarly byzantine collection of federally funded programs. This complexity is partly due to the scope of

the work itself, as developing the workforce encompasses a large number of programs dedicated towards vastly different sectors of the population. However, much is due to the residual build-up of government bureaucracy and programs over the decades, through changing funding streams, departmental mergers, experimental programs rising and falling, directors coming and going and federal policy. Though this problem is certainly not unique to Massachusetts, the solution that Governor Charlie Baker's administration has

implemented is innovativeⁱ, in that it seeks to promote workforce development in the commonwealth by first organizing, streamlining, and coordinating its existing workforce development programs through the collaborative Workforce Skills Cabinet.

The Workforce Skills Cabinet has representatives from the three main departments that have responsibilities in the workforce development domain: The Executive Offices of Education, Labor and Workforce Development, and Housing and Economic Development. They work with local businesses as well as the four main sectors of the population: entry level, unemployed, underemployed and incumbent workers, to help educate and train towards building the skillsets the industry needs to thrive. Each of the three main departments in the workforce development space has an individual mission, and gravitates towards a specific sector of the population. The Executive Office of Education covers all public education the commonwealth, from pre-school to post-secondary education. In terms of workforce development, this is mainly targeted towards entry level workers at the high school, community college, or state university level, although the community colleges maintain a large workforce development focus as well that largely targets unemployed, underemployed and incumbent workers. The Executive Office of Housing and Economic Development works primarily to build “vibrant communities, growing businesses, and a strong middle class”ⁱⁱ through providing grants and stimulus programs to businesses looking to move or expand into Massachusetts and thus are largely focused on working with local industry to develop and upskill their

incumbent workers. The Executive Office of Labor and Workforce Development specializes in unemployed and underemployed workers, operating as the central connection between industry, the commonwealth, and workers through its management of the Workforce Boards, MassHire offices, including unemployment benefits and programs, as well as the registered apprenticeship programs. Although each department has a central focus on a worker group, they operate extensively throughout the workforce development pipeline, working with employers to utilize their particular strengths or funding mechanisms as needed.

In 2015, the Baker-Polito Administration announced the regional planning initiative, the “Governor’s Workforce Skills Cabinet”, which is “aimed at addressing the skills gap by bringing together regional teams of educators, workforce, and economic development professionals to create a statewide blueprint for growth strategies”ⁱⁱⁱ throughout the Commonwealth. The central idea is to bring the three sectors involved in skills and industry – education, economic development and labor – together to jointly make decisions and strategic planning. The secretaries of each office meet every other week, and the relevant staff meet every week to coordinate all workforce initiatives across the offices. Already this system has resulted in increased coordination between the offices, such that any Request For Proposals (RFP) coming out of any one agency has been developed, reviewed and approved by the other two. One of the biggest initiatives has been the implementation of the statewide blueprint process, begun in 2017. The Workforce Skills Cabinet divided the

state into 7 geographic regions, and tasked each region with developing an economic blueprint detailing the key industries in their region, growth occupations, and how the skills for each occupation and industry will be developed. The blueprint functions as a 5-year plan for the region, and touches a wide network of partners from state organizations such as the Workforce Boards, to education providers such as Vocational Technology High Schools and Community Colleges, to industry leaders with a strong focus on job creation and economic development.

Development Boards, which operate under the Executive Office of Labor and Workforce Development, though the budget is predominately funded by the federal government, through the Workforce Investment Opportunity Act.^{ivv} There are 16 Workforce Development Boards in the state, each of which is responsible for a given geographic area based on the population size. A primary responsibility of the workforce boards has been managing unemployment benefits, as well as education and training opportunities for unemployed and underemployed people. The boards see themselves as a nexus for

ENTRY LEVEL	<p>Entry level workers are largely young people preparing to enter the workforce for the first time. They require foundational knowledge development, as well as support in identifying the types of jobs and careers they would like to have over the course of their lifetime. The main offices responsible for entry level preparation are the Offices of Education, through their secondary schools and community colleges, and the Office of Labor through the Apprenticeship program.</p> <ul style="list-style-type: none"> • Middle – High School Career & Technical Training • Strong network of Vocational High Schools • Community colleges – Traditional & Certificate Programs • State Universities • Apprenticeship Programs
UNEMPLOYED & UNDEREMPLOYED	<p>Unemployment services fall largely under the domain of the Executive Office of Labor and Workforce Development. All unemployment benefits are provided by the MassHire centers, which are managed by the Workforce Boards. The MassHire Centers focus their services and programs on the needs of displaced workers, underemployed workers, and those cycling in and out of the labor force. They offer a series of classes and workshops to help jobseekers learn more about how they can find a new job, create resumes, or prepare for the interview process.</p> <ul style="list-style-type: none"> • Training Opportunity Programs & Bootcamps • Community colleges • MassHire Employment Services & Support
INCUMBENT	<p>While the federal government provides many funding opportunities for entry level, unemployed and underemployed workers, there are very few federal programs available for incumbent worker training. Massachusetts has identified this as a major gap to fill, and has worked to provide state funding for incumbent training programs. Indeed, in the current economy with unemployment being so low, working to provide opportunities for training and upskilling incumbent workers is a top priority for the Workforce Skills Cabinet and the Workforce Boards.</p> <ul style="list-style-type: none"> • Workforce Training Funds

