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PY 2018 Kentucky Economic Analysis

Prepared for

U.S. Department of Labor
Employment and Training Administration

Prepared in Accordance with
Training and Employment Guidance Letter (TEGL) No. 20-17

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September 2019

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INTRODUCTION

The PY 2018 Kentucky Economic Analysis report is produced by the Workforce Intelligence Branch of the Kentucky Center for Statistics (KYSTATS) to provide a detailed analysis of the economy and workforce of the Commonwealth and its ten Local Workforce Areas (LWAs). This report is compiled in accordance with Training and Employment Guidance Letter (TEGL) No. 20-17, issued by the U.S. Department of Labor, Employment and Training Administration (ETA).

This analysis provides an in-depth review of Kentucky's labor market conditions and economy, including population, demographics, workforce and industrial and occupational employment trends and activities. The report also compares the state's economic outcomes relative to the nation as a whole.

The primary focus of this report includes the years 2008 to 2018. Population projections span the years 2010 to 2040. Projection information for occupations covers the years 2016 to 2026.

To better understand the diversity of Kentucky's economy, this report also provides demographic and economic information on the Commonwealth's ten LWAs as shown in Figure 1 below. The designation of LWAs was mandated in the Workforce Innovation and Opportunity Act of 2014 (WIOA).

Like the counties that comprise them, these ten LWAs can vary significantly in terms of unemployment rate, occupational employment and growth, population and educational attainment. Generally speaking, the larger and more urban LWAs have higher educational levels, greater employment growth and lower unemployment rates when compared to the more rural LWAs.

Multiple data sources are used in this report. Measures of the overall economy include Gross Domestic Product (GDP) and personal income which come from the U.S. Bureau of Economic Analysis (BEA). Population and population projections are from the Kentucky State Data Center at the University of Louisville. Other demographic information is from the U.S. Census Bureau's American Community Survey (ACS). ACS 5-year estimates (2013-2017) provide information on economic and demographic characteristics at the county-level. Data for all 120 counties are aggregated to provide estimates at the LWA level.

Labor force data are from Bureau of Labor Statistics (BLS) programs. Information on the United States labor force comes from the Current Population Survey (CPS). Additional labor force data for Kentucky and the ten LWAs come from the Local Area Unemployment Statistics (LAUS) program administered by the Workforce Intelligence Branch at KYSTATS.

Data from the Quarterly Census of Employment and Wages (QCEW) program are used to measure industry employment and wage growth over time. Annual averages are calculated from QCEW as all four quarters of each year are used.

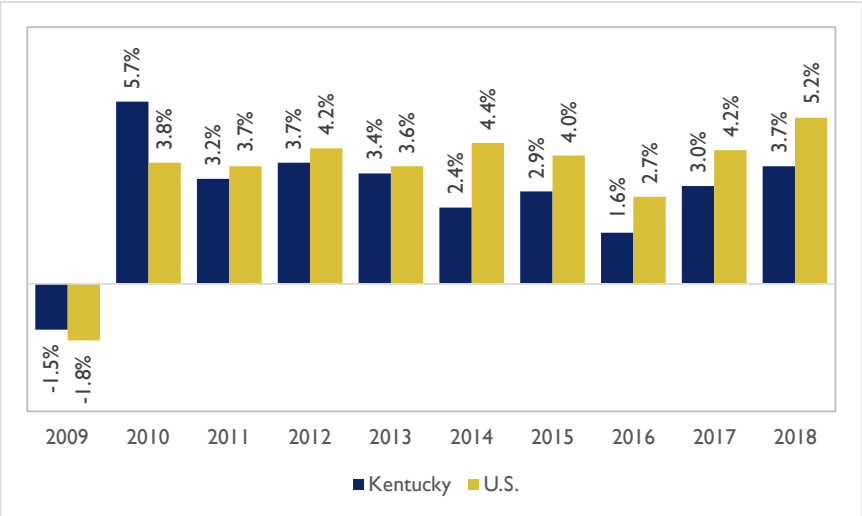
Occupational estimates are available for more than 700 detailed occupations produced by the Occupational Employment Statistics (OES) program and KYSTATS.

Figure 1 – Kentucky's Local Workforce Areas (LWA)

Gross Domestic Product (GDP)

GDP, produced by the BEA, measures the value of the goods and services produced in the U.S., states and Metropolitan Statistical Areas (MSA). The growth rate of GDP is an indicator of a region's overall economic health. GDP estimates are also available by industry.

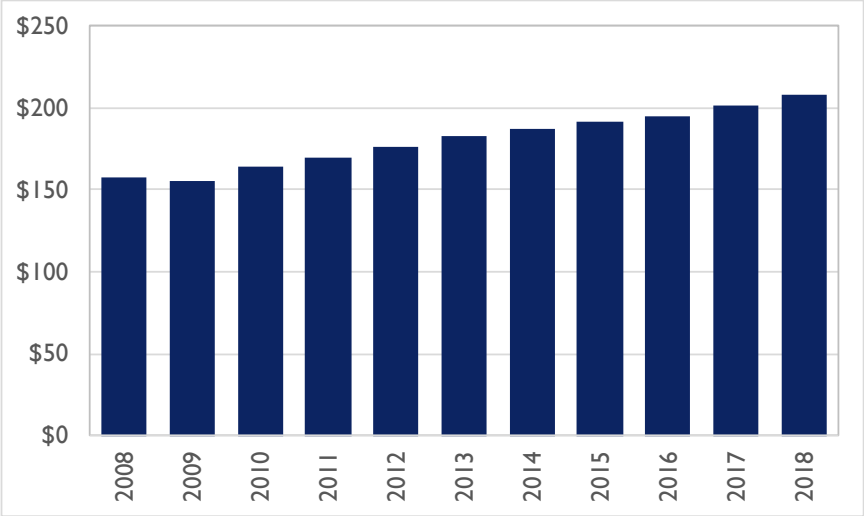
Figure 2 – Over-The-Year Change in Gross Domestic Product



Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed September 2019).

The adjacent chart compares over-the-year change in GDP for the U.S. and Kentucky since 2008. Kentucky's GDP did not experience as much decline as the U.S. during 2008 as the economy entered recession, decreasing 1.5 percent between 2008 and 2009 compared to 1.8 percent decline for the U.S. Kentucky's GDP also grew faster than the U.S. between 2009 and 2010, 5.7 percent compared to 3.8 percent. However, since 2010, the national GDP has been growing faster than Kentucky. Since 2008, Kentucky's GDP has grown at a Compound Annual Growth Rate (CAGR) of 2.8 percent. Over the same time frame, GDP for the U.S. has grown at a CAGR of 3.4 percent annually. As shown in Figure 3, Kentucky's GDP was $208.3 billion in 2018, an increase of 3.7 percent from 2017.

Figure 3 – Gross Domestic Product in Kentucky (in billions)



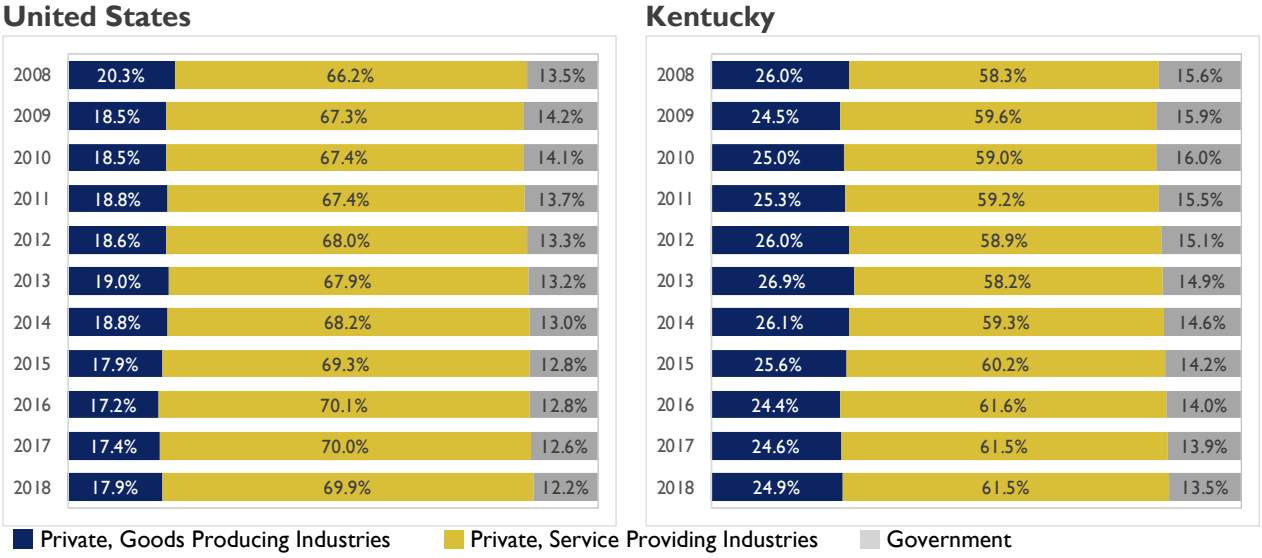
Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed September 2019).

GDP is classified into three major categories: private goods producing, private service providing and government. Examining the data at this level shows the shift between Goods Producing Sectors and Service Providing Sectors. As shown in Figure 4 below, 66.2 percent of U.S. GDP in 2008 was from private service providing industries. This increased to a high of 70.1 percent in 2016, and then fell to 69.9 percent by 2018. In Kentucky, 61.5 percent of the state's GDP was attributed to private service providing industries in 2018, an increase of 3.2 percentage points from the 58.3 percent recorded in 2008, but still below the U.S. average.

Kentucky's economy relies more heavily on private goods producing industries. In 2018, nearly one-quarter of the state's GDP was attributed to private goods producing industries, 24.9 percent which is down from 26.0 percent in 2008. The U.S. share declined from 20.3 percent in 2008 to 17.9 percent in 2018. Although the share declined for both Kentucky and the U.S. between 2008 and 2018, the gap between the U.S. and Kentucky widened. In 2008, there was a difference of 5.7 percentage points, which grew to 7.0 percentage points by 2018.

Government as a share of GDP was also higher in Kentucky than in the U.S., 13.5 percent in 2018 compared to 12.2 percent in the U.S. This share declined for both the U.S. and Kentucky, but Kentucky experienced a larger drop. In 2008, the share of GDP attributed to Government was 15.6 percent. This increased to 16 percent in 2010 and then fell each year to a low of 13.5 percent in 2018; a total decrease of 2.1 percentage points. Over this same span of time, the share of GDP in Government in the U.S. fell 1.3 percentage points.

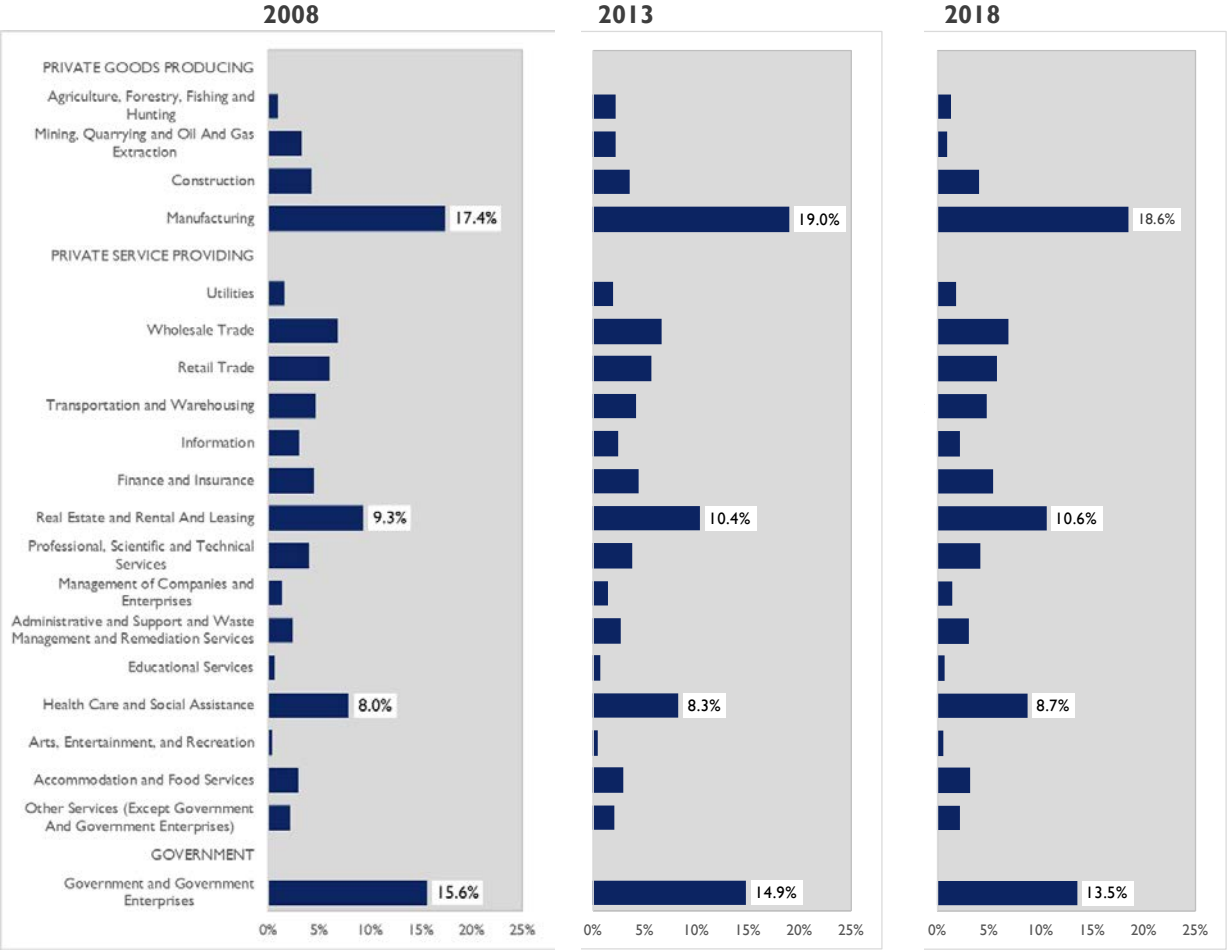
Figure 4 – U.S. and Kentucky GDP for Public and Private Sectors, 2008-2018



Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed September 2019).

Figure 5 examines the contribution individual economic sectors made towards the state GDP over five-year periods beginning in 2008. During this time four sectors made up half of the state's GDP: Manufacturing, Government, Real Estate and Rental and Leasing and Health Care and Social Assistance.

Figure 5 – Share of Kentucky GDP by Industry, 2008, 2013 and 2018



Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed September 2019).

Manufacturing was the largest contributor to state GDP. In 2008, this sector contributed 17.4 percent to total GDP. This increased to 19.0 percent in 2013 and fell to 18.6 percent by 2018. Over the same time period, manufacturing decreased its contribution to GDP nationally from 12.2 percent in 2008 to 11.4 percent in 2018. The second largest contributor was Government, though it made up a declining share of state GDP as discussed above. Real Estate and Rental and Leasing and Health Care and Social Assistance were the next largest contributors to GDP.

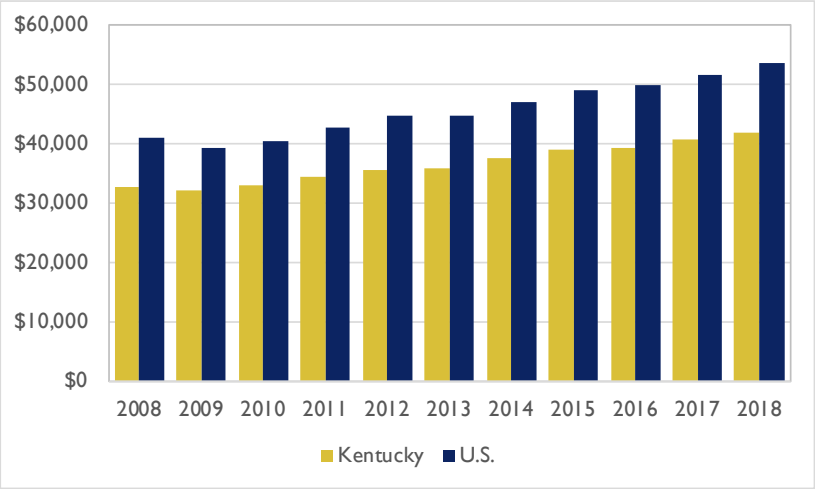
In addition to Government, several other sectors experienced a declining share of GDP since 2008 including Mining, Construction, Retail Trade, Information and Other Services. Between 2008 and 2018, the Mining, Quarrying and Oil and Gas Extraction sector experienced the largest overall drop in GDP. In 2008, this sector contributed nearly $5.3 billion to state GDP, 3.3 percent of total GDP. In 2018, this dropped to $2.1 billion, 1.0 percent of state GDP.

Personal Income

While GDP is a measure of the economic health of the state, the economic well-being of its residents is measured by personal income. Personal income includes wages, employer provided supplements such as insurance, proprietors' income, dividends, interest, rents and government benefits. Personal income does not include capital gains or losses from investments. Per capita personal income allows for comparison across states or with the U.S.

Kentucky residents received nearly $186.7 billion in personal income in 2018, an increase of 3.2 percent from 2017. Since 2008, personal income has grown at a CAGR of 2.9 percent per year. This compares to U.S. growth of 3.5 percent over the same time period.

Figure 6 – Per Capita Personal Income for Kentucky

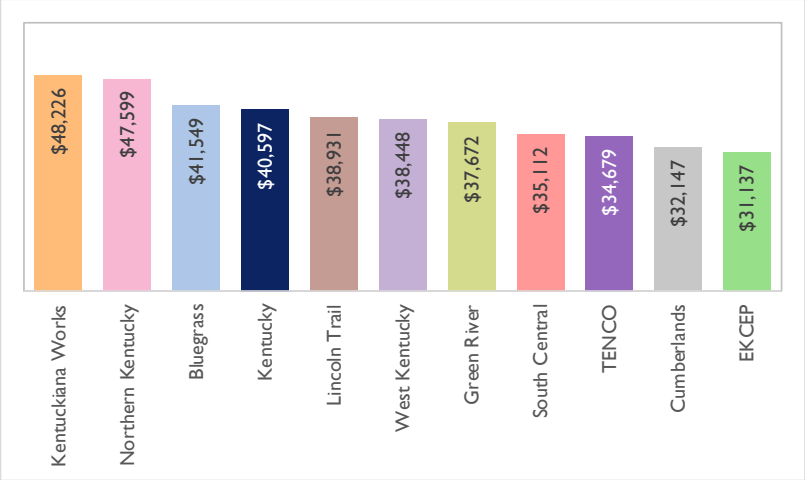


Source: U.S. Bureau of Economic Analysis, "Personal Income Summary," (accessed September 2019).

A comparison of per capita income in the U.S. and Kentucky is shown in Figure 6. For most of the last decade Kentucky's per capita personal income levels hovered around 80 percent of U.S. levels. However, by 2018, per capita personal income in Kentucky fell to 77.8 percent of the U.S. average ($41,779 versus $53,712 for the nation). While per capita income is growing in Kentucky, it remains less than the U.S. average and is growing at a slower rate compared to the U.S. average.

Personal income, population and per capita personal income is available by county through 2017 which was aggregated to LWAs. In 2017, there were three LWAs with per capita income levels higher than that of the state overall: Kentuckiana Works, Northern Kentucky and Bluegrass. Three LWAs experienced growth that exceeds the state compound annual growth rate of 2.4 percent annually between 2008 and 2017. They include Cumberlands (2.6 percent), Kentuckiana Works (2.6 percent) and Lincoln Trail (2.8 percent).

Figure 7 – Per Capita Personal Income by LWA, 2017



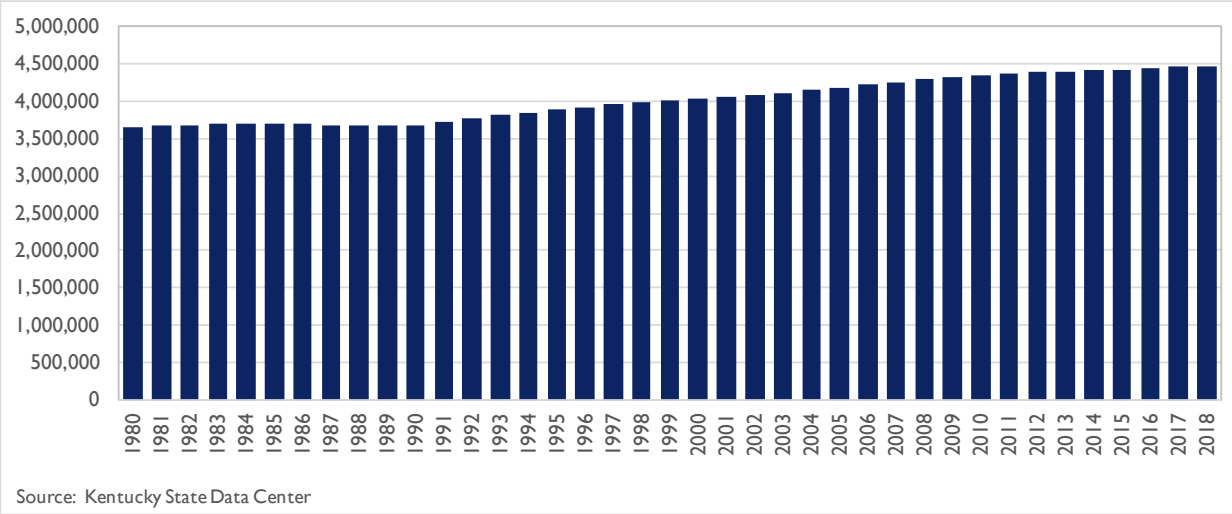
Source: U.S. Bureau of Economic Analysis, "Personal Income Summary," (accessed September 2019).

