

# The Young Adult Labor Force in Massachusetts

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UMASS DONAHUE INSTITUTE  
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Policy Research

**Boston Private Industry Council Report**

## **The Young Adult Labor Force in Massachusetts**

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This work was researched and developed by the Economic and Public Policy Research (EPPR) group at the UMass Donahue Institute (UMDI).

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## Executive Summary

### PURPOSE AND BACKGROUND

The Economic and Public Policy Research (EPPR) group at the UMass Donahue Institute (UMDI) conducted research on the young adult labor force in Massachusetts. Research has shown that in recent years, labor force participation has declined among young adults (16 to 24 years old). There are a number of factors attributable to the decline in youth labor force participation in general, including increased college attendance, fewer young people working while enrolled in school, and competition with older and more experienced workers in the labor market. While some of these factors may be viewed as “positive” things, such as the rising number of young people going to college, research does show early participation in the labor market has positive long-term impacts on young people. These positive impacts include the development of hard and soft professional skills, networking opportunities, reduced risk of negative socioeconomic outcomes and criminal behavior, and improved lifelong earning potential. These benefits are being experienced by a smaller number of young people today than in the past. Perhaps most importantly, labor market connectivity is more common for young adults who are white, female, and native born, who have higher levels of education, and who are from more affluent households. With that, more historically disadvantaged populations are less likely to experience some of the benefits associated with early participation in the labor market.

Using data from the Current Population Survey (CPS), Decennial Census data, and the American Community Survey (ACS), our research confirms these trends as they relate to the young adult labor force in Massachusetts and uncovers important findings regarding demographic and regional trends in young adult labor force participation in the state.

Key findings include:

- Young adult employment has been declining over the last 25 years in Massachusetts, much like the rest of the U.S.
- This trend has been particularly noteworthy since 2000 and especially since the Great Recession.
- While young adult employment has increased since the end of the Great Recession, employment rates are still below pre-recession levels and are far below rates observed during the 1980s and 1990s.
- In recent years, young adult employment rates have declined, while the employment rates for older workers (55 years and older) have increased, suggesting that younger workers are competing with older workers for opportunities in the labor market today.
- Employment rates tend to be lower for non-white racial and ethnic groups, young men, the foreign-born, as well as for individuals with limited educational attainment and those from lower income households.
- The regional labor market for young adults appears to be strongest in the Northeast and the Greater Boston regions.<sup>1</sup>
- Young adults in Western and Central regions of Massachusetts (regions that include the Gateway Cities of Pittsfield, Springfield, Holyoke, Chicopee, Fitchburg, and Worcester) face tougher labor market conditions, with either low employment rates, high disconnected rates (a measure of those neither working nor enrolled in school), or both.

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<sup>1</sup> The employment rates for young adults in the city are actually among the lowest in the state. However, the employment rates for the Greater Boston region outside of the city are among the highest in Massachusetts.

- Young adults are concentrated in lower wage occupational fields such as food preparation and serving related occupations, office and administrative support, and sales and related occupations. This trend has increased since 2000 with reduced opportunities for young adults in traditionally blue-collar fields and high-skill knowledge industries.

Other notable statewide and regional observations:

### STATEWIDE OBSERVATIONS

- At 56.6 percent, white young adults 16 to 24 years old have a higher employment rate than other major racial groups (48.6 percent for black/African-Americans, 35.6 percent for Asians, and 49.3 percent for Hispanics).
- 16 to 24 year-olds Black/African-Americans (13.8 percent) and Hispanics (15.5 percent) have higher disconnected rates than their white (6.5 percent) and Asian (7.3 percent) peers.
- Young men, particularly teenagers, are less likely to be employed and more likely to be “disconnected” than young women. Male teenagers have an employment rate of 31.4 percent compared to 39.2 percent for female teenagers. Male teenagers have a disconnected rate of 6 percent compared to 2.9 percent for female teenagers.
- Foreign born young adults 20 to 24 years old are less likely to be employed than their native born counterparts (52.1 percent compared to 69.2 percent) and more likely to be “disconnected” (14.9 percent compared to 11.3 percent) than the native born.
- Employment rates for young adults are closely associated with educational attainment. Not until a young person has attained at least “some college” education do employment rates approach statewide averages. Employment rates are also extremely low for 20 to 24 year-old high school dropouts (51.3 percent), and low for high school graduates for both teenagers (16 to 19 year-olds) and young adults (20 to 24 year-olds) at 53.2 percent and 68.7 percent, respectively.
- Young adult employment is closely influenced by household income. Young adults living in poverty are far less likely to be employed than those coming from more affluent households.

### REGIONAL OBSERVATIONS

- The highest employment rates for young adults are found in the Southeast and Cape and in the Northeast, with 54.1 percent and 53.7 percent, respectively
- The highest disconnected rates in the state are in the Western, Central, and Southeast and Cape regions.
- The lowest disconnected rates are in the Greater Boston region and in the City of Boston. While this is not surprising as a large number of young adults come to Boston and its surrounding communities to attend college, the disconnected rate is significantly higher for black/African-American and Hispanic youth in Greater Boston and the City of Boston than for white youth.
- Labor market conditions for young adults are most concerning in the Western and Central regions. Western Massachusetts is home to both low employment rates and high disconnected rates, particularly among black/African-American and Hispanic residents.
- The Southeast and Cape region has both high employment and high disconnected rates for young adults. The region has the highest disconnected rates for young adults 20 to 24 years old in the state

(16.2 percent). The Southeast and Cape region has the highest disconnected rates for whites (13.8 percent) and black/African Americans (24.3 percent) 20 to 24 year-olds in the state. The disconnected rate for Hispanics 20 to 24 years old is also high at 27.8 percent (second highest in the state for the Hispanic group, only behind Western Massachusetts at 35.8 percent).

- The employment rate for young adults 20 to 24 years old is the same in both Boston and Western Massachusetts (58.8 percent compared to 64.3 percent statewide). However, Boston has the lowest disconnected rate for this population in the state (10.1 percent). The state average for this age group is 12.9 percent.
- In Massachusetts, Boston has the highest employment rate for teenaged high school dropouts (47.1 percent for the region compared to 27.6 percent statewide). However, employment rates are lower in Boston than in the other regions of the state for all other levels of educational attainment for teenagers.
- Young adults with only a high school education have a more difficult time finding employment in Western Massachusetts than their peers across the state. Teenagers in the Western region with only a high school education have an employment rate of 45.2 percent compared to 57.7 percent statewide. Young adults in their early 20s with only a high school education have an employment rate of 60.5 percent compared to 65.9 percent statewide.
- At 35.8 percent, the disconnected rate in Western Massachusetts is particularly high for Hispanics 20 to 24 years old, the highest for any racial/ethnic group in this analysis.

The analysis in this report uncovers some of the critical issues facing the young adult labor force in the Commonwealth. While some of the declines in young adult labor market participation are undoubtedly related, in part, to increased emphasis on higher education, there remain a number of concerning trends in young adult labor employment. In particular, as evidenced by shifts in employment rates over the last 15 years, young adults do appear to be competing with older workers for job opportunities in the state. Young adult employment in Massachusetts is closely associated with key demographic characteristics (i.e. white, female, native born, better educated, and from more affluent households). Beyond that, the data show more difficult labor market conditions in particular regions of the state, most notably the Western and Central parts of Massachusetts. These regions feature several Gateway Cities that have lagged behind state averages in economic performance for years. Conversely, labor market conditions for young adults appear more favorable in Greater Boston and the Northeast region.

These issues should be of great concern to public policy makers and job training professional. As evidenced by low employment rates and high disconnected rates, young adults from either historically disadvantaged social groups, or regions of the state that have lagged behind economically, would appear to be less likely to experience the benefits associated with early labor force participation (i.e. skill development, networking, etc.). In addition, with the impending retirement of the baby boomer generation over the next 20 years, the Commonwealth (as well as other states) will need to find suitable replacement labor. The relatively low employment rates and, in some cases, high disconnected rates for young adults in the Commonwealth signal an important opportunity for identifying and growing young talent for the state's labor force who can help fill critical labor gaps in the future. This is both a quality of life issue for young adults in the state, as well as an issue of maintaining the economic strength of the Commonwealth in the coming years.



## Introduction

Studies have shown that labor force participation rates and employment rates for teenagers and young adults have declined over the last several decades. These declines are owed to several factors including, fewer students working while attending school, more young people attending college, and competition from older and more experience workers.<sup>2</sup> Previous studies have suggested youth labor force participation is important for a variety of reasons. Teenagers and young adults participating in the workforce develop occupational employment skills earlier in life than those who do not join the labor force until later. Early participation in the labor force also provides opportunity for networking and developing professional connections, which are particularly important among low-income residents. It has also been shown that disconnected youth<sup>3</sup> are at an increased risk of negative socioeconomic outcomes, and research has also shown that early employment leads to a higher lifelong earning potential.<sup>4</sup> Labor market connectivity is associated with educational attainment, race, nativity, and socioeconomic status. A March 2014 report from The Brookings Institute reported that while employment has been difficult to secure among all young people, non-Hispanic white, those from higher income households, those with prior work experience, and those with higher education were more likely to be employed than their counterparts in the labor force.<sup>5</sup>

The focus of this study is to examine historic and current young adult labor force trends in Massachusetts. Using the Current Population Survey (CPS), we examine long-range employment trends by age across all 50 states, comparing employment rates in Massachusetts to those of the other 49 states and to national averages. For the analysis of the current youth labor force in Massachusetts, this report uses the 2014 American Community Survey (ACS) Public Use Microdata Sample (PUMS) for statewide analysis. This analysis focuses on employment and disconnected rates for young adults in Massachusetts by:

- Race
- Gender
- Nativity Status
- Educational Attainment
- Household Income

Utilizing the 2010-2014 5-year ACS PUMS, the current research also looks at regional differences in young adult employment in Massachusetts. To examine differences among the regions of the Commonwealth, we have divided the state into the following six regions:

- Boston
- Greater Boston (excluding the City of Boston)
- Northeast
- Southeast and Cape
- Central
- Western

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<sup>2</sup> Dennett, J., Modestino, A. (December 2013). *“Uncertain Futures? Youth Attachment to the Labor Market in the United States and New England”*. Retrieved July 14, 2016 from Federal Reserve Bank of Boston website: <http://www.bostonfed.org/economic/neppc/researchreports/2013/neppcrr1303.pdf>

<sup>3</sup> The disconnected rate refers to the population that is neither employed nor enrolled in school.

<sup>4</sup> Belfield, C. and Leven, H., Rosen, R. (January 2012). *“The Economic Value of Opportunity Youth”*. Retrieved July 27, 2016 from Corporation for National and Community Service’s website: [http://www.serve.gov/new-images/council/pdf/econ\\_value\\_opportunity\\_youth.pdf](http://www.serve.gov/new-images/council/pdf/econ_value_opportunity_youth.pdf)

<sup>5</sup> Sum, A. Khatiwada, I. Trubskyy, M. and Ross, M. with McHugh, W. and Palma.S. (March 2014). *“The Plummeting Labor Market Fortunes of Teens and Young Adults”*. Retrieved July 18, 2016 from The Brookings Institute website: [http://www.brookings.edu/~media/Research/Files/Reports/2014/03/14-youth-workforce/Youth\\_Workforce\\_Report\\_FINAL.pdf?la=en](http://www.brookings.edu/~media/Research/Files/Reports/2014/03/14-youth-workforce/Youth_Workforce_Report_FINAL.pdf?la=en)

We also use the 2000 Census PUMS and the 2014 ACS PUMS to see how the employment distribution by industry and occupation within the youth labor force has changed over time.

Our analysis shows that, much like the rest of the nation, young adult employment rates in Massachusetts have declined over the last 25 years. While the employment rates for the working population ages 16 to 65 in Massachusetts have remained fairly consistent between 1980 and 2015, the state's employment rate for young adults 16 to 24 years old has dropped from 58 percent in 1980 to just over 46 percent in 2015. We also see significant differences in labor market attachment in Massachusetts by race, sex, nativity, socioeconomic status, and educational attainment, with racial minorities, young men, the foreign born, lower income residents, and those with limited educational attainment all participating in the labor market at lower levels than their counterparts in the population.

The report has five main sections:

- The recent history of young adult employment in the U.S. and Massachusetts;
- The current youth labor force in the Commonwealth;
- Regional difference in young adult employment in the state;
- Statewide comparison of young workers by industry and occupation;
- Contextualizing the current study with other research and other larger economic issues.

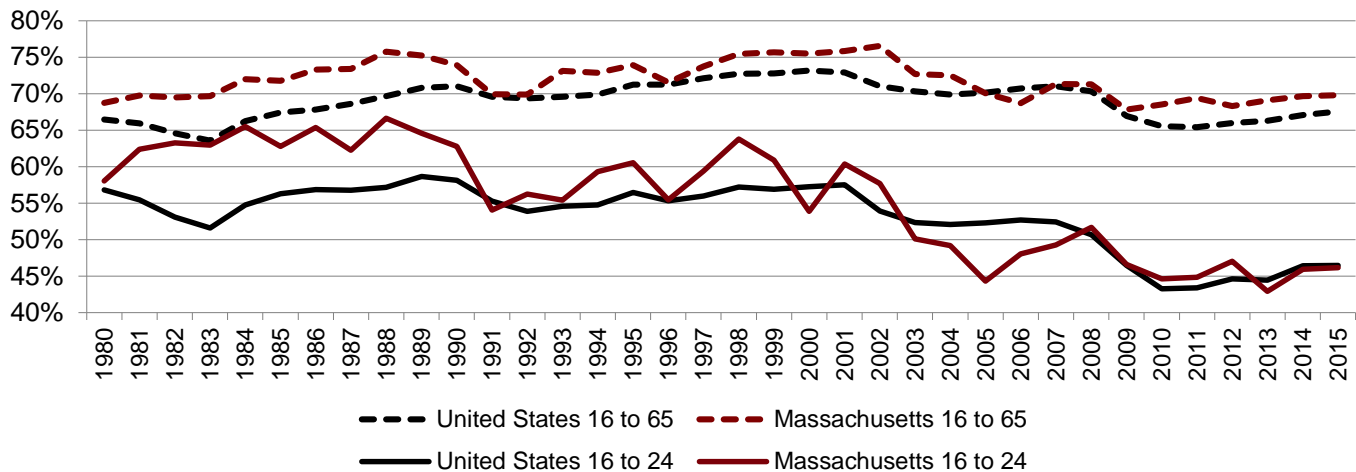
## Recent History of Young Adult Employment Rates – U.S. and Massachusetts

One clear way of showing how young adult labor force connectivity and participation has changed in recent years is through examining employment rates, both for young adults and the population at large. For the purposes of this research, we are defining the “young adult” labor force as individuals between the ages of 16 and 24.<sup>6</sup> The **employment rate**, or the population-to-employment ratio, is the number of employed individuals in a group divided by the total number of individuals in that same group. The employment rate will be low for groups where there are significant numbers of unemployed individuals or individuals who are not participating in the labor force (i.e. individuals unemployed and not looking for work). Conversely, the employment rate will be higher for populations with low unemployment and high labor force participation rates. In general, employment rates are higher for adults 25 to 54 year old, and lower for younger and older adults.

Using data from the Current Population Survey (CPS), we see in **figure 1** below that employment rates for prime working age adults (16 to 64) has been fairly stable over the last 35 years (fluctuating with economic expansion and contraction). Over the same time period, though, young adult employment has dropped precipitously.

For the U.S., the trend really appears to take shape in the early 2000s, as the young adult employment rate fell from nearly 58 percent in 2001 to just under 51 percent in 2008. Youth employment in the U.S. bottoms out in 2010, falling to approximately 43 percent. The latest declines in youth employment are undoubtedly related to employment loss during the Great Recession. In recent years, U.S. youth employment has increased slightly, up to 46.5 percent in 2015. That said, young adult employment in the U.S. is a full 10 percentage points lower today than in 1980 and nearly 11 percentage points lower than in 2000.

**Figure 1. Employment Rate (1980 to 2015)**



Source: Current Population Survey (CPS) 1980-2015, UMass Donahue Institute, Economic Public Policy Research Group

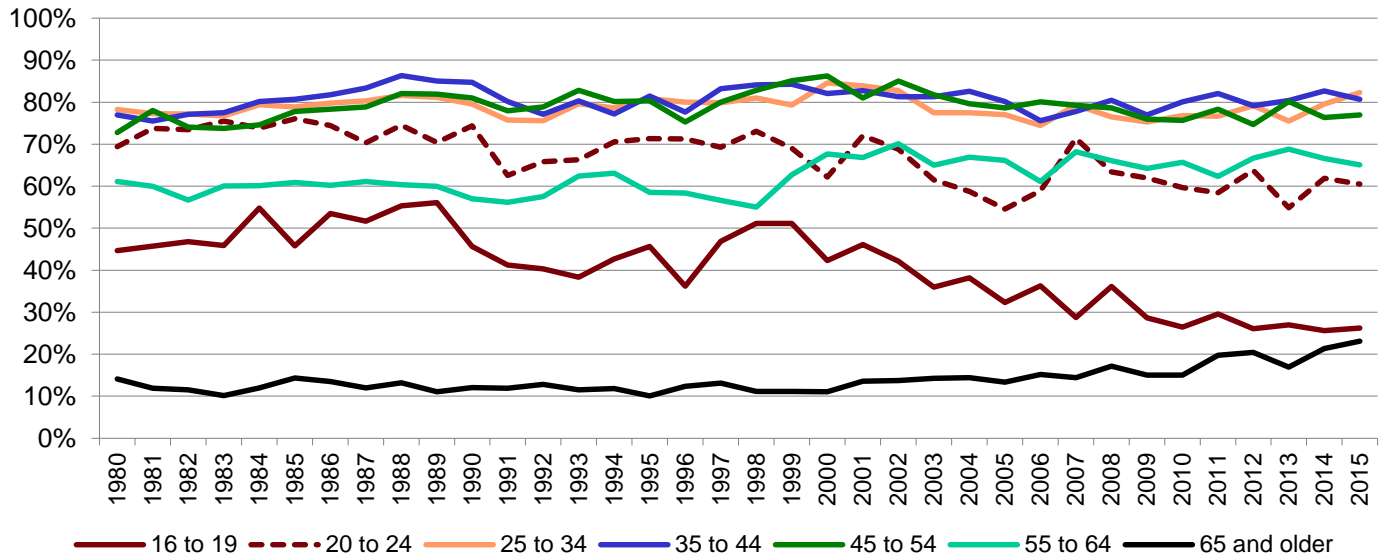
While the general trend in youth employment in Massachusetts is similar to the U.S. overall, there are some noteworthy differences. During the 1980s, Massachusetts was one of the leading states in youth employment, normally ranking in the top 10. During the 1990s, Massachusetts showed significant volatility in youth

<sup>6</sup> In various places throughout this report, we will further disentangle this age group and report on individuals 16-19 and 20-24 separately.

employment and generally fell to the middle of the pack of U.S. states overall. Today the employment rate in Massachusetts is just over 26 percent for teenagers and almost 61 percent for young adults, ranking the Bay State 34<sup>th</sup> and 35<sup>th</sup>, respectively, among all U.S. states.

