Labor Analysis of the Youth Workforce in Greater Lowell

Report created by the UMass Donahue Institute for the MassHire Greater Lowell Workforce Board

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UMASS DONAHUE INSTITUTE
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Table of Contents

List of Figures and Tables

Figures

Tables

Introduction

As the U.S. economy has transitioned over the past 40 years from being a manufacturing-based economy to being a knowledge and service-based economy, the youth labor market (aged 16-24) has also changed significantly. General trends across the country and Massachusetts reveal dramatic drops in teenage and young adult participation in the labor force. This trend has intensified during and since the Great Recession, as teenagers and those in their early 20s face a job market with elevated education and skill requirements, and as a larger share of young adults opt to enroll full-time in post-secondary programs after high school. Young people also face increased competition with older workers who have stayed in the labor force longer than previous generations, either by choice or out of economic necessity after the Great Recession. Young people will continue to likely face such competition as the ongoing COVID-19 pandemic has caused skyrocketing unemployment rates throughout the United States.

Lowell was once known for its economy based on textile mills and manufacturing. In recent decades, as deindustrialization pushed the economy from manufacturing to knowledge-based sectors, Lowell has struggled to keep up with the levels of economic growth that other areas of Greater Boston and Massachusetts have experienced. Lowell is one of Massachusetts' so-called "Gateway Cities," historical manufacturing cities that have been slow to draw new economic investments post-deindustrialization, but also remain regional economic anchors.[1]

Gateway Cities like Lowell also remain lower cost entry points for many immigrants, making them a "gateway" to pursuing success in America. As such, Gateway Cities are often far more racially and ethnically diverse than the municipalities that surround them, and Lowell is no different. While 51.2 percent of Lowell residents are people of color, only 29 percent of the rest of the Greater Lowell region (Billerica, Chelmsford, Dracut, Dunstable, Tewksbury, Tyngsborough and Westford) are residents of color. Lowell has a growing and diverse Latinx population, as well as the second largest Cambodian population in the United States.

Relatedly, the profile of who is participating in the labor force among young people in the Greater Lowell area varies significantly across race and ethnicity, gender, socioeconomic status, and educational attainment. While some of the reasons young people may opt out of the labor market are for admirable reasons, such as enrolling in college, early labor market participation has been associated with a number of positive benefits for young people, including reduced instances of juvenile delinquency, increased lifelong earning potential, soft skill development, and broadened professional networks.[2]

[1] Gateway Cities became an official legislative designation in 2009 and is connected to special programs to spur economic development in these urban centers. There are currently 26 officially designated Gateway Cities in Massachusetts. For more information on Gateway Cities, see: https://massinc.org/our-work/policy-center/gateway-cities/about-the-gateway-cities/#:~:text=The%20Legislature%20defines%2026%20Gateway,%2C%20Springfield%2C%20Taunton%2C%20Westfield%2C

[2] The Young Adult Labor Force in Massachusetts, https://donahue.umass.edu/our-publications/young-adult-labor-force_boston-pic_nov16

As a result, workforce development professionals often focus on young workers as a critical population for outreach and services, particularly those individuals disconnected from the labor market (i.e. neither employed nor enrolled in school). These issues are of increased importance today as the state and national economy are in the grips of the COVID-19 outbreak. While the full extent of the economic impact is not known at this point, industries that have traditionally employed young workers, such as food services and retail, have been particularly damaged by the current economic downturn.

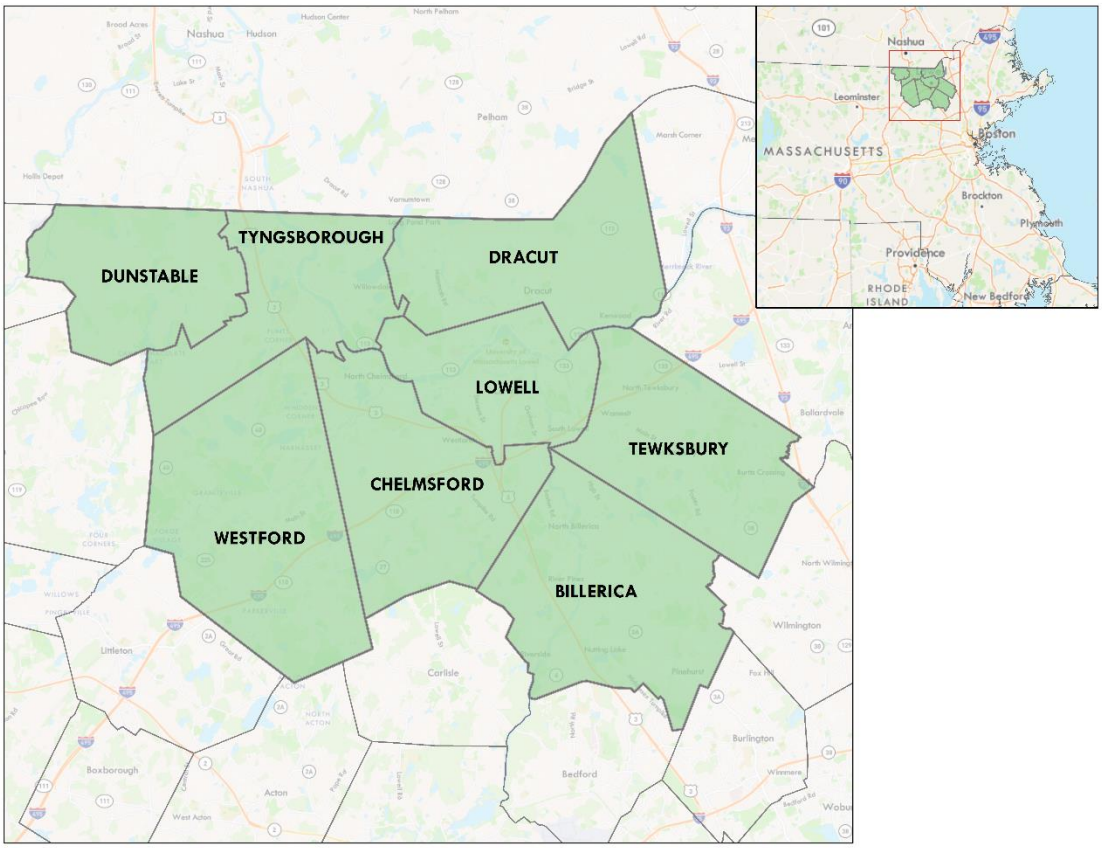
With these trends and issues in mind, the MassHire Greater Lowell Workforce Board engaged the UMass Donahue Institute (UMDI) to provide a custom analysis of the youth labor force in the region. This report pairs demographic and employment information with regional insights to understand the core characteristics and labor force participation of the young workers in Greater Lowell (e.g., place of residence, race, gender, socioeconomic status, etc.). The report also identifies barriers to employment for young people in the region, as well as the potential labor market impacts associated with the ongoing COVID-19 pandemic. UMDI has based its conclusions on both secondary data sources, as well as information gathered in interviews with community stakeholders who work with young people in the region.

As young people face an increasing set of challenges in the current economy, MassHire Greater Lowell may need to plan to offer nontraditional support systems and continue to be flexible in its program offerings and trainings, as the ongoing pandemic demands it.

Demographic Profile of the Greater Lowell and the Regional Youth Labor Force

For this study, we define "Greater Lowell" as the eight communities making up the Greater Lowell Workforce Development Area (WDA): Billerica, Chelmsford, Dracut, Dunstable, Lowell, Tewksbury, Tyngsborough, and Westford (**Figure 1**). Together the communities have a total population of 291,458 people, which is 4.3 percent of the total population of Massachusetts. This region also makes up 4.4 percent of Massachusetts' residents of color, as well as 4.5 percent of the foreign-born population.

Figure 1: Regional Map



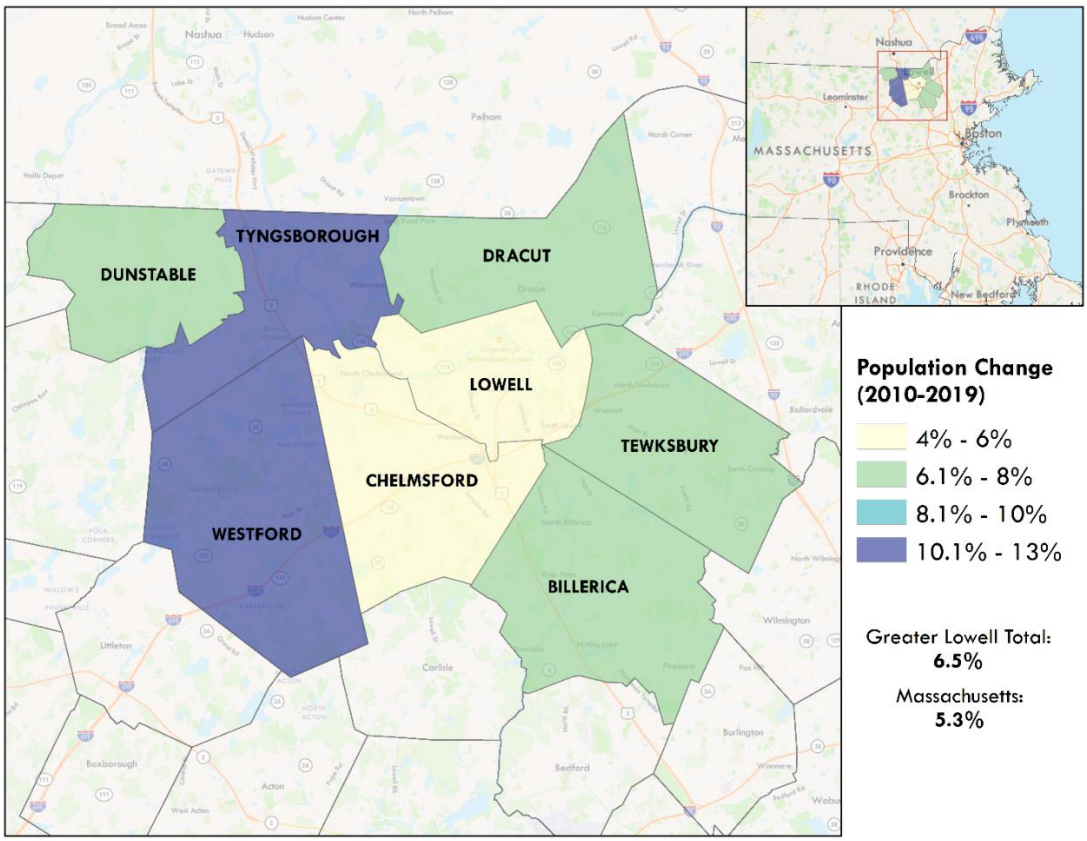
Source: U.S. Census Bureau, 2010-2019 Population and Housing Unit Estimates