The primary organizers of the labor supply analysis in each region are the Workforce

the labor supply, working to build relationships with local businesses and

education institutions, to ensure that training programs are creating appropriate curriculum and employers have access to a trained labor force. This is codified in the drafting of their regional blueprints, which indicate the projected population figures and characteristics in the workforce development area over the next ~15 years, including age, race, educational attainment and employment. The blueprint also looks at which sectors of the economy are growing and shrinking, and what specific jobs they predict that demand will surpass supply in the future, which educational institutions provide the degrees, certificates, or training for those jobs, and how the workforce development region will assist in reducing shortages in skilled labor in those jobs.

There is a vast array of workforce development programs offered by the three offices of the Workforce Skills Cabinet, which largely are focused on four sub-groups within the broader population: entry level, unemployed, underemployed and incumbent workers. Each group presents different opportunities and challenges, and has very different needs in terms of support and development, though a thriving workforce requires attention to all four.

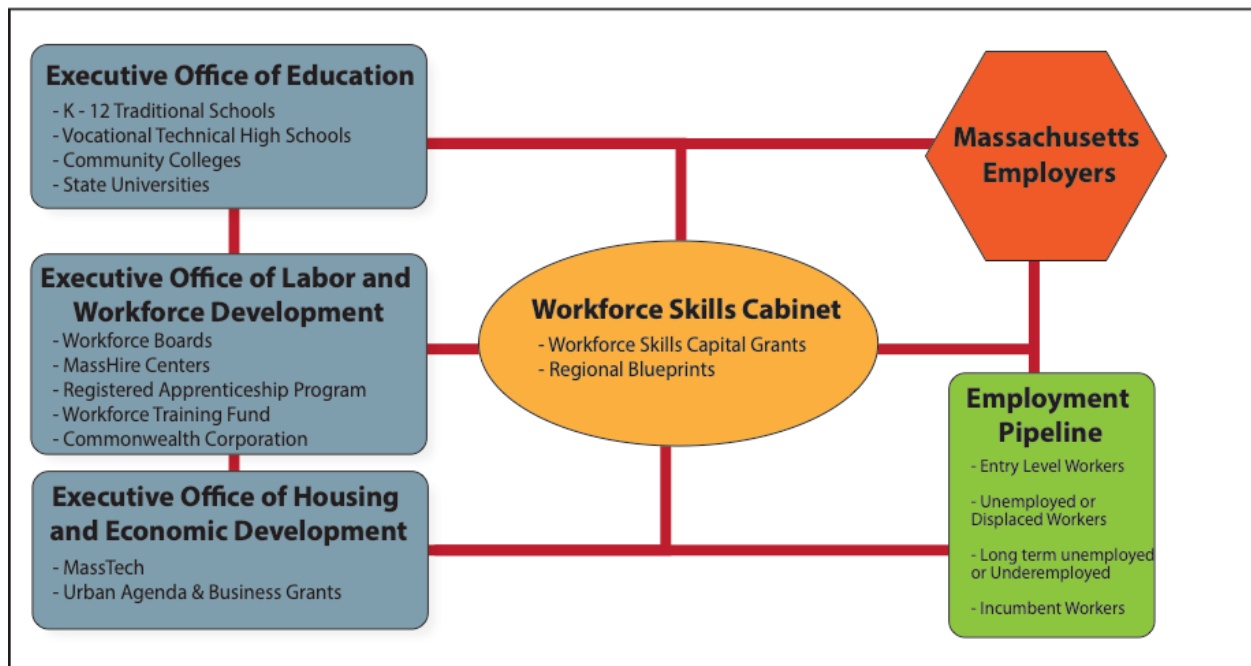
The Commonwealth of Massachusetts is actively working to improve its workforce development systems largely through

increasing communication and collaboration across all the departments and organizations that have relevant work in the area. While the state cannot control the federal money flowing into the various channels and departments at the state level, they are working towards improving the use of those funds towards specific goals. The Workforce Skills Cabinet is able to piece together the wide landscape of workforce development in the state, and thus identify gaps, prioritize problems, and collectively pool their resources towards creating solutions. This collective effort also helps the Cabinet understand what are the specific needs of Massachusetts which are not being addressed by federal funding programs, and thus channel other resources into those gaps, such as training programs dedicated towards incumbent workers, which do not tend to qualify for federal funds. By collaborating across all departments, the state is also able to develop workforce development as a cohesive pipeline from K-12 to higher education, and ensure that the different segments of the pipeline are coordinating transfers, resolving inefficiencies, and creating a clearer and more informed experience for the citizens of Massachusetts who are looking for better jobs and career paths, and the employers seeking to fill positions.

