ADVANCING WORKFORCE EQUITY IN BOSTON
A BLUEPRINT FOR ACTION

PolicyLink

USC Dornsife Equity Research Institute

National Fund for Workforce Solutions

In partnership with SkillWorks

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The USC Dornsife Equity Research Institute (formerly known as USC PERE, the Program for Environmental and Regional Equity) seeks to use data and analysis to contribute to a more powerful, well-resourced, intersectional, and intersectoral movement for equity.

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Burning Glass Technologies delivers job market analytics that empower employers, workers and educators to make data-driven decisions. The company's artificial intelligence technology analyzes hundreds of millions of job postings and real-life career transitions to provide insight into workforce patterns.

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This report was produced by the National Equity Atlas, a research partnership between PolicyLink and the USC Equity Research Institute.

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FOREWORD

In this time of social upheaval and racial reckoning, Covid-19 has forced us to confront deep vulnerabilities in our economic system. The measures that have long been accepted as signaling a healthy economy—booming stock market, low unemployment, record corporate profits—hid the painful truth that the US economy is built on far too many low-wage, low-quality jobs and deeply entrenched racial occupational segregation that has left 100 million people in the US economically insecure.

Our nation cannot afford another inequitable "recovery" like the one that followed the Great Recession. Dismantling structural racism must be at the center of our response to this crisis, which presents an opportunity to redesign a more just, inclusive, and sustainable economy: one built around jobs that actually boost the economy, not just prop it up, and one that values the well-being and dignity of all workers so that they may achieve their full potential.

Racial inequities are entrenched in the workforce development system. While the problems of workforce inequity are national, many of the best solutions are local—and the *Advancing Workforce Equity* series represents the insights of disaggregated data and the transformative power of local leadership, design, and influence in five US regions that are poised to put this research into action: Boston, Chicago, Dallas, San Francisco, and Seattle.

Achieving workforce equity is a key component of building a thriving and inclusive economy that benefits all workers, residents, and communities. It will require coordination, collaboration, and integrated solutions across multiple systems. This calls for a systems thinking mindset and bold action. Business leaders and employers must adopt new mindsets and new practices that prioritize workforce equity and good jobs. Policymakers and philanthropic and community

organizations must align their resources and efforts toward ensuring that working people can be uplifted rather than dislocated and insisting on high standards of job quality for all workers. The time is now.

Michael McAfee, President and CEO, PolicyLink
Amanda Cage, President and CEO, National Fund for Workforce Solutions

The *Advancing Workforce Equity* project supports regional workforce partners to develop explicit, data-driven equity strategies. The communities involved—Boston, Chicago, Dallas, San Francisco, and Seattle—are partners in the National Fund for Workforce Solutions national network of workforce practitioners. Each city formed equity workgroups to guide the work, identify the key drivers of inequity, and prioritize actionable strategies to advance equity through their policy efforts, programs, and investments.

The work is documented in this series of reports, which will serve as the basis for long-term equity-focused efforts. This work is a collaboration between the National Fund for Workforce Solutions and the National Equity Atlas, a partnership between PolicyLink and the USC Equity Research Institute.

2.0
PREFACE

It has become cliché to the point of farce to call 2020 “unprecedented.” And while it’s true we haven’t ever had a global pandemic, an economic recession, and a racial justice awakening in the same year, none of these are new problems. The racial and economic inequities in Boston are as deep as they are longstanding. Covid illuminated them, it didn’t create them.

Those of us in workforce development need to be intentional in our efforts to not only help people get jobs, but to get them careers. And, further, those careers must promote genuine economic mobility in ways that close centuries-old racial opportunity and equity gaps. These gaps are not accidents, but the result first of policies and practices that consciously created inequities and then of allegedly “colorblind” policies that sustained those inequities. As the gaps were intentional, so too must be our remedies.

But we cannot remedy problems we don’t name. This is why we are so proud that SkillWorks has partnered with the National Equity Atlas, Burning Glass Technologies, and the National Fund for Workforce Solutions on this report. We also want to thank our partners at the Boston Foundation, Hack.Diversity, the Herb and Maxine Jacobs Foundation, JPMorgan Chase, the Loop Lab, Per Scholas, Resilient Coders, CCHERS, and the United Way of Massachusetts Bay and Merrimack Valley for their valuable insights as well. Working together, we can fulfill America’s unkept promise of justice for all, and create meaningful pathways to prosperity for all workers of greater Boston.

SkillWorks

3.0
SUMMARY

Throughout 2020, Covid-19 has assaulted the health and economic well-being of communities and workers across the United States. In the Boston metropolitan region, as in the rest of the nation, people of color have been overrepresented in the essential jobs most likely to put workers at risk of exposure to the virus and in the nonessential jobs most deeply impacted by economic shutdown orders enacted to stem its spread. The pandemic has exposed and deepened racial inequities built into the structure of the labor market and spurred the acceleration of automation and digitalization, putting workers of color at a higher risk of job dislocation than their White peers. And in the midst of these transformations, the costs of racial inequities in Boston continue to mount as the region grows more diverse.

This regional analysis is part of the *Advancing Workforce Equity* series building on the insights of our previous research, *Race, Risk, and Workforce Equity in the Coronavirus Economy,*[1] and *Race and the Work of the Future,*[2] to inform a tailored, ground-level blueprint for advancing workforce equity. This report provides a data-driven evaluation of racial inequities in workforce outcomes in the Boston metro region, examining how systemic racism manifests in the labor market, how the Covid-19 pandemic is impacting these dynamics, and how automation is projected to affect industries and workers in the area. We analyzed labor force data from the Bureau of Labor Statistics, disaggregated data on wages and employment from the 2018 5-year American Community Survey microdata from IPUMS USA, data on current and historical job demand and automation risk in the United States from Burning Glass Technologies, and other sources of local data for the region. Unless otherwise noted all data presented in this report are based on the authors' original analysis of these sources (further details can be found in the methodology).

Our key findings include the following.

- **As the workforce grows more diverse, racial inequity carries mounting economic costs.**

  — ***People of color are a large and growing share of the region's workforce, but they are not sharing equitably in its prosperity.*** Workers of color make up 29 percent of the Boston metro region's workforce ages 25 to 64 years, and 37 percent of the next-generation workforce (the population under 25 years of age). But Black and US-born Latinx workers are two to three times as likely as their White counterparts to earn wages under $15/hour, and Latinx immigrants are four times as likely.

  — ***Racial economic exclusion hampers the region's economic growth.*** In 2018 alone, racial gaps in wages and employment for working-age people cost the Boston metro region's economy almost $45 billion in lost economic activity. With racial equity in income, the average annual income of Latinx and Native American workers would be nearly twice as high, while the average income of Black workers would be about 80 percent higher. The region's GDP would increase by roughly 10 percent.

- **The structure of the regional economy and labor market reinforces racial gaps in employment and wages.**

  — ***Occupational segregation is stark.*** Despite the growing diversity of the Boston metro workforce, clear patterns of occupational segregation persist. While White workers are overrepresented in many of the professional occupational groups driving the region's economic growth, workers of color are crowded in lower paying occupational groups.

  — ***The region faces a shortfall of good jobs that do not require a college degree.*** Overall, only 47 percent of Boston metro workers are in good jobs (defined as stable, automation-resilient jobs with family-sustaining wages). But the share drops to 12 percent among workers in jobs that do not require any education beyond a high school diploma. This good-jobs gap has significant racial equity implications, considering that 39 percent of Black adults, 46 percent of US-born Latinx adults, and 61 percent of immigrant Latinx adults have no college education.

- **People of color—especially Black and Latinx residents—face systemic and structural barriers to opportunity.**

  — ***Equity in higher educational attainment is essential, but insufficient, to achieve racial economic inclusion.*** Racial inequities in employment and wages persist across all levels of educational attainment in the Boston metro. On average, White workers with only a high school diploma earn more ($23/hour) than people of color with an associate's degree (around $21/hour). While higher education tends to narrow racial gaps in labor force participation and employment, it actually widens gaps in median hourly wages.

- **The Covid-19 pandemic is compounding pre-existing racial inequities and economic inequality, and is likely to further disrupt the labor market by accelerating automation and digitalization.**

  — ***Workers of color are disproportionately left out of the early jobs recovery in labor-market demand.*** In the Boston metro region, online job demand is returning most quickly in occupations where people of color were concentrated before the crisis, but unemployment remains elevated among Black and Latinx workers relative to their White counterparts.

  — ***People of color face a significant, disproportionate risk of automation-driven job displacement.*** Black, Latinx, and Native American workers are concentrated in jobs with a higher risk of automation, and workers of color are vastly overrepresented in transportation and accommodation and food services, which are among the sectors facing the greatest automation risk.

The Blueprint for Action

This report reveals the need for a comprehensive approach to advance workforce equity—where racial income gaps are eliminated, all jobs are good jobs, and everyone who wants to work has access to family-supporting employment. It is an invitation to employers, policymakers, funders, training providers, and community organizers to create and execute a robust agenda to dismantle systemic barriers to opportunity for people of color, scale future-ready approaches to training and credentialing, invest in automation-resilience strategies to ensure that working people can be uplifted rather than dislocated by technological advancements, and guarantee high standards of job quality for all workers.

The following strategic framework draws on the data presented in this report to inform the efforts of funders, employers, and community-based organizations working to advance workforce equity in Boston.

1. Use sector-based workforce development strategies to build pathways for workers of color into good jobs.
2. Leverage the development boom and sectoral growth to increase union participation, expand apprenticeship programs, and secure public financing for social programs.
3. Mediate the relationship between educational institutions and employers to transition from degree-based hiring to skills-based hiring.
4. Improve job quality through systems-changing pubic and private sector employment policies.
5. Make racial equity a priority, and develop systems to track and measure progress and ensure accountabiility.

4.0
INTRODUCTION

The Boston metropolitan area is in many ways the heart of New England, world-renowned for its anchoring "Eds and Meds" (educational and medical institutions), rich in history and culture, and economically thriving. In 2019, the Boston region's GDP was an impressive $464 billion—the eighth largest among US metros.[3] Before the recession brought on by the coronavirus pandemic, the region also boasted low unemployment and sustained population growth, indicating a stable and robust metro economy. In addition to higher education and health care, Boston's economy is driven by the professional and business services, finance and insurance, and tourism sectors, and its economy recovered from the Great Recession more quickly than many peer regions.[4]

This rising economic tide brought significant benefits to many of the region's residents. The Equality of Opportunity Project found that Boston has the second-highest rate of economic mobility in the country.[5] Data from the National Equity Atlas reveal that Boston ranks fifth among the largest 150 metros in the nation for higher educational attainment: 50 percent of adults in the region have at least a bachelor's degree.[6] Good jobs and opportunities for advancement in knowledge-based sectors have multiplied, and worker earnings in high-wage industries have seen one of the fastest growth rates in the nation.[7]

But Boston's remarkable growth has another side. As the economy has boomed, housing prices have soared, squeezing out the middle class and contributing to increased rates of rent burden and homelessness.[8] As Boston Indicators has reported, virtually all neighborhoods in Boston are now unaffordable to households earning the area median income, and wealth and income inequality are deepening.[9] Racial inequities in employment and wages are entrenched, and people of color are 2.5 times as likely as their White peers to be economically insecure.[10] The

resulting racial income gaps among working-age adults cost the Boston metro area about $45 billion in economic activity in 2018.

The economic effects of Covid-19 have mirrored and deepened these workforce inequities. People of color continue to face barriers to accessing good jobs and opportunity, including discriminatory hiring practices, gaps in educational attainment, and inequities in the social determinants of work (such as health, housing, transportation, and childcare). And as automation and digitalization accelerate in the wake of Covid-19, low-wage Black and Latinx workers are most likely to be displaced in the process.

As Boston's population continues to diversify, these racial economic inequities are not only unconscionable, they are also a growing liability to the region's future economic prosperity. This report provides deeply disaggregated data on workers, workforce outcomes, and labor-market dynamics in the Boston region, and offers a framework for action to support the efforts of local leaders in business, philanthropy, and community organizations who are advancing workforce equity from the ground up.

5.0
STRUCTURAL RACISM REINFORCES WORKFORCE INEQUITIES

Economic outcomes for workers and families in the Boston region are driven by a host of complex and interrelated social, spatial, and policy causes. The key dynamics perpetuating workforce inequity in Boston include the following.

Racial Wealth Gap

In a seminal report, *The Color of Wealth in Boston*, the Federal Reserve Bank of Boston revealed stark regional wealth inequalities: White households have a median wealth of around $250,000, compared to a median wealth of $8 for Black households.[11] For every dollar a White household has in liquid assets (savings and checking accounts, stocks, money market, and government bonds, but excluding cash), Black households have 2 cents. People of color are less likely to own homes, but those who do are more likely to hold mortgage debt. People of color are also more likely to have student loans and medical debt. The Boston Fed concluded that people of color are more susceptible than White people to short-term financial disruptions due to the lack of a buffer from liquid assets, and that they are more likely to struggle with housing and retirement outcomes due to the lack of homeownership, housing equity, and retirement savings.

The staggering wealth divide in the Boston metro area is both a cause and consequence of racial exclusion. The wealth divide means that communities of color systematically lack investment capital: human capital investments, such as education and training, amount to a greater share of annual income or savings for people of color, and people of color are at a disadvantage in raising start-up capital for new ventures. This latter fact came into focus during the rollout of the Paycheck Protection Program (PPP), for example. The Boston Fed acknowledged that because PPP was delivered through banks and other approved lenders, small businesses owned by people of color and small businesses operating in lower income areas, who did not have existing relationships with those lenders, were at a disadvantage in accessing the program.[12]

Residential and Occupational Segregation

The wealth divide is a product of many present and historical factors. Redlining excluded Black people from homeownership and confined them to communities struggling with poverty and deprived of investment. School segregation delivered unequal educational offerings for White children in the suburbs and children of color in the city, so court-ordered desegregation in the 1970s prompted a busing program that has continued—and remains controversial—today.[13] Yet, Boston neighborhoods remain segregated, and segregation in schools is accelerating. The *Boston Globe* reports that 60 percent of Boston public schools are "intensely

segregated," where students of color occupy at least 90 percent of the seats—this figure is up from 42 percent two decades ago.[14] Issues with racial and ethnic inequality continue in the postsecondary system: among working-age people in Boston, 56 percent of White workers have a bachelor's degree or higher, compared to less than 30 percent of Black and US-born Latinx workers, and just 20 percent of immigrant Latinx workers.

These compounding factors lead to intense occupational segregation and the inequitable employment outcomes referenced throughout this report. Even when controlling for educational attainment, 87 percent of occupations are racially segregated.[15] Nine in 10 White workers earn at least $15/hour, compared to six in 10 Latinx immigrants and fewer than eight in 10 US-born Black and Latinx workers. Overall, only a quarter of Latinx workers and 30 percent of Black workers are in good jobs with family-sustaining wages, stable or growing employment, and automation resiliency, compared to more than half of White workers. Occupational segregation in Boston is reinforced by discrimination in hiring: an academic study found that in responding to job ads in the *Boston Globe*, resumes with names more common among White job candidates were 50 percent more likely to receive a callback than the exact same resumes with names more common among Black job candidates.[16]

Employer Practices and Labor Standards

Other barriers to workforce equity include English-language or "cultural fit" expectations on the job or in the job application process, criminal background checks that disproportionately disadvantage people of color, and transportation infrastructure that privileges workers in the Metro West over those in Chelsea, Revere, Charlestown, Lawrence, Lynn, and other lower income communities. Structural racism in these systems prevents people of color from bridging the wealth gap highlighted above.

Structural racism also permeates the social protections that should inoculate against these inequalities. Employment benefits are often connected to an employer and the type of job someone is performing. Many occupations in which people of color are concentrated—domestic, restaurant, and gig workers, for example—are not protected by certain federal labor standards such as minimum-wage and overtime laws. Workers of color are therefore systematically deprived of these benefits.