Population Estimates and Projections

With more than 4 million residents, Kentucky was the 26th most populous state in the nation in 2018. The population of Kentucky remained relatively stable throughout the 1980s, increasing in size by 0.7 percent from 1980 to 1990. This was followed by a decade of growth in the 1990s, during which the population increased by 9.6% or nearly 355,000 residents. The state surpassed 4 million residents in 1999. An additional 300,000 people were residing in the state by 2010, a 7.4 percent increase from 2000.

Although the population was still increasing, the pace of growth slowed after 2010. As of 2018, there were 4,468,400 residents in Kentucky, a 3.0 percent increase from 2010. Population data for Kentucky is from the Kentucky State Data Center, the state's official clearinghouse for Census data.

Figure 8 – Kentucky Population, 1980 to 2018

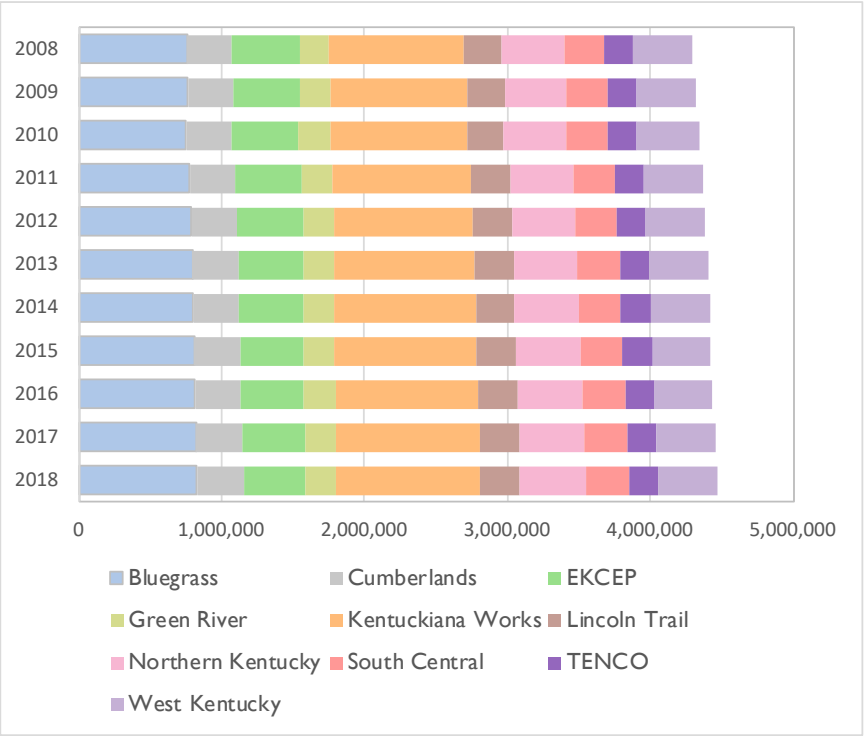


Source: Kentucky State Data Center, "Total Population" estimates for multiple time periods, (accessed September 2019).

The U.S. population experienced faster growth over this same time frame. Between 2000 and 2010, the nation's population grew 9.6 percent, 2 percentage points higher than Kentucky. From 2010 to 2018, the U.S. population grew 5.8 percent, more than twice as fast as the population growth in Kentucky.

Between 2010 and 2018, the state grew by 129,069 residents. More than two-thirds of this change resulted from births (456,319) exceeding deaths (369,344) by 86,975. In addition, 42,094 people migrated to Kentucky from other states and countries over this time period.

Figure 9 – Population by Local Workforce Area, 2008-2017



Source: Kentucky State Data Center, "Total Population (2010-2018)" and "Total Population (2000-2010)," (accessed September 2019).

More than half of Kentucky's population is concentrated in three LWAs: Bluegrass (18.6 percent), Kentuckiana Works (22.6 percent) and Northern Kentucky (10.3 percent). Between 2008 and 2018, the state grew by 178,520 residents with the largest amount of growth in the Bluegrass LWA (72,500 additional residents). Over this same time period, Kentuckiana Works added 65,330 residents. There were three LWAs that saw population declines: EKCEP (35,290 fewer residents), TENCO (720 fewer residents) and West Kentucky (3,170 fewer residents).

The five counties with the largest populations also experienced the majority of the growth. In 2018, Jefferson, Fayette, Kenton, Boone and Warren counties made up 34 percent of the state's population. Nearly 73 percent of Kentucky's population growth between 2010 and 2018 occurred in these five counties.

Among Kentucky's 120 counties, 57 experienced population growth between 2010 and 2018 and 63 saw declines. The counties with the largest absolute increases were:

- Jefferson County (29,421)
- Fayette County (27,977)
- Warren County (17,472)
- Boone County (12,722)
- Madison County (9,452)

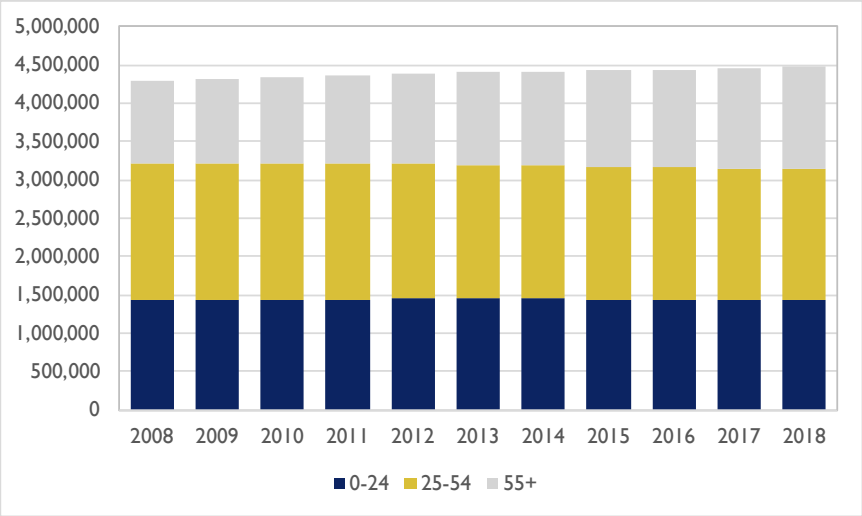
The five counties with the largest absolute decreases were all in the EKCEP LWA. They include:

- Pike County (-6,622)
- Floyd County (-3,606)
- Harlan County (-2,869)
- Letcher (-2,620)
- Perry County (-2,620)

Age

Kentucky's population is aging. As of 2018, the median age of the Kentucky population was 38.9 years. This is up from 38.1 years in 2010, higher than the median U.S. age but aging at a slower rate. In 2018, the median age in the U.S. was 38.2 years, up a full year from 2010 (37.2 years).

Figure 10 – Kentucky Population by Age Group, 2008 to 2018



Source: Kentucky State Data Center, "Total Population (2010-2018)" and "Total Population (2000-2010)" and U.S. Census Bureau, "Annual Estimates of Resident Population for Selected Age Groups by Sex: April 1, 2010 to July 1, 2018," (accessed September 2019).

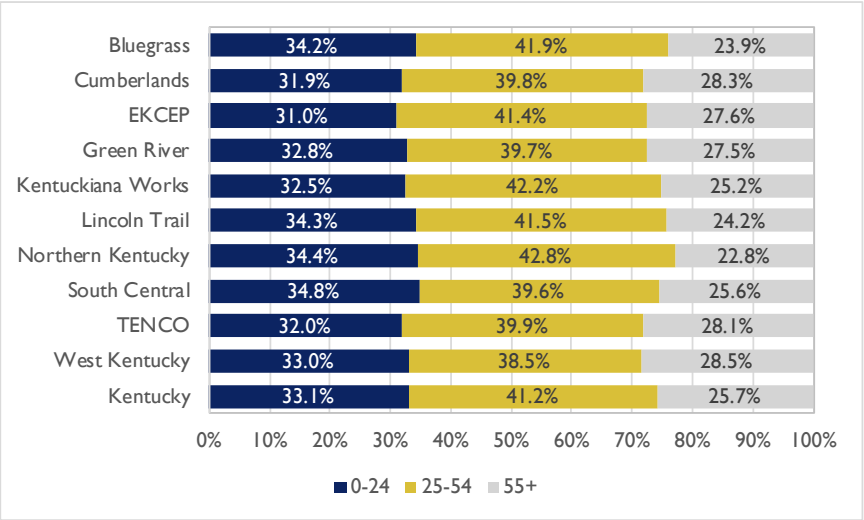
A closer look at population by age group shows that the share of the Kentucky population that is between the ages of 25 and 54 (gold bars), considered prime age workers, has been steadily declining. In 2008, 41.7 percent of Kentucky's population was between the ages of 25 and 54. This had fallen to 38.4 percent by 2018, a loss of 76,314 prime age workers since 2008 (a 4.3 percent decrease). In the U.S., 39.3 percent of the population was between the ages of 25 and 54 in 2018.

The share of Kentucky's population over the age of 55 has been steadily increasing over this same time period, up to 29.7 percent in 2018 from 25.0 percent in 2008. Further, since 2008, the number of people over the age of 55 increased 24.0 percent, growing by 256,761 residents. In the U.S., 28.9 percent of the population is over the age of 55.

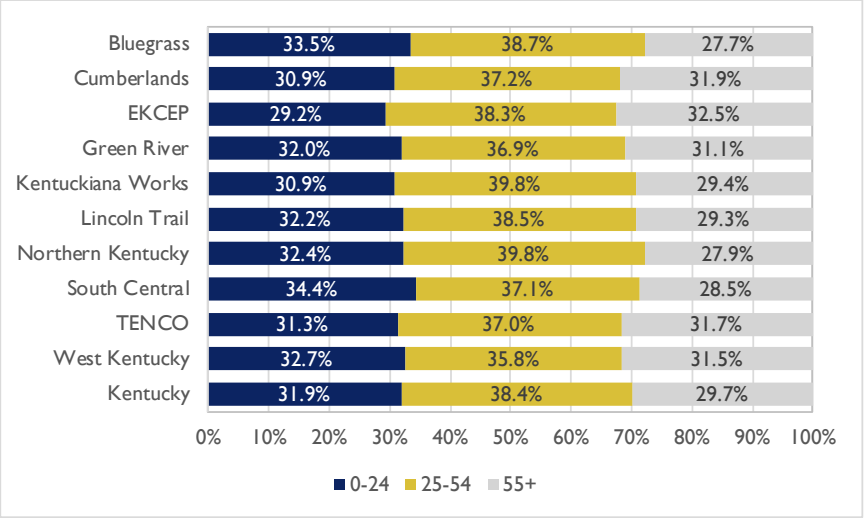
The number of young people, under the age of 24 in Kentucky, has been relatively stable over time with approximately 1.43 million people each year during this time.

Figure 11 – Population by Age Group by LWA, 2010 to 2018

2010



2018



Source: U.S. Census Bureau, "Annual Estimates of Resident Population for Selected Age Groups by Sex: April 1, 2010 to July 1, 2018," (accessed September 2019).

In all the LWAs, the share of the population over the age of 55 has grown between 2010 and 2018. It grew the most in the Northern Kentucky and Lincoln Trail LWAs. In 2010, 22.8 percent of the Northern Kentucky LWA population was over the age of 55. This increased 5.1 percentage points to 27.9 percent in 2018. Lincoln Trail experienced a 5.1 percentage point increase as well, up to 29.3 percent in 2018 from 24.2 percent in 2010.

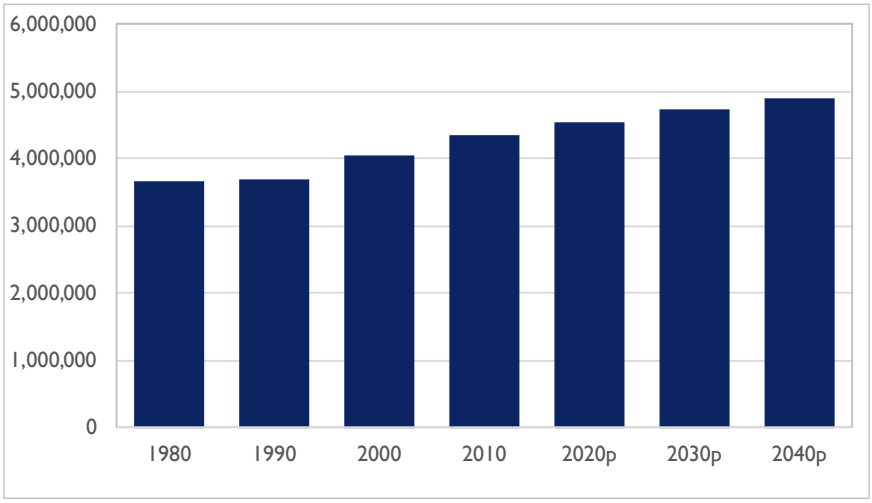
The prime age population was 38.4 percent in the state in 2018, down from 41.2 percent in 2010. The Bluegrass LWA experienced the largest decline in share for this population group, down 3.2 percentage points between 2010 and 2018.

The LWA with the highest share of its population over the age of 55 in 2018 was EKCEP. Both Kentuckiana Works and Northern Kentucky had the largest share of their population between the ages of 25 and 54, 39.8 percent in 2018. The state average was 38.4 percent. South Central LWA had the largest share of residents younger than 25, 34.4 percent in 2018 as compared to 31.9 percent for the state.

Population Projections

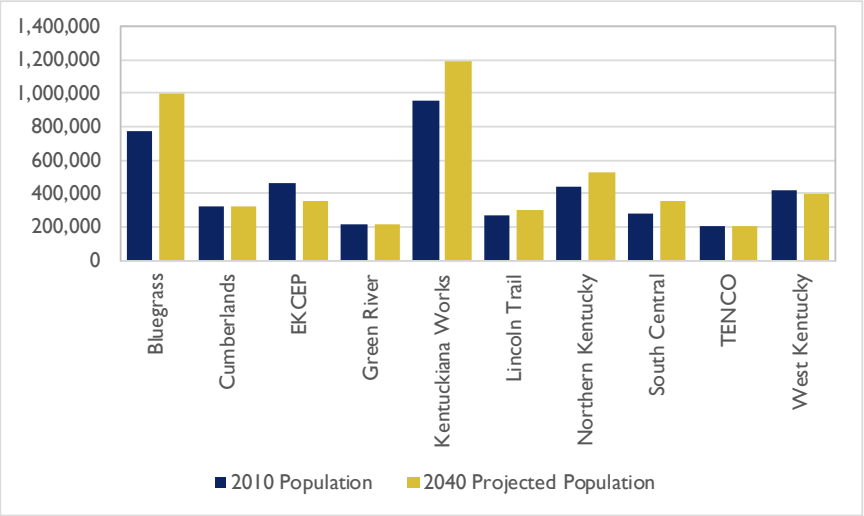
According to the Kentucky State Data Center, the state population is projected to reach nearly 4.9 million residents by 2040. As shown in Figure 12, this is an increase of more than 547,000 residents between 2010 and 2040, a compound annual growth rate of 0.4 percent. During this same 30-year span, the U.S. population is projected to have a CAGR of 0.6 percent.

Figure 12 – Population Projections to 2040



p = projection
Source: Kentucky State Data Center, "Total Population" estimates for multiple time periods, "Projections of Population and Household: State of Kentucky, Kentucky Counties and Area Development Districts, 2015-2040, Vintage 2016," (accessed September 2019).

Figure 13 – Population Projections to 2040 by LWA



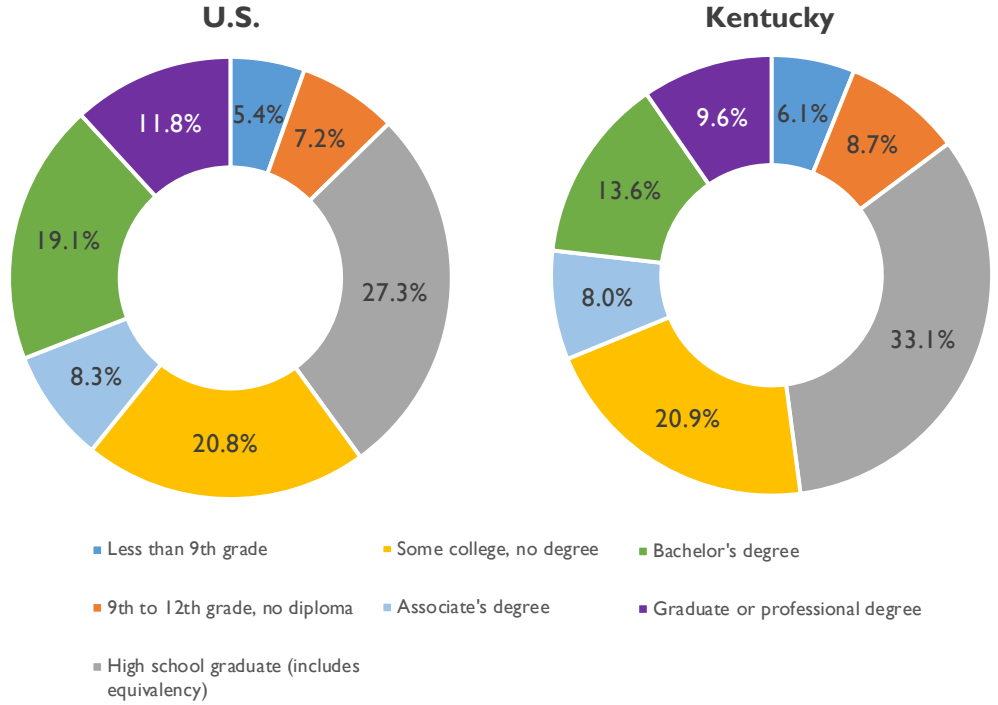
Source: Kentucky State Data Center, "Projections of Population and Household: State of Kentucky, Kentucky Counties and Area Development Districts, 2015-2040, Vintage 2016," (accessed September 2019).

Similar to recent trends, the majority of the population growth through 2040 is projected to occur within three LWAs: Bluegrass, Kentuckiana Works and Northern Kentucky. Population growth will outpace the state CAGR in these areas with 0.9 percent annually in Bluegrass, 0.7 percent in Kentuckiana Works and 0.6 percent per year in Northern Kentucky. Two LWAs are projected to experience population declines between 2010 and 2040: EKCEP (-0.9 percent) and West Kentucky (-0.1 percent).

Educational Attainment

The educational attainment of the adult population (those over the age of 25) is an indicator of the skills of the workforce. For example, the share of the population with at least a Bachelor degree shows the potential supply of workers for occupations requiring those credentials for entry.

Figure 14 – Educational Attainment Adults Over the Age of 25



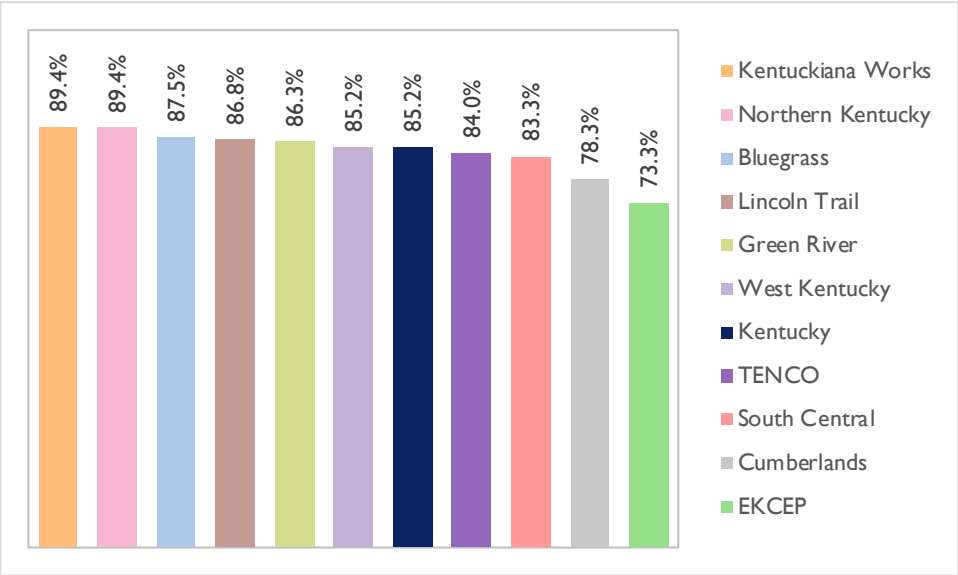
Source: U.S. Census Bureau, American Community Survey, 2013-2017 Five-year Estimates, "Educational Attainment," (accessed September 2019).

The largest educational attainment group of Kentucky residents over 25 are those who have attained a high school diploma or equivalent (33.1 percent), with the second largest group being those who have attended some college, but did not earn a degree (20.9 percent).

Nearly one-quarter of Kentucky adults (23.2 percent) have at least a Bachelor degree compared to 30.9 percent in the U.S. On the other end of the education spectrum, 14.8 percent of adults in Kentucky have not completed high school compared to 12.6 percent in the U.S.

OES estimates were paired with data from the BLS on the typical education needed for entry from its publication "Education and Training Assignments by Detailed Occupation" to determine that 27.4 percent of Kentucky occupations require less than a high school degree for entry and 21.0 percent require at least a Bachelor degree.

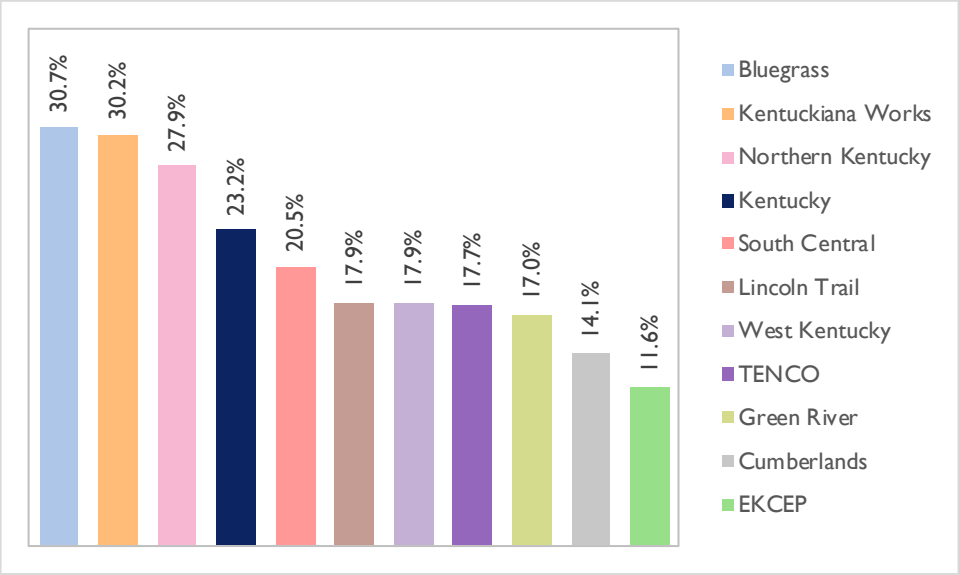
Figure 15 – Share of Kentucky Adults (25+) with at least a High School Diploma by LWA



Source: U.S. Census Bureau, American Community Survey, 2013-2017 Five-year Estimates, "Educational Attainment," (accessed September 2019).

