



**192nd General Court
2021-2022**

**FUTURE OF WORK
COMMISSION**

**Final Report
March 2022**



FUTURE OF WORK COMMISSION FINAL REPORT

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The Future of Work Commission members convene at Plymouth Town Hall in October 2021. Top row (left to right): Joe Bevilacqua, Tonja Mettlach, Lauren Jones, Miriam Ortiz, Harry Dumay, Al Vega, Lisa Bernt, and Secretary Rosalin Acosta. Bottom row (left to right): Laura Stout, Rep. Lenny Mirra, Rep. Kathy LaNatra, Rep. Josh Cutler, Sen. Eric Lesser, and guest speaker Sen. Susan Moran.

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Letter from the Co-Chairs

To the future worker:

Our Commonwealth, our country, and indeed our entire world have undergone profound changes in recent years. As society emerges from the COVID-19 pandemic and the pace of technological and social change continues to intensify, where does that leave workers, and how does Massachusetts prepare? This was the key question facing the 2021-22 Future of Work Commission.

The Commission was established by Section 92 of An Act Enabling Partnerships for Growth (Chapter 358 of the Acts of 2020), a piece of a comprehensive economic policy bill intended, in part, to help chart our Commonwealth's recovery from the pandemic. The statute tasked the Future of Work Commission with an overarching goal to "ensure sustainable jobs, fair benefits and workplace safety standards for workers in all industries, including, but not limited to, access to adequate and affordable health insurance, financial security in retirement, unemployment insurance and disability insurance." Our main objective from the start was to highlight the needs of the future worker, articulate what strengths and weaknesses the Commonwealth possessed in relation to those needs, and provide a roadmap for giving our workers the tools and resources necessary for them to succeed over the next five-to-ten years.

With appointments from the Governor, Attorney General, Senate President, Speaker of the House, Senate and House Minority Leaders, and the Co-Chairs, the Commission included a wide array of stakeholders from government, business, nonprofit, labor, academic and advocacy sectors. We wish to thank all of our Commissioners for their time, attention, and engagement over the course of our meetings and deliberations.

Ultimately, the Commission hopes its findings and recommendations will result in legislative, policy, and other changes here in Massachusetts that put workers of the future in the best position to find well-paying jobs and a chance to live with dignity and stability.

It has been an honor to serve as Co-Chairs of the Future of Work Commission, and we want to thank Senate President Karen Spilka and Speaker of the House Ron Mariano for appointing us to lead this important endeavor. We also want to thank all our presenters for sharing their wisdom and expertise and the public for their participation and input. Finally, we wish to extend our utmost appreciation to the members of our staff – Lilla Adams, Liz Storms, and Stephanie Swanson – without whom this report would not have been possible.

Sincerely,

*Eric P. Lesser, Co-Chair
State Senator
First Hampden and Hampshire District*

*Josh S. Cutler, Co-Chair
State Representative
Sixth Plymouth District*



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Commissioners

The 17-member Future of Work Commission brought together a diverse array of government, business and labor leaders, as appointed by various Commonwealth authorities.

Senator Eric P. Lesser, Co-Chair
First Hampden and Hampshire District
Appointed by: Senate President Karen E. Spilka

Senator Adam G. Hinds
Berkshire, Hampshire, Franklin and Hampden District
Appointed by: Senate President Karen E. Spilka

Secretary Rosalin Acosta
Executive Office of Labor and Workforce Development

Joanne Goldstein
Former Secretary of *Labor and Workforce Development*
Appointed by: Commission Co-Chairs

Steven Tolman
President, *Massachusetts AFL-CIO*
Appointed by: Commission Co-Chairs

Harry Dumay
President, *College of Our Lady of the Elms*
Appointed by: Commission Co-Chairs

Rahkeem Morris
Cofounder & CEO, *HourWork*
Appointed by: Commission Co-Chairs

Laura Stout
President, *Empowering Abilities at Blue Cross Blue Shield of Massachusetts*
Appointed by: Governor Charles D. Baker

Miriam Ortiz
Director of Education and Training, *Just-A-Start Corporation*
Appointed by: Governor Charles D. Baker

Representative Josh S. Cutler, Co-Chair
Sixth Plymouth District
Appointed by: Speaker Ronald Mariano

Representative Kathleen R. LaNatra
Twelfth Plymouth District
Appointed by: Speaker Ronald Mariano

Representative Lenny Mirra
Second Essex District
Appointed by: House Minority Leader Bradley H. Jones

Joseph Bevilacqua
President, *Merrimack Valley Chamber of Commerce*
Appointed by: Senate Minority Leader Bruce E. Tarr

Lauren Jones
Executive Vice President, *Massachusetts Business Roundtable*
Appointed by: Commission Co-Chairs

Tonja Mettlach
Executive Director, *Massachusetts Workforce Association*
Appointed by: Commission Co-Chairs

Lisa Bernt
Project Director and Counsel, *Fair Employment Project*
Appointed by: Attorney General Maura Healey

Al Vega
Director of Policy & Programs, *MassCOSH*
Appointed by: Attorney General Maura Healey



Executive Summary

Over the course of the last year, the Future of Work Commission (“Commission”) was confronted with a common refrain: the Commonwealth and its workers have reached a turning point. The confluence of pandemic-related changes, social and racial justice movements, and the rapid evolution and integration of technology into the workplace requires significant changes to how the future worker is trained, employed, and supported by the Commonwealth and its employers.

The Commission was formed in the spring of 2021 to investigate and evaluate the impacts of technological change and automation on work by 2030. Since then, Governor Baker commissioned and released the “Preparing for the Future of Work in the Commonwealth of Massachusetts” (2021 Future of Work report), considering new factors accelerated by the COVID-19 pandemic in addition to long-standing factors impacting the future of work such as rising income levels, an aging population, and automation. Additionally, the Legislature has studied recommendations to stimulate a post-pandemic recovery and several studies have been released on the future of work in Massachusetts and globally. The Future of Work Commission Report serves as an opportunity to capture these relevant findings combined with an additional, expanded lens.

As a result of the various meetings outlined in this report, the Commission dramatically expanded its scope beyond the intersections of new technologies and work. Lingering economic and social challenges have taken on new urgency due to the COVID-19 pandemic. To ignore the full picture in favor of focusing only on “traditional” work issues would be to ignore critical needs of workers looking to make a life in Massachusetts. Accordingly, the Commission came to also investigate issues of work supports, including: public transit patterns, lifelong learning models, child- and elder-care, housing accessibility, adaptive benefits, and more. Confronted with the urgency of work- and workplace-related challenges, the Commission worked diligently to deliver the key findings and recommendations found in this report within a year of its establishment.

Key Findings

The shape and scale of the workplace has dramatically shifted during the pandemic and will continue to do so over the next decade. Technology and automation are bound to have both positive and negative impacts on the type and execution of employment, and Massachusetts must put its technology and innovation edge to work in training, attracting, and employing workers in these burgeoning sectors. Remote and hybrid work models for some employees will also have significant repercussions on the traditional workplace and significantly alter key infrastructure such as housing, transportation, childcare needs, and commercial office space.



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Education and worker training will need to transform to ensure workers are connected to the jobs of the future. Some workers will be displaced and in need of re-training or upskilling and the quickly evolving job landscape will require an adaptive, lifelong learning approach for all workforce development. The Commonwealth's higher education system and workforce training programs must meet the needs of the worker and connect them to the industries where available, high-quality jobs exist.

Apart from the more traditional worker needs, the Commonwealth's future workers will require a set of supports that allow them to effectively participate in the workforce while ensuring social, emotional, and family stability. For many workers, success will depend on new work supports and infrastructure such as flexible childcare and eldercare, responsive public transportation, adequate housing stock, robust mental health services, access to broadband, and digital literacy. Other workers, such as those in the gig economy, will need support from a new safety net to address gaps in worker support.

Furthermore, ensuring equity and racial justice for the future worker following the resounding economic and social shifts of recent years are of paramount importance. Inequities for minority workers continue to permeate workforce opportunities, while women workers tend to be disproportionately impacted by shifting workforce trends, especially over the course of the COVID-19 pandemic. In addition, the disability community must be fully included as future workforce supports are put in place.

Recommendations

As a result of these key findings, the Commission developed a non-exhaustive list of recommendations detailing how the Commonwealth, higher education system, and business community can increase the odds of success for the workers of the future in acquiring and maintaining fulfilling employment.

Workforce Development and Education

- Expand existing workforce training infrastructure
- Promote the development of "stackable" credentials
- Make workforce training dollars more flexible and adaptable
- Incentivize employer participation in all stages of workforce development
- Update data collection among training programs that focuses on outcomes
- Develop defined and permeable pathways across education levels
- Support I.T. training at all levels
- Expand access to ESOL training



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Worker Benefits and Protections

- Regulate data use in employment and hiring
- Invest in “diversity, equity, and inclusion” initiatives and better promote representation
- Extend benefits for the elder workforce
- Ensure a supported transition to clean energy jobs

Addressing Work-Adjacent Issues

- Close the childcare access gap for working families
- Increase salary and training opportunities for childcare workers
- Add and expand capacity for personal and industry-based elder care services
- Provide increased mental health services for workers and acknowledge the need for self-care
- Expand traditional public transportation services to fit the commuting pattern and needs of the worker
- Utilize existing housing development and zoning reform tools to increase housing options across the Commonwealth
- Invest in downtowns and Main Streets to entice workers to settle in new regions of the Commonwealth
- Close the digital divide and promote digital equity by investing in broadband and IT for lower-income workers

Ensuring Equity and Racial Justice

- Place a primary focus on equity and inclusion when creating policies for all workplaces and all educational initiatives that promote workforce development
- Provide support for women to return to the workforce
- Reinforce educational equity for low-income students and students of color
- Support the immigrant workforce through language training and accessibility
- Encourage entrepreneurship within the minority community and expect more inclusive policies in high-growth sectors like venture capital, life sciences, and technology
- Incorporate individuals with disabilities into the state’s plan for the future of work

Staying Ahead of the Technology and Innovation Curve

- Ensure Massachusetts maintains its worker training and workforce quality edge in new and emerging technology sectors
- Continue to learn about and respond to the impacts of automation on the future worker



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In depth details about each recommendation are included in the Commission's Recommendations section beginning on page 34.



The Future of Work Commission met in September 2021 at the Media Lab at MIT, a hub of future-of-work studies. Pictured are: Sen. Lesser, Rep. LaNatra, guest speaker President Christina Royal of HCC, Rep. Cutler, Rahkeem Morris, and Harry Dumay.



Commission Work and Approach

The Future of Work Commission was established pursuant to Section 92 of Chapter 358 of the Acts of 2020 and charged with “conduct[ing] a comprehensive study relative to the impact of automation, artificial intelligence, global trade, access to new forms of data and the internet of things on the workforce, businesses and economy,” with the objective “to ensure sustainable jobs, fair benefits and workplace safety standards for workers in all industries.” The full legislative charge is as follows:

SECTION 92. (a) There shall be a special commission to conduct a comprehensive study relative to the impact of automation, artificial intelligence, global trade, access to new forms of data and the internet of things on the workforce, businesses and economy. The main objective of the commission shall be to ensure sustainable jobs, fair benefits and workplace safety standards for workers in all industries, including, but not limited to, access to adequate and affordable health insurance, financial security in retirement, unemployment insurance and disability insurance. The commission shall consist of: 2 persons appointed by the president of the senate, 1 of whom shall serve as co-chair; 2 persons appointed by the speaker of the house of representatives, 1 of whom shall serve as co-chair; 1 person appointed by the minority leader of the senate; 1 person appointed by the minority leader of the house of representatives; the secretary of labor and workforce development or a designee; 2 persons appointed by the governor, 1 of whom shall have expertise in the future of work issues and 1 of whom shall have experience in workforce training and education; 2 persons appointed by the attorney general, 1 of whom shall have expertise in fair labor and workers' rights and 1 of whom shall have expertise in future of work issues; and 6 persons appointed by the co-chairs, 3 of whom shall be members of the labor community with experience in future of work issues and 3 of whom shall be members of the business community with experience in future of work issues.

(b) The commission shall study and evaluate the future of work including, but not limited to: (i) trends and drivers of the transformation of industries and employment and how they will impact workers; (ii) policies and practices that may assist workers, businesses and communities to thrive and maintain a robust economy while responding to the rapid transformation of technology, workplace practices, environmental and security concerns and global interdependence; (iii) the impact of industry transformation on worker access to affordable and adequate healthcare, financial security in retirement and adequate unemployment insurance, disability insurance and



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other benefits; (iv) best practices on maintaining cohesive and beneficial partnerships between workers and employers during industry growth and transformation; and (v) any other factors the commission deems relevant.