Housing Inequity

Affordable housing policies, which should protect low- and middle-wage workers from being overburdened by rent, are another good example of structural racism that drives workforce inequity in the Boston area. Inclusionary housing programs in Boston, Cambridge, Somerville, and a few other communities, which require developers to contribute to affordable housing, have increased the stock of affordable housing in the region, but the supply remains far short of demand for price-protected housing. Similarly diverse cities within the Boston metropolitan area, such as Randolph, Lynn, Everett, Malden, and others have not adopted inclusionary housing programs. Further, affordable housing programs that do exist are based on area median income (AMI) calculations that far exceed the financial resources of many working families in Greater Boston's lower income neighborhoods. These programs commonly target households earning 70 percent of the AMI, or $83,300 for a family of four, while the latest figures for median household income are $28,000 in Roxbury, $46,000 in Mattapan, $50,000 in Dorchester, and $53,000 in East Boston, neighborhoods where people of color are overrepresented relative to the city of Boston as a whole.[17] The geographic area used for AMI calculations includes wealthier suburbs like Hanover, Duxbury, and Georgetown and excludes lower income communities within Boston's laborshed, such as Brockton, Lawrence, and Lowell. Rent-burdened families move to these latter communities when they can no longer afford to live in Boston. This migration shifts lower income households out of the geographic bounds of the AMI, thereby ratcheting up the income threshold used to establish affordable housing eligibility. Meanwhile, zoning laws that restrict the development of multifamiliy housing near transit compound the barriers to employment faced by low-income workers.[18]

The affordability crisis in housing intersects with economic exclusion in the short and long term. The cost of housing and other costs of living are increasing faster than low-wage incomes, faster than the growth of accessible living-wage jobs, and faster than expansion of public assistance like affordable housing. This divergence displaces low-income families from Boston, making it even more difficult for workers of color to access good jobs in the city. A report from the National Community Reinvestment Coalition ranked Boston among the cities with the highest gentrification and displacement index.[19] This displacement also pulls students out of public schools in Boston. Because Boston uses a weighted-student funding model, losing even a few second-language learners or students from low-income families can send schools into a budget spiral. The districts to which families move, such as Brockton and Lawrence, do not use a weighted-student budget model, so incoming students are more likely to strain a school's resources.

Further, the formula used by Massachusetts to determine school aid uses indicators that undercount immigrants, such as enrollment in social assistance programs like the Supplemental Nutrition Assistance Program (SNAP) and enrollment in MassHealth. Structural racism in affordable housing, education policy, and employment conspire to make supporting a family in the Boston area more difficult for people of color, and it affects the next generation of workers in low-income communities by weakening the education system and making social networks precarious.

Workforce and economic development strategies can be a powerful lever to narrow racial gaps in income and employment if they are designed and measured against explicit equity targets. But traditionally, incentives like tax-increment financing, corporate subsidies, and other development funding streams have been highly concentrated in a handful of heavily invested areas, leaving underfunded, majority low-income and majority people-of-color communities behind. MassHire, the Massachusetts public workforce development system, has identified health care and information technology as the priority sectors in the Greater Boston area. Both of these sectors have entry-level jobs and career pathways for workers with only a high school degree, yet all of the target occupations identified by MassHire require a credential beyond high school. The workforce development system can build programs to meet demand for these target occupations by pulling supply from more diverse, lower wage jobs within the sector. Strategies to realize workforce equity and combat structural racism are included in Section 11 of this report.

6.0

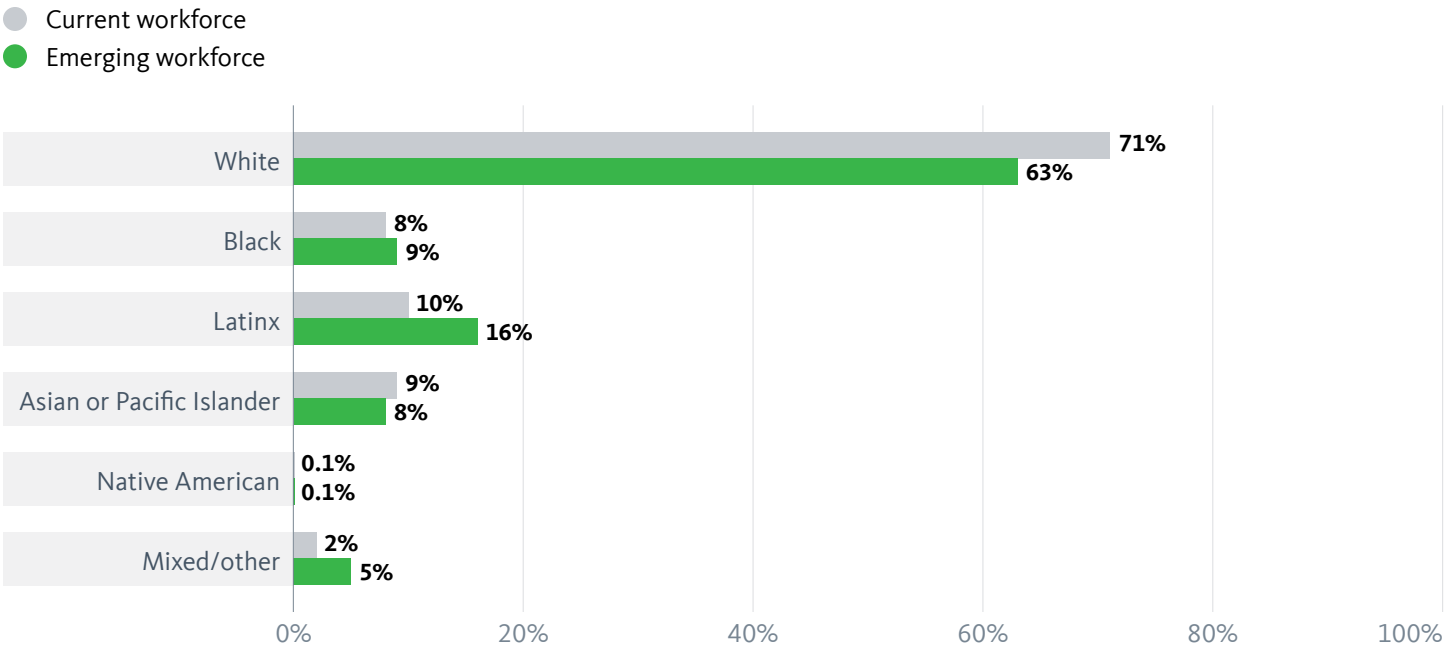
THE REGION'S WORKFORCE IS GROWING MORE DIVERSE, INCREASING THE URGENCY OF RACIAL ECONOMIC INCLUSION

In a generation's time, the United States will no longer have a single majority racial/ethnic group, as the share of US residents who are White is expected to dip below 50 percent. The Boston metro region is diversifying at a pace that is slower than the nation as a whole but that is accelerating: nearly half (46 percent) of its residents are projected to be people of color by 2050, up from 31 percent in 2020.[20] The ongoing demographic transformation underscores the urgent need to center racial equity, not only as a moral imperative but also as a crucial ingredient for continued economic prosperity.

Workforce Demographics

The Boston region's workforce is steadily growing more diverse.

Current and Emerging Workforce Demographics by Race/Ethnicity, Boston Metro Region, 2018



Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe of emerging workforce includes all people under the age of 25 years, while the current workforce includes the employed population between the ages of 25 and 64 years.

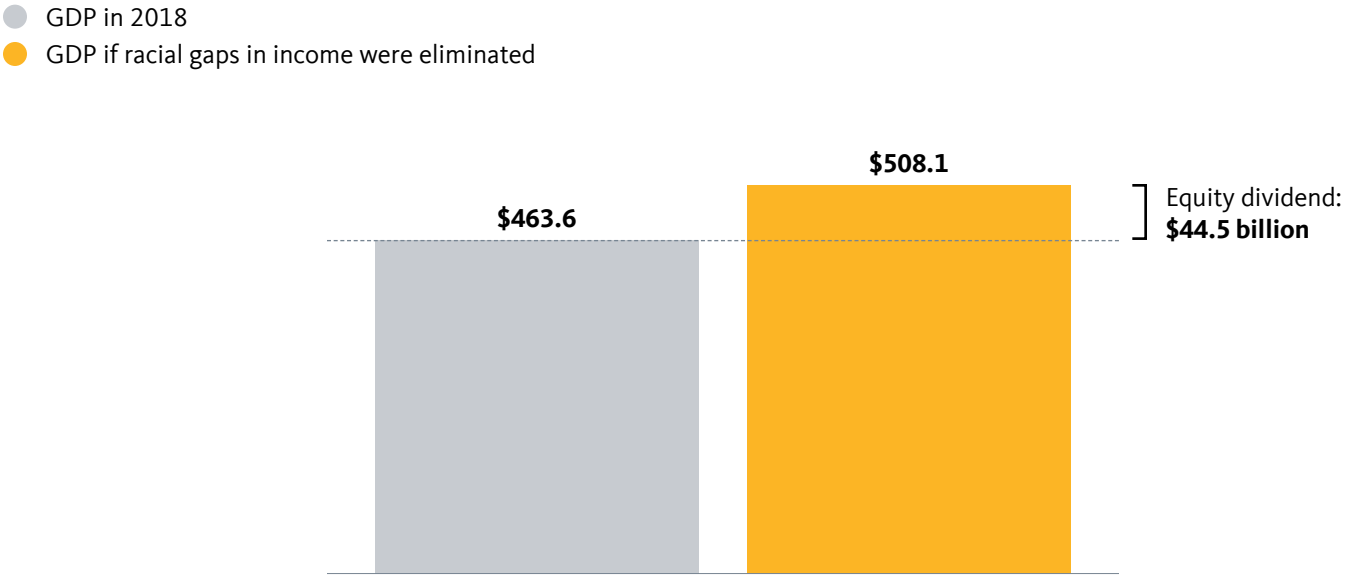
Today, people of color account for about 29 percent of the workforce in the Boston region. But among youth under the age of 25 years, people of color are about 37 percent of the population. The emerging workforce, as estimated by the population younger than 25 years, is more likely to be Black, Latinx, mixed race, or another race not captured by the predominant groups, as compared to the current workforce. While the Asian American or Pacific Islander (API) share of current residents

under 25 years old is a bit lower than it is among the current workforce, population projections show an increasing share of API residents.[21] This suggests a rapid rise in the API immigrant population in the coming years, and is consistent with past trends. Between 2000 and 2017, the API immigrant population increased by more than 50,000, accounting for about one-third of the net increase in immigrant residents.[22]

Racial Equity Is a Win-Win for Workers and the Economy

The region's GDP could be nearly 10 percent larger if racial gaps in income were eliminated.

Actual GDP and Estimated GDP with Racial Equity in the Workforce ($ Billions), Boston Metro Region, 2018

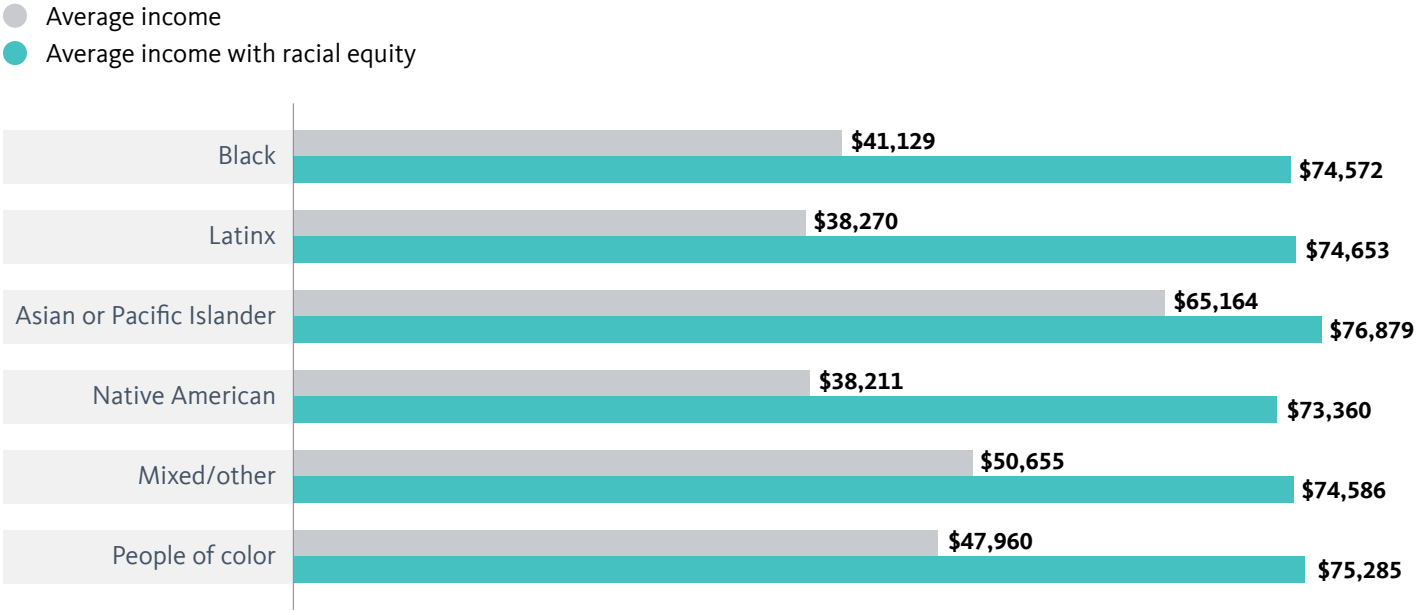


Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes the population ages 25–64 years. Data reflect a 2014–2018 average. Values are in 2018 dollars. See the methodology for details on the analysis.

Workforce equity and shared prosperity are essential to a strong, resilient economy—as the population becomes more diverse, this economic imperative will only escalate. In 2018 alone, the Boston region's GDP could have been more than $44.5 billion larger—an increase of about 10 percent—if there had been no racial gaps in employment and wages for the working-age population (i.e., if workers in all racial/ethnic groups were employed at least at the same rate and earned at least the same average wages as their White peers, adjusted for age).

With racial equity in employment and wages, average incomes for people of color would increase by 57 percent.

Income Gains with Racial Equity in the Workforce, Boston Metro Region, 2018



Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes the population ages 25–64 years. Data reflect a 2014–2018 average. Values are in 2018 dollars. See the methodology for details on the analysis.

Achieving racial equity in income would rely on closing racial gaps in both employment and wages, by addressing the multiple, deep-rooted causes that give rise to racial economic inequities. Latinx residents would see the greatest gains in income with racial equity, from about $38,000 to nearly $75,000 (a 95 percent increase). Average incomes for Black residents would increase by 81 percent, and for Native American residents by 92 percent.

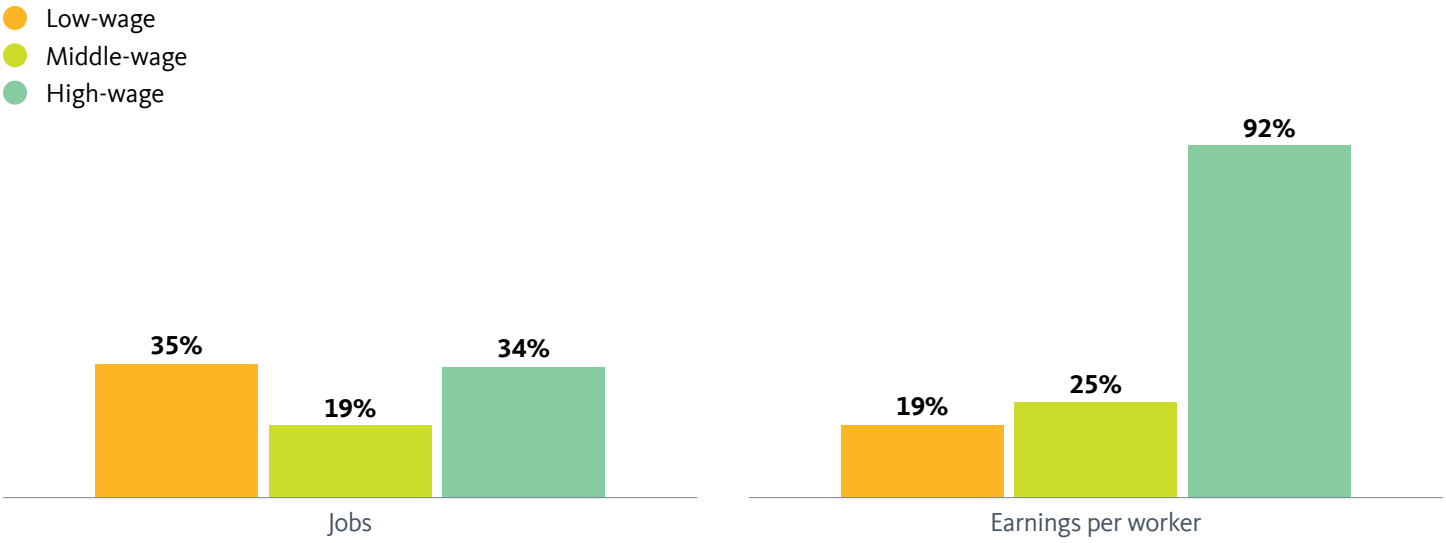
7.0

RACIAL INEQUITIES ARE ENTRENCHED IN THE REGIONAL ECONOMY

Over the last 30 years, the Boston metro has seen lagging growth in the middle-wage jobs that can provide the foundation of a strong middle class. Especially for people without a bachelor's degree—a group that includes almost three-quarters of Black and Latinx adults—there are too few good jobs to go around, even as housing and other basic costs have climbed. The data presented here illustrate three significant vectors of workforce inequity: limited opportunities in "middle-skills" jobs, dangerously low standards of job quality at the bottom of the wage distribution, and a growing chasm of income inequality.

