

KENTUCKY ECONOMIC ANALYSIS PY 2019

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Prepared by



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INTRODUCTION

The PY 2019 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. 5-19, 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 2009 to 2019. Population projections span the years 2010 to 2040. Projection estimates for occupations covers the years 2018 to 2028.

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 (2014-2018) 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 covered industry employment and wage growth over time.

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



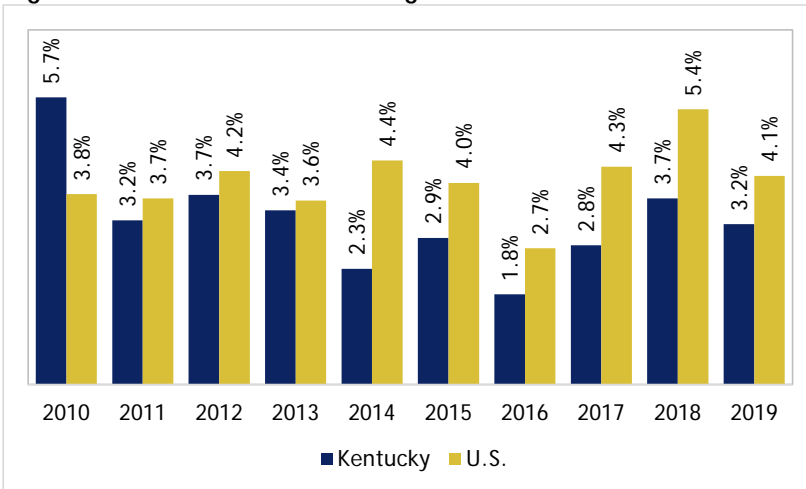
Figure 1 - Kentucky's Local Workforce Areas (LWA)



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

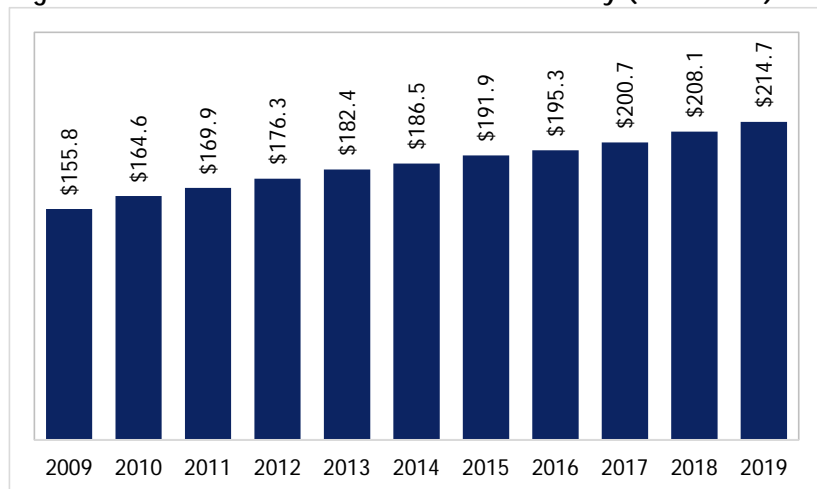


Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed August 2020).

The adjacent chart compares over-the-year change in GDP for the U.S. and Kentucky since 2009. Kentucky's GDP began to recover from the 2008 recession more quickly than the U.S. from 2009 to 2010, increasing 5.7 percent compared to 3.8 percent in the U.S. However, since 2010, the national GDP has been growing faster than Kentucky. Since 2009, Kentucky's GDP has grown at a Compound Annual Growth Rate (CAGR) of 3.3 percent. Over the same time frame, GDP for the U.S. has grown at

a CAGR of 4.0 percent annually. As shown in Figure 3, Kentucky's GDP was \$214.7 billion in 2019, an increase of 3.2 percent from 2018.

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



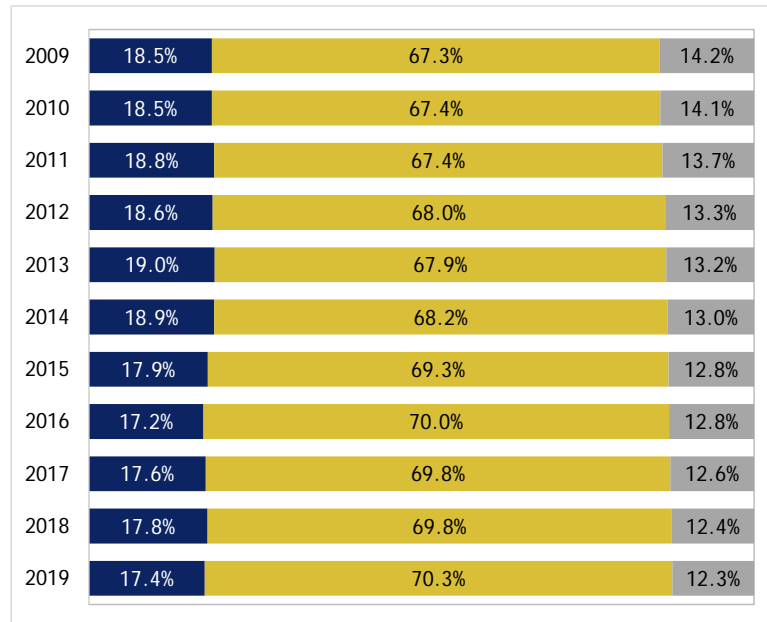
Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed August 2020).



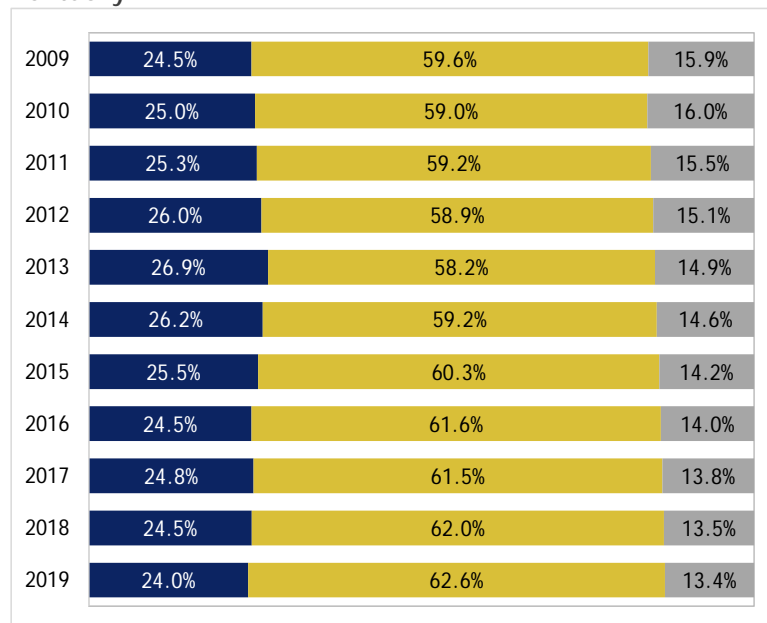
GDP is classified into three major categories: private goods producing, private service providing and government. Examining the data at this level shows the shift between Goods Producing Sectors and Service Providing Sectors.

Figure 4 - U.S. and Kentucky GDP for Public and Private Sectors, 2009-2019

United States



Kentucky



■ Private, Goods Producing Industries ■ Private, Service Providing Industries ■ Government

Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed August 2020).

decrease of 2.5 percentage points. Over this same span of time, the share of GDP in Government in the U.S. fell 1.9 percentage points.

As shown in Figure 4, 67.3 percent of U.S. GDP in 2009 was from private service providing industries. This increased to 70.3 percent in 2019. In Kentucky, 62.6 percent of the state's GDP was attributed to private service providing industries in 2019, an increase of 3.0 percentage points from the 59.6 percent recorded in 2009, but still below the U.S. average.

Kentucky's economy relies more heavily on private goods producing industries than the U.S. In 2019, nearly one-quarter of the state's GDP was attributed to private goods producing industries, 24.0 percent, which is down from a peak of 26.9 percent in 2013. The U.S. share declined from 19.0 percent to 17.4 percent over the same time frame. Although the share declined for both Kentucky and the U.S. between 2009 and 2019, the gap between the U.S. and Kentucky widened. In 2009, there was a difference of 6.0 percentage points, which grew to 6.6 percentage points by 2019.