The observed shifts in employment rates for young adults in Massachusetts raises the question---how have employment rates shifted for other age cohorts in the state? As we see in **figure 2** below, the employment rates for adults 25 to 54 years old have not changed much over the last 35 years. On the other hand, we see that as the employment rates for teenagers and young adults in their early 20s decreased, the employment rates for older workers 55 to 64 years old and 65 and over, have increased.

**Figure 2. Massachusetts Employment Rate (1980 to 2015)**



Source: Current Population Survey (CPS) 1980-2015, UMass Donahue Institute, Economic Public Policy Research Group

Since 2007, we see that teenagers 16 to 19 years old have experienced the most drastic decline in employment rates, followed by 20 to 24 year-olds. Interestingly, since 2007, while each age cohort has experienced some decline in employment rates, employment among those 65 years and older has steadily increased from 14.4 percent in 2007 to just over 23 percent in 2015. This is a striking contrast to the ten percent point drop in employment rates for teenagers during the same time period. These data are consistent with the notion that older workers are competing with younger workers in the labor market at large. This does not necessarily mean that older workers are taking the jobs historically held by younger workers (i.e. entry level positions), but rather that the decline in employment rates for younger workers coincides with gains in employment rates for workers 55 years of age and older.

## Current Young Adult Labor Force in Massachusetts

In this next section, we will look at the current young adult labor force in Massachusetts and examine differences in labor market attachment for various segments of the young adult population. To do this analysis, we used data from the 2014 American Community Survey (ACS) Public Use Microdata Sample (PUMS).<sup>7</sup> **Overall, we see significant differences in labor market attachment in the state by race, gender, nativity, socioeconomic status, and educational attainment.** Most notably:

- Employment rates are higher for white young adults and lower for the other major racial/ethnic groups.
- Young black/African-Americans and Hispanics are much more likely to be “disconnected” from the labor market (i.e. neither employed nor enrolled in school) than their white and Asian counterparts.
- Young men, particularly teenagers, are less likely to be employed and more likely to be “disconnected” than young women.
- Foreign born young adults 20 to 24 years old are less likely to be employed and more likely to be “disconnected” than the native born.
- Educational attainment is closely associated with employment rates for young adults in Massachusetts. Young adult employment rates do not approach state averages until a young person has attained at least “some college” education. Employment rates are extremely low for high school dropouts and low for high school graduates for both teenagers and young adults in their early 20s.
- Household income is closely associated with young adult employment. Young adults living in poverty are far less likely to be employed than their more affluent counterparts.

As noted earlier, these differences can have important implications for public policy makers and job training professionals when considering the long-term benefits of labor force participation for young adults. As these data suggest, the benefits of early labor market participation are more likely to be experienced by white young adults, the native born, the more affluent, and those with higher levels of education.

### THE YOUNG ADULT LABOR FORCE

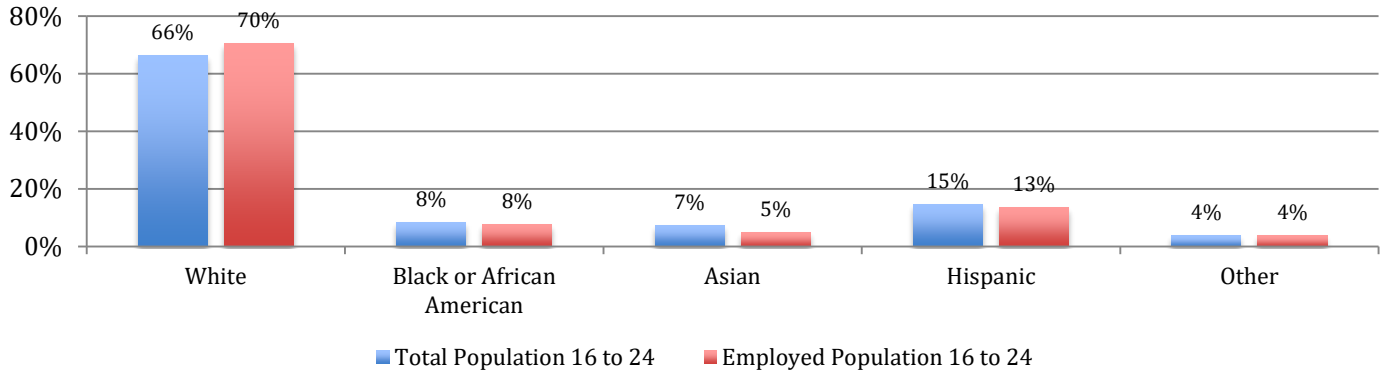
As we see in **figure 3**, the employed young adult population looks somewhat similar to the young adult population. In general, there is a higher concentration of whites among the employed young adult population than the total young adult group (70 percent compared to 66 percent, respectively). Conversely, there are lower concentrations of each racial minority group among the employed young adult population than in the young adult population overall. The most notable difference occurs among the Hispanic<sup>8</sup> population, which make up approximately 15 percent of the young adult population in the state, but less than 13 percent of employed young adults. Likewise, Asians make up seven percent of the young adults in the state, but less than five percent of employed youth.

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<sup>7</sup> There are differences in data collection methods and sampling between the CPS (used earlier in the report) and the ACS. As a result, there are differences in the employment rates between the two databases. For this reason, ACS and CPS data should not be compared with each other. For more information on the differences between the CPS and ACS, please see: <https://www.census.gov/hhes/www/laborfor/laborguidance092209.html>

<sup>8</sup> Hispanic is not a racial category reported by the U.S. Census Bureau. For this analysis, we isolated those individuals who self-identified as “Hispanic” with the Census, and subtracted them from the official “race” categories. In that, individuals who identified as “white” and “Hispanic”, “black” and “Hispanic”, and “other” and “Hispanic” were considered as only “Hispanic” in this study.

**Figure 3. Race and Ethnicity for 16 to 24 Year-olds**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

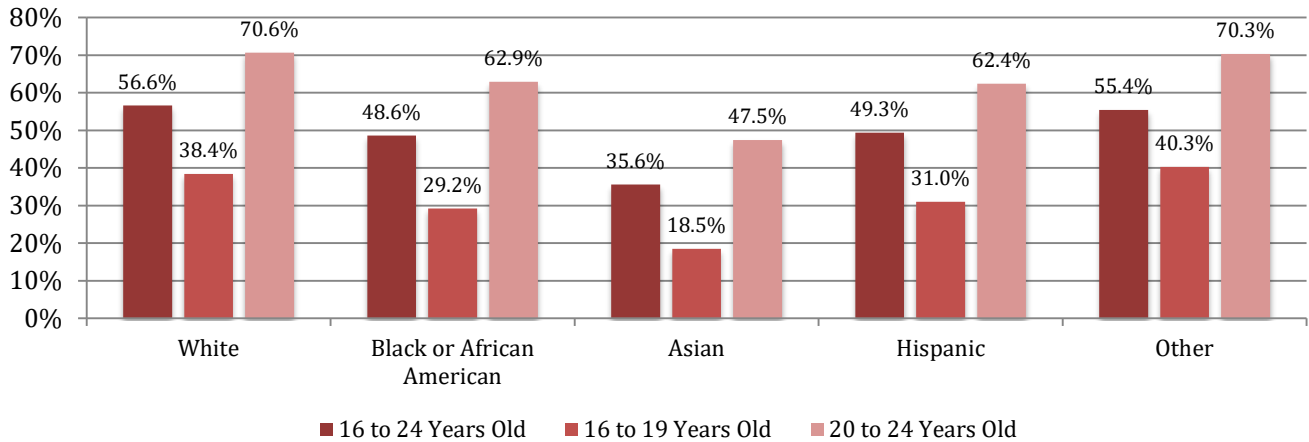
Next, we consider differences in employment and disconnected rates for various demographic groups in the Commonwealth. As noted earlier, the employment rate is the percent of employed individuals within the population. The **disconnected rate** measures the percentage of individuals who are neither employed 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 that 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.<sup>9</sup> As we will see in the following analyses, there are clear relationships between different demographic and socioeconomic groups and labor market connectivity.

### RACE AND ETHNICITY

As we see in **figure 4**, the employment rates for minority young adults are significantly lower than for whites in Massachusetts. The employment rate for white young adults 16 to 24 years old is nearly 57 percent, compared to approximately 49 percent for both black/African-American and Hispanic young adults, and nearly 36 percent for Asian. These data are consistent with the data in **figure 3** that showed a higher concentration of whites among the employed young adult population in the state. As expected, the employment rates are lower for 16 to 19 year-olds than for 20 to 24 year-olds, though the general trend regarding race and employment holds for both age groups.

<sup>9</sup> Belfield, C. and Leven, H., Rosen, R. (January 2012). “*The Economic Value of Opportunity Youth*”. Retrieved July 27, 2016 from Corporation for National and Community Service’s website: [http://www.serve.gov/new-images/council/pdf/econ\\_value\\_opportunity\\_youth.pdf](http://www.serve.gov/new-images/council/pdf/econ_value_opportunity_youth.pdf)

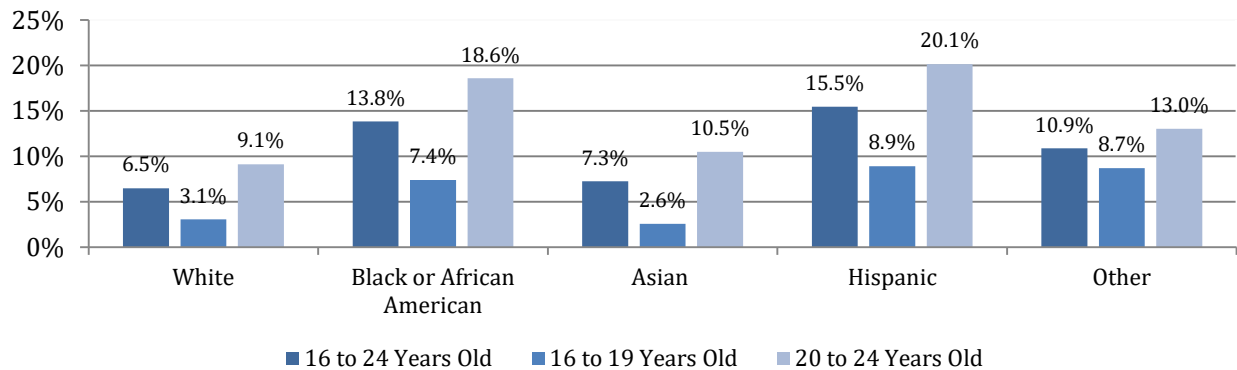
**Figure 4. Employment Rate by Race and Ethnicity**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

In **figure 5**, we see substantial differences in the disconnected rates by racial group. Statewide, 8.6 percent of the young adult population 16 to 24 years old is “disconnected”.<sup>10</sup> However, the disconnected rates for black/African-American and Hispanic young adults are more than 1.5 times the state average (13.8 percent and 15.5 percent, respectively). They are also higher than that of Asian 16 to 24 year-olds (7.3 percent), and more than two times higher than that of white young adults (6.5 percent). These trends hold for 16 to 19 year-olds and 20 to 24 year-olds, with the disconnected rates for black/African-Americans and Hispanics being higher than those for whites and Asians.

**Figure 5. Disconnected Rate by Race and Ethnicity**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Taken together, the differences between white and Asian young adults and their black/African-American and Hispanic counterparts are concerning. While the Asian population has low employment rates, the

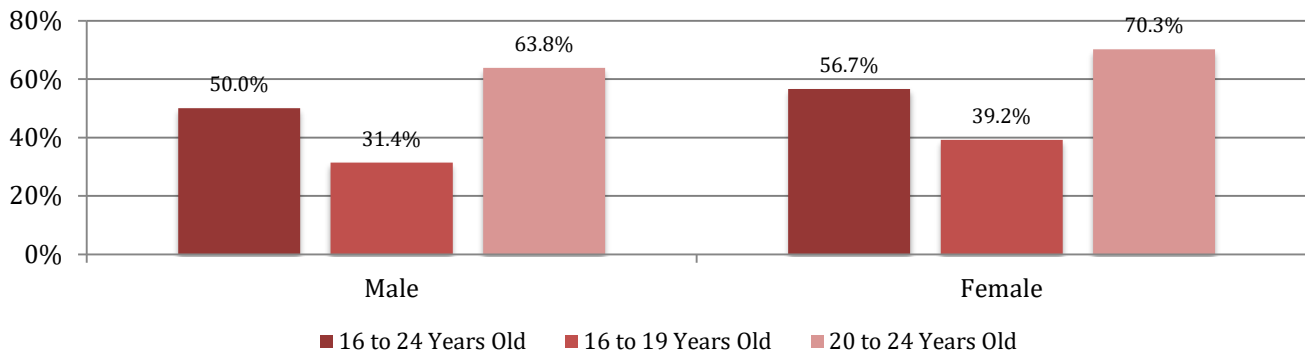
<sup>10</sup> While beyond the scope of this work, the research team did look at the disconnected rates for young adults in Massachusetts from 2007 through the recently released 2015 ACS. As expected, the young adult disconnected rate increased during the Great Recession and has decreased during the recovery. That said, with low unemployment rates statewide and potential concerns about long-term labor shortages, disconnected youth can be a prime source of increased labor supply in the future. Moreover, young adult labor market disconnection has potential long-term ramifications in terms individual skill acquisition, networking, earnings, and general labor market attachment.

correspondingly low disconnected rate suggests a significant portion of the non-employed Asian population is enrolled in school. On the other hand, the low employment rates for black/African-Americans and Hispanics coupled with the high disconnected rates raise major concerns about labor market disconnectivity among these groups. Historically, the black/African-American and Hispanic populations in Massachusetts have lagged behind whites and Asians on a number of key socioeconomic indicators such as educational attainment, household income, and poverty status.

## GENDER

Young women are employed at higher rates than young men. In **figure 6**, we see that the employment rate for young women 16 to 24 years old was approximately 57 percent, compared to 50 percent for young men. The pattern was consistent across the different young adult age groups, with 39.2 percent of young women 16 to 19 years old being employed compared to 31.4 percent of their male counterparts, and 70.3 percent of young women 20 to 24 years old being employed, compared to 63.8 percent of similarly aged young men.

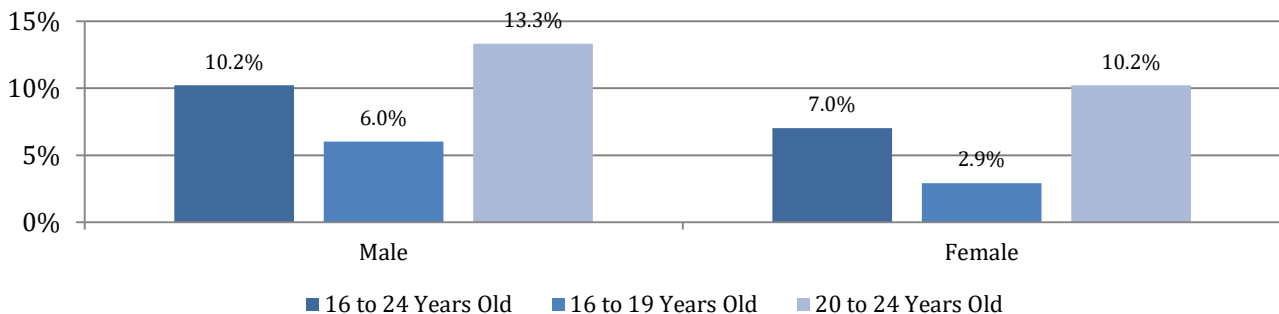
**Figure 6. Employment Rate by Sex**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

The analysis in **figure 7** shows that the disconnected rates for young men are higher than for young women. The most notable difference occurs with teenagers, as 6 percent of 16 to 19 year-old males are disconnected, compared to just 2.9 percent for females. **These data show that teenage males are more than twice as likely to be out of school and out of work as their female counterparts.**

**Figure 7. Disconnected Rate by Sex**



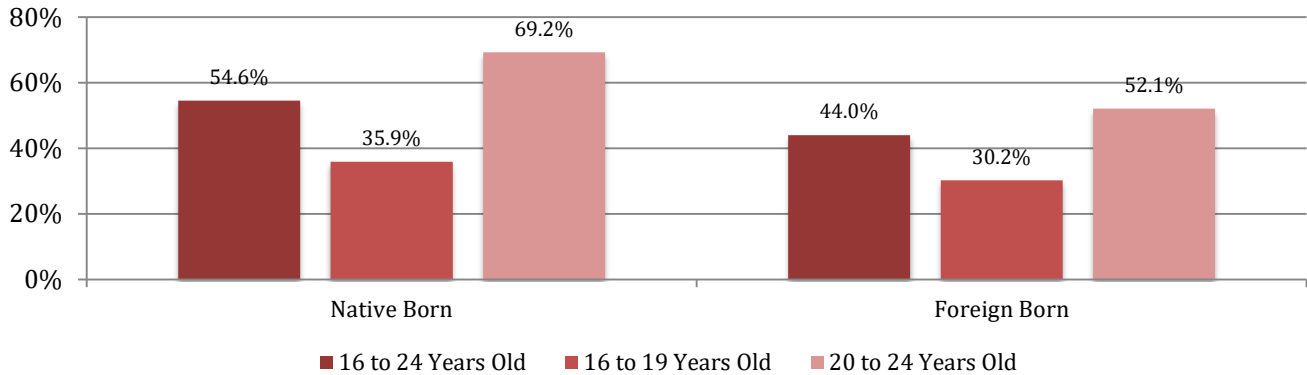
Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group



## NATIVITY

**Figure 8** shows higher employment rates for native born youth than for foreign born youth in Massachusetts. While roughly a six percent difference exists between native born and foreign born employment rates for teens, the starkest difference is seen among young adults in their early 20s. The employment rate for native born young adults is 69.2 percent, compared to just 52.1 percent for the foreign born.