(c) The commission, in collaboration with the executive office of labor and workforce development, shall: (i) develop and maintain an inventory of the current and future trends and factors that will likely drive the transformation of industries and work over the next 25 years; (ii) research best practices from state, national and international sources and develop case studies and examples for the future of work; (iii) gather data and input from employers and workers from the major industrial sectors in every region of the commonwealth; and (iv) work with organizations that engage in workforce training to identify best practices and any obstacles that may exist to adequate workforce training during future industry transformation.

(d) The task force shall meet not less than 4 times in different geographic regions and shall accept input from the public during not less than 2 public hearings and solicit expert testimony from individuals identified by the commission. The commission shall convene its first meeting not later than December 31, 2021.

(e) Not later than September 1, 2021,¹ the commission shall file a report of its analysis, recommendations and any proposed legislation necessary to effectuate its recommendations to the clerks of the senate and house of representatives, the joint committee on economic development and emerging technologies and the joint committee on labor and workforce development.

The report shall include, but not be limited to, legislative and policy recommendations that: (i) ensure workers in the future secure access to affordable and adequate healthcare, financial security in retirement and adequate unemployment insurance, disability insurance and other benefits; (ii) provide for portable, transferable, cost-efficient and time-efficient credentialing; (iii) support life-long learning and talent development for workers of all ages; (iv) help workers maintain relevant skills or learn new skills for the careers and workplaces of the future; (v) prepare young people to succeed in the careers and workplaces of the future; (vi) ensure employers and workforce training entities are up to date on training needs for workers in current and future industries and careers; and (vii) enable

¹ The original reporting deadline was amended to September 1, 2022 in [Section 97 of Ch. 24 of the Acts 2021](#) to reflect a technical correction needed after its original passage in Chapter 358 of the Acts of 2020.



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workers, businesses and workforce training entities to simultaneously learn and incorporate new technologies into workforce training.

The Commission worked extensively over the 2021-22 session to assess the challenges and opportunities facing work and workplaces in Massachusetts. Convening both in-person across the Commonwealth and virtually, commissioners held public meetings with stakeholders, experts, and working people facing a rapidly changing work environment.

Meeting Schedule

An overview of the Commission's meeting schedule is presented here. Further information, including meeting recordings, presentations, and all written testimony received by the Commission, may be found on the State Legislature's website at www.malegislature.gov/Commissions/Detail/561.

Meeting 1: The Widespread Trends Impacting the Future of Work

Tuesday, June 29, 2021 via Zoom (virtual)

- **Shelly Steward** from the **Aspen Institute** gave a presentation on the gig economy and the future of work.
- **Dr. Thomas Juravich** from **UMass Amherst Labor Center** presented an analysis that focused on the uneven impacts and development of technological challenges in the current workplace and the concept of workplace monitoring.
- **President Mary Kay Henry** from the **SEIU** gave an overview of the California Future of Work Commission, which she co-chaired, including goals, operations, key findings, and final recommendations.

Meeting 2: The Present and Future State of Work in Massachusetts

Tuesday, July 20, 2021 via Zoom (virtual)

- **Governor Deval Patrick** discussed lessons from his policy-making experience in Massachusetts and co-chairing the national Future of Tech Commission.
- **Executive Office of Labor and Workforce Development** Chief Economist **Dr. Mahesh Ramachandran** presented on the 2021 Massachusetts Future of Work Report labor-related findings.
- **International Data Group CEO Mohamad Ali** gave an analysis focused on his perspectives as a Massachusetts employer, tech company, and data research firm, and included some data-driven observations and recommendations based on future of work trends.
- **Executive Office of Housing and Economic Development Secretary Michael Kennealy** gave a presentation on further findings from the Massachusetts Future of Work Report.



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Meeting 3: Education, Skills and Job Quality

Tuesday, September 21, 2021 at the Massachusetts Institute of Technology Media Lab

- **MIT Professor Julie Shah** gave a presentation on the key work and findings of the MIT Work of the Future Task Force.
- **MIT Professor Lionel Kimmerling** gave a presentation on the MIT Initiative for Knowledge and Innovation in Manufacturing (IKIM).
- **President Christina Royal of Holyoke Community College** reflected on her expertise and insights at HCC to detail some broader trends and policy considerations concerning community colleges across the state.
- **Ed Lambert, executive director of the Massachusetts Business Alliance for Education** presented on the current state of education and elaborated on 7 actionable recommendations concerning education improvements, investments, and innovation to prepare the state for the future of work.

Meeting 4: Massachusetts Employment and Labor Law in the New Economy and its Impact on Economic Security

Tuesday, October 12, 2021 at Plymouth Town Hall

- **Bridgewater State University President Fred Clark** presented on future of work issues from the perspective of a state university, focusing on the student and employer perspectives, and workforce development perspective.
- **Former Senate President Therese Murray** detailed historic and current trends in the workforce and how the landscape of employee benefits has changed.
- **Elisabeth Babcock, President and CEO of EMPATH** gave an overview of the science and psychology behind the movement in/around poverty, and how these stresses compromise soft skills and analytic thinking of working people.
- A workforce training panel comprised of 2 **pre-apprentices from SkillsBuild** and **Executive Dean Carine Sauvignon from Massasoit Community College** presented to the Commission. The pre-apprentices spoke on their backgrounds and experiences with the SkillsBuild program. Executive Dean Sauvignon testified on her experience coordinating and administering Massasoit workforce training programs, particularly an inmate re-entry workforce development program.

Meeting 5: Wraparound Services like Transportation, Broadband Support, Remote Work and Childcare

Tuesday, October 26, 2021 at College of Our Lady of the Elms

- **Former Department of Early Education and Care (EEC) Commissioner Samantha Aigner-Treworgy**, who presented on the future of childcare, emphasizing various pressing challenges facing childcare in Massachusetts and the shifting landscape due to the pandemic.



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- **MBTA General Manager Steven Poftak** discussed an overview of Massachusetts' public transit ridership and return-to-work trends.
- **Dr. Tyra Good** gave a presentation on **Elms College's Center for Equity in Urban Education**, focusing on its work and recent findings.
- **Baystate Health's VP for Community Health Dr. Frank Robinson** presented on the digital divide, barriers to digital equity, and connectivity recommendations.
- **VP of Strategic Initiatives Alicia Matthews from Comcast NBC Universal** and **Comcast Government Relations VP John Sutich** gave an overview on Comcast's connectivity network, pandemic-related trends, and challenges in deployment and access.
- **Massachusetts Broadband Institute Executive Director Michael Baldino** gave a presentation on the digital divide and its impacts on the Commonwealth.

Hearing 1: Invited Testimony

Monday, December 6, 2021 via Zoom (virtual)

- Commissioners were able to invite members of the public to testify on areas of experience and expertise. The Commission held a public hearing for invited testifiers, opening the floor up during the second half of the hearing for public testimony as well. (See Appendix for testimony list)

Hearing 2: Open Public Testimony

Friday, December 17, 2021 via Zoom (virtual)

- Members of the public were able to sign-up and testify to the Commission. (See Appendix for testimony list)

Meeting 6: Discussion of the Commission's Report

Tuesday, January 18, 2022 via Zoom (virtual)

- Commissioners discussed priorities and values to be included in the Future of Work Commission Report.

Meeting 7: Ratification of the Commission's Report

Tuesday, March 22, 2022 via Zoom (virtual)

- Commissioners held a final discussion and ratified the Future of Work Commission Report.



A workforce training panel comprised of 2 pre-apprentices from SkillsBuild, Mona and Genesis, and Executive Dean Carine Sauvignon from Massasoit Community College testifying at the Commission's meeting at Plymouth Town Hall on October 12, 2021.

Key Findings

I. The Workplace

- i. **Technology is permeating the workplace at a growing rate with an uncertain impact.**

As automation and digitization accelerate within the workplace, adoption of technology will lead to significant job losses in Massachusetts. According to the Baker Administration's 2021 Future of Work report, approximately 900,000 to 1.2 million gross jobs in the Commonwealth will be lost due to automation. The International Data Group predicts that 16 percent of job positions in Massachusetts will be eliminated.² The Brookings Institute paints an even darker picture, estimating that 25 percent of total employment in the U.S. is at high risk of technological displacement.³ While the rate, scope, and impact of

² Ali, Mohamad. "Future of Work." International Data Group. <https://malegislature.gov/Commissions/Detail/561/Documents>.

³ Muro, Mark, Robert Maxim, and Jacob Whiton. "Automation and Artificial Intelligence." Metropolitan Policy Program at Brookings. <https://www.brookings.edu/research/automation-and-artificial-intelligence-how-machines-affect-people-and-places/>.



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technological advancement in the workplace are disputed among experts, the Commission has observed several key trends.

First, automation will have some positive impacts in the workplace. Computerizing lower-skilled tasks will enable approximately 36 percent of workers to focus on higher value tasks.⁴ This holds positive implications for improving job quality. Collaborative human-robot relationships that compliment and augment human labor is a common goal for engineers and employers alike, making the simple labor replacement model outdated.

However, while robots and A.I. are not directly replacing workers as frequently as feared, they are not contributing to shared prosperity, either. A 2020 study from MIT and Boston University found that, “for every robot added per 1000 workers in the U.S., wages declined by 0.42 percent and the employment-to-population ratio decreased by 0.2 points.”⁵ ***So while technology holds the potential to boost productivity and improve wages and job quality, the current results are not holding up to this promise.***

Also, this technological revolution described as “Industry 4.0” has had and will continue to have uneven effects, both for employees and employers. An increasingly automated workplace is disproportionately displacing women, Black, and Hispanic workers.⁶ Such workers are over-represented in job positions that will require significant reskilling or upskilling to keep up with current technological trends. Workers of color are also historically underrepresented within the education and workforce development sectors.

Even as new technologies become more frequent in the workplace, small and medium-sized businesses may face challenges to stay competitive. These businesses often experience a harder time integrating technology into their workplaces due to cost, capacity, and other barriers, adding obstacles for small-to-medium-sized businesses to grow and stay competitive. Increasing access to capital and job training resources for these businesses will be critical to overcome this growing technological gap.

⁴ Ali, “Future of Work.”

⁵ Acemoglu, Daron, and Pascual Restrepo. “Robots and Jobs: Evidence from US Labor Markets.” *Journal of Political Economy* 2020, vol. 128, no. 6. <https://mitsloan.mit.edu/ideas-made-to-matter/a-new-study-measures-actual-impact-robots-jobs-its-significant>.

⁶ McKinsey & Co. “Preparing for the Future of Work in the Commonwealth of Massachusetts.” <https://www.mass.gov/doc/future-of-work-in-massachusetts-report/download>.



ii. Hybrid and remote work models are here to stay.

During the pandemic, employers implemented hybrid and remote models for workers who had the ability to work from home. Recognizing this trend, the Baker Administration's Future of Work report predicts that approximately one third of the Massachusetts workforce – around 1.4 million workers – could continue to effectively work remotely. Among I.T. and business leaders, that estimate jumps to over 53 percent of employers permanently embedding these practices into their work environments.⁷ Surveys conducted by the Massachusetts Business Roundtable and the Massachusetts Competitive Partnership in 2021 predict approximately 80% of their members—predominantly large employers headquartered or with a significant presence in Massachusetts—will be hybrid or remote post-pandemic, a dramatic shift from the vast majority who operated mainly in-person pre-pandemic.⁸

This trend will also serve to grow disparities between service workers and professional workers. Hybrid or remote options eliminate cumbersome commutes but require greater flexibility for necessary infrastructure and resources such as childcare, eldercare, and self-care. Additionally, service industries in metro downtown areas will continue to face lower pedestrian traffic as large portions of office workers remain absent from business hubs.⁹

iii. Office and residential real estate markets are shifting.

Increased remote and hybrid work options will likely permanently shift real estate uses across marketplace sectors for the long-term. Demand for conventional commercial office space is predicted to decline, leading to lower retail and service work demand in metro job areas. However, shifting working “centers” will likely lead to growth in retail and dining options in suburban main street areas.¹⁰

Additionally, remote work will likely shift residential real estate demands also for the long-term, increasing the propensity to live outside metropolitan areas. High demand for housing from the state's growing population, mixed with low

⁷ Ali, “Future of Work.”

⁸ Massachusetts Business Roundtable. “Future of Work and MA Competitiveness” www.maroundtable.com/wp-content/uploads/2021/09/FutureWorkCompetitiveness_2021.pdf; Massachusetts Competitive Partnership. “100 Business Survey: COVID-19 Remote Work.”