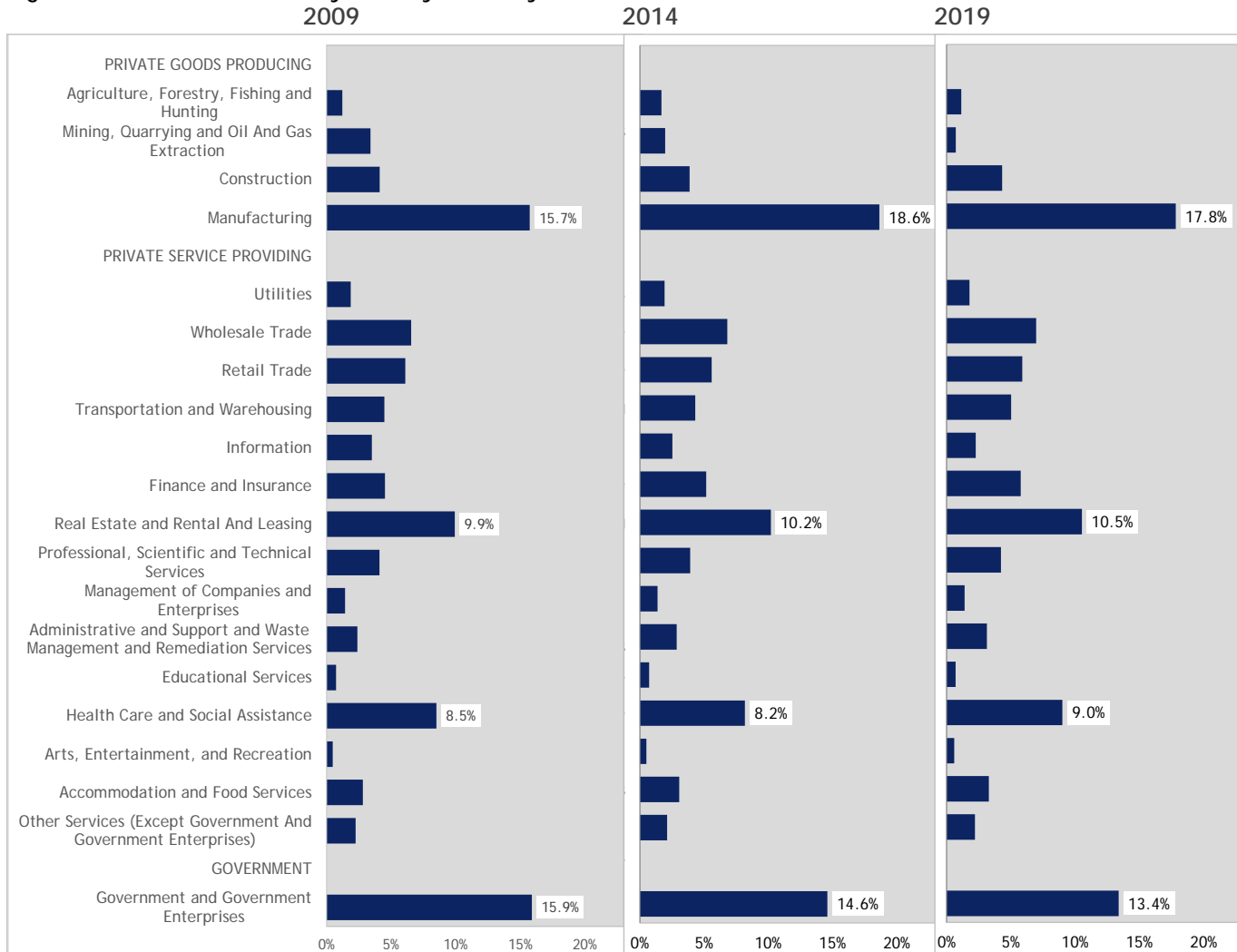
Government as a share of GDP was also higher in Kentucky than in the U.S., 13.4 percent in 2019 compared to 12.3 percent in the U.S. This share declined for both the U.S. and Kentucky, but Kentucky experienced a larger drop. In 2009, the share of GDP attributed to Government was 15.9 percent. This increased to 16 percent in 2010 and then fell each year to a low of 13.4 percent in 2019, a total



Figure 5 examines the contribution individual economic sectors made towards the state GDP over five-year periods beginning in 2009. 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, 2009, 2014 and 2019



Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed August 2020).



Manufacturing was the largest contributor to state GDP in 2019, contributing 17.8 percent to the total. This is an increase from 2009 but a decrease from 2014. Between 2009 and 2019, manufacturing decreased its contribution to GDP nationally from 11.8 percent in 2009 to 11.0 percent in 2019. The second largest contributor to Kentucky GDP 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 Kentucky GDP.

In addition to Government, several other sectors have experienced a declining share of GDP since 2009 including Agriculture, Forestry, Fishing, and Hunting; Mining, Quarrying, and Oil and Gas Extraction; Utilities; Retail Trade; Information; and Other Services. Between 2009 and 2019, the Mining, Quarrying and Oil and Gas Extraction sector experienced the largest overall drop in GDP. In 2009, this sector contributed nearly \$5.3 billion to state GDP, 3.4 percent of total GDP. In 2019, this dropped to \$1.5 billion, 0.7 percent of state GDP.

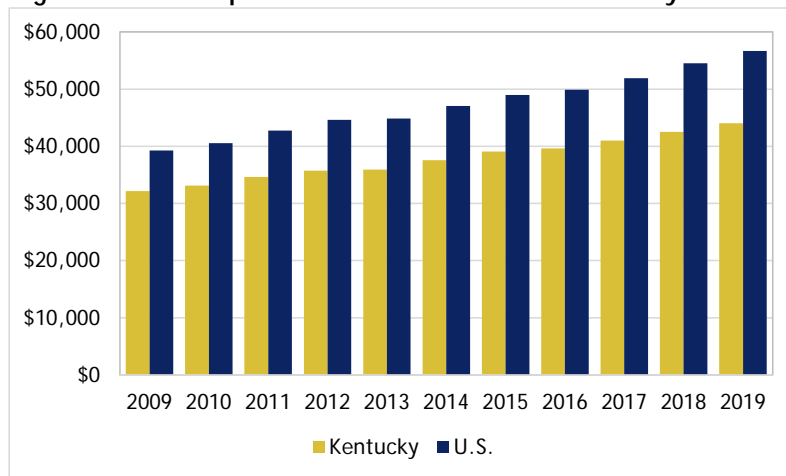


PERSONAL INCOME

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 \$196.7 billion in personal income in 2019, an increase of 3.7 percent from 2018. Since 2009, personal income has grown at a CAGR of 3.5 percent per year. This compares to U.S. growth of 4.4 percent over the same time period.

Figure 6 - Per Capita Personal Income for Kentucky

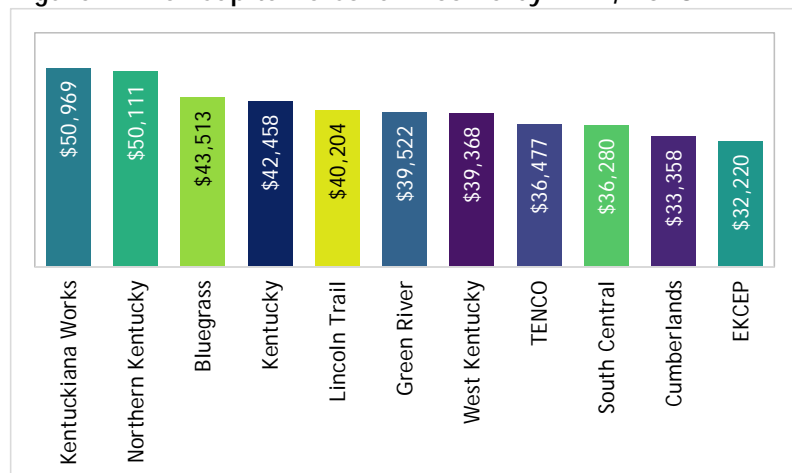


Source: U.S. Bureau of Economic Analysis, "Personal Income Summary," (accessed August 2020).

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 2019, per capita personal income in Kentucky fell to 77.7 percent of the U.S. average (\$44,017 versus \$56,663 for the nation). While per capita income is growing in Kentucky at a compound annual rate of 3.2 percent, it remains lower 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 2018 which was aggregated to LWAs. In 2018, 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 exceeded the state compound annual growth rate of 2.4 percent annually between 2009 and 2018. 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, 2018



Source: U.S. Bureau of Economic Analysis, "Personal Income Summary," (accessed August 2020).

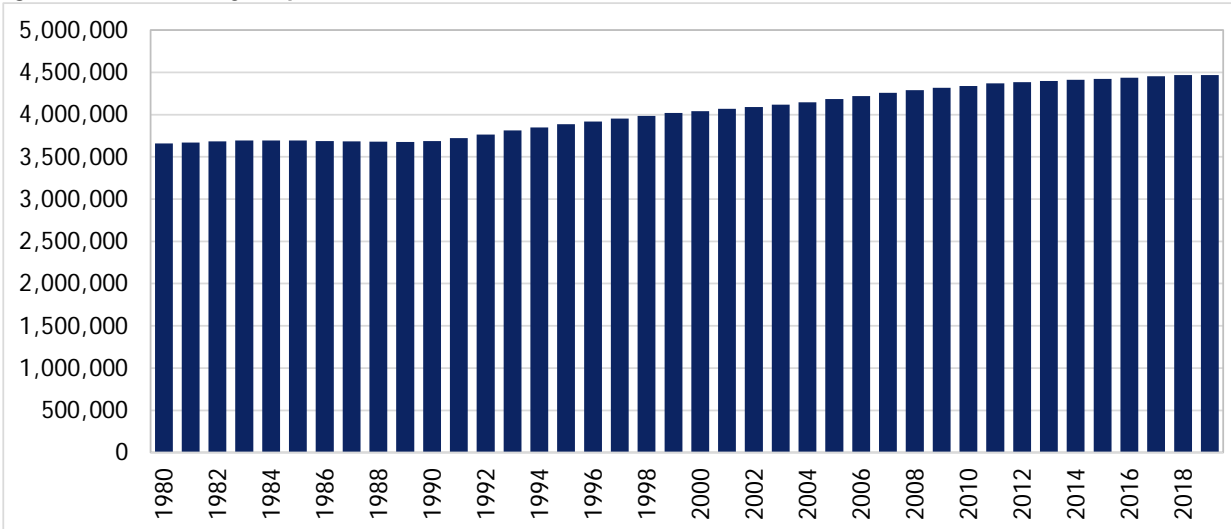


POPULATION ESTIMATES AND PROJECTIONS

With more than 4 million residents, Kentucky was the 26th most populous state in the nation in 2019. 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 percent 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 2019, there were 4,467,673 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 2019