Figure 15 shows the percentage of Kentucky adults with at least a high school degree. Six LWAs have the same or larger share than the state average of 85.2 percent.

Figure 16 – Share of Kentucky Adults (25+) with at least a Bachelor Degree by LWA



Source: U.S. Census Bureau, American Community Survey, 2013-2017 Five-year Estimates, "Educational Attainment," (accessed September 2019).

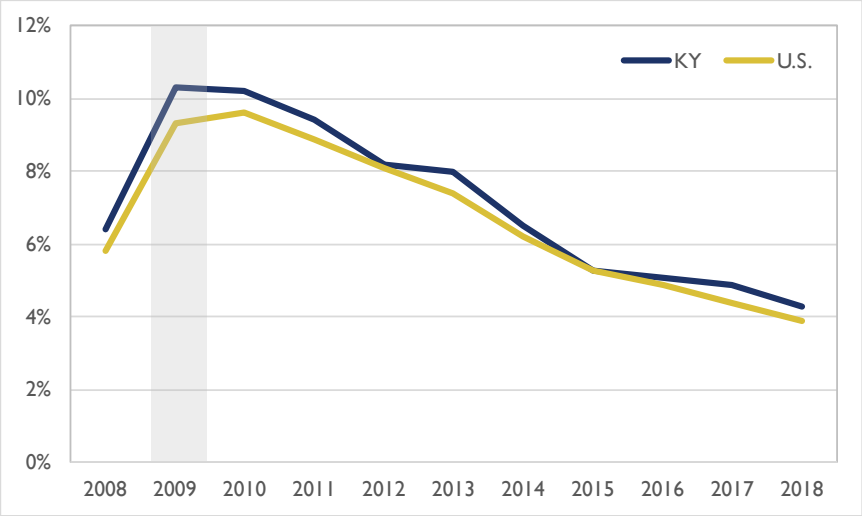
There are three LWAs with a higher share of the adult population with at least a Bachelor degree than the state average of 23.2 percent – Bluegrass, Kentuckiana Works and Northern Kentucky. In the Bluegrass LWA, nearly 31 percent of adults have a Bachelor, professional or graduate degree. The remaining LWAs have lower percentages of Bachelor degree completers, the lowest being EKCEP with 11.6 percent of the adult population with at least a Bachelor degree, half of the statewide average.

Civilian Labor Force and Unemployment

The civilian labor force is defined as the civilian non-institutional population over the age of 16 that is either working or actively looking for work. The civilian non-institutional population includes those residing in the 50 states and the District of Columbia who do not live in institutions (for example, correctional facilities, long-term care hospitals or nursing homes) and who are not on active duty in the Armed Forces. Students, retirees and those not seeking work are not included. Persons are classified as unemployed if they do not have a job, have actively looked for work in the prior 4 weeks and are currently available to work.

The LAUS program produces monthly and annual estimates of the civilian labor force, employment, unemployment and unemployment rate for the state and substate areas. The unemployment rate is calculated as the unemployed percent of the civilian labor force. Employment estimates include agricultural workers, self-employed persons, unpaid family workers, private household workers and those temporarily absent from work for reasons such as illness, vacation, or labor management disputes. National unemployment rates are from the Bureau of Labor Statistics' Current Population Survey program.

Figure 17 – Unemployment Rates for the U.S. and Kentucky, 2008-2018 (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2019).

Historically, unemployment rates for Kentucky have been higher than U.S. rates but have generally followed the same path over the past decade. During the recession months of December 2008 through June 2009, unemployment rates rose for both the state and the nation. In the years that followed, rates returned to pre-recession levels.

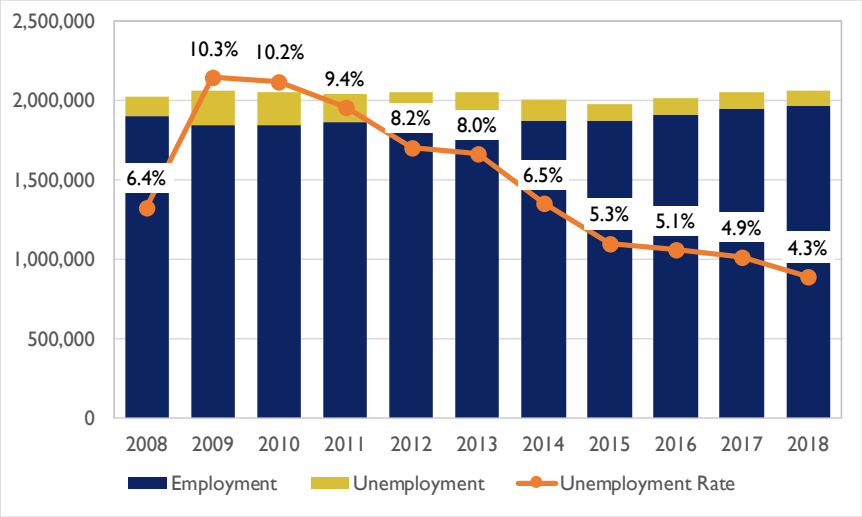
Between 2008 and 2018, the unemployment rate in Kentucky peaked at 10.3 percent in 2009. The unemployment rate fell below pre-recession levels starting in 2015 at 5.3 percent. By 2018, annual unemployment had fallen to 4.3 percent. Since 1976, the lowest unemployment rate in Kentucky was 4.2 percent in 2000.

Similarly, for the U.S., the unemployment rate has fallen to pre-recession levels after peaking in 2010 at an average annual rate of 9.6 percent. By 2015, the unemployment rate was lower than pre-recession levels and has continued to drop to a historic low of 3.9 percent in 2018.

Although national unemployment rates have remained lower than Kentucky rates, the gap between them has narrowed over the last ten years. In 2008 there was a 0.6 percentage point difference between

the U.S. (5.8 percent) and Kentucky rates (6.4 percent). That gap widened to 1.0 percentage point in 2009, closed to zero in 2015, and then increased again in 2016. By 2018, the difference was 0.4 percentage point, with the U.S. unemployment rate at 3.9 percent and Kentucky at 4.3 percent.

Figure 18 – Kentucky Civilian Labor Force, 2008-2018 (not seasonally adjusted)

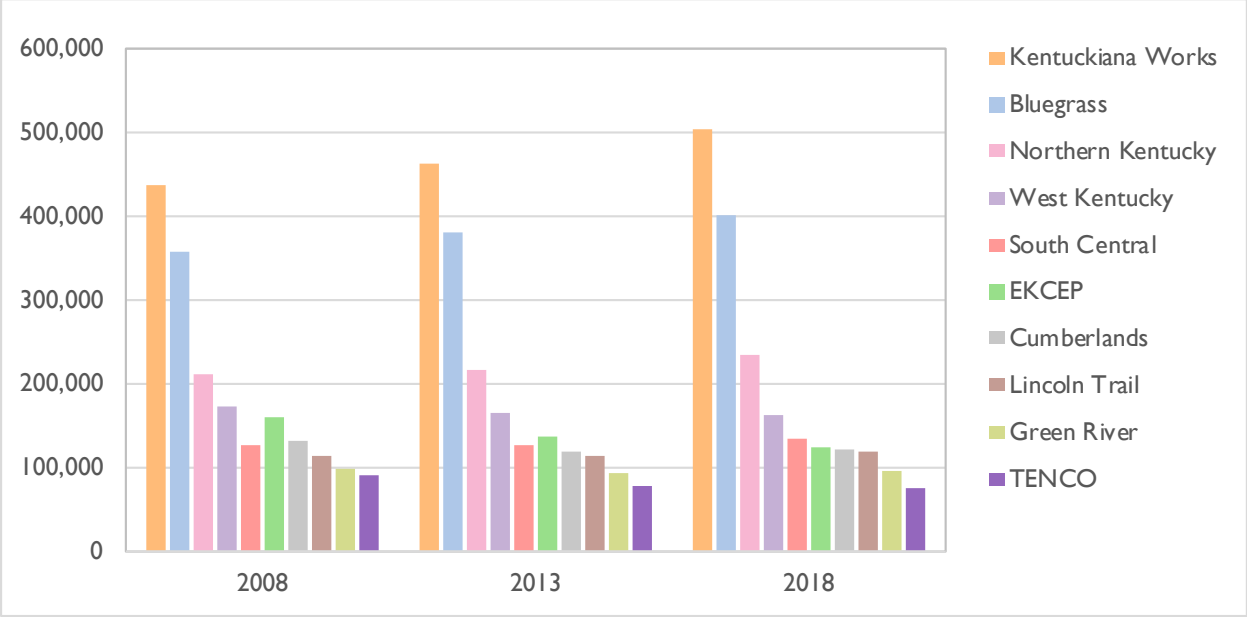


Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2019).

Between 2008 and 2018, the size of Kentucky's civilian labor force increased by 1.5 percent growing to nearly 2.1 million people in 2018. However, the composition of the labor force has changed over the course of the last decade. In 2008, the average annual unemployment rate was 6.4 percent. At that time slightly more than 1.9 million people were employed and 130,055 people were unemployed. By 2018, the number of people employed had grown to 1,972,312 and the number of unemployed had dropped to 89,310, the first time unemployment in Kentucky fell below 100,000 since 2000. The average unemployment rate in 2018 was near an all-time low at 4.3 percent. Between 1976 and 2018, the lowest unemployment rate was 4.2 percent in 2000.

Within the state, employment and unemployment vary by region. As shown in Figure 19 below, the employed workforce is concentrated in the three LWAs that also have the largest populations: Bluegrass, Kentuckiana Works and Northern Kentucky. The share of the workforce in these three LWAs has also increased over the past decade. In 2008, 53.0 percent of employed persons lived in these three LWAs, increasing to 57.7 percent by 2018. Kentuckiana Works has the largest number of employed persons, 502,425 in 2018, and accounted for the largest growth. Between 2008 and 2018, the number of employed persons in this LWA grew by 66,299. The Bluegrass LWA experienced the next largest growth, increasing from 358,252 employed persons in 2008 to 402,005 persons by 2018.

Figure 19 – Employed Persons by LWA, 2008, 2013 and 2018 (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2019).

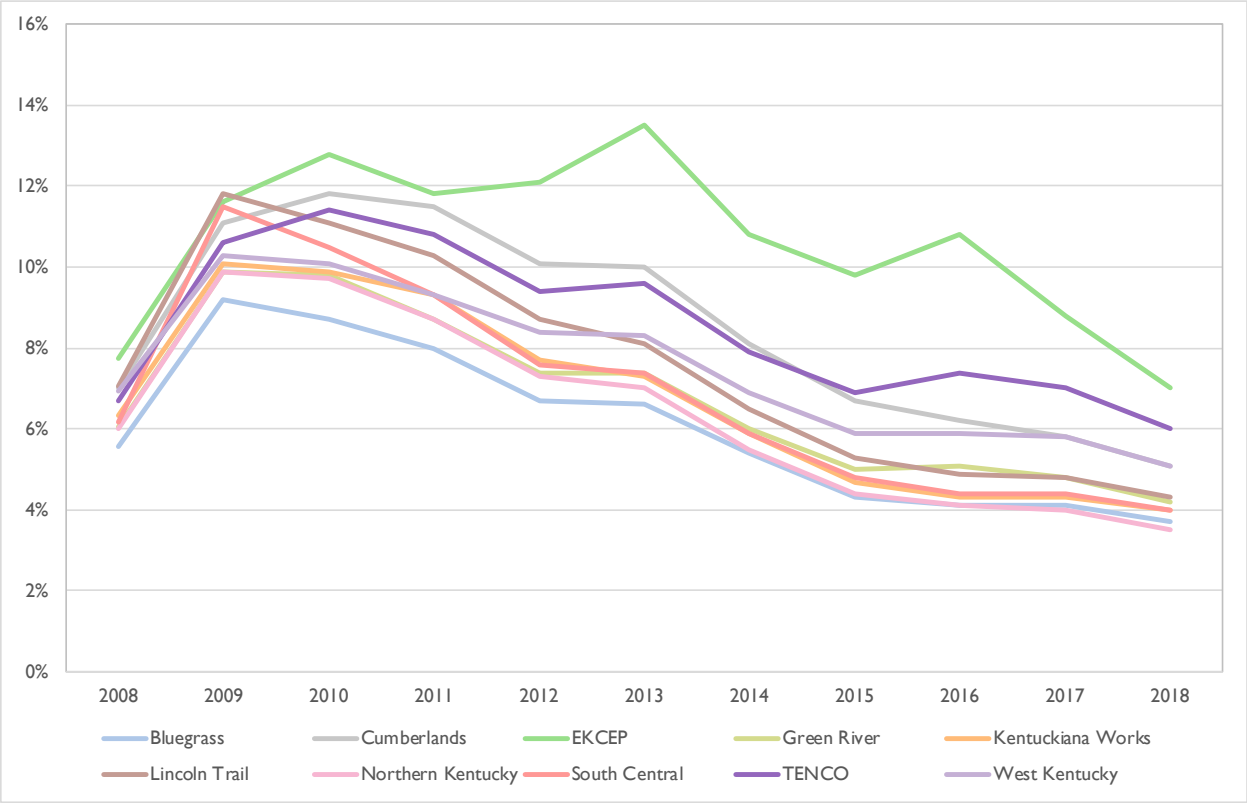
Over this same time period, five LWAs experienced a decrease in the number of employed persons: Cumberlands, EKCEP, Green River, TENCO and West Kentucky. EKCEP experienced the largest drop with 36,973 fewer employed persons in 2018 than 2008, a 23 percent drop. TENCO had the next largest decline with 12,980 fewer employed, a 14.5 percent decline. West Kentucky followed with 11,142 fewer employed persons.

As the economy moved through recession, unemployment rates in all ten of the LWAs increased from 2008 to 2009 (see Figure 20). The Lincoln Trail LWA had the highest unemployment rate in 2009 averaging 11.8 percent, followed by EKCEP at 11.6 percent and South Central at 11.5 percent. In seven of the LWAs, unemployment rates peaked in 2009 and then slowly fell to below pre-recession levels: Bluegrass, Green River, Kentuckiana Works, Lincoln Trail, Northern Kentucky, South Central and West Kentucky. For example, in the Lincoln Trail LWA, the unemployment rate averaged 7.0 percent in 2008 and increased to 11.8 percent in 2009. Each year since, the unemployment rate has fallen and in 2018, the average rate was 4.3 percent.

In the Cumberlands and TENCO LWAs, unemployment rates peaked in 2010 at 11.8 percent and 11.4 percent respectively and then slowly fell. In EKCEP, the unemployment rate increased and decreased during the past decade, peaking at 13.5 percent in 2013.

By 2018, the unemployment rate in all of the LWAs was lower than 2008 rates. In Green River, Lincoln Trail and South Central LWAs, the 2018 unemployment rate was the lowest recorded (since 1990).

Figure 20 – Unemployment Rate by LWA (not seasonally adjusted), 2008-2018

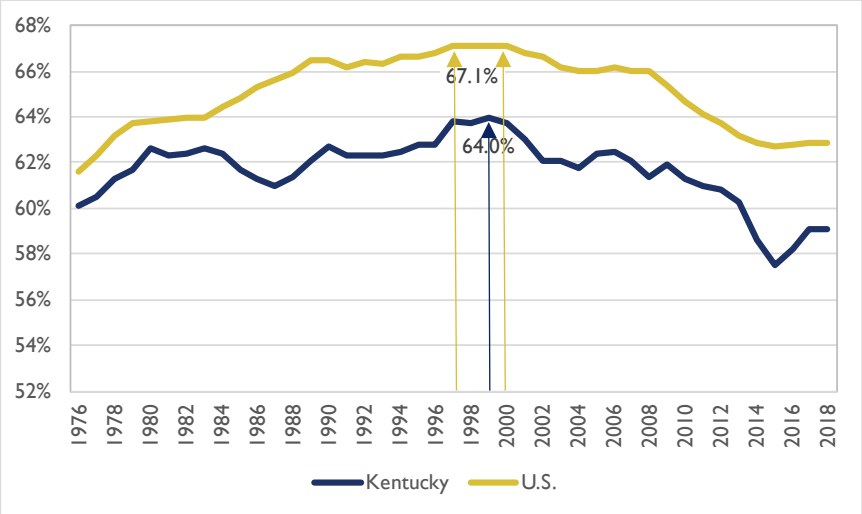


Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2019).

Labor Force Participation

The Labor Force Participation Rate (LFPR) is a key measure of the labor market – providing information on the share of the population in the labor force. The LFPR is the labor force (employed plus unemployed) as a percent of the civilian non-institutional population.

Figure 21 – Annual Labor Force Participation Rate (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), "Labor Force Participation Rate," (accessed August 2019).

The annual U.S. LFPR peaked from 1997 to 2000 at 67.1 percent, (not seasonally adjusted). By 2018, the U.S. rate had dropped to 62.9 percent in 2018. In Kentucky, the not seasonally adjusted LFPR peaked in 1999 at 64.0 percent.

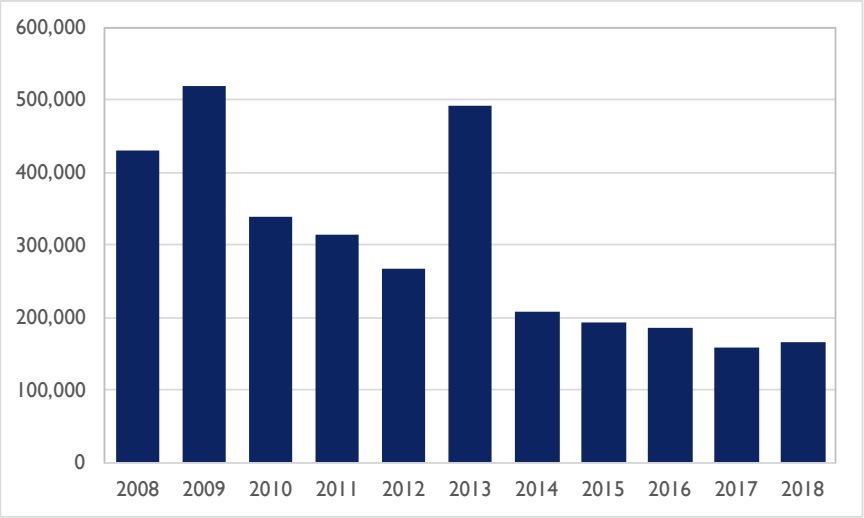
Similar to U.S. trends, the LFPR in Kentucky has decreased over the last decade, dropping to a low of 57.5 percent in 2015. However, Kentucky's LFPR has rebounded in the time since, increasing to 59.1 percent in 2017, and remaining there in 2018.

Among the 50 states and the District of Columbia, 43 have a higher LFPR than Kentucky.

Unemployment Insurance Claims

Although Unemployment Insurance (UI) claims are not a representation of total unemployment, they are another way to assess the labor market. Initial claims can be an indicator of emerging unemployment; whereas continued claims indicate the level of difficulty the unemployed encounter finding a new job.

Figure 22 – Initial Unemployment Insurance Claims in Kentucky, 2008-2018

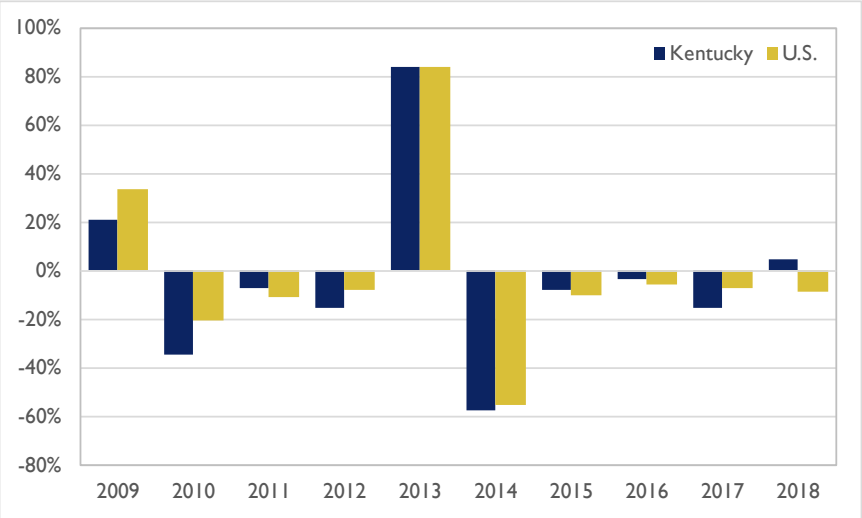


Source: U.S. Department of Labor, Employment and Training Administration, "Quarterly UI Data Summary," (accessed August 2019).

As shown in Figure 22, the number of initial claims filed in 2018 (165,940) is significantly lower than during the peak recession year, 2009 when there were 519,753 initial claims. In 2018, initial claims were 68 percent lower than in 2009.

There was an increase during 2013 in Kentucky as well as in the U.S. as shown in Figure 23. For both the U.S. and Kentucky, initial claims increased more than 80 percent in 2013. Kentucky also experienced a slight uptick in initial claims in 2018 following four years of decreases. Initial claims have remained under 200,000 since 2015.