⁹ McKinsey, “Future of Work.”

¹⁰ Reardon, Timothy. “The Future of Work, Land Use, and Transportation in Massachusetts.” Metropolitan Area Planning Council. <https://malegislature.gov/Commissions/Detail/561/Documents>.



affordability and availability, is also creating pressure to build more housing and convert existing industrial and studio spaces into residential units.¹¹

Finally, growing preferences for e-commerce will likely negatively impact demand for brick-and-mortar retail.¹² The popularity of online shopping, only further highlighted by the pandemic, may also provide new worker hubs as warehouses locate to suburban areas and last-mile corridors in cities.

II. The Worker

i. **The need for workforce training has increased dramatically.**

With technology transforming many workplaces, many jobs will transition, phase out, be or eliminated in the future. Experienced workers in fields such as office support, retail, hospitality, and food services may be displaced, requiring transitions among occupation or industry at an unprecedented rate.¹³ While approximately two thirds of workers in these jobs will smoothly transition to other jobs without significant re-training, between 300,000 to 400,000 workers will be substantially displaced.¹⁴ ***By the Baker Administration's calculation, this requires reskilling or upskilling 30,000 to 40,000 workers per year – approximately double the current rate of job training in Massachusetts.***

Mirroring the trends of technological transitions, the need for re-skilling and up-skilling workers will be unevenly distributed, disproportionately impacting certain occupations and workers. Experts agree that the occupations that will likely face the highest rates of technological disruption are the retail, food services, office administration, production, finance and insurance industries, among others.¹⁵

Among workers in impacted industries, Black and Hispanic workers will experience the greatest need for job training; they are overrepresented in service and production industries while also underrepresented in high-growth industries that face less of a threat due to automation or

¹¹ Reardon, "The Future of Work."

¹² *ibid.*

¹³ McKinsey, "Future of Work."

¹⁴ *ibid.*

¹⁵ McKinsey, "Future of Work."; Massachusetts Department of Unemployment Assistance, "Labor Market Information: Industry Projections." <https://lmi.dua.eol.mass.gov/LMI/LongTermIndustryProjections>.; Muro, "Automation and Artificial Intelligence."



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reskilling.¹⁶ More specifically, Black and Hispanic women working in service occupations, Black and Hispanic men working in production and transportation industries, and individuals with lower English proficiency and educational attainment all represent workers and jobseekers disproportionately impacted by this trend and require the greatest need to reskill or upskill.¹⁷ This expected trend holds significant implications to ensure equity in the labor market and Massachusetts economy.

ii. **Lifelong learning is the key to keeping up with workforce demands.**

The “once-and-done” training model is outdated. The typical worker no longer follows a strictly linear career path in a single occupation or for a single organization. As of 2021, workers across the U.S. average 12.4 different jobs during their working lives,¹⁸ without factoring in future disruptions caused by new technologies. Rather than learning and training for a single pathway or reskill or upskill in response to disruptions in technology, a more adaptive, lifelong learning model will be more effective to meet the workforce demands of the future.

Two-year institutions and community colleges such as Holyoke Community College observe growing preference among both students and employers for shorter-term programs, where students are able to transition to employment within months rather than years.

Similarly, “learn-and-earn” models promote career pathway opportunities that include industry-recognized certifications and certificates, creating a symbiotic relationship between continuing education and work.

As well as tangible skills and job training, educators across the board also emphasize the continued importance of the traditional K-12 model and liberal arts education. ***Durable – sometimes known as “soft” – skills acquired in these settings, such as critical thinking, communication, collaboration, leadership, and creativity, comprise seven of the top ten most requested***

¹⁶ U.S. Bureau of Labor Statistics. “Labor force characteristics by race and ethnicity, 2019.” BLS Reports. <https://www.bls.gov/opub/reports/race-and-ethnicity/2019/pdf/home.pdf>.

¹⁷ U.S. Bureau of Labor Statistics. “Women in the labor force: a databook.” BLS Reports. www.bls.gov/opub/reports/womens-databook/2020/pdf/home.pdf; U.S. B.L.S, “Labor force characteristics.”

¹⁸ U.S. Bureau of Labor Statistics. “Number of Jobs, Labor Market Experience, Marital Status, and Health: Results from a National Longitudinal Survey.” www.bls.gov/news.release/pdf/nlsoy.pdf.



skills by employers.¹⁹ Not only are these skills consistently prioritized, but they are highly applicable to a variety of career paths. A broad range of durable skills will be the baseline of an agile workforce.

iii. Labor shortfalls will continue.

A combination of COVID-related labor force exits and a slowing population growth rate is leading to what Emsi Burning Glass calls a “sansdemic”: labor demand is outpacing the supply.²⁰ As of August 2021, the employment rate for women in Massachusetts remains 5.7 percent lower than the rate pre-pandemic,²¹ and 2 million more workers across the U.S. retired than was expected since February 2020.²²

While Massachusetts has an above-average labor force participation rate, the Commonwealth’s overall employment and participation levels have still not recovered to pre-pandemic heights.²³ This is contrasted with over 65,000 new jobs being posted in January 2022 alone.²⁴ An aging workforce with outdated or inflexible skills will continue to exacerbate this sizeable dearth of qualified job candidates.

At a time when the Commonwealth is seeing labor shortages affecting many sectors of its economy, it is vital that the state continues to invest resources in upskilling existing workers as well as finding creative ways to tap into new or underutilized labor markets – including people with disabilities, immigrants, re-entering inmates, parents with childcare needs, and other historically underemployed populations of workers.

¹⁹ America Succeeds. “The High Demand for Durable Skills.” October, 2021.

<https://americasucceeds.org/portfolio/the-high-demand-for-durable-skills-october-2021>.

²⁰ Hetrick, Ron, Hannah Grieser, Rob Sentz, Clare Coffey, and Gwen Burrow. “The Demographic Draught.” Emsi, 2021. www.economicmodeling.com/demographic-drought/.

²¹ Executive Office of Labor and Workforce Development. “The Impact of COVID-19 on Women in the Workforce.” October 1, 2021. www.mass.gov/doc/the-impact-of-covid-19-on-women-in-the-workforce/download.

²² Hsu, Andrea. “These Older Workers Hadn’t Planned To Retire So Soon. The Pandemic Sped Things Up.” *NPR*, August 23, 2021. www.npr.org/2021/08/23/1028993124/these-older-workers-hadnt-planned-to-retire-so-soon-the-pandemic-sped-things-up.

²³ Department of Unemployment Assistance. “Labor Market Graphs.” Labor Market Information, December 2021. <https://lmi.dua.eol.mass.gov/LMI/LaborMarketGraphs>.

²⁴ Department of Economic Research. “Massachusetts Monthly Job Postings, January 2022.” https://public.tableau.com/app/profile/maeconomicresearch/viz/MassachusettsMonthlyJobPostings_16269646924760/MonthlyJobPostingsAnalysis.



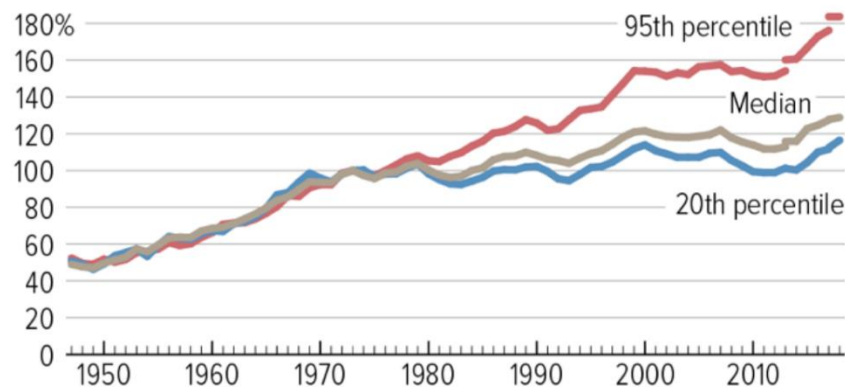
iv. Wage polarization and income bifurcation will get worse.

Massachusetts has the seventh highest rate of income inequality among U.S. states.²⁵ Rapid growth among top earners in the state has not been the only driver of rising income inequality over the past decades. Across the nation, income inequality among the lower 80th percentile is growing too, concentrating income losses in the bottom 15 percent.²⁶

As technological change and automation in the workplace disproportionately impacts low- and middle-income workers, this will only serve to further accentuate the growing divide between lower-wage, hourly service-based work and higher-wage, salaried professional industries.²⁷

Income Gains Widely Shared in Early Postwar Decades — But Not Since Then

Real family income between 1947 and 2018, as a percentage of 1973 level



Note: Breaks indicate implementation of a redesigned questionnaire (2013) and an updated data processing system (2017).

Source: CBPP calculations based on U.S. Census Bureau Data

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These growing gaps hold urgent racial equity implications. Black- and Hispanic-headed households have historically been and continue to be disproportionately represented among lower income percentiles.²⁸ With Black

²⁵ American Community Survey. “B19083 Gini Index of Income Inequality.” United States Census Bureau. <https://data.census.gov/cedsci>.

²⁶ Congressional Research Service. “The U.S. Income Distribution: Trends and Issues.” January 13, 2021. <https://sgp.fas.org/crs/misc/R44705.pdf>.

²⁷ *ibid.*

²⁸ *ibid.*



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and Hispanic over-representation within service industry and other occupations with high risk of technological disruption and displacement, these racial income and wealth gaps are likely to persist or become even worse in the Commonwealth.

v. Gaps in the worker safety net for wage and gig workers will be accentuated.

The evolution of employer account-based benefit systems and the recent rise of non-standard work arrangements will continue to leave a growing percentage of workers without basic benefits and adequate supports.²⁹ While non-standard work, such as temporary work, self-employment, informal economy work, subcontracted work, and short-term work, boasts flexibility and adaptability, many of these work arrangements provide little in terms of a worker safety net. Growing numbers of workers subsist without access to healthcare, unemployment insurance, workers' compensation, retirement benefits, paid leave, and other basic employee benefits.

The splits between access and non-access to crucial benefits also become issues of equity, where low-wage non-standard work forms, such as reliance on temporary or app-based work, disproportionately include Black and Latinx workers.³⁰ The COVID-19 pandemic uncovered and accentuated gaps in the worker safety net, underscoring the value in connecting employment to benefits to protect workers especially during economic disruptions.

III. Work-Supports and Infrastructure

Work-supports and infrastructure such as childcare, housing, transportation, and access to broadband and remote work have the potential to dramatically impact the life of the worker over the next five-to-ten years. While many workers have benefitted from changes to their work schedules as a result of the COVID-19 pandemic, including remote work opportunities, a number of significant needs have developed or become more pronounced.

²⁹ Gervais, Alexandra, Shelly Steward, Camryn Banks, and Mohona Siddique. "Portable Benefits in Action: A Roadmap for a Renewed Work-Related Safety Net." Aspen Institute Future of Work Initiative. www.aspeninstitute.org/publications/portable-benefits-in-action-a-roadmap-for-a-renewed-work-related-safety-net/.

³⁰ *ibid.*



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i. Demand for greater access and flexibility in childcare is far outpacing supply.

Prior to the pandemic, the early education and childcare system was deeply strained and over-capacity. According to former Commissioner of Early Education and Care (“EEC”) Samantha Aigner-Treworgy, the total number of childcare spaces available for children up to age 14 in Massachusetts before March 2020 was 230,000; however, during the same period there were an estimated 750,000 children in full-time working households likely needing childcare support.³¹

Once the COVID-19 pandemic hit the Commonwealth, an already strained childcare system was decimated. Childcare centers were shut for months due to the pandemic, and as they began to re-open they faced capacity limits, workforce closures and constant COVID quarantine and health challenges.

Many programs explained that although they have the capacity to expand to multiple classrooms, but they cannot find educators to watch and care for the children. This is partly due to the competition from parallel sectors and high operating costs of childcare centers making it difficult to increase salaries for these workers.

The high cost of childcare continues to pose significant challenges for families across Massachusetts. The annual private childcare cost in the state is roughly \$5,000 above the national average for home-based and \$6,000-8,000 above the national average for center-based childcare.³² According to the Economic Policy Institute, Massachusetts is second only to Washington, D.C. in terms of childcare costs.³³ Changing work schedules and employment uncertainty will continue to evolve as will childcare needs. Certain jobs will continue to have limited flexibility in terms of scheduling and work format.³⁴

ii. The need for elder care.

Similar to the childcare sector, there is a lack of available, affordable, and flexible elder care for workers caring for their loved ones.

³¹ Department of Early Education and Care. “The Future of Childcare.” October 2021. <https://malegislature.gov/Commissions/Detail/561/Documents>.