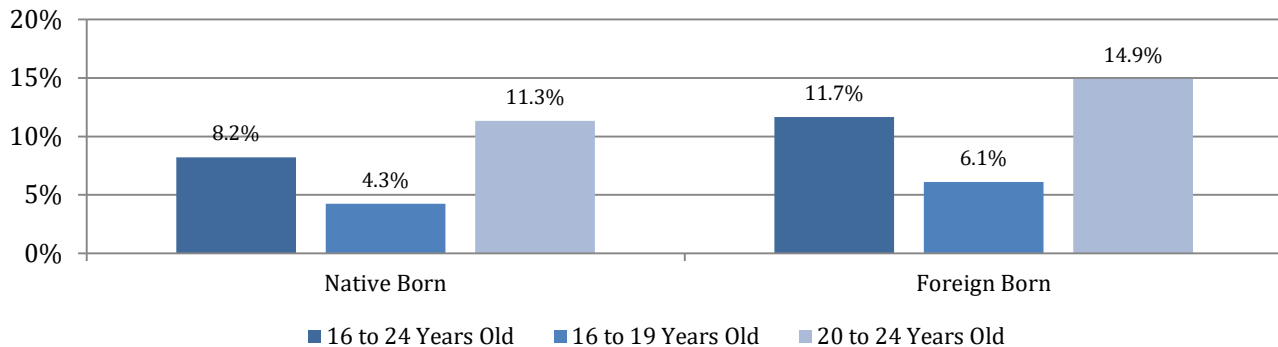
**Figure 8. Employment Rate by Nativity**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

In **figure 9**, we see that the disconnected rates for native and foreign born teenagers is fairly similar (4.3 percent for native born and 6.1 percent for foreign born). However, we see a larger difference in the disconnected rate for 20 to 24 year-olds. Approximately 11.3 percent of native born 20 to 24 year-olds are “disconnected”, compared to 14.9 percent of the foreign born. These data, coupled with the low employment rate for foreign born 20 to 24 year-olds, raise concerns about the overall labor market connectivity of foreign born young adults. Interestingly, of 20 to 24 year-olds enrolled in school, foreign born young adults are more likely to be enrolled in a private school or college than native born young adults.

**Figure 9. Disconnected Rate by Nativity**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

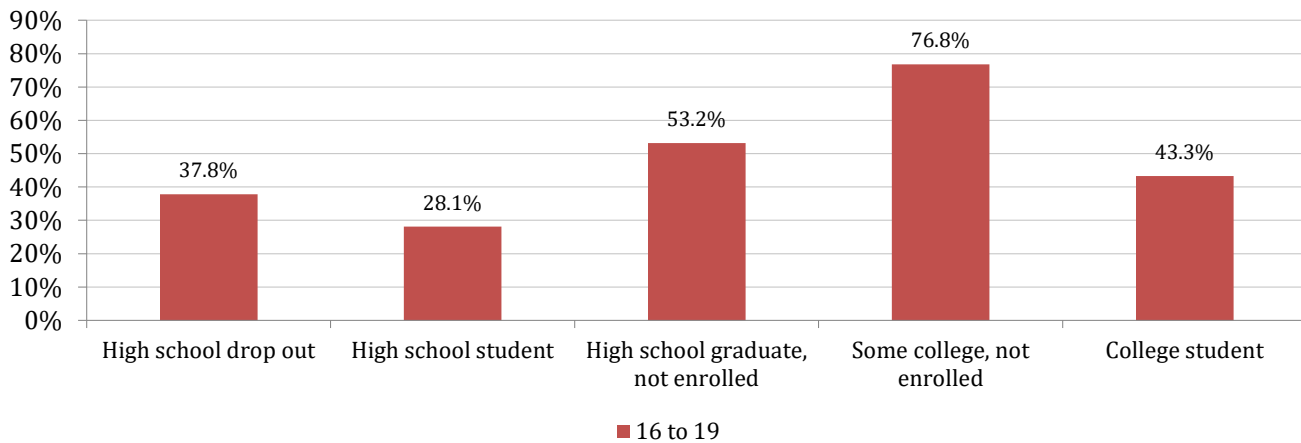
## EDUCATIONAL ATTAINMENT AND SCHOOL ENROLLMENT

As expected, there is a close relationship between employment and education for young adults in Massachusetts. **Figure 10** below shows employment rates for teenagers in Massachusetts by different levels of education and school enrollment. For this analysis, we split teenagers into five different groups:

- High school dropouts
- Current high school students
- High school graduates, not currently enrolled in school
- Some college attainment, not currently enrolled in school
- Current college students

Not surprisingly, teenagers currently enrolled in school tend to have low employment rates. Currently enrolled high school students have an employment rate of 28.1 percent. Currently enrolled college students have an employment rate of just over 43 percent. For those teenagers not enrolled in school, employment is closely associated with educational attainment. Teenage high school dropouts have an employment rate of less than 38 percent, compared to 53.2 percent for high school graduates, and nearly 77 percent for teenagers with some college attainment who are not currently enrolled. Comparatively, the employment rate for all workers 16 to 64 years old is just over 72 percent. These data show that teenagers with even just some college education are much more likely to be employed than their less educated counterparts, and have higher employment rates than the state average for people 16 to 64 years old.

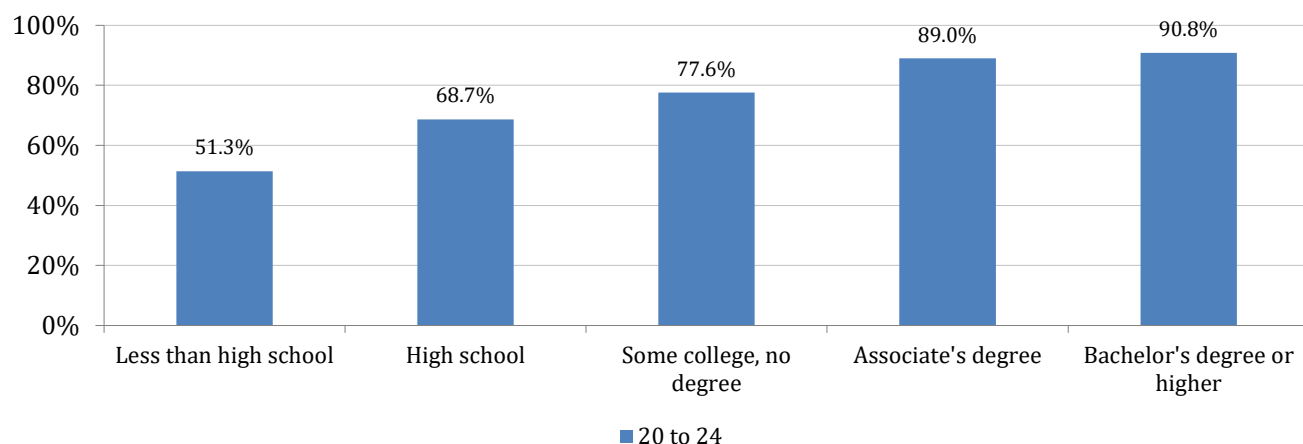
**Figure 10. Employment Rate by School Enrollment and Educational Attainment for 16 to 19 Year-olds**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

**Figure 11** below focuses on young adults 20 to 24 years old who are no longer enrolled in school. As the graphic shows, as educational attainment increases, employment rates for young adults 20 to 24 years old increases. For those with less than a high school education, only one in every two were employed during 2014. For those with a high school diploma but no completed years of college, the employment rate was nearly 69 percent. Young adults 20 to 24 years old with post-secondary education have high employment rates overall, including 89 percent for those with an associate’s degree and nearly 91 percent for those with a bachelor’s degree.

**Figure 11. Employment Rate by Educational Attainment for 20 to 24 Year-olds**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

## SOCIOECONOMIC STATUS

There is a clear correlation between socioeconomic status and employment for teenagers and young adults in Massachusetts. **Figure 12** below shows employment rates for young adults by household income-to-poverty ratio.<sup>11</sup> Those in the “50% or below” category are young adults living in households with incomes half the poverty line or below. Those in the “51% to 100%” category are young adults living in households with incomes just over half the poverty line to the poverty line. Those in the “101% to 200%” category are those over poverty up to two times the poverty line, and so on.

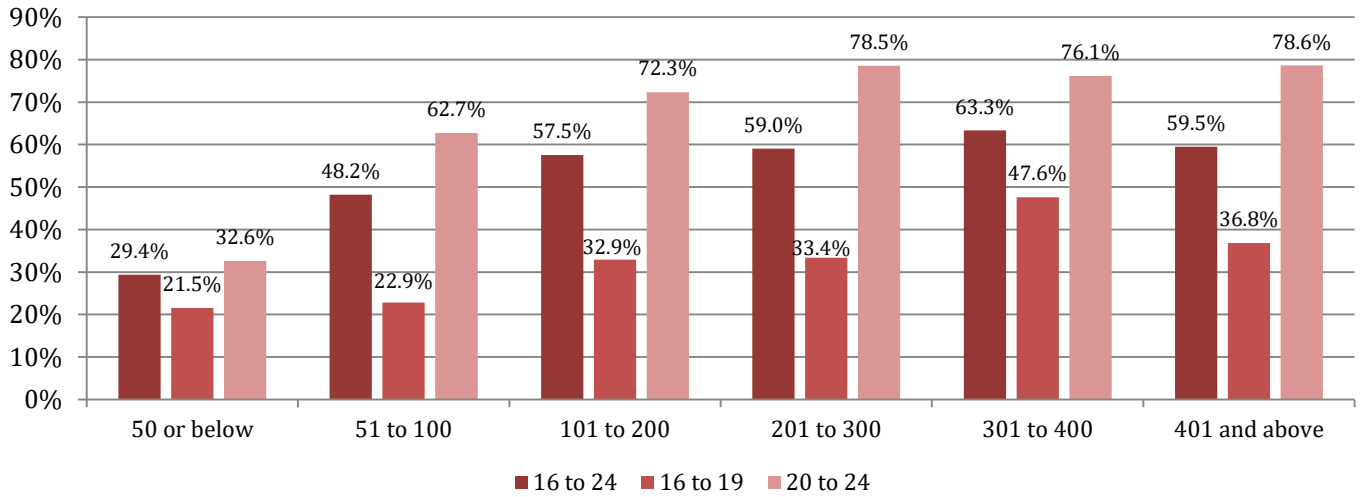
For teenagers 16 to 19 years old living in the two “at or below the poverty line” categories, the employment rates are 21.5 percent and 22.9 percent. This employment rate climbs nearly 10 percentage points for those living just above the poverty line to three times above the poverty line. The employment rate for teenagers living in households making between three times and four times the poverty line is more than twice that of teenagers living in poverty.

The employment rate for young adults 20 to 24 years old residing in households with incomes below 50 percent of the poverty line, a measure of deep poverty, is 32.6 percent; however, unlike the employment rate for teenagers young adult employment rate increases by roughly two times for those between the poverty line and 51 percent of it (the second income-to-poverty category). From this income to poverty ratio category, the young adult employment rate continues to rise and is more than two times the employment rate for teenagers. This makes sense for young adults 20 to 24 years old as some of these individuals are likely full-time fixtures in the labor market and primary earners in a household, so the relationship between employment and household income is expected to some extent. Interestingly, though, teenagers would not typically be thought of as primary earners for a household, so their income is not expected to be a substantial factor in household income. The data above shows that there is a clear class component to how teenagers are able to participate in the labor

<sup>11</sup> Income-to-poverty ratio is a calculation provided by the U.S. Census Bureau and is included in the ACS. This is a particularly useful measure in that it accounts for household size in calculating the income-to-poverty ratio. That said, income-to-poverty is a strong proxy to household income in this analysis and the concepts will be used interchangeably.

market, and that teens from more affluent backgrounds have an easier time finding employment than less affluent teens. However, this disparity is not a reflection of desires to work among low-income teens.

**Figure 12. Employment Rate by Income-to-Poverty Ratio**



Source: 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

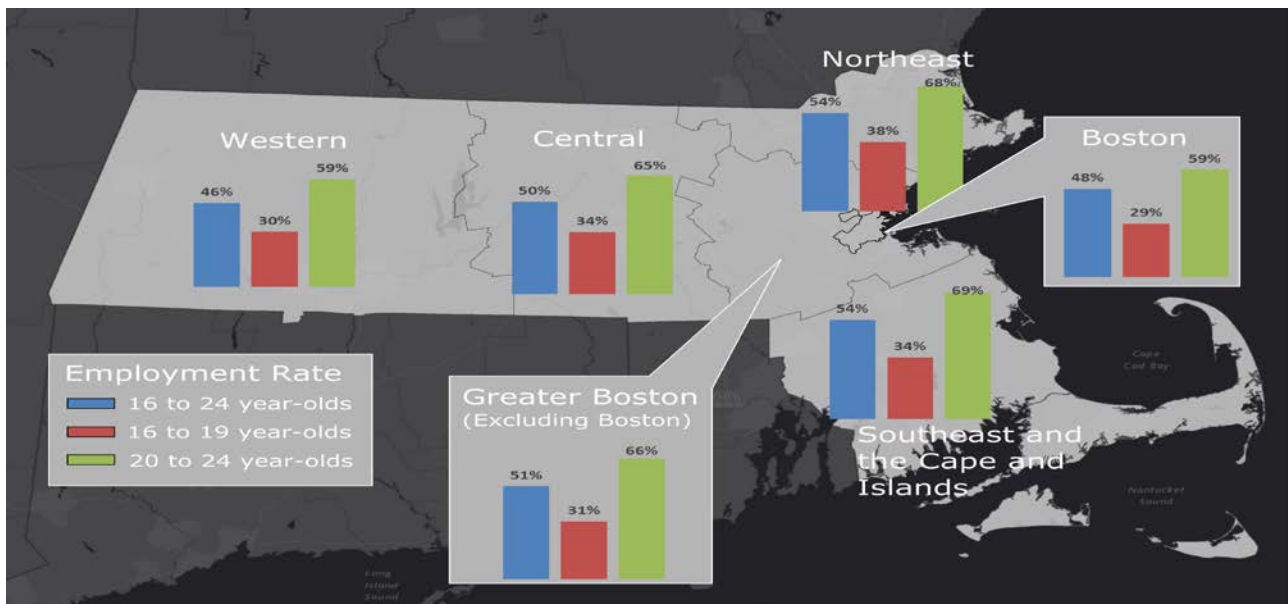
## Regional Difference in Young Adult Employment in Massachusetts

### REGIONALLY SPECIFIC LABOR MARKET DIFFERENCES

While this report has focused on the young adult labor force statewide, the reality is that workers engage in regional labor markets. Economic growth and demographic changes in Massachusetts have occurred in different patterns across the state. In particular, the growth of the life sciences and technology sectors, coupled with the concentration of colleges and universities in the eastern part of the state have led to different patterns of economic growth in Greater Boston than other parts of the state. This is particularly true in the state’s “Gateway Cities”, or mid-size, post-industrial cities, such as Springfield, Holyoke, or New Bedford, where economic growth, educational attainment, and labor force participation lags significantly behind state averages. With that in mind, the following section considers regionally specific trends in young adult employment and labor market connectivity in the state.

To do this analysis, we used data from the 2010-2014 ACS Public Use Microdata Sample (PUMS).<sup>12</sup> We split the state into six regions: Boston, Greater Boston (excluding the city), Northeast, Southeast and the Cape, Central, and Western.<sup>13</sup>

**Figure 13. Employment Rate by Region**



Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

<sup>12</sup> The 2010-2014 ACS is a 5-year average of data collected by the ACS. There are advantages and disadvantages to using a multi-year version of the ACS. The disadvantage is that the data are collected over several years and are not as sensitive to changes that occur in short periods of time during the data collection. For example, the 2010-2014 ACS employment rate for 16-24 year-olds is lower than what we see in the 2014 1-year sample. The reason is that the 2010-2014 data were partially collected during the tail end of the recession. The advantage, however, is that the 5-year collection has a larger sample size. Because we split the data by region, we opted to use the 5-year sample to make sure we had large samples of young adults in each region. The 1-year data from earlier in the report should not be compared to the 5-year data in this section.

<sup>13</sup> The regions used for this work are based on the regions developed by *MassBenchmarks*, the Journal of the Massachusetts economy. Due to geographic limitations and sampling concerns, we combined the *MassBenchmarks* regions of Pioneer Valley and Berkshires to create the “Western” region, and we combined the Southeast with the Cape and the Islands. For more information on *MassBenchmarks* please see: <http://www.massbenchmarks.org/>

Key regional observations include:

- Overall, young adult employment is highest in Southeast and Cape and in the Northeast.
- The disconnected rates are highest in the Western, Central, and Southeast and Cape regions. The lowest disconnected rates are in the Greater Boston region and in the City of Boston. While this is not surprising as a large number of young adults come to Boston and its surrounding communities to attend college, the disconnected rate is higher for black/African-American and Hispanic youth in Greater Boston and the City of Boston than for white youth.
- Employment rates were lowest for young adults in the Western and Central regions. Western Massachusetts is home to both low employment rates and high disconnected rates, particularly among black/African-American and Hispanic residents.
- The Southeast and Cape region has both high employment and high disconnected rates for young adults. The region has the highest disconnected rates for young adults 20 to 24 years old in the state (16.2 percent). The Southeast and Cape region has the highest disconnected rates for whites (13.8 percent) and black/African Americans (24.3 percent) 20 to 24 year-olds in the state. The disconnected rate for Hispanics 20 to 24 years old is also high at 27.8 percent (second highest in the state for the Hispanic group, only behind Western Massachusetts at 35.8 percent).
- The employment rate for young adults 20 to 24 years old is the same in both Boston and Western Massachusetts (58.8 percent compared to 64.3 percent statewide). However, Boston has the lowest disconnected rate for this population in the state (10.1 percent). The Western region has the second highest disconnected rate in the state for 20 to 24 year-olds (15.7 percent). The state average for this age group is 12.9 percent.
- The highest employment rate for teenaged high school dropouts in that state is found in Boston. For all other levels of educational attainment for teenagers, the employment rates are lower in Boston than in the other regions of the state.
- Young adults with only a high school education in Western Massachusetts have a difficult time finding employment compared to their peers across the state.
- For Hispanics 20 to 24 years old, the disconnected rate was particularly high in the Western region at 35.8 percent, the highest for any racial/ethnic group in this analysis.

The following sections will highlight regional specific characteristics of the youth labor force in Massachusetts. Our analysis focuses on those ways in which the regional young adult labor force deviates from the state or stands out as unique among the regions. For more data on each specific region, please see the corresponding appendices at the end of the report.