Note: This time series used is 2010-2019. In other areas of the report, 2018 data are provided, as it is the most up to date for the measures used.

The Greater Lowell WDA is the 10th largest WDA in the state (out of 16) with 157,161 people in the labor force.[3] With a total population of just over 111,000 (the fourth largest city in the state), Lowell makes up 38 percent of the region. Further, as we will demonstrate in the sections below, approximately 2/3 of the region's people of color and nearly half (46%) of the youth population live in the city of Lowell. In that, a number of the key economic and workforce challenges in Greater Lowell are closely tied to the urban core of the region.

At a 6.5 percent increase, Greater Lowell experienced stronger population growth from 2010 to 2019 as compared to the Massachusetts overall, which saw a 5.3 percent increase in growth over the same time period (**Figure 2**).

Figure 2: Population Growth of Greater Lowell and Massachusetts



Source: U.S. Census Bureau, 2010-2019 Population and Housing Unit Estimates

Note: This time series used is 2010-2019. In other areas of the report, 2018 data are provided, as it is the most up to date for the measures used.

[3] https://lmi.dua.eol.mass.gov/lmi/LaborForceAndUnemployment/WorkforceAreaComparison

This study focuses on young adults between 16 and 24 years old.[4] Below is a discussion of the overall population demographics in the communities that comprise Greater Lowell. After introducing the demographics for the region as whole, the report turns to a deeper look into the demographics of working-age teenagers and young adults.

Overall, Greater Lowell has experienced steady population growth since 2010 (**Table 1**). The town of Westford, in particular, added nearly 3,000 residents between 2010 and 2018. This growth marked a 12.6 percent increase. While every municipality saw growth over the decade, Chelmsford saw the smallest increase at 5.1 percent. **Table 1** shows that Lowell has the highest number of older teenagers and young adults in the region. Interestingly, while Lowell makes up 38 percent of the region, it accounts for 41 percent of the 15-to-19-year-olds and over half of the 20-to-24-year-olds. This, in part, highlights the role of UMass Lowell in attracting young people into the city, as well as the age and profiles of families of color and immigrant households in the city.

Table 1: Population Counts, Greater Lowell

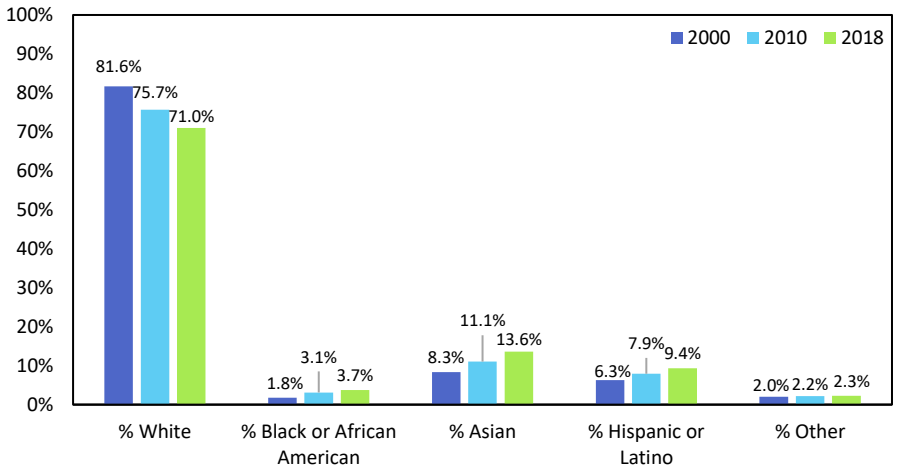
Geography	Total Population	Population Ages 15 - 19	Population Ages 20 – 24
Billerica	43,044	3,036	2,598
Chelmsford	35,086	1,939	1,952
Dracut	31,266	1,912	1,917
Dunstable	3,345	265	248
Lowell	111,249	8,325	10,851
Tewksbury	31,002	1,922	1,963
Tyngsborough	12,272	822	748
Westford	24,194	2,033	1,292
Greater Lowell	291,458	20,254	21,569

Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates.

Figure 3 below shows race and ethnicity distribution of Greater Lowell for 2000, 2010 and 2018. Overall, from 2000 to 2018 the population in Greater Lowell became more racially and ethnically diverse. In 2000, nearly 82 percent of Greater Lowell was white, compared to 71 percent in 2018. Additionally, the region saw significant gains in its Asian population.

[4] The demographics section of this study uses data provided by the American Community Survey (ACS), which groups the youth population into cohorts ages 15-19 and 20-24.

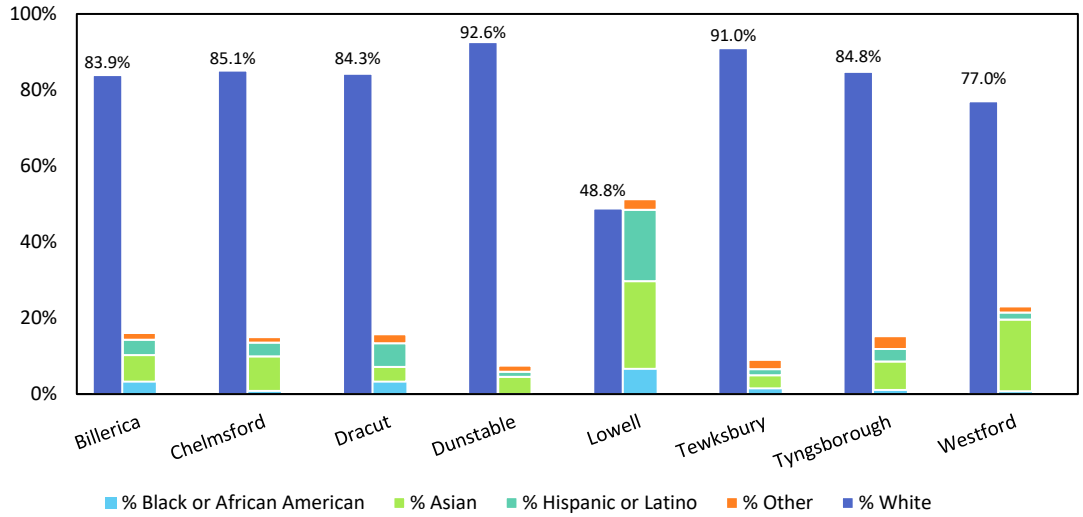
Figure 3: Population Share of Greater Lowell by Race and Ethnicity, 2000, 2010 and 2018



Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates; IPUMS NHGIS, 2000, 5% Sample

Figure 4 below shows the distribution of race and ethnicity across Greater Lowell municipalities in 2018. Lowell is the most diverse city in the region and is one of 12 cities in Massachusetts whose population is a majority people of color. Just over 67 percent of Greater Lowell's people of color and 46 percent of the region's young adult population lived in Lowell in 2018. The city's racial and ethnic diversity may mask the homogeneity in other parts of the region, however; Tewksbury and Dunstable are both more than 90 percent white.

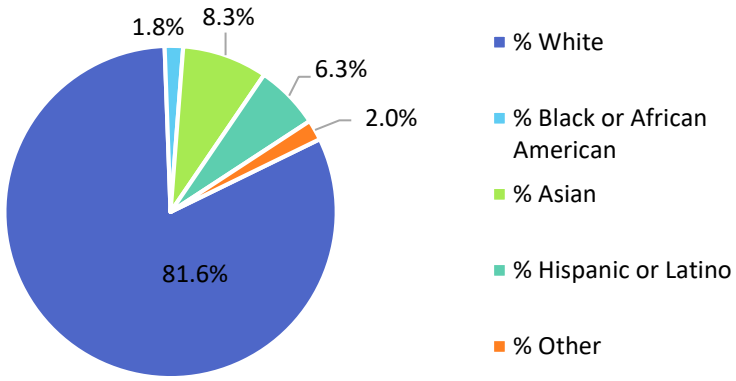
Figure 4: Share of Race and Ethnicity by Geography, 2018



Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates

The racial and ethnic breakdown in Greater Lowell in 2000 is shown in **Figure 5** below. At nearly 82 percent, the majority of the population was white. Asians comprised the largest minority population, at 8.3 percent. In 2000, Greater Lowell and Massachusetts had a very similar racial and ethnic composition.