³² EEC, “The Future of Childcare.”

³³ Economic Policy Institute. “Child care costs in the United States: The cost of child care in Massachusetts.” www.epi.org/child-care-costs-in-the-united-states/#/MA.

³⁴ EEC, “The Future of Childcare.”



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Workforce gaps are especially severe in senior care. In the month prior to the pandemic, there were 5,600 job vacancies in nursing homes across Massachusetts in large part due to the industry's low wages, higher paying jobs in similar fields, and lack of advancement opportunities within the field.³⁵ The senior care workforce's exceedingly low wages for difficult jobs - home health aides, certified nursing assistants, nursing home staff, and others - will not create the added capacity the elder care system will need moving forward.

iii. Prioritizing self-care and mental health.

Due to the impact of the pandemic on individuals, there is a rising awareness for self-care, including one's mental health and well-being. A Blue Cross Blue Shield of Massachusetts Foundation Survey found that one-in-three Massachusetts residents over the age of 19 required behavioral health care for themselves or a close relative between January 2020 and March 2021.³⁶ Furthermore, 64% of those individuals stated that the pandemic had exacerbated their need for behavioral health care services.³⁷

The pandemic has led to significant mental-health challenges and issues of burnout and social-emotional health that will require new employment policies. It is important to ensure that workers are not only able to obtain employment in the future, but also to keep a job while balancing mental health and well-being.

Additionally, students and young adults experienced an increased need for behavioral health services during the pandemic and the need will likely continue beyond the pandemic. Supporting the mental health of students and young adults today will be critical for ensuring their success in the future – from time in the classroom to health outside the classroom, the Commonwealth's future depends on students and young adults being well-positioned to pursue education and careers in Massachusetts' future economy.³⁸

³⁵ Weisman, Robert. "Caregiver shortage emerges as a crisis for Massachusetts elders." *Boston Globe*, February 4, 2020. www.bostonglobe.com/2020/02/04/metro/caregiver-shortage-emerges-crisis-massachusetts-elders/.

³⁶ Blue Cross Blue Shield of Massachusetts Foundation. "Behavioral Health During the First Year of the COVID-19 Pandemic: An Update on Need and Access in Massachusetts 2020/2021." February 8, 2022. www.bluecrossmafoundation.org/publication/behavioral-health-during-first-year-covid-19-pandemic-update-need-and-access-0.

³⁷ Ibid.

³⁸ Martin, Naomi. "Here's what experts recommend to support your child's mental health." *Boston Globe*, September 6, 2021. www.bostonglobe.com/2021/09/06/metro/heres-what-experts-recommend-support-your-childs-mental-health/.



iv. Public transportation changes will likely persist.

The pandemic, and the resulting shift to hybrid and remote work models, has already changed commuting and transportation patterns and will require a re-imagining of transportation policy in the years ahead.

The pandemic-related changes in public transit usage mirrored broader trends. For example, the MBTA's Red Line train service saw a dramatic decrease in ridership – especially along the Cambridge/Boston corridor where many workers switched to remote or hybrid models. At the same time, bus service in lower-income areas of the city saw comparatively little change in ridership, since service-sector workers continued to work in-person.

The MBTA's usage statistics are striking. The Route 28 MBTA bus line, for example, was one of the MBTA's highest ridership bus routes both prior to and during the pandemic. It carried approximately 12,880 riders every weekday pre-pandemic and 11,381 as of October 2021.³⁹ This route runs from Mattapan Square to Ruggles Station by way of Nubian Square and Roxbury Crossing, serving a largely minority demographic, and more than two-thirds of the line's riders who are low- income.⁴⁰ The MBTA Red Line serving Cambridge – starting at Alewife and running through Harvard and Kendall Square to Quincy and Dorchester – saw close to 200,000 daily riders prior to the pandemic, and rebounded to only half that number by the end of 2021.⁴¹ And throughout the pandemic, the Red Line saw significantly more ridership on the Dorchester and Quincy end compared to the Cambridge end.

In addition to the MBTA, commuter rail patterns outside of Boston are also worth noting. The commuter rail, whose riders trend more toward professional workers living in suburbs and commuting into Boston, saw dramatic decreases during the pandemic, and ridership remains far below pre-pandemic levels: as of October 2021, commuter rail ridership remained less than 45% of baseline ridership numbers.⁴² Both the MBTA and commuter rail have and need to

³⁹ MassDOT. "Mobility Dashboard: Transit Ridership." https://mobility-massdot.hub.arcgis.com/#transit_ridership.

⁴⁰Massachusetts Bay Transportation Authority. "Pilot Program Offering Free Fares on Route 28 Bus for Three Months This Fall." July 26, 2021. www.mbta.com/news/2021-07-26/pilot-program-offering-free-fares-route-28-bus-three-months-fall?utm_campaign=curated-content&utm_content=Pilot+Program+Offering+Free+Fares+on+Route+28+Bus+for+Three+Months+This+Fall&utm_medium=sidebar&utm_source=hub&utm_term=bus.

⁴¹ MassDOT. "Mobility Dashboard."

⁴² Pofatak, Steve. "Future of Work." Massachusetts Bay Transportation Authority, October 2021. <https://malegislature.gov/Commissions/Detail/561/Documents>.

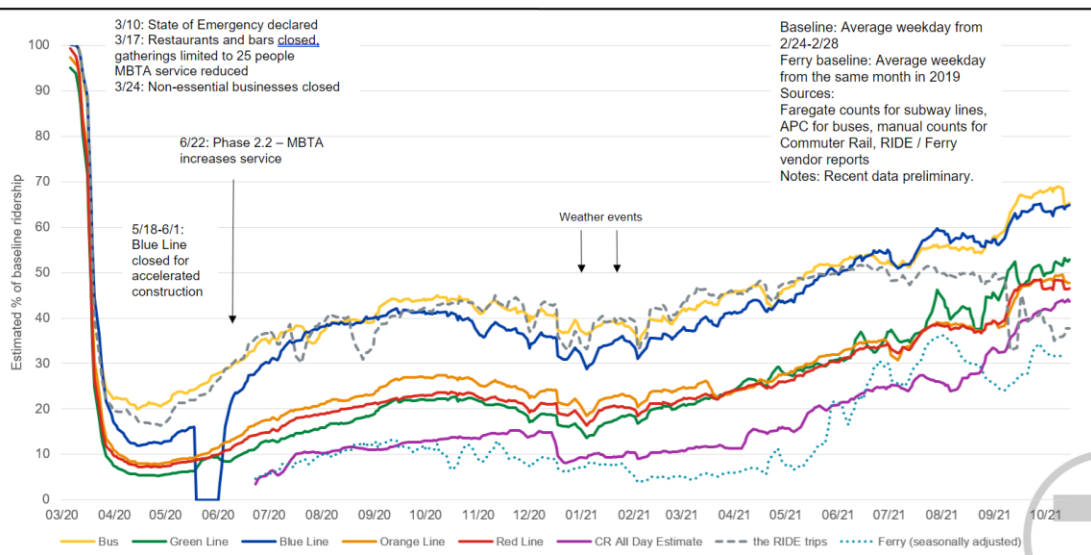


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continue to monitor commuting patterns to amend schedules that reflect new trends. The traditional 9 AM to 5 PM commuting pattern on the MBTA or commuter rail no longer exists.

Weekday Ridership by Line and Mode - Indexed to Week of 2/24 (5-day Rolling Avg.)



Commuting patterns are unlikely to “snap back” to their pre-pandemic baseline because the transition to remote, hybrid, and flexible scheduling models will be a permanent change, especially for workers in technology, legal, marketing, finance, and other professional fields. A rider survey conducted by the MBTA, for instance, demonstrated that only 58% of respondents expected to commute to work on-site on Mondays and 35% of respondents expected to commute to work on-site on Fridays in the future.⁴³ Similarly, the aforementioned Massachusetts Business Roundtable survey of 48 large corporate members found that 79% planned to embrace the hybrid work mode post-pandemic.⁴⁴ Employers are still experimenting with how hybrid may be defined, and the definition will vary by company and even within departments of companies. Given this, transit options need to offer flexibility to get workers to and from work at a range of hours while maintaining reliability and predictability to encourage ridership and minimize congestion on highways and roads.

v. Housing in Massachusetts is in crisis.

Massachusetts has some of the most expensive housing in the United States,

⁴³ Poftak, “Future of Work.”

⁴⁴ Massachusetts Business Roundtable. “Future of Work and MA Competitiveness.”



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and the COVID-19 pandemic has only increased costs in the housing market. In 2019, prior to the pandemic, the Commonwealth ranked 40th in housing affordability and 48th in overall affordability.⁴⁵ At the end of 2021, the median cost of a condominium (\$454,000) had jumped 19.5% since 2019 and the median cost of a single-family home was \$510,000, up 27.5% when compared to 2019 costs.⁴⁶

Rents and home sales, especially in Boston and Greater Boston, are now beyond even their pre-pandemic highs; costs have also increased in cities like Worcester and surrounding communities.⁴⁷ Between January 2021 and 2022, the median rent for a one bedroom in the city of Boston grew by 20.5% and now sits 9% above pre-pandemic levels, while San Francisco's rent rose by only 6.3% and remains below pre-pandemic levels.⁴⁸ There are many reasons for the Commonwealth's housing challenges, but one of the most significant is a dramatic lag between the growing demand and very limited, aging supply of available homes. Executive Office of Housing and Economic Development Secretary Michael Kennealy testified that there will be an estimated shortage of 125,000-200,000 housing units by 2030.⁴⁹

As part of the Baker Administration's Future of Work Report, several resident surveys were conducted and highlighted affordability as the top determinant when deciding where to live, especially in the context of remote and hybrid work.⁵⁰ Meanwhile, At least two challenges exists: firstly, some workers are tethered to their workplaces with little ability to absorb escalating rents – contributing to homelessness and housing instability; and secondly, as some workers are increasingly mobile in Massachusetts and around the world, the high cost of living may deter workers from staying in or relocating to

⁴⁵ "Affordability Rankings." *U.S. News & World Report*. www.usnews.com/news/best-states/rankings/opportunity/affordability.

⁴⁶ The Warren Group. "Press Release: Massachusetts Median Single-Family Home Price Tops \$500,000 in 2021." February 1, 2022. www.thewarrengroup.com/wp-content/uploads/2022/01/MA-December-2021-Sales-PR.pdf?utm_campaign=Public%20Relations&utm_medium=email&hsmi=202466255&hsenc=p2ANqtz-8T3B7qWrouEfA2UC8HwKB1UxVyZSjtsrJerjdY5201Q_mHWVA6gXWSyfZDA4nica0snnD7YuFr-QZW6Drh68-txUyCgA&utm_content=202466255&utm_source=hs_email.

⁴⁷ Young, Colin A. "Rising home prices leaving would-be buyers sidelined as Worcester County sales drop 14%." *Telegram & Gazette*, October 19, 2021. www.telegram.com/story/news/2021/10/19/rising-home-prices-massachusetts-worcester-county/8522038002/.

⁴⁸ Kohli, Diti. "Boston's rental market has reached an all-time high." *Boston Globe*, January 26, 2022. www.bostonglobe.com/2022/01/26/business/boston-rents-are-rise-starting-rival-san-francisco/.

⁴⁹ Kennealy, Michael. "The Future of Work Report." Executive Office of Housing and Economic Development, July 20, 2021. <https://malegislature.gov/Commissions/Detail/561/Documents>.

⁵⁰ McKinsey, "Future of Work."



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Massachusetts, a threat to one of the Commonwealth's greatest assets – its talent.

Workers will increasingly leave Massachusetts, or face constant challenges in securing stable housing, if policymakers do not take on the challenge of increasing supply and ensuring the state's workforce, especially those without the ability to work remotely, have affordable places to live and raise families.

vi. **Providing adequate access to broadband is essential in this digital age.**

Just as electricity or indoor plumbing became everyday necessities in previous centuries, broadband is now an essential service as well. Yet state policies have not caught up to this reality.

A number of cascading challenges exist in terms of access to the Internet and technology. First, some Massachusetts communities exist without broadband connectivity at all. Second, many residents have issues with the cost and quality of their connection. Third, still others do not have the equipment needed to fully utilize an Internet connection. Lastly, many lack the digital literacy to effectively use these services, even with an adequate connection and device.