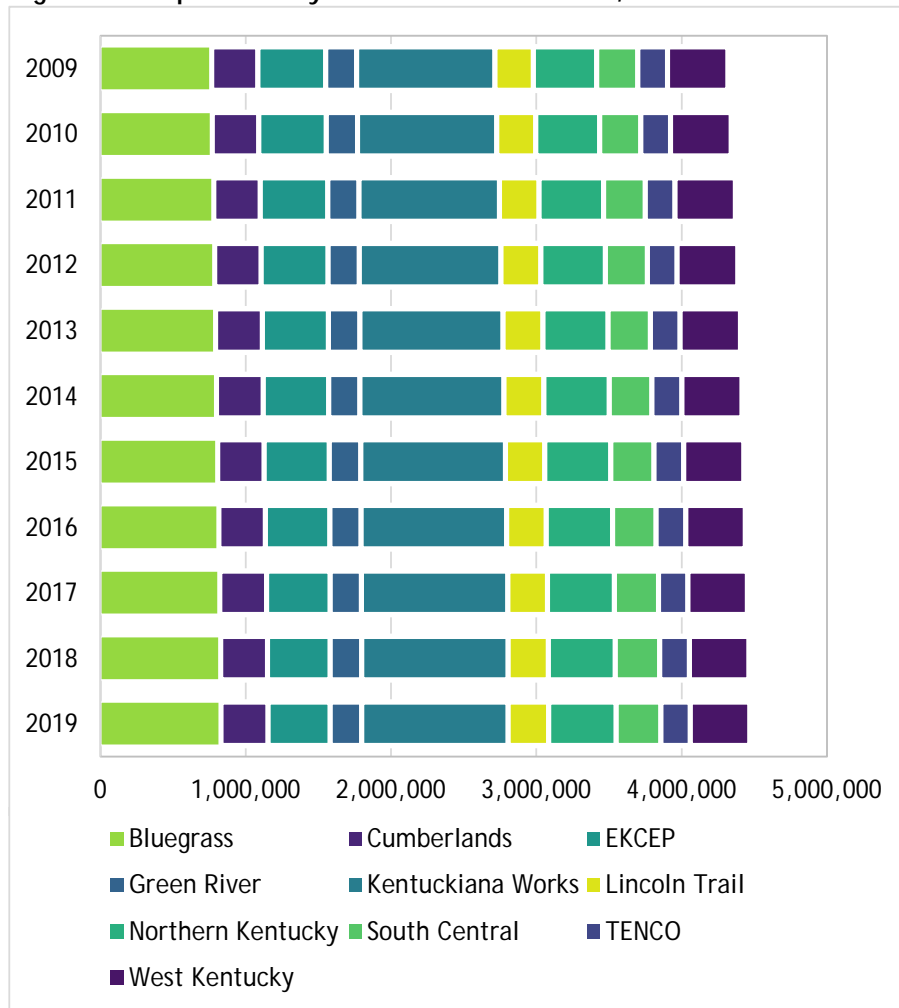
Source: Kentucky State Data Center, "Total Population" estimates for multiple time periods, (accessed August 2020).

The U.S. population experienced faster growth over this same time frame. Between 2000 and 2010, the nation's population grew 9.7 percent, 2.3 percentage points higher than Kentucky. From 2010 to 2019, the U.S. population grew 6.3 percent, more than twice as fast as the population growth in Kentucky.

Between 2010 and 2019, more than two-thirds of population growth resulted from births (510,539) exceeding deaths (418,202) by 92,337. In addition, 36,003 people migrated to Kentucky from other states and countries over this time period.



Figure 9 - Population by Local Workforce Area, 2009-2019



More than half of Kentucky’s population is concentrated in three LWAs: Bluegrass (18.6 percent), Kentuckiana Works (22.6 percent) and Northern Kentucky (10.4 percent). Between 2009 and 2019, the state grew by 150,599 residents with the largest amount of growth in the Bluegrass LWA (65,807 additional residents). Over this same time period, Kentuckiana Works added 55,047 residents. There were three LWAs that saw population declines: EKCEP (38,158 fewer residents), TENCO (1,856 fewer residents) and West Kentucky (7,180 fewer residents).

Source: Kentucky State Data Center, “Total Population (2010-2019)” and “Total Population (2000-2010),” (accessed August 2020).

The five counties with the largest populations also experienced the majority of the growth. In 2019, Jefferson, Fayette, Kenton, Boone and Warren counties made up 34 percent of the state’s population. More than 73 percent of Kentucky’s population growth between 2010 and 2019 occurred in these five counties.

Among Kentucky’s 120 counties, 56 experienced population growth between 2010 and 2019 and 64 saw declines. The counties with the largest absolute increases were:

- Fayette County (27,349)
- Boone County (14,770)
- Jefferson County (25,661)
- Madison County (10,071)
- Warren County (19,104)

The five counties with the largest absolute decreases were:

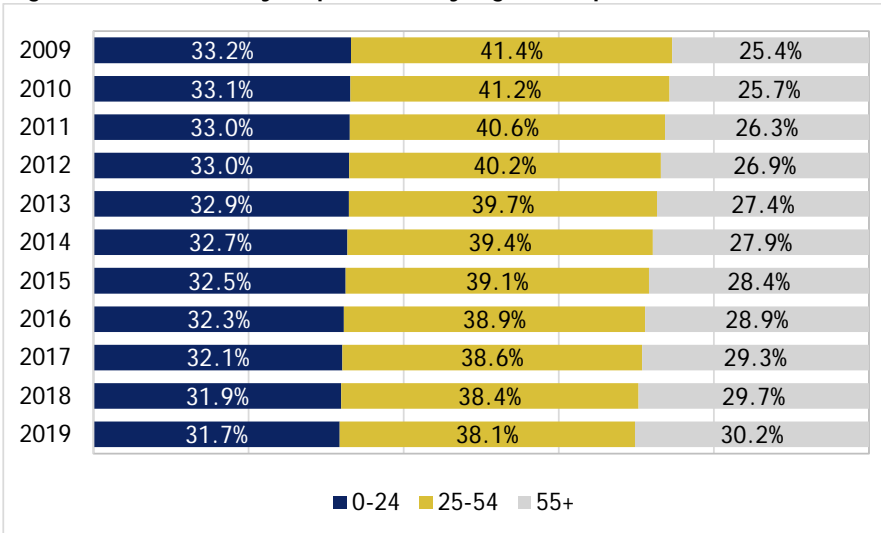
- Pike County (-7,148)
- Harlan County (-3,268)
- Floyd County (-3,862)
- Letcher (-2,966)
- Christian County (-3,494)



Age

Kentucky's population is aging. As of 2019, the median age of the Kentucky population was 39.1 years. This is up from 38.1 years in 2010, higher than the median U.S. age but aging at a slower rate. In 2019, the median age in the U.S. was 38.3 years, up 1.6 years from 2010 (36.7 years).

Figure 10 - Kentucky Population by Age Group, 2009 to 2019



Source: Kentucky State Data Center, "Total Population (2010-2019)," "Total Population (2000-2010)," "Intercensal Estimates by Sex and Age (2000-2010 and 2010-2019)" (accessed August 2020).

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 2009, 41.4 percent of Kentucky's population was between the ages of 25 and 54. This has fallen to 38.1 percent by 2019, a loss of 86,923 prime age workers since 2009 (a 4.9 percent decrease). In the U.S., 39.1 percent of the

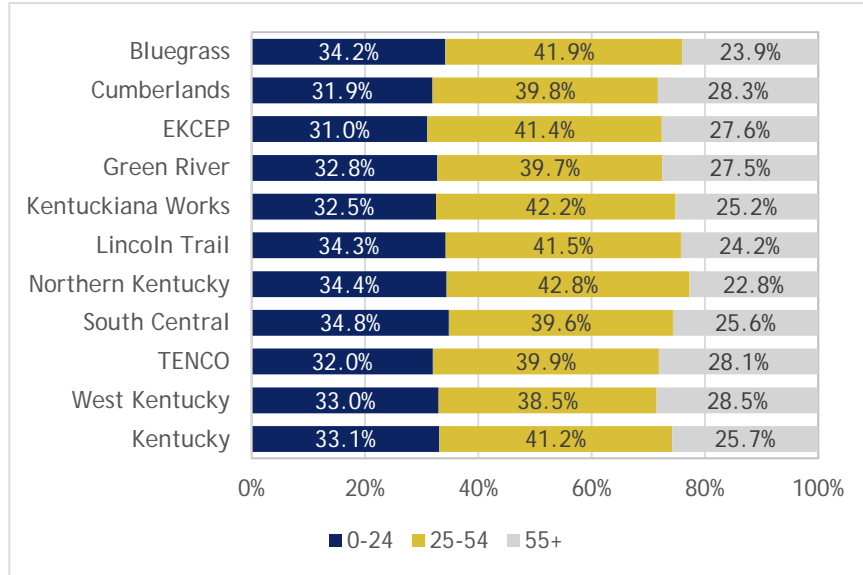
population was between the ages of 25 and 54 in 2019.