Figure 5: Share of Race and Ethnicity by Greater Lowell, 2000



Source: IPUMS NHGIS, 2000, 5% Sample

Over the course of nearly two decades, Greater Lowell's overall population has become more diverse. This increase in diversity is mainly due to immigration; Lowell's immigrant population has been making up a larger share of the region each year.

In Greater Lowell from 2010 to 2018, 54 percent of the population increase came from residents who were born outside the U.S. For the city of Lowell, 91 percent of the population increase came from the foreign-born population. Overall, 28 percent of Lowell's population is foreign-born residents. Massachusetts' population growth during the past two decades is also mostly driven by immigration.

Table 2 shows the share of Greater Lowell's native-born and foreign-born population from 2000 to 2018. The foreign-born population in Greater Lowell has significantly increased since 2000.

Table 2: Share of Nativity Greater Lowell, 2000, 2010 and 2018

Year	Native Born	Foreign Born
2000	87.7%	12.3%
2010	85.3%	14.7%
2018	82.6%	17.4%

Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates; IPUMS NHGIS, 2000, 5% Sample

Both international migration and international students studying in the region play an important role to the region's population growth.

Table 3 shows the number of native-born and foreign-born residents in Massachusetts for 2000, 2010 and 2018. In 2018, there were 5.7 million US-born residents in Massachusetts, and 1.13 million residents born outside the United States. The Greater Lowell region and the Commonwealth overall have similar shares of native and foreign-born residents, though Greater Lowell has a slightly higher share of residents who were born outside the U.S.

Table 3: Share of Nativity Massachusetts 2000, 2010, 2018

Year	Native Born	Foreign Born
2000	87.8%	12.2%
2010	85.5%	14.5%
2018	83.5%	16.5%

Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates; IPUMS NHGIS, 2000, 5% Sample

Note: Universe includes all persons, all ages

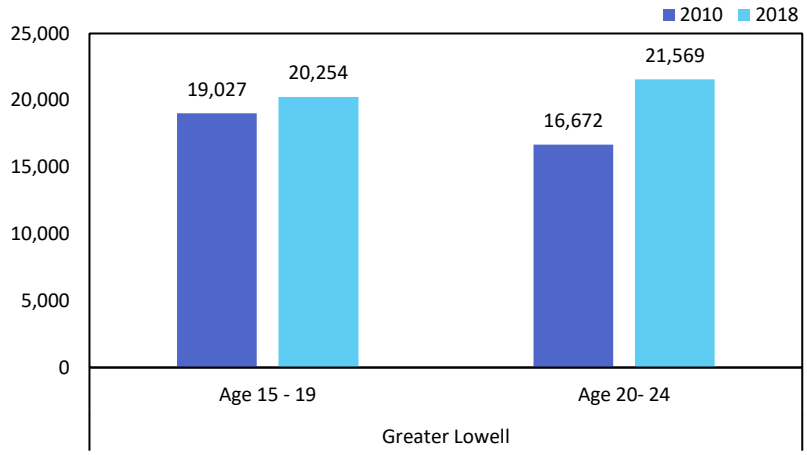
Greater Lowell's population in 2018, the latest year in which comprehensive data are available, has grown by 7.4 percent since 2010. Taking a closer look at the growth among older teenagers and people in their early 20s, 15-to-19-year-olds grew by 6.5 percent and 20-to-24-year-olds increased by a whopping 29.4 percent (

Figure 6).

One driver of the increase in young adults in the region is the growth of UMass Lowell. In 2018, there were just over 18,000 students enrolled at the UMass Lowell campus across its undergraduate, graduate, and continuing education programs, compared to less than 14,700 in 2010. This growth

marks a 24 percent increase in enrollments at the school and can partly explain the similar growth in 20-to-24-year-olds over the same time period.

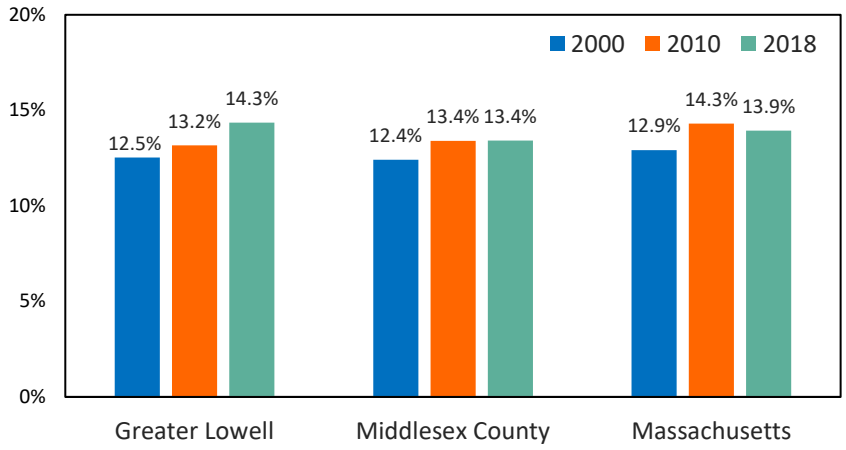
Figure 6: Youth Population of Greater Lowell



Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates

In 2018, Lowell had a higher percentage of people ages 15-24 than both Middlesex County and the state (**Figure 7**). Massachusetts as a whole has had an increasing percentage of population ages 15-24, going from 12.9 percent in 2000 to 13.9 percent in 2018. This finding also suggests that proportion of youth population in Massachusetts shrunk slightly from 2010 to 2018. This may be due in part to the youngest Millennials aging out of this age cohort. Middlesex County's youth population percentage has remained relatively consistent from 2000 to 2018.

Figure 7: Percentage of Youth Population Age 15-24

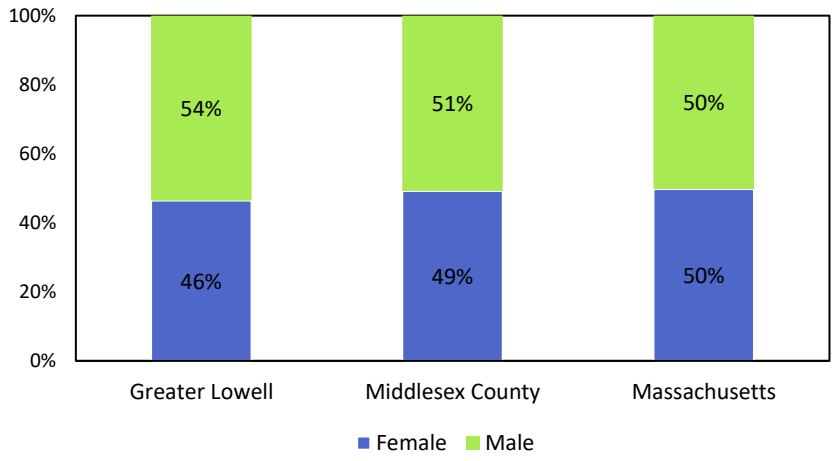


Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates; IPUMS NHGIS, 2000, 5% Sample

The young adult population in Greater Lowell, and Massachusetts overall, is more diverse than the total population. In Greater Lowell, people of color make up 29 percent of the total population, but 33 percent of the population 15-to-24 in the region. This difference stands out even more at the state level, as approximately 28 percent of the Massachusetts population are people of color, compared to nearly 35 percent of the 15-to-24-year-olds in the state.

Figure 8 shows the percentage of population by sex in Greater Lowell, Middlesex County, and Massachusetts for age cohort 15-24. Greater Lowell has a higher share of males compared to Massachusetts and Middlesex County. Massachusetts and Middlesex County have similar proportions of males and females who are between 15 and 24 years old.

Figure 8: Share of Sex by 15-24 Age Cohort, 2018



Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates; IPUMS NHGIS, 2000, 5% Sample

The higher of male share may be partly related to UMass Lowell's student enrollment numbers. In 2018, 62 percent of undergraduates who enrolled in UMass Lowell were male. Graduate enrollment for UMass Lowell was 55 percent male.[5] These are similar trends seen at other well-respected engineering schools, like UMass Lowell, across the country.

[5] https://www.uml.edu/institutional-research/enrollment-at-glance.aspx

Youth Labor Market Analysis, Pre-COVID

Labor Force Participation

One typical way that economists and public policy makers measure workforce engagement is through examining the *labor force participation rate*. The labor force participation rate (LFPR) is calculated by dividing the number of people working or looking for work in a particular population by the total number of people in that population. For prime working-age adults (25-to-64 years of age), the LFPR rate is typically in the mid-80s to 90 percent. Labor force participation rates are lower for populations who are more likely to be out of the labor force, including individuals who are enrolled in school, retired, disabled, caring for family members, or who have difficulty finding work and become discouraged.[6]

Young adult workers have lower LFPRs than older, pre-retirement age adults, as this is a population that is more likely to be enrolled in school and, therefore, in many cases not participating in the labor market. Labor force participation is higher for 20-to-24-year-olds than 16-to-19 year-olds, which is not surprising, as high school students are much more likely to solely be enrolled in school compared to older young adults.