## **Boston**

Employment rates for young adults in Boston are among the lowest regionally in the state. Of the six regions analyzed, Boston had the second lowest employment for young adults 16 to 24 years old (48.4 percent, ahead of only Western Massachusetts at 45.6 percent), the lowest employment for teenagers (29.3 percent) and the lowest for 20 to 24 year-olds tied with Western Massachusetts (58.8 percent). Part of this relates to the city's high concentration of racial and ethnic minorities, low income residents, foreign born residents, and college students (all of which demonstrated low employment rates in earlier sections of this report). Beyond that, employment rates are at or below the state averages for most of the key demographic groups in this study (e.g.

racial groups, gender, and nativity status). Interestingly, Boston has the lowest disconnected rate in the state for 20 to 24 year-olds (10.1 percent), as well. This speaks to the high concentration of college students living in the city; however, the disconnected rate remains high for black/African-American and Hispanic young adults in the City (18.5 and 21.3 percent, respectively). Other key observations regarding the young adult labor force in Boston include:

- Employment rates are particularly low for teenagers in the city. Employment rates for white teenagers, black teenagers, and male teenagers in general were among the lowest in the state.
- The employment rate for teenaged high school dropouts is actually the highest in the state. For all other levels of educational attainment for teenagers, the employment rates are lower in Boston than the other regions of the state.
- For 20 to 24 year-olds in Boston no longer enrolled in school, the employment rates are the lowest in the state for all educational attainment categories except for college graduates. College graduates 20 to 24 years old in Boston have the highest employment rates in the state. This speaks to the concentration of knowledge-based industries and the competitive labor market in the region that place a strong preference on college graduates in the labor market.
- The disconnected rates for white and Asian young adults (16 to 24 years old) are low compared to state averages. This, again, speaks to the high concentration of college students in the city.

See **Appendix A** for more information on young adult labor force trends in Boston.<sup>14</sup>

### **Greater Boston (excluding the City of Boston)**

In the remaining Greater Boston region (excluding the city), we see employment rates for young adults similar to the statewide averages. The region has the same employment rate for young adults 16 to 24 years old as the state overall, at just under 51 percent. The employment rate for teenagers in Greater Boston (excluding the city) is slightly lower than the state average, 31 percent versus 33 percent, respectively. Conversely, the employment rate is slightly higher for 20 to 24 year-olds, 65.8 percent versus 64.3 percent, respectively. Key observations regarding the young adult labor force in Greater Boston (excluding the city) include:

- Employment rates tend to be higher for racial minorities in the region than the corresponding statewide averages. This is especially true for black/African-American and Hispanic teenagers and young adults. In fact, for both age categories, Greater Boston has the highest employment rates for black/African-Americans and Hispanics statewide, with regional rates for 16 to 24 year-old black/African-Americans of 53.1 percent (compared to 44.1 percent statewide) and 51.5 percent for Hispanic 16 to 24 year-olds (compared to 45.9 percent statewide).
- While 16 to 24 year-old Asians have the lowest employment rate (39.8 percent) and labor force participation rate (46.2 percent) compared to the other racial/ethnic categories in Greater Boston, of those who are not in the labor force, Asians are the most likely to be enrolled in school. Asians are also more likely to be enrolled in private institutions.

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<sup>14</sup> When comparing Boston data with the other regions in this report, readers should bear in mind that the other regions include the combination of urban, suburban, and rural places, whereas the Boston data includes only the city itself. With that, there are some differences we would expect to see simply due to the different types of geographies. That said, given Boston's importance as a population and job center for the state and the Boston PIC's focus on Boston residents, it was important to isolate Boston to better understand the context of young adult employment in the city.

- Greater Boston has the second highest employment rate for 16 to 19 year-old high school dropouts (33 percent) in Massachusetts, second only to the city itself. The employment rate for 16 to 19 year-old high school graduates who are not enrolled in school (60.4 percent) is the second highest statewide, following the Northeast region.
- The employment rates by educational attainment for 20 to 24 year-olds are at or higher than the statewide averages in all educational attainment categories.
- The disconnected rates in Greater Boston are lower than the state averages overall for all demographic groups. That said, the disconnected rates for Hispanics and black/African-Americans are high when compared to other racial groups within the region. Black/African-American 16 to 24 year-olds have a disconnected rate of 9.2 percent, and Hispanics have a rate of 12.8 percent, compared to 6.2 percent for white 16 to 24 year-olds in the region.

See **Appendix B** for more information on young adult labor force trends in Greater Boston (excluding the city).

## Northeast

Employment rates in the Northeast are frequently higher than the statewide averages for Massachusetts. This is especially the case for teenagers, for whom we see consistently higher than average employment rates across demographic groups. In the Northeast, the employment rate for 16 to 19 year-olds is nearly 38 percent compared to 33.3 percent for the state, and 20 to 24 year-olds have an employment rate of 68 percent, compared to 64.3 percent for the state. Key observations regarding the young adult labor force in the Northeast include:

- The employment rates of white teenagers (40.1 percent), male teenagers (35.3 percent), and native born teenagers (38.6 percent) stand out among all regions as the highest rates for each demographic.
- For 16 to 19 year-olds, the Northeast has the highest employment rates for high school students (30.7 percent), high school graduates who are not enrolled in school (69.8 percent), and for college dropouts (78.3 percent).
- Black/African-American employment rates for 16 to 24 year-olds in the Northeast are the lowest among all racial groups in the region, at just under 39 percent. Moreover, employment rates for black/African-American young adults 16 to 24 years old (and specifically 20 to 24 year-olds) are among the lowest in the state, ahead of only the Western Massachusetts region.
- While the disconnected rate for white young adults 20 to 24 years old is on par with the statewide average for 20 to 24 year-olds, the disconnected rates for black/African-American and Hispanic young adults in the Northeast are higher than the statewide average, and more than twice as high as the rate for whites in the region (22.6 percent, 26 percent, and 9.7 percent, respectively). This is particularly concerning as the Northeast is home to both Lowell and Lawrence, two Gateway Cities with significant minority populations.

See **Appendix C** for more information on young adult labor force trends in the Northeast.



## Southeast and Cape

Overall, the Southeast and Cape, which includes such cities as New Bedford and Fall River as well as the Cape, has the highest employment rates for 16 to 24 year-olds in Massachusetts (54.1 percent). The employment rate for 20 to 24 year-olds in the Southeast and Cape region is the highest in the state (68.8 percent). The employment rate for 16 to 19 year-olds in the Southeast and Cape region is the second highest in the state (tied with the Central region at 33.6 percent), trailing the Northeast (37.9 percent). Interestingly, young adults in the Southeast and Cape region have high disconnected rates as well. This signals that, while young adults in the Southeast and Cape region are more likely to be employed than their peers across the state, those that are not employed have an elevated likelihood of not being in school either. Key observations regarding the young adult labor force in the Southeast and Cape include:

- The high employment rate for young adults in the Southeast and Cape region is driven largely by high employment rates for whites. The employment rates for every other major racial/ethnic group in the Southeast and Cape is actually lower than the state average for each respective group.
- While the Southeast and Cape has the highest employment rates for 16 to 24 year-olds in Massachusetts, its disconnected rate is higher than the state average (11.6 percent for the region compared to 9.4 percent statewide). The disconnected rate is higher for each racial/ethnic group in the region than the state average, most notably for Asians and black/African-Americans.
- At 19.6 percent, the disconnected rate for Asians 20 to 24 years old in the Southeast and Cape is the highest among Asians of the same age in Massachusetts, and it is more than three times higher than the rate for Asian 20 to 24 year-olds in Boston.
- The Southeast and Cape region has both high employment and high disconnected rates for young adults. The region has the highest disconnected rates for young adults 20 to 24 years old in the state (16.2 percent). The Southeast and Cape region has the highest disconnected rates for whites (13.8 percent) and black/African Americans (24.3 percent) 20 to 24 year-olds in the state. The disconnected rate for Hispanics 20 to 24 years old is also high at 27.8 percent (second highest in the state for the Hispanics in this age group, behind Western Massachusetts at 35.8 percent).
- The Southeast and Cape boasts the highest employment rates for young adults in their early 20s for both men and women (66.1 percent and 71.7 percent, respectively) and the highest for native born 20 to 24 year-olds (69.4 percent).
- The employment rates for young adults in extreme poverty (in households making 50% or less of the poverty line) are higher in the Southeast and Cape than the state overall. This is particularly true among teenagers, as just over 28 percent of teenagers living in extreme poverty households are employed in the Southeast and Cape, compared to less than 20 percent statewide.

See **Appendix D** for more information on young adult labor force trends in the Southeast and the Cape.

## Central

In general, the employment rates for young adults in the Central region, which includes the city of Worcester, are similar to the state averages. Key observations regarding the young adult labor force in the Central region include:

- The Central region has the third highest disconnected rate among regions for young adults (10.6 percent), trailing Western Massachusetts and the Southeast and Cape.
- At 3.1 percent, black/African-American teenagers have the lowest disconnected rate in the region, and the lowest disconnected rate of black/African-American teens across all regions. This rate is lower than the statewide rate for black/African-American teenagers of 7.3 percent.
- The most alarming disconnected rate in the region is for Hispanics 20 to 24 years old. At 25 percent, this group has the highest disconnected rate within the region. Black/African-American 20 to 24 year-olds have the second highest disconnected rate in the region (23 percent).
- Among 16 to 19 year-olds who are not in the labor force, Hispanics have the lowest school enrollment rate (88.9 percent)
- Teenaged high school dropouts in Central Massachusetts have the lowest employment rate among their peers statewide (20.3 percent compared to 27.6 percent statewide).
- Likewise, 20 to 24 year-olds in Central with less than a high school education have the lowest employment rate among their peers statewide (38.5 percent compared to 47.6 for the state).
- Both teenagers and young adults living in extreme poverty in Central have the lowest employment rates in the state. The employment rate for teenagers is 11.9 percent compared to 19.6 statewide, and the rate for young adults is 29.6 percent, compared to 32.6 percent statewide. Employment rates for the remaining income to poverty ratio levels are comparable to the state averages.

See **Appendix E** for more information on young adult labor force trends in the Central region.

## Western

Western Massachusetts, which includes Springfield, Holyoke, as well as the Berkshires and Pioneer Valley regions, has some of the toughest labor market conditions for young adults in the state. The region is home to both the lowest employment rates and highest disconnected rates in the Commonwealth. These trends are driven by the low employment rates across all three age categories for black/African-Americans, Hispanics, and the native born populations, as well as extremely high disconnected rates for black/African-Americans and Hispanics. Key observations regarding the young adult labor force in Western Massachusetts include:

- Employment rates are particularly low for young adults 20 to 24 years old in the Western region. The employment rates are among the lowest statewide for each racial/ethnic group, including 44 percent for black/African-American (compared to 58.2 percent statewide), 41.4 percent for Asian (compared to 49.7 percent statewide), and 50.2 percent for Hispanic (compared to 58 percent statewide).

## The Young Adult Labor Force in Massachusetts

- The region has the highest disconnected rate (11.8 percent) among all regions for young adults 16 to 24 years old, compared to 9.4 percent for the state.
- The disconnected rates that raise the greatest concern in the region are for Hispanic teenagers (17.7 percent compared to 10 percent statewide), and Hispanic young adults (35.8 percent compared to 24.6 percent statewide). The disconnected rate for Hispanics in their early 20s is the highest in the state for any racial/ethnic group in any region.
- Just under 56 percent of males 20 to 24 years old in Western Massachusetts are employed, compared to over 62 percent statewide. Only 59.3 percent of the native born 20 to 24 year-olds in the Western region are employed, compared to over 65 percent statewide.
- Young adults with only a high school education in Western Massachusetts have a difficult time finding employment compared to their peers across the state. Among teenagers who have graduated high school, but are no longer enrolled in school, those in the Western region have the second lowest employment rate in the state (45.2 percent compared to 57.7 percent statewide). Similarly, 20 to 24 year-olds in Western Massachusetts with only a high school diploma have an employment rate of just 60.5 percent (compared to 65.9 percent statewide). Only in Boston (at 56.7 percent) is the employment rate for 20 to 24 year-olds with only a high school education lower than in Western Massachusetts.
- Employment rates at all education levels are lower in Western Massachusetts than the statewide averages.

See **Appendix F** for more information on young adult labor force trends in the Western region.

## State-wide Comparison of Young Workers by Industry and Occupation

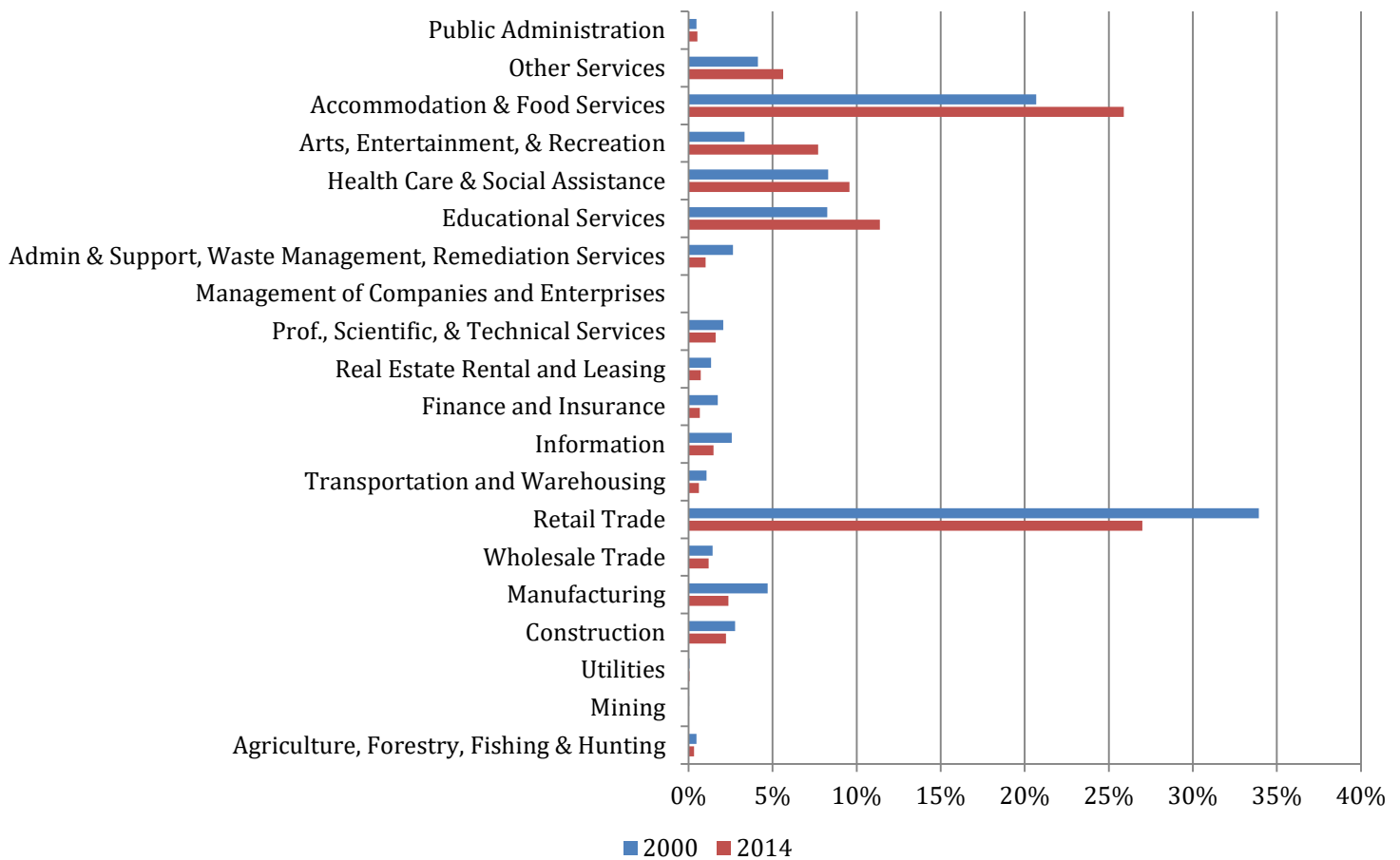
In this next section, we look at the employment distribution by industry and occupation for the young adult labor force in Massachusetts in 2000 and in 2014 to get a sense of how what young people do for work has changed over time. To do this we use data from the 2000 Census, Public Use Microdata Sample (PUMS), and the 2014 American Community Survey (ACS) PUMS. Overall, we see stark employment differences for teenagers and young adults between technical and non-technical fields. Most notably:

- Higher employment in industries and occupations that typically provide part-time employment.
- Lower employment in Massachusetts' largest industries and occupations: healthcare and finance.
- Employment for teenagers decreasing between 2000 and 2014 in industries where higher education is typically required.

### INDUSTRY

**Figure 14** compares employment by industry for teenage workers in Massachusetts in 2000 and 2014. Teenagers most typically work in retail trade, accommodation and food services, educational services, health care & social assistance, and arts, entertainment & recreation. The proportion of teenagers working in each of these industries is higher today than in 2000, except for in the retail trade industry, and the proportion of teens working in the arts, entertainment & recreation industry has more than doubled from 2000 to 2014. Since 2000, we have seen a decline in teenagers working in blue-collar industries such as manufacturing, construction, administrative support waste management, and remediation services, and transportation and warehousing. A smaller proportion of teenagers are working in information today than in 2000, as well.