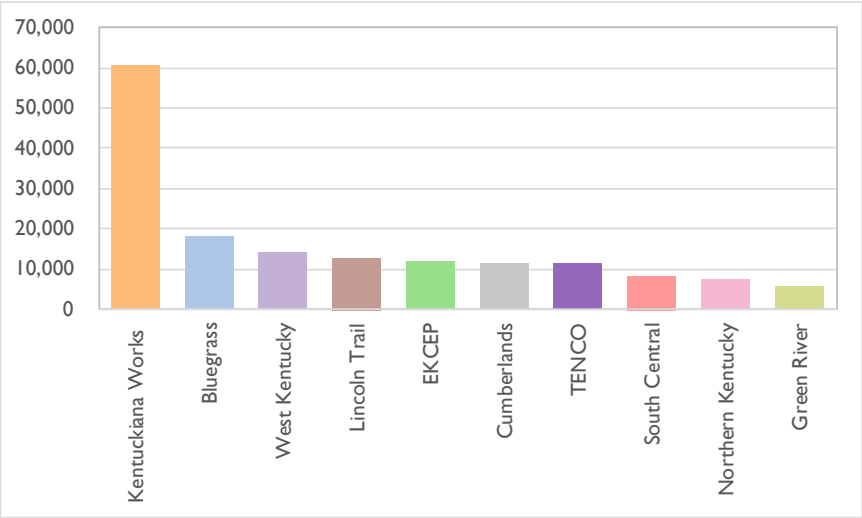
Figure 23 – UI Initial Claims Change from Previous Year, Kentucky and U.S., 2008-2018



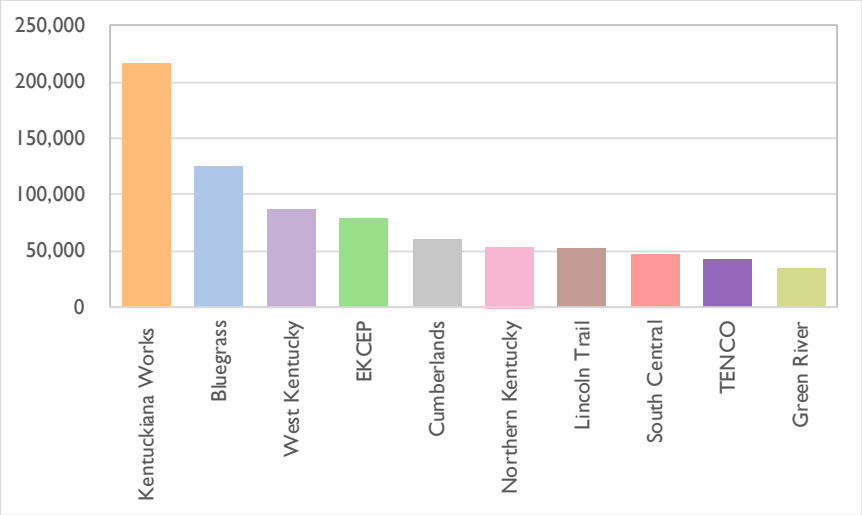
Source: U.S. Department of Labor, Employment and Training Administration, "Quarterly UI Data Summary," (accessed August 2019).

Figure 24 – Unemployment Insurance Claims by LWA, 2018

Initial Claims



Continuing Claims



Source: Kentucky Unemployment Insurance (UI), Office of Employment and Training, UI Quality Control Branch, Unemployment claims data (accessed August 2019).

Among Kentucky's regions, UI claims are concentrated in the Kentuckiana Works LWA with 37.4 percent of initial claims during 2018 (60,383 claims) and 27.1 percent of continuing claims (216,145). Two other LWAs, Lincoln Trail and TENCO, shared this trend of higher share of statewide initial claims compared to continued claims in 2018.

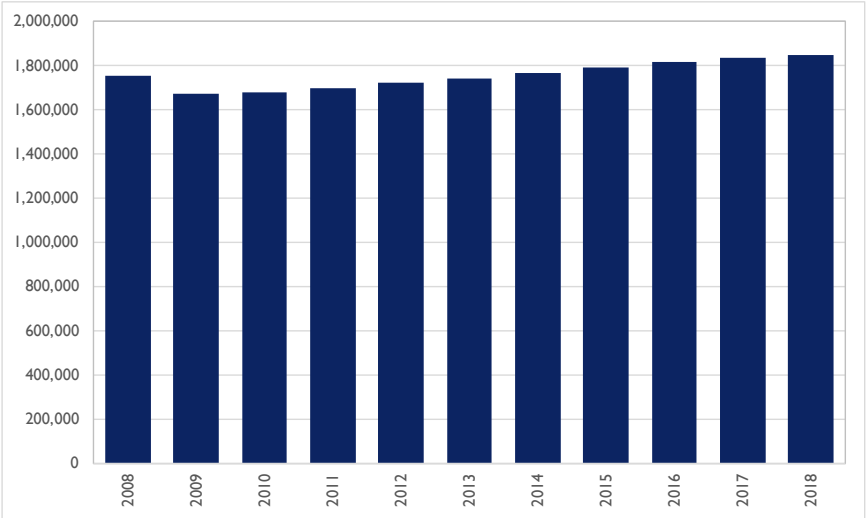
By contrast, the Bluegrass LWA had a higher share of all continuing claims (15.7 percent) than initial claims (11.1 percent) during 2018. Similar patterns occurred in Cumberlands, EKCEP, Green River, Northern Kentucky, South Central and West Kentucky.

The Green River LWA had the fewest initial and continuing UI claims in 2018.

Employment and Wages by Industry Sector

The QCEW program publishes quarterly employment and wages by industry sector for employers covered by the UI program. Data are aggregated from single establishments into industries organized by the North American Industry Classification System (NAICS).

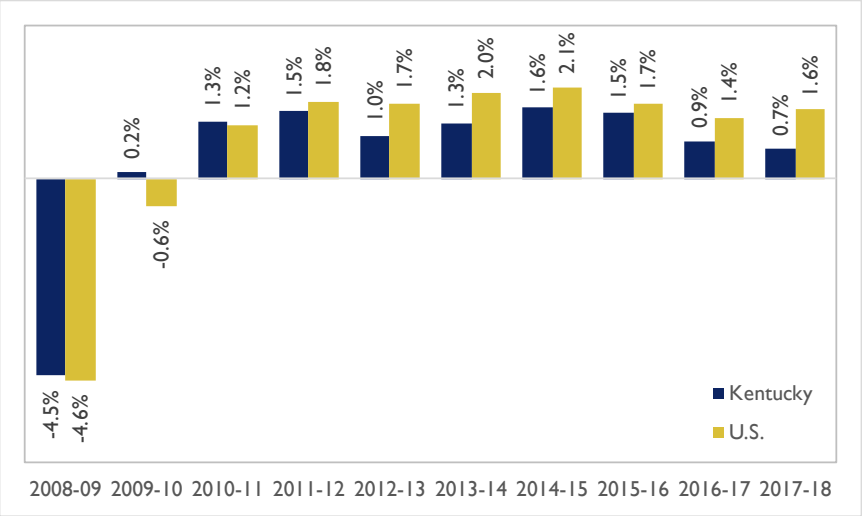
Figure 25 – Average Annual Employment in Kentucky, 2008-2018



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

In 2018, the average annual employment in Kentucky was nearly 1.85 million. By 2015 the state had recovered from the recession in terms of employment. In 2007, before the recession officially began, annual employment averaged 1,764,261. In 2015, employment averaged 1,792,529 and has continued growing. Between 2009 and 2018, the state economy added 173,696 jobs, an increase of 10.4 percent.

Figure 26 – Change in Average Annual Employment from Previous Year, 2008 to 2018



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

Initially, the Kentucky economy began recovering more quickly from the recession than the nation. Employment levels in Kentucky did not fall at the same rate as those in the U.S., and job growth began rebounding a year earlier in Kentucky. The state surpassed pre-recession employment levels in 2015 (1,792,529 jobs up from 1,764,261 jobs in 2007). The nation as a whole did so in 2014. Since 2012, over the year growth in Kentucky was slower than for the U.S. In the last year, between 2017 and 2018, employment grew 0.7 percent in Kentucky, less than half the rate of the U.S. at 1.6 percent.

Table 1 shows employment by the 20 major industry sectors in Kentucky in five-year increments of 2008, 2013 and 2018. In 2018, the sectors with the largest employment include Government, Health Care and Social Assistance and Manufacturing. Employment in the Government sector declined over this decade by 7,828 jobs.

Ten of the 20 sectors experienced stronger growth than the state (CAGR of 0.5%). Employment in the Utilities sector increased at a compound annual growth rate of 5.6 percent between 2008 and 2018.

Health Care and Social Assistance experienced the largest absolute growth of any sector in employment between 2008 and 2018, adding more than 35,000 jobs over this time period. Administrative and Support and Waste Management and Remediation Services added more than 28,000 jobs and the Accommodation and Food Services sector added nearly 21,600 jobs.

Six sectors experienced job losses during these ten years. The largest absolute decline occurred in Mining, Quarrying and Oil and Gas Extraction with the loss of 14,000 jobs between 2008 and 2018. Employment decreased by 66.6 percent, a CAGR of -10.4 percent per year.

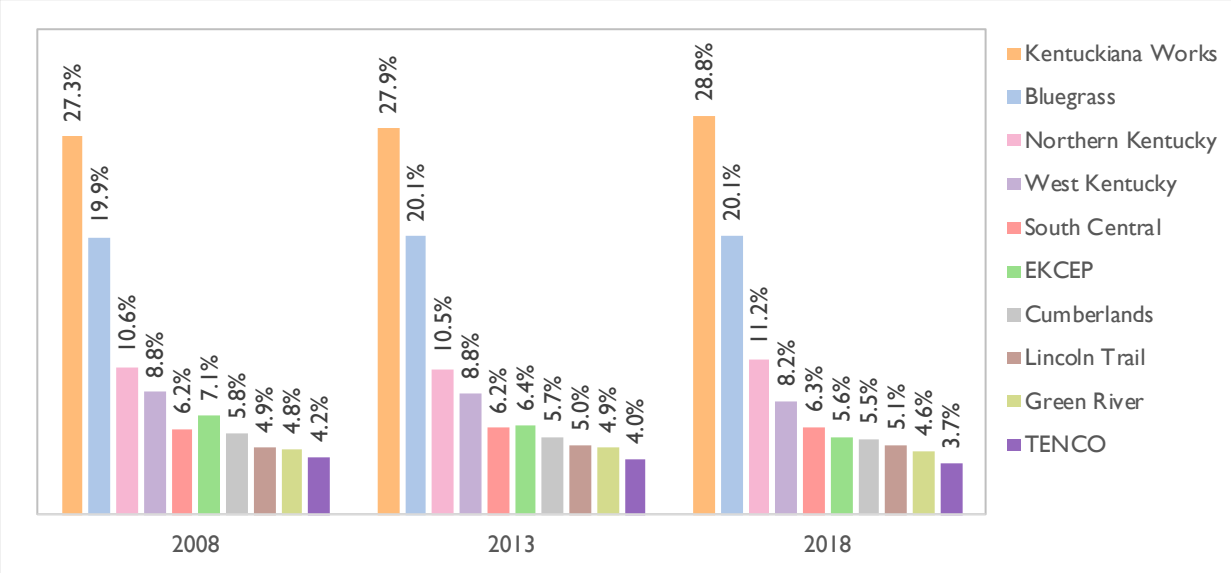
Table 1 – Employment by Major Industry Sector in Kentucky, 2008, 2013 & 2018

	Employment			Change Since 2008		
Industry Sector	2008	2013	2018	Absolute	Percent	CAGR
Accommodation and Food Services	152,784	159,210	174,360	21,576	14.1%	1.3%
Administrative and Support and Waste Management and Remediation Services	89,197	106,636	117,433	28,237	31.7%	2.8%
Agriculture, Forestry, Fishing and Hunting	7,507	7,421	8,145	639	8.5%	0.8%
Arts, Entertainment and Recreation	18,471	18,996	22,247	3,776	20.4%	1.9%
Construction	81,672	65,939	76,995	-4,677	-5.7%	-0.6%
Educational Services	11,639	12,254	12,788	1,149	9.9%	0.9%
Finance and Insurance	70,800	69,757	72,788	1,988	2.8%	0.3%
Government	300,388	303,995	292,560	-7,828	-2.6%	-0.3%
Health Care and Social Assistance	211,960	226,753	247,639	35,679	16.8%	1.6%
Information	28,826	25,395	20,679	-8,147	-28.3%	-3.3%
Management of Companies and Enterprises	18,063	19,196	19,129	1,065	5.9%	0.6%
Manufacturing	242,936	225,483	247,573	4,637	1.9%	0.2%
Mining, Quarrying and Oil and Gas Extraction	21,245	14,116	7,102	-14,143	-66.6%	-10.4%
Other Services (except Public Administration)	46,319	47,739	45,919	-399	-0.9%	-0.1%
Professional, Scientific and Technical Services	66,643	67,920	74,656	8,013	12.0%	1.1%
Real Estate and Rental and Leasing	19,807	17,834	19,056	-751	-3.8%	-0.4%
Retail Trade	210,707	203,123	213,578	2,871	1.4%	0.1%
Transportation and Warehousing	78,447	77,460	98,886	20,439	26.1%	2.3%
Utilities	2,128	1,974	3,658	1,530	71.9%	5.6%
Wholesale Trade	72,543	70,021	71,717	-826	-1.1%	-0.1%
Total All Industries	1,752,278	1,741,546	1,847,252	94,975	5.4%	0.5%

Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

Similar to the civilian labor force statistics, QCEW employment is concentrated in the LWAs with the largest population base: Bluegrass, Kentuckiana Works and Northern Kentucky. This concentration is also growing as illustrated in Figure 27. In 2008, 27.3 percent of Kentucky's overall employment was located in the Kentuckiana Works LWA. This increased to 27.9 percent in 2013 and 28.8 percent in 2018. Over the same ten-year period, Northern Kentucky and Bluegrass also increased their employment share, though the increase in those areas was more modest. Together, these three areas comprised over 60 percent of the overall covered employment in the Commonwealth in 2018.

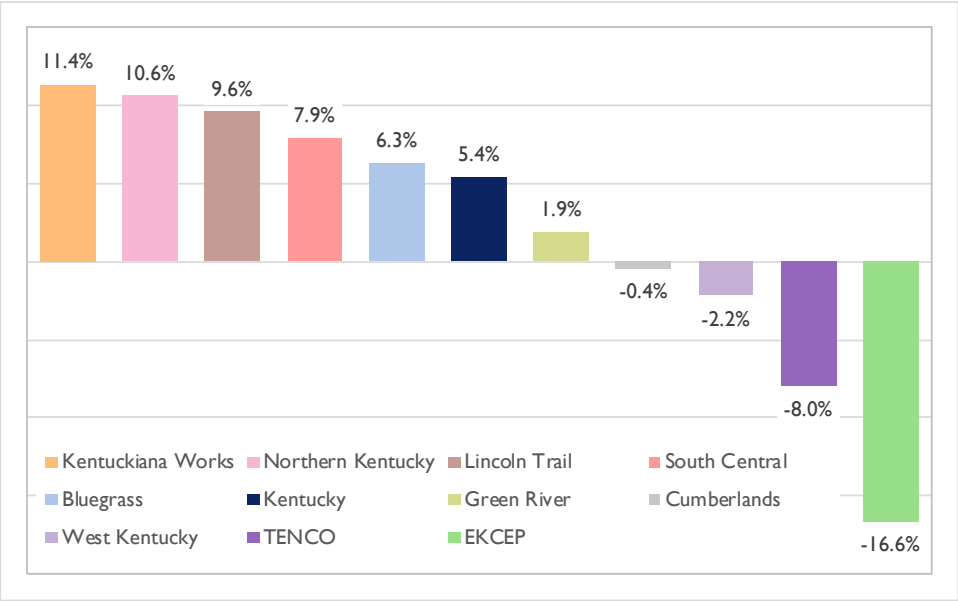
Figure 27 – Concentration of Employment by LWA, 2008, 2013 & 2018



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

LWAs with declining concentrations of employment over the same period were Cumberlands, EKCEP, Green River, TENCO and West Kentucky. EKCEP suffered the largest drop in employment concentration, losing 1.5% of its employment share from 2008 (7.1 percent) to 2018 (5.6 percent).

Figure 28 – Change in Employment by LWA, 2008-2018

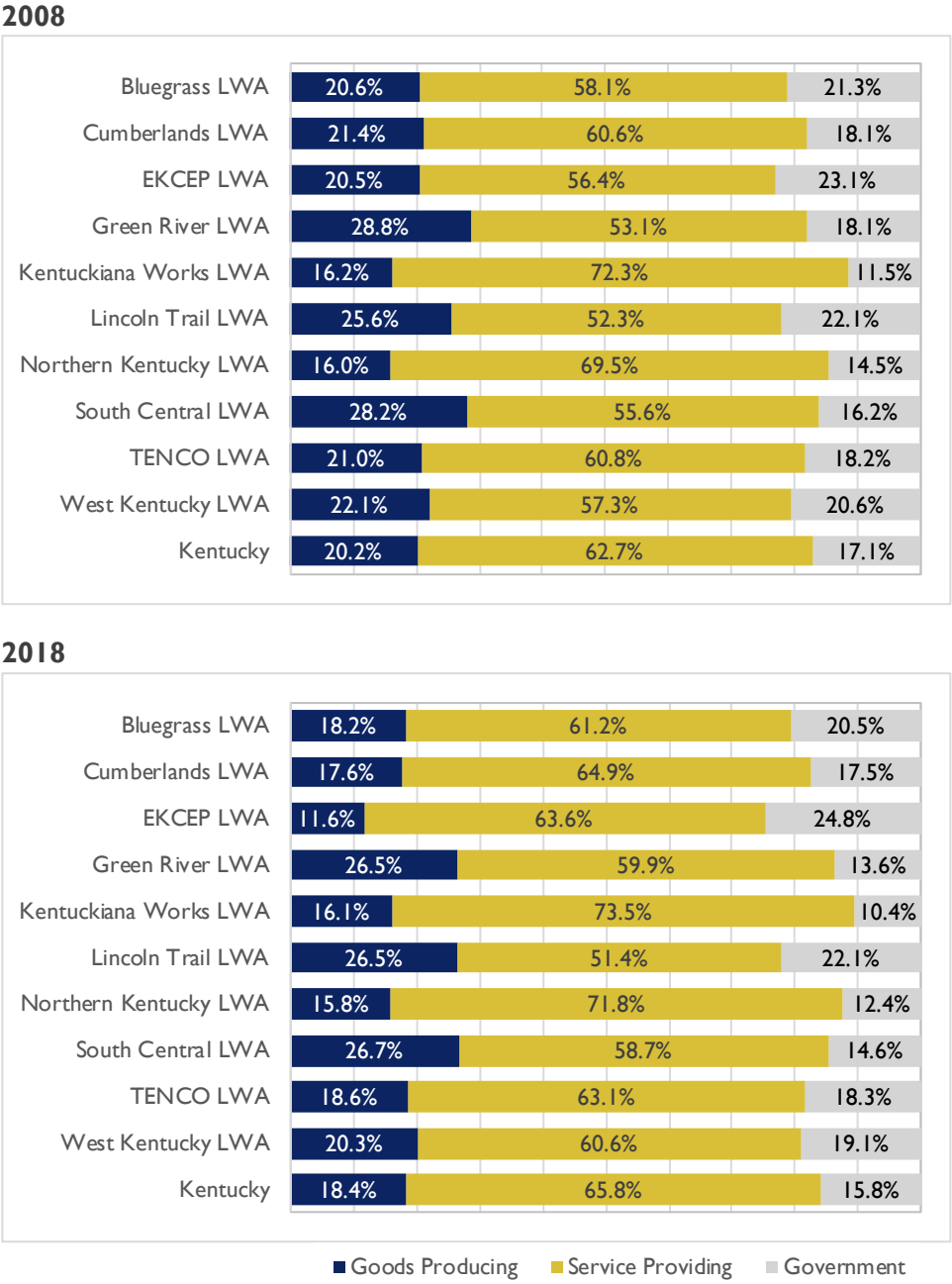


Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

Between 2008 and 2018, employment grew 5.4 percent throughout Kentucky. Five of the LWAs experienced growth that was higher than the state as a whole, one experienced growth that was slower, and four saw declining employment over this time period. The areas with the largest growth were Kentuckiana Works at 11.4 percent (54,272 jobs), Northern Kentucky at 10.6 percent (19,811 jobs) and Lincoln Trail at 9.6 percent (8,189 jobs). The LWAs with the largest declines were EKCEP dropping 16.6 percent (20,754 jobs), TENCO dropping 8.0 percent (5,884 jobs) and West Kentucky losing 2.2 percent (3,339 jobs) over the ten-year period.

Although overall employment fell in four of the LWAs, there were still sectors in those four LWAs that experienced growth. For example, in EKCEP, which saw the largest decline in overall employment at 16.6 percent between 2008 and 2018, a loss of 20,754 jobs, the following sectors saw growth: Accommodation and Food Services, Educational Services, Health Care and Social Assistance, Management of Companies and Enterprise and Utilities. Between these ten years, 3,622 jobs were added in the Health Care and Social Assistance in this LWA. The sector with the largest decline in this area was Mining, Quarrying and Oil and Gas Extraction which lost 11,110 jobs from 2018 to in 2008.