INTRODUCTION

The Commonwealth of Massachusetts considers the development of an educated and skilled workforce as a central component of its overall responsibility to its citizens and business ecosystem. The workforce development system in Massachusetts is complex, consisting of a weave of initiatives, programs, and responsibilities collected over the course of successive political administrations and grafted together with a similarly byzantine collection of federally funded programs. This complexity is partly due to the scope of

Though this problem is certainly not unique to Massachusetts, the solution that Governor Charlie Baker’s administration has implemented is innovative^{vi}, in that it seeks to promote workforce development in the commonwealth by first organizing, streamlining, and coordinating its existing workforce development programs through the collaborative Workforce Skills Cabinet. The Workforce Skills Cabinet has representatives from the three main departments that have responsibilities in the workforce development domain: The Executive Offices of Education, Labor and Workforce Development, and Housing and Economic Development. They work with



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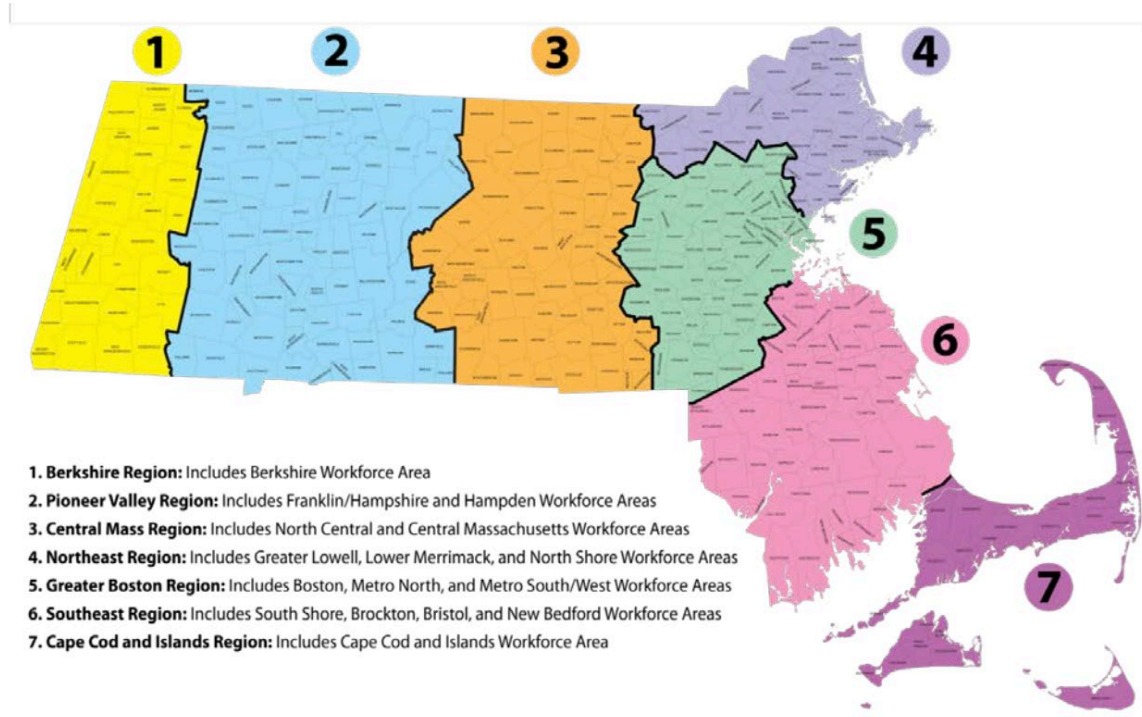
Massachusetts Strategy: Streamline, Communicate, Collaborate

In 2015, the Baker-Polito Administration announced the regional planning initiative, the “Governor’s Workforce Skills Cabinet”, which is “aimed at addressing the skills gap by bringing together regional teams of educators, workforce, and economic development professionals to create a statewide blueprint for growth strategies”^{viii} throughout the Commonwealth. The central idea is to bring the three sectors involved in skills and industry – education, economic development and labor – together to jointly make decisions and strategic planning. The secretaries of each office meet every other week, and the relevant staff meet every week to coordinate all workforce initiatives across the offices. Already this system has resulted in increased coordination between the offices, such that any Request For Proposals (RFP) coming out of any one agency has been developed, reviewed and approved by the other two. One of the biggest initiatives has been the implementation of the statewide blueprint process, begun in 2017. The Workforce Skills Cabinet divided the state into 7 geographic regions, and tasked each region with developing an economic blueprint detailing the key industries in their region, growth occupations, and how the skills for each occupation and industry will be developed. The blueprint functions as a 5-year plan for the region, and touches a wide network of partners from state organizations such as the Workforce

Boards, to education providers such as Vocational Technology High Schools and Community Colleges, to industry leaders with a strong focus on job creation and economic development.