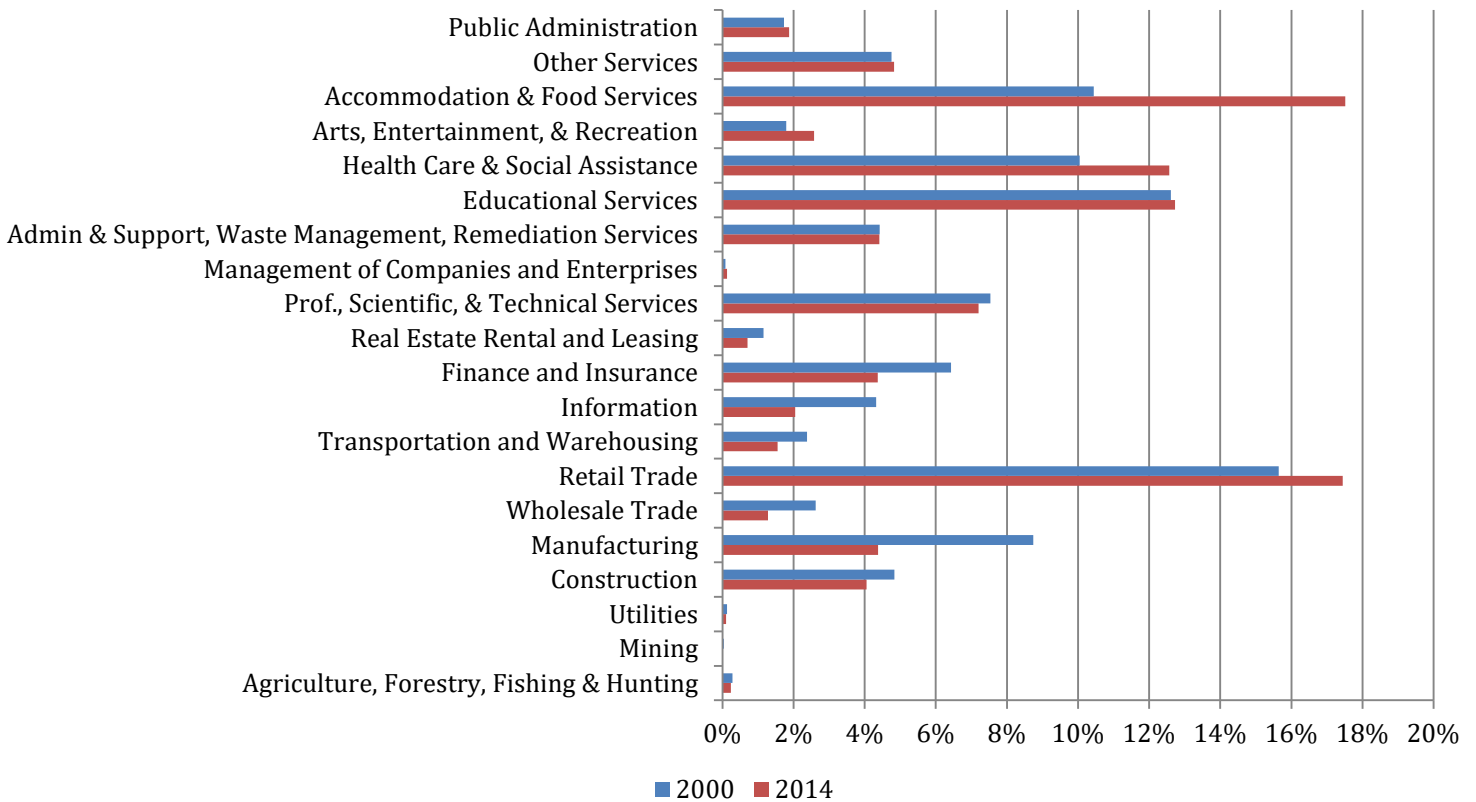
**Figure 14. Employment by Industry for 16 to 19 Year-olds**



Source: 2000 Census, 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy

For young adults 20 to 24 years old, key industries include retail trade, accommodation and food services, educational services, and health care & social assistance. As we see in **figure 15** below, each of these industries employs a higher percentage of 20 to 24 year-olds today than in 2000. As with teenagers, we see a smaller percentage of young adults working in blue-collar fields such as manufacturing, construction, and transportation & warehousing. Interestingly, a smaller percentage of 20 to 24 year-olds are working in finance & insurance, professional, scientific, and technical services, and information today than in 2000. This may signal that these industries prefer workers with more skill and/or graduate degrees, which would be less common among this age group, than in the past.

**Figure 15. Employment by Industry for 20 to 24 Year-olds**

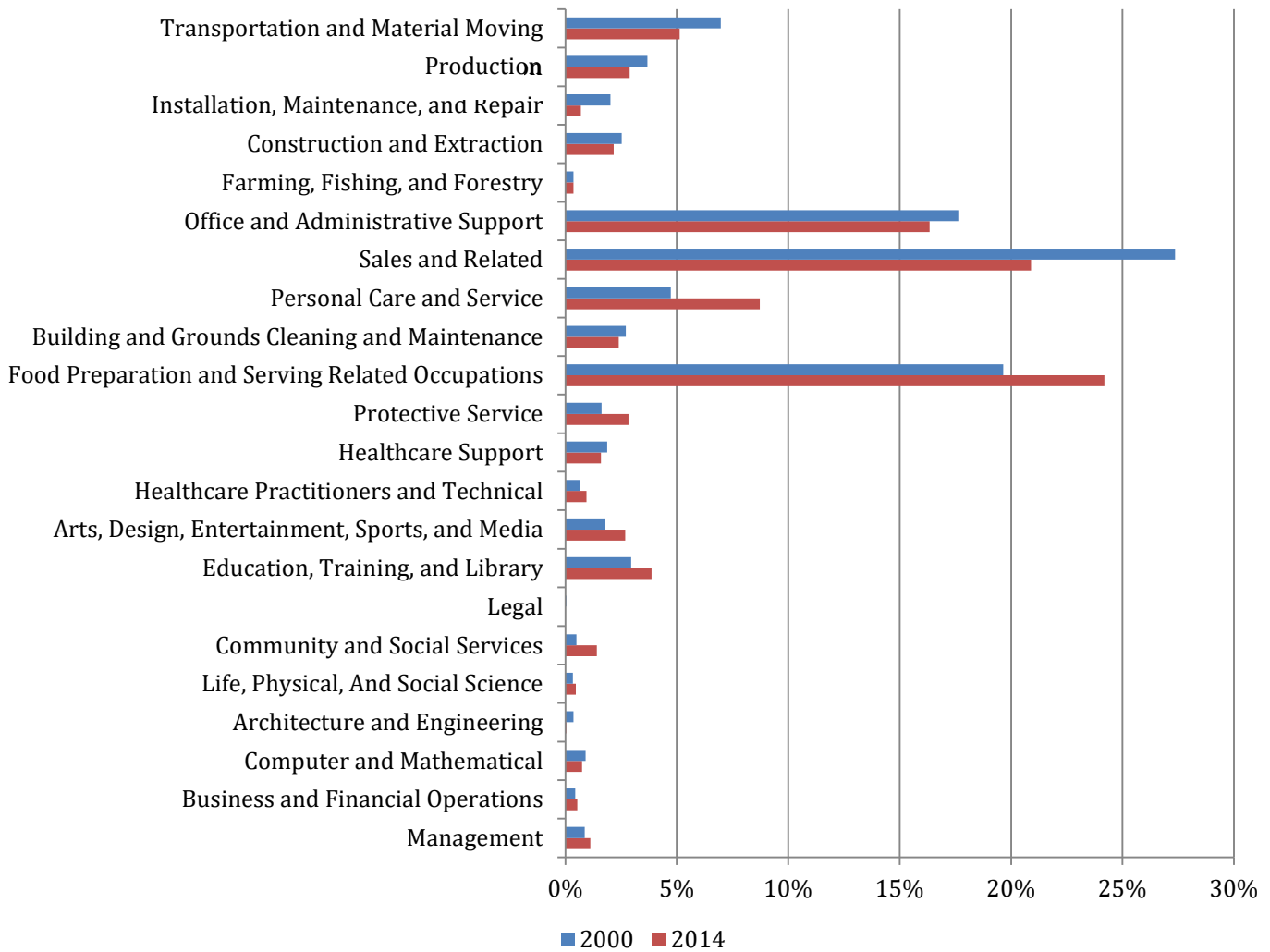


Source: 2000 Census, 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

## OCCUPATION

As we see in **figure 16** below, the majority of teenage workers in the state today work in food preparation, sales, and office and administrative support occupations. We also see a significant increase in the proportion of teenaged workers in personal care and service occupations since 2000. In large part, these data reflect the key industries for teenaged workers as well. Similar to the industry analysis, we see a smaller percentage of teenagers working in traditionally blue-collar fields like transportation and materials moving, production, installation, maintenance, and repair, and construction and extraction.

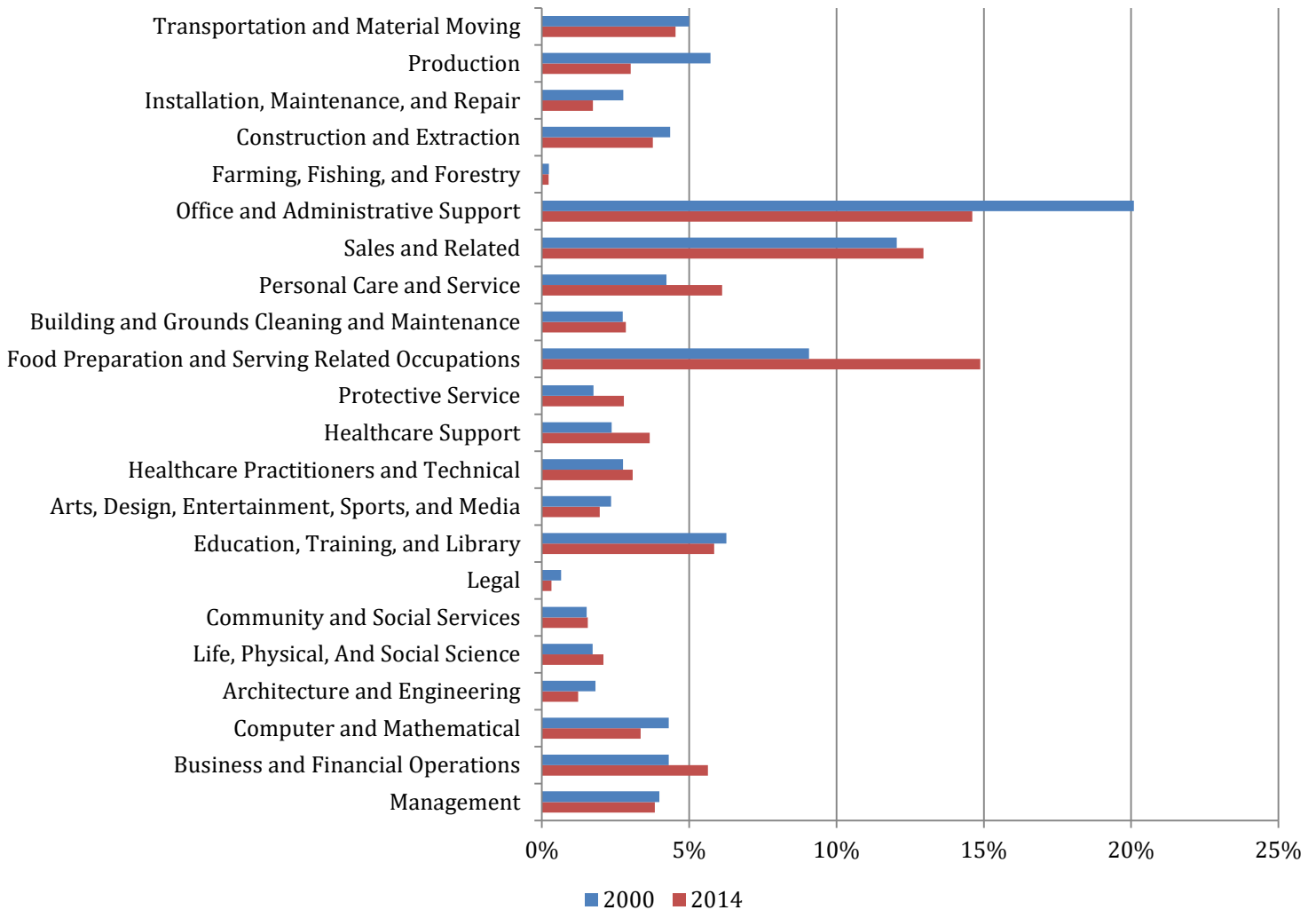
**Figure 16. Employment by Occupation for 16 to 19 Year-olds**



Source: 2000 Census, 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

For 20 to 24 year-olds, **figure 17** shows that food preparation and serving related, sales, and office and administrative support are the most common occupations for young adults. As with teenagers, the proportion of 20 to 24 year-olds working in personal care and service occupations grew since 2000 and we see a smaller percentage of young adults working in traditionally blue-collar fields like transportation and materials moving, production, installation, maintenance, and repair, and construction and extraction.

**Figure 17. Employment by Occupation for 20 to 24 Year-olds**



Source: 2000 Census, 2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

As **figures 14 through 17** show, there is a high concentration of young people working in food service related industries and occupations. These jobs are the most common for young people and the proportion working in these fields has grown since 2000. Conversely we see a small proportion of young people working in both traditionally blue-collar fields and in high-skill knowledge industries. In the case of the former, it is likely due to shifts in the industrial makeup of the state overall. In the case of the latter, skill requirements in these fields may be shifting towards workers with greater experience and graduate training, which would be less common for young adults.



## Youth Labor Force Issues in Context

### WHAT ARE THE LARGER ECONOMIC TRENDS AND IMPLICATIONS?

Youth labor force participation rates have changed substantially over the past 20 years and these changes are related to several other labor market issues. From changing educational requirements, to the “greying” of the workforce, to perceptions about teens’ and young adults’ willingness to work, a number of factors have conspired to dramatically change the face of youth employment not only in Massachusetts, but across the country.

Between 2000 and 2010, the Massachusetts labor force continued to age. A 2012 report by the Boston Federal Reserve found that the share of the labor force aged 55 and over increased from 14.4 percent in 2000 to 20.5 percent in 2010.<sup>15</sup> During the same period, the share of the labor force aged 16 to 24 remained virtually flat, increasing only slightly from 12.9 percent in 2000 to 13.2 percent in 2010. Over a similar time period, the employment rate for teens in Massachusetts has dropped from 54.3 percent in 1999 to 26.8 percent in 2012, while the employment rate for those 55 and older has increased from 33.3 percent in 1999 to 40.7 percent in 2012.<sup>16</sup>

On a national level, a study of youth employment levels by the Brookings Institute found that those age 55 and over were more likely to be working in 2011 than in 2000, while people under age 55 were less likely to be working in 2011 than in 2000 (with teens and young adults experience the biggest declines).<sup>17</sup> This inversion of employment levels for teens and those 55 years and older has occurred thanks to a number of coinciding factors. Many older employees delayed their retirement due to lost savings and lower investment returns resulting from the 2008 financial crisis and recession. At the same time, higher average earnings for older employees have increased the opportunity cost of retiring and leaving the labor force. And with their work experience and education levels, some older employees have found themselves to be more attractive and competitive job candidates. Furthermore, when the option is available, many employers prefer to hire older workers instead of young workers based on preconceptions about the experience and work ethic of teens.

As with older workers, immigrants, too, are often seen as a better hiring option than teens or young adults due to perceived availability and willingness to work. There is also some evidence that at least part of the decline in the teen employment rate is due to the fact that fewer unemployed teens are actively looking for work.<sup>18</sup>

Up until now in Massachusetts, the state’s aging population has not been a particular obstacle to employers or to growing the skilled workforce. As more and more Baby Boomers reach retirement age, however, Massachusetts will have difficulty replacing these older, highly educated workers. Because the cohort of residents aged 25 to 44 is numerically smaller than that of the Baby Boomers, there are not enough younger workers to replace the number of retiring and soon-to-retire Baby Boomers, even when accounting for the

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<sup>15</sup> Clifford, R. (2012, October). *Labor Market Trends in the Boston/Metro North Region* (Rep.). Retrieved May 10, 2016, from Federal Reserve Bank of Boston website: <http://www.bostonfed.org/economic/neppc/labor-market-trends-in-massachusetts-regions/boston-metro-north/boston-metro-north-full.pdf>

<sup>16</sup> Harrington, P., Snyder, N., Berrigan, A., & Knoll, L. (2013, April). *Signaling Success: Boosting Teen Employment Prospects* (Rep.). Retrieved May 10, 2016, from Commonwealth Corporation website: <http://commcorp.org/resources/detail.cfm?ID=988>

<sup>17</sup> Sum, A., Khatiwada, I., Trubskyy, M., Ross, M., McHugh, W., & Palma, S. (2014, March 14). *The Plummeting Labor Market Fortunes of Teens and Young Adults* (Rep.). Retrieved May 10, 2016, from Brookings Institution website: <http://www.brookings.edu/research/interactives/2014/labor-market-metro-areas-teens-young-adults>

<sup>18</sup> <http://www.bloomberg.com/news/articles/2015-08-07/why-american-teens-aren-t-working-summer-jobs-anymore>;  
<http://www.marketplace.org/2015/09/07/economy/employers-shying-away-hiring-teens-summer>

higher level of education in the younger population.<sup>19</sup> However, a 2012 report by Dennett and Modestino found that some demographic groups, especially women, are investing more heavily in their education, thus entering the workforce later in life.<sup>20</sup> As such, while low employment rates among teenagers and young adults may continue, some groups will enter the work force at a later age, with a more substantive educational background than younger workers.

In fact, the educational level of the Massachusetts labor force in general increased between 2000 and 2010. The share of the labor force with a bachelor's degree or higher increased from 37.1 percent in 2000 to 41.2 percent in 2010. At the same time, the share with less than a high school degree decreased from 11.5 percent down to 8.7 percent, which is indicative of the larger shift in educational requirements for the 21<sup>st</sup> century labor force.<sup>21</sup>

There are also racial and ethnic components to these trends as well. In Massachusetts in 2010, a study by Northeastern University's Center for Labor Market Studies found 36 percent of white, non-Hispanic teens were employed, while only 25 percent of Asian and Hispanic, and 23 percent of black teens were employed.<sup>22</sup> Family income also shows an inverse relationship to teen employment rates. In families with household income between \$100,000 and \$150,000, 39 percent of teens were employed, whereas in households with family incomes under \$20,000 only 20 percent of teens were employed. These discrepancies are only magnified when race and family income are considered in the population of high school students. In 2010, less than seven percent of low-income black and Hispanic high school students were employed as compared to 32 percent of upper middle income white students.

A review of recent studies and literature shows a clear linkage between periods of youth unemployment and sustained loss of lifetime earnings. A study by Mroz and Savage indicates that six months of unemployment at age 22 can result in eight percent lower wages at age 23, six percent lower wages at 26, and three to four percent lower wages at age 31.<sup>23</sup> Overall, a young person who has been unemployed for six months can expect to earn \$28,000 (2014 dollars) less over the next ten years than if they hadn't been unemployed.

In addition to periods of youth unemployment, educational attainment can seriously affect the lifetime earnings of American workers. As the share of the population with a bachelor's degree or higher continues to increase, the annual earnings of high school dropouts decreases. In 2014 the median annual income of male high school dropouts aged 25 and older was \$21,701. In 1991, that number was \$24,989 and in 1971 was \$39,473 (2014 dollars).<sup>24</sup>

The Brookings Institute study reached two major conclusions about youth employment nationally. The first is that variables such as "age, gender, race/ethnicity, education, family income, and local employment rates all have statistically significant effects on the probability of youth employment. Female teens were more likely to be employed than males, and younger teens, especially those aged 16 and 17, were less likely to be employed

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<sup>19</sup> Melnik, M., Koshgarian, L., Hodge, D., Wong, H., & Wallace, R. (2014, September). *At the Apex: The 2030 Educational Attainment Forecast and Implications for Bay State Policymakers* (Rep.). Retrieved May 10, 2016, from UMass Donahue Institute website:

<http://www.donahue.umassp.edu/our-publications/at-the-apex-the-2030-educational-attainment-forecast-and-implications-for-b>

<sup>20</sup> Dennett, J., Modestino, A. (December 2013). "Uncertain Futures? Youth Attachment to the Labor Market in the United States and New England". Retrieved July 14, 2016 from Federal Reserve Bank of Boston website:

<http://www.bostonfed.org/economic/neppc/researchreports/2013/neppcrr1303.pdf>

<sup>21</sup> Clifford, R. (2012, October). *Labor Market Trends in the Boston/Metro North Region*.