Among the cities in the Greater Lowell area, as seen in **Figure 9**, it appears that more affluent populations are more likely to have higher labor force participation rates. For example, the town of Dracut presents notably higher rates of labor force participation within the 20-24 age cohort at 87.7 percent, while Tyngsborough's 16-19 age cohort reigns at 58.9 percent, both of which are more affluent communities.[7]

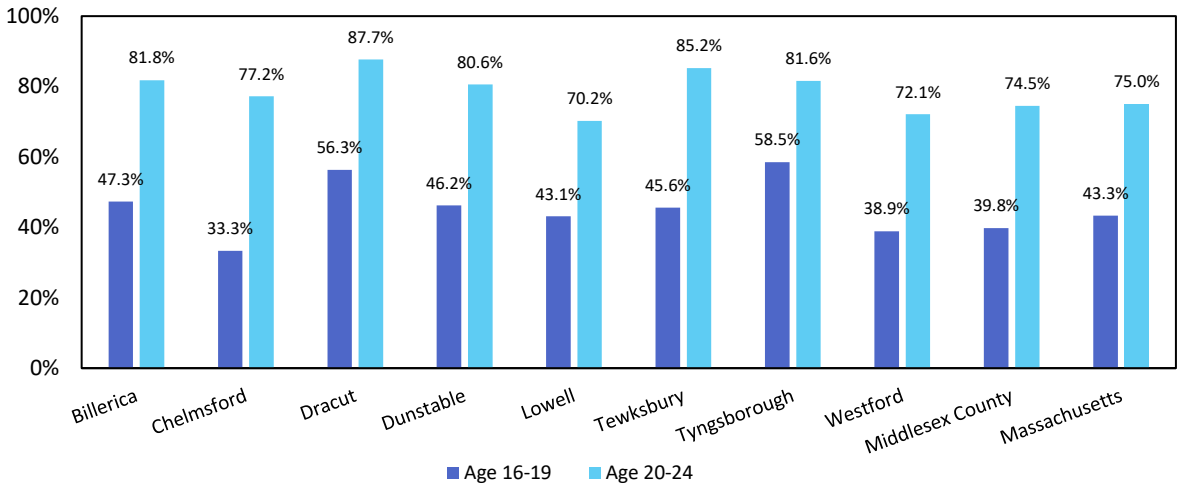
Comparatively, the city of Lowell's 43.1 percent rate for the 16-19 age cohort and 70.2 percent rate for the 20-24 age cohort, trends slightly at a lower rate than the county and the state as a whole. This is consistent with research UMDI conducted with the Boston Private Industry Council (PIC) in 2016 that showed a clear connection between household income and labor market engagement for young workers in Massachusetts.[8]

[6] Labor force participation data typically presents seasonal patterns, as the youth labor force grows considerably between April and July of each year, a time period where many high school students begin summer work and college graduates seek permanent employment.

[7] https://massachusetts.hometownlocator.com/cities/listcitiesalpha,alpha,a.cfm

[8] https://www.bostonpic.org/assets/resources/PIC_Report-Youth_Labor_Force-Nov2016-FINAL.pdf

Figure 9: Labor Participation Rate in 2018 by Age Cohort



Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates

Unemployment Rate

Figure 10 and **Figure 11** below show the unemployment rate by age cohort for 2010 and 2018. The unemployment rate is the percent of workers who are currently not working and are actively seeking employment. The unemployment rate excludes those individuals out of the labor force, such as individuals enrolled in school (and not working/looking for work), retired, disabled, caring for family member, or not working for other economic reasons (such as being discouraged and stopping looking for work). It is important to note that the data for 2010 include the Great Recession[9], when the unemployment rate particularly elevated across the workforce, especially for younger workers. The most current workforce data are for 2018 and does not include the current pandemic-related economic crisis.

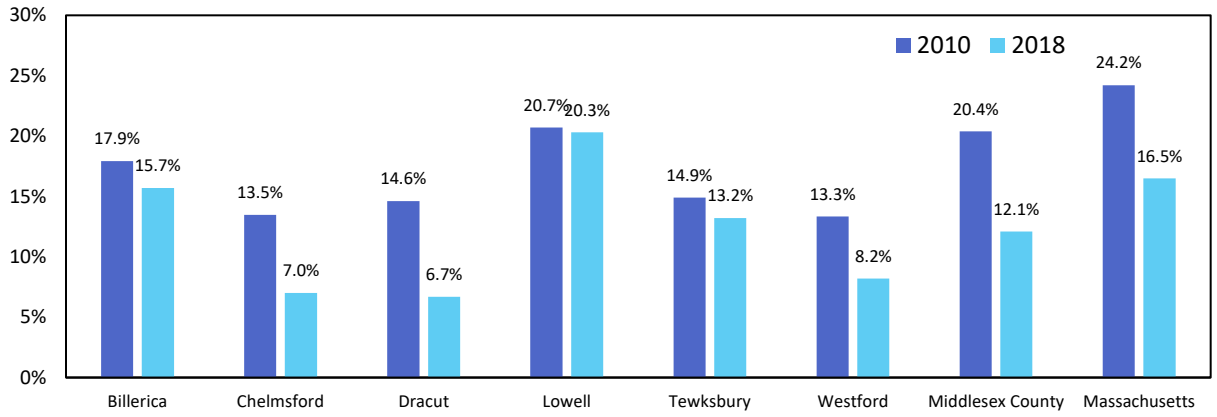
The unemployment rate for the 16-to-19-year-olds in the region decreased between 2010 to 2018. The unemployment rate for this age cohort was the highest in Tyngsborough in 2010 at 38 percent, however, this rate dropped to 20.2 percent in 2018. Chelmsford, Dracut, Dunstable, and Westford had the lowest unemployment rate among all the geographies with less than 10 percent in 2018. For the city of Lowell, 20.3 percent of the youth were unemployed in 2018, while the labor force participation rate simultaneously increased from 2010 to 2018, going up by 123.4 percent. This age cohort can experience difficulty in finding employers that are willing to hire them, as they often are looking for their first job,

[9] This report uses data from the 5-year American Community Survey, which represent data collected over a period of time, in this case 2006-2010, which included the Great Recession. Using multi-year estimates instead of point-in-time data increases the data's statistical reliability, which is important for small geographies like many in the Greater Lowell area.

and may not have the soft skills, hard skills, or personal networks developed that more experienced workers possess.

An increase in LFPR paired with consistent unemployment rates can occur during stronger economic times that follow economic crises, as seen in Lowell. This is because a weak economy, such as that of the Great Recession, discourages workers from looking for work–especially those who are not otherwise competitive in the labor market–causing labor force participation rates to fall. Once the economy begins to strengthen, unemployment rates may stay the same or even rise higher than they were during the recession because more workers, particularly less competitive ones, are re-engaging in the labor market.

Figure 10: Unemployment Rate for Age Cohort 16-19, 2010-2018

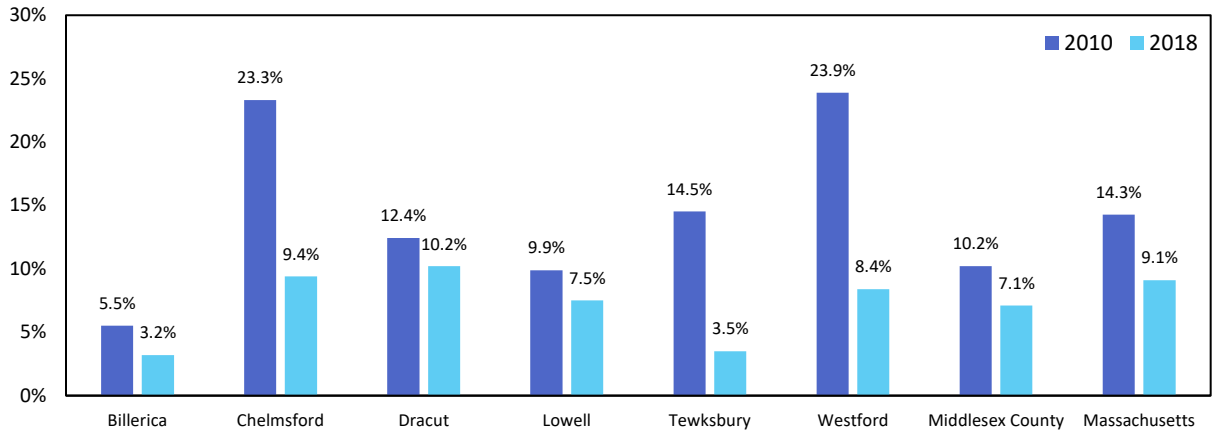


Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates
Note: Data for Dunstable and Tyngsborough were too small to be accurately included.

Overall, the 20-24 age cohort has a lower unemployment rate than the 16-19 age cohort. This is likely due to the level of experience and educational attainment possible for this age cohort, as well as strong labor market connectivity in general. Unemployment rates for teens can have some additional data noise in that what constitutes "looking for work" in self-reported surveys like the ACS may very well look different for a teenager than an adult.

The unemployment rate decreased for all geographies shown for those aged 20-24 from 2010 to 2018. Chelmsford and Westford experienced notable decreases in unemployment rates for this cohort, cutting the unemployment by more than half over the last eight years.

Figure 11: Unemployment Rate for Age Cohort 20-24, 2010-2018



Source: U.S. Census Bureau, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates
Note: Data for Dunstable and Tyngsborough were too small to be accurately included.