The share of Kentucky's population over the age of 55 has been steadily increasing over this same time period, up to 30.2 percent in 2019 from 25.4 percent in 2009. Further, since 2009, the number of people over the age of 55 increased 23.1 percent, growing by 253,055 residents. In the U.S., 29.1 percent of the population is over the age of 55.

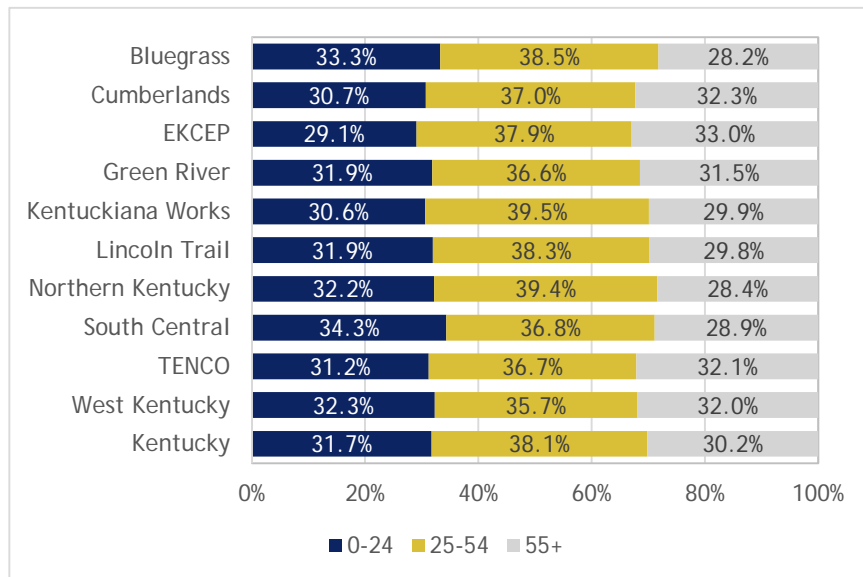
The number of young people, under the age of 24 in Kentucky, has been relatively stable over time with approximately 1.43 million people each year but decreasing slightly beginning in 2017. In 2019, there were 1,416,825 residents under the age of 24.



Figure 11 - Population by Age Group by LWA, 2010 to 2019



2019



Source: U.S. Census Bureau, "Annual County and Puerto Rico Municipio Resident Population Estimates by Selected Age Groups and Sex: April 1, 2010 to July 1, 2019," (accessed August 2020).

in 2019 - Bluegrass (38.5 percent), Kentuckiana Works (39.5 percent), Lincoln Train (38.3 percent) and Northern Kentucky (39.4 percent).

South Central LWA had the largest share of residents younger than 25, 34.3 percent, in 2019 as compared to 31.7 percent for the state.

In all the LWAs, the share of the population over the age of 55 has grown between 2010 and 2019. Growth in this group was highest in the Lincoln Trail and Northern Kentucky LWAs. In 2010, 22.8 percent of the Northern Kentucky LWA population was over the age of 55. This increased 5.6 percentage points to 28.4 percent in 2019. Lincoln Trail also experienced a 5.6 percentage point increase, up to 29.8 percent in 2019 from 24.2 percent in 2010. The LWA with the highest share of its population over the age of 55 in 2019 was EKCEP.

The prime age population was 38.1 percent in the state in 2019, down from 41.2 percent in 2010. The EKCEP LWA experienced the largest decline in share for this population group, down 3.5 percentage points between 2010 and 2019.

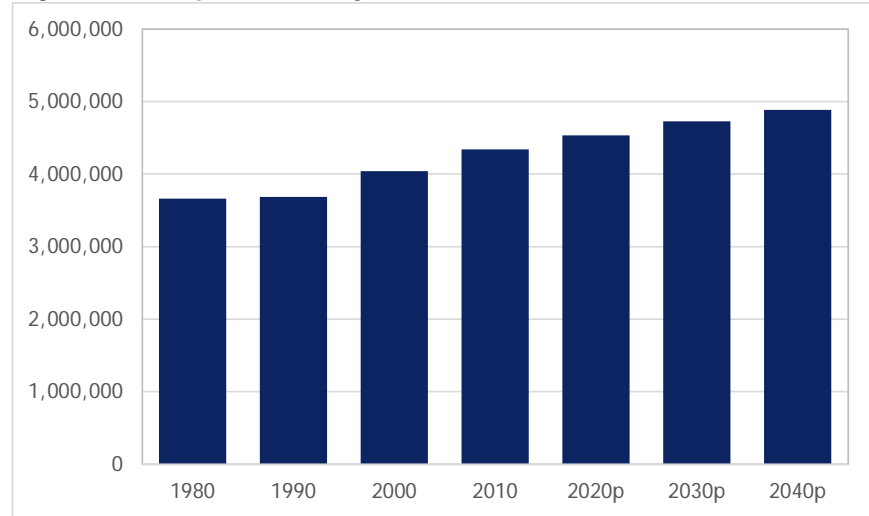
There were four LWAs where the share of their population between the ages of 25 and 54 exceeded the state average of 38.1 percent



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.

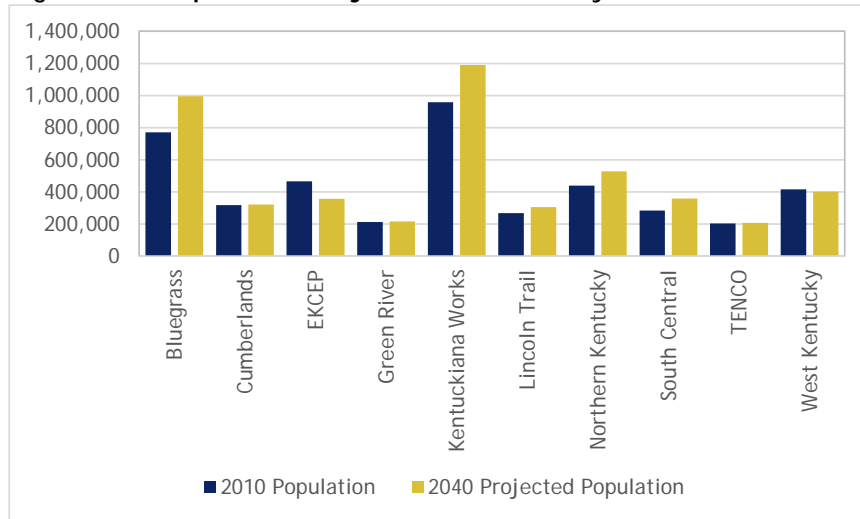
Figure 12 - Population Projections to 2040



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 August 2020).

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 August 2020).

EKCEP (-0.9 percent) and West Kentucky (-0.1 percent).

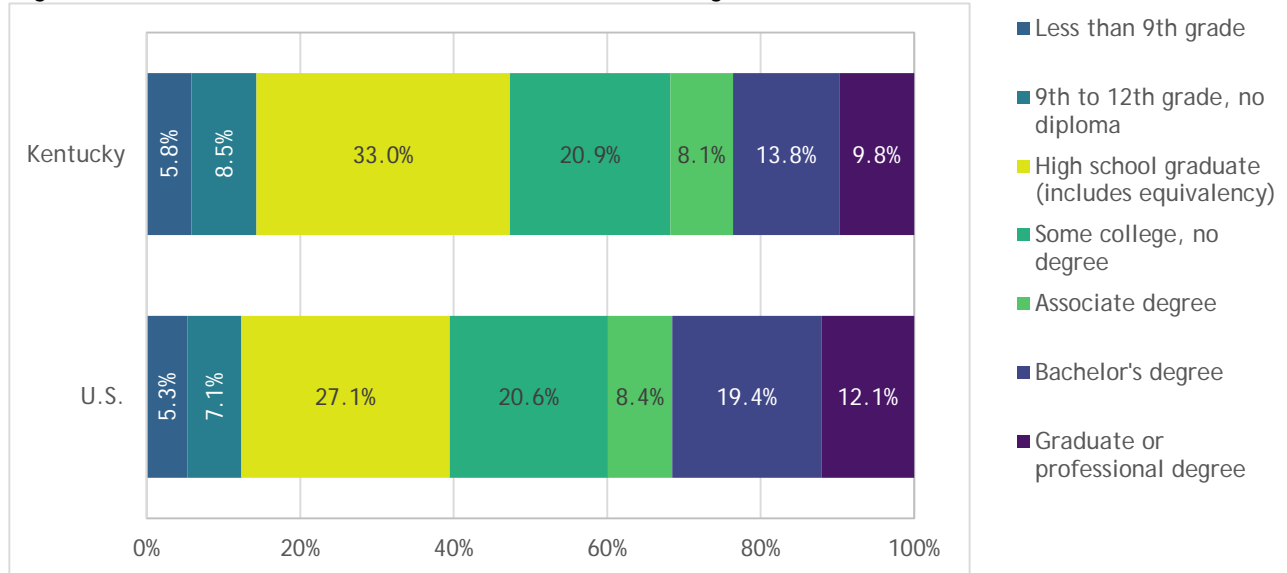
Similar to recent trends, the majority of the population growth through 2040 is projected to occur within three LWAs: Bluegrass, Kentuckiana Works and Northern Kentucky. Population growth will outpace the state CAGR (0.4 percent) in these areas with 0.9 percent annually in Bluegrass, 0.7 percent in Kentuckiana Works and 0.6 percent per year in Northern Kentucky. Two LWAs are projected to experience population declines between 2010 and 2040:



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's 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, 2014-2018 Five-Year Estimates, "Educational Attainment," (accessed August 2020).