<sup>22</sup> Sum, A., Gillis, D., & Palma, S. (2012, March 26). *The Continued Crisis in Teen Employment in the U.S. and Massachusetts: The Absence of Any Teen Job Growth in the Recovery from the Great Recession, Low Income and Minority Youth Fare Worst* (Rep.). Retrieved May 10, 2016, from Center for Labor Market Studies Northeastern University website: <http://www.northeastern.edu/clms/wp-content/uploads/March-26-2012-Teen-Employment-Report1.pdf>

<sup>23</sup> Mroz, T. A., & Savage, T. H. (2006). The Long-Term Effects of Youth Unemployment. *Journal of Human Resources*, 41(2), 259-293.

Retrieved May 9, 2016, from [https://www.researchgate.net/publication/227637196\\_The\\_Long-Term\\_Effects\\_of\\_Youth\\_Unemployment](https://www.researchgate.net/publication/227637196_The_Long-Term_Effects_of_Youth_Unemployment)

<sup>24</sup> U.S. Census Bureau. (2014). Historical Income Tables P-16 and P-17. Retrieved May 10, 2016, from

<https://www.census.gov/hhes/www/income/data/historical/people/>

than 19 year-olds. Blacks, Hispanics, and Asians were less likely to be employed than whites. High school students and those with at least one year of post-secondary experience or a two- or four-year degree were more likely to be employed than high school graduates not enrolled in school. Higher household incomes and higher local teen employment rates were both associated with increased employment.”<sup>25</sup>

Secondly, in line with previous work, the Brookings study found strong statistical links between current employment and recent employment history in teens, reaching the conclusion that “the more weeks worked in the previous year, the greater the probability of employment in the next year.” Those youth with more than one week of employment in the previous year had between a 33 and 86 percentage point higher chance of being currently employed. Extrapolating this finding, it suggests that the recent, high levels of consistent youth unemployment are likely to continue to suppress youth employment levels into the future.

Further data from the Massachusetts Department of Elementary and Secondary Education point to the skills mismatch facing entrants to the labor market across the U.S., but also in Massachusetts.<sup>26</sup> In 2012, there were 120,000 vacant job openings in the Commonwealth, while at the same time there were 240,000 unemployed job seekers, indicating that some firms were having trouble finding experienced and skilled workers for specific occupations. Given the existence of this mismatch between the jobs for which firms are hiring and the skill sets of the people looking for jobs, participation in some formal career development program along with early exposure to the workplace can ameliorate the skills mismatch.

## CURRENT POLICY SOLUTIONS

Youth employment and school-to-career and other similar programs also provide benefits beyond just the economic benefits mentioned above. These opportunities offer youth the chance to develop skills critical to meeting employer requirements, such as communication and interpersonal skills. It can also provide professional contacts for references and job leads that can assist in future job searches.

Likewise, youth that are not employed or enrolled in high school face the most severe consequences in the labor market. Without the benefits of employment or schooling, these “disconnected youth” or “opportunity youth” face a higher risk of consistent unemployment, poverty, criminal activity and incarceration, and substance abuse.<sup>27</sup> For youth from low and middle income families, employment in high school has been shown to reduce the dropout rate, particularly among males, and generally helps young people understand and transition into the labor market.<sup>28</sup>

School-to-career (STC) programs are one strategy that has shown to be effective in helping youth transition into post-high school employment. As identified in a working paper by the National Bureau of Economic Research, school-to-career programs have been shown to provide an approximately 11 percent increase in employment levels post-high school. Specifically, coop and apprenticeship programs increase post-high school employment chances while school enterprise and job shadowing programs are shown to increase the likelihood of college attendance.

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<sup>25</sup> Sum, A., Khatiwada, I., Trubskyy, M., Ross, M., McHugh, W., & Palma, S. (2014, March 14). *The Plummeting Labor Market Fortunes of Teens and Young Adults* (Rep.). Retrieved May 10, 2016, from Brookings Institution website:

<http://www.brookings.edu/research/interactives/2014/labor-market-metro-areas-teens-young-adults>

<sup>26</sup> *From Cradle to Career: Educating our Students for Lifelong Success* (Rep.). (2012, June). Retrieved May 10, 2016, from Massachusetts Department of Elementary and Secondary Education website: <http://www.doe.mass.edu/ccr/ccrta/2012-06BESEReport.pdf>

<sup>27</sup> Sum, A., Khatiwada, I., Trubskyy, M., Ross, M., McHugh, W., & Palma, S. *The Plummeting Labor Market Fortunes of Teens and Young Adults*.

<sup>28</sup> Sum, A., Gillis, D., & Palma, S. *The Continued Crisis in Teen Employment in the U.S. and Massachusetts*.

Locally, there are a number of programs designed to help young adults enter and stay engaged in the Massachusetts labor force.<sup>29</sup> Building on the research connecting youth employment with higher employment levels later in life, the Commonwealth Corporation created the YouthWorks program to place youth ages 14 to 21 in summer employment and provide them with job-readiness training and coaching through the job search process. In 2015, almost 4,500 YouthWorks-placed youth completed summer jobs in 31 cities across the Commonwealth.<sup>30</sup>

To similar ends, the Commonwealth Corporation developed Signal Success, “a comprehensive curriculum designed and tested by education and workforce development partners to help young people develop essential skills for future success. Students receive systematic instruction in core soft skills while engaging in meaningful future planning.”<sup>31</sup> Designed to be used by schools and community organizations to help youth be successful members of the labor force, over 18,500 young people have participated in the program since its founding in 2012.

In Boston, Mayor Walsh invests over \$4 million dollars from the city’s budget to support summer employment opportunities for youth. In addition, while not restricted to only young adults, the Mayor’s Office of Workforce Development has partnered with the local construction and hospitality and other sponsors to use Federal funds to create the Greater Boston American Apprenticeship Initiative, which aims to give low-income applicants without a college degree a pathway to well-paying jobs in these two industries.<sup>32</sup>

Connecting Activities is a State Department of Elementary and Secondary Education initiative “designed to build connections between employers and schools so they can provide work experience and other career development opportunities to the youth of Massachusetts.”<sup>33</sup> The program, like others, combines work-based learning opportunities with training and education to prepare students for successfully participating in the work force. In Fiscal Year 2015, Connecting Activities placed almost 10,500 students in internships, and 7,677 students participated in work-readiness, career exploration, and internship training workshops.

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<sup>29</sup> Neumark, D., & Rothstein, D. (2003, November). *School-To-Career Programs And Transitions To Employment And Higher Education* (Working paper). Retrieved May 10, 2016, from National Bureau Of Economic Research website: <http://www.nber.org/papers/w10060>

<sup>30</sup> <http://commcorp.org/initiatives/program.cfm?ID=25>

<sup>31</sup> <http://signalsuccess.org/>

<sup>32</sup> Montlake, S. (2016). *Good jobs without a degree? Boston's \$3 million test*. Retrieved May 05, 2016, from <http://www.csmonitor.com/USA/Society/2016/0411/Good-jobs-without-a-degree-Boston-s-3-million-test>

<sup>33</sup> <http://www.massconnecting.org/>

## Conclusion

The current research examined young adult historic young adult labor market trends in the U.S. and Massachusetts and examined disparities in labor market connectivity in the Commonwealth by selected key demographic characteristics and region. In general, the research found that:

Key findings include:

- Young adult employment has been declining over the last 25 years in Massachusetts, much like the rest of the U.S.
- This trend has been particularly noteworthy since 2000 and especially since the Great Recession.
- While young adult employment has increased since the end of the Great Recession, employment rates are still below pre-recession levels and are far below rates observed during the 1980s and 1990s.
- In recent years, young adult employment rates have declined, while the employment rates for older workers (55 years and older) have increased, suggesting that younger workers are competing with older workers for opportunities in the labor market today.
- Employment rates tend to be lower for non-white racial and ethnic groups, young men, the foreign-born, as well as for individuals with limited educational attainment and those from lower income households.
- The regional labor market for young adults appears to be strongest in the Northeast and the Greater Boston regions.<sup>34</sup>
- Young adults in Western and Central regions of Massachusetts (regions that include the Gateway Cities of Pittsfield, Springfield, Holyoke, Chicopee, Fitchburg, and Worcester) face tougher labor market conditions, with either low employment rates, high disconnected rates (a measure of those neither working nor enrolled in school), or both.
- Young adults are concentrated in lower wage occupational fields such as food preparation and serving related occupations, office and administrative support, and sales and related occupations. This trend has increased since 2000 with reduced opportunities for young adults in traditionally blue-collar fields and high-skill knowledge industries.

Other notable statewide and regional observations:

### STATEWIDE OBSERVATIONS

- At 56.6 percent, white young adults 16 to 24 years old have a higher employment rate than other major racial groups (48.6 percent for black/African-Americans, 35.6 percent for Asians, and 49.3 percent for Hispanics).
- 16 to 24 year-olds Black/African-Americans (13.8 percent) and Hispanics (15.5 percent) have higher disconnected rates than their white (6.5 percent) and Asian (7.3 percent) peers.
- Young men, particularly teenagers, are less likely to be employed and more likely to be “disconnected” than young women. Male teenagers have an employment rate of 31.4 percent compared to 39.2

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<sup>34</sup> The employment rates for young adults in the city are actually among the lowest in the state. However, the employment rates for the Greater Boston region outside of the city are among the highest in Massachusetts. The disconnected rates in both the city and the Greater Boston region outside of the city are among the lowest in the state.

percent for female teenagers. Male teenagers have a disconnected rate of 6 percent compared to 2.9 percent for female teenagers.

- Foreign born young adults 20 to 24 years old are less likely to be employed than their native born counterparts (52.1 percent compared to 69.2 percent) and more likely to be “disconnected” (14.9 percent compared to 11.3 percent) than the native born.
- Employment rates for young adults are closely associated with educational attainment. Not until a young person has attained at least “some college” education do employment rates approach statewide averages. Employment rates are also extremely low for 20 to 24 year-old high school dropouts (51.3 percent), and low for high school graduates for both teenagers (16 to 19 year-olds) and young adults (20 to 24 year-olds) at 53.2 percent and 68.7 percent, respectively.
- Young adult employment is closely influenced by household income. Young adults living in poverty are far less likely to be employed than those coming from more affluent households.

## REGIONAL OBSERVATIONS

- The highest employment rates for young adults are found in the Southeast and Cape and in the Northeast, with 54.1 percent and 53.7 percent, respectively
- The highest disconnected rates in the state are in the Western, Central, and Southeast and Cape regions.
- The lowest disconnected rates are in the Greater Boston region and in the City of Boston. While this is not surprising as a large number of young adults come to Boston and its surrounding communities to attend college, the disconnected rate is significantly higher for black/African-American and Hispanic youth in Greater Boston and the City of Boston than for white youth.
- Labor market conditions for young adults are most concerning in the Western and Central regions. Western Massachusetts is home to both low employment rates and high disconnected rates, particularly among black/African-American and Hispanic residents.
- The Southeast and Cape region has both high employment and high disconnected rates for young adults. The region has the highest disconnected rates for young adults 20 to 24 years old in the state (16.2 percent). The Southeast and Cape region has the highest disconnected rates for whites (13.8 percent) and black/African Americans (24.3 percent) 20 to 24 year-olds in the state. The disconnected rate for Hispanics 20 to 24 years old is also high at 27.8 percent (second highest in the state for the Hispanic group, only behind Western Massachusetts at 35.8 percent).
- The employment rate for young adults 20 to 24 years old is the same in both Boston and Western Massachusetts (58.8 percent compared to 64.3 percent statewide). However, Boston has the lowest disconnected rate for this population in the state (10.1 percent). The state average for this age group is 12.9 percent.
- In Massachusetts, Boston has the highest employment rate for teenaged high school dropouts (47.1 percent for the region compared to 27.6 percent statewide). However, employment rates are lower in Boston than in the other regions of the state for all other levels of educational attainment for teenagers.
- Young adults with only a high school education have a more difficult time finding employment in Western Massachusetts than their peers across the state. Teenagers in the Western region with only a high school education have an employment rate of 45.2 percent compared to 57.7 percent statewide.

Young adults in their early 20s with only a high school education have an employment rate of 60.5 percent compared to 65.9 percent statewide.

- At 35.8 percent, the disconnected rate in Western Massachusetts is particularly high for Hispanics 20 to 24 years old, the highest for any racial/ethnic group in this analysis.

As noted earlier in the report, while some of the declines in young adult labor market participation are related to increased emphasis on higher education, there remain a number of concerning trends in young adult labor employment. In particular, young adults do appear to be competing with older workers for job opportunities in the state. There appears to be weak labor market connectivity in Massachusetts for non-white racial and ethnic groups, males, foreign born residents, as well as those with limited educational attainment and those from less affluent households. Beyond that, the data show more difficult labor market conditions in particular regions of the state, most notably the Western and Central parts of Massachusetts. These areas feature several Gateway Cities, such as Springfield, Holyoke, and Worcester that have lagged behind state averages in economic performance for years. Conversely, labor market conditions for young adults appear more favorable in Greater Boston and the Northeast region.

These issues should be of great concern to public policy makers and job training professional for two key reasons:

- The social, demographic, and regional disparities associated with young adult employment; and
- With the impending retirement of the baby boomer generation, young adults represent a potential source of untapped labor supply for the state.

In particular, young adults from either historical disadvantaged social groups or regions appear to be less likely to experience the benefits associated with early labor force participation (i.e. skill development, networking, etc.). In addition, with the impending retirement of the baby boomer generation over the next 20 years, the Commonwealth (as well as other states) will need to find suitable replacement labor. The relatively low employment rates and, in some cases, high disconnected rates for young adults in the Commonwealth signal an important opportunity for identifying and growing young talent for the state's labor force who can help fill critical labor gaps in the future. This is both a quality of life issue for young adults in the state, as well as an issue of maintaining the economic strength of the Commonwealth in the coming years.

## Appendix A: City of Boston

City of Boston	State	Boston	State	Boston	State	Boston
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate</b>						
<b>Total</b>	<b>50.6%</b>	<b>48.4%</b>	<b>33.3%</b>	<b>29.3%</b>	<b>64.3%</b>	<b>58.8%</b>
<i>Race and Ethnicity</i>						
White	53.5%	53.0%	35.5%	32.2%	68.0%	62.6%
Black/African-American	44.1%	43.4%	25.4%	22.3%	58.2%	57.4%
Asian	39.7%	38.2%	24.4%	25.6%	49.7%	45.3%
Hispanic	45.9%	46.8%	30.4%	31.4%	58.0%	57.0%
Other	47.6%	50.4%	34.3%	34.1%	60.3%	62.4%
<i>Sex</i>						
Male	47.8%	47.3%	29.8%	23.4%	62.2%	60.0%
Female	53.3%	49.3%	36.8%	34.4%	66.3%	57.8%
<i>Nativity</i>						
Native born	51.1%	49.5%	33.9%	30.5%	65.4%	60.2%
Foreign born	46.4%	43.0%	27.3%	23.5%	56.8%	52.8%
<b>Not in Labor Force</b>						
<b>Percent Enrolled in School</b>	<b>87.1%</b>	<b>90.4%</b>	<b>94.8%</b>	<b>96.7%</b>	<b>73.8%</b>	<b>84.2%</b>
<i>Race and Ethnicity</i>						
White	90.2%	94.7%	96.2%	98.4%	78.8%	91.6%
Black/African-American	80.6%	83.8%	91.8%	94.2%	61.7%	68.3%
Asian	93.3%	96.3%	96.6%	98.9%	89.7%	94.1%
Hispanic	73.2%	81.3%	88.6%	94.0%	49.3%	65.5%
Other	84.4%	83.7%	94.7%	94.8%	66.2%	68.1%
<i>Sex</i>						
Male	86.3%	89.9%	94.0%	95.9%	72.6%	83.2%
Female	87.9%	90.9%	95.6%	97.3%	75.0%	84.9%
<i>Nativity</i>						
Native born	87.5%	90.4%	95.0%	96.8%	73.7%	83.7%
Foreign born	83.8%	90.7%	93.2%	95.8%	74.0%	86.0%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group



City of Boston	State	Boston	State	Boston	State	Boston
	16 to 24		16 to 19		20 to 24	
<b>Percent in Public School</b>	<b>60.1%</b>	<b>30.1%</b>	<b>70.1%</b>	<b>40.3%</b>	<b>37.8%</b>	<b>18.4%</b>
<i>Race and Ethnicity</i>						
White	58.4%	12.0%	67.9%	16.1%	36.6%	8.3%
Black/African-American	74.2%	73.3%	80.5%	79.6%	58.6%	60.6%
Asian	44.7%	23.1%	60.1%	31.8%	27.2%	15.7%
Hispanic	72.3%	50.9%	81.5%	62.5%	46.8%	30.3%
Other	61.2%	33.7%	70.9%	42.4%	36.7%	16.7%
<i>Sex</i>						
Male	62.9%	33.3%	71.9%	45.2%	42.2%	18.2%
Female	57.1%	27.3%	68.2%	35.5%	33.5%	18.4%
<i>Nativity</i>						
Native born	61.0%	29.6%	70.1%	39.0%	39.4%	18.2%
Foreign born	53.1%	32.3%	70.5%	45.6%	30.3%	18.9%
<b>Percent in Private School</b>	<b>39.9%</b>	<b>69.9%</b>	<b>29.9%</b>	<b>59.7%</b>	<b>62.2%</b>	<b>81.6%</b>
<i>Race and Ethnicity</i>						
White	41.6%	88.0%	32.1%	83.9%	63.4%	91.7%
Black/African-American	25.8%	26.7%	19.5%	20.4%	41.4%	39.4%
Asian	55.3%	76.9%	39.9%	68.2%	72.8%	84.3%
Hispanic	27.7%	49.1%	18.5%	37.5%	53.2%	69.7%
Other	38.8%	66.3%	29.1%	57.6%	63.3%	83.3%
<i>Sex</i>						
Male	37.1%	66.7%	28.1%	54.8%	57.8%	81.8%
Female	42.9%	72.7%	31.8%	64.5%	66.5%	81.6%
<i>Nativity</i>						
Native born	39.0%	70.4%	29.9%	61.0%	60.6%	81.8%
Foreign born	46.9%	67.7%	29.5%	54.4%	69.7%	81.1%
<b>Disconnected Rate</b>	<b>9.4%</b>	<b>7.8%</b>	<b>5.1%</b>	<b>3.6%</b>	<b>12.9%</b>	<b>10.1%</b>
<i>Race and Ethnicity</i>						
White	7.3%	3.3%	3.9%	1.4%	10.1%	4.2%
Black/African-American	13.8%	13.4%	7.3%	5.7%	18.7%	18.5%
Asian	5.9%	3.8%	3.2%	1.0%	7.7%	5.4%
Hispanic	18.3%	15.7%	10.0%	7.2%	24.6%	21.3%
Other	12.6%	10.5%	7.0%	4.8%	18.0%	14.7%
<i>Sex</i>						
Male	11.1%	9.2%	6.2%	4.8%	14.9%	11.5%
Female	7.8%	6.6%	3.9%	2.6%	11.0%	8.8%
<i>Nativity</i>						
Native born	9.2%	7.2%	4.9%	3.1%	12.7%	9.5%
Foreign born	11.7%	10.3%	6.2%	5.8%	14.7%	12.6%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