The digital divide describes the gap between people who have access to affordable, reliable Internet service - and corresponding skills - and those who lack it.⁵¹ Internet access and affordability concerns were exacerbated by the pandemic as work and life moved online. In a September 2021 Pew Research Center report and survey, nearly half of broadband users with lower incomes said that as of April 2021 they were at least somewhat worried about paying their internet bill over those next few months.⁵² Furthermore, broadband users with lower incomes were roughly 20% more likely to say they often or sometimes experience problems with their connection than those with relatively high incomes.⁵³ Massachusetts Broadband Institute Director Michael Baldino noted that those least likely to have broadband access are communities of color. Citing a 2020 Brookings Institute Report, majority-white neighborhoods

⁵¹ National Digital Inclusion Alliance. "Digital Inclusion." www.digitalinclusion.org/definitions/.

⁵² McClain, Colleen, Emily Vogels, Andrew Perrin, Stella Sechopoulos, Lee Rainie. "The Internet and the Pandemic." Pew Research Center, September 1, 2021. www.pewresearch.org/internet/2021/09/01/the-internet-and-the-pandemic/.

⁵³ *ibid.*



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in the United States had a broadband adoption rate of 83.7%, while majority-Black neighborhoods had a broadband adoption rate of 67.4%.⁵⁴

Digital equity is a state where all individuals and communities have the information technology capacity needed for full participation in society, democracy, and economy.⁵⁵ In a MassINC policy paper promoting digital equity in Gateway Cities, the authors explain that low-income workers have dealt with affordability and Internet connection problems most acutely. ***Immediately preceding the pandemic, nearly one-quarter of Gateway City households did not have a subscription internet service at home, another 10% depended on unstable connections to the internet such as a mobile phone, and a similar proportion (28%) of Gateway City households did not have a computer at home.***⁵⁶ Additionally, Dr. Frank Robinson presented findings from the Alliance for Digital Equity in Western Massachusetts to the Commission on October 27, 2021 that found ***39% of households in Springfield do not have a desktop or laptop computer.***

A lack of digital equity in Massachusetts will translate to a number of concerns for workers both now and in the future as the demand for digital skills and literacy increases. According to Director Baldino, more than a third of Americans who lack adequate Internet service have difficulty creating professional resumes, contacting an employer via email, or filling out an online job application. Similarly, many job training programs today require online access. Furthermore, for middle-skilled jobs that offer family-sustaining wages typically require the ability to operate a computer, access the Internet, and use spreadsheets and word processing software.⁵⁷

IV. **Ensuring Equity and Racial Justice**

The COVID-19 pandemic and its resulting economic and social shifts has intensified the existing inequities that many workers will continue to face across race, class, and gender. Executive Office of Labor and Workforce Development Chief Economist Dr. Mahesh Ramachandran, in his July 20, 2021 presentation to the Commission, explained that “population groups negatively affected by future of work trends in the

⁵⁴ Baldino, Michael. “Future of Work Commission: Testimony by Michael Baldino, Director and General Counsel, Massachusetts Broadband Institute.” October 26, 2021.

<https://malegislature.gov/Commissions/Detail/561/Documents>.

⁵⁵ National Digital Inclusion Alliance. “Digital Inclusion.”

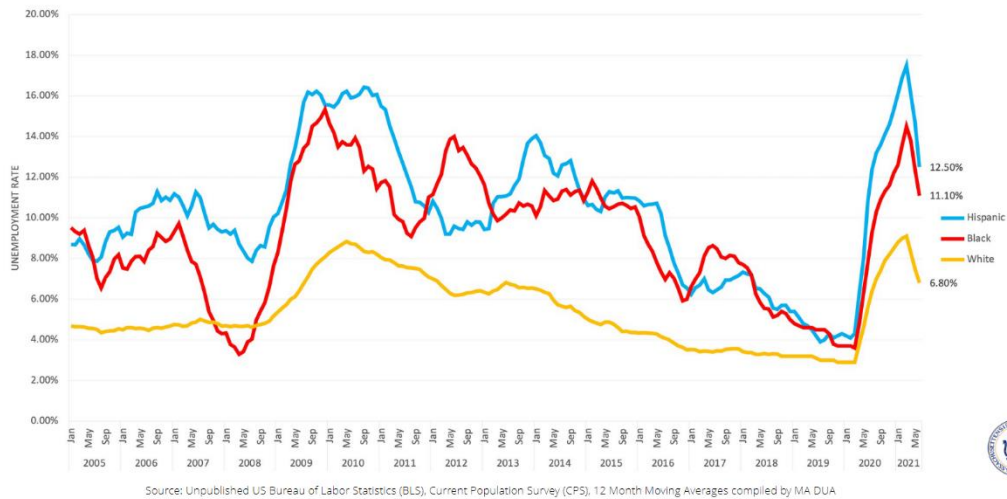
⁵⁶ Forman, Ben, Zayna Basma, and Kelley Gourley. “Going for Growth: Promoting Digital Equity in Massachusetts Gateway Cities.” *MassINC Gateway Cities Innovation Institute*, Policy Brief, November 2020. www.latinosforeducation.org/wp-content/uploads/2020/12/Promoting-Digital-Equity-in-MA-Gateway-Cities-MassINC.pdf.

⁵⁷ Baldino, “Future of Work Commission.”



Commonwealth are demographically skewed toward women, young people, workers without college degrees, and ethnic minorities.”⁵⁸

UNEMPLOYMENT RATE - As of June 2021 BY RACE



i. Inequities for minority workers have been exacerbated.

Secretary Acosta of Labor and Workforce Development, in her presentation to the Commission, stated that post-pandemic recovery based on race has been uneven and has accentuated inequities. As of June 2021, the unemployment rate for white individuals was 6.8%, whereas the unemployment rate for Black individuals was 11.1% and for Hispanic individuals it was 12.5%.⁵⁹ Additionally, increased adoption of technology and remote and hybrid work among many knowledge workers tend to trend in occupations in which white and male workers stay retained or quickly regain employment. Conversely, many front-line and service industry workers, who are disproportionately minority and lower-income individuals, were unable to regain employment in industries decimated by the economic impact of the pandemic such as restaurants, hospitality, childcare, home health care, and many others.⁶⁰

⁵⁸ Ramachandran, Mahesh. “Preparing for the Future of Work.” Executive Office of Labor and Workforce Development, July 2021. <https://malegislature.gov/Commissions/Detail/561/Documents>.

⁵⁹ Ramachandran, “Preparing for the Future of Work.”

⁶⁰ Alj, “Future of Work.”



ii. Women workers were also disproportionately impacted by workforce trends.

Prior to the pandemic, women made up approximately 48% of the U.S. workforce, yet accounted for 56% of workers who left the workforce between March 2020 and November 2020.⁶¹

In particular, women of color were impacted by pandemic unemployment most acutely. As the unemployment rate for all women went from 4% in March 2021 to 15.5% in April 2021, the rate for Black women in April 2021 increased to 16.4% and for Latinas it was even higher at 20.2%.⁶² During the same period, the unemployment rate for men went from 9% to 13%.⁶³

Moreover, between June 2020 and June 2021, the number of women in long-term unemployment increased by 11%.⁶⁴ Jobs that are predominantly held by women such as those in education, healthcare, childcare, hospitality work, and other occupations saw some of the most dramatic declines and layoffs during the COVID-19 pandemic. Closed schools, limited daycare slots, and skyrocketing childcare expenses left families struggling with work-life balance and family life responsibilities fell disproportionately on women. This, ultimately, led to many women leaving the workforce altogether.

As we look at post-pandemic return to work for the future worker, women will likely return at a much slower pace than men. They may struggle to find flexible employment options or adequate childcare services. Thus, job recovery for women will take an estimated 18 months longer compared to that of men.⁶⁵

iii. Supporting the immigrant workforce is imperative.

Language equity and fairness play a significant role in ensuring transparency and for those with low levels of English proficiency in the labor market. Many workers, for example, are not aware of job or training opportunities, because they are not advertised in their native language. Ensuring that the state workforce system and employers are capable of communicating with, and

⁶¹ McKinsey & Co. "Achieving an inclusive US economic recovery." February 3, 2021.

www.mckinsey.com/industries/public-and-social-sector/our-insights/achieving-an-inclusive-us-economic-recovery.

⁶² Szaniszlo, Marie. "As the coronavirus hits women workers, a recession becomes the 'Shecession.'" *Boston Herald*, June 21, 2020. www.bostonherald.com/2020/06/21/as-the-coronavirus-hits-women-workers-a-recession-becomes-the-shecession/.

⁶³ *ibid.*

⁶⁴ Ramachandran, "Preparing for the Future of Work."

⁶⁵ *ibid.*



training, workers in a language they feel comfortable with will provide new opportunities for non-native English speakers.

Along the same lines, providing programming that enables workers to learn English benefits these individuals and will help address workforce shortages. Language training that included English to Speakers of Other Languages (ESOL) programs was funded through *An Act relative to immediate COVID-19 recovery needs* passed by the Legislature in 2021 and included millions of dollars for ESOL and adult basic education training in order to tackle this problem head on. Individuals who take advantage of this type of programming will increase their chances of obtaining quality jobs and simultaneously expand the talent pool in Massachusetts.

Yet another barrier many immigrants face is the inability to use their licenses, certificates, and credentials obtained outside of Massachusetts and the United States. Many immigrants possess professional credentials from their countries of origin that cannot be used due to licensing laws and regulations.

iv. Entrepreneurship among minority communities should be actively encouraged.

As venture capital and the Commonwealth's startup community continues to grow in Massachusetts, it is essential to promote access and opportunity for entrepreneurship among low-income, minority, and women workers and students. ***In 2021, venture-funded startups in Massachusetts set a new record of \$34.8 billion; however, only a miniscule 0.4% went to startups led by Black founders, barely up from 0.3% in 2016.***⁶⁶ Addressing this inexcusable gap must be an urgent priority, especially given the role high-growth, venture-backed industries like life sciences and technology – including sectors such as fintech, digital health, cybersecurity, and robotics – play in the state's entrepreneurial ecosystem, labor market, and future economy.

v. Creating jobs for individuals with disabilities is critical.

Workers with disabilities faced numerous barriers to entering and remaining in the workforce, a challenge that existed well before the pandemic, increased during the pandemic, and will persist without intentionality to increase opportunities and inclusion efforts in the job market and workplace. Kathy

⁶⁶ Verma, Pranshu, and Hannah Green. "In Massachusetts, biased decisions leave Black startup founders with less capital." *Boston Globe*, January 27, 2022.
www.bostonglobe.com/2022/01/27/business/amid-startup-boom-black-founders-struggle-raise-venture-capital/.



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Petkauskos, Director at Work Without Limits, testified to the Commission on December 17, 2021 that among the approximately 375,000 working-age adults with disabilities in Massachusetts in 2019, over 200,000 were unemployed. By September 2021 the unemployment rate in the United States reached 4.4% yet twice as much for people with disabilities.⁶⁷

Prior to the pandemic, workers with disabilities were more likely than others to work from home. Despite this, because workers with disabilities are more likely to hold service industry and similar jobs, they have had significantly fewer options for remote or hybrid work as a result of the COVID-19 pandemic.⁶⁸

As we transition out of the pandemic, it is important to remember that these newer forms of hybrid and remote work have the potential to empower and include the disability community in the workforce.

V. Staying Ahead of the Technology and Innovation Curve

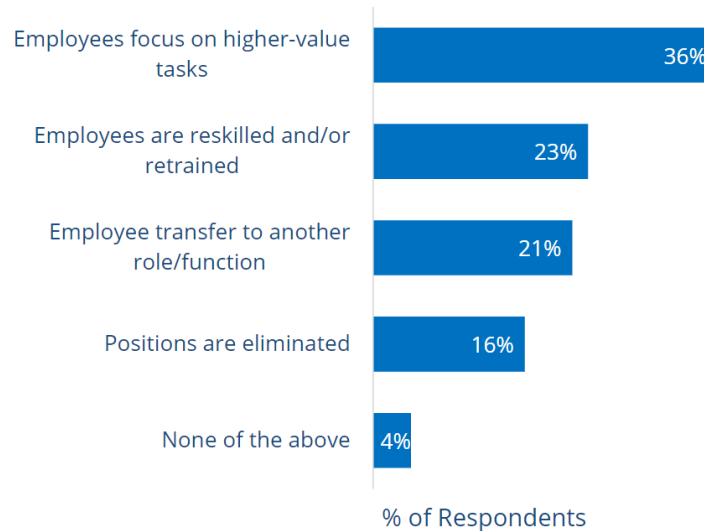
- i. Undoubtedly, the technology landscape will shift for the future worker over the next five-to-ten years. Automation is evolving and being integrated into workplaces at a rapid pace. Driverless trucks making deliveries, cashless stores reducing the need for cashiers, and drone deliveries limiting work opportunities for delivery drivers, for instance, all have the potential to upend the workforce as technology, automation, and artificial intelligence (“A.I.”) continue to advance.