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Figure 1. Map of Workforce Planning Regions



The primary organizers of the labor supply analysis in each region are the Workforce



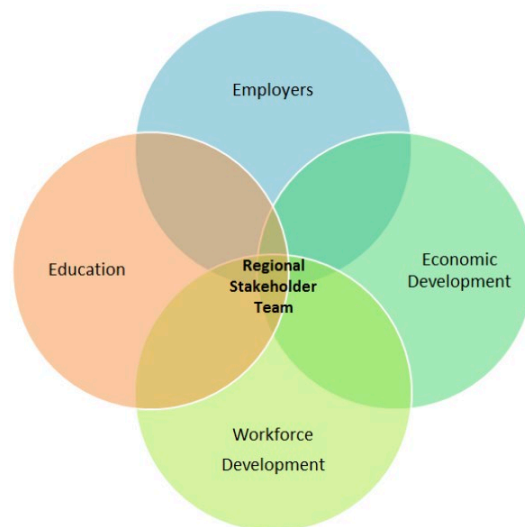
Investment Opportunity Act.^{ix1} There are 16 Workforce Development Boards in the state, each of which is responsible for a given geographic area based on the population size. In 2018, the Baker-Polito Administration created a new brand for the workforce boards in order to have a shared naming schema across the Commonwealth, which they have done with the MassHire brand, and the “Workforce Boards” nomenclature^x, though most Workforce Boards still use their original names, such as those in the Greater Boston Region (Zone 5)

¹ The current Workforce Board system is the result of decades of iterative policy at the federal and state level. They originated as Private Industry Councils in 1978, under the Private Sector Initiative Program, which were incorporated into the Job Training

Partnership Act of 1982. In 1998 the PICs were eliminated, and replaced by the Workforce Boards under the Workforce Investment Act, and in 2014 updated to their current iteration under the Workforce Investment and Opportunity Act.

which are the Boston Private Industry Council, the Metro North Regional Employment Board, and Partnerships for a Skilled Workforce.^{xi}

A primary responsibility of the workforce boards has been managing unemployment benefits, as well as education and training opportunities for unemployed and underemployed people. The boards see themselves as a local nexus for the labor supply, working to build relationships with local businesses and education institutions, to ensure that training programs are creating appropriate curriculum and employers have access to a trained labor force. This is codified in the drafting of their regional blueprints, which indicate the projected population figures and characteristics in the workforce development area over the next ~15 years, including age, race, educational attainment and employment. The blueprint also looks at which sectors of the economy are growing and shrinking, and what specific jobs they predict that demand will surpass supply in the future, which educational institutions provide the degrees, certificates, or training for those jobs, and



how the workforce development region will assist in reducing shortages in skilled labor in those jobs. Across all seven regions, the highest priority industry was Health Care & Social Assistance, followed by Professional & Technical Services, and Advanced Manufacturing. These priority industries are reflective of sectors of the economy that are both crucial to the region, and in which the supply of workers is projected to fall short of the demand, either due to growth in the sector or retirement of the current workforce.

Figure 3: Priority Industries indicated by the 7 Workforce Development Regions

Berkshire Region ^{xii}	Health Care & Social Assistance	Hospitality & Management	Advanced Manufacturing
Pioneer Valley Region ^{xiii}	Health Care & Social Assistance	Education Services	Advanced Manufacturing
Central Mass Region ^{xiv}	Health Care & Social Assistance	Manufacturing	Transportation, Warehousing & Logistics
Northeast Region ^{xv}	Advanced Manufacturing	Professional & Technical Services	Health Care & Social Assistance
Greater Boston Region ^{xvi}	Health Care & Social Assistance	Professional & Technical Services	
Southeast Region ^{xvii}	Health Care & Social Assistance	Professional & Technical Services	Financial Services
Cape Cod & Islands Region ^{xviii}	Hospitality	Healthcare & Social Assistance	Construction

In addition to creating the Workforce Skills Cabinet, creating the 7 regional zones and tasking them with creating blueprints, and rebranding the workforce boards under the MassHire brand, the Baker-Polito Administration created the Workforce Skills Capital Grants to fund high schools and educational institutions to acquire the newest technology needed to educate students and expand their work training programs.^{xix} These grant programs are administered by the Workforce Skills Cabinet, and education institutions are given priority for funding if they demonstrate that they are using the funds towards upgrading facilities or equipment designed to educate for priority positions indicated in their regions blueprint. The grants are specially geared towards funding programs “which focus on helping residents with barriers to employment, including those who are unemployed or underemployed, lack English proficiency, or residents who do not have degrees or certificates and need skills to obtain good-paying jobs.”^{xx} As of January 2019, the Commonwealth had awarded more than \$52 million to high schools and colleges through the Workforce Skills Capital Grants program.