City of Boston	State	Boston	State	Boston	State	Boston
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate by Educational Attainment and School Enrollment (16 to 19 year-olds)</b>						
High school dropout	-	-	27.6%	47.1%	-	-
High school student	-	-	27.1%	19.0%	-	-
High school graduate, not enrolled	-	-	57.7%	44.5%	-	-
Some college, not enrolled	-	-	65.7%	38.5%	-	-
College student	-	-	34.2%	33.5%	-	-
<b>Employment Rate by Educational Attainment (20 to 24 year-olds)</b>						
Less than high school	-	-	-	-	47.6%	48.6%
High school	-	-	-	-	65.9%	56.7%
Some college, no degree	-	-	-	-	74.5%	70.5%
Associate's degree	-	-	-	-	84.9%	76.6%
Bachelor's degree or higher	-	-	-	-	89.9%	90.8%
<b>Income to Poverty Ratio</b>						
50 or below	28.8%	27.6%	19.6%	15.9%	32.6%	30.4%
51 to 100	45.5%	53.5%	25.6%	33.8%	58.5%	62.4%
101 to 200	54.9%	58.4%	31.3%	28.0%	70.4%	70.5%
201 to 300	56.8%	63.4%	34.3%	31.7%	73.5%	77.8%
301 to 400	59.6%	68.1%	38.7%	27.3%	76.1%	79.2%
401 and above	57.7%	65.4%	38.0%	30.7%	75.8%	78.6%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

## Appendix B: Greater Boston

Greater Boston (excluding City of Boston)	State	Greater Boston	State	Greater Boston	State	Greater Boston
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate</b>						
<b>Total</b>	<b>50.6%</b>	<b>50.6%</b>	<b>33.3%</b>	<b>31.3%</b>	<b>64.3%</b>	<b>65.8%</b>
<i>Race and Ethnicity</i>						
White	53.5%	52.0%	35.5%	32.3%	68.0%	68.5%
Black/African-American	44.1%	53.1%	25.4%	32.2%	58.2%	67.7%
Asian	39.7%	39.8%	24.4%	21.2%	49.7%	51.4%
Hispanic	45.9%	51.5%	30.4%	32.8%	58.0%	64.4%
Other	47.6%	46.5%	34.3%	30.4%	60.3%	61.2%
<i>Sex</i>						
Male	47.8%	47.9%	29.8%	28.6%	62.2%	63.4%
Female	53.3%	53.3%	36.8%	34.1%	66.3%	68.0%
<i>Nativity</i>						
Native born	51.1%	51.4%	33.9%	31.9%	65.4%	67.9%
Foreign born	46.4%	46.1%	27.3%	26.9%	56.8%	56.2%
<b>Not in Labor Force</b>						
<b>Percent Enrolled in School</b>	<b>87.1%</b>	<b>90.7%</b>	<b>94.8%</b>	<b>96.5%</b>	<b>73.8%</b>	<b>79.9%</b>
<i>Race and Ethnicity</i>						
White	90.2%	92.6%	96.2%	97.0%	78.8%	83.2%
Black/African-American	80.6%	84.7%	91.8%	94.9%	61.7%	65.2%
Asian	93.3%	92.9%	96.6%	97.1%	89.7%	88.5%
Hispanic	73.2%	80.6%	88.6%	94.0%	49.3%	58.3%
Other	84.4%	89.7%	94.7%	95.3%	66.2%	79.9%
<i>Sex</i>						
Male	86.3%	90.6%	94.0%	95.5%	72.6%	81.1%
Female	87.9%	90.7%	95.6%	97.4%	75.0%	78.7%
<i>Nativity</i>						
Native born	87.5%	91.9%	95.0%	96.7%	73.7%	81.8%
Foreign born	83.8%	84.3%	93.2%	94.7%	74.0%	74.3%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Greater Boston (excluding City of Boston)	State	Greater Boston	State	Greater Boston	State	Greater Boston
	16 to 24		16 to 19		20 to 24	
<b>Percent in Public School</b>	<b>60.1%</b>	<b>52.0%</b>	<b>70.1%</b>	<b>65.5%</b>	<b>37.8%</b>	<b>21.8%</b>
<i>Race and Ethnicity</i>						
White	58.4%	51.5%	67.9%	63.9%	36.6%	21.0%
Black/African-American	74.2%	67.7%	80.5%	77.7%	58.6%	39.6%
Asian	44.7%	39.9%	60.1%	60.7%	27.2%	15.6%
Hispanic	72.3%	62.3%	81.5%	74.6%	46.8%	29.3%
Other	61.2%	52.0%	70.9%	63.7%	36.7%	27.8%
<i>Sex</i>						
Male	62.9%	53.6%	71.9%	66.6%	42.2%	24.5%
Female	57.1%	50.3%	68.2%	64.4%	33.5%	19.0%
<i>Nativity</i>						
Native born	61.0%	52.4%	70.1%	64.3%	39.4%	22.6%
Foreign born	53.1%	49.7%	70.5%	74.5%	30.3%	19.1%
<b>Percent in Private School</b>	<b>39.9%</b>	<b>48.0%</b>	<b>29.9%</b>	<b>34.5%</b>	<b>62.2%</b>	<b>78.2%</b>
<i>Race and Ethnicity</i>						
White	41.6%	48.5%	32.1%	36.1%	63.4%	79.0%
Black/African-American	25.8%	32.3%	19.5%	22.3%	41.4%	60.4%
Asian	55.3%	60.1%	39.9%	39.3%	72.8%	84.4%
Hispanic	27.7%	37.7%	18.5%	25.4%	53.2%	70.7%
Other	38.8%	48.0%	29.1%	36.3%	63.3%	72.2%
<i>Sex</i>						
Male	37.1%	46.4%	28.1%	33.4%	57.8%	75.5%
Female	42.9%	49.7%	31.8%	35.6%	66.5%	81.0%
<i>Nativity</i>						
Native born	39.0%	47.6%	29.9%	35.7%	60.6%	77.4%
Foreign born	46.9%	50.3%	29.5%	25.5%	69.7%	80.9%
<b>Disconnected Rate</b>	<b>9.4%</b>	<b>7.3%</b>	<b>5.1%</b>	<b>3.5%</b>	<b>12.9%</b>	<b>10.2%</b>
<i>Race and Ethnicity</i>						
White	7.3%	6.2%	3.9%	3.0%	10.1%	8.8%
Black/African-American	13.8%	9.2%	7.3%	5.3%	18.7%	11.9%
Asian	5.9%	5.6%	3.2%	2.8%	7.7%	7.3%
Hispanic	18.3%	12.8%	10.0%	5.2%	24.6%	17.9%
Other	12.6%	8.6%	7.0%	5.2%	18.0%	11.7%
<i>Sex</i>						
Male	11.1%	8.4%	6.2%	4.7%	14.9%	11.4%
Female	7.8%	6.1%	3.9%	2.3%	11.0%	9.0%
<i>Nativity</i>						
Native born	9.2%	6.7%	4.9%	3.4%	12.7%	9.4%
Foreign born	11.7%	10.4%	6.2%	4.5%	14.7%	13.5%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Greater Boston (excluding City of Boston)	State	Greater Boston	State	Greater Boston	State	Greater Boston
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate by Educational Attainment and School Enrollment (16 to 19 year-olds)</b>						
High school dropout	-	-	27.6%	33.0%	-	-
High school student	-	-	27.1%	25.7%	-	-
High school graduate, not enrolled	-	-	57.7%	60.4%	-	-
Some college, not enrolled	-	-	65.7%	49.2%	-	-
College student	-	-	34.2%	37.3%	-	-
<b>Employment Rate by Educational Attainment (20 to 24 year-olds)</b>						
Less than high school	-	-	-	-	47.6%	57.1%
High school	-	-	-	-	65.9%	69.6%
Some college, no degree	-	-	-	-	74.5%	76.3%
Associate's degree	-	-	-	-	84.9%	86.6%
Bachelor's degree or higher	-	-	-	-	89.9%	89.7%
<b>Income to Poverty Ratio</b>						
50 or below	28.8%	31.3%	19.6%	23.7%	32.6%	33.6%
51 to 100	45.5%	48.2%	25.6%	29.0%	58.5%	59.5%
101 to 200	54.9%	55.9%	31.3%	28.5%	70.4%	72.0%
201 to 300	56.8%	59.1%	34.3%	32.2%	73.5%	76.2%
301 to 400	59.6%	57.6%	38.7%	33.4%	76.1%	78.2%
401 and above	57.7%	53.2%	38.0%	32.6%	75.8%	74.2%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

## Appendix C: Northeast

Northeast	State	Northeast	State	Northeast	State	Northeast
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate</b>						
<b>Total</b>	<b>50.6%</b>	<b>53.7%</b>	<b>33.3%</b>	<b>37.9%</b>	<b>64.3%</b>	<b>68.0%</b>
<i>Race and Ethnicity</i>						
White	53.5%	56.6%	35.5%	40.1%	68.0%	71.7%
Black/African-American	44.1%	38.7%	25.4%	28.0%	58.2%	49.2%
Asian	39.7%	47.1%	24.4%	26.6%	49.7%	63.1%
Hispanic	45.9%	46.9%	30.4%	32.1%	58.0%	59.2%
Other	47.6%	51.0%	34.3%	45.2%	60.3%	59.6%
<i>Sex</i>						
Male	47.8%	50.5%	29.8%	35.3%	62.2%	64.5%
Female	53.3%	57.1%	36.8%	40.7%	66.3%	71.7%
<i>Nativity</i>						
Native born	51.1%	54.0%	33.9%	38.6%	65.4%	68.7%
Foreign born	46.4%	51.1%	27.3%	28.2%	56.8%	63.1%
<b>Not in Labor Force</b>						
<b>Percent Enrolled in School</b>	<b>87.1%</b>	<b>86.3%</b>	<b>94.8%</b>	<b>94.7%</b>	<b>73.8%</b>	<b>68.5%</b>
<i>Race and Ethnicity</i>						
White	90.2%	90.1%	96.2%	95.6%	78.8%	76.9%
Black/African-American	80.6%	78.8%	91.8%	95.4%	61.7%	57.0%
Asian	93.3%	89.5%	96.6%	93.0%	89.7%	82.4%
Hispanic	73.2%	72.7%	88.6%	90.8%	49.3%	43.4%
Other	84.4%	93.4%	94.7%	99.8%	66.2%	76.5%
<i>Sex</i>						
Male	86.3%	86.2%	94.0%	94.5%	72.6%	68.9%
Female	87.9%	86.5%	95.6%	94.9%	75.0%	68.0%
<i>Nativity</i>						
Native born	87.5%	87.3%	95.0%	94.8%	73.7%	70.0%
Foreign born	83.8%	78.6%	93.2%	93.3%	74.0%	59.9%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Northeast	State	Northeast	State	Northeast	State	Northeast
	16 to 24		16 to 19		20 to 24	
<b>Percent in Public School</b>	<b>60.1%</b>	<b>73.3%</b>	<b>70.1%</b>	<b>79.1%</b>	<b>37.8%</b>	<b>56.2%</b>
<i>Race and Ethnicity</i>						
White	58.4%	68.7%	67.9%	75.3%	36.6%	49.2%
Black/African-American	74.2%	82.2%	80.5%	87.4%	58.6%	70.8%
Asian	44.7%	75.0%	60.1%	81.2%	27.2%	61.1%
Hispanic	72.3%	88.9%	81.5%	92.5%	46.8%	77.0%
Other	61.2%	79.5%	70.9%	77.1%	36.7%	87.5%
<i>Sex</i>						
Male	62.9%	74.5%	71.9%	79.4%	42.2%	60.6%
Female	57.1%	71.7%	68.2%	78.6%	33.5%	50.5%
<i>Nativity</i>						
Native born	61.0%	73.0%	70.1%	78.5%	39.4%	55.9%
Foreign born	53.1%	75.7%	70.5%	84.6%	30.3%	58.0%
<b>Percent in Private School</b>	<b>39.9%</b>	<b>26.7%</b>	<b>29.9%</b>	<b>20.9%</b>	<b>62.2%</b>	<b>43.8%</b>
<i>Race and Ethnicity</i>						
White	41.6%	31.3%	32.1%	24.7%	63.4%	50.8%
Black/African-American	25.8%	17.8%	19.5%	12.6%	41.4%	29.2%
Asian	55.3%	25.0%	39.9%	18.8%	72.8%	38.9%
Hispanic	27.7%	11.1%	18.5%	7.5%	53.2%	23.0%
Other	38.8%	20.5%	29.1%	22.9%	63.3%	12.5%
<i>Sex</i>						
Male	37.1%	25.5%	28.1%	20.6%	57.8%	39.4%
Female	42.9%	28.3%	31.8%	21.4%	66.5%	49.5%
<i>Nativity</i>						
Native born	39.0%	27.0%	29.9%	21.5%	60.6%	44.1%
Foreign born	46.9%	24.3%	29.5%	15.4%	69.7%	42.0%
<b>Disconnected Rate</b>	<b>9.4%</b>	<b>9.3%</b>	<b>5.1%</b>	<b>4.8%</b>	<b>12.9%</b>	<b>13.4%</b>
<i>Race and Ethnicity</i>						
White	7.3%	6.9%	3.9%	3.8%	10.1%	9.7%
Black/African-American	13.8%	15.6%	7.3%	8.4%	18.7%	22.6%
Asian	5.9%	9.0%	3.2%	5.3%	7.7%	11.9%
Hispanic	18.3%	18.2%	10.0%	8.9%	24.6%	26.0%
Other	12.6%	8.1%	7.0%	1.9%	18.0%	17.2%
<i>Sex</i>						
Male	11.1%	10.7%	6.2%	5.6%	14.9%	15.5%
Female	7.8%	7.8%	3.9%	4.0%	11.0%	11.2%
<i>Nativity</i>						
Native born	9.2%	8.8%	4.9%	4.6%	12.7%	12.8%
Foreign born	11.7%	14.2%	6.2%	7.2%	14.7%	17.8%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Northeast	State	Northeast	State	Northeast	State	Northeast
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate by Educational Attainment and School Enrollment (16 to 19 year-olds)</b>						
High school dropout	-	-	27.6%	23.5%	-	-
High school student	-	-	27.1%	30.7%	-	-
High school graduate, not enrolled	-	-	57.7%	69.8%	-	-
Some college, not enrolled	-	-	65.7%	78.3%	-	-
College student	-	-	34.2%	46.8%	-	-
<b>Employment Rate by Educational Attainment (20 to 24 year-olds)</b>						
Less than high school	-	-	-	-	47.6%	47.8%
High school	-	-	-	-	65.9%	69.2%
Some college, no degree	-	-	-	-	74.5%	79.4%
Associate's degree	-	-	-	-	84.9%	88.8%
Bachelor's degree or higher	-	-	-	-	89.9%	89.6%
<b>Income to Poverty Ratio</b>						
50 or below	28.8%	28.4%	19.6%	19.4%	32.6%	35.1%
51 to 100	45.5%	47.5%	25.6%	28.5%	58.5%	63.8%
101 to 200	54.9%	54.1%	31.3%	38.5%	70.4%	65.8%
201 to 300	56.8%	58.3%	34.3%	41.8%	73.5%	73.7%
301 to 400	59.6%	62.1%	38.7%	44.5%	76.1%	78.3%
401 and above	57.7%	56.5%	38.0%	38.9%	75.8%	73.4%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group