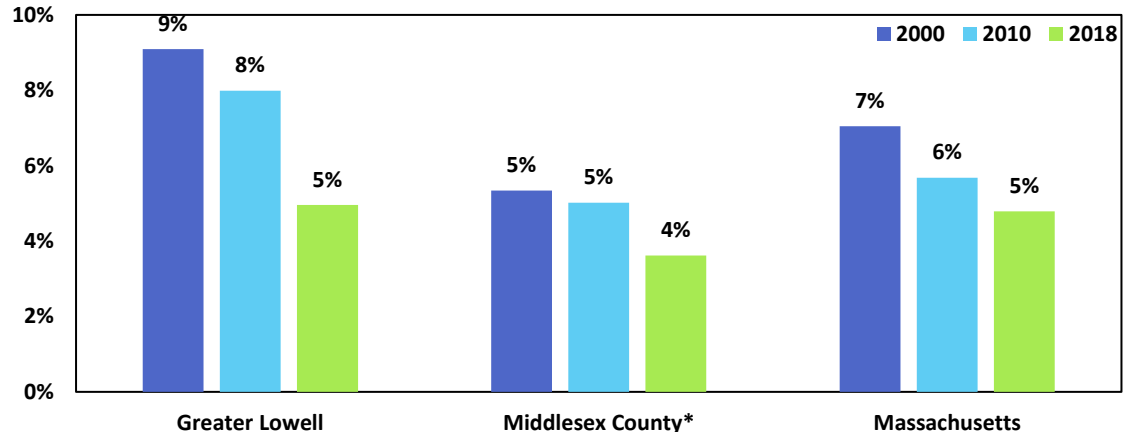
Disconnected Rate

The *disconnected rate* measures the percentage of individuals who are neither employed nor currently enrolled in school. For most youth, the late teens and early twenties represent prime human capital building years as they increase their levels of education and gain more substantive work experience. Youth who are "disconnected" are often referred to as "opportunity youth" because their disconnection represents a loss of economic opportunity and their reconnection can bring economic and social benefits.

Young people who are disconnected from both school and the labor force may be facing an additional set of barriers to employment or continued education. Immigration status and language skills are some potential barriers, while access to transportation and the ability to obtain a driver's license, which is a requirement for many jobs, remains a barrier to many people in the Greater Lowell area.

Figure 12 below compares shares of disconnected youth in Greater Lowell, Middlesex County and the state.

Figure 12: Share of Disconnected Youth



Source: IPUMS USA, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates; 2000, 5% Sample
*Analysis of Middlesex county was created by compiling public use microdata areas, which are a close replica to but not an exact match of Middlesex county

In the Greater Lowell area, the rate of disconnected youth has declined since 2000, in trend with the Middlesex County, as well as Massachusetts as a whole. This decline is likely related to the strong economic recovery statewide following the Great Recession. Though the Greater Lowell area had previously experienced disconnected rates of nine percent and eight percent in the earlier years, rates that were three or four percent higher than the surrounding areas, it now rests in tandem with disconnected rates across the Commonwealth, around five percent. This decrease mimics that of the national rates of disconnected youth, which dropped eight percentage points to 11.2 percent from 2010 to 2018.[10]

Disconnected Rate by Race

Overall, the disconnected rate for young people in Greater Lowell looked similar pre-pandemic as it did for Middlesex County and the state. This was obviously a positive data trend, especially in light of the fact that the disconnected rate in the region tended to be higher through much of the 2000s. That said, the overall disconnected rates do mask some concerning trends as they relate to race and labor market engagement. **Figure 13** below displays the disconnected rates in 2018 by race for Greater Lowell, Middlesex County, and the state overall. In particular, the disconnected rates with Latinx and Black youths are significantly higher (generally two times higher) than their white and Asian peers.

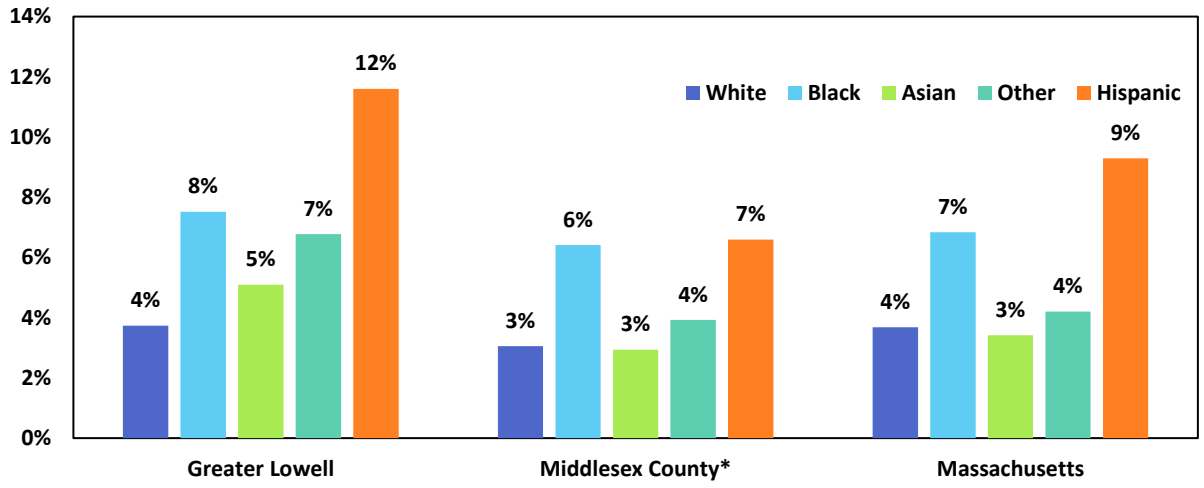
[10] https://measureofamerica.org/DYinteractive/

This trend is particularly pronounced in Greater Lowell with the disconnected rate for Latinx teens and young adults standing at 12 percent, three times higher than white youths in the region. Similarly, In Greater Lowell Black/African American youths have a disconnected rate of eight percent, twice that of whites in the region. Importantly, the disconnected rates for Latinx and Black youths for Greater Lowell is higher than the state averages for similar youths statewide.

These data highlight an important workforce development and public policy issue in the region – that labor market engagement for Latinx and Black youths lag behind that of their white and Asian peers in the region. Further, while it is typical that Latinx and Black youths lag behind white and Asians statewide in labor market engagement, these same youths in Greater Lowell experience higher levels of disconnection compared to their racial and ethnic statewide.

In short, young Latinx and Black youths in Greater Lowell represent a disproportionate amount of the "opportunity youth" in the region and state. Addressing this disparity may necessitate programs that aim to engage young people in these particular groups and offer additional support.

Figure 13: Share of Disconnected Youth by Race, 2018



Source: IPUMS USA, 2014-2018 ACS 5-Year Estimates
*Analysis of Middlesex county was created by compiling public use microdata areas, which are a close replica to but not an exact match of Middlesex county

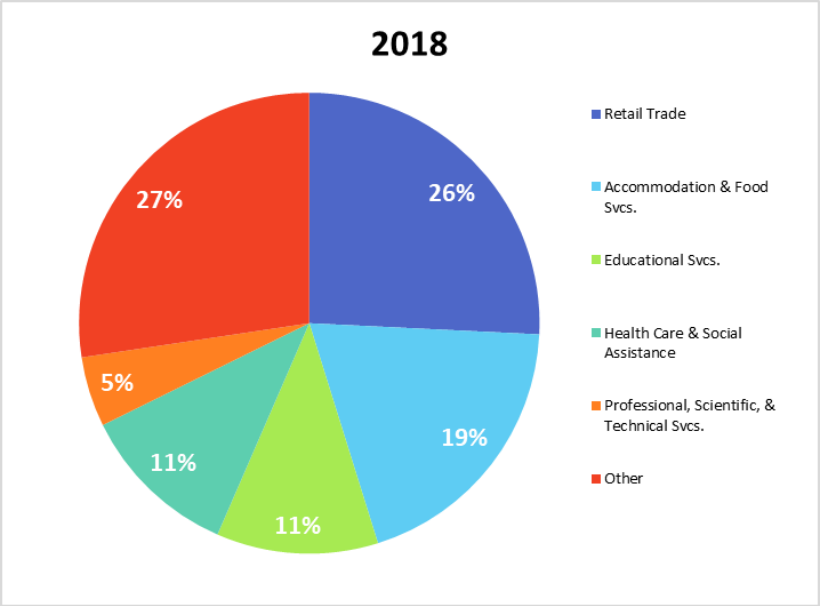
Employment Status

Employment Status by Industry

Analyzing employment status by industry provides context for the employment and wage opportunities available to youth in the Greater Lowell area. Over half of all youth workers in Greater Lowell work in either retail trade or accommodation and food services, as seen in **Figure 14** below.

The retail trade industry includes department stores, gas stations, food and beverage stores, and other types of retail. Accommodation and food services include hotels, full-service restaurants, and fast-food eating establishments. Many jobs in these industries offer part-time hours and require limited experience. This makes these industries a good fit for workers or youth needing to balance a work schedule against other responsibilities, such as school.