The largest educational attainment group of Kentucky residents over 25 are those who have attained a high school diploma or equivalent (33.0 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 (23.6 percent) have at least a bachelor's degree compared to 31.5 percent in the U.S. On the other end of the education spectrum, 14.3 percent of adults in Kentucky have not completed high school compared to 12.3 percent in the U.S.



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

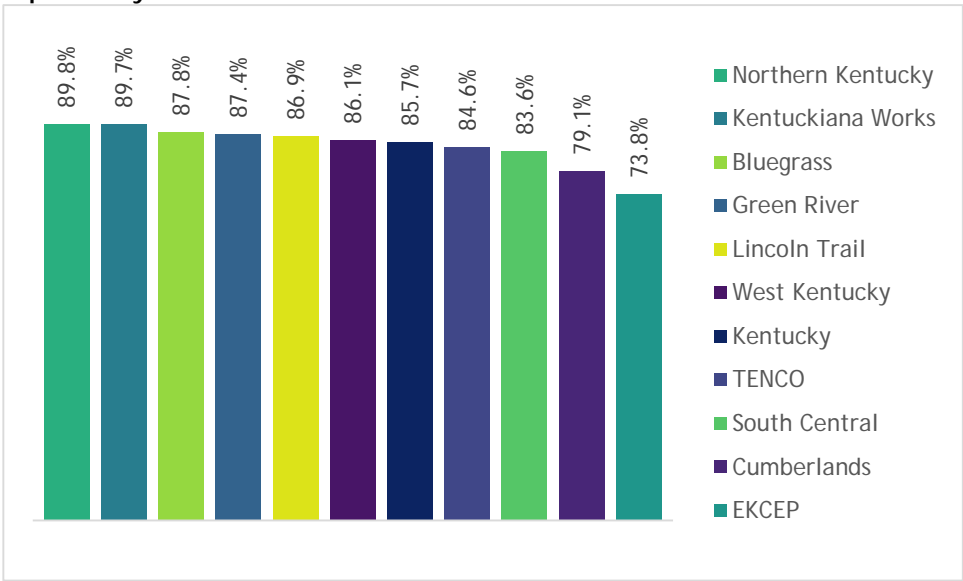
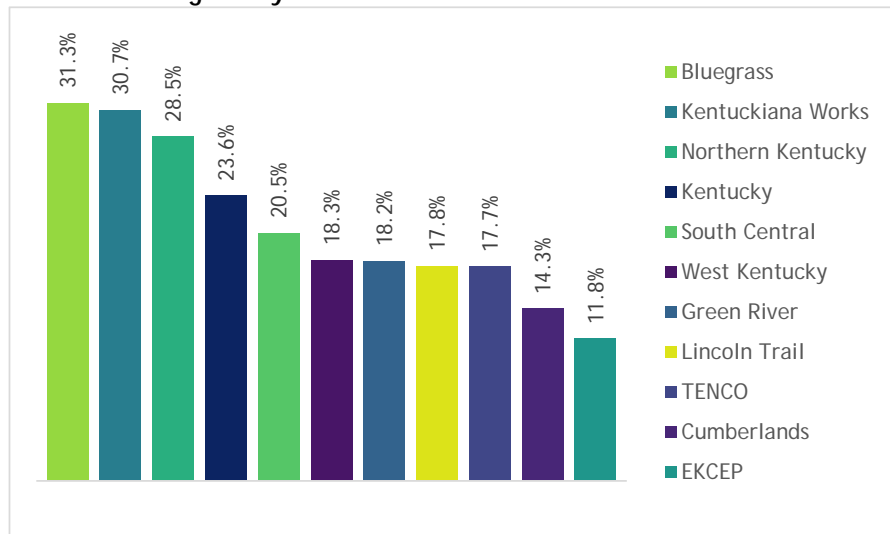


Figure 15 shows the percentage of Kentucky adults with at least a high school degree by LWA. Six LWAs have the same or larger share than the state average of 85.7 percent.

Source: U.S. Census Bureau, American Community Survey, 2014-2018 Five-Year Estimates, "Educational Attainment," (accessed August 2020).

There are three LWAs with a higher share of the adult population with at least a bachelor's degree than the state average of 23.6 percent: Bluegrass, Kentuckiana Works, and Northern Kentucky. In the Bluegrass LWA, 31.3 percent of adults have a bachelor's, professional or graduate degree. The remaining LWAs have lower percentages of bachelor's degree completers, the lowest being EKCEP with 11.8 percent of the adult population with at least a bachelor's degree, half of the statewide average.

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



Source: U.S. Census Bureau, American Community Survey, 2014-2018 Five-year Estimates, "Educational Attainment," (accessed September 2020).

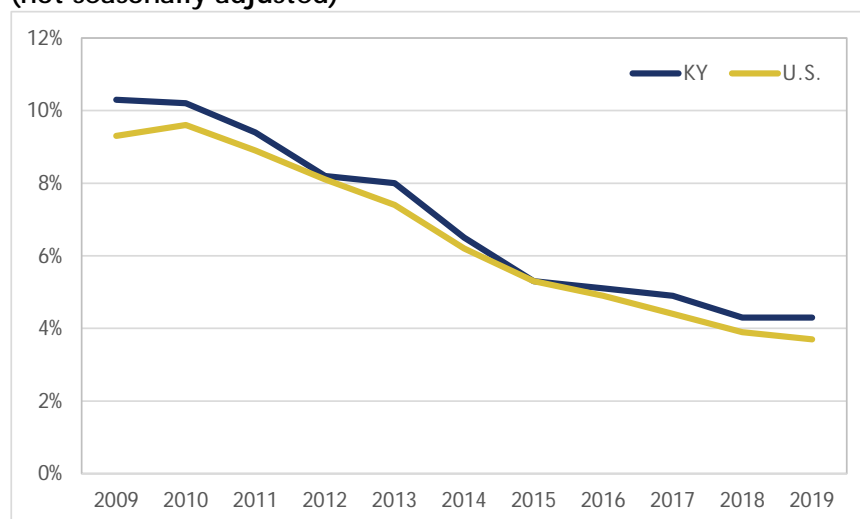


CIVILIAN LABOR FORCE AND UNEMPLOYMENT

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 - Annual Unemployment Rates, U.S. and KY, 2009-2019 (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2020).

Historically, unemployment rates for Kentucky have been higher than U.S. rates but have generally followed the same path over the past decade. As the economy recovered from the 2008 recession, unemployment rates returned to pre-recession levels.

Between 2009 and 2019, the annual unemployment rate in Kentucky peaked at 10.3 percent in 2009. The annual unemployment rate fell below pre-recession

levels starting in 2015 at 5.3 percent. By 2018, annual unemployment had fallen to 4.3 percent where it remained in 2019. Since 1976, the lowest annual unemployment rate in Kentucky was 4.2 percent in 2000.

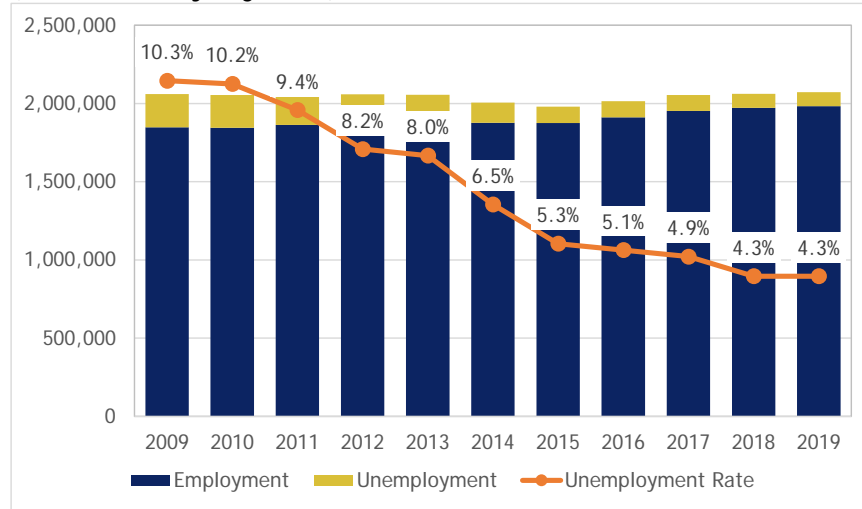
Similarly, for the U.S., the unemployment rate has fallen to pre-recession levels after peaking in 2010 at an average annual rate of 9.6 percent. By 2015, the unemployment rate was lower than pre-recession levels and continued to drop to a historic low of 3.7 percent in 2019.