## Appendix D: Southeast and Cape

Southeast and Cape	State	SE and Cape	State	SE and Cape	State	SE and Cape
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate</b>						
<b>Total</b>	<b>50.6%</b>	<b>54.1%</b>	<b>33.3%</b>	<b>37.6%</b>	<b>64.3%</b>	<b>68.8%</b>
<i>Race and Ethnicity</i>						
White	53.5%	56.9%	35.5%	39.9%	68.0%	72.0%
Black/African-American	44.1%	41.3%	25.4%	24.7%	58.2%	57.5%
Asian	39.7%	32.9%	24.4%	16.9%	49.7%	48.8%
Hispanic	45.9%	43.7%	30.4%	29.5%	58.0%	54.3%
Other	47.6%	49.8%	34.3%	38.7%	60.3%	60.7%
<i>Sex</i>						
Male	47.8%	50.9%	29.8%	33.9%	62.2%	66.1%
Female	53.3%	57.5%	36.8%	41.5%	66.3%	71.7%
<i>Nativity</i>						
Native born	51.1%	54.6%	33.9%	38.2%	65.4%	69.4%
Foreign born	46.4%	46.3%	27.3%	25.6%	56.8%	59.9%
<b>Not in Labor Force</b>						
<b>Percent Enrolled in School</b>	<b>87.1%</b>	<b>82.6%</b>	<b>94.8%</b>	<b>93.0%</b>	<b>73.8%</b>	<b>59.1%</b>
<i>Race and Ethnicity</i>						
White	90.2%	85.5%	96.2%	95.2%	78.8%	62.6%
Black/African-American	80.6%	73.9%	91.8%	85.9%	61.7%	46.4%
Asian	93.3%	85.3%	96.6%	94.6%	89.7%	69.4%
Hispanic	73.2%	68.9%	88.6%	82.3%	49.3%	48.9%
Other	84.4%	70.2%	94.7%	85.0%	66.2%	42.9%
<i>Sex</i>						
Male	86.3%	81.3%	94.0%	92.9%	72.6%	57.0%
Female	87.9%	84.1%	95.6%	93.3%	75.0%	61.9%
<i>Nativity</i>						
Native born	87.5%	83.6%	95.0%	93.6%	73.7%	60.5%
Foreign born	83.8%	67.3%	93.2%	83.5%	74.0%	45.1%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Southeast and Cape	State	SE and Cape	State	SE and Cape	State	SE and Cape
	16 to 24		16 to 19		20 to 24	
<b>Percent in Public School</b>	<b>60.1%</b>	<b>77.9%</b>	<b>70.1%</b>	<b>82.7%</b>	<b>37.8%</b>	<b>61.1%</b>
<i>Race and Ethnicity</i>						
White	58.4%	76.7%	67.9%	80.9%	36.6%	61.2%
Black/African-American	74.2%	88.8%	80.5%	90.1%	58.6%	83.3%
Asian	44.7%	70.7%	60.1%	85.4%	27.2%	36.7%
Hispanic	72.3%	81.8%	81.5%	89.8%	46.8%	62.0%
Other	61.2%	80.2%	70.9%	90.0%	36.7%	44.6%
<i>Sex</i>						
Male	62.9%	79.7%	71.9%	83.5%	42.2%	66.9%
Female	57.1%	75.8%	68.2%	81.8%	33.5%	53.8%
<i>Nativity</i>						
Native born	61.0%	78.0%	70.1%	82.4%	39.4%	62.1%
Foreign born	53.1%	77.1%	70.5%	88.8%	30.3%	47.6%
<b>Percent in Private School</b>	<b>39.9%</b>	<b>22.1%</b>	<b>29.9%</b>	<b>17.3%</b>	<b>62.2%</b>	<b>38.9%</b>
<i>Race and Ethnicity</i>						
White	41.6%	23.3%	32.1%	19.1%	63.4%	38.8%
Black/African-American	25.8%	11.2%	19.5%	9.9%	41.4%	16.7%
Asian	55.3%	29.3%	39.9%	14.6%	72.8%	63.3%
Hispanic	27.7%	18.2%	18.5%	10.2%	53.2%	38.0%
Other	38.8%	19.8%	29.1%	10.0%	63.3%	55.4%
<i>Sex</i>						
Male	37.1%	20.3%	28.1%	16.5%	57.8%	33.1%
Female	42.9%	24.2%	31.8%	18.2%	66.5%	46.2%
<i>Nativity</i>						
Native born	39.0%	22.0%	29.9%	17.6%	60.6%	37.9%
Foreign born	46.9%	22.9%	29.5%	11.2%	69.7%	52.4%
<b>Disconnected Rate</b>	<b>9.4%</b>	<b>11.6%</b>	<b>5.1%</b>	<b>6.5%</b>	<b>12.9%</b>	<b>16.2%</b>
<i>Race and Ethnicity</i>						
White	7.3%	9.6%	3.9%	5.0%	10.1%	13.8%
Black/African-American	13.8%	17.7%	7.3%	11.0%	18.7%	24.3%
Asian	5.9%	14.4%	3.2%	9.1%	7.7%	19.6%
Hispanic	18.3%	21.5%	10.0%	13.1%	24.6%	27.8%
Other	12.6%	21.5%	7.0%	15.5%	18.0%	27.4%
<i>Sex</i>						
Male	11.1%	12.9%	6.2%	6.9%	14.9%	18.2%
Female	7.8%	10.3%	3.9%	6.1%	11.0%	14.0%
<i>Nativity</i>						
Native born	9.2%	11.2%	4.9%	6.2%	12.7%	15.7%
Foreign born	11.7%	19.9%	6.2%	13.6%	14.7%	24.1%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Southeast and Cape	State	SE and Cape	State	SE and Cape	State	SE and Cape
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate by Educational Attainment and School Enrollment (16 to 19 year-olds)</b>						
High school dropout	-	-	27.6%	23.2%	-	-
High school student	-	-	27.1%	30.4%	-	-
High school graduate, not enrolled	-	-	57.7%	57.2%	-	-
Some college, not enrolled	-	-	65.7%	74.8%	-	-
College student	-	-	34.2%	50.1%	-	-
<b>Employment Rate by Educational Attainment (20 to 24 year-olds)</b>						
Less than high school	-	-	-	-	47.6%	47.1%
High school	-	-	-	-	65.9%	67.8%
Some college, no degree	-	-	-	-	74.5%	73.5%
Associate's degree	-	-	-	-	84.9%	83.7%
Bachelor's degree or higher	-	-	-	-	89.9%	90.8%
<b>Income to Poverty Ratio</b>						
50 or below	28.8%	32.5%	19.6%	28.1%	32.6%	36.3%
51 to 100	45.5%	41.2%	25.6%	27.3%	58.5%	52.1%
101 to 200	54.9%	53.3%	31.3%	31.9%	70.4%	72.4%
201 to 300	56.8%	53.1%	34.3%	33.1%	73.5%	70.3%
301 to 400	59.6%	59.4%	38.7%	43.9%	76.1%	74.3%
401 and above	57.7%	62.0%	38.0%	43.5%	75.8%	78.8%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

## Appendix E: Central

Central	State	Central	State	Central	State	Central
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate</b>						
<b>Total</b>	<b>50.6%</b>	<b>50.3%</b>	<b>33.3%</b>	<b>33.6%</b>	<b>64.3%</b>	<b>64.7%</b>
<i>Race and Ethnicity</i>						
White	53.5%	52.8%	35.5%	35.5%	68.0%	68.1%
Black/African-American	44.1%	42.1%	25.4%	22.8%	58.2%	58.7%
Asian	39.7%	39.9%	24.4%	32.4%	49.7%	45.4%
Hispanic	45.9%	44.5%	30.4%	29.4%	58.0%	57.2%
Other	47.6%	41.4%	34.3%	25.5%	60.3%	57.1%
<i>Sex</i>						
Male	47.8%	47.6%	29.8%	30.6%	62.2%	62.1%
Female	53.3%	53.0%	36.8%	36.7%	66.3%	67.6%
<i>Nativity</i>						
Native born	51.1%	50.5%	33.9%	34.4%	65.4%	64.9%
Foreign born	46.4%	47.7%	27.3%	23.5%	56.8%	63.3%
<b>Not in Labor Force</b>						
<b>Percent Enrolled in School</b>	<b>87.1%</b>	<b>84.2%</b>	<b>94.8%</b>	<b>93.8%</b>	<b>73.8%</b>	<b>65.0%</b>
<i>Race and Ethnicity</i>						
White	90.2%	86.6%	96.2%	94.3%	78.8%	69.2%
Black/African-American	80.6%	75.7%	91.8%	96.3%	61.7%	42.2%
Asian	93.3%	91.6%	96.6%	92.5%	89.7%	90.7%
Hispanic	73.2%	73.4%	88.6%	88.9%	49.3%	47.1%
Other	84.4%	87.4%	94.7%	99.5%	66.2%	62.2%
<i>Sex</i>						
Male	86.3%	81.7%	94.0%	92.5%	72.6%	60.3%
Female	87.9%	86.9%	95.6%	95.2%	75.0%	70.2%
<i>Nativity</i>						
Native born	87.5%	84.0%	95.0%	94.0%	73.7%	63.3%
Foreign born	83.8%	86.2%	93.2%	91.6%	74.0%	78.2%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Central	State	Central	State	Central	State	Central
	16 to 24		16 to 19		20 to 24	
<b>Percent in Public School</b>	<b>60.1%</b>	<b>69.0%</b>	<b>70.1%</b>	<b>75.8%</b>	<b>37.8%</b>	<b>49.2%</b>
<i>Race and Ethnicity</i>						
White	58.4%	67.5%	67.9%	72.9%	36.6%	50.8%
Black/African-American	74.2%	74.0%	80.5%	79.3%	58.6%	54.5%
Asian	44.7%	58.3%	60.1%	79.6%	27.2%	35.6%
Hispanic	72.3%	77.8%	81.5%	87.0%	46.8%	48.4%
Other	61.2%	77.2%	70.9%	83.0%	36.7%	58.0%
<i>Sex</i>						
Male	62.9%	69.1%	71.9%	74.8%	42.2%	51.7%
Female	57.1%	68.8%	68.2%	76.9%	33.5%	46.9%
<i>Nativity</i>						
Native born	61.0%	69.5%	70.1%	76.1%	39.4%	49.4%
Foreign born	53.1%	63.6%	70.5%	72.6%	30.3%	48.2%
<b>Percent in Private School</b>	<b>39.9%</b>	<b>31.0%</b>	<b>29.9%</b>	<b>24.2%</b>	<b>62.2%</b>	<b>50.8%</b>
<i>Race and Ethnicity</i>						
White	41.6%	32.5%	32.1%	27.1%	63.4%	49.2%
Black/African-American	25.8%	26.0%	19.5%	20.7%	41.4%	45.5%
Asian	55.3%	41.7%	39.9%	20.4%	72.8%	64.4%
Hispanic	27.7%	22.2%	18.5%	13.0%	53.2%	51.6%
Other	38.8%	22.8%	29.1%	17.0%	63.3%	42.0%
<i>Sex</i>						
Male	37.1%	30.9%	28.1%	25.2%	57.8%	48.3%
Female	42.9%	31.2%	31.8%	23.1%	66.5%	53.1%
<i>Nativity</i>						
Native born	39.0%	30.5%	29.9%	23.9%	60.6%	50.6%
Foreign born	46.9%	36.4%	29.5%	27.4%	69.7%	51.8%
<b>Disconnected Rate</b>	<b>9.4%</b>	<b>10.6%</b>	<b>5.1%</b>	<b>5.6%</b>	<b>12.9%</b>	<b>15.0%</b>
<i>Race and Ethnicity</i>						
White	7.3%	9.3%	3.9%	5.3%	10.1%	12.7%
Black/African-American	13.8%	13.8%	7.3%	3.1%	18.7%	23.0%
Asian	5.9%	8.3%	3.2%	5.5%	7.7%	10.4%
Hispanic	18.3%	17.9%	10.0%	9.5%	24.6%	25.0%
Other	12.6%	10.8%	7.0%	1.2%	18.0%	20.3%
<i>Sex</i>						
Male	11.1%	12.8%	6.2%	6.7%	14.9%	18.0%
Female	7.8%	8.4%	3.9%	4.5%	11.0%	11.8%
<i>Nativity</i>						
Native born	9.2%	10.8%	4.9%	5.6%	12.7%	15.4%
Foreign born	11.7%	9.3%	6.2%	6.2%	14.7%	11.2%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Central	State	Central	State	Central	State	Central
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate by Educational Attainment and School Enrollment (16 to 19 year-olds)</b>						
High school dropout	-	-	27.6%	20.3%	-	-
High school student	-	-	27.1%	26.9%	-	-
High school graduate, not enrolled	-	-	57.7%	59.2%	-	-
Some college, not enrolled	-	-	65.7%	70.8%	-	-
College student	-	-	34.2%	39.8%	-	-
<b>Employment Rate by Educational Attainment (20 to 24 year-olds)</b>						
Less than high school	-	-	-	-	47.6%	38.5%
High school	-	-	-	-	65.9%	65.3%
Some college, no degree	-	-	-	-	74.5%	75.9%
Associate's degree	-	-	-	-	84.9%	86.4%
Bachelor's degree or higher	-	-	-	-	89.9%	90.1%
<b>Income to Poverty Ratio</b>						
50 or below	28.8%	23.1%	19.6%	11.9%	32.6%	29.6%
51 to 100	45.5%	39.4%	25.6%	21.3%	58.5%	54.9%
101 to 200	54.9%	57.4%	31.3%	36.8%	70.4%	73.0%
201 to 300	56.8%	55.2%	34.3%	28.4%	73.5%	74.9%
301 to 400	59.6%	55.2%	38.7%	37.2%	76.1%	70.5%
401 and above	57.7%	59.6%	38.0%	42.3%	75.8%	76.6%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

## Appendix F: Western

Western	State	Western	State	Western	State	Western
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate</b>						
<b>Total</b>	<b>50.6%</b>	<b>45.9%</b>	<b>33.3%</b>	<b>30.1%</b>	<b>64.3%</b>	<b>58.8%</b>
<i>Race and Ethnicity</i>						
White	53.5%	49.6%	35.5%	32.1%	68.0%	63.6%
Black/African-American	44.1%	34.6%	25.4%	21.6%	58.2%	44.0%
Asian	39.7%	36.8%	24.4%	30.3%	49.7%	41.4%
Hispanic	45.9%	38.4%	30.4%	26.1%	58.0%	50.2%
Other	47.6%	43.3%	34.3%	29.8%	60.3%	56.2%
<i>Sex</i>						
Male	47.8%	41.7%	29.8%	25.0%	62.2%	55.5%
Female	53.3%	49.9%	36.8%	35.0%	66.3%	61.9%
<i>Nativity</i>						
Native born	51.1%	45.7%	33.9%	29.4%	65.4%	59.3%
Foreign born	46.4%	48.8%	27.3%	40.0%	56.8%	53.8%
<b>Not in Labor Force</b>						
<b>Percent Enrolled in School</b>	<b>87.1%</b>	<b>84.1%</b>	<b>94.8%</b>	<b>92.7%</b>	<b>73.8%</b>	<b>70.6%</b>
<i>Race and Ethnicity</i>						
White	90.2%	90.4%	96.2%	96.8%	78.8%	79.9%
Black/African-American	80.6%	79.2%	91.8%	85.6%	61.7%	69.9%
Asian	93.3%	97.1%	96.6%	98.4%	89.7%	95.9%
Hispanic	73.2%	59.7%	88.6%	78.6%	49.3%	29.4%
Other	84.4%	81.1%	94.7%	98.6%	66.2%	55.7%
<i>Sex</i>						
Male	86.3%	83.4%	94.0%	91.6%	72.6%	70.5%
Female	87.9%	84.7%	95.6%	93.9%	75.0%	70.6%
<i>Nativity</i>						
Native born	87.5%	84.3%	95.0%	92.8%	73.7%	70.4%
Foreign born	83.8%	81.8%	93.2%	92.1%	74.0%	72.0%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group

Western	State	Western	State	Western	State	Western
	16 to 24		16 to 19		20 to 24	
<b>Percent in Public School</b>	<b>60.1%</b>	<b>73.3%</b>	<b>70.1%</b>	<b>77.9%</b>	<b>37.8%</b>	<b>63.8%</b>
<i>Race and Ethnicity</i>						
White	58.4%	71.6%	67.9%	76.3%	36.6%	62.4%
Black/African-American	74.2%	68.9%	80.5%	73.2%	58.6%	61.2%
Asian	44.7%	70.2%	60.1%	64.0%	27.2%	75.8%
Hispanic	72.3%	86.9%	81.5%	90.3%	46.8%	72.3%
Other	61.2%	70.1%	70.9%	82.2%	36.7%	39.1%
<i>Sex</i>						
Male	62.9%	78.5%	71.9%	81.5%	42.2%	72.1%
Female	57.1%	68.1%	68.2%	74.3%	33.5%	55.5%
<i>Nativity</i>						
Native born	61.0%	73.2%	70.1%	77.9%	39.4%	63.2%
Foreign born	53.1%	74.5%	70.5%	78.9%	30.3%	68.9%
<b>Percent in Private School</b>	<b>39.9%</b>	<b>26.7%</b>	<b>29.9%</b>	<b>22.1%</b>	<b>62.2%</b>	<b>36.2%</b>
<i>Race and Ethnicity</i>						
White	41.6%	28.4%	32.1%	23.7%	63.4%	37.6%
Black/African-American	25.8%	31.1%	19.5%	26.8%	41.4%	38.8%
Asian	55.3%	29.8%	39.9%	36.0%	72.8%	24.2%
Hispanic	27.7%	13.1%	18.5%	9.7%	53.2%	27.7%
Other	38.8%	29.9%	29.1%	17.8%	63.3%	60.9%
<i>Sex</i>						
Male	37.1%	21.5%	28.1%	18.5%	57.8%	27.9%
Female	42.9%	31.9%	31.8%	25.7%	66.5%	44.5%
<i>Nativity</i>						
Native born	39.0%	26.8%	29.9%	22.1%	60.6%	36.8%
Foreign born	46.9%	25.5%	29.5%	21.1%	69.7%	31.1%
<b>Disconnected Rate</b>	<b>9.4%</b>	<b>11.8%</b>	<b>5.1%</b>	<b>7.1%</b>	<b>12.9%</b>	<b>15.7%</b>
<i>Race and Ethnicity</i>						
White	7.3%	7.8%	3.9%	4.0%	10.1%	10.8%
Black/African-American	13.8%	18.7%	7.3%	11.8%	18.7%	23.7%
Asian	5.9%	2.2%	3.2%	0.9%	7.7%	3.2%
Hispanic	18.3%	27.0%	10.0%	17.7%	24.6%	35.8%
Other	12.6%	14.3%	7.0%	7.0%	18.0%	21.2%
<i>Sex</i>						
Male	11.1%	14.6%	6.2%	9.7%	14.9%	18.7%
Female	7.8%	9.3%	3.9%	4.6%	11.0%	13.0%
<i>Nativity</i>						
Native born	9.2%	11.8%	4.9%	7.2%	12.7%	15.7%
Foreign born	11.7%	12.0%	6.2%	5.6%	14.7%	15.7%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group



Western	State	Western	State	Western	State	Western
	16 to 24		16 to 19		20 to 24	
<b>Employment Rate by Educational Attainment and School Enrollment (16 to 19 year-olds)</b>						
High school dropout	-	-	27.6%	25.6%	-	-
High school student	-	-	27.1%	24.7%	-	-
High school graduate, not enrolled	-	-	57.7%	45.2%	-	-
Some college, not enrolled	-	-	65.7%	56.9%	-	-
College student	-	-	34.2%	34.2%	-	-
<b>Employment Rate by Educational Attainment (20 to 24 year-olds)</b>						
Less than high school	-	-	-	-	47.6%	41.9%
High school	-	-	-	-	65.9%	60.5%
Some college, no degree	-	-	-	-	74.5%	70.2%
Associate's degree	-	-	-	-	84.9%	83.8%
Bachelor's degree or higher	-	-	-	-	89.9%	87.9%
<b>Income to Poverty Ratio</b>						
50 or below	28.8%	29.3%	19.6%	17.2%	32.6%	34.6%
51 to 100	45.5%	40.8%	25.6%	13.6%	58.5%	57.2%
101 to 200	54.9%	51.0%	31.3%	26.5%	70.4%	68.1%
201 to 300	56.8%	51.7%	34.3%	37.0%	73.5%	65.6%
301 to 400	59.6%	57.9%	38.7%	39.2%	76.1%	74.1%
401 and above	57.7%	59.7%	38.0%	40.8%	75.8%	75.7%

Source: 2010-2014 American Community Survey (ACS), Public Use Microdata Sample, UMass Donahue Institute, Economic Public Policy Research Group