Figure 29 – Share of Employment by Major Industry Groups, 2008 & 2018



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

In 2008, 20.2 percent of all Kentucky employment was in Goods Producing Sectors. This includes the following sectors:

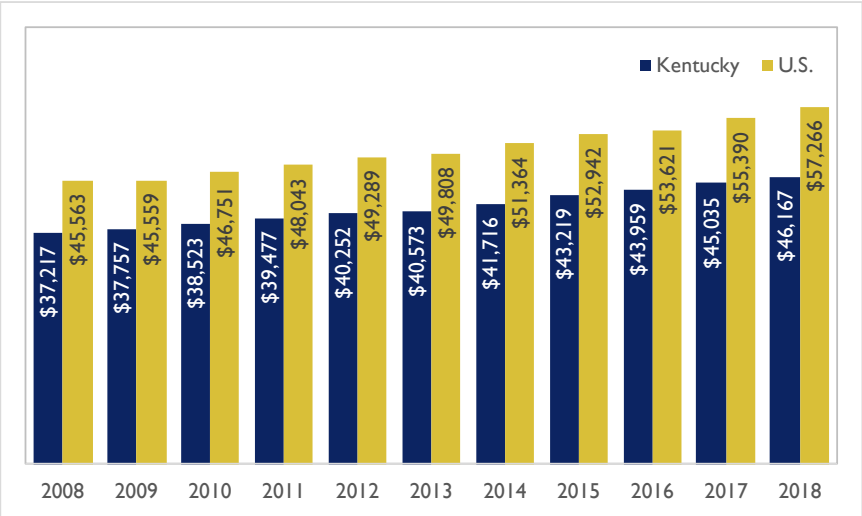
- Agriculture, Forestry, Fishing and Hunting
- Mining, Quarrying and Oil and Gas Extraction
- Construction
- Manufacturing

By 2018, this share of employment in Kentucky had decreased to 18.4 percent. LWAs with more than 25 percent of employment in this industry group include Green River, Lincoln Trail and South Central.

Service Providing sectors include all other sectors except for Government. This group makes up the majority of employment in all LWAs to varying extents. From 2008 to 2018, employment in Service Providing industries in Kentucky grew, from 62.7 percent to 65.8 percent. The LWA with the lowest share of employment in this sector during 2018 was Lincoln Trail (51.4 percent of employment) and Kentuckiana Works had the largest share of employment in this group (73.5 percent). In most LWAs, this share of employment increased over time. The exception was Lincoln Trail LWA.

Employment in Government decreased from 17.1 percent in 2008 throughout Kentucky to 15.8 percent by 2018. LWAs with more than 20 percent of employment in 2018 in Government include Bluegrass, EKCEP and Lincoln Trail.

Figure 30 – Average Annual Wages, 2008 to 2018



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

The average annual wage for covered workers in Kentucky grew steadily between 2008 and 2018 at a compound annual growth rate of 2.2 percent reaching $46,167 in 2018. By contrast, the average annual wage for workers in the U.S. was $57,266 and grew at a compound rate of 2.3 percent per year since 2008. The gap between the average wage in Kentucky and the U.S. overall widened over this ten-year span.

As shown in Figure 31, the highest average annual wage for covered workers in Kentucky was $103,305 in the Management of Companies and Enterprises sector followed by Utilities at $91,909. Industries with the lowest average annual wages were Accommodation and Food Services ($17,021) and Arts, Entertainment and Recreation ($22,939). Combined, these two sectors account for 10.6 percent of jobs in 2018.

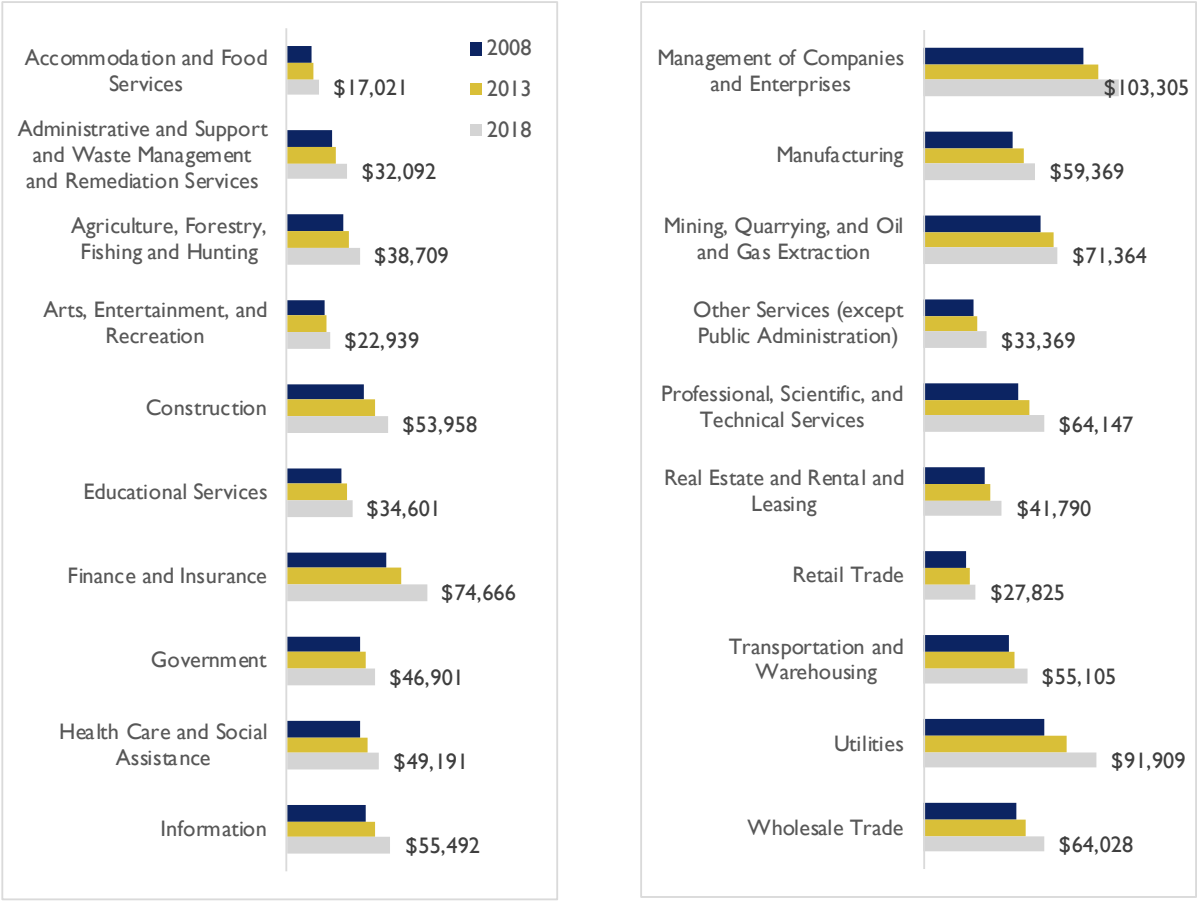
Industry sectors paying higher wages than the state average ($46,167) in 2018 include:

- Construction
- Finance and Insurance
- Government
- Health Care and Social Assistance
- Information
- Management of Companies and Enterprises
- Manufacturing
- Mining, Quarrying and Oil and Gas Extraction
- Professional, Scientific and Technical Services
- Transportation and Warehousing
- Utilities and
- Wholesale Trade

Sectors that experienced faster wage growth than the state between 2008 and 2018 (24.0 percent) include:

- Accommodation and Food Services (30.8%)
- Administrative and Support and Waste Management and Remediation Services (34.5%)
- Agriculture, Forestry, Fishing and Hunting (28.2%)
- Construction (30.2%)
- Finance and Insurance (40.0%)
- Health Care and Social Assistance (25.8%)
- Information (32.8%)
- Manufacturing (24.6%)
- Other Services (except Public Administration) (25.8%)
- Professional, Scientific and Technical Services (27.8%)
- Real Estate and Rental and Leasing (30.5%)
- Utilities (43.8%)

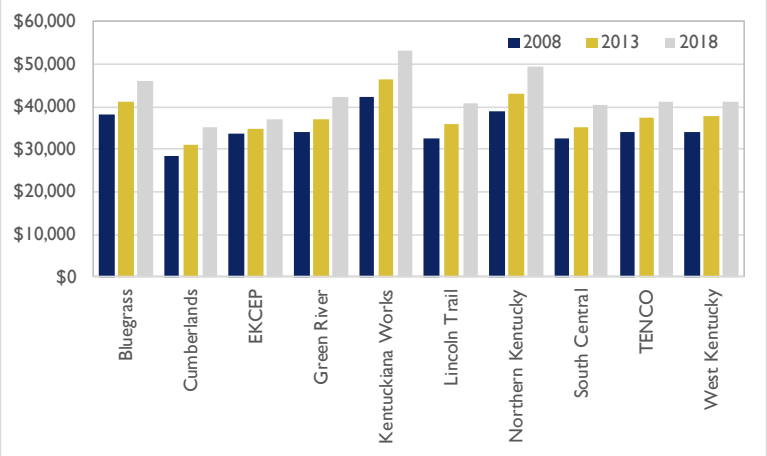
Figure 31 – Average Annual Wages by Industry Sector, 2008 to 2018



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

Average annual wages grew in all of the LWAs between 2008 and 2018. The highest wages were paid in Kentuckiana Works, reaching $53,230 per worker in 2018. The next highest wage was paid in Northern Kentucky at $49,357 per year. There were four LWAs that experienced higher growth than the state growth of 2.2 percent annually between 2008 and 2018. Green River, Kentuckiana Works, Lincoln Trail and Northern Kentucky all exceeded this growth rate. The lowest average annual wages were paid in the Cumberlands LWA, averaging $35,032 per year in 2018. EKCEP followed with an average of $36,961. Wage growth was also the slowest in EKCEP over this time frame, a total of 9.3 percent compared to 24 percent for the state.

Figure 32 – Average Annual Wages by LWA, 2008, 2013 and 2018

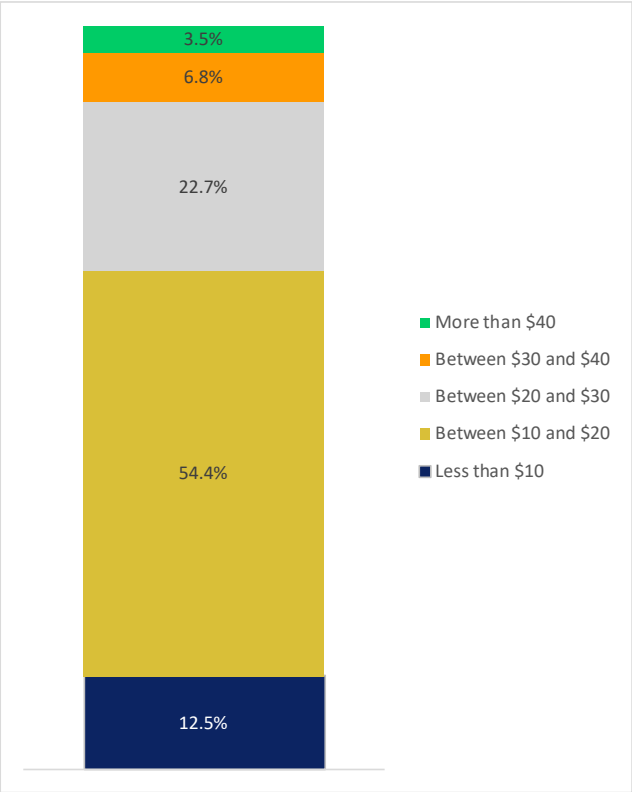


Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2019)

Occupational Employment

In addition to understanding employment and wages by industry sector, similar estimates are available by more than 700 detailed occupations produced by the OES program. The OES survey is designed to create detailed, cross-sectional, employment and wage estimates, providing a "snapshot" of occupational employment and wages for a particular area and time. It is not designed to be used as a time series.

Figure 33 – Distribution of Hourly Wages for Occupations in Kentucky, 2018



Source: KYSTATS, Labor Market Information Branch, Occupational Employment Statistics (OES), "2018 Statewide Wage & Employment," (accessed September 2019).

According to occupational employment and wage estimates, Kentucky's median wage in 2018 across all occupations was $16.62 per hour, ranking 40th in the U.S. The U.S. median hourly wage was $18.12.

Figure 33 displays the estimated distribution of wages across all occupations in the Kentucky labor market during 2018. Of the nearly 1.9 million jobs in Kentucky, 54.4 percent paid between $10 and $20 per hour, constituting the largest group, while 12.5 percent paid less than $10 per hour. For the jobs earning above $20 per hour, there were 22.7 percent paying between $20 and $30 per hour and another 10.3 percent paying more than $30 per hour.

The OES estimates categorize occupations into 22 major groups. As shown in Table 2 below, the 2018 median wage was higher in Kentucky than the same group nationally in three of these groups:

- Farming, Fishing and Forestry
- Education, Training and Library
- Production

In those occupational groups where the United States had a higher median wage, the largest differences were seen in Management, Computer and Mathematical and Legal occupations.

Table 2 – Comparison of Median Hourly Earnings for Major Occupational Group

SOC Code	Major Occupational Group	Median Hourly Wage		Estimated Employment in Kentucky
		U.S.	Kentucky	
00-0000	Total	$18.12	$16.62	1,876,430
11-0000	Management	$49.32	$39.49	85,350
13-0000	Business and Financial Operations	$32.55	$27.81	73,400
15-0000	Computer and Mathematical	$40.66	$31.87	31,120
17-0000	Architecture and Engineering	$38.07	$33.62	26,770
19-0000	Life, Physical and Social Science	$31.01	$26.40	8,270
21-0000	Community and Social Services	$21.08	$18.96	26,480
23-0000	Legal	$38.50	$29.67	9,750
25-0000	Education, Training and Library	$23.43	$24.22	97,850
27-0000	Arts, Design, Entertainment, Sports and Media	$23.19	$18.36	16,690
29-0000	Healthcare Practitioners and Technical	$31.14	$27.56	124,670
31-0000	Healthcare Support	$13.80	$13.58	50,810
33-0000	Protective Service	$19.01	$15.84	37,370
35-0000	Food Preparation and Serving-Related	$10.53	$9.45	179,790
37-0000	Building and Grounds Cleaning and Maintenance	$12.32	$11.72	50,510
39-0000	Personal Care and Service	$11.35	$10.94	56,290
41-0000	Sales and Related	$12.99	$11.67	178,870
43-0000	Office and Administrative Support	$16.70	$15.21	289,340
45-0000	Farming, Fishing and Forestry	$11.73	$13.10	4,100
47-0000	Construction and Extraction	$21.51	$20.70	69,820
49-0000	Installation, Maintenance and Repair	$21.40	$20.77	85,290
51-0000	Production	$16.34	$17.06	199,090
53-0000	Transportation and Material Moving	$15.19	$15.09	174,810

Source: KYSTATS, Labor Market Information Branch, Occupational Employment Statistics (OES), "2018 Statewide Wage & Employment," (accessed September 2019).

The occupational groups with the largest estimated employment were Office and Administrative Support, Production, Food Preparation and Serving Related and Sales and Related occupations. Table 3 provides information on the five largest occupations in Kentucky by typical education required for entry from the BLS publication "Education and Training Assignments by Detailed Occupation." Hourly wages by levels of experience are also provided.

Table 3 – Largest Occupations in Kentucky by Typical Education Required for Entry, 2018

SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25th Percentile	Median	75th Percentile	Experienced
Less than high school							
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	68,450	$8.03	$8.43	$9.10	$9.80	$11.39
41-2031	Retail Salespersons	56,740	$8.19	$8.96	$10.52	$13.35	$19.29
53-7062	Laborers and Freight, Stock and Material Movers, Hand	54,340	$9.68	$10.94	$12.88	$16.24	$20.10
41-2011	Cashiers	49,600	$7.99	$8.46	$9.25	$10.62	$12.29
35-3031	Waiters and Waitresses	30,600	$8.01	$8.40	$9.06	$9.77	$12.83
High school diploma or equivalent							
51-2098	Assemblers and fabricators, all other, including team assemblers	62,840	$10.74	$13.20	$17.26	$22.61	$28.17
43-4051	Customer Service Representatives	36,890	$9.98	$11.65	$14.42	$18.55	$23.67
43-9061	Office Clerks, General	34,240	$8.37	$9.56	$12.85	$17.16	$21.58
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical,	27,060	$9.72	$12.24	$15.21	$18.84	$23.10
49-9071	Maintenance and Repair Workers, General	21,040	$10.42	$13.36	$17.83	$23.71	$29.26
Postsecondary non-degree award							
53-3032	Heavy and Tractor-Trailer Truck Drivers	25,210	$13.34	$16.51	$20.53	$25.28	$31.54
31-1014	Nursing Assistants	23,880	$9.82	$10.84	$12.44	$14.58	$16.84
29-2061	Licensed Practical and Licensed Vocational Nurses	10,140	$15.51	$17.25	$19.99	$22.83	$24.67
31-9092	Medical Assistants	8,640	$10.97	$12.84	$14.94	$17.86	$20.22
49-3023	Automotive Service Technicians and Mechanics	8,410	$10.10	$12.86	$17.29	$23.11	$29.33
Some college, no degree							
43-3031	Bookkeeping, Accounting and Auditing Clerks	20,230	$10.90	$13.86	$17.63	$22.29	$26.87
25-9041	Teacher Assistants	16,180	N/A	N/A	N/A	N/A	N/A
15-1151	Computer User Support Specialists	5,720	$12.95	$16.03	$20.40	$27.02	$34.62

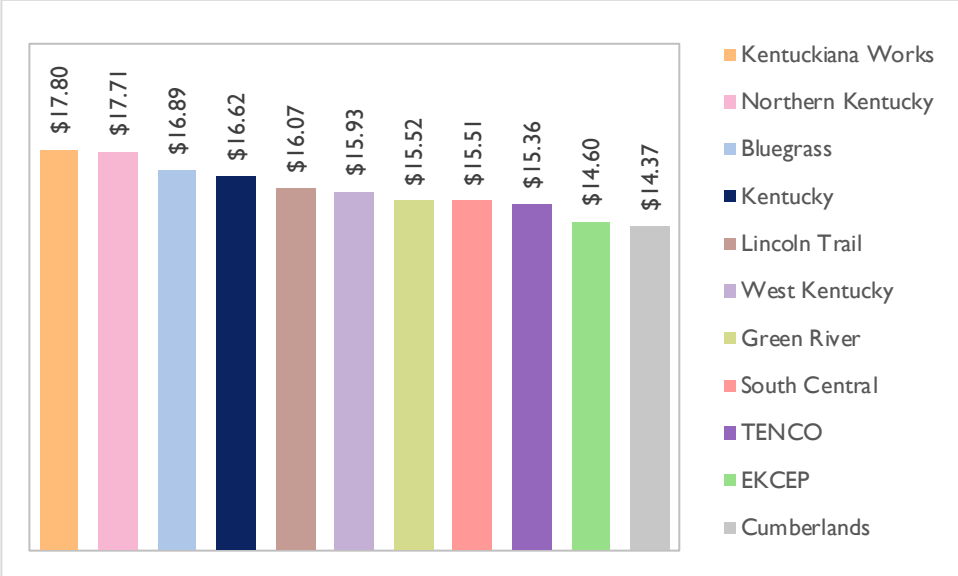
SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25th Percentile	Median	75th Percentile	Experienced
49-2011	Computer, Automated Teller and Office Machine Repairers	2,390	$11.92	$13.99	$17.34	$22.17	$29.32
Associate degree							
29-2010	Clinical Laboratory Technologists and Technicians	4,170	$14.09	$17.46	$22.97	$29.43	$35.31
29-2034	Radiologic Technologists and Technicians	3,810	$17.47	$20.75	$24.68	$29.56	$34.79
25-2011	Preschool Teachers, Except Special Education	3,170	$9.45	$11.20	$15.73	$22.59	$28.03
23-2011	Paralegals and Legal Assistants	2,770	$13.69	$16.83	$21.39	$26.54	$33.34
29-1126	Respiratory Therapists	2,510	$17.46	$20.35	$23.64	$27.66	$30.52
Bachelor degree							
29-1141	Registered Nurses	44,410	$21.26	$25.08	$29.46	$35.05	$39.21
11-1021	General and Operations Managers	27,120	$16.92	$23.29	$34.87	$53.74	$82.84
25-2021	Elementary School Teachers, Except Special Education	18,980	N/A	N/A	N/A	N/A	N/A
25-2031	Secondary School Teachers, Except Special and Career/Technical Ed	12,250	N/A	N/A	N/A	N/A	N/A
13-2011	Accountants and Auditors	10,970	$17.92	$22.68	$29.07	$37.50	$49.61
Master degree							
11-9032	Education Administrators, Elementary and Secondary School	4,240	N/A	N/A	N/A	N/A	N/A
21-1012	Educational, Guidance, School and Vocational Counselors	3,210	$16.05	$21.50	$29.06	$35.57	$40.20
29-1171	Nurse Practitioners	3,110	$33.61	$40.78	$45.82	$50.97	$60.75
25-9031	Instructional Coordinators	2,330	$16.21	$21.00	$29.10	$37.97	$46.12
29-1127	Speech-Language Pathologists	2,100	$23.38	$27.42	$33.54	$43.53	$51.33

SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25th Percentile	Median	75th Percentile	Experienced
Doctoral or professional degree							
23-1011	Lawyers	5,540	$21.57	$28.18	$36.96	$55.49	$81.96
29-1051	Pharmacists	4,840	$45.42	$54.11	$61.01	$70.32	$77.56
29-1069	Physicians and Surgeons, All Other	2,970	$46.59	$83.07	N/A	N/A	N/A
29-1123	Physical Therapists	2,460	$28.50	$34.15	$41.09	$47.33	$52.70
25-1071	Health Specialties Teachers, Postsecondary	2,200	N/A	N/A	N/A	N/A	N/A

N/A = Not available

Source: KYSTATS, Labor Market Information Branch, Occupational Employment Statistics (OES), "2018 Statewide Wage & Employment," (accessed September 2019).

Figure 34 – Median Hourly Wage for All Occupations by LWA, 2018



Source: KYSTATS, Labor Market Information Branch, "2108 LWA Wage & Employment," (accessed September 2019).

Median hourly wage for all occupations in Kentucky was $16.62 per hour. Kentuckiana Works, Northern Kentucky and Bluegrass LWAs all exceeded that as shown in Figure 34. The lowest median hourly wage for all occupations in 2018 was $14.37 in the Cumberlands LWA followed by EKCEP at $14.60 per hour.

Table 4 provides estimated employment and median hourly wages for the major occupation groups for each LWA. The largest five occupations for each LWA are presented in Table 5.