Earnings growth over the past 30 years has been disproportionately captured by high-wage workers.

Growth in Jobs and Earnings by Wage Level, Boston Metro Region, 1990–2018

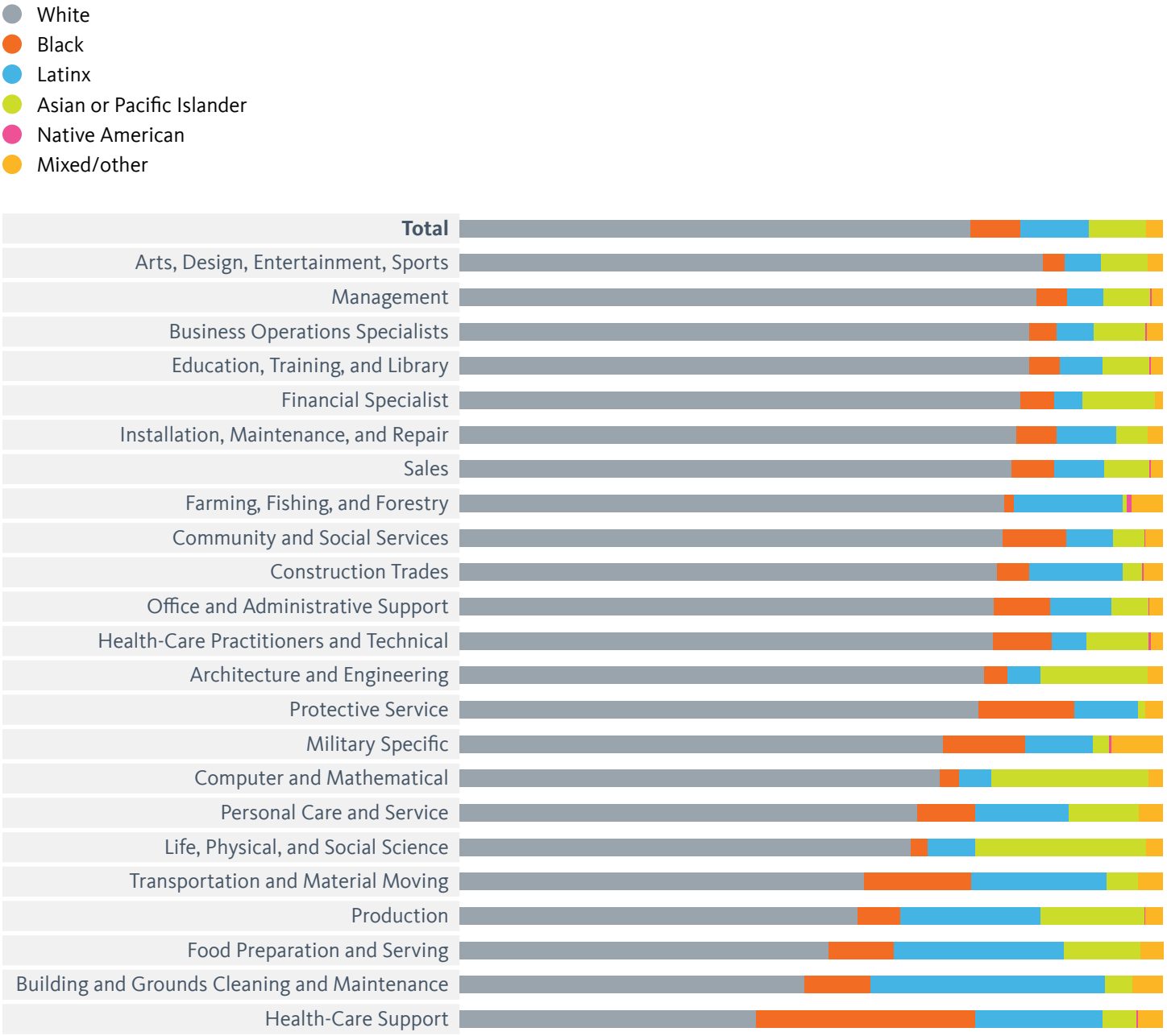


Source: PolicyLink/USC Equity Research Institute, National Equity Atlas, www.nationalequityatlas.org. Available at https://nationalequityatlas.org/indicators/Job_and_wage_growth#. **Note:** Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

Since 1990, low- and high-wage jobs have grown about 85 percent faster than middle-wage jobs in the Boston region. Over the same period, per-worker earnings in high-wage jobs have increased at almost five times the rate of those in low-wage jobs.

Black and Latinx workers are overrepresented in a number of low-wage occupations.

Occupational Groups by Race/Ethnicity, Boston Metro Region, 2018



Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes the employed population ages 25–64 years. Data reflect a 2014–2018 average.

Many jobs in which people of color are disproportionately crowded—such as janitorial service, food service, production, and transportation and material moving—are often excluded from fair wage protections and labor standards laws.

Black workers make up about 7 percent of the total workforce in the Boston metro region, but nearly one-third (31 percent) of health-care support workers, 15 percent of transportation and material moving workers, 14 percent of protective service workers, and 10 percent of building and grounds cleaning workers. These are all jobs that typically pay lower wages, offer fewer benefits, and provide less flexibility than jobs with a lower incidence of Black workers. Conversely, Black workers are significantly underrepresented in life, physical, and social sciences; computer and mathematical jobs; arts, design, entertainment, and sports; and architecture and engineering—all occupations in which Black workers comprise only about 3 percent of the workforce.

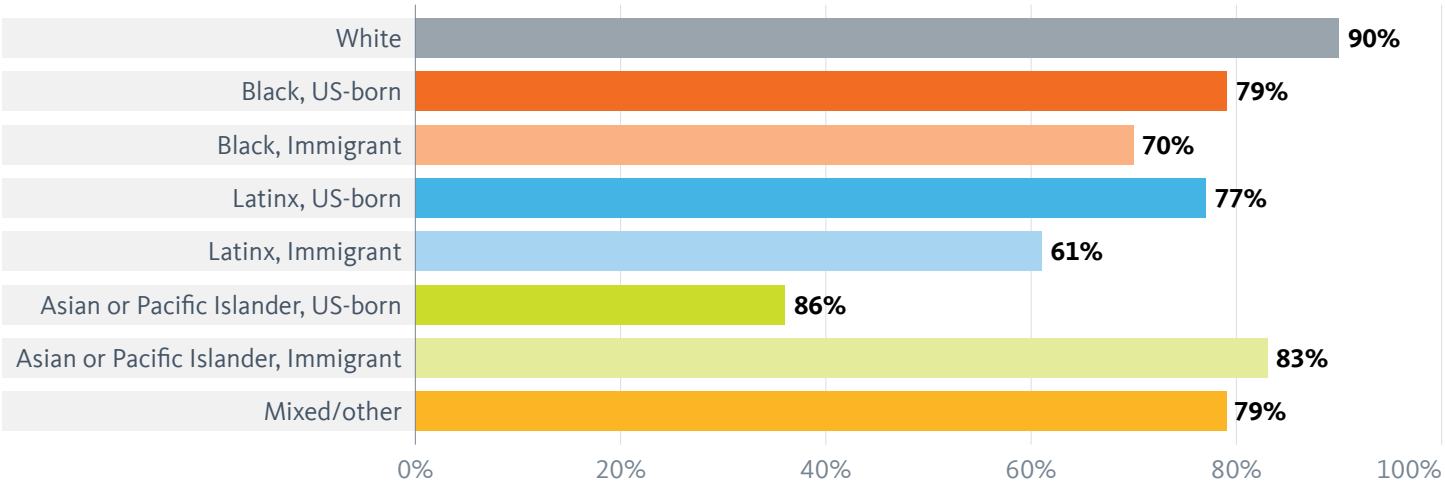
Latinx workers comprise about 10 percent of the overall workforce and tend to be concentrated in lower quality jobs. They account for one in three building and grounds cleaning workers; one in four food service workers; and about one in five production, transportation and material moving, and health-care support workers. They are most underrepresented among financial specialists, architecture and engineering jobs, computer and mathematical jobs, and health-care practitioners (among others) where they only represent about one in 20 workers. While not shown in the chart, Latinx immigrants make up about 40 percent of all Latinx workers and 6 percent of the overall workforce. They are most concentrated in building and grounds cleaning where they account for nearly one-third of the overall workforce (28 percent) and 83 percent of all Latinx workers. They also account for one in five food services workers and 15 percent of agricultural workers.

The diversity of Asian American and Pacific Islander workers is reflected in the different sorts of occupations in which they are prevalent. While they comprise about 8 percent of the overall workforce they account for about one in four workers in life, physical, and social sciences and computer and mathematical occupations—generally considered good jobs—while also being overrepresented among production workers (15 percent), food services workers (11 percent) and personal care and service workers (10 percent), which generally offer lower wages and benefits. The diversity of API immigrants is underscored by the fact that API immigrants account for about 90 percent of the API workforce in all of the aforementioned occupations, while their share of all API workers is 82 percent.

Wages

Nine out of 10 White workers earn at least $15/hour, compared to just six in 10 Latinx immigrants.

Share of Workers Earning at Least $15/Hour by Race/Ethnicity and Nativity, Boston Metro Region, 2018



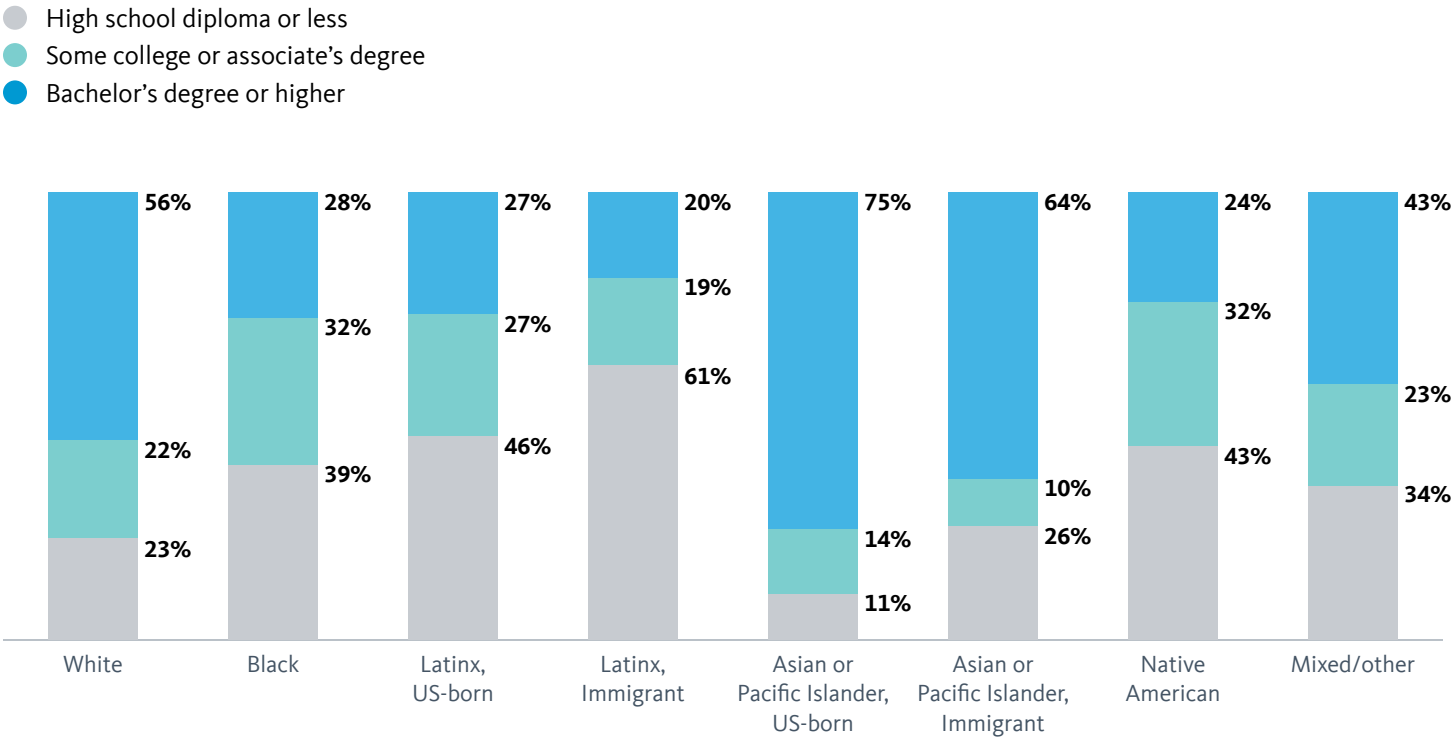
Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes civilian noninstitutionalized full-time wage and salary workers ages 25–64 years. Data reflect a 2014–2018 average. The $15/hour wage threshold is based on 2018 dollars. Data for Native American workers could not be analyzed because of small sample size.

The vast majority of White workers in the Boston region earn at least $15 per hour, including 92 percent of White men and 88 percent of White women. Just 75 percent of all people of color are paid this basic wage, with the lowest rates among Latinx immigrants and Black immigrants. According to the MIT Living Wage Calculator, the basic minimum living wage for a single adult with no children in the Boston metro is $16.74 per hour and $33.80 for a single adult with one child.[23] Considering the share of workers who earn *less* that $15 per hour, Black and Latinx workers are two to three times as likely as their White counterparts to earn such low wages, while Latinx immigrants are four times as likely.

Higher Education

Just one in five immigrant Latinx adults and fewer than 30 percent of Black and US-born Latinx adults in the Boston region have a bachelor's degree.