Figure 14: Employment Status by Industry, 2018



Source: IPUMS USA, 2014-2018 ACS 5-Year Estimates

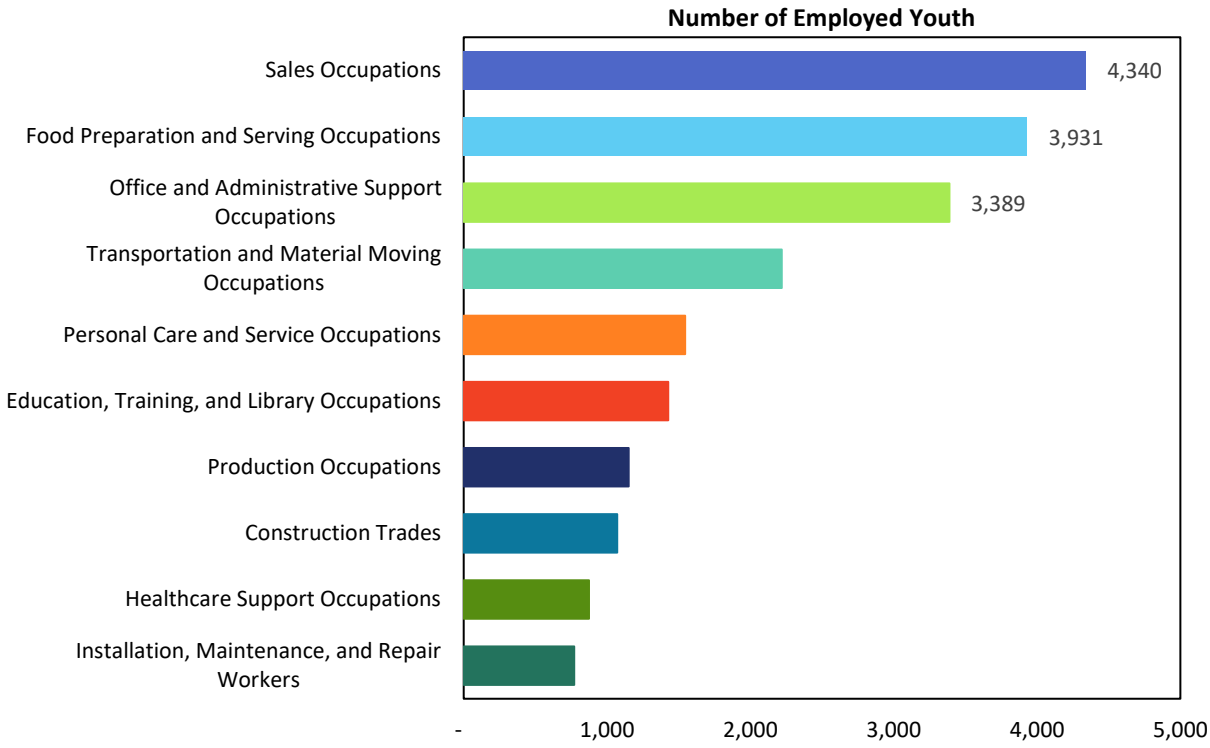
Employment Status by Occupation

As opposed to industrial employment, occupational employment is categorized by the nature of the employees' position rather than the industry in which the employer conducts business. Analysis of occupational employment (**Figure 15**) shows that youth are most often filling positions in sales occupations (21%).

Given that retail trade is the largest industry for youth in the Greater Lowell area, it follows that these individuals would hold sales roles as cashiers at various retailers. Trailing in second place, 19 percent of youth worked food preparation and serving jobs, again corroborating the prevalence of accommodation and food industry jobs held by youth in the Lowell area.

Office and administrative support (16%) as well as transportation and material moving occupations (11%) make up the rest of the major occupations held by youth in the Lowell area in 2018.

Figure 15: Employment Status by Occupation, Lowell 2018



Source: IPUMS USA, 2014-2018 ACS 5-Year Estimates

Wages

Figure 16 demonstrates the median wages earned by employed youth, presented in 2019 dollars. Most notable is the discrepancy between the earnings of those aged 16-19 and those aged 20-24. In 2018, a 16-to-19-year-old in the Greater Lowell area earned a median of approximately $730, while a 20-to-24-year-old earned $10,770 in the same year. This discrepancy can be largely explained by the likelihood of those in the 20-24 age cohort working full-time jobs, as opposed to an after-school job. Additionally, 20-24-year-old workers are more likely to have finished college and starting to establish themselves in higher paying careers than their young and more inexperienced counterparts.

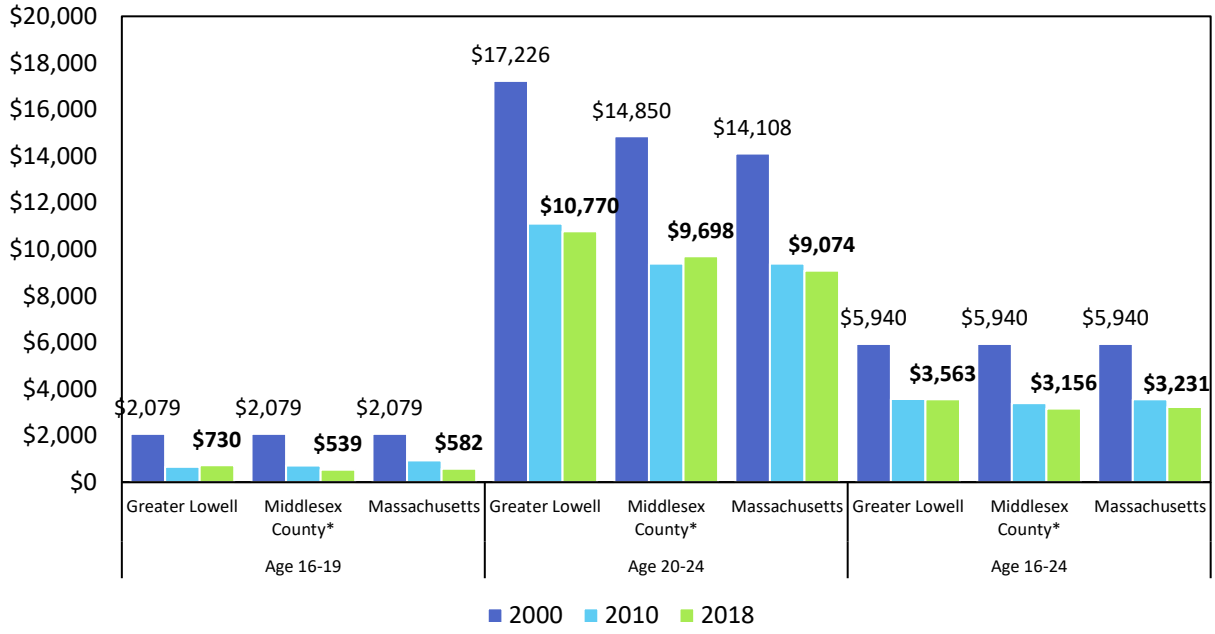
Of greater importance, perhaps, is the decrease in inflation adjusted wages each of the geographic areas experienced over the last 18 years. In the year 2000, all earners in all age groups and locations made significantly more than workers in 2018. For the 20-24 age cohort in the Lowell area, youth were earning only 62.5 percent of what youth the same age made in 2000. This trend is more pronounced in the 16-

19 age cohort, with Lowell area residents making only 35 percent of what a 16-19-year-old made in 2000. The wages earned by youth in 2010 are roughly the same as that of those in 2018.

A possible explanation for these trends is the decline in manufacturing jobs in the region and statewide since 2000. From 2001 to 2010, the average monthly employment in the Greater Lowell WDA's manufacturing industry dropped by 10,000 employees (38 percent), only to recover by 2,000 employees by 2018.[11]

Manufacturing jobs often have lower educational requirements and offered better wages than service sector jobs typically, which is where younger workers have almost exclusively found employment in recent years.

Figure 16: Median Wages by Age Group



Source: IPUMS USA, 2014-2018 ACS 5-Year Estimates, 2006-2010 ACS 5-Year Estimates; 2000, 5% Sample
*Analysis of Middlesex County was created by compiling public use microdata areas, which are a close replica to but not an exact match of Middlesex county.

[11] Average monthly employment was 26,507 for the manufacturing industry in the Greater Lowell WDA in 2001, followed by 16,357 in 2010 and 18,576 in 2018. Source https://lmi.dua.eol.mass.gov/lmi/EmploymentAndWages#

COVID-19 Impacts

Unemployment

Since the onset of the COVID-19 pandemic in late January 2020 and the ensuing economic shutdown and restrictions in March and beyond, the labor market in the Greater Lowell area experienced the same devastation as did the rest of Massachusetts. Social distancing guidelines have forced many businesses to close temporarily, with some unable to reopen permanently due to revenue losses.

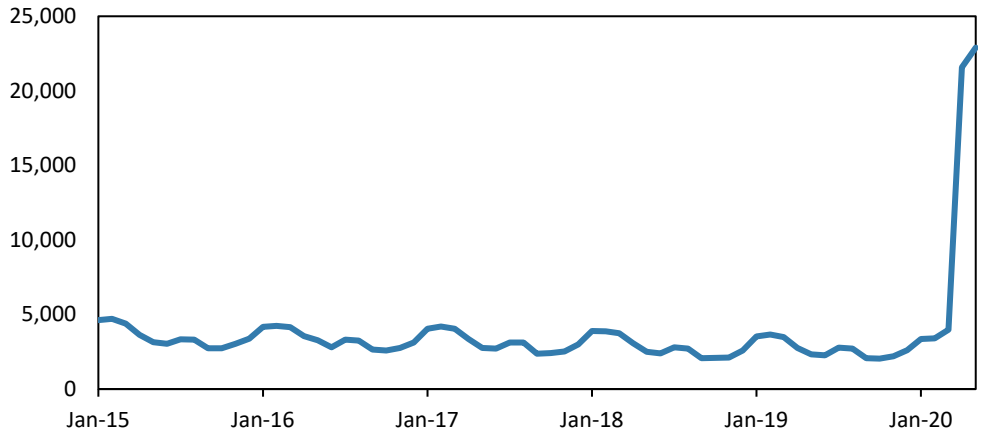
Of particular importance in attempts to prevent the spread of COVID-19 was the state-ordered shutdown of all non-essential businesses in March through mid-May 2020. This included primarily any facilities selling food and beverages, such as bars and restaurants, as well as minor retailers and entertainment businesses, such as movie theaters, casinos, or game/sport arenas. These restrictions began to lift in May 2020, as phase one of the statewide reopening plan allowed a number of these establishments to operate at reduced capacity. That said, the COVID-19 pandemic and resulting recession have had a massive impact on employment, particularly in leisure, retail, food, and other personal service industries—industries that tend to employ a large number of young workers.