As IDG CEO, Mohamad Ali, explained in his July 23, 2021 testimony to the Commission, automation will enable 36% of workers to focus on higher level and potentially more interesting tasks, while 16% of current positions may be eliminated. ***The accelerated adoption of automation over the next decade could result in both displacement and new opportunities for workers. It is vital to ensure equitable outcomes during this disruptive period, without exacerbating existing equity issues in the labor market.***⁶⁹

⁶⁷ Smith, Morgan. “People with disabilities still face barriers finding work during the pandemic.” *CNBC*, November 1, 2021. www.cnn.com/2021/10/29/people-with-disabilities-still-face-barriers-finding-work-during-the-pandemic-heres-how-companies-can-help.html.

⁶⁸ Kruse, Douglas, So Ri Park, Yana Rodgers, and Lisa Schur. “Fact Sheet on Disability and Telework During the Pandemic.” Rutgers University School of Management and Labor Relations, September 30, 2021. https://smlr.rutgers.edu/sites/default/files/Documents/Centers/Program_Disability_Research/FactSheet_DisabilityTelework_Pandemic_Sept2021.pdf.

⁶⁹ Ramachandran, “Preparing for the Future of Work.”



n = 300 (United States)
Source: Future of Work Survey, IDC, March 2021



Massachusetts must stay ahead of the curve and maintain its technology and innovation edge. As a world leader in the life sciences sector, the Commonwealth has put people to work in high-paying, high-quality biotech jobs thanks to hundreds of millions of dollars of worker and industry investment. In 2021, omnibus economic development legislation authorized \$50 million for a new Technology Research and Development Fund at the Massachusetts Technology Collaborative, to build-out regional clusters of excellence in BlueTech, Artificial Intelligence, Robotics, Advanced Manufacturing, and FinTech.

However, while certain jobs will be here to stay, many workers will be disrupted by the evolution in technology and automation. The latter workers will need to find alternative jobs or even sectors to work in, which makes Massachusetts' ability to recruit and train for the jobs of the future vitally important.



Former EEC Commissioner Samantha Aigner-Treworgy presenting on the future of childcare in Massachusetts at the Commission's meeting at Elms College on October 26, 2021.

Recommendations

WORKFORCE DEVELOPMENT AND EDUCATION

Expand existing workforce training infrastructure.

An essential part of preparing workers for the future is largescale workforce training. Providing pathways to entry-level jobs, career pivots, returns to the workforce, and upward mobility is critical to promoting a workforce adaptive to uncertainty. While Massachusetts has a solid existing workforce development infrastructure, the Commonwealth, along with the rest of the country, is currently ill-equipped to tackle the scale of training that is required to adapt to the current technological revolution.

The first step must be to invest heavily in the existing network of technical training, apprenticeship, work-based learning, and sector-based skilling programs. Entrenched programs with experience identifying talent needs and proven records of success must be able to scale up operations to serve the growing training needs.



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Continued labor shortfalls will also further incentivize better inclusion of the Commonwealth's underutilized labor pools, such as persons with disabilities and those re-entering society from a period of incarceration. While these communities are targeted by some existing programs – such as the Re-Entry Workforce Development Demonstration program and the Community Empowerment and Reinvestment Grant Program, both funding programs for former inmates re-entering the workforce – more workforce dollars must be available to scale-up operational capacity of existing programs and fund innovative and inclusive pathways for these labor markets.

The Commonwealth is also home to a wide-reaching infrastructure of community colleges, technical institutes, and universities. These institutions are able to provide skilling to students at scale through certificate and degree programs. Many of them have even established sector-based partnerships with employers in high-demand fields to administer direct pathways to skilled jobs. These institutions, both public and private, cannot be neglected if the Commonwealth hopes to attain or exceed its annual training goals. Such funding must also include minority-serving higher education institutions, to ensure both a full and equitable transition.

Promote the development of stackable credentials.

Stackable credentialing would allow workers and students access to an array of short-term skills courses, improving access to training for those who are looking for work and those who are currently working. Standardizing a skills system in this way would promote the acceptance of certificates across all employers through reliable, rigorous certification. Standardization would also allow for stackability – that is, provide sequential awards or courses that can progress through degree or certification levels.

Developing stackable credentials would allow for short-term skilling and up-skilling without the larger requirement of a two- or four-year advanced degree program. This would naturally embed the flexibility that many workers need to keep up with training demands while progressing through their career smoothly. The stackability concept would also greatly aid the challenges faced by students with some college credit but no degree. Certification in shorter increments better protects against unforeseen circumstances that prevent students from degree completion, allowing short-term access to skilled jobs and the option to return for further qualifications in the future.

Make workforce training dollars more flexible and adaptable.

While investing in the existing workforce infrastructure is necessary, it is not sufficient to meet the scale and scope of worker needs. Workforce funding must be resilient to outside



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factors and responsive to worker necessities. Currently, federal workforce training dollars – the source of the majority of workforce development funding in the Commonwealth – is inversely tied to the unemployment rate, making funding uneven and unpredictable. Flexible funding from the state to further operational capacity and infrastructure would better support the wide range of fixed costs associated with scaling up this network.

Flexible training dollars will also provide for innovation. Pilot programs, planning efforts, and other new approaches will need rapid and thorough funding to remain responsive to industry demands. Business engagement and support through workforce development, including curricula development based on industry needs, will be crucial in creating new career pathways and filling in-demand positions.

Finally, increased funding and flexibility to spend funds will better support the whole worker. The benefits of basic needs security and career counseling cannot be overlooked. Career mentoring and engagement with potential worker populations is proven to better connect workers to pathways and provide career on-ramps, especially among Black, Indigenous, people of color, people with disabilities, and other historically excluded communities. Furthermore, better supporting holistic needs such as reliable transportation and funding for basic equipment, as well as better connecting workers to the existing benefit supports, can make or break program participation in some cases.

Incentivize employer participation in all stages of workforce development.

According to an International Data Group survey, one in three employers stated that they do not know how to reskill their organization to meet future needs.⁷⁰ Employer input is vital to every step of the workforce training process, so the Commonwealth must make every effort to foster their participation rather than keep them on the outside of the process.

Engaging the business community in the program development stage will improve marketability of skills training, bolstering knowledge of skills in demand and promoting employer acceptance of credentials.

While many employers already have a role in training program implementation, higher participation rates and use of investments like the Workforce Training Fund and Workforce Competitiveness Trust Fund will increase the Commonwealth's capacity to train by reskilling incumbent workers and preparing unemployed and underemployed jobseekers.

Finally, employer partnerships with educational and technical institutions promote direct pathways to employment in the most efficient manner, aiding employers, workers, and

⁷⁰ Ali, "Future of Work."



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the Commonwealth as a whole. For instance, the Benjamin Franklin Cummings Institute of Technology (BFCIT) in Boston engages over 100 corporate and industry partners per year, fostering these partnerships to build career pathways and update curricula to ensure that training provided is relevant to workplace needs. Testifying at the Commission's December 6 hearing, President and CEO Dr. Aisha Francis highlighted BFCIT's efficient and innovative delivery of services, including industry-supported degree programs in burgeoning green-energy fields such as biotechnology manufacturing, building automation systems, and renewable energy technology.

Update data collection among training programs that focuses on outcomes.

Given the Commonwealth's long-term labor force changes and the levels of funding required for future workforce development and training, data-driven reporting and evaluation of programs would best promote efficiency among workforce training efforts. Much of the current data collected on workforce development programs focuses on compliance, rather than outcomes. While reporting on dollars granted and program recipients is a necessary step, it is important to also report on program outcomes – both short- and long-term. Mandating the collection and publication of data on outcomes – students served, jobs filled, wages ameliorated, and more – would promote more efficient spending by the Commonwealth, as well as promote accountability among existing programs to perform well.

Currently, data is often input manually to meet reporting requirements, losing valuable staff time that could be spent engaging workers and employers. This means that more thorough reporting requirements must be matched with investments to update and better integrate workforce I.T. systems and operations.

Develop defined and permeable pathways across education levels.

Rather than funding in silos, investments in workforce development should be coherent across education systems and levels in order to develop clear career pathways. Bridges to employment – including technical and vocational education, internships, apprenticeships, early college, and more – should be prioritized in equal measure to expand access to all students and jobseekers. Early access and promotion of these programs will help ensure that students have defined career pathways relative to their personal goals beginning in grade school. Greater exposure in science, technology, engineering, art, and math (STEAM) for students, especially girls and students of color, both in and outside of the classroom would also spark curiosity and interest for students to pursue academic study, careers, and opportunities in STEAM related roles of the future.



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Additionally, connecting career pathways for students in two and four-year institutions of higher education is also critical. While career development is more common in higher education, increasing access and opportunity for students to pursue higher education is needed. Then, once in higher education, it would be valuable to enhance connections between students and employers to ensure students gain applicable skills that employers need so students – the future talent – can compete for well-paying jobs and employers can find talent that would benefit their company.

Similarly, given the importance of the acquisition of ‘soft skills’ for current employment and lifelong learning, individuals most likely to be displaced by the current workforce disruptions described previously in this report, would greatly benefit from incentives to seek a comprehensive education that incorporates liberal arts elements and is delivered flexibly in a manner that works best for them. Such incentives would prevent inequities that result from establishing two types of workers: those holistically trained and those whose credentials were obtained through short-term trainings.

Support IT training at all levels.

Technology is rapidly infiltrating all workplaces, from remote-work capabilities in office-based industries to robots in manufacturing facilities. However, 25 percent of Massachusetts high schools do not host a single computer science course. The Commonwealth must do more to support better integration of basic I.T. skills into all grade levels by ensuring access to hard- and soft-ware, investing in I.T. teacher training, and better supporting schools in requiring computer sciences courses.

Similarly, college- and work-level adults also need to achieve digital proficiency. Incumbent workers may require upskilling to learn digital tools that have since been and may be integrated into doing business. Many academic and professional settings require operational knowledge of common software such as Microsoft Office, Zoom, and Blackboard, Canvas, and other educational platforms. Training to promote use of required platforms, as well as general technical abilities that would allow workers and students to troubleshoot and adapt on required hardware, should be accessible and affordable state-wide and for the long-term.

Expand access to ESOL training.

English for Speakers of Other Languages (ESOL) instruction helps build an adaptable workforce and improve job quality for non-native speakers. A study of the JVS English for Advancement program saw significant gains in annual earnings and job retention among



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participants within just two years, indicating that ESOL training is a significant “upskilling” factor for target populations.

ESOL instruction holds weight in “reskilling” among under- and un-employed populations. Service-based occupations likely to experience high levels of technological disruption also report higher levels of limited English proficiency. Integrating ESOL courses, both baseline and contextualized for the workplace, as a critical part of the Commonwealth’s workforce development network would significantly improve these career transitions. Increasing investments to expand existing programs and promote new offerings is essential to meet this need.

WORKER BENEFITS AND PROTECTIONS

Regulate data use in employment and hiring.

The technological revolution has also brought with it pervasive data use, where algorithms are increasingly being used to hire and monitor workers. Both of these processes must be properly regulated, as the Commonwealth’s current framework does little to prevent privacy violations and discrimination caused by data exploitation.

According to a 2019 survey by Paychex, 45 percent of HR leaders plan to increase investment in hiring technology. While automating hefty tasks like recruitment can greatly assist hiring staff, experts also acknowledge that ***automated decision-making holds the potential to enable employment discrimination***. Methods such as targeted job postings and algorithmic resume and video interview reviews can sometimes perpetuate discrimination in the hiring of people of color, people with disabilities, and non-native English speakers.

Further, the increased use of data analytics in the workplace opens the door for worker surveillance and other privacy violations if not carefully regulated. Workers and potential employees have the right to know: the right to know they’re being monitored, the right to know what is being monitored, the right to know how it is being used, and the right to dispute these data uses. Bolstering these rights and investigating policy solutions to regulate algorithmic “black boxes” is essential to the future of worker rights.

Invest in DEI initiatives and better promote representation.

Diversity, equity, and inclusion (“DEI”) in the workplace both now and in the future should also be supported by the Commonwealth. The state should enhance its DEI strategies across all branches of government to break down systemic barriers within the workplace,



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and, in turn, encourage private and non-profit sector employers and institutions to also create and promote greater diversity, equity, and inclusion in the workplace.

Advancing DEI for the future workplace requires investment of resources at all levels to ensure these values are fully embraced. Employee and leadership training on bias and allyship is a vital step to move from awareness to action, aiming to foster an inclusive workplace and equitable hiring and promotion practices. Policies and investments in training programs, instructors, and evaluations will further ensure that these trainings occur and continue across jobs and programs.