Workforce Development Programs in Massachusetts

There is a vast array of workforce development programs offered by the three offices of the Workforce Skills Cabinet, which largely are focused on four sub-groups within the broader population: entry

level, unemployed, underemployed and incumbent workers. Each group presents different opportunities and challenges, and has very different needs in terms of support and development, though a thriving workforce requires attention to all four. The next part of this report will look at work that is being done to offer services and programs to each group.

Entry Level Workforce Development

Entry level workers are largely young people preparing to enter the workforce for the first time. They require foundational knowledge development, as well as support in identifying the types of jobs and careers they would like to have over the course of their lifetime. The main offices responsible for entry level preparation are the Offices of Education, through their secondary schools and community colleges, and the Office of Labor through the Apprenticeship program. Massachusetts has very strong Career and Technical Education (CTE) at its public high schools through the Vocational-Technical High Schools, as well as blended CTE and traditional schools. The Vocational-Technical High Schools in Massachusetts are a great resource for the state, providing high quality education and career training, alongside traditional academic and college preparation. These schools function similar to the German model, where career-technical track high school students spend half of their time working for pay in local companies learning on-the-job skills. During the first two years of high school, students spend half of the time in workshops learning job skills and competencies, and the other half in the classroom studying traditional academic subjects. These schools offer a wide variety of programs, such as Culinary Arts & Management, Nursing,

Dentistry, Architecture, Business Administration, Advanced Manufacturing and Welding. Often the students work on real world problems in the context of their training, such as at Diman Regional Vocational Tech High School, where the Culinary Arts students plan and offer the school cafeteria each day and run a public restaurant several days a week, the Landscape Architect students tend to the grounds, the HVAC students built an air conditioning system for the Advanced Manufacturing shop, and the Business Administration students manage the school's website and prepare all reports and statements for the school as well local businesses and non-profits. In their second two years of school, students are eligible to replace the time they would be in the workshop doing CTE with a job at a company, learning on-the-job skills. Many of the voc-tech schools have reciprocal exchanges with local community colleges, allowing students to earn college credit for the work they are doing, or enroll in classes at the college. Often students will graduate with a number of college credits, as well as high degree of job training and knowledge, and a job offer from the company they worked at. These schools have been gaining popularity over the years, and thousands of students are wait-listed to the schools each year. While overall statewide public enrollment fell by 3% between 2005 and 2015, voc-tech enrollment rose by 13% over the same period. Encouraged by the success of the voc-tech schools, the state has been expanding the program into traditional high schools using the "blended" model. Blended schools offer students the option to pursue a CTE track, traditional academic track, or hybrid of the two. Students on the CTE track would have the opportunity to work in a local company, as in the voc-tech schools,

while students in the hybrid track would spend part of their time in the traditional curriculum, and part in the vocational training. Students in the traditional track pursue the academic curriculum full time, though also have the opportunity to participate in workshops and electives in the vocational departments.

Community colleges have been the grounds for much innovative experimentation in workforce training and development in recent decades, in Massachusetts and around the country. These schools have traditionally offered two-year Associate's degrees in a wide variety of topics from more academic topics in the arts and sciences, to more job-focused programs in areas such as Restaurant Management, Nursing, or CNC Machining. In recent years, community colleges have expanded their offerings to include many short-term certificate programs, particularly in job-focused areas. These short-term certificates range in size and scope, and are geared towards working adults who are juggling other priorities, and do not have the time or resources to devote themselves to full time study. These certificates are generally not credit-based, and thus are not subject to the same requirements of credit-bearing classes, allowing the community colleges to create these programs more quickly, and iterate based on local workforce needs. However, there is a growing awareness that this educational effort should also be stackable, in that it would be able to be counted towards more extensive degree programs, as well as portable, so that the individual would be able to take that credential to other states or industries. The Workforce Skills Cabinet has asked the regional planning committees to work with community colleges to plan for programs

that are stackable, portable, and employer-validated indicating that local employers have aligned and validated the curriculum, and recognize the credential for the priority jobs in their area. For instance, in the Pioneer Valley Blueprint, a priority job indicated is CNC Operator / Machinist, for which the board has indicated that two local community colleges, Springfield Technical Community College and Greenfield Community College offer either Associate's Degrees or short-term certificate programs teaching CNC machining competencies, which are largely portable, stackable, and employer verified. Many community colleges are also experimenting with a co-op model similar to that of the voc-tech schools, granting students course credit for learning done at companies on the job. Other schools are partnering with local companies to design and implement the curriculum, such as North Shore Community College in Lynn, which has partnered with GE Aviation to develop a customized educational and career pathway program that offers a stackable certificate as well as Associate's Degree in Manufacturing Technology and a guaranteed interview at the company upon completion.