The social distancing measures directly affected the businesses which most typically employed young workers in Greater Lowell. In addition, any opportunities for employment such as summer camps, after-school childcare, or internship and career building workshops were heavily impacted as these events or programs were forced to shut down temporarily as well.

Initial unemployment claims represent counts of residents who file an initial claim for unemployment insurance and they serve as a useful measure in quantifying the magnitude of unemployment on the working-age population (16 and over) during the COVID-19 recession.

As can be seen in **Figure 17** below, unemployment claims were typically in the range of 2,500 to 5,000 in the years leading up to the pandemic but increased to historic highs of 21,571 claims reported in April 2020 and another 22,897 claims in May 2020. Comparing the same month across different years controls for the effects that seasonality may play in observed changes. Unemployment claims rose by **887 percent** in Greater Lowell from May 2019 to May 2020.

Figure 17. Initial Unemployment Claims in Greater Lowell, January 2015-May 2020



Source: Massachusetts Executive Office of Labor and Workforce Development, Unemployment Insurance Claims Data; UMDI analysis

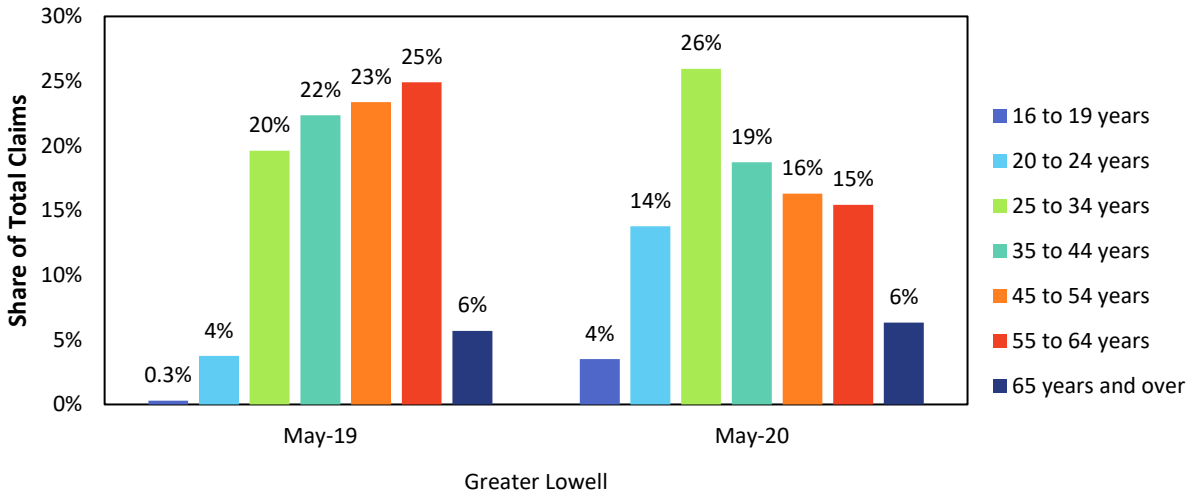
Unemployment Claims by Age

Unemployment claims were catastrophic across all age cohorts in the workforce, but increases were disproportionately concentrated among younger workers when compared to the distribution of claims by age from one year ago. Claimants in Greater Lowell aged 25-34 experienced the greatest year-over-year increase in the quantity of unemployment claims, from 455 in May 2019 to 5,940 in May 2020 compared to all other age cohorts. However, younger claimants observed the highest percent change across all other age groups during the same period. For filers aged 16-19, there were only seven claims reported in May 2019 and 803 reported in May 2020. Likewise, for those aged 20-24, there were 87 claims reported in May 2019 and 3,154 reported in May 2020.

In terms of each age group's share of the total number of claimants, those aged 25-34 comprised more than a quarter of all claims filed in May 2020 (Figure 18). However, nearly one fifth of Greater Lowell's unemployed were under the age of 24 in compared to less than five percent a year ago. Greater Lowell's claimants aged 16-19 represented four percent of total claims in May 2020 compared to less than one percent in May 2019; and for those aged 20-24, the share of claims increased from four percent in May 2019 to 14 percent in May 2020.

This suggests that younger workers were more likely to be among the unemployed during the pandemic than what would typically be expected and underscores the devastating impact that COVID-19 is having on youth employment in the Greater Lowell area.

Figure 18: Initial Unemployment Claims by Age Cohort, May 2019 and May 2020



Source: Massachusetts Executive Office of Labor and Workforce Development, Unemployment Insurance Claims Data; UMDI analysis

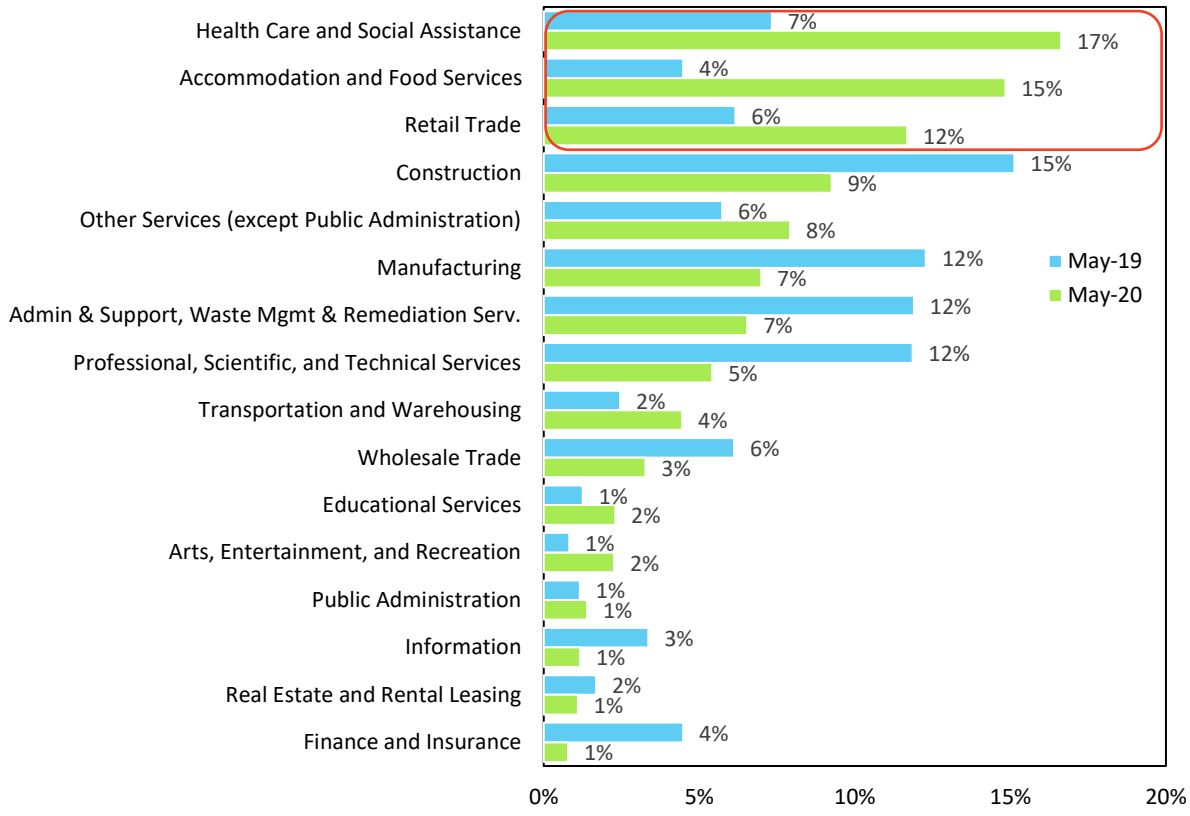
Unemployment Claims by Industry

Unemployment claims in May 2020 were uniquely concentrated among those industries that involved in-person activities and business that could not easily transfer their activities to remote or web-based platforms. As indicated in the red box in **Figure 19** below, total unemployment claims made in Greater Lowell's health care & social assistance, accommodation & food services, and retail trade comprised a combined total of 44 percent of all unemployment claims in May 2020. These were the only industries whose shares of total claims were in the double digits; and this was in stark contrast to those industries' combined total of 17 percent of all claims in May 2019.

While not all of these industries necessarily employ large numbers of workers under 20 years of age, we know from **Figure 14** above that more than half of Greater Lowell's young workers are employed in the accommodation & food services and retail trade industries. These industries were hit the hardest by the current recession given that they represented only four and six percent of total claims in May 2019 and represented 15 and 12 percent of all claims in May 2020, respectively.

Other industries in Greater Lowell that experienced higher shares of total claims in May 2020 compared to May 2019 are similarly characterized by in-person activities: other services (e.g., barber shops, hair salons, auto mechanic shops, and death care services); transportation & warehousing; educational services; and arts, entertainment & recreation.