Educational Attainment by Race/Ethnicity, Boston Metro Region, 2018

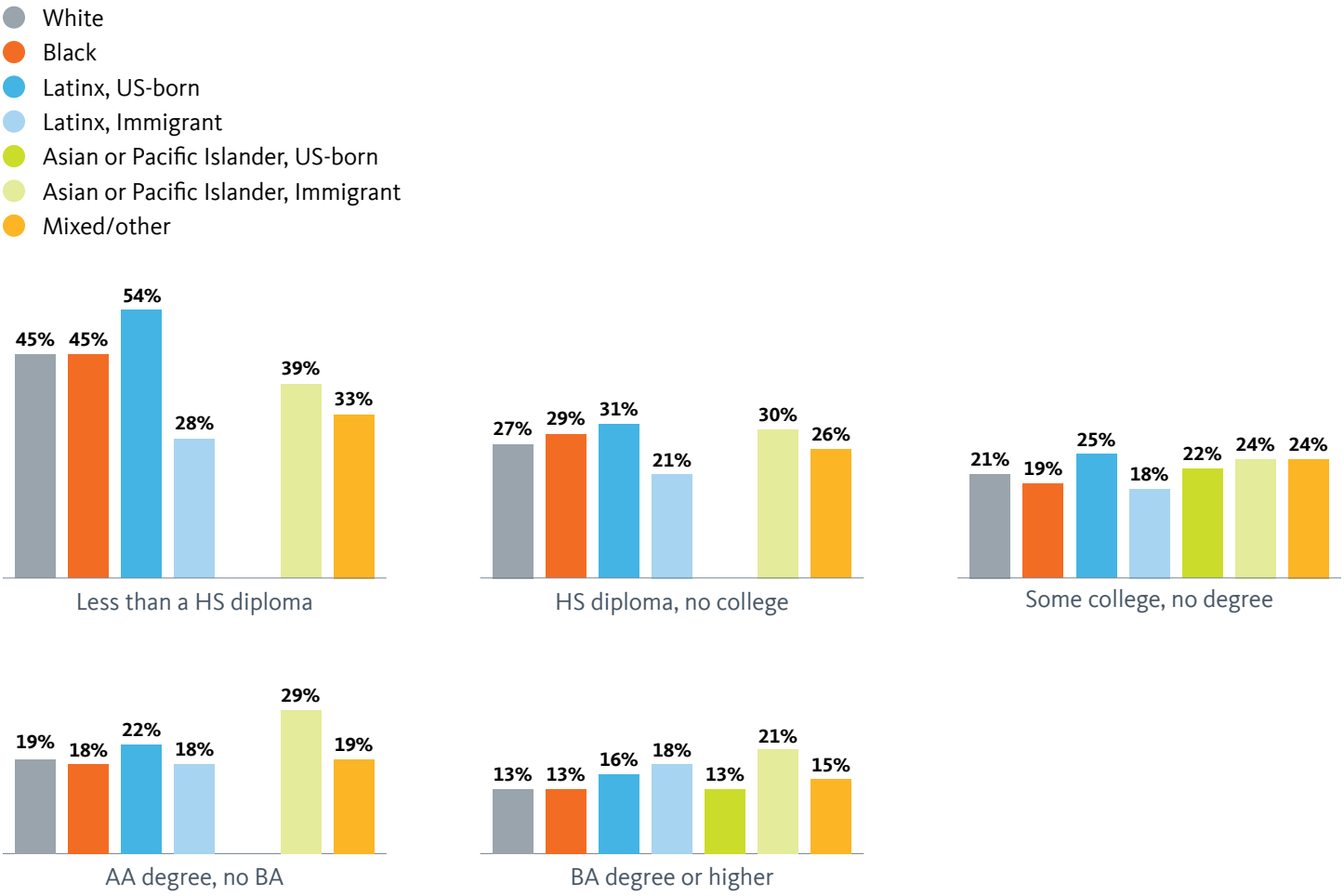


Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes the population ages 25–64 years. Data reflect a 2014–2018 average.

About 75 percent of US-born Asian or Pacific Islander workers, 64 percent of Asian or Pacific Islander immigrant workers, and 56 percent of White workers in the Boston region have a bachelor's degree or higher, compared with less than 30 percent of Black and US-born Latinx workers and just 20 percent of immigrant Latinx working-age adults.

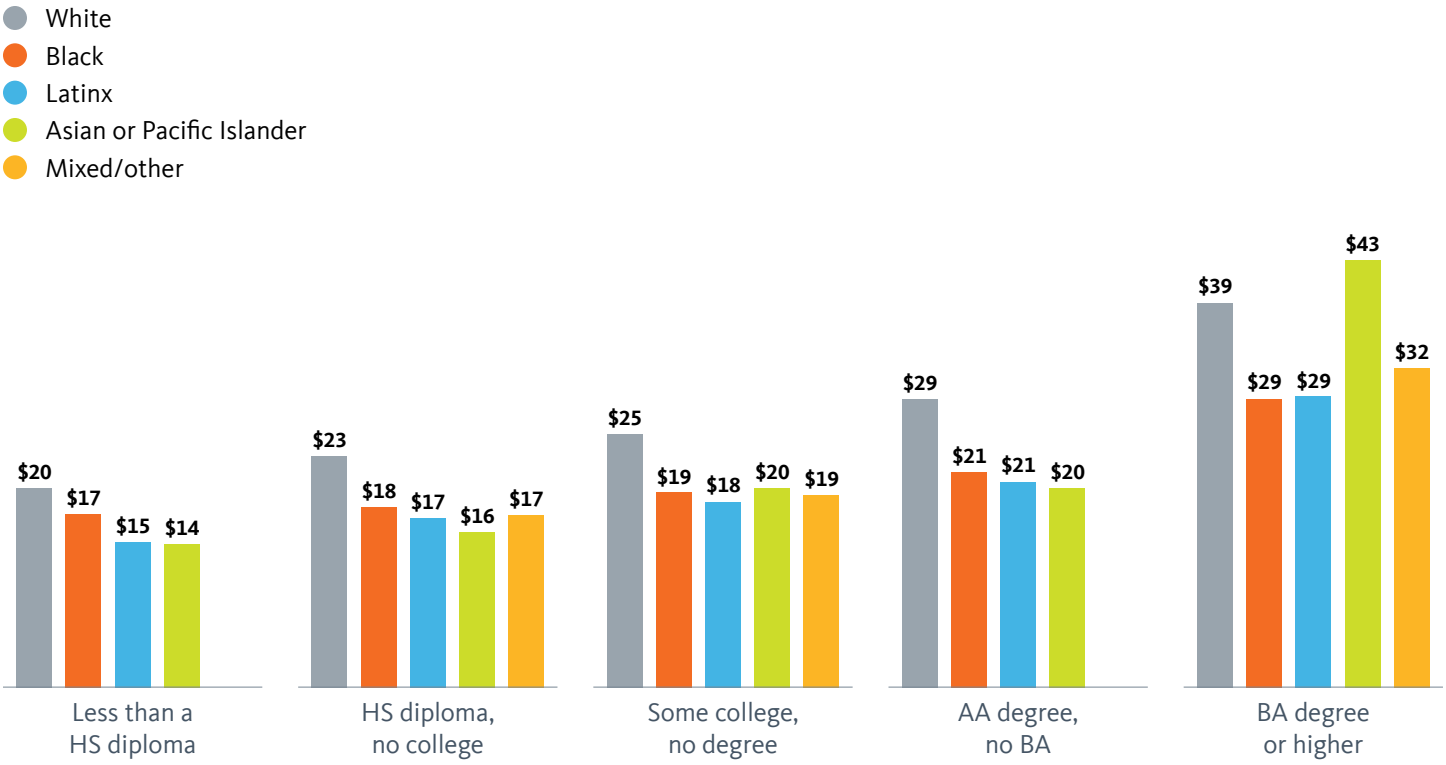
Higher educational attainment narrows racial gaps in employment, but actually widens racial wage gaps.

Joblessness by Educational Attainment, Race/Ethnicity, and Nativity, Boston Metro Region, 2018



Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes the civilian noninstitutionalized population ages 25–64 years. Joblessness is defined as those unemployed or not in the labor force as a share of the total population. Data reflect a 2014–2018 average. Data for Native American workers, and for US-born Asian or Pacific Islander workers at certain educational levels, could not be analyzed because of small sample size.

Median Wages by Educational Attainment and Race/Ethnicity, Boston Metro Region, 2018



Source: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes civilian noninstitutionalized full-time wage and salary workers ages 25–64 years. Data reflect a 2014–2018 average. Values are in 2018 dollars. Data for Native American workers, and for mixed/other race workers at certain educational levels, could not be analyzed because of small sample size.

Higher education increases employment rates across all racial/ethnic groups. Among White and US-born Latinx workers, those with an associate's degree are about 30 percent less likely to be jobless than those with a high school diploma only. Among Black workers, those with an associate's degree are 38 percent less likely to be jobless and those with a bachelor's degree are 55 percent less likely to be jobless than those with a high school diploma only.

In the Boston metro area, the median hourly-wage premium for earning an associate's degree as opposed to a high school diploma is highest for White workers at $6 (a 26 percent increase). The same educational achievement carries just a $3 (17 percent) median wage increase for Black workers, and a $4 increase for Latinx and Asian or Pacific Islander workers. On average, White workers with less than a high school diploma earn about the same as workers of color with an associate's degree.

8.0

WORKERS FACE A SHORTAGE OF GOOD JOBS

As the data above reveal, not everyone who wants to work in Boston has a job, and not all workers are paid a basic living wage. As the economy and labor market evolve toward advanced industries and services, far too few workers are benefiting from the region's growth. Workforce development agencies, intermediaries, and policymakers need to both grow the quantity of good jobs and ensure equitable access to those jobs.

To better understand the shortage of good jobs in the region, we analyze access to good jobs in Boston by race, ethnicity, and level of required education, using the localized definition of good jobs summarized in the table below.

Characteristics and Examples of Good Jobs by Typical Education Requirements, Boston metro region, 2019

Characteristics of good jobs:

- Living-wage compensation: Average wage for the occupation is sufficient to sustain a working family of two working adults and two children—$42,453 in Boston
- Stable or growing base of employment: The number of jobs is projected to grow or to remain relatively stable for the next decade—employment in the occupation is not declining by more than 10 percent over 10 years, or more than 2 percent over 10 years for small occupations
- Automation resilient: The occupation has a probability of computerization lower than 50 percent, given the full array of tasks that comprise the role

Example occupations accessible to workers with a high school diploma or less:

- Sales representatives of services, except advertising, insurance, financial services, and travel
- Food service managers
- Financial clerks

Example occupations accessible to workers with a postsecondary certificate or license or vocational training through an apprenticeship

- First-line supervisors of construction trades and extraction workers
- Electricians
- Emergency medical technicians

Example occupations accessible to workers with an associate's degree

- Registered nurses
- Air traffic controllers and airfield operations specialists
- Veterinary technologists and technicians

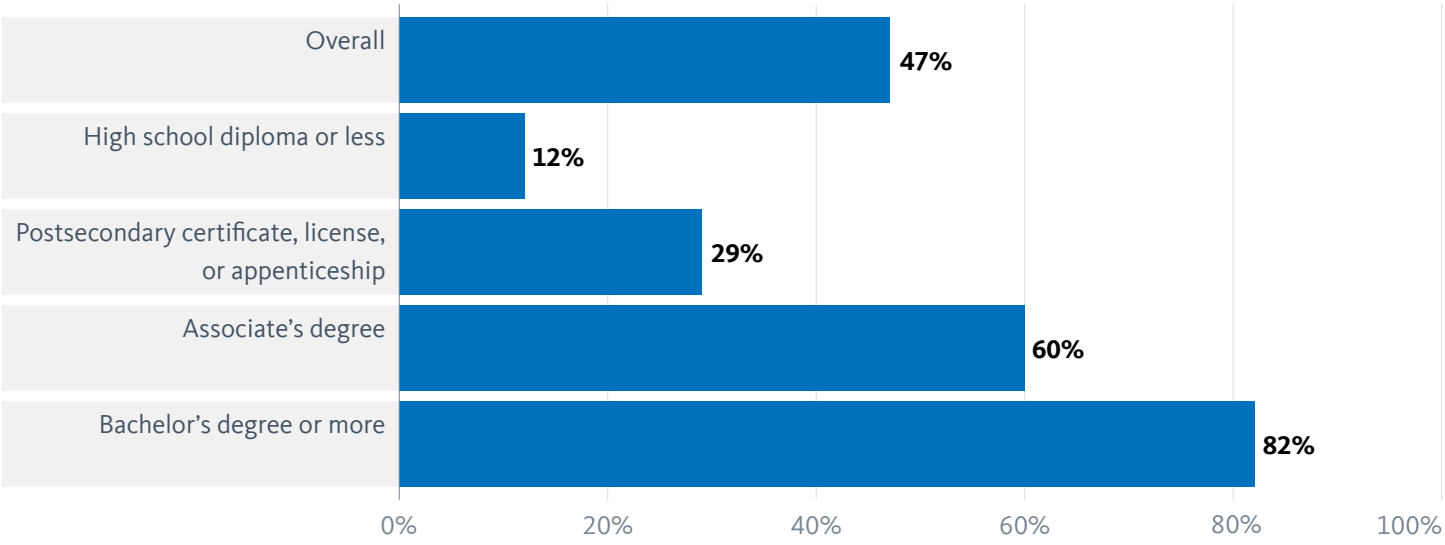
Example occupations accessible to workers with a bachelor's degree or higher:

- Financial managers
- Software developers
- Management analysts

More Than 1.3 Million Workers in the Boston Region Do Not Have Good Jobs

Just under half of Boston workers are in good jobs.

Share of Workers in Good Jobs, Overall and by Educational Requirements, Boston Metropolitan Region, 2019

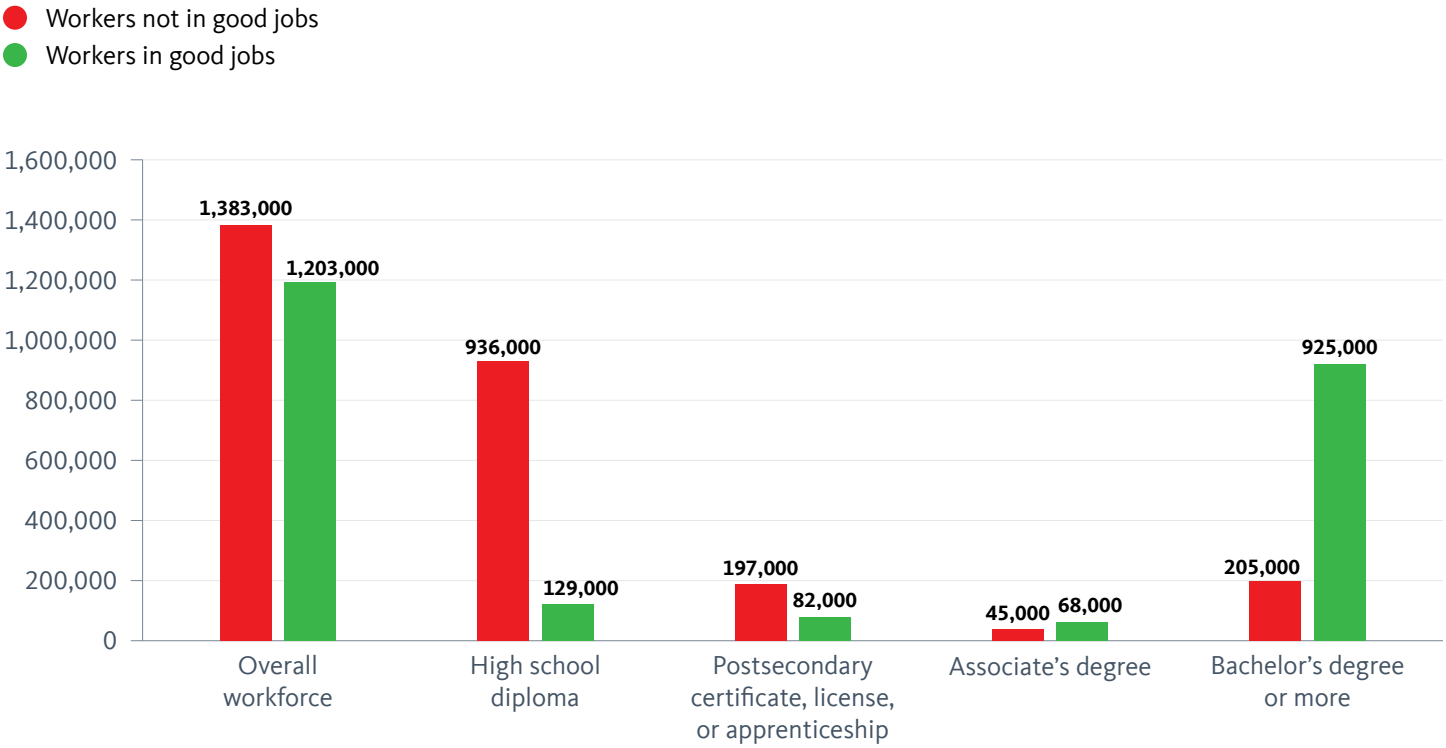


Sources: Employment from 2018 5-year American Community Survey microdata from IPUMS USA, and occupational characteristics from Burning Glass job posting data and 2018 5-year American Community Survey microdata from IPUMS USA.