Table 4 – Estimated Employment and Median Hourly Wage by Occupational Group and LWA, 2018

SOC Code	Major Occupational Group	Bluegrass		Cumberlands		EKCEP		Green River		Kentuckiana Works	
		Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage
00-0000	Total	381,590	$16.89	109,190	$14.37	108,970	$14.60	84,540	$15.52	536,670	$17.80
11-0000	Management	19,120	$38.62	3,840	$33.66	4,360	$33.82	3,030	$38.44	26,410	$43.01
13-0000	Business and Financial Operations	16,060	$27.59	2,160	$24.41	2,310	$23.96	2,400	$24.63	27,540	$28.75
15-0000	Computer and Mathematical	7,090	$30.39	1,210	$25.41	610	$23.15	500	$26.49	13,930	$34.68
17-0000	Architecture and Engineering	6,670	$32.88	630	$28.38	860	$27.43	970	$32.71	8,340	$35.19
19-0000	Life, Physical and Social Science	2,740	$25.24	380	$23.02	450	$24.39	290	$24.79	1,880	$29.62
21-0000	Community and Social Services	4,800	$19.77	1,910	$17.69	3,440	$17.08	1,450	$18.40	6,220	$20.83
23-0000	Legal	2,400	$28.41	310	$30.10	730	$30.91	260	$32.62	3,250	$30.68
25-0000	Education, Training and Library	20,460	$24.95	6,940	$23.08	9,940	$23.64	4,660	$22.84	20,670	$25.23
27-0000	Arts, Design, Entertainment, Sports and Media	3,810	$20.21	670	$15.70	900	$15.98	390	$15.64	6,200	$19.99
29-0000	Healthcare Practitioners and Technical	25,140	$27.92	7,930	$24.83	11,110	$23.75	5,470	$27.38	35,350	$29.81
31-0000	Healthcare Support	10,650	$14.01	3,810	$11.84	4,160	$11.74	2,520	$12.89	12,360	$14.86
33-0000	Protective Service	8,310	$16.07	1,910	$16.13	3,550	$14.83	1,550	$13.67	10,490	$14.32
35-0000	Food Preparation and Serving-Related	39,600	$9.40	10,360	$9.30	10,360	$9.21	7,420	$9.31	48,240	$9.76
37-0000	Building and Grounds Cleaning and Maintenance	10,560	$11.79	2,840	$11.26	3,090	$10.63	2,530	$11.24	13,960	$12.25
39-0000	Personal Care and Service	11,400	$11.15	3,870	$11.48	2,990	$9.77	2,720	$10.39	17,410	$11.49
41-0000	Sales and Related	36,320	$11.70	9,660	$11.05	11,840	$9.79	7,640	$10.36	49,810	$12.69
43-0000	Office and Administrative Support	59,770	$15.10	17,790	$13.45	16,690	$13.34	12,880	$14.73	86,290	$16.25
45-0000	Farming, Fishing and Forestry	1,940	$12.18	490	$13.05	120	$15.15	130	$14.44	580	$14.91
47-0000	Construction and Extraction	13,140	$19.90	2,780	$18.70	5,300	$20.57	3,800	$21.14	18,430	$22.18
49-0000	Installation, Maintenance and Repair	15,110	$20.48	4,650	$16.75	4,620	$17.73	4,900	$21.24	23,170	$22.00
51-0000	Production	40,860	$18.28	11,860	$14.76	4,090	$12.94	12,160	$15.79	50,000	$17.41
53-0000	Transportation and Material Moving	25,650	$14.70	13,180	$14.46	7,440	$14.40	6,870	$15.00	56,150	$15.22

SOC Code	Standard Occupational Classification (SOC) Title	Lincoln Trail		Northern Kentucky		South Central		TENCO		West Kentucky	
		Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage
00-0000	Total	93,370	$16.07	201,270	$17.71	120,390	$15.51	70,380	$15.36	155,060	$15.93
11-0000	Management	3,660	$38.89	10,230	$43.93	4,800	$37.21	2,630	$34.97	6,450	$38.04
13-0000	Business and Financial Operations	4,070	$30.11	9,840	$29.15	2,980	$25.65	1,450	$23.91	4,170	$26.85
15-0000	Computer and Mathematical	1,440	$36.47	3,440	$30.58	870	$27.02	340	$27.05	1,280	$28.07
17-0000	Architecture and Engineering	820	$30.77	3,270	$35.26	1,820	$31.61	1,040	$34.24	1,800	$36.29
19-0000	Life, Physical and Social Science	280	$29.88	780	$28.48	340	$26.84	260	$25.26	840	$25.39
21-0000	Community and Social Services	1,440	$17.89	1,860	$20.06	1,680	$17.84	1,450	$18.83	2,050	$18.95
23-0000	Legal	300	$28.06	1,180	$32.97	460	$26.66	230	$27.92	620	$25.82
25-0000	Education, Training and Library	5,360	$22.68	9,110	$24.64	7,040	$24.21	5,180	$23.86	8,260	$23.12
27-0000	Arts, Design, Entertainment, Sports and Media	530	$15.03	1,420	$19.00	1,030	$13.47	270	$12.95	1,090	$15.53
29-0000	Healthcare Practitioners and Technical	5,110	$26.41	10,390	$29.09	6,910	$26.42	6,840	$25.20	10,190	$26.14
31-0000	Healthcare Support	2,370	$13.42	4,430	$14.63	3,250	$12.33	2,890	$12.37	4,280	$12.81
33-0000	Protective Service	1,650	$18.10	3,540	$18.93	2,020	$13.80	1,410	$16.30	2,830	$17.67
35-0000	Food Preparation and Serving-Related	9,270	$9.37	20,030	$9.57	12,120	$9.44	6,800	$9.16	15,160	$9.31
37-0000	Building and Grounds Cleaning and Maintenance	2,560	$12.29	5,110	$12.58	3,270	$11.14	1,900	$11.26	4,190	$11.34
39-0000	Personal Care and Service	2,600	$9.96	5,870	$10.90	3,230	$10.08	1,870	$10.22	4,260	$10.82
41-0000	Sales and Related	9,110	$10.61	19,620	$13.95	11,420	$11.29	7,120	$10.78	15,570	$10.64
43-0000	Office and Administrative Support	13,450	$15.03	31,810	$17.03	16,890	$14.12	9,380	$14.05	22,270	$14.30
45-0000	Farming, Fishing and Forestry	160	$12.80	30	$11.07	220	$13.35	80	$15.54	340	$14.22
47-0000	Construction and Extraction	3,830	$19.05	5,710	$20.14	4,380	$18.84	3,250	$22.01	7,710	$20.38
49-0000	Installation, Maintenance and Repair	4,260	$18.92	9,600	$22.86	6,050	$19.98	2,950	$18.08	8,260	$20.62
51-0000	Production	14,530	$18.22	19,810	$17.58	18,860	$16.80	8,010	$16.43	17,500	$16.88
53-0000	Transportation and Material Moving	6,570	$14.78	24,190	$15.47	10,740	$14.46	5,030	$14.39	15,930	$15.50

Source: KYSTATS, Labor Market Information Branch, "2018 LWA Wage & Employment," (accessed September 2019).

Table 5 – Top Five Occupations in Each LWA, 2018

SOC Code	Standard Occupational Classification (SOC) Title	Est. Emp.	Median Hourly Wage
Bluegrass			
00-0000	Total all occupations	381,590	$16.89
51-2098	Assemblers and fabricators, all other, including team assemblers	19,270	$19.76
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	14,270	$9.19
41-2031	Retail Salespersons	12,070	$10.68
41-2011	Cashiers	9,600	$9.25
29-1141	Registered Nurses	8,970	$29.61
Cumberlands			
00-0000	Total all occupations	109,190	$14.37
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	4,660	$8.94
53-7062	Laborers and Freight, Stock and Material Movers, Hand	4,490	$11.47
41-2011	Cashiers	3,050	$9.01
41-2031	Retail Salespersons	3,020	$10.71
29-1141	Registered Nurses	2,630	$27.60
EKCEP			
00-0000	Total all occupations	108,970	$14.60
41-2011	Cashiers	5,070	$9.02
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	4,730	$8.88
29-1141	Registered Nurses	3,490	$26.83
41-2031	Retail Salespersons	3,440	$10.00
25-2021	Elementary School Teachers, Except Special Education	2,420	N/A
Green River			
00-0000	Total all occupations	84,540	$15.52
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	3,070	$8.97
41-2031	Retail Salespersons	2,790	$9.69
51-2098	Assemblers and fabricators, all other, including team assemblers	2,370	$14.80
41-2011	Cashiers	2,310	$9.09
29-1141	Registered Nurses	2,130	$28.84
Kentuckiana Works			
00-0000	Total all occupations	536,670	$17.80
53-7062	Laborers and Freight, Stock and Material Movers, Hand	18,980	$13.01
51-2098	Assemblers and fabricators, all other, including team assemblers	18,820	$17.26
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	15,680	$9.16
41-2031	Retail Salespersons	15,190	$10.75
43-4051	Customer Service Representatives	13,330	$16.16

SOC Code	Standard Occupational Classification (SOC) Title	Est. Emp.	Median Hourly Wage
Lincoln Trail			
00-0000	Total all occupations	93,370	$16.07
51-2098	Assemblers and fabricators, all other, including team assemblers	5,610	$19.58
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	4,420	$9.09
41-2011	Cashiers	3,250	$9.18
41-2031	Retail Salespersons	2,620	$9.87
29-1141	Registered Nurses	1,650	$28.58
Northern Kentucky			
00-0000	Total all occupations	201,270	$17.71
53-7062	Laborers and Freight, Stock and Material Movers, Hand	7,820	$14.11
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	7,460	$9.24
41-2031	Retail Salespersons	5,930	$10.61
41-2011	Cashiers	4,210	$9.60
35-3031	Waiters and Waitresses	4,000	$9.01
South Central			
00-0000	Total all occupations	120,390	$15.51
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	4,770	$9.16
51-2098	Assemblers and fabricators, all other, including team assemblers	4,420	$16.88
41-2031	Retail Salespersons	3,980	$11.08
53-7062	Laborers and Freight, Stock and Material Movers, Hand	3,580	$12.87
41-2011	Cashiers	3,330	$9.13
TENCO			
00-0000	Total all occupations	70,380	$15.36
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	3,060	$8.96
41-2031	Retail Salespersons	2,490	$10.32
29-1141	Registered Nurses	2,450	$26.44
41-2011	Cashiers	2,410	$9.19
51-2098	Assemblers and fabricators, all other, including team assemblers	1,630	$13.42
West Kentucky			
00-0000	Total all occupations	155,060	$15.93
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	6,050	$9.00
41-2031	Retail Salespersons	5,110	$9.79
41-2011	Cashiers	4,840	$9.10
51-2098	Assemblers and fabricators, all other, including team assemblers	4,780	$15.89
53-7062	Laborers and Freight, Stock and Material Movers, Hand	4,160	$12.84

N/A = Not Available

Source: KYSTATS, Labor Market Information Branch, "2018 LWA Wage & Employment," (accessed September 2019).

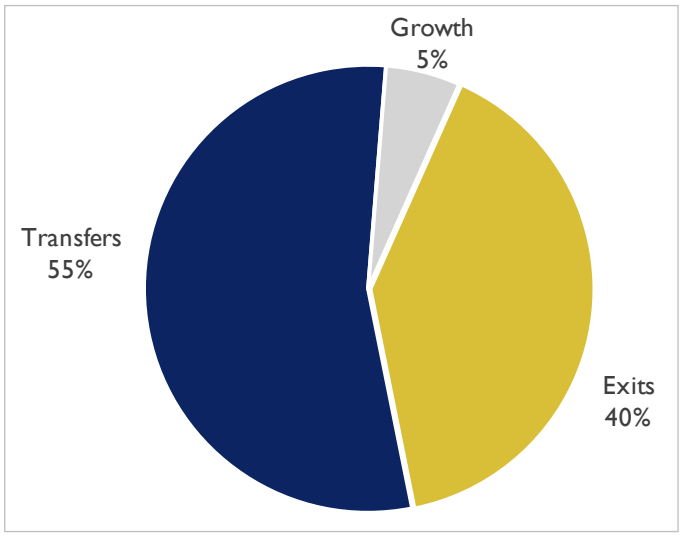
Occupational Projections

Long-term occupational employment projections reflect predicted employer demand for labor over a ten-year period. Projections are available at the major and specific SOC levels. Occupational employment projections include estimates on projected job openings resulting from three events:

- Individuals transferring among occupations (e.g. a career change)
- Individuals exiting the workforce (e.g. retirement) and
- Economic growth (or decline)

The projections also include information on the typical education, training and experience needed for entry and on-the job training typically needed to reach competency in the occupation from the BLS publication "Education and Training Assignments by Detailed Occupation."

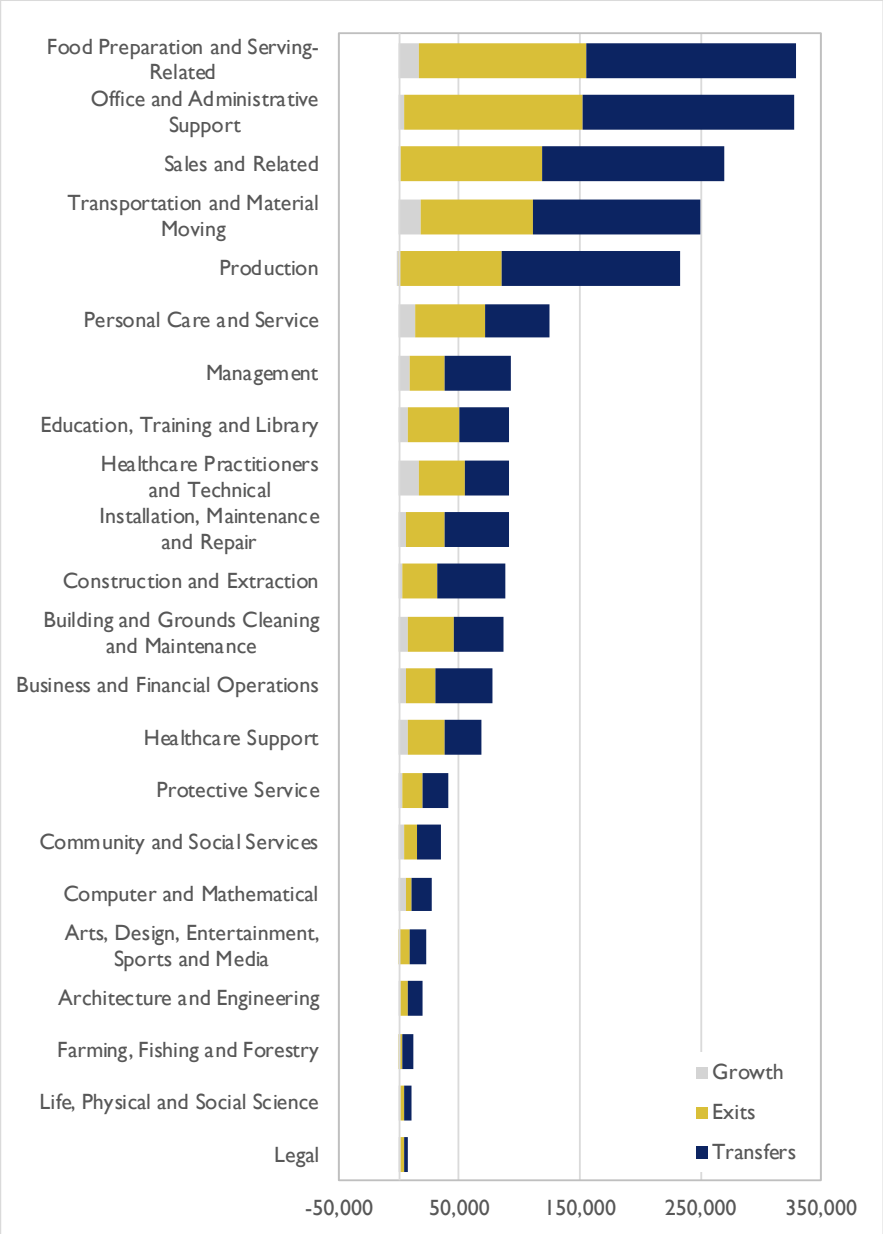
Figure 35 – Projected Job Openings in Kentucky by Event Type



Source: KYSTATS, Labor Market Information Branch, "Kentucky Occupational Outlook to 2026," (accessed September 2019).

In Kentucky, the job market is expected to experience nearly 2.4 million job openings between 2016 and 2026, with the majority of openings attributed to workers transferring between occupations. These transfers are expected to account for 55 percent of the total job openings between 2016 and 2026, 1.3 million openings. An estimated 962,000 exits are projected to occur over this time period as individuals leave the labor force. Economic growth accounts for the remaining 5 percent of projected openings (128,934) between 2016 and 2026.

Figure 36 – Job Openings by Major Occupational Group, 2016 to 2026

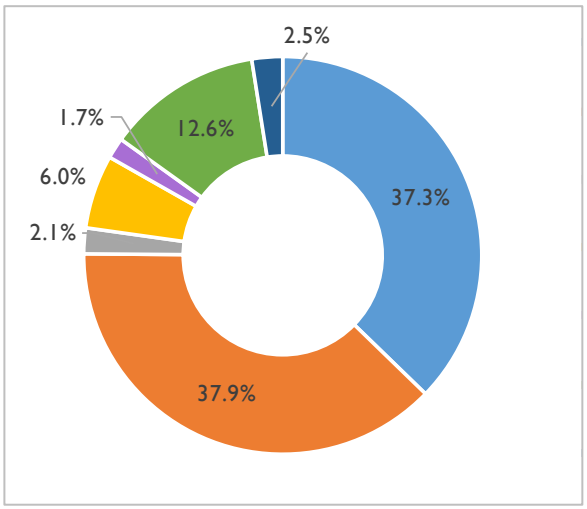


Source: KYSTATS, Labor Market Information Branch, "Kentucky Occupational Outlook to 2026," (accessed September 2019).

The occupational groups with the most projected job openings are Food Preparation and Serving-Related occupations with an estimated 329,585 openings, followed by Office and Administrative occupations with 327,591 expected openings. The majority of those openings are from transfers. The occupational group with the most anticipated growth are Transportation and Material Moving occupations (18,434 jobs), Healthcare Practitioners (16,778 jobs) and Food Preparation and Serving-Related occupations (16,071 jobs). Production occupations are estimated to have negative growth (decline) over this time period (losing 1,230 jobs) However, both exits and transfers are expected in this occupational group, resulting in overall projected openings of 232,389 jobs.

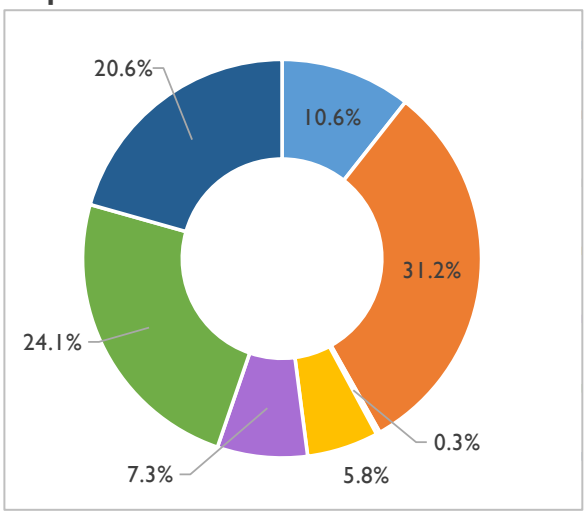
Figure 37 – Projected Job Openings by Required Education

Percent of Total Openings by Required Education

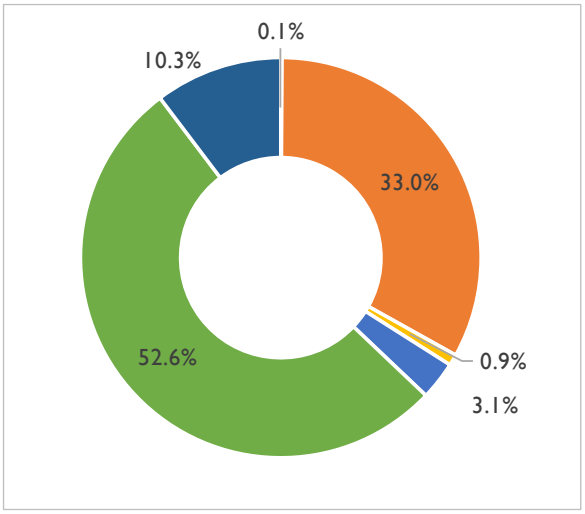


Many job openings in the next decade will not require comparatively high levels of educational attainment. Less than a quarter (24.9%) of all job openings in Kentucky from 2016 to 2026 will require education beyond a high school diploma or equivalent award. Among all projected openings, 37.3% typically require less than high school completion, and 37.9% require only a high school diploma or equivalent award. This is partially explained by the high numbers of exits from the workforce and high numbers of transfers to other occupations expected among occupations requiring these levels of education.

Percent of High Growth Occupations by Required Education



Percent of Openings from High Pay Occupations by Required Education



- Less than high school
- High school diploma or equivalent
- Some college, no degree
- Postsecondary non-degree award
- Associate's degree
- Bachelor's degree
- Master's, Doctoral or professional degree

Source: KYSTATS, Labor Market Information Branch, "Kentucky Occupational Outlook to 2026," (accessed September 2019).

The majority of the fastest-growing jobs (58.1 percent) will require some form of postsecondary education. Additionally, more than a fifth (20.6 percent) of these high-growth occupations require a Master, doctoral or professional degree. Only 41.8 percent of projected high-growth occupations typically require a high school diploma, equivalent award or less.

A Bachelor degree will be the most commonly required level of education for high-paying jobs. More than half (62.9 percent) of all openings in occupations with above-average mean salaries will require a Bachelor or more advanced degree. Virtually none (0.1 percent) of the openings from high-paying jobs will typically require less than a high school diploma or equivalent award.