Figure 19: Unemployment Claims by Industry, 2019-2020



Source: Massachusetts Executive Office of Labor and Workforce Development, Unemployment Insurance Claims Data; UMDI analysis

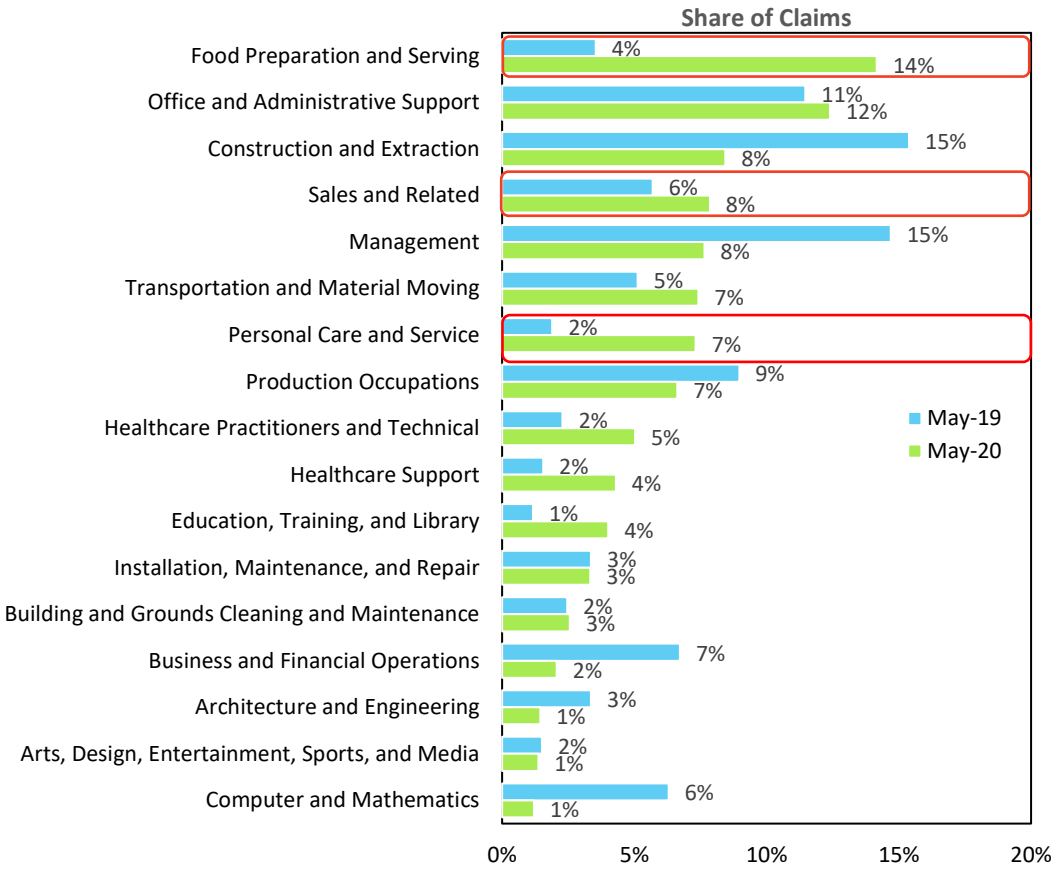
Unemployment Claims by Occupation

Similar to industries, unemployment claims in May 2020 tended to be concentrated in those occupations in which substantial aspects of the job involve interfacing with the general public or face-to-face interactions (**Figure 20**). As discussed earlier in **Figure 15**, 40 percent of Greater Lowell's young workers are in sales or food preparation & food service positions. The largest share of unemployment claims for May 2020 was in food preparation & serving occupations, which typically account for 19 percent of youth employment in the city of Lowell. In May 2019, the share of unemployment claims by this industry was at a mere four percent, but since the pandemic hit, the share has jumped to 14 percent.

Sales & related occupations held the fourth largest share of Greater Lowell's unemployment claims in May 2020 with eight percent compared to six percent of all claims in May 2019.Other occupations that observed proportionally larger shares of total claims in May 2020 included positions that also happen to

be among the top five occupations for Greater Lowell's young workers: office & administrative support occupations; transportation & material moving occupations; and personal care & service occupations.

Figure 20: Unemployment Claims by Occupation, 2019-2020



Source: Massachusetts Executive Office of Labor and Workforce Development, Unemployment Insurance Claims Data; UMDI analysis

While unemployment claims grew to historic highs throughout the spring and summer, hiring slowed, but did not stop altogether. Data from labor market analytics firm Emsi reveals there were between 8,370 and 9,050 unique job postings listed in the Greater Lowell area from April to June 2020, a reduction of between 1,500 and 2,700 postings per month as compared to the same time period in 2019.[12]

From March through June 2020, approximately half the job postings listed an education requirement; of these, 16 percent requires a high school diploma or GED, 34 percent required a bachelor's degree, 12 percent required a master's or other professional degree. The top five companies with the largest

[12] It is also important to note that not every job posting translates to an actual opening or job.

number of unique job postings in Greater Lowell during this time period were Raytheon, in Tewksbury, Zoll Medical in Chelmsford, Amazon, and Lowell General Hospital and Kronos Worldwide, both based in Lowell. Unsurprisingly, Lowell had the largest share of job postings, at 6,200, with companies based in Chelmsford accounting for 3,490 postings, and 3,040 in Billerica.

The most sought-after occupations included registered nurses, software application developers, truck drivers, industrial engineers, retail workers, order fillers, customer service representatives, and computer support specialists.

Many of these job postings, including registered nurses and software developers, will not be available to young people without a college degree. Other retail and customer service postings may be in areas like Amazon fulfillment centers. These jobs, while accessible, may be high risk and often do not provide a ladder for meaningful career advancement. Additionally, teens and young adults will most likely be facing more competition for these positions, as they are competing with older adults who have been laid off from their jobs.

Those who work with young people in the Greater Lowell area report that the pandemic has created an additional layer of tension in the labor market. While there are entry-level job openings in grocery stores, retail establishments and fast food chains, there is pushback, either from young people themselves, or their parents, that working for minimum wage is not worth the heightened risk of contracting COVID-19. Yet for many families, income from such jobs are vital to household finances, to assist with parents who have lost their job, or are unable to work due to health concerns.

Recommendations

Although the "youth" labor force is generally defined as those ages 16-24, there are quite a few populations within this age bracket that have differing needs. There are teenagers who are still in high school, those who need an alternative plan to achieve high school equivalency, and those in their early 20s who are not in school and also have not yet found a career path. Each of these groups will need policy interventions tailored to them.

While there appear to be many programs in place to help teenagers who have dropped out of high school or are looking for career paths that do not require a four-year college degree, it has been difficult for MassHire Greater Lowell to attract young adults in their early 20s who may be looking to begin their careers. Traditional resume building and networking workshops tend to attract older professionals, who are more advanced in their careers, and have been laid off or may be looking for a career change.

As discussed above, the industries hardest hit by the COVID-19 pandemic are service-related industries. Many of the occupations in these industries tend to have lower wages, and workers skew younger, and are disproportionately female. Combined with the fact that pre-COVID, Black and Latinx youth in Greater Lowell were disconnected from the labor market at higher rates than their white and Asian peers, assistance programs that target young women, and women of color, may be needed to help improve their economic standing in the region.

Interviews with stakeholders revealed that carpentry, construction, and truck driving programs have been successful in Greater Lowell in connecting young people with skills and jobs with a career trajectory. Yet these programs can be highly gendered. A new approach may be needed to entice young women to these programs, or alternate programs may need to be created.

Stakeholders also mentioned having found success in running multiple Certified Nursing Assistant and Home Health Aide programs. Investing in more of these programs may be helpful to young people, both to help with the increased demand in the short term due to the pandemic, but also in the decades to come, as the "silver tsunami" of aging Baby Boomers leads to greater strain across the healthcare field. Although CNAs and HHAs are generally paid low wages, CNA and HHA programs are often an entry point into medical professions for many.

Additionally, interviews revealed that there are programs that help young people who have dropped out of high school earn their degrees while getting job experience in the food service industry. The COVID-19 pandemic has been difficult for students in apprentice programs like these. Although many industries were hit by the pandemic, MassHire Greater Lowell may want to consider expanding partnerships with area businesses in order to preserve internship opportunities, as economists are still unsure when exactly Massachusetts could recover from the current economic crisis.

Through the MassHire Lowell Career Center, the region operates a successful subsidized summer youth experience within the city of Lowell. MassHire Greater Lowell may also want to work with other municipal governments to create an opportunity system that offers younger low-income teens summer

jobs and part-time work in town and city government, then allowing them to build on that experience as they age, into opportunities with private and non-profit employers.

While the Lowell Regional Transit Authority provides public transportation, its routes outside the city of Lowell are limited, and schedules may not be compatible with jobs whose shifts run outside of conventional office hours. While access to a car is often a struggle for many young people stakeholder interviews revealed that for many low-income young adults in Lowell, the cost of drivers' education alone can be prohibitive. Some MassHire Greater Lowell programs include transportation to and from training programs, which may help ameliorate these issues.

As many office jobs continue to remain online, MassHire may need to pivot to help young people starting their careers with online networking events, grants for driver's education lessons, assisting them in getting the technology they need to be successful online, and encouraging employers to offer internships to young people who still need to learn soft skills, despite the ongoing pandemic. The current climate and focus on remote work may also mean that MassHire could provide online training and education for young people about the regional labor market, requirements for specific career paths, and labor rights.

Further, it would be helpful to MassHire to conduct additional analyses to better understand the specific hurdles youth workers are facing in the labor market, which employment services they are utilizing for navigating the local labor market, and which ones are found to be less impactful. Important for this is also to understand the experiences of young workers not using MassHire services and why they are not accessing these resources. Focus groups with young workers can help illuminate these issues and further provide MassHire direction for improving services to this critical workforce population.

MassHire Greater Lowell is facing a difficult situation, as more residents will need its services and staff will need to decide how it can best use its resources. More research into the needs of specific populations of young workers may help MassHire identify top priorities and target policy interventions.