In the Boston area, only 47 percent of the region's 2.6 million workers are in good jobs. The share of workers in good jobs increases as the level of education required for the job increases, but even among occupations that require nondegree postsecondary certifications, licenses, or apprenticeships, just 29 percent of workers are in good jobs. The vast majority of jobs that require postsecondary degrees (associate's and higher) are good jobs, but these educational requirements are a systemic barrier for many.

More than one million Boston jobs require no more than a high school diploma, but only 12 percent of them are good jobs.

Distribution of Employment by Educational Requirements and Job Quality, Boston Metropolitan Region, 2018



Sources: Employment from 2018 5-year American Community Survey microdata from IPUMS USA, and occupational characteristics from Burning Glass job posting data and 2018 5-year American Community Survey microdata from IPUMS USA.

The distribution of Boston's good jobs by education underscores the importance of a multifaceted approach to create more good jobs, upgrade existing jobs, and develop race-conscious workforce development strategies to ensure people of color can access good jobs. Given that three-quarters of Black and Latinx adults in Boston do not have a bachelor's degree, workforce intermediaries must consider interventions that will improve the quality of the jobs available to these workers.

One approach is to grow employment in the occupations that provide the largest number of good jobs that do not require a college degree. Some of these occupations require just a high school diploma, while others require a certification, license, apprenticeship, or other short-term training. Workforce intermediaries can develop pathways into these jobs, and these jobs can form a step in a career-pathway approach to workforce development. Relevant occupations include supervisory positions in retail, food service, manufacturing, construction and

other industries, several trades, nursing, and other occupations described in the table below. Presently, workers of color are underrepresented in 14 of the 15 largest occupations that provide good jobs that do not require a college degree. The lone exception is licensed practical and licensed vocational nurses, where workers of color make up 42 percent of the workforce.

Good jobs that do not require a college degree, with occupational characteristics, by race and ethnicity, Boston metropolitan region, 2018

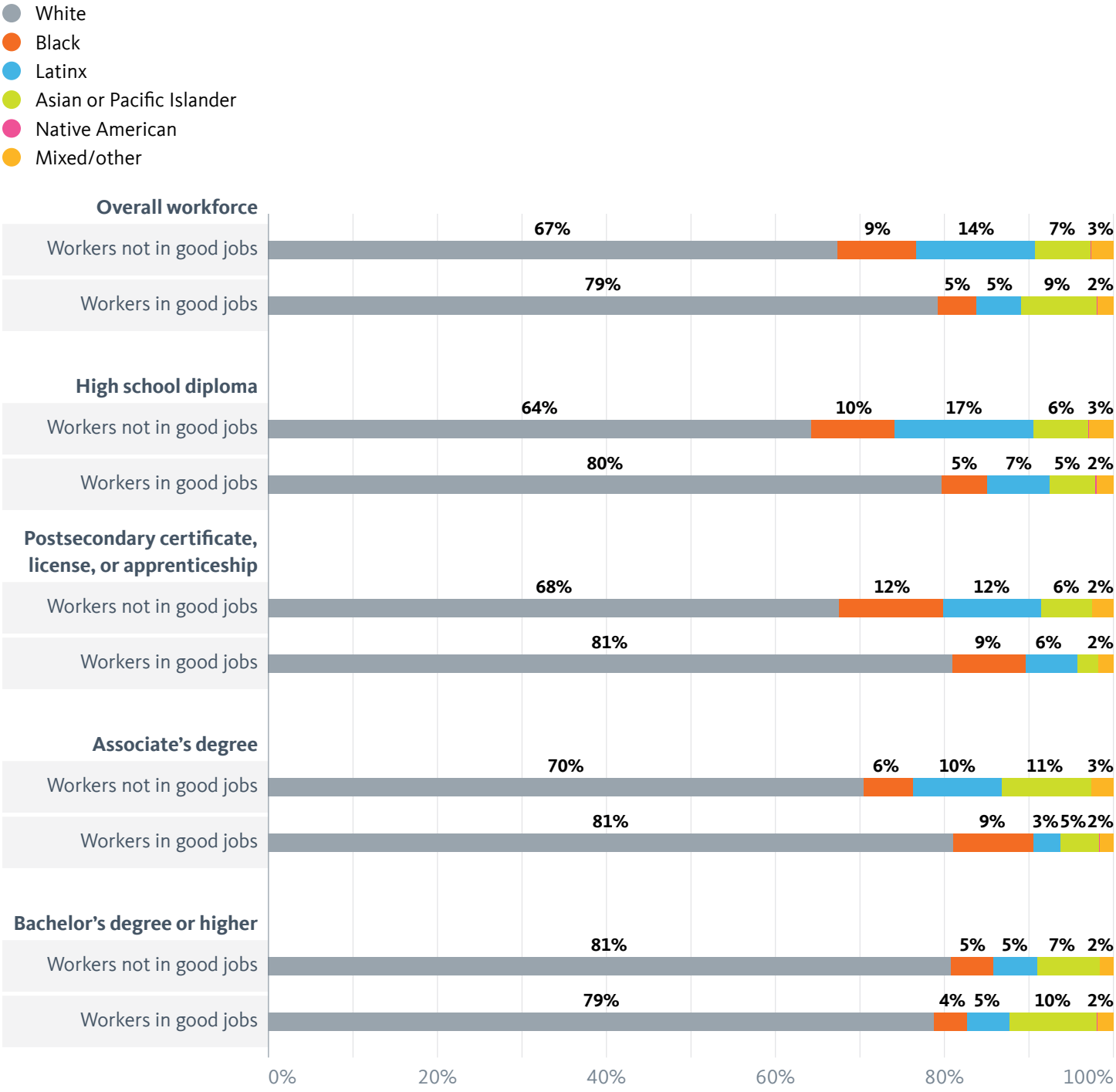
Occupation	Total Employment	10 Year Growth Rate	Automation Score (Probability of Computerization)	Average Income in Boston	% Workers of Color
First-line supervisors of retail sales workers	41,919	0%	28%	$59,584	22%
First-line supervisors of non-retail sales workers	21,142	-2%	8%	$118,255	17%
Sales representatives of services, except advertising, insurance, financial services, and travel	16,426	2%	39%	$110,877	12%
Food service managers	15,734	4%	8%	$55,557	27%
Electricians	13,080	3%	15%	$68,811	14%
Police officers	11,304	2%	10%	$90,948	18%
Licensed practical and licensed vocational nurses	10,855	1%	6%	$47,190	42%
First-line supervisors of construction trades and extraction workers	9,704	7%	17%	$78,716	10%
Plumbers, pipefitters, and steamfitters	9,004	7%	35%	$65,808	12%
First-line supervisors of production and operating workers	8,579	4%	2%	$81,162	28%
Securities, commodities, and financial services sales agents	7,881	0%	2%	$178,977	15%
Firefighters	7,411	3%	17%	$91,268	15%
Emergency medical technicians	3,370	-3%	5%	$49,391	20%
Miscellaneous installation, maintenance, and repair workers, including, wind turbine service technicians	3,168	6%	49%	$46,348	25%
Radio and telecommunications equipment installers and repairers	2,630	8%	47%	$76,029	12%

Sources: Employment from 2018 5-year American Community Survey microdata from IPUMS USA, and occupational characteristics from Burning Glass job posting data and 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Cells highlighted in red indicate underrepresentation of workers of color relative to their representation in all occupations that do not require a college degree.

Major Racial Inequities Exist in Access to Good Jobs

White workers are overrepresented in good jobs overall and particularly overrepresented in good jobs that do not require any postsecondary education.

Distribution of Workers by Race/Ethnicity, Job Quality, and Educational Requirements, Boston Metropolitan Region, 2018



Sources: Employment from 2018 5-year American Community Survey microdata from IPUMS USA, and occupational characteristics from Burning Glass job posting data and 2018 5-year American Community Survey microdata from IPUMS USA.

Examining good jobs by race and education requirements, we find large inequities: White workers are overrepresented in good jobs overall, and particularly overrepresented in good jobs that do not require a college degree—the very jobs that the vast majority of workers of color are qualified to obtain given the barriers to higher education described above. Among workers in nondegree jobs, White workers are twice as concentrated in good jobs as Black and Latinx workers. In jobs that require only a high school degree, only 7 percent of workers of color are in good jobs, relative to 15 percent of White workers. And 20 percent of workers of color in jobs that require nondegree postsecondary training, such as a certificate or apprenticeship, are in good jobs, compared to 33 percent of White workers.

Available Jobs in 2019 Could Have Closed Most Racial Gaps in Access to Good Jobs

In 2019, there were enough openings for good jobs over the year to close the racial equity gaps in good jobs at each level of educational attainment. For example, to close the racial gap in good jobs for jobs that require no more than a high school diploma, 17,000 workers of color would need a job upgrade (a 67 percent increase); in 2019, there were 33,000 openings for good jobs at this educational level.

Still, 82 percent of the 450,000 good jobs available in 2019 required a bachelor's degree or more, underscoring the need for workforce intermediaries and employers to reexamine credentialing requirements and design pathways into these jobs for workers without a four-year degree, wherever possible.

Access to the three key dimensions of good jobs (family-sustaining wages, large or stable base of employment, and automation resiliency) varies tremendously between racial/ethnic groups. We found systematic inequities that have important implications for equitable workforce strategies:

- Crowding in low-wage occupations is the largest reason that workers of color without a college degree face an equity gap in good jobs. Only 19 percent of workers of color in jobs that require no more than a high school diploma are in occupations with average wages above that of the regional living wage, compared to a third of White workers (31 percent). That gap grows for workers in jobs

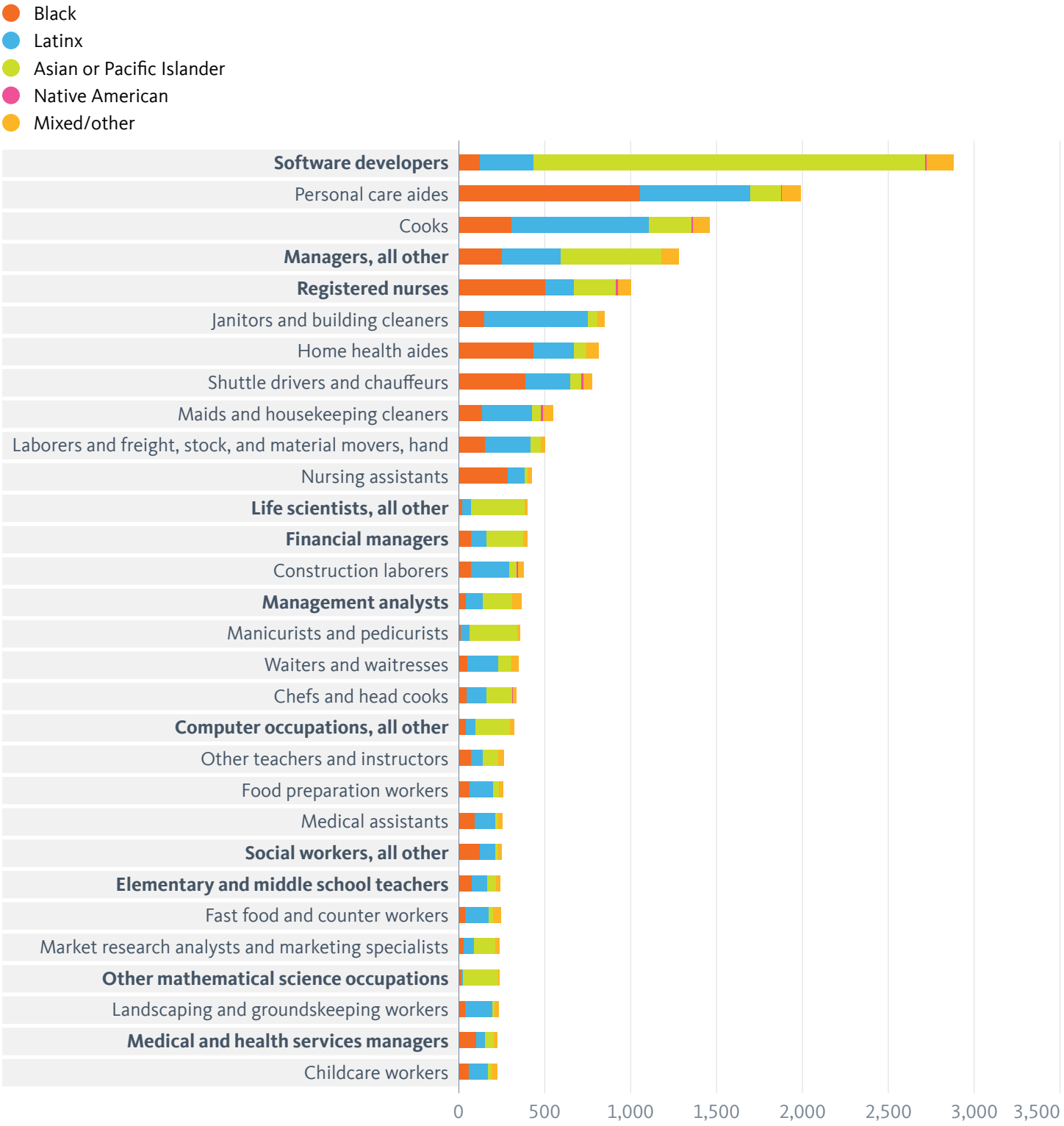
that require nonacademic postsecondary training such as a certification, license, or apprenticeship: 44 percent of workers of color are in above-living-wage occupations compared to 70 percent of White workers. Workforce intermediaries must ensure that nonacademic postsecondary training diminishes racial gaps, rather than expanding them.

- Latinx workers face greater automation risk than their peers regardless of the level of education required for the job. Only 14 percent of Latinx workers in occupations that require no more than a high school diploma are not at risk of automation, compared to 22 percent of White workers. Latinx workers also face greater automation vulnerability among occupations that require nondegree postsecondary training: 42 percent are in automation-resilient jobs, compared to 65 percent of Black workers. Latinx workers also face higher automation risk than workers from demographic groups in occupations that require an associate's degree or higher. Interventions to mitigate automation risk, such as expanded unemployment for automation-induced job displacement and career pathway programs that shift workers away from at-risk careers should include language and accessibility features that take into consideration the high concentration of Latinx workers in at-risk jobs.

Delivering workforce equity in the Boston region will require not only generating more good jobs, but also ensuring that people of color are hired into them. Without policies and programs that connect workers of color to growth in good jobs that do not require a college degree, these opportunities will disproportionately benefit White workers. Additionally, programs and policies that benefit all workers should take into account accessibility constraints faced disproportionately by people of color, such as language and transportation.

Projected job growth for Latinx and Black workers is heavily concentrated in low-quality jobs.

Occupations Projected to Add the Most Workers of Color, by Race/Ethnicity, Boston Metropolitan Region, 2020-2030



Sources: Burning Glass modeling for occupational growth, and 2018 5-Year ACS microdata from IPUMS for demographic characteristics of occupations. **Note:** Occupations marked in bold are classified as good jobs.

The Boston workforce is growing, and good jobs are growing quickly. Over the next 10 years, 71 percent of job growth in Boston is projected to be in good jobs. But not all workers are poised to benefit. If occupational segregation remains as it is today, good jobs will continue to be concentrated among White workers. Eight of the 10 occupations that are projected to add the greatest number of White workers in the region over the next decade are good jobs, compared to just two of the 10 occupations projected to add the most Latinx workers and two of the 10 occupations projected to add the most Black workers. For Asian or Pacific Islander workers, seven of the 10 occupations projected to add the most workers are good jobs.