Although national unemployment rates have remained lower than Kentucky rates, the gap between them has narrowed over the last ten years. In 2009, there was a 1.0 percentage point difference between the U.S. (9.3 percent) and Kentucky rate (10.3 percent). That gap narrowed to 0.1 percentage point in 2012, closed to zero in 2015, and then began increasing again in 2016.



By 2019, the difference was 0.6 percentage points, with the U.S. unemployment rate at 3.7 percent and Kentucky at 4.3 percent.

Figure 18 - Kentucky Civilian Labor Force, 2009-2019 (not seasonally adjusted)



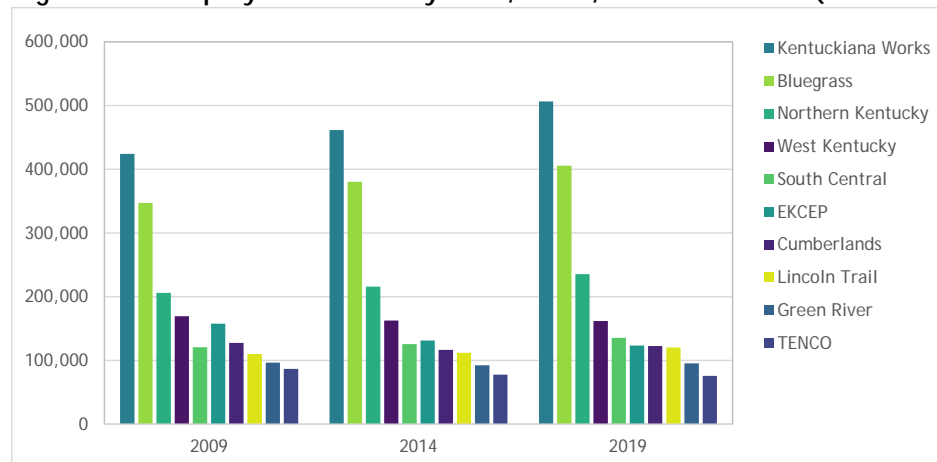
Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2020).

Between 2009 and 2019, the size of Kentucky's civilian labor force increased by 0.6 percent growing to 2,072,586 people in 2019. However, the composition of the labor force has changed over the course of the last decade. In 2009, the average annual unemployment rate was 10.3 percent. At that time, nearly 1.85 million people were employed and 213,036 people were unemployed. By 2019, the number of people employed had grown to 1,983,577 and the

number of unemployed had dropped by more than half to 89,009. The average unemployment rate in 2019 was near an all-time low at 4.3 percent.

Within the state, employment and unemployment vary by region. As shown in Figure 19, 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 2009, 52.9 percent of employed persons lived in these three LWAs, increasing to 57.9 percent by 2019. Kentuckiana Works had the largest number of employed persons, 506,457 in 2019, and accounted for the largest growth. Between 2009 and 2019, the number of employed persons in this LWA grew by 82,196. The Bluegrass LWA experienced the next largest growth, increasing from 347,271 employed persons in 2009 to 405,586 persons by 2019.

Figure 19 - Employed Persons by LWA, 2009, 2014 and 2019 (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2020).

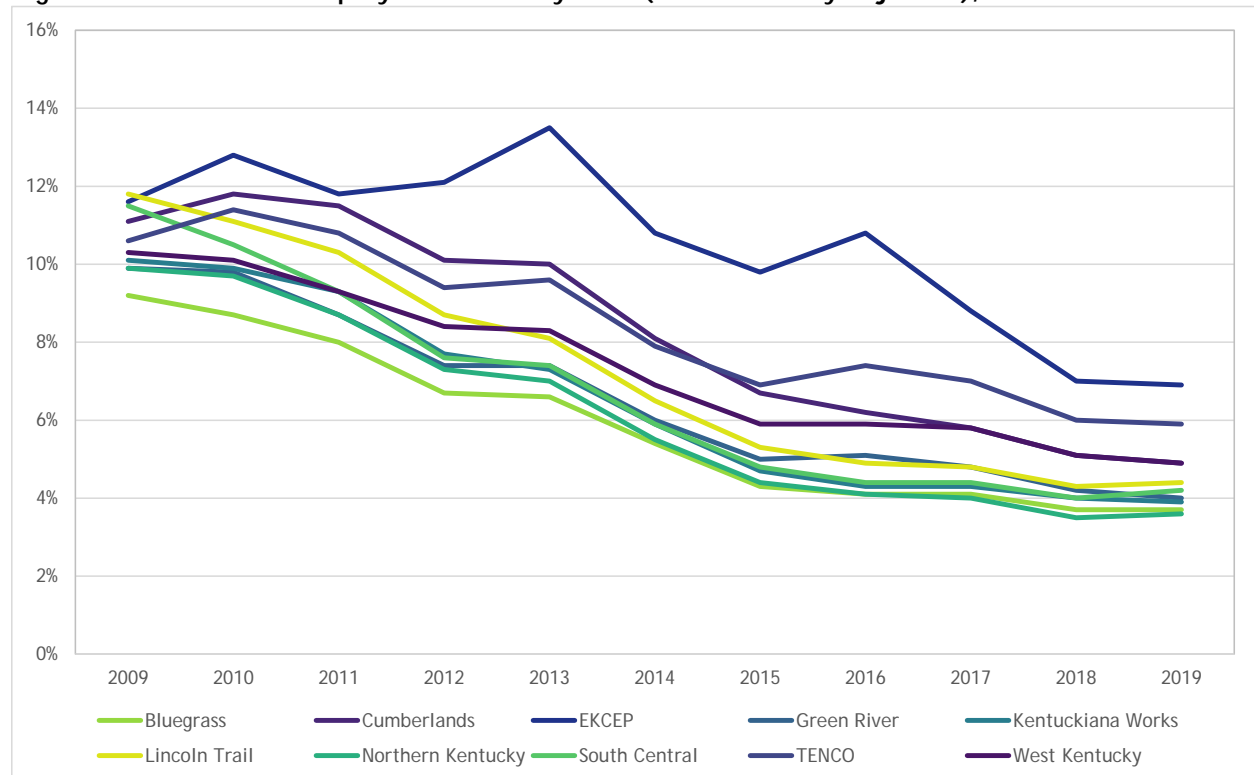


Over this same time period, five LWAs experienced a decrease in the number of employed persons: Cumberlands, EKCEP, Green River, TENCO and West Kentucky. EKCEP experienced the largest drop with 34,274 fewer employed persons in 2019 than 2009, a 21.7 percent drop. TENCO had the next largest decline with 10,743 fewer employed, a 12.4 percent decline. West Kentucky followed with 7,444 fewer employed persons.

As the economy moved through the 2008 recession, the rate of recovery of the LWAs varied. Seven of the LWAs experienced the highest annual unemployment rate of this ten year span in 2009. In the Cumberlands and TENCO LWAs, annual unemployment rates peaked in 2010 at 11.8 percent and 11.4 percent respectively and then slowly fell. In EKCEP, the annual unemployment rate peaked in 2013 at 13.5 percent. In 2009, the Lincoln Trail LWA had the highest annual unemployment rate averaging 11.8 percent, followed by EKCEP at 11.6 percent and South Central at 11.5 percent. By 2014, the annual unemployment rate in all of the LWAs was lower than 2009 rates.

In 2019, annual unemployment rates in the LWAs ranged from a low of 3.6 percent in Northern Kentucky to a high of 6.9 percent in EKCEP.

Figure 20 - Annual Unemployment Rate by LWA (not seasonally adjusted), 2009-2019



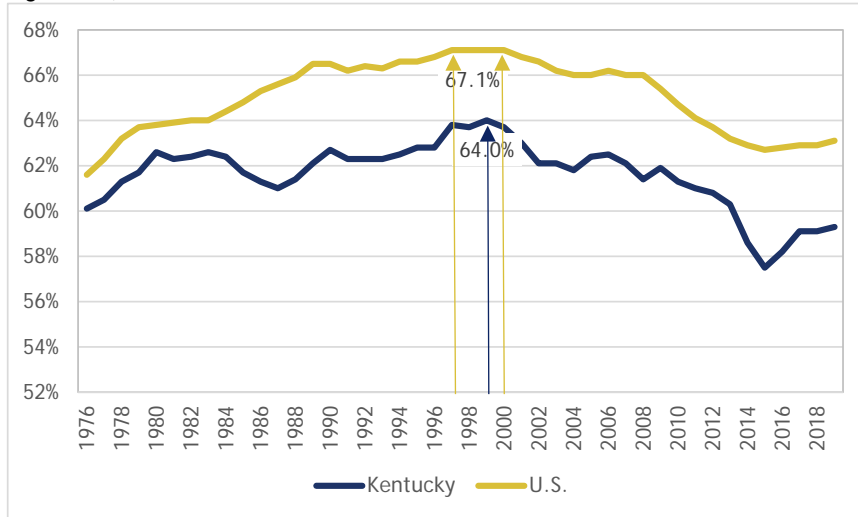
Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed August 2020).