Furthermore, data – information that is real, accurate, aggregated, and anonymized – should be encouraged for any DEI initiatives in the public, non-profit, and private sectors. The state should set achievable and transparent goals for businesses and all branches of government. Working towards these goals, the Commonwealth should collect wage and demographic data to track diversity in its labor force and in workforce development programs. Policies ensuring collection and publication of this critical workforce data will keep organizations accountable to representation goals and help close the gender and racial wage gaps.

Extend benefits for the elder workforce.

A 2019 study by the National Academy of Social Insurance highlighted the variety of challenges that older workers are facing. Among many, these include re-employment struggles due to late-career lay-offs, growing care demands of aging spouses or parents, declining personal health, and inability to take on some arduous tasks they once could. As the Commonwealth's population ages, the median age of workers will continue to increase. To better support these workers and meet the demands of an aging workforce, the Commonwealth must improve supports for elder workers, both into retirement and late-career pathways.

Among those who wish to continue working, the state should incentivize hiring, retention, and continual training of older workers, who bring years of experience and skill to the workplace. Investments must also be made to foster a more comprehensive and accessible network of employee benefits for these older workers, to support family-care and healthcare demands. Defined and incentivized pathways for workers transitioning out of physically demanding positions would promote jobs among those who want them while helping to meet the Commonwealth's labor demands.



Ensure a supported transition to clean energy jobs.

The transition to clean energy to address and mitigate the effects of climate change will displace workers currently employed in the fossil fuel industries. As public policy expedites the transition to renewable energy sources, it is critical that public policy also guarantees these displaced workers full safety nets to ensure their financial stability. These workers should be supported with immediate access to employment and re-training opportunities in the clean energy industry. An expanded clean energy industry in Massachusetts must be held to the state's prevailing wage laws and community standards in order to ensure clean energy projects receiving public investment will create high-quality jobs.

WORK SUPPORT AND INFRASTRUCTURE ISSUES

Close the childcare access gap for working families.

As the future of work lends itself to increased schedule flexibility through hybrid and remote work options, so too must the childcare industry adapt to the needs of the future worker. Current childcare supply is not adequately meeting family needs – either in overall capacity, location of care, hours and schedules of care, or available services within community care structures. Therefore, more flexible schedules for childcare and options closer to home must be encouraged. Smaller-scale childcare programs based in the communities where workers live also needs to increase, so childcare options can be more easily customized and remain adaptive to family needs now and in the future.

More information is needed from the various business sectors, as they continue to hear concerns from their workers and shift to new forms of work. Knowing what childcare needs exist in each unique industry will assist the state in responding to specific circumstances. Parents who take advantage of new hybrid work models, for instance, will likely require part-time childcare with flexible scheduling – a significant change that the childcare industry will need to shift and respond to.

In addition, the overall high cost of childcare - as well as the rapid rate of these increases - must stabilize. The Commonwealth should prioritize the funding of state subsidies and other programs that would bring down the skyrocketing cost of childcare and provide affordable options to those individuals most in need of these services. Increasing subsidies for working families will enable them to continue in their employment, participate in upskilling, and not have to worry about working multiple jobs simply to afford childcare. Making state subsidies more flexible and affordable and extending subsidy availability across more demographics will help to stem the problem of high childcare costs and help to keep workers in their jobs as well.



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Increase salary and training opportunities for childcare workers.

By the tail end of the pandemic, most childcare businesses had reopened or had been purchased and reopened by a new owner. Yet, while these programs may have reopened, one of the largest challenges they still face is recruiting workers into the childcare space. In order to fill the gaps that existed prior to the pandemic and continue today, significant investment in salary increases, quality training, and recruitment of childcare workers is paramount. This must be done in a way, however, that avoids the creation of spiraling inflation for providers and families.

Workers both now and in the future will always need childcare; thus, there will always be job opportunities in the childcare sector. Massachusetts should place a strong focus on recruiting these workers through inexpensive training opportunities and increased wages. Recruiting should also include an acknowledgement that childcare workers are more like elementary and secondary education teachers and less like babysitters, and they should be paid, trained, and treated as such. The existence of more childcare workers would, in turn, allow for more childcare facilities and increasingly flexible schedules.

The Commission is also aware that the *Special Legislative Early Education and Care Economic Review Commission* (“Special Commission”), established pursuant to Section 106 of Chapter 227 of the Acts of 2020, was tasked with reviewing “how childcare programming is funded in the commonwealth and to make recommendations for potential legislative changes in funding and related policies as the commission deems appropriate.” With its report and recommendations released to the public and submitted to the Legislature on March 14, 2022, the Commission recommends reviewing the Special Commission’s findings and ensuring their recommendations are incorporated into this work as well.

Add and expand capacity for personal and industry-based elder care services.

Alongside the need for added capacity in the childcare space, Massachusetts must, likewise, build-out the depth of elder care services available to its residents. Elder care will be an especially constant and critical need for the future worker. Over the next five-to-ten years, a “silver tsunami” of Baby Boomers will mean many workers have the added responsibility of caring for their parents and older relatives. While in generations past, women often “stayed home” to care for the young children, and oftentimes elderly parents as well, both men and women in a single household now tend to work in increasingly equal amounts.

Both the state and employers must recognize that employees will need time and flexibility to care for older relatives. Caring for the aging population has been partially helped by the relatively new Massachusetts paid family and medical leave law, but more needs to be done to provide adequate time and flexible work schedules to address this need.



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Additionally, individuals should have the ability to find and pay for affordable and accessible professional elder care services when they are needed. The state must focus on building capacity in the elder care system and expanding options that reflect worker needs, including adult day centers, home health aides, support for family caregivers, as well as traditional nursing homes and assisted living facilities.

Provide increased mental health services for workers and acknowledge the need for self-care.

The stress of the pandemic on workers – the round-the-clock and isolating nature of working from home, masking during in-person work, and constant challenges related to childcare closures, and remote learning, not to mention the sickness and death directly caused by the virus itself, just to name a few stresses on workers over the past two years – have created the immediate need for more mental health services. Massachusetts must respond accordingly and provide ample mental health resources to the current and future worker. The state and businesses alike should also ensure that self-care and mental health services and awareness are intertwined with the other benefits and supports afforded to the future worker.

Expand traditional public transportation services to fit the commuting pattern and needs of the worker.

The Commonwealth must first recognize that workers in different sectors will often demand a range of transit options. There will always be a strong need for affordable bus and rail service, for instance, and high-quality public transportation for lower-income individuals who cannot afford cars and need a means of getting to work. Conversely, Massachusetts must respond to new patterns of commuter travel due to hybrid and remote work models and amend schedules and prices of public transportation to reflect the flexibility employees need.

With significant changes to the weekly commuting patterns, schedules and fares should respond accordingly. There must be a focus on less familiar travel patterns and schedules, including regular commuter rail service instead of rush hour commutes; reverse commutes to communities outside of the Greater Boston region; and three-day commutes rather than the traditional five. Ticket options like the MBTA's commuter rail flex pass that provide less rigid timelines and extended durations should be made permanent. The MBTA must also continue to communicate with businesses about the schedules they require for their workers and what transportation needs are today and may become in the future.



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Expediting passenger rail projects, including Pittsfield-to-Boston and South Coast rail, should be prioritized in the state's transportation plan and will serve hybrid workers and their transportation needs well. The hybrid and remote worker will tend to see fewer daily commutes as traditional offices are utilized by employers less often. An individual working remotely in Springfield, for example, may only need to commute into an office in Boston a few times each month. Rail service that is affordable and reliable will serve workers that require longer distance, lower frequency trips tied to specific purposes, as opposed to the older model of shorter, daily trips on set morning and evening schedules. It will also help to take cars off the roads, thereby reducing carbon emissions and limiting the wear and tear on roads and bridges.

Moreover, extended commuter transit options for workers would present job opportunities further out into the Commonwealth than previously contemplated. The need for affordable real estate for businesses could also be achieved by better connecting Gateway Cities like Springfield, Lawrence, and Fall River to the rest of the state. All these communities boast under-utilized mill space and other areas for development, but they are not fully connected to existing technology, manufacturing, and other clusters where high-paying jobs are located. Better transportation, combined with a remote work option, opens these cities to re-investment and sustained job creation.

The high cost of transportation must also be acknowledged as a barrier to employment and addressed appropriately. Low-income workers, in particular, should be presented with affordable public transit options that will get them to and from work each day. Massachusetts should target additional rail and bus lines used by primarily low-income workers for transportation to and from work that would benefit from fare reductions.

The nexus between adequate public transportation and increased, affordable housing options must also be acknowledged. If the state establishes a reliable and affordable inter-city public transportation system, connecting the Commonwealth to Boston and beyond, housing options become available and more affordable in places previously not considered.

Utilize existing housing development and zoning reform tools to increase housing options across the Commonwealth.

The Commonwealth must create and maintain accessible, affordable, and alternative housing options across the state in order to attract and retain future workers. Overall, the state must provide significantly more housing units because supply has not kept up with demand; however, we must also pay special attention to the need for affordable housing units. The state's increased housing stock must also be targeted to all regions of the state and include a variety of types of housing for individuals and families to choose from.



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Massachusetts should provide enough resources and programs to ensure the housing inventory meets the needs of current and future workers. Thus, we must focus on 1) new housing production 2) housing refurbishment initiatives, 3) affordable housing production, and 4) homeownership assistance.

The Commonwealth must also lean into recently passed and proposed zoning reforms and housing development initiatives that will increase housing stock and create more affordable and subsidized housing units. Housing Choice zoning reform helps cities and towns approve smart growth zoning and affordable housing and will increase multi-family housing units across Massachusetts, while MBTA Communities zoning requires designated communities near public transit stations to be zoned for at least one district of reasonable size in which multi-family housing is permitted as of right. Both of these zoning reforms became law in 2021, and fully implementing them must be a priority.

The Housing Development Incentive Program (“HDIP”) gives Gateway Cities, specifically, the ability to develop market rate housing and expand housing stock. In addition, HDIP has the added benefit of increasing residential growth in Gateway Cities and promoting neighborhood stabilization in designated areas. Transit-oriented development provides mixed-used development around or near a transit station or corridor and has the dual benefit of providing market-rate housing and investing and revitalizing community centers.

Aside from funding the construction of market-rate housing in Massachusetts, the state should also double-down on policies that encourage the development of affordable and subsidized housing units. These more affordable housing must be available in municipalities across the Commonwealth.

A special emphasis should be placed on the connection between housing and adequate public transportation options as well. If the state establishes a reliable and affordable public transportation system, connecting the Commonwealth from Boston and beyond, housing options become available in places not previously contemplated. For example, Gateway Cities could become feasible, affordable options to potential homebuyers. Those cities that are primed for future workers to settle should be prepared to advertise what they have to offer. The state should bolster these efforts by providing cities and towns with funding and programs that assist them in advertising their housing stock to hybrid and remote workers.

Invest in downtowns and Main Streets to entice workers to settle in new regions of the Commonwealth.

With a shift away from work in the office from Monday through Friday, workers will spend more time in the communities where they live. As a result, Massachusetts should bolster the downtowns and “Main Streets” of cities and towns where hybrid and remote workers will now spend more of their time. Doing so will have a dual positive impact – 1) local



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businesses will benefit and, subsequently, hire more workers; and 2) bustling downtowns will attract remote and hybrid workers to live and work in these communities.

Current Massachusetts initiatives geared towards communities such as the Community One-Stop for Growth program, a single application portal and collaborative review process of community and economic development grant programs, and the Massachusetts Downtown Initiative, which provides a range of services and assistance to communities seeking help on how to revitalize their downtowns, must be reinforced and scaled.

Funding programs that assist communities with development must also be adequately resourced and administered. MassWorks Infrastructure grants, for example, provide large and flexible capital funds to municipalities and other eligible public entities primarily for public infrastructure projects that support and accelerate housing production, spur private development, and create jobs. The Massachusetts Vacant Storefront program grants funding to communities in an effort to revitalize their downtowns and commercial areas.

Close the digital divide and promote digital equity by investing in broadband and IT for lower-income workers.

Providing access to affordable and reliable Internet service must be a priority. Brought about, in part, by the pandemic, computer and Internet focused work – including remote and hybrid work – will also necessitate broadband access. Massachusetts should ensure affordable broadband is available across the state for workers who will need it to succeed in the future. This should be done by providing adequate funding and resources to ensure adequate broadband in every city and town.