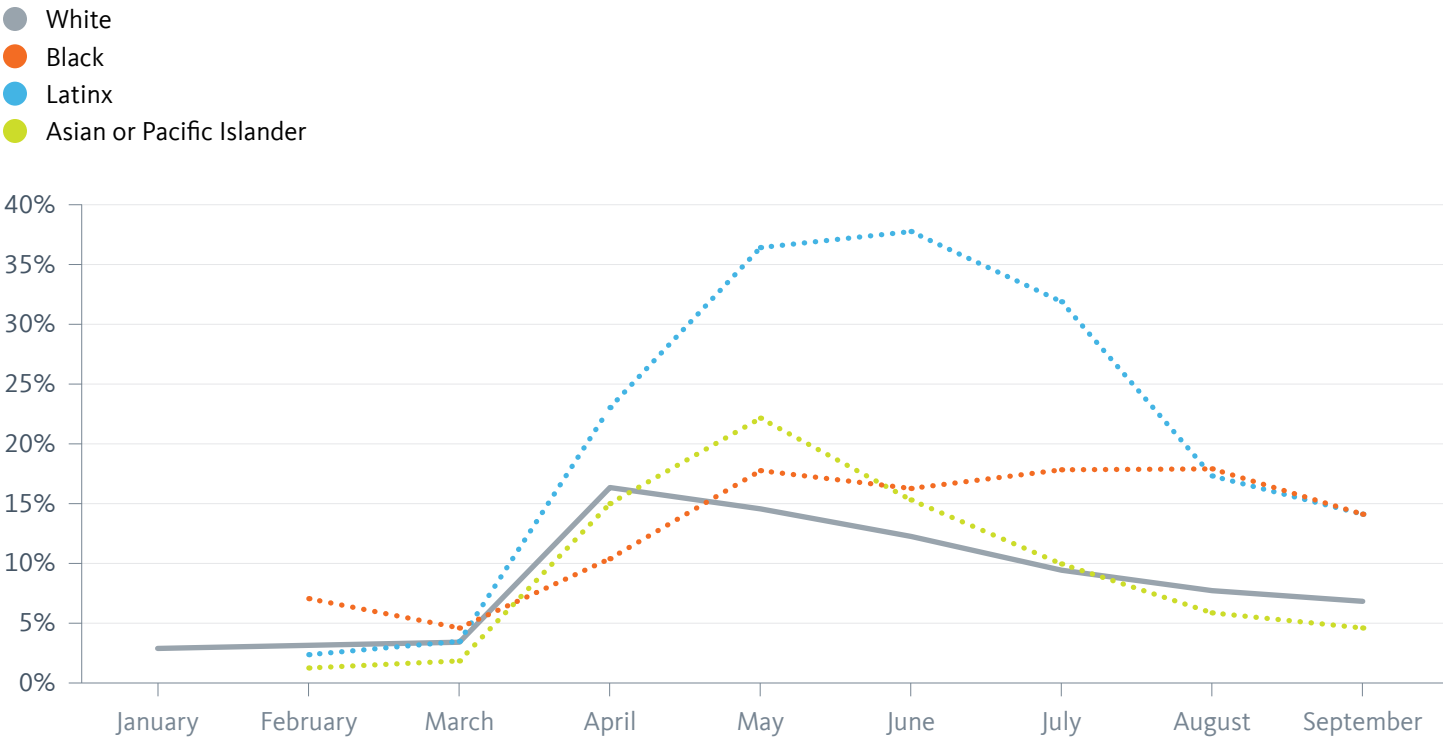
9.0

THE WAVERING COVID-19 RECOVERY IS LEAVING WORKERS OF COLOR BEHIND

Boston has rebounded more quickly than many of its peers from the demand shock at the onset of the Covid-19 pandemic, but the region's labor market remains turbulent. The unemployment rate in the Boston region reached 16.9 percent in May 2020 and dropped to 7.0 percent in October 2020. However, the early recovery unfolded unevenly across the labor market. Considering the racial stratification of different occupational groups in the region, these gaps have significant consequences for racial economic equity.

People of color have experienced greater unemployment volatility compared to White workers.

Unemployment Rates by Race/Ethnicity, Boston Metro Region, January–September 2020



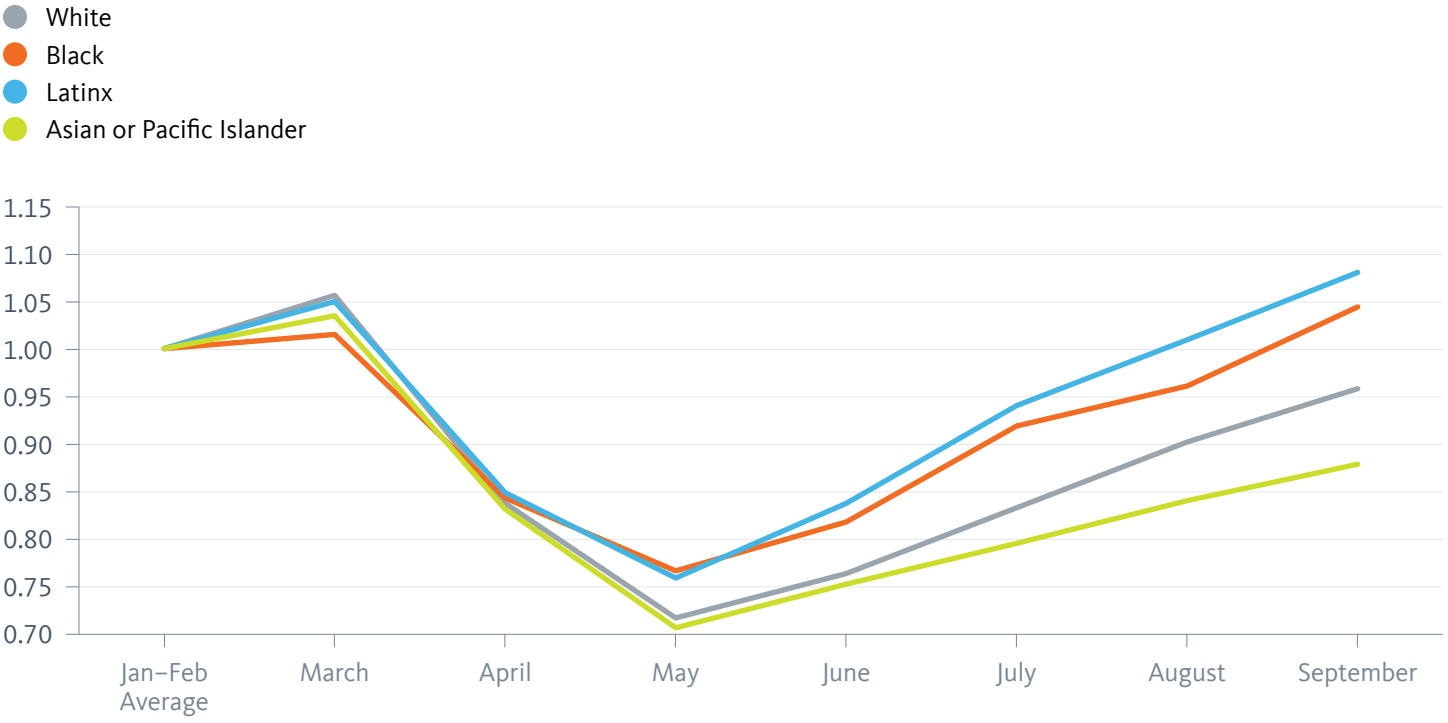
Source: Unemployment estimates from the Current Population Survey (CPS) microdata from IPUMS USA. **Note:** Dotted lines denote a two-month rolling average of unemployment rates due to small sample size.

Unemployment rates rose for all workers in the Boston region during 2020, peaking in April at a rate of 16.3 percent for White workers, in May for Black and Asian workers at 17.9 and 22.2 percent respectively, and in June for Latinx workers at a staggering 37.7 percent. The jump in unemployment was steepest for Latinx workers relative to other workers. This disparity highlights the precarious position of much of the Latinx workforce—this workforce comprises both a greater fraction of workers facing health risks in essential jobs and a

greater fraction of workers laid off from jobs that are vulnerable to business cycle swings and coronavirus pandemic impact. As of September 2020, unemployment rates remained high for Black and Latinx workers at 14.1 percent for both groups, and had lowered significantly for White and Asian workers to 7.0 percent and 4.8 percent respectively.

Online job postings for positions held by Black and Latinx workers before the crisis are recovering more quickly than for those held by White workers.

Job Postings Relative to April Baseline by Pre-crisis Occupational Demographics (Race/Ethnicity), Boston Metro Region, March–September 2020



Source: Authors' analysis of Burning Glass job posting data (January–September 2020), with job postings allocated according to occupational race and ethnicity characteristics from 2018 5-year American Community Survey (ACS) microdata from IPUMS USA.

The chart above uses job postings data to measure the change in demand over 2020 for jobs relative to the beginning of the year. The data show how employment recovery would have been allocated to different racial and ethnic groups if recovering jobs went proportionately to the workers who held those jobs pre-crisis.

In the Boston area, the unemployment rate spiked and has remained high for Black workers, while White and Asian workers have returned to work more quickly. However, online job posting demand is returning most quickly for jobs that tend to employ Black and Latinx workers.

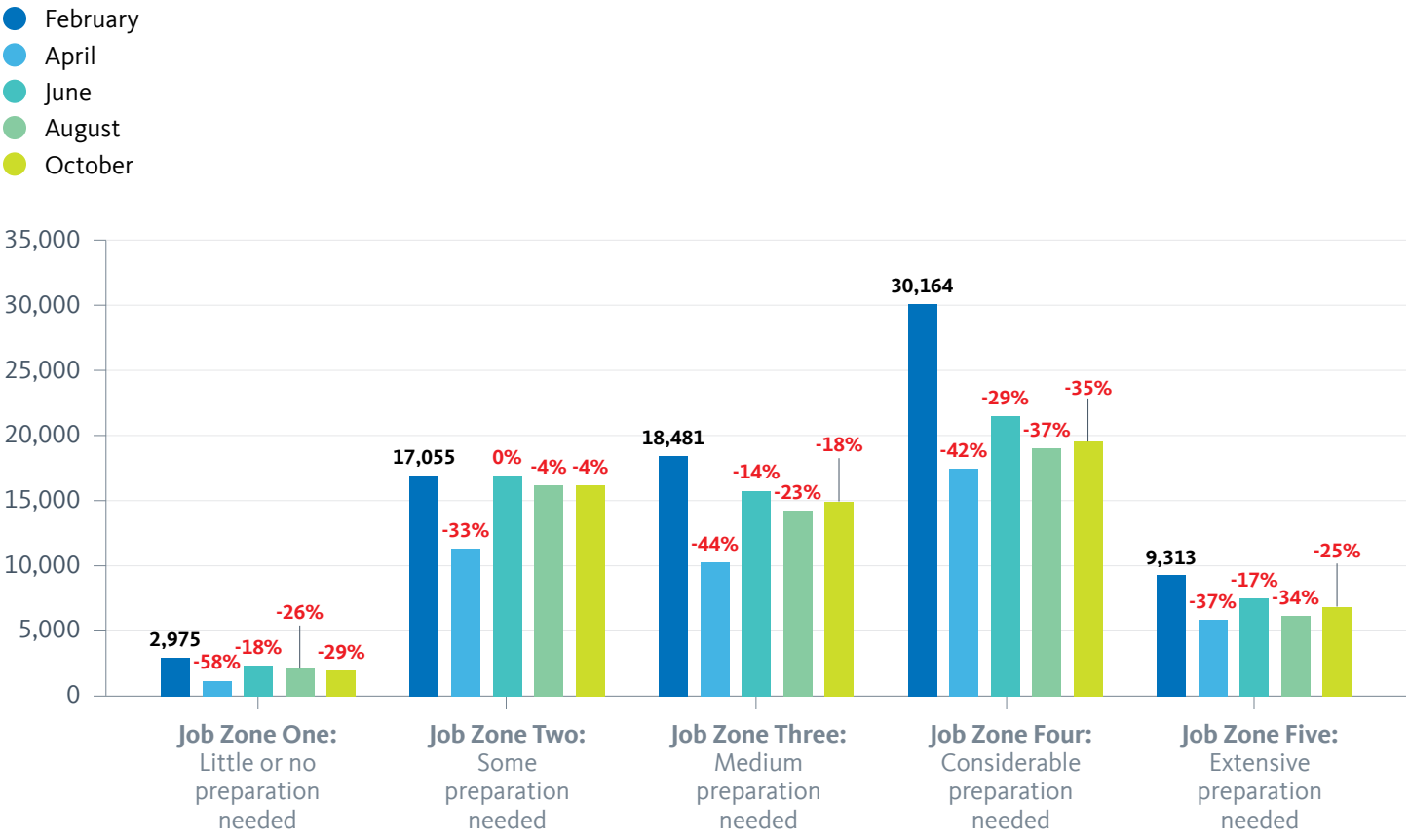
A range of explanations is possible for the concerning divergence between the stubbornly high unemployment rate for Black workers and the return in demand for the jobs where they have historically been employed. The possibilities include:

- White and Asian workers may have more access to professional social networks that facilitate employment.
- Black and Latinx households may face greater difficulty working or job-seeking from home. This could be due to factors such as lower rates of computer ownership and internet access, slower internet speeds, or higher rates of overcrowding.
- White and Asian workers may have been placed on furlough or temporary layoff rather than permanently laid off at higher rates, and the return in demand for these jobs would not be evident in online job postings.
- Discrimination in hiring may be more pronounced during the pandemic.
- An up-credentialing may be in effect, where employers increase credentialing or degree requirements for jobs in response to high rates of unemployment; this up-credentialing increases the likelihood of hiring a White or Asian worker who is more likely to have the higher credentials.

These effects underscore the compounding nature of racial inequities—in times of economic crisis, systemic inequities are exacerbated.

The early labor market recovery has been concentrated in jobs that require the least preparation and training. Postings for higher skills jobs remain down significantly from the February 2020 baseline.

Monthly Job Postings by Degree of Preparation Required, Boston Metro Region, February–October, 2020



Source: Authors' analysis of Burning Glass Technologies data on monthly job postings, using O*NET occupational classifications. **Note:** For more information on job zone definitions, see https://www.onetonline.org/help/online/zones.

In Boston, demand for jobs requiring some to moderate preparation—such as limited work experience, a high school diploma, or vocational training—has returned more quickly than demand for jobs that require either extensive preparation or no preparation at all. Boston's recovery is led by lower wage work, relative to the median Boston worker with a postsecondary degree and an annual income above $65,000. This trend highlights the immense importance of many jobs that require little formal preparation, such as frontline care workers, gig workers, production workers, and service workers, who have kept the economy afloat.

Meanwhile, as of October 2020, demand for jobs that require considerable preparation (e.g., a bachelor's degree) or extensive preparation (e.g., a bachelor's degree and significant specialized skills or experience, or an advanced postsecondary degree) remained down 35 percent and 25 percent, respectively, compared to February 2020. Workers in jobs that require greater experience and education are often more insulated from economic volatility than other workers, but the decreased demand for new jobs at this level is an issue for people now entering the market for these jobs (e.g., recent college graduates), and it suggests that workers laid off from these jobs may be forced to accept "underemployment"—taking jobs for which they are overqualified—as a way back into employment.[24]

10.0

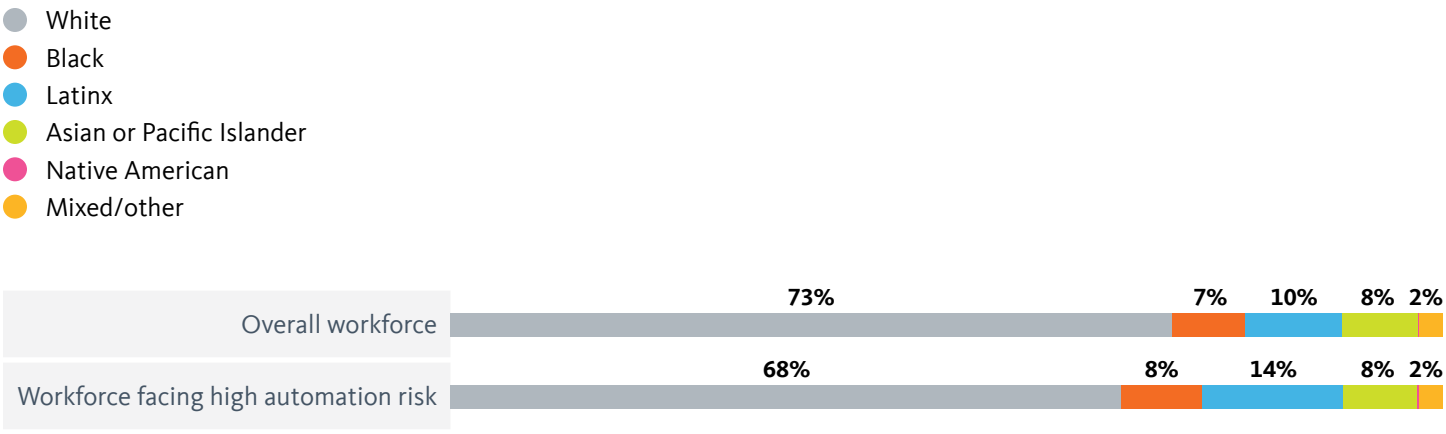
ACCELERATING AUTOMATION PUTS WORKERS OF COLOR AT RISK

Automation, digitalization, and computerization are on course to radically transform work and jobs in the United States. Certain occupations will become obsolete; others will be profoundly changed, expanded, or combined; and technological advancement, especially in artificial intelligence, is likely to create entirely new roles across industries and fields. Some of these processes cannot be reliably predicted, but given the current trajectory of automation-driven job change, it is clear that people of color are at increased risk of job disruption that may push them into more precarious, marginalized work or displace them from the labor market altogether.