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 2020).

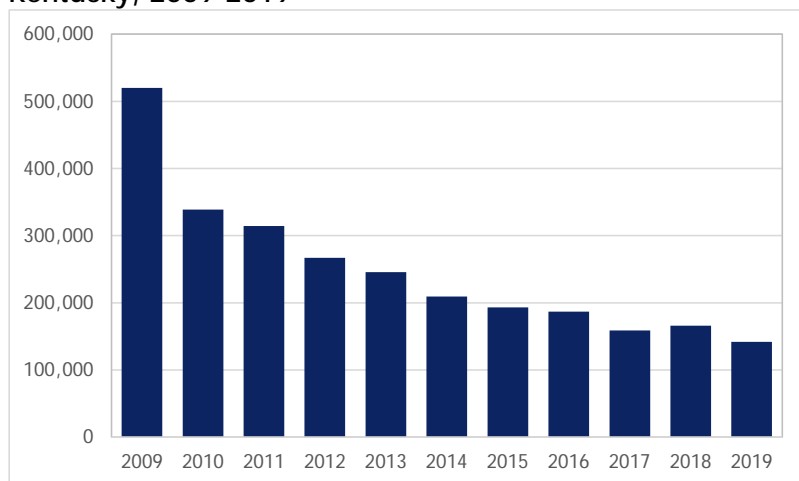
The annual U.S. LFPR peaked from 1997 to 2000 at 67.1 percent, (not seasonally adjusted). By 2019, the U.S. rate had dropped to 63.1 percent. In Kentucky, the not seasonally adjusted LFPR peaked in 1999 at 64.0 percent. Similar to U.S. trends, the LFPR in Kentucky has decreased over the last decade, dropping to a low of 57.6 percent in 2015. However, Kentucky's LFPR has rebounded in the time since, increasing to 59.3 percent by 2019.



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, 2009-2019

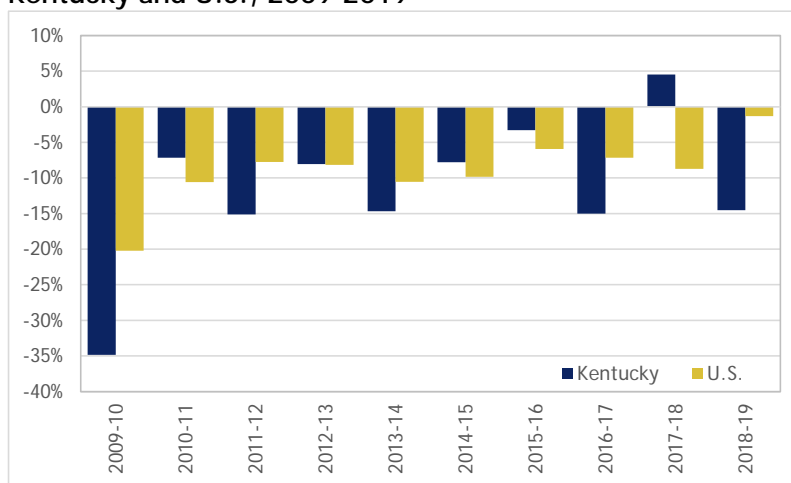


As shown in Figure 22, the number of initial claims filed in 2019 (141,815) were significantly lower than during the peak recession year, 2009 when there were 519,753 initial claims. In 2019, initial claims were 73 percent lower than in 2009.

Source: U.S. Department of Labor, Employment and Training Administration, "Quarterly UI Data Summary," (accessed August 2020).

Initial claims dropped 35 percent between 2009 and 2010 as the economy recovered. Kentucky experienced a slight uptick in initial claims (7,191 claims) in 2018 following eight years of decreases. Between 2009 and 2019, initial claims dropped 73 percent in Kentucky compared to a national drop of 62 percent over the same time period. Initial claims in Kentucky have remained under 200,000 since 2015.

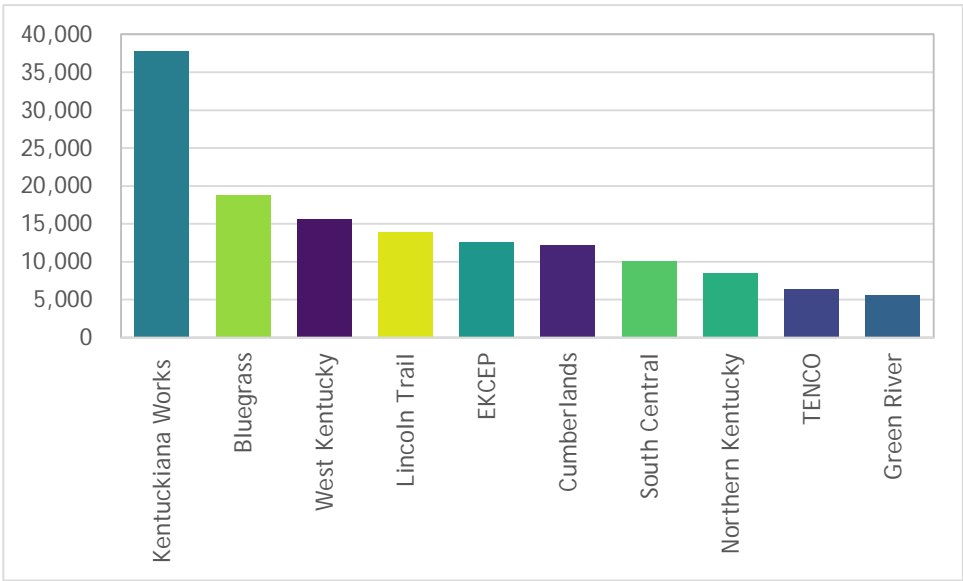
Figure 23 - UI Initial Claims Change from Previous Year, Kentucky and U.S., 2009-2019



Source: U.S. Department of Labor, Employment and Training Administration, "Quarterly UI Data Summary," (accessed August 2020).



Figure 24 - Unemployment Insurance Claims by LWA, 2019
Initial Claims

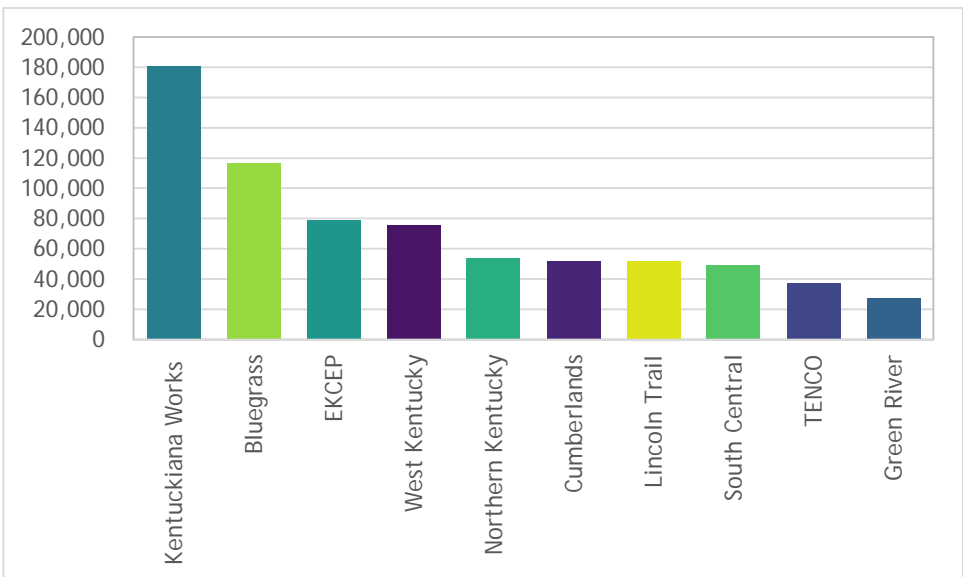


Among Kentucky's regions, UI claims are concentrated in the Kentuckiana Works LWA with 24.6 percent of initial claims during 2019 (37,807 claims) and 22.8 percent of continuing claims (180,609).

By contrast, the Bluegrass LWA had a higher share of continuing claims (14.8 percent) than initial claims (12.2 percent) during 2019.

The Green River LWA had the fewest initial and continuing UI claims in 2019.