The Workforce Boards are interested in starting the career pipelines early, forming relationships and building programs targeted to Middle and High Schools to raise awareness among students and parents about promising growth career tracks. Many of the Workforce Boards operate career awareness programs starting in the 8th grade, giving students tours of local companies, and trying to expose them and their parents to career opportunities in healthcare and manufacturing. In addition to these

awareness raising programs, the Workforce Boards also have a fund of money from the Workforce Investment Opportunity Act specifically for youth programs, and there is also designated state funds for youth programs, such as YouthWorks, which is run by the Commonwealth Corporation, which subsidizes companies to hire vulnerable, or at-risk high school students, and provides soft skill and employability training. Other training programs are more skill-based, such as a coding school run in Everett, which teaches students how to code and about the software development industry.

Another entry-level training program being promoted by the Office of Labor is the Apprenticeship programs. Under this model, registered companies would pair entry-level workers with a skilled mentor, paying them a nominal wage to work and conduct complementary classroom education. After a set period of time, the apprentice is promoted to a full-wage employee. Often apprentices are able to earn either an Associate's degree or a Bachelor's degree in the course of their apprenticeship, alongside gaining valuable job experience and skills. Massachusetts has long offered registered apprenticeship programs, which have largely been utilized by the construction and related trade industries. Apprenticeship programs have been receiving a lot of attention at the federal level, as first the Obama Administration and then the Trump Administration pursued policies to expand and make them more commonplace. Apprenticeships across all industries are viewed partly as a solution to the impending student loan crisis, as the apprenticeship route would allow students to pursue an education at the company's expense. The Baker-Polito Administration

in Massachusetts has similarly been advocating for the expansion of apprenticeship programs into new sectors such as Health Care, Information Technology, and Manufacturing, through financial incentives and tax breaks for participating companies. Representatives from the Office of Labor as well as the Workforce Boards are working as “apprenticeship ambassadors” to local companies, trying to recruit them to participate in the program. They work closely with interested companies to assess the needs of the companies, help them to complete all the forms and paperwork needed to register, and work as a liaison with local community colleges to line up the needed training options for apprentices. Currently there are 10,200 apprenticeship positions in Massachusetts, with a target is to create 300 new apprenticeship positions in the next 5 years. The state is implementing Apprenti in partnership with MassTech and the Office of Labor, which is a national apprenticeship model that partners with Launch Academy to identify and screen apprentice candidates, who are given intensive job skills training for an initial eight-week period, and then place then placed in an official apprenticeship program. The first cohort of apprentices are in the sectors of software development and cybersecurity, though they are working on adding additional programs.

Unemployed and Underemployed Workers:

Unemployment services fall largely under the domain of the Executive Office of Labor and Workforce Development. All unemployment benefits are provided by the MassHire centers, which are managed by the Workforce Boards. Though these

centers deal with a wide range of unemployed workers, from highly trained and skilled workers who are temporarily unemployed, to displaced workers who have been in the labor force for some time but whose industry is being reduced to factors such as globalization or automation, to individual who have never formally entered the workforce, or have only cycled in and out of low-skill jobs. The MassHire Centers focus their services and programs on the needs of displaced workers, underemployed workers, and those cycling in and out of the labor force. They offer a series of classes and workshops to help jobseekers learn more about how they can find a new job, create resumes, or prepare for the interview process. The Training Opportunities Program is a funding source available for unemployed workers to collect unemployment while participating in a full time training program in lieu of actively looking for a new job, in order to gain new skills to help them gain access to better work. The program even extends the unemployment benefit period for an additional 26 weeks. In addition, they offer resources such as computers, printers, telephones, and internet access to job seekers who can come in and use the services anytime. They also function as the intermediary between job training programs, and help job seekers identify both the training options available, and arrange financial aid to pay for the education. The MassHire Centers also work with local employers, to help them find training grants, tax credits and qualified job candidates through pre-screening, job fairs, job posting, and other recruitment activities. Beyond these basic services and resources, the Workforce Boards keep track of the local labor supply and demand, and work with local industry and educational

institutions to build relationships and communication. When they identify unfilled gaps in the system, the Workforce Boards step in and create training programs to fill those gaps. For instance, the Springfield Workforce Board runs a CNC Machinist training program for underemployed workers looking to move into the higher paying manufacturing companies in the area, who are struggling to find enough qualified workers. The Springfield Workforce Board hires the instructors and holds the classes in local community college and voc-tech machine shops in the evenings when normal classes are not in session. At the end of the program, the board hosts a job fair for manufacturing companies to recruit the new graduates.