Automation risk is best calculated in terms of the likelihood of computerization of the underlying tasks that make up a given occupation, which can lead to worker displacement.[25] Very few jobs consist *entirely* of tasks that can be computerized,[26] but most occupations include enough automatable tasks to be considered at risk of automation. The national average risk is about 52 percent, indicating that about half of job tasks performed by the US workforce can be automated.[27]

Latinx workers are overrepresented in automation-vulnerable jobs by more than one-third, compared to their representation in the overall workforce.

Automation Risk by Race/Ethnicity, Boston Metro Region, 2018

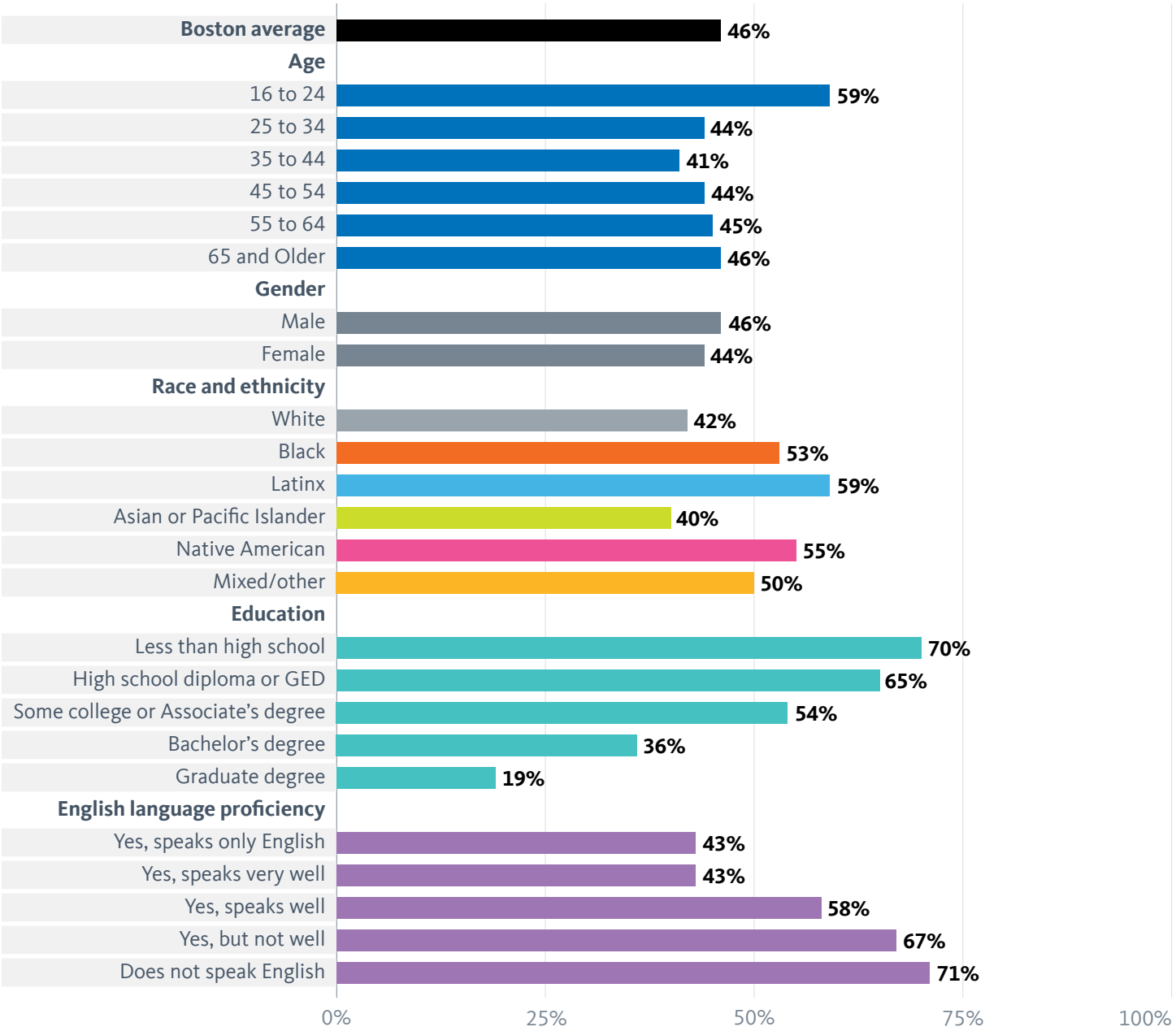


Sources: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA and automation scores from "The Future of Employment: How Susceptible Are Jobs to Computerisation?" (Carl Benedikt Frey and Michael A. Osborne, 2013). **Note:** Universe includes the employed civilian noninstitutionalized population age 16 or older.

The risk of automation is acute for workers of color, who are overrepresented in jobs susceptible to automation. White people in the Boston area constitute 73 percent of the workforce, but only 68 percent of workers in jobs with high automation risk. Inversely, Latinx workers make up 10 percent of the workforce overall but 14 percent of automation-vulnerable workers. The concentration of workers of color in jobs with elevated automation risk is projected to continue over time.

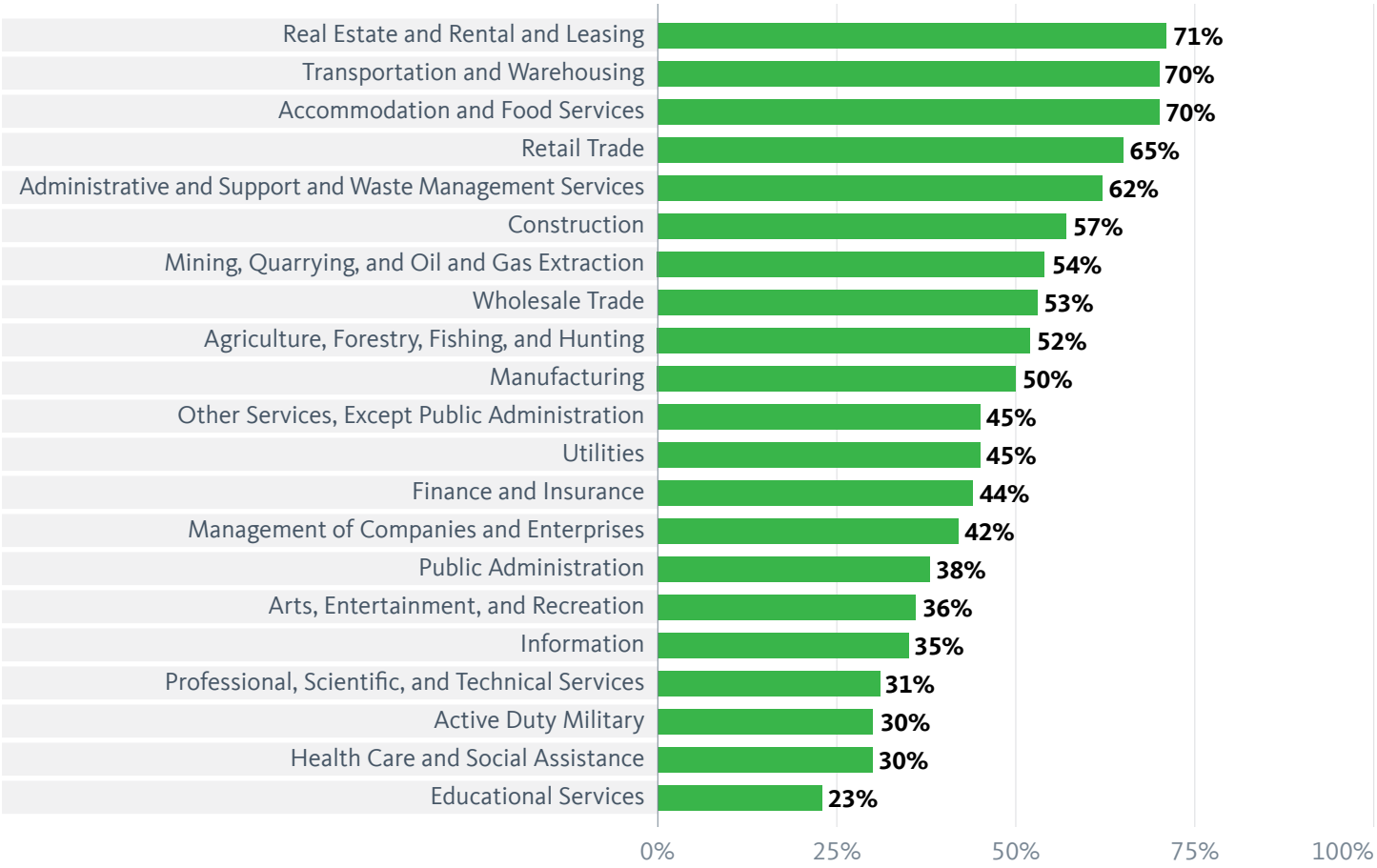
Workers of color, those with less than a high school diploma, younger workers, and non-English speakers are the most vulnerable to automation-driven job disruption.

Automation Vulnerability by Worker Characteristics, Boston Metro Area, 2018



Sources: Occupation-level automation scores from "The Future of Employment: How Susceptible Are Jobs to Computerisation?" (Carl Benedikt Frey and Michael A. Osborne, 2013), and worker characteristics from 2018 5-year American Community Survey (ACS) microdata from IPUMS USA.

Automation Vulnerability by Industry, Boston Metropolitan Region, 2018



Sources: Occupation-level automation scores from "The Future of Employment: How Susceptible Are Jobs to Computerisation?" (Carl Benedikt Frey and Michael A.Osborne, 2013), and industry characteristics from 2018 5-year American Community Survey (ACS) microdata from IPUMS USA.

In addition to race and ethnicity, a variety of other worker characteristics correlate with high automation risk. English language is associated with automation resiliency: workers who speak English well face one-third less automation risk compared to workers who do not speak English. Increasing educational attainment is another pathway to jobs that enjoy automation resiliency. The degree that affects the greatest level of change is a bachelor's degree. Bachelor's degree holders face one-third less automation risk compared to workers with some college experience or an associate's degree. Black workers are 11 percentage points more likely than White workers to be affected by automation, and Latinx workers are 17 percentage points more likely.

11.0
A BLUEPRINT FOR ACTION IN BOSTON

A racial equity agenda to transform workforce ecosystems—an agenda that centers the needs of the most impacted to maximize benefits for all—is the key to advancing a lasting recovery and a resilient future economy. Realizing this agenda will require both private and public investment and action to dismantle systemic racism and reimagine high-quality jobs and equitable talent development as a social good.

The need for a racial equity agenda has been heightened by the Covid-19 pandemic, which has exacerbated entrenched inequities in both employment and job quality. Many of those who are still going to work face not just the health risks of Covid-19—including health-care workers, where women of color are especially overrepresented, and other essential jobs, where men of color are overrepresented—but also its rippling social effects, such as lack of childcare and cuts to public transportation. Covid-19 is also expected to accelerate automation, threatening to exacerbate racial gaps in workforce outcomes and economic security.

A cross-cutting racial equity agenda for the region's workforce is the cornerstone of a future Boston economy in which all can participate, prosper, and reach their full potential. Policymakers, employers, educators, training providers, and community-based organizations all have important roles to play to ensure that workers are prepared for the jobs of tomorrow with the skills, supports, and access they need to fully participate and thrive in the emerging economy. Our recommendations for designing and activating such a racial equity agenda include the following:

1. Use sector-based workforce development strategies to build pathways for workers of color into good jobs.

Workforce intermediaries play a key role in advancing workforce equity in the Boston region. Boston workforce and economic development agencies have adopted a sector-based strategy for growing the regional economy, and these agencies should build on sectoral investment strategies by adding two core components: an equity overlay and a focus on career pathways between entry-level work and target occupations. MassHire, the Massachusetts workforce development system, has identified health care and information technology as the priority sectors in the Greater Boston area. Both of these sectors have entry-level jobs and career pathways for workers with only a high school degree, yet all of the target occupations identified by MassHire require a credential beyond high school.

It is incumbent on the workforce development system to connect workers of color in low-paying or precarious jobs with opportunities for good employment within target sectors. The first table below shows health-care occupations requiring less than a bachelor's degree where workers of color are overrepresented. The following table shows the target good jobs that today pay on average more than the living wage in metro Boston. An equity approach to workforce development signals that MassHire should prioritize transitioning the workers represented in the first table into the jobs represented in the second table.

Health-Care Occupations Requiring Less than a Bachelor's Degree, Facing Elevated Automation Risk or with Average Compensation Below Living Wage

Occupation	Workers of Color	% Workers of Color	% Black	% Latinx	% Asian or Pacific Islander	% Native American	% Mixed/ Other
Nursing assistants	16,791	62%	42%	14%	3%	<1%	3%
Personal care aides	10,340	55%	29%	18%	5%	<1%	3%
Home health aides	4,905	64%	35%	18%	5%	<1%	6%
Medical assistants	3,885	44%	15%	22%	2%	<1%	5%
Clinical laboratory technologists and technicians	2,199	35%	10%	10%	13%	<1%	2%
Dental assistants	2,095	44%	8%	22%	12%	<1%	3%
Pharmacy technicians	1,970	40%	12%	14%	14%	<1%	1%
Other healthcare support workers	1,274	40%	21%	11%	6%	<1%	2%
Phlebotomists	1,076	53%	20%	26%	2%	<1%	5%
Orderlies and psychiatric aides	806	72%	39%	18%	1%	1%	12%
Massage therapists	683	27%	6%	8%	12%	<1%	<1%
Dental hygienists	652	18%	1%	8%	7%	<1%	2%
Medical records specialists	650	25%	6%	9%	7%	<1%	2%
Pharmacy aides	499	53%	3%	31%	19%	<1%	<1%
Veterinary technologists and technicians	306	22%	10%	5%	7%	<1%	1%
Physical therapist assistants and aides	279	20%	<1%	12%	4%	<1%	5%
Opticians, dispensing	153	15%	1%	4%	10%	<1%	<1%
Psychiatric technicians	151	28%	11%	8%	10%	<1%	<1%
Veterinary assistants and laboratory animal caretakers	84	24%	4%	<1%	15%	<1%	5%
Medical transcriptionists	83	26%	<1%	23%	3%	<1%	<1%
Dietetic technicians and ophthalmic medical technicians	74	24%	13%	5%	7%	<1%	<1%

Sources: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes all people between the ages of 25 and 65 years.