Occupations can be classified as high, moderate or basic skill by typical education required for entry.

- High skill occupations include occupations requiring more than a Bachelor degree. This also includes occupations requiring a Master degree or a doctoral or professional degree.
- Moderate skill occupations include occupations requiring an associate degree, postsecondary non-degree award or some college with no degree.
- Basic skill occupations include occupations requiring either a high school diploma or equivalent or no formal education.

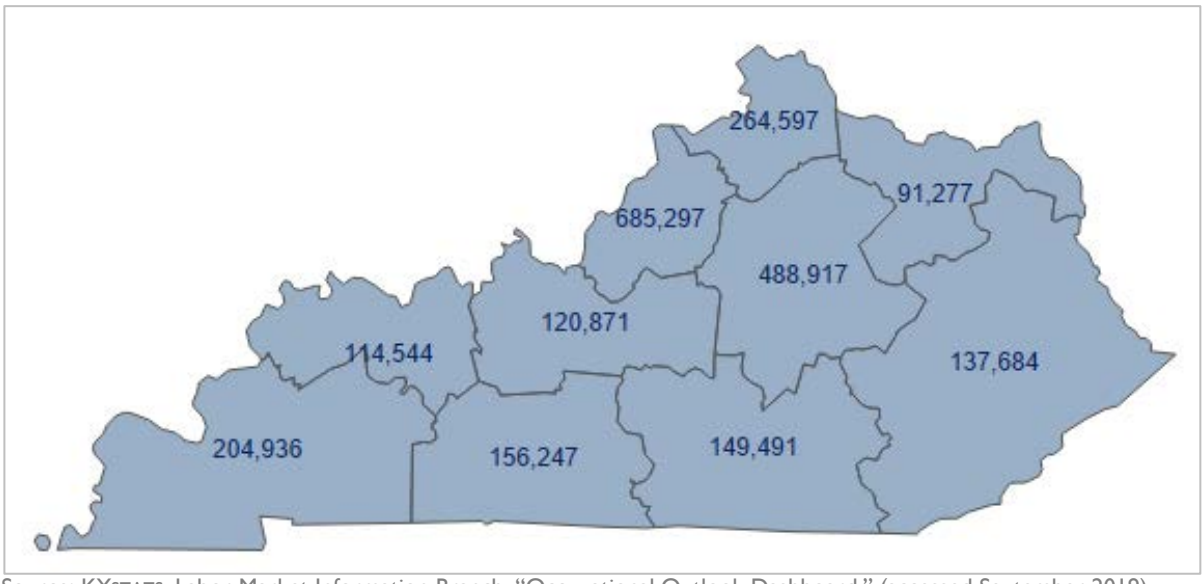
The occupations with the most projected job openings for each skill group are shown in Table 6. Among high skill occupations, the most openings will occur in Registered Nurses with an expected 30,350 openings by 2026. The median wage for this occupation was $61,273 in 2018.

Table 6 – Most Job Openings by Skill Classification

SOC Code	SOC Title (Code)	Est. Emp.	Job Openings: Exits	Job Openings: Transfers	Job Openings: Change	Job Openings: Total	Median Wage
High Skill							
29-1141	Registered Nurses	46,265	14,051	10,670	5,629	30,350	$61,273
11-1021	General and Operations Managers	27,837	5,989	17,233	2,105	25,327	$72,534
25-2021	Elementary School Teachers, Except Special Education	17,580	5,955	6,680	930	13,565	$54,276
13-2011	Accountants and Auditors	11,658	3,606	7,030	1,118	11,754	$60,471
13-1199	Business Operations Specialists, All Other	9,168	3,003	5,523	810	9,336	$65,033
Moderate Skill							
53-3032	Heavy and Tractor-Trailer Truck Drivers	29,399	12,832	19,012	1,731	33,575	$42,692
31-1014	Nursing Assistants	24,280	15,346	12,767	1,962	30,075	$25,859
43-3031	Bookkeeping, Accounting and Auditing Clerks	23,502	14,421	11,191	-423	25,189	$36,654
25-9041	Teacher Assistants	15,476	8,765	7,285	984	17,034	$25,742
31-9092	Medical Assistants	8,280	4,058	5,677	1,929	11,664	$31,074
Basic Skill							
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	67,887	64,806	67,777	10,597	143,180	$18,926
41-2011	Cashiers	49,551	45,640	44,542	-1,881	88,301	$19,235
53-7062	Laborers and Freight, Stock and Material Movers, Hand	53,664	28,546	49,267	7,916	85,729	$26,795
41-2031	Retail Salespersons	58,195	37,050	46,443	654	84,147	$21,869
35-3031	Waiters and Waitresses	29,411	22,362	34,262	1,599	58,223	$18,844

Source: KYSTATS, Labor Market Information Branch, "Kentucky Occupational Outlook to 2026," (accessed September 2019).

Figure 38 – Projected Job Openings by LWA, 2016 to 2026



Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019).

The LWAs with the most projected job openings between 2016 and 2026 include:

- Kentuckiana Works (685,297 openings)
- Bluegrass (488,917 openings)
- Northern Kentucky (264,597 openings)

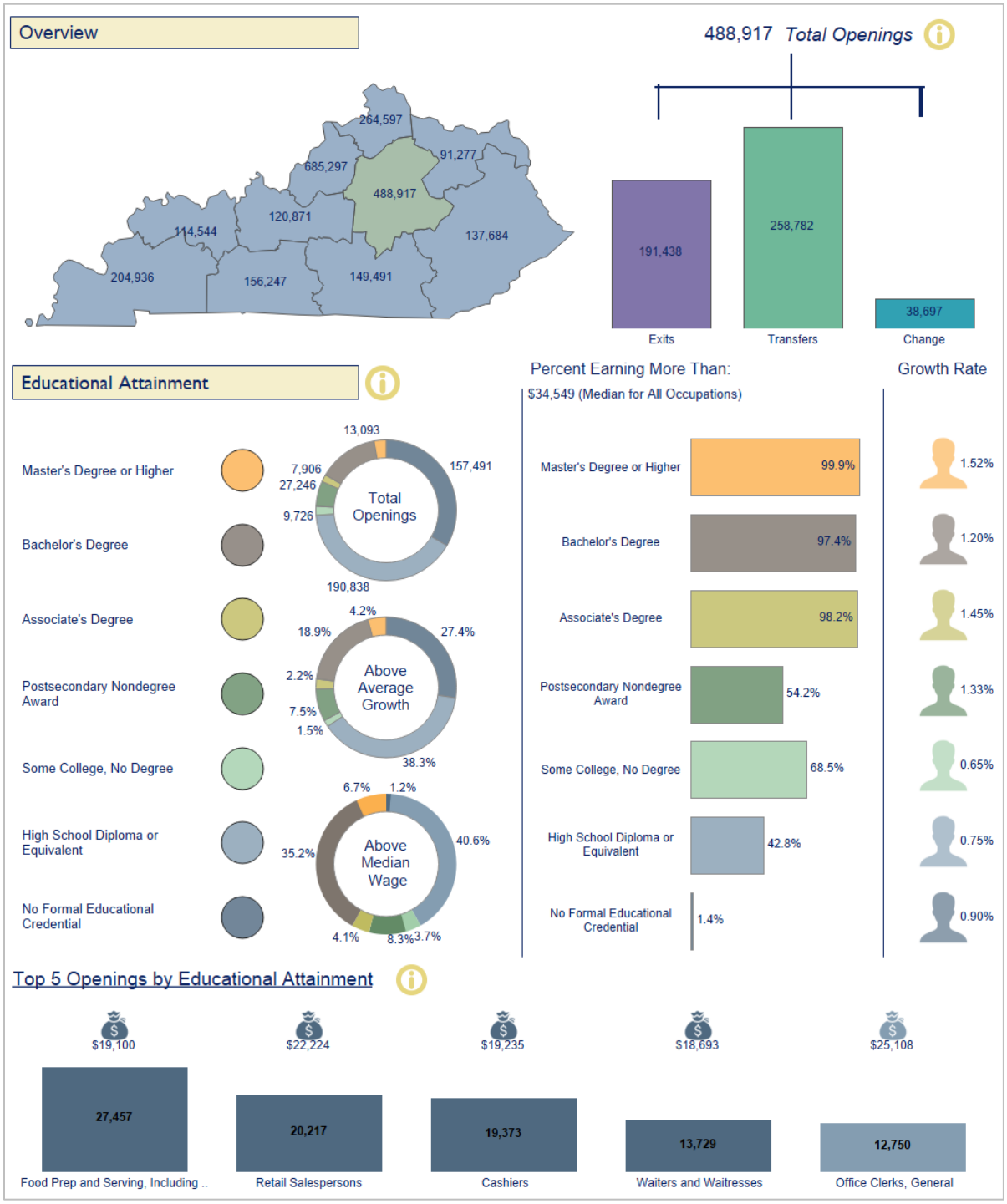
The LWAs with the least projected openings are:

- TENCO (91,277 openings) and
- Green River (114,544 openings)

Detailed information on occupational projections for each of the LWAs comes from our Occupational Outlook dashboard. The online, interactive dashboard provides information on the total openings by type and typical education required for entry. It also provides information on growth rates, wages and the top five openings by educational attainment. Snapshots for each LWA are in Appendix A.

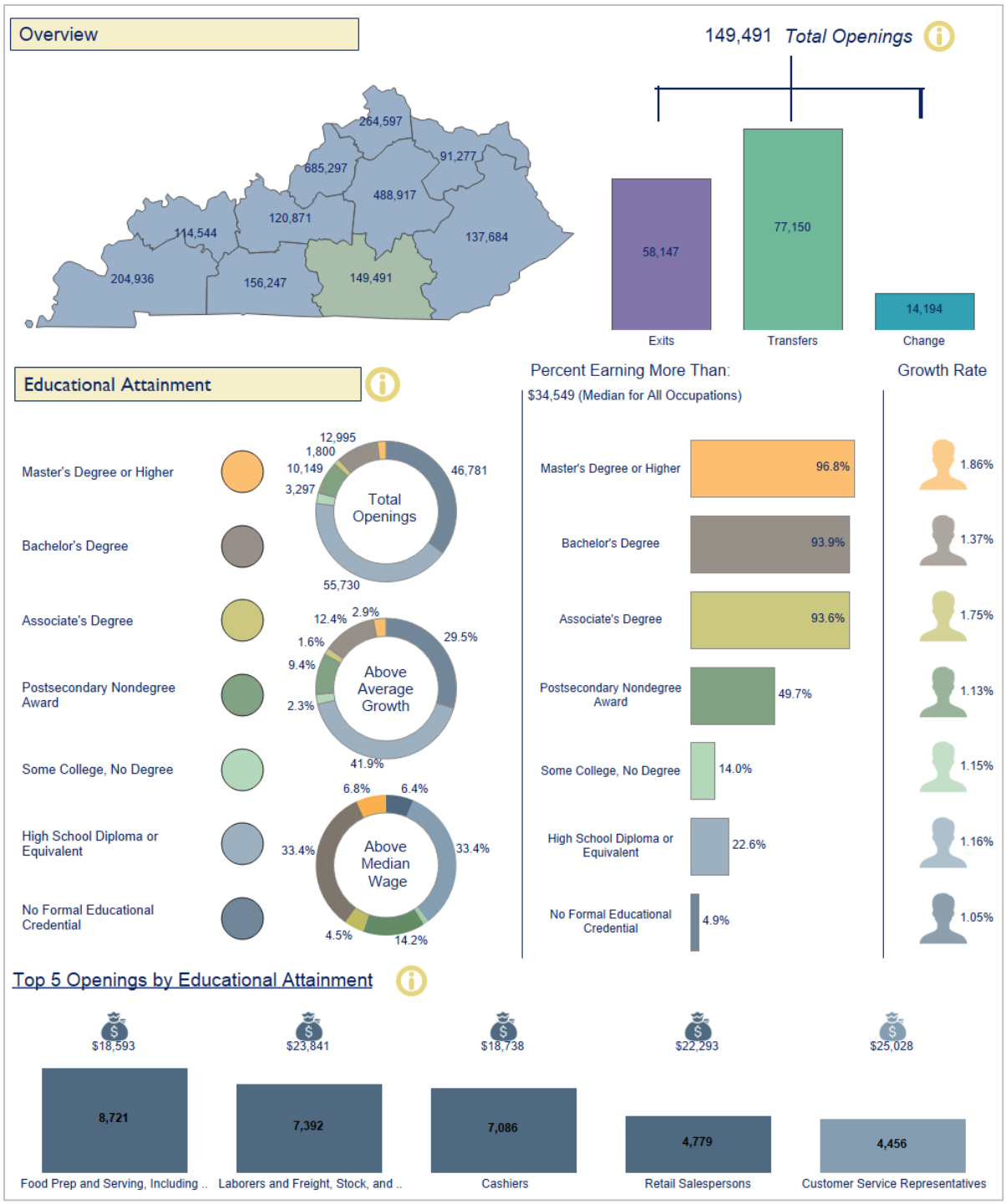
Appendix A
Occupational Outlook for LWAs

Bluegrass LWA Occupational Outlook, 2016 to 2026



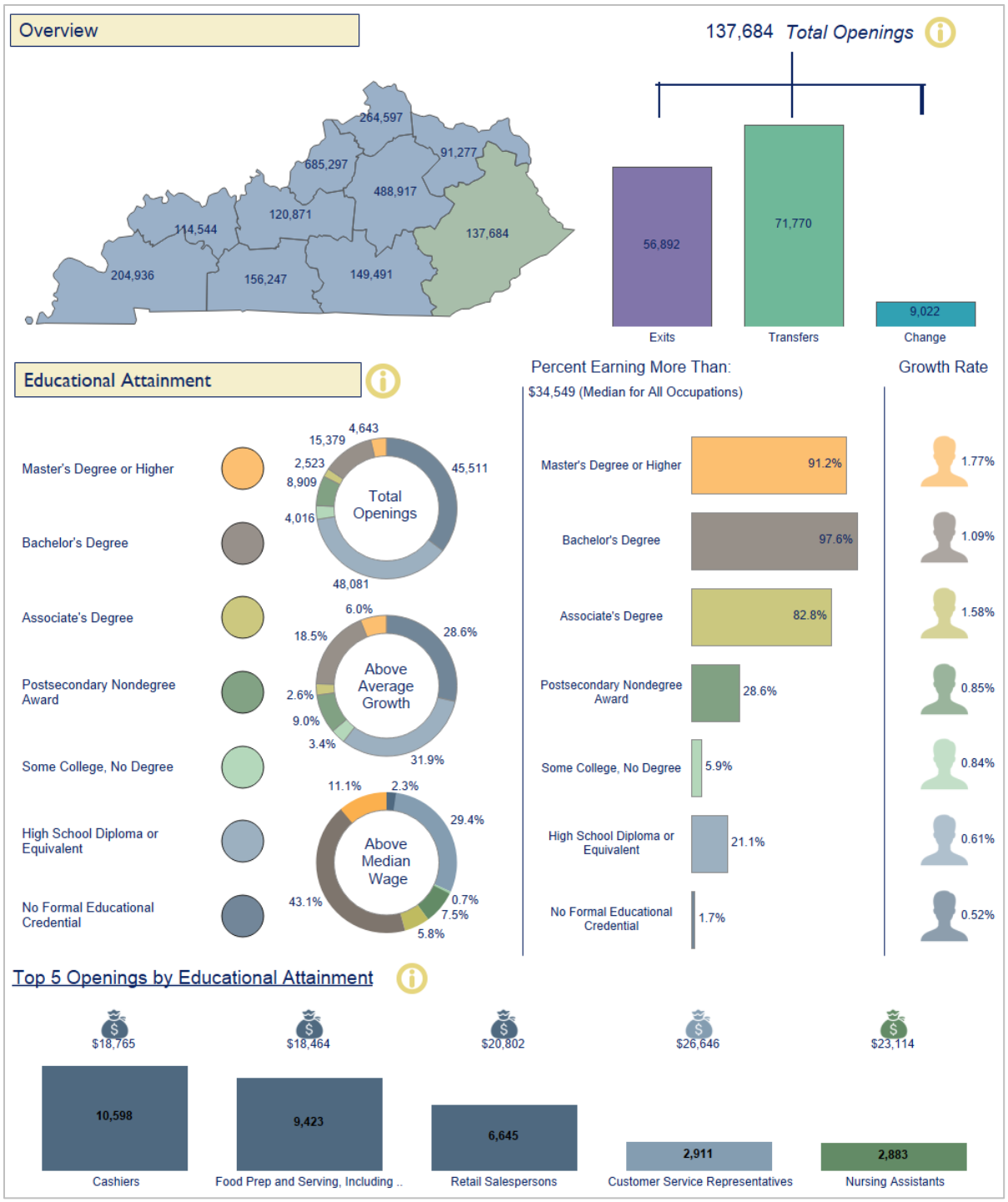
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

Cumberlands LWA Occupational Outlook, 2016 to 2026



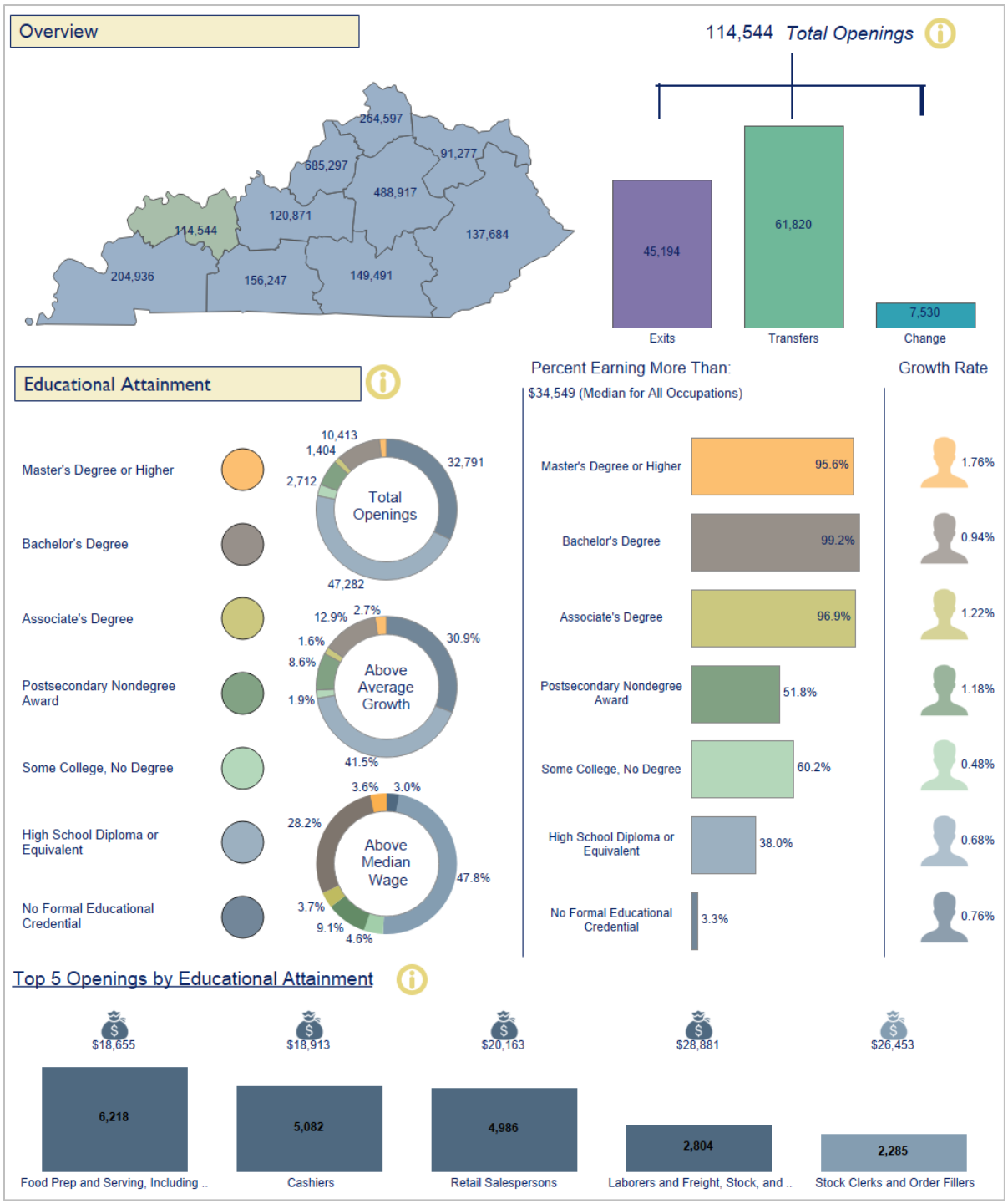
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