Community colleges also play a large role in training programs for unemployed and underemployed workers. Much of this has been in response to community colleges being seen as a first-line responder for job training, during the waves of job loss in the 21st century due to globalization, automation, and the Great Recession. The Obama Administration implemented the Trade Adjustment Assistance Community College and Career Training (TACCCT) program, which funded community colleges to improve and expand their short-term career training programs. These short-term training programs allow students to specialize in a specific skill set or competency, and be rewarded with a certificate upon completion. These programs can be held on a flexible schedule, allowing for students with jobs or caretaking responsibilities to fit them into their schedule. These short-term programs have been of particular interest to the regional planning committees preparing their blueprints, as they work with local

community colleges to ensure that priority jobs in their area have appropriate educational pathways. Although short term credentials are an excellent tool for quickly preparing trainees for entry level employment. Another program run by the Massachusetts Department of Higher Education is the Training Resources and Internship Networks (TRAIN) Grant Program, which gives funds to community colleges towards paired training programs and employer sponsored internships, geared specifically towards the long-term unemployed population. These grants are prioritized by sector, with funding going primarily towards the high growth industries indicated in the regional blueprints.

Another program geared towards training underemployed workers is the Advanced Manufacturing Training Program which is administered by the Massachusetts Manufacturing and Innovation Institute (M2I2)^{xxi}, an advanced manufacturing focused program run by MassTech under the Executive Office of Housing and Economic Development, though the program is also affiliated with the ManufacturingUSA centers and the Department of Defense. This program focuses on filling job gaps in the advanced manufacturing sector of Massachusetts, by working with local companies to identify positions they are struggling to fill, and creating programs that recruit, train, and place underemployed individuals into those jobs. They largely have focused on CNC Machining, and place about 700 workers each year. The program works with regional representatives of the manufacturing industry, MassMEP, and the Workforce Skills Cabinet to ensure that their programs

are well coordinated with other activities in the development space.

Upskilling Incumbent Workers

While the federal government provides many funding opportunities for entry level, unemployed and underemployed workers, there are very few federal programs available for incumbent worker training. Massachusetts has identified this as a major gap to fill, and has worked to provide state funding for incumbent training programs. Indeed, in the current economy with unemployment being so low, working to provide opportunities for training and upskilling incumbent workers is a top priority for the Workforce Skills Cabinet and the Workforce Boards. The Workforce Training Fund, managed by the Commonwealth Corporation under the auspices of the Executive Office of Labor and Workforce Development. This fund offers grants ranging from \$10,000 - \$250,000 for Massachusetts employers to train their current employees through whatever educational vendor they choose, from anything such as using new equipment or software, to soft skills or teamwork workshops. For instance, a firearms manufacturer in Western Massachusetts Savage Arms received \$239,485 from the Workforce Training Fund to create a custom training program for 67 employees to learn new techniques on CNC Machines, or an office furniture company Conklin Office Furniture received \$48,820 to train 72 workers in customer service and sales^{xxii}.

The Workforce Boards also help develop and coordinate training programs for incumbent workers, as a part of their services to local companies and workers. The Metro North Workforce Board has

developed a program for management training for employed in the retail industry, to help move entry level workers into management positions. The Workforce Board won a grant from the Wal-Mart Foundation to fund the program, which is run through Bunker Hill Community College. The Workforce Board identifies and recruits' employers and employees who would like to participate in the program, and manages the program, which graduates 80 – 100 people per year.

Incumbent worker training programs are crucial, in that they help employees prepare for impending changes in the workplace, as advanced technology begins to become more commonplace across industries. Employers also need support in adapting to new technologies, to understand how they would fit into their workstream, and what they offer to the company. The Massachusetts Technology Collaborative is a public agency that supports “business formation and growth in the state’s technology sector” by working to “build strategies, strengthen connections, assist companies, make investments and lead programs.”^{xxiii} They focus largely on manufacturing, healthcare, information and technical services, and expanding broadband access throughout the state. One major service they provide is the Collaborative Research Matching Grant Program, in which they work in collaboration with the Executive Office of Housing and Economic Development to support large-scale projects that have the potential to spur innovation, by investing in critical research and development infrastructure.^{xxiv} MassTech is also heavily involved in worker training for workers at all levels, and is in the process of working with the ManufacturingUSA centers, the US

Department of Defense, and the Skills Cabinet to design blended online and in-person training programs for advanced manufacturing sectors such as photonics and robotics. MassMEP (Manufacturing Extension Partnership) is another organization looking to develop relationships between public workforce and economic development offices and manufacturing companies in the state. Their central mission is to connect small- and medium-sized manufacturers to state and other resources. They run a series of training grants geared towards employers looking to upskill their employees on advanced manufacturing technology.^{xxv}

The Executive Office of Education is also involved with incumbent worker training, through programs developed at the community colleges both in coordination with the Workforce Boards, or a direct relationship between the community college and the business. The Rapid Response Program is a funding mechanism from the Office of Education which grants funds to employers seeking to work with community colleges to develop workforce training programs. The rolling deadline and quick turnaround was designed to appeal to employers, to be able to gain the training they need for their employees on their own schedule and timeline. Other programs are run directly through the Office of Education, such as a program in the Department of Higher Education working with registered RNs without bachelor's degrees in the state to help them gain degrees while working. The department won a grant from the Robert Wood Johnson Foundation to increase the rate of RNs with bachelor's degrees (BSN) in the state from 55% in 2010 to 80% in 2020, though they are on track to hit 80% in 2025.