Digital equity should be a matter of right for all Massachusetts workers both now and in the future. The state should prioritize funding programs that promote digital literacy and provide or subsidize IT and technology needs for the lowest-income workers trying to enter or remain in the workforce. Today, the state often supports and engages workers online, through webinars, video meetings, and other means. Often, these workers are without reliable Internet or lack a single computer needed to make a living, train for a new or higher-paying job, apply for a job, or search for work.

The Mass Internet Connect program, run by the Massachusetts Technology Collaborative (“MTC”), in concert with MassHire, distributes IT and technology resources to Massachusetts residents actively working with MassHire to obtain employment. The resources provided include those deemed most necessary to overcome a technology barrier hindering an individual’s employment or upskilling – examples include digital literacy learning, technology devices, or a monthly Internet service charge subsidy. This is the type of program that, in the next five to ten years, should be scaled and funded at a level high enough to significantly dent the digital equity divide.



ENSURING EQUITY AND ECONOMIC RACIAL JUSTICE

Place a primary focus on equity and inclusion when creating policies for all workplaces and all educational initiatives that promote workforce development

A Commonwealth where certain workers thrive, and others fall behind is neither healthy nor sustainable. Over the next five-to-ten years, the workforce policies, regulations, and programs put in place by the Commonwealth must be built on a foundation of diversity, equity, and inclusion. These key tenets must also be reflected in childcare, transportation, housing, broadband, and other work support and infrastructure issues required for workers to succeed.

Minority workers, many of whom face the dual burden of working low-paying jobs that also do not lend themselves to remote work, require the capacity to train for occupations in higher-paying sectors. That capacity will likely include the need to bridge the digital divide and promote digital equity.

Furthermore, with a high likelihood that much of the job displacement faced by workers of the future will impact the minority population, strategic upskilling and reskilling efforts must take place immediately. Connecting workers with education opportunities that will lead to new, higher-paying careers must also be prioritized. Massachusetts should be intentionally connecting these displaced and underemployed workers to the jobs of the future, which will take engagement from both the state and private sector.

Massachusetts should be visible and vocal about the need for a major focus on equity and inclusion efforts regarding training, employing, and supporting the workforce of the future. Reinforcing the state's intention to create a cultural shift both in the public and private sectors will encourage other businesses and employers to do the same. Bolstering those beliefs with DEI training, programs, and incentives for employers to be active partners in this shift will further reinforce the state's position and encourage change. And backing up these efforts with accurate and robust data on equity and inclusion of minority workers will further reinforce these goals.

Provide support for women to return to the workforce.

As women aim to reenter or remain in the workforce post-pandemic, Massachusetts must provide them with resources to overcome the many barriers they will face moving forward. Work-adjacent supports such as expanded access to childcare and flexible transit options are especially needed for female workers to succeed.

Providing flexible and affordable childcare options should be a top focus of the Commonwealth. Funding to subsidize and sustain childcare needs and expanding the capacity of the childcare workforce through increased training and wages are needed



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immediately. The state should, additionally, place a special emphasis on increasing childcare options in communities where many families are now living and working due to the hybrid and remote work schedule. Affordable and flexible public transportation will also get commuting mothers, including remote and hybrid workers, from childcare drop offs to their jobs, and back again with added ease.

Since some women will likely see job displacement at some point in the future, the Commonwealth should focus on upskilling and reskilling female workers in the short-term. For women, losing jobs in the administrative and office support sectors, for example, means that training for available, high-paying jobs in industries that are now flourishing must take place. With Black and Hispanic women over-represented among the service industries vulnerable both to COVID-related and technological disruptions, reskilling must also be targeted and inclusive, in order to ensuring minority populations are not left behind. Providing alternative job skills and training paths for female workers will give them capacity to insert themselves directly into the work of the future.

Furthermore, as women left the workforce to care for children, the resulting long-term gap in employment and embodiment of traditional gender roles led to employer bias in certain instances. It is both the Commonwealth's and business sector's responsibility to help overcome employer bias by providing demonstrated support for the hiring of female workers and increasing opportunities for women to rejoin the workforce.

Reinforce educational equity for low-income students and students of color.

A McKinsey and Company December 2021 study found that the existing educational gap between students in majority White and those in majority Black schools has widened by three months during the pandemic⁷¹. Continuing to address the gap in access to optimal educational opportunities at the pre-K to 16 level will reinforce equity for current and future Commonwealth workers.

Access to affordable quality early education is closely linked with workers' childcare needs addressed in this report. At the K-12 level, studies have demonstrated the critical importance of students' exposure to even one good educator. Therefore, a systems approach to preparing a diverse pipeline of great educators for all schools, as is the model for the Cynthia A. Lyons' Center for Equity in Urban Education at Elms College, for example, should be the long-term approach.

At the post-secondary level, the Commonwealth of Massachusetts has been blessed with a diversity of higher education institutions that offer access to students in keeping with

⁷¹ Dorn, Emma, Bryan Hancock, Jimmy Sarakatsannis, and Ellen Viruleg. "COVID-19 and education: An emerging K-shaped recovery." McKinsey & Co. www.mckinsey.com/industries/education/our-insights/covid-19-and-education-an-emerging-k-shaped-recovery.



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their aspirations as well as their life circumstances. The COVID-19 pandemic is threatening this universal access; college enrollment has dropped precipitously in two years, particularly for low-income students and students of color who are overrepresented in community colleges and non-elite, private institutions. Providing incentives to maintain college access to low-income students and students of color in the near term is a critical component of reinforcing educational equity.

Support the immigrant workforce through language training and accessibility.

Employers now and in the future will continue to have difficulty filling available jobs if they don't take advantage of the entirety of the potential workforce. In an effort to plug those holes, Massachusetts should: 1) continue to support immigrant workers who are endeavoring to become legal residents; 2) promote language equity and fairness in terms of access to the workforce; 3) prioritize upskilling immigrant workers for the jobs of the future; and 4) ensure jobs typically held by immigrants are well-paying and engender dignity and respect for the worker through strong worker protections.

The Executive Office of Labor and Workforce Development, along with the MassHire Career Centers, should advertise employment and training opportunities, as well as their programs and services, in a multitude of languages. These entities should also have staff able to speak with – and train – individuals who do not consider English as their first language. Speaking to workers in a language they feel comfortable with will further encourage their participation in the workforce.

As mentioned among the workforce development initiatives earlier, continuing to fund and scale programming that enables workers to learn English is paramount to connecting workers with higher-paying jobs and should be prioritized by the state. Language and professional training programs such as ESOL and others will have the dual effect of helping employers fill jobs that are currently sitting vacant.

Massachusetts should also investigate the possibility of expedited credentialing and licensing processes for immigrants who come to Massachusetts with experience and skills from their countries of origin. Streamlining the licensure process for workers who are qualified in another country in certain occupations would get immigrant workers and professionals out in the labor market sooner, and also help address acute shortages, especially in fields like manufacturing, healthcare, and construction.

Encourage entrepreneurship within the minority community.

Minority individuals interested in pursuing entrepreneurship should be armed with the resources and support necessary to succeed in the startup and small business space. Providing state funding directly and intentionally to minority entrepreneurs is one



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important way to scale their path to success. Establishing a state program that specifically invests in minority-owned and minority-led start-up companies and entrepreneurs in Massachusetts. The goal would be to provide technical and financial support to these start-up companies and educate and enable them to acquire access to additional capital. Creating a program like this one for minority entrepreneurs would not only direct state funding to these important endeavors, but it would also send a message to the startup and venture capital community that it is smart to invest in them.

Incorporate individuals with disabilities into the state’s plan for the future of work.

In formulating any recommendations for the success of the future worker, the disability community must be included. Employer incentives to hire the future worker, for example, should include programs that support and sustain individuals with disabilities.

The 2020 report released by the Joint Committee on Children, Families, and Persons with Disabilities WorkAbility Subcommittee noted among their recommendations the importance of disability hiring benchmarks for small businesses and state contracting alike. For instance, initiatives such as the disability hiring tax credit, signed into law in 2021, look to further promote the hiring of workers with disabilities and tap into this underutilized labor force.

Resources – including funding, programming, and staffing – should be provided through the Executive Office of Health and Human Services and the Executive Office of Labor and Workforce Development to enhance the capacity of these offices to support individuals with disabilities in their efforts to obtain and maintain employment. Support should also be extended to providing equal access to worker benefits.

Furthermore, the capacity of the Commonwealth’s MassHire Career Centers should be properly resourced to provide the same level of job search and job skills training assistance to individuals with disabilities that all workers receive.

New technology that exists, both now and in the future, should be used to train and employ individuals with disabilities. The enhanced utilization of hybrid and remote work by employers, for instance, should be used to the advantage of workers with disabilities. Conversely, policies should be put in place to prevent the discrimination of individuals with disabilities from any new forms and methods of employment that emerge.

Many jobs in the future will not allow for remote work and those that are hybrid will still require occasional travel to an office. Individuals with disabilities should be afforded ample transportation options that adapt to their work schedules and enable them to get to work.



STAYING AHEAD OF THE TECHNOLOGY AND INNOVATION CURVE

Ensure Massachusetts maintains its worker training and workforce quality edge in new and emerging technology sectors.

Massachusetts must preserve and expand its edge in the technology and innovation sectors, since this is where a large portion of new job creation will originate.

While certain jobs will remain, many occupations will be impacted - or even erased - by evolution of technology and automation. Many workers will need to find alternative jobs or even sectors to work in, which makes Massachusetts's unique ability to recruit, train, and hire for the jobs of the future vitally important.

Through substantive investments of well over \$1.5 billion in the life sciences sector in 2008 and 2018, the Commonwealth has become a world leader in the industry and put people to work in high-paying, high-quality jobs that are here to stay for the foreseeable future. With the need for yet another infusion of funding coming up in 2023, Massachusetts should, again, invest in a sector creating hundreds of thousands of jobs for Massachusetts families.

The Commonwealth should also focus its efforts on creating new "regional clusters" of excellence in BlueTech, Artificial Intelligence, Robotics, Advanced Manufacturing, and FinTech contemplated in the 2021 economic development law. Utilizing the \$50 million in the state's Technology Research and Development Fund in conjunction with Massachusetts Technology Collaborative will not only expand on these emerging technology sectors, but it will also place a much-needed emphasis on creating technology jobs in new regions of the state that have thus far not benefited from the explosive growth in Kenmore Square and the 128 corridor.

Continue to learn about and respond to the impacts of automation on the future worker.

To understand when and how the workforce might change as a result of automation and A.I., Massachusetts must establish a baseline of where we are and acknowledge that workforce needs will continue to evolve.

As emerging technologies and industries progress, we must be prepared to track and analyze the implications they will have on the workforce. This must be done by both the state – the Executive Office of Labor and Workforce Development, the Executive Office of Housing and Economic Development, and the Legislature – and employers alike.

We must keep employers engaged and at the table regarding the future of work, as different industries will not all experience the same impacts.



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With employers as willing participants in the data collection process, we will be able to ask them: 1) what they are seeing in their specific sectors; 2) what they need to provide the worker of the future with opportunities for employment; and 3) what they expect will happen in the future. With a continual eye on the horizon, Massachusetts should be ready to tackle any obstacles – or utilize any benefits – A.I. and automation place in front of our future workers.



Appendix

Hearing 1 (December 2021): List of Testimony

Name	Organization
Claudia Quintero	Central West Justice Center
Steve Striffler	University of Massachusetts Boston, Labor Resource Center
Kemi Jona	Northeastern University, Assistant Vice Chancellor for Digital Innovation and Enterprise Learning
Tarshia Green-Williams	Action for Equity
D. Beth Griffith Felipe Martinez	Boston Independent Drivers Guild
Tim Reardon	Metropolitan Area Planning Council (MAPC)
Jane Steinmetz	EY, Boston Office Managing Principal
Frank Callahan Jr.	Massachusetts Building Trades Council, President
Aisha Francis	Benjamin Franklin Cummings Institute of Technology, President and CEO
Renée Landers	National Academy of Social Insurance
Jonathan Paz	Coalition to Protect Workers' Rights

Hearing 2 (December 2021): List of Testimony

Name	Organization
Mary Havlichek Cornacchia	Massachusetts Nurses Association
Sean R. Gallagher	Northeastern University, Executive Director of the Center for the Future of Higher Education and Talent Strategy
Kathy Petkauskos	University of Massachusetts Chan Medical School, Director of Work Without Limits
Henry De Groot	Massachusetts Drivers United
Christopher Gilrein Nicole Overley Sam Combs	TechNet Deloitte Coursera
Daphne Phalon Jori Blumsack Tricia Canavan	Massachusetts Staffing Association