EKCEP LWA Occupational Outlook, 2016 to 2026



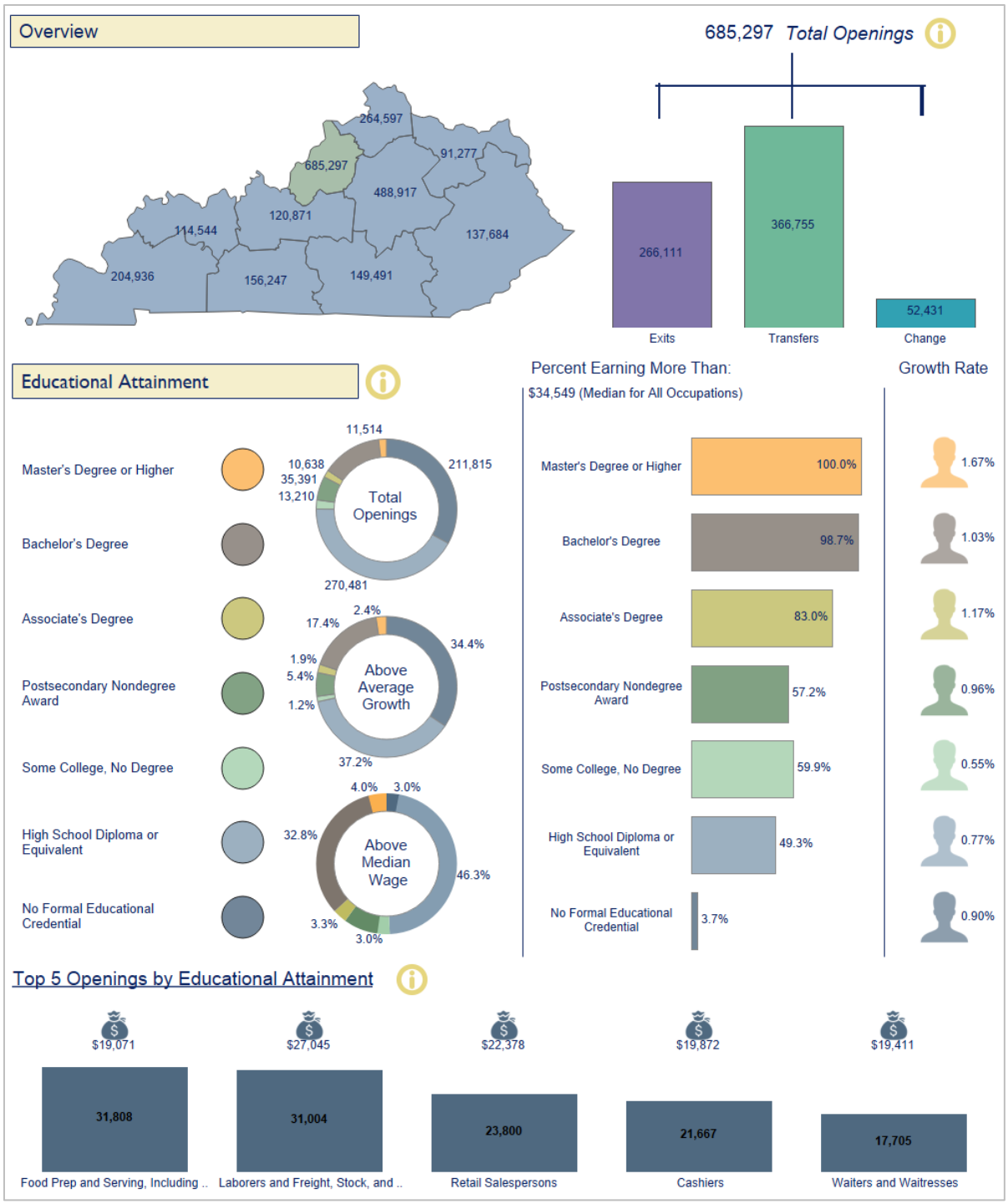
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

Green River LWA Occupational Outlook, 2016 to 2026



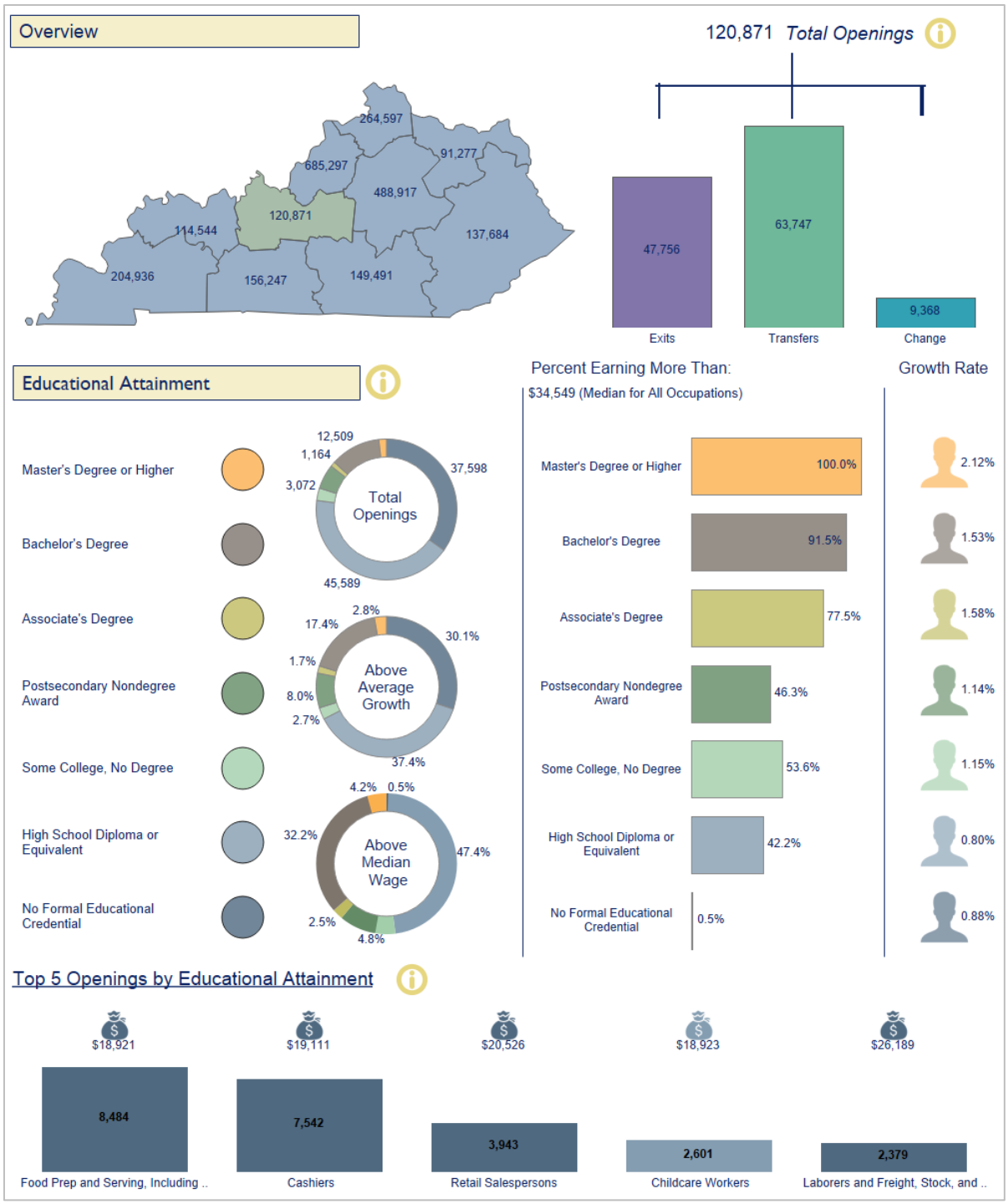
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

Kentuckiana Works LWA Occupational Outlook, 2016 to 2026



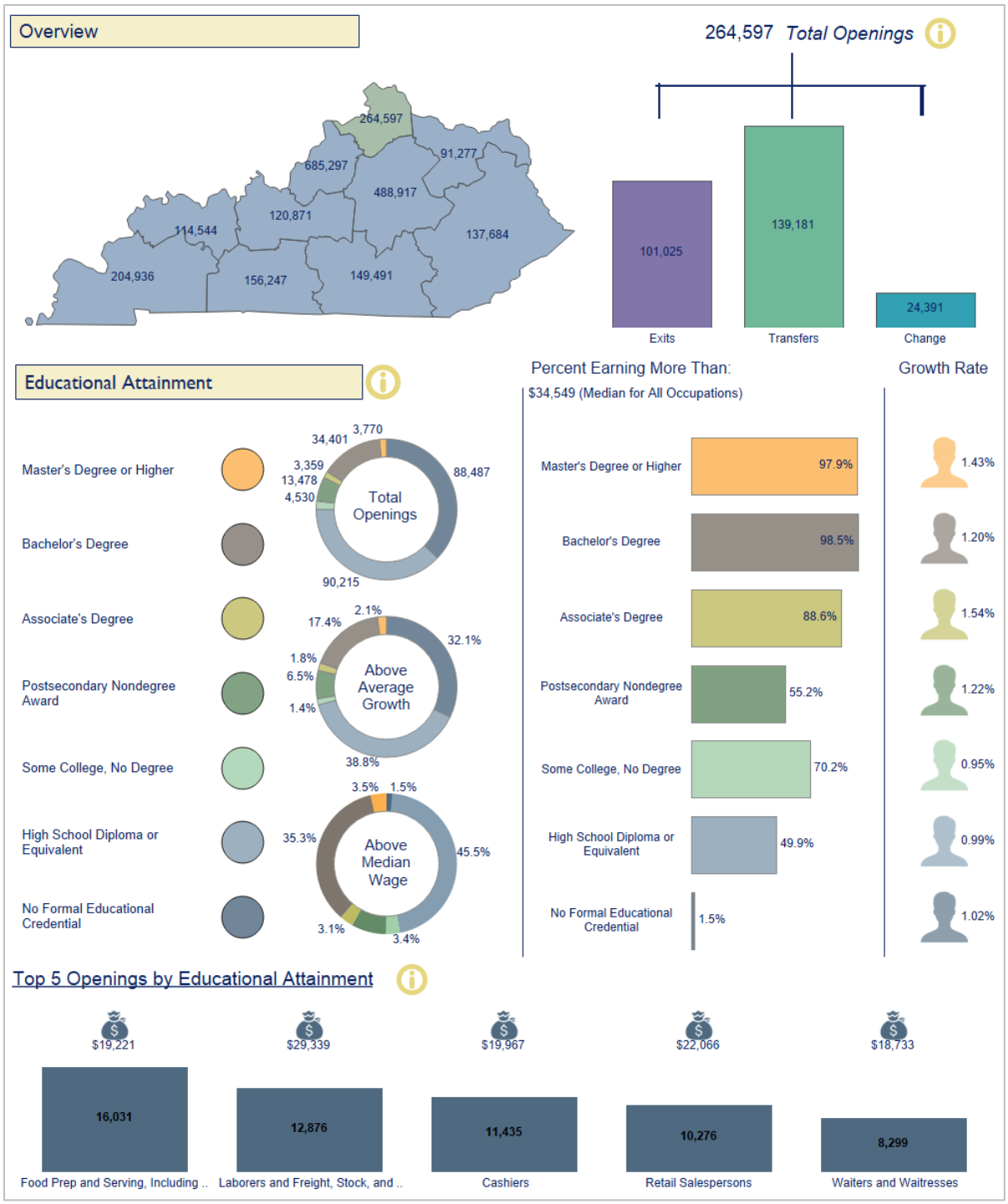
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

Lincoln Trail LWA Occupational Outlook, 2016 to 2026



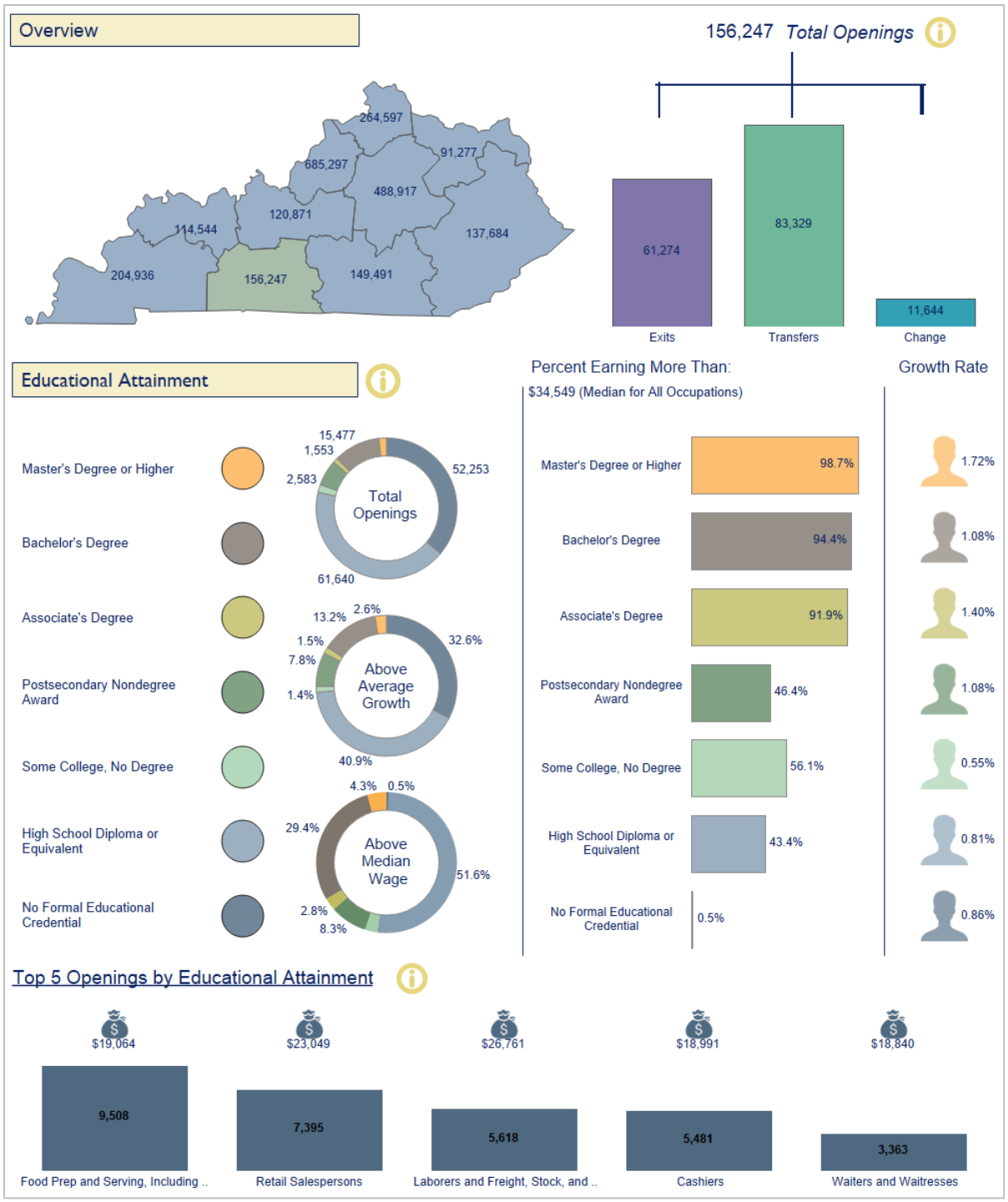
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

Northern Kentucky LWA Occupational Outlook, 2016 to 2026



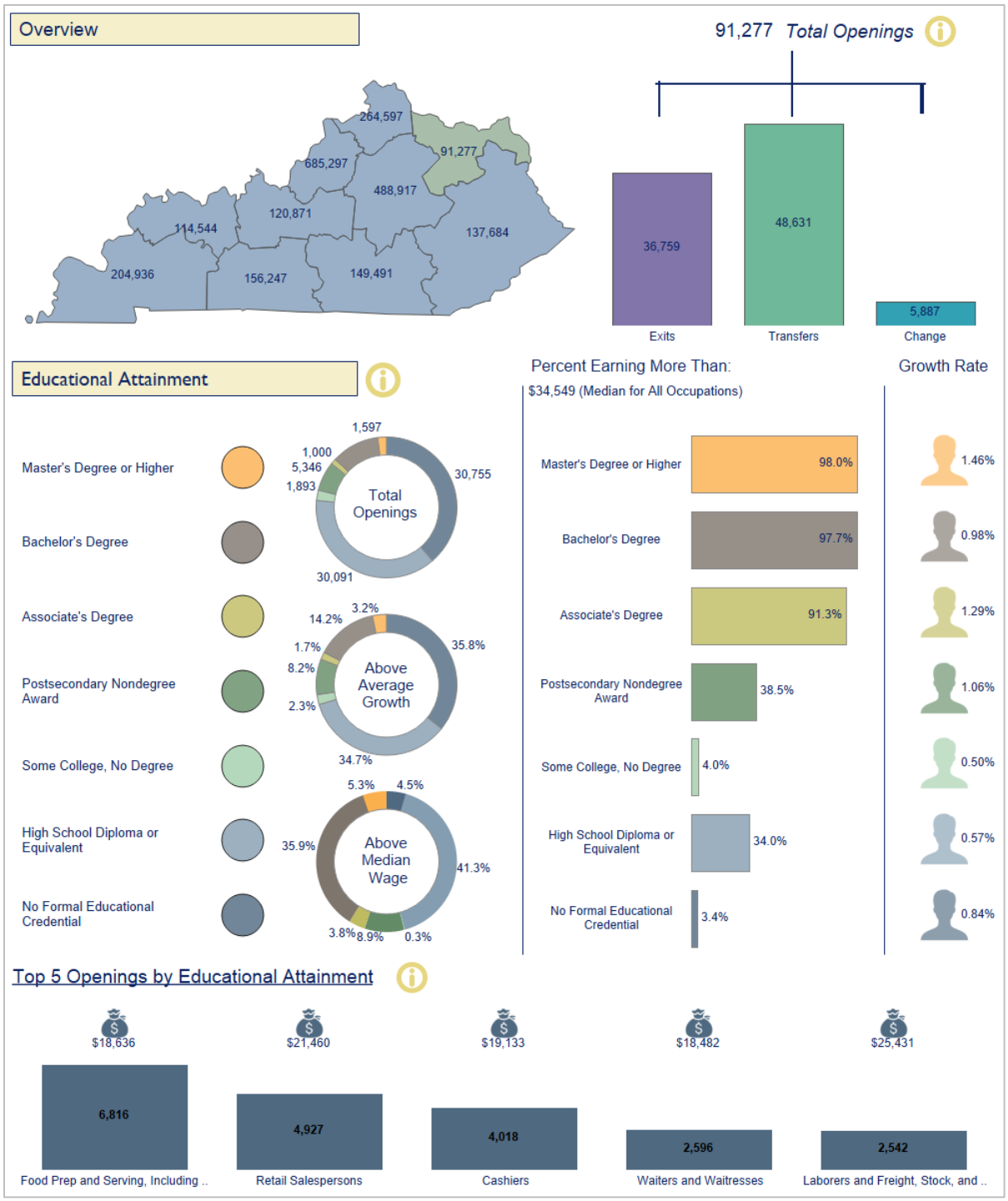
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

South Central LWA Occupational Outlook, 2016 to 2026



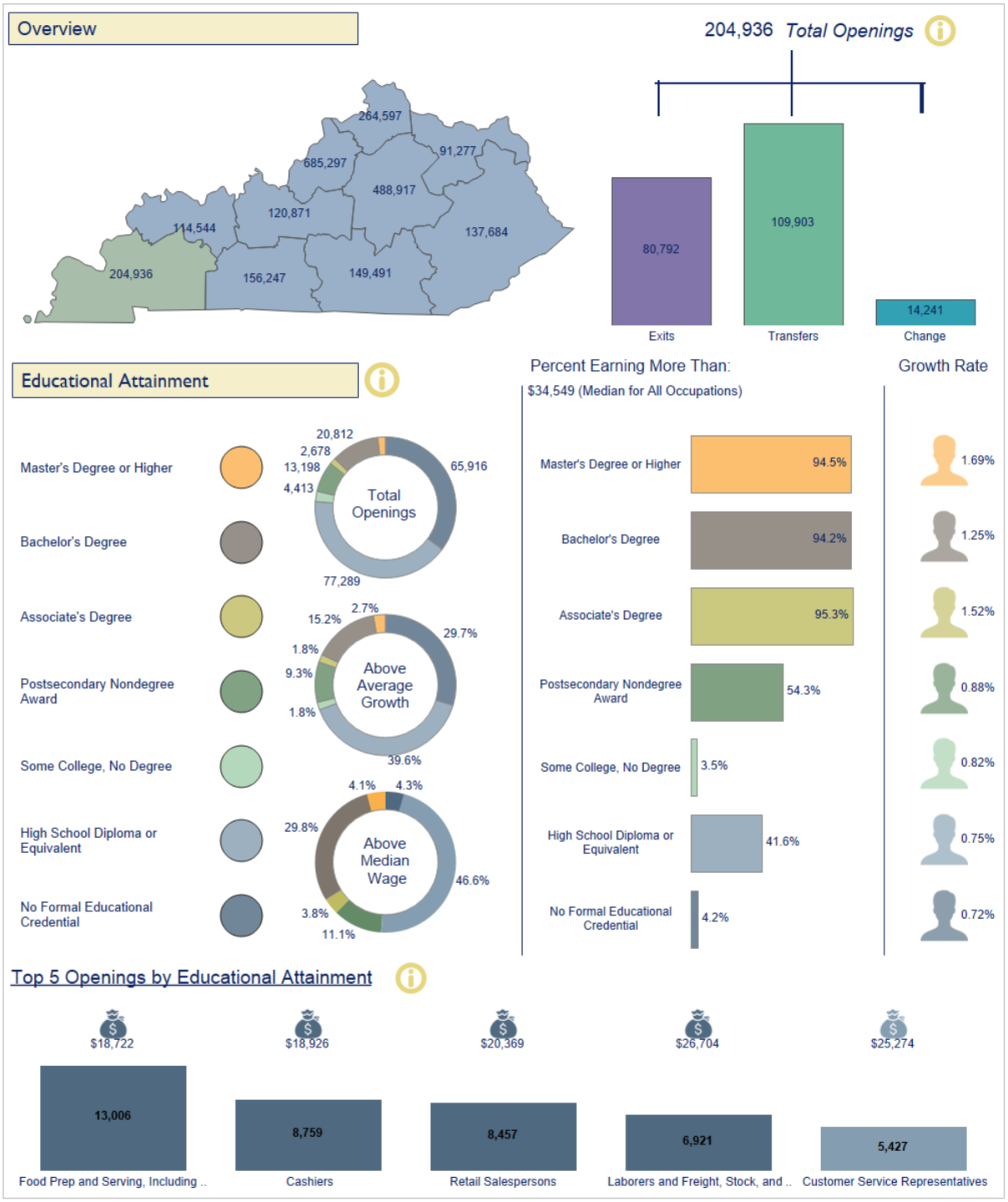
Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

TENCO LWA Occupational Outlook, 2016 to 2026



Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019

West Kentucky LWA Occupational Outlook, 2016 to 2026



Source: KYSTATS, Labor Market Information Branch, "Occupational Outlook Dashboard," (accessed September 2019). https://kystats.ky.gov/Reports/Tableau/OOD_2019