Conclusion

The Commonwealth of Massachusetts is actively working to improve its workforce development systems largely through increasing communication and collaboration across all the departments and organizations that have relevant work in the area. While the state cannot control the federal money flowing into the various channels and departments at the state level, they are working towards improving the use of those funds towards specific goals. The Workforce Skills Cabinet is able to piece together the wide landscape of workforce development in the state, and thus identify gaps, prioritize problems, and collectively pool their resources towards creating solutions. This collective effort also helps the Cabinet understand what are the specific needs of Massachusetts which are not being addressed by federal funding programs, and thus channel other resources into those gaps, such as training programs dedicated towards incumbent workers, which do not tend to qualify for federal funds. By collaborating across all departments, the state is also able to develop workforce development as a cohesive pipeline from K-12 to higher education, and ensure that the different segments of the pipeline are coordinating transfers, resolving inefficiencies, and creating a clearer and more informed experience for the citizens of Massachusetts who are looking for better jobs and career paths, and the employers seeking to fill positions.

ⁱ <https://www.mass.gov/orgs/office-of-the-governor>

ⁱⁱ <https://www.mass.gov/orgs/executive-office-of-housing-and-economic-development>

ⁱⁱⁱ <https://www.mass.gov/news/workforce-skills-cabinet-kicks-off-new-regional-planning-initiative>

^{iv} <https://www.congress.gov/113/bills/hr803/BILLS-113hr803enr.pdf>

^v The current Workforce Board system is the result of decades of iterative policy at the federal and state level. They originated as Private Industry Councils in 1978, under the Private Sector Initiative Program, which were incorporated into the Job Training Partnership Act of 1982. In 1998 the PICs were eliminated, and replaced by the Workforce Boards under the Workforce Investment Act, and in 2014 updated to their current iteration under the Workforce Investment and Opportunity Act.

^{vi} <https://www.mass.gov/orgs/office-of-the-governor>

^{vii} <https://www.mass.gov/orgs/executive-office-of-housing-and-economic-development>

^{viii} <https://www.mass.gov/news/workforce-skills-cabinet-kicks-off-new-regional-planning-initiative>

^{ix} <https://www.congress.gov/113/bills/hr803/BILLS-113hr803enr.pdf>

^x <https://www.mass.gov/news/baker-polito-administration-announces-masshire-brand-for-commonwealths-workforce-system>

^{xi} https://www.bostonpic.org/assets/resources/Greater-Boston-Workforce-Planning-Blueprint_Final-053118_clean.pdf

^{xii} http://berkshireplanning.org/images/uploads/announcements/Blueprint_Final_2018_Data_Key_Findings_Summary_-_Berkshire_County.pdf

^{xiii} <https://www.stcc.edu/media/wdc/pdf/Pioneer-Valley-Labor-Market-Blueprint.pdf>

^{xiv} http://masshirenorthcentralwb.com/wp-content/uploads/2018_cmr_blueprint.pdf

^{xv} <https://masshire-northshorewb.com/wp-content/uploads/Northeast-Regional-Labor-Market-Blueprint-FINAL.pdf>

^{xvi} https://www.bostonpic.org/assets/resources/Greater-Boston-Workforce-Planning-Blueprint_Final-053118_clean.pdf

^{xvii} http://bristolwib.org/files/2018/06/Southeast_Regional-Planning-Blueprint-Final-March-30th.pdf

^{xviii} <https://masshire-capeandislandswb.com/wp-content/uploads/2018/10/CIWB-Regional-Blueprint-2018.pdf>

^{xix} <https://www.mass.gov/news/baker-polito-administration-awards-33-million-in-skills-capital-grants>

^{xx} <https://www.mass.gov/news/baker-polito-administration-awards-33-million-in-skills-capital-grants>

^{xxi} <https://www.mass.gov/news/baker-polito-administration-announces-25-million-for-advanced-manufacturing-training>

^{xxii} <https://www.masslive.com/business/2019/06/savage-arms-of-westfield-and-conklin-office-furniture-in-holyoke-train-workers-through-state-grants.html>

^{xxiii} <https://masstech.org/masstech>

^{xxiv} <https://innovation.masstech.org/projects-and-initiatives/collaborative-research-matching-grant-program>

^{xxv} <https://massmep.org/>