Target Occupations in the Health-Care Sector that Pay More Than a Living Wage

Occupation	Workers of Color	% Workers of Color	% Black	% Latinx	% Asian or Pacific Islander	% Native American	% Mixed/ Other
Registered nurses	11,400	19%	10%	3%	5%	<1%	2%
Licensed practical and licensed vocational nurses	4,600	42%	29%	7%	4%	<1%	3%
Miscellaneous health technologists and technicians	893	36%	18%	7%	10%	<1%	1%
Emergency medical technicians	681	20%	10%	9%	1%	<1%	1%
Surgical technologists	643	47%	20%	8%	16%	<1%	3%
Radiologic technologists and technicians	405	14%	5%	7%	3%	<1%	<1%
Respiratory therapists	337	30%	22%	2%	4%	<1%	3%
Radiation therapists	201	53%	37%	3%	13%	<1%	<1%
Diagnostic medical sonographers	183	12%	1%	<1%	5%	<1%	7%
Cardiovascular technologists and technicians	155	24%	15%	<1%	3%	<1%	6%
Occupational therapy assistants and aides	58	18%	<1%	18%	<1%	<1%	<1%
Magnetic resonance imaging technologists	40	6%	<1%	2%	5%	<1%	<1%

Sources: Authors' analysis of the 2018 5-year American Community Survey microdata from IPUMS USA. **Note:** Universe includes all people between the ages of 25 and 65 years.

Workforce development intermediaries can also identify diverse talent pools of workers in skills-similar jobs and provide training to bridge remaining skills gaps. Such an approach is appropriate for the IT sector, where sector-specific technical skills can be taught outside of the strictures of postsecondary degree programs and other relevant job skills, such as project management, computer literacy, and analytical skills, cut across other, more diverse sectors like community and social services, sales, finance, and education. For example, the following occupations would be strong candidates for transitions into the IT sector: inventory clerks (2,400 workers, 35 percent workers of color), computer and office machine repairers (2,300 workers, 31 percent workers of color), and customer service representatives (45,000 workers, 28 percent workers of color).

Workforce intermediaries can use a number of programmatic approaches to realize the worker transitions required to deliver workforce equity. Job-training grants (such as the Workforce Competitiveness Trust Fund), apprenticeship programs (such as Apprenti), and subsidized employment opportunities should include specific equity targets to ensure that they benefit people of color and disadvantaged job seekers.[28,29] Job training that targets limited-English-proficiency workers, such as the Massachusetts Pathways to Economic Advancement Pay for

Success Project, will naturally oversample workers of color.[30] Neighborhood-based career services can be expanded in communities of color. And the workforce development sector should develop sector partnerships with employers, training providers, and educational institutions to facilitate real-time labor market information sharing and pathway development, as with the long-standing Boston Healthcare Careers Consortium and more recent TechHire Boston employer consortia. The Healthcare Consortium in particular has grown to more than 50 active members since its inception in 2010, and is nationally recognized for its employer-led model.

In addition to a workforce development approach that marries career pathways with sector strategies, workforce intermediaries can also lighten some of the burdens that fall on job seekers. Workforce intermediaries should pursue the following strategies: reduce information asymmetries by providing detailed information on job characteristics (including expected salary, typical benefits, and work conditions); facilitate and lower the cost of job searching by developing pipelines in partnership with employers; and provide services like childcare and transportation (either directly or through subsidies) to job seekers.

2. Leverage the development boom and sectoral growth to increase union participation, expand apprenticeship programs, and secure public financing for social programs.

The boom in real estate development and growth in sectors with larger union representation, such as construction and hospitality, underscore the importance of collaboration between unions and workforce development intermediaries. Apprenticeships are a core component of many union career pathways. Unions also tend to represent a more diverse workforce relative to the Boston area workforce overall. Workforce intermediaries can help unions scope equity concerns in collective bargaining agreements. One such collaboration in Boston, between the Greater Boston Hotel Employees Local 26 and hospitality employers, launched BEST Hospitality Training, an independent nonprofit that has provided pathways to strong employment in hospitality. BEST has a job-training site in Roxbury with the aim of serving the Black population in that community. The average hourly wage of housekeeping workers who have completed BEST job training programs is $17/hour, compared to $11/hour before the training, and gain union membership and a robust benefits package.[31]

Sector-based workforce development strategies and strategies inclusive of unions also enable workforce intermediaries to build career pathways starting with apprenticeships and subsidized employment programs. Women and workers of color are underrepresented in apprenticeships, in large part because of inequities in recruitment mechanisms and the role of social capital and professional networks in securing such positions. Apprenticeships represent vital pipelines to industries and occupations in which workers of color are underrepresented, and they are an important upstream point of intervention to reduce occupational segregation. Earn-and-learn apprenticeship programs can help lay the foundation for career advancement and economic security for adult workers of color and opportunity for youth as well.

The Greater Boston area can expand and replicate programs like the Neighborhood Jobs Trust (NJT). The NJT is funded by linkage fees collected on large-scale commercial development projects, and funds jobs and job training for low- and middle-income Boston residents. Between 2017 and 2018, more than 2,000 Boston residents accessed job training and education through the NJT, and more than two-thirds of those residents lived in Dorchester, Roxbury, East Boston, or Mattapan. Among participants, 88 percent were people of color and 38 percent were non-native English speakers. On average, graduates earned $15.37 per hour, and 76 percent were earning benefits.[32] In June 2020, thhe Mayor's Office of Workforce Development announced a commitment of $2.4 million in NJT funds for education and training efforts as well as community-based organizations supporting area students and workers during the Covid-19 pandemic.[33]

Taxes and linkages from real estate development can also shore up budgets for other social programs, such as affordable housing. Traditional economic development prioritizes GDP growth, whereas an equity-driven workforce development program raises the employment floor, protects workers, and channels economic gains to the populations that will most benefit from them. Economic growth and real estate development are leading to gentrification in Boston's lowest-income communities: a report from the National Community Reinvestment Coalition found that Boston was the third-most gentrifying city in America during 2013–2017, following only San Francisco and Denver.[34] Workforce intermediaries, especially in their capacity as collaborators with planning and development agencies, should support programs and policies that prevent displacement. In particular, zoning ordinances are an area where workforce and economic development intersects with housing concerns. Inclusionary zoning can be a powerful mechanism to expand housing opportunities that prevent displacement

while generating additional revenue that can be used to build on programs like Boston's city-funded affordable housing voucher program.

The protections above can be strengthened by Boston's planning and development agencies by empowering community participation in the development process. Community benefits agreements can ensure that development addresses local concerns. Diversity and equity requirements in impact advisory groups can ensure that the community voice in the development process is representative. Strong community benefits for development projects in and near communities of color ensure residents have access to newly created good jobs, including both the development/construction phase and longer term operations.

3. Mediate the relationship between educational institutions and employers to transition from degree-based hiring to skills-based hiring.

As training programs evolve toward skills rather than degrees, hiring practices should mirror this shift and eliminate artificial and unnecessary educational requirements in favor of skills requirements wherever possible. Workforce intermediaries should explore whether part of the transition from degrees to skills should include expanded credential programs. The robust education system in the Boston area is well positioned to support innovative credentialing models such as stackable credentials and micro-credentials. However, such programs will not help students and workers unless employers accept their signaling value.

Employers can also take the lead on developing meaningful approaches to progressive skills development and internal promotion with explicit equity targets, supported by strategies to invest in training programs designed to support the internal advancement of workers of color. This should include investments in supporting workers of color to build professional capital and opportunities to participate in and develop professional networks, and creating partnerships to support upward mobility and career pathways both within firms and across an industry. For example, corporate tuition assistance programs could be strengthened as vehicles for advancing racial equity by expanding eligibility, using a pre-pay rather than reimbursement model, integrating career and education advising, and providing flexible learning opportunities (such as on-site training, use of company computers, and release time) to allow more workers to take advantage of tuition benefits.

4. Improve job quality through systems-changing pubic and private sector employment policies.

Successful workforce outcomes depend on more than job training and placement. Access to affordable support systems, such as childcare and transportation, and to safe and affordable housing that allows workers to take advantage of employment opportunities, are essential components of workforce equity. But for many people in the Boston area, rising housing costs and racial and economic segregation produce geographic isolation and concentrated poverty, cutting communities off from economic opportunity and the supports that workers need in order to thrive. Transit development investments have been largely concentrated in already well-resourced areas and designed to link the suburbs to business corridors of the central city, leaving many low-income neighborhoods and communities of color disconnected from schools, jobs, services, and other assets in the region.

The workforce system alone cannot meet all of the existing need for supportive and wraparound services, yet these supports are essential to fostering higher educational attainment and labor market advancement for workers of color. By investing in navigation and case management services and expanding the childcare, housing, transportation, and support resources to which workforce system partners can refer, funders and workforce intermediaries can help ensure that residents can understand, access, and use existing services and benefits more efficiently. And, the workforce system also has an important role to play in collaborating across sectors to help design and advocate for policy solutions to expand childcare, housing, and transportation investments and to ensure that racial equity is centered in those efforts.

Elected officials and policymakers can work to expand employment benefits, make them portable across different forms of employment, and create a more equitable minimum wage, and expand tax credits for workers like the Earned Income Tax Credit (EITC). Massachusetts is a national leader in paid family and medical leave. The federal Pandemic Unemployment Assistance program extended sick leave to self-employed workers, independent contractors, and gig economy workers. Massachusetts can continue to lead the nation by determining how to codify that extension going forward. The minimum hourly wage in Massachusetts is $12.75/hour and set to reach $15/hour in January 2023. However, the MIT Living Wage calculator estimates that the living wage for a Boston-area

family of two children and two working adults is approximately $20/hour. Policy-makers can follow the lead of 18 other states and DC by automatically increasing minimum wage according to certain indices: indexing minimum wage to price inflation ensures that workers will be able to afford the same basket of goods over the long term, and indexing minimum wage to median wage would be an equitable way to share economic growth.

Boston can also expand public employment and increase contracting with minority- and women-owned businesses. A public health jobs corps could provide important services and education in the communities of color where the Covid-19 pandemic is hitting hardest. Such a program could hire locally and, in doing so, increase the number of workers of color in good jobs. The City of Boston and surrounding cities could also increase contracting with minority- and women-owned businesses. An analysis by the *Globe* found that less than 1 percent of the $664 million Boston awarded for contracts for construction and professional goods and services in 2018 went to minority- or women-owned businesses.[35]

Other formal barriers to employment that disproportionately disadvantage people of color can also be remedied by both public policy and employer practices such as "fair chance" employment policies designed to ensure that job seekers with criminal records are not unfairly disadvantaged. Similarly, occupational licensing agencies should examine and, where appropriate, revise or eliminate requirements that prohibit justice-involved individuals from holding professional licenses. Bonding and insurance programs can be used to mitigate perceived risks of employment of individuals who have been involved in the justice system. Employers should be restricted from using credit checks in hiring decisions, as credit scoring tends to both reflect and reinforce racial inequities in the economy.

5. Make racial equity a priority, and develop systems to track and measure progress and ensure accountability.

Finally, equity must be a priority across all sectors in order to adequately address the racial inequities described above. The workforce system, employers, and public and private entities each have a role in this work. As presented here, the numbers are stark and real; and it is important for all stakeholders in Boston to use data to examine their operations and policies, identify where the inequities lie and what the drivers are, and develop high-impact solutions to address them.

Deep structural inequities are often masked by aggregated data and metrics that do not attend to the specific experiences of different groups of people. Businesses, government, and workforce development institutions should invest in robust, disaggregated data collection and reporting systems, and use granular insights on differential outcomes to drive systems change. Education and training providers can track enrollment and attainment data—disaggregated by race/ethnicity, ancestry, gender, and income—to understand where the gaps are, inform program design and policymaking, and document progress. Metrics can examine disaggregated data at each stage—outreach, recruitment, assessment, training completion, credential attainment, and employment—to identify where inequities occur in these processes, and take corrective action to remove bias and marshal resources needed to reach equitable outcomes at each stage. Business leaders should use disaggregated data to guide policy change related to recruitment, training, retention, and civic engagement. Public, private, and nonprofit organizations can embed racial equity measures in strategic planning, from education and workforce development to philanthropic efforts, labor standards law, and fiscal policy.

An equitable Boston workforce will be one in which racial income gaps are eliminated, all jobs are good jobs, and everyone who wants to work has access to inclusive and family-supporting employment. Achieving this vision will require high-impact, large-scale, cross-system efforts to dismantle barriers and cultivate racial equity in education and training, hiring and advancement, and the social determinants of work that support positive economic outcomes for workers and families. Good jobs and inclusive growth are the foundation of an equitable economy. Amid the economic uncertainty of the current moment and the projected scale of technological transformation in the not-too-distant future, targeted strategies to improve job quality and ensure equitable access to safe and stable employment are essential to an equitable future of work and a thriving, inclusive economy in the Boston metro region.

12.0
METHODOLOGY

The analyses presented were drawn from two key data sources: the 2018 5-year American Community Survey (ACS) microdata from IPUMS USA and a proprietary occupation-level dataset from Burning Glass Technologies expressed at the six-digit Standard Occupational Classification (SOC) level. While sources and notes are included beneath each figure in the report, here we provide additional information on these two key data sources and methods used for the analysis of "good jobs," automation risk, and income/GDP gains with racial equity in the workforce. Unless otherwise noted, all data reflect the Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area, which includes Norfolk, Plymouth, Suffolk, Essex, and Middlesex counties in the state of Massachusetts, and Rockingham and Strafford counties in the state of New Hampshire.

The ACS is the largest annual survey of US households administered by the US Census Bureau, collecting a wealth of socioeconomic and demographic information. It is released in both a "summary file" format that includes a limited set of summary tabulations for a wide variety of geographies as well as a "microdata file" that includes individual-level responses for the survey and affords an analyst the flexibility to create custom tabulations. These files also come in both 1-year and 5-year versions, which cover about 1 and 5 percent of the US population, respectively. We used the 5-year sample of the microdata to achieve a larger sample size, and we used the version released by IPUMS USA because it has been harmonized to be more consistent over time and augmented with many useful variables.

Unless otherwise noted, the ACS microdata was the source of all tabulations of demographic and workforce equity metrics by race/ethnicity and nativity included in this report. Also, unless otherwise noted, racial/ethnic groups were defined such that all groups are non-Latino (excluding those who identify as Hispanic or

Latino), leaving all persons identifying as Hispanic or Latino in the "Latinx" category. The term "US born" refers to all people who identify as being born in the United States (including US territories and outlying areas), or born abroad of at least one US citizen parent, while "immigrant" refers to all people who identify as being born abroad, outside of the United States, of non-US citizen parents. The ACS microdata was aggregated to the detailed occupation level and merged with data from Burning Glass Technologies to conduct the "good jobs" and "automation risk" analyses that appear in the report.

The proprietary data from Burning Glass Technologies is based on job postings by collecting data from close to 50,000 online job boards, newspapers, and employer sites daily. Burning Glass then de-duplicates postings for the same job, whether it is posted multiple times on the same site or across multiple sites. Finally, Burning Glass applies detailed text analytics to code the specific jobs, skills, and credentials requested by employers. The equity gap for good jobs was calculated using occupation characteristics from the ACS (employment and average salary), Burning Glass data models (typical education requirements advertised on job postings and metropolitan-area occupational employment projections), and the automation risk associated with each occupation from the 2013 paper, "The Future of Employment: How Susceptible Are Jobs to Computerisation?" by Carl Benedikt Frey and Michael A. Osborne.[36]

The income and GDP gains with racial equity in the workforce are based on a methodology used for the "racial equity in income" indicator on the National Equity Atlas. That analysis estimates aggregate income and income per person for the population ages 16 or older, by race/ethnicity, under the status quo and under a hypothetical scenario in which there is no inequality in age-adjusted average income and employment by race/ethnicity. That is, it assumes that all racial/ethnic groups have the same average annual income and hours of work, by income percentile and age group, as non-Hispanic Whites. The aggregate income gains are then used to estimate the gain in GDP by applying the percentage increase in aggregate income (for all racial/ethnic groups combined) to actual GDP as reported by the US Bureau of Economic Analysis.

For the income and GDP gains with racial equity in the workforce analysis included in this report, we replicated the same methodology used in the National Equity Atlas but restricting it to the working-age population (ages 25–64 years). Care was taken to ensure that the percentage (and total) gain in GDP we estimated was based on the percentage gain in overall aggregate income (i.e., for the population ages 16 or older) that we would expect if there were racial equity in income for just the population ages 25–64 years.

13.0
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14.0
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