Continuing Claims



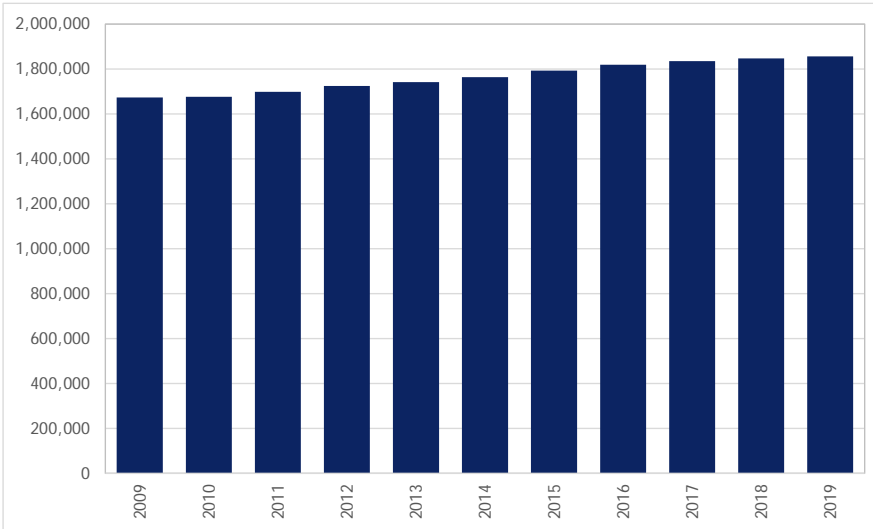
Source: Kentucky Unemployment Insurance (UI), Office of Employment and Training, UI Quality Control Branch, Unemployment claims data (accessed August 2020).



COVERED 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 Covered Employment in Kentucky, 2009-2019

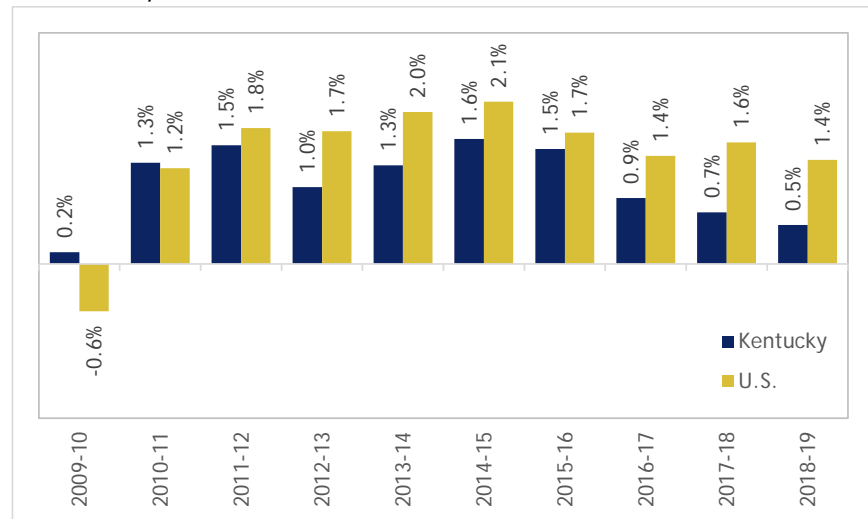


Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)

In 2019, the average annual employment in Kentucky exceeded 1.85 million. By 2015, the state had recovered from the 2008 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 2019, the state economy added 183,047 jobs, an increase of 10.9 percent.

Initially, the Kentucky economy began recovering more quickly from the 2008 recession than the nation. The state surpassed pre-recession employment levels in 2015 (1,792,529 jobs up from 1,764,261 jobs in 2007), one year later than the nation as a whole. Since 2012, over the year growth in Kentucky was slower than for the U.S. Between 2018 and 2019, employment grew 0.5 percent in Kentucky compared to the U.S. rate of 1.4 percent.

Figure 26 - Change in Average Annual Covered Employment from Prior Year, 2009 to 2019



Sources: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020) and U.S. Bureau Labor Statistics, QCEW for the U.S., (accessed September 2020).



Table 1 shows employment by the 20 major industry sectors in Kentucky in five-year increments of 2009, 2014 and 2019. In 2019, the sectors with the largest employment included Government, Health Care and Social Assistance, and Manufacturing. Employment in the Government sector declined over this decade by 10,376 jobs.

Ten of the 20 sectors experienced stronger growth than the state (CAGR of 1.0%). Employment in the Utilities sector increased at a compound annual growth rate of 5.4 percent between 2009 and 2019.

Table 1 - Covered Employment by Major Industry Sector in Kentucky, 2009, 2014 & 2019

Industry Sector	Employment			Change Since 2009		
	2009	2014	2019	Absolute	Percent	CAGR
Accommodation and Food Services	148,446	161,921	177,489	29,043	19.6%	1.8%
Administrative and Support and Waste Management and Remediation Services	78,057	111,850	115,898	37,841	48.5%	4.0%
Agriculture, Forestry, Fishing and Hunting	7,242	7,680	8,262	1,020	14.1%	1.3%
Arts, Entertainment and Recreation	18,465	18,933	22,910	4,445	24.1%	2.2%
Construction	70,374	69,553	79,511	9,137	13.0%	1.2%
Educational Services	11,802	12,664	12,363	561	4.8%	0.5%
Finance and Insurance	68,588	70,491	71,049	2,461	3.6%	0.4%
Government	301,774	299,061	291,398	-10,376	-3.4%	-0.3%
Health Care and Social Assistance	215,424	228,145	252,489	37,065	17.2%	1.6%
Information	26,344	25,293	20,285	-6,059	-23.0%	-2.6%
Management of Companies and Enterprises	18,380	19,292	19,089	709	3.9%	0.4%
Manufacturing	211,375	232,456	248,526	37,151	17.6%	1.6%
Mining, Quarrying and Oil and Gas Extraction	21,025	13,468	6,440	-14,585	-69.4%	-11.2%
Other Services (except Public Administration)	45,171	46,695	46,057	887	2.0%	0.2%
Professional, Scientific and Technical Services	67,491	69,914	75,528	8,037	11.9%	1.1%
Real Estate and Rental and Leasing	18,243	17,830	19,846	1,603	8.8%	0.8%
Retail Trade	201,720	204,645	209,859	8,140	4.0%	0.4%
Transportation and Warehousing	73,271	81,065	103,034	29,764	40.6%	3.5%
Utilities	2,239	2,240	3,800	1,560	69.7%	5.4%
Wholesale Trade	68,073	70,299	72,460	4,387	6.4%	0.6%
Unclassified	53	375	311	258	491.4%	19.5%
Total All Industries	1,673,556	1,763,868	1,856,603	183,047	10.9%	1.0%

Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)

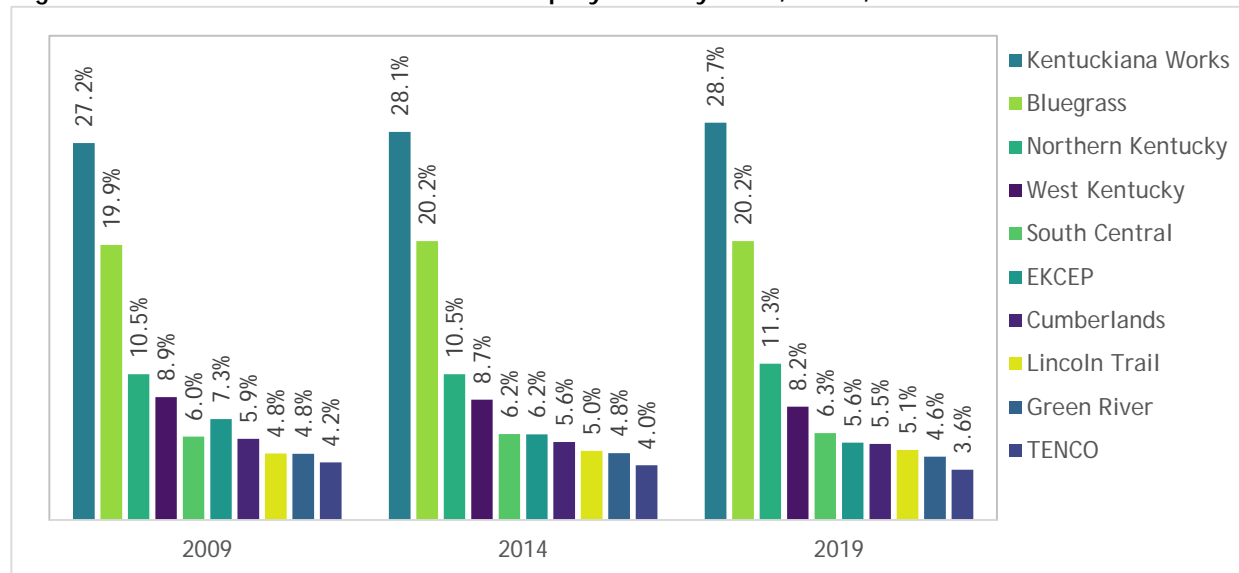


There were three sectors that each added more than 37,000 jobs between 2009 and 2019: Administrative and Support and Waste Management and Remediation Services with 37,841 jobs, Manufacturing with 37,151 jobs, and Health Care and Social Assistance with 37,065 jobs.

Three sectors experienced job losses during these ten years: Government, Information, and Mining, Quarrying, and Oil and Gas Extraction. The largest absolute decline occurred in Mining, Quarrying and Oil and Gas Extraction with the loss of 14,585 jobs between 2009 and 2019. Employment decreased by 69.4 percent, a CAGR of -11.2 percent per year.

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 2009, 27.2 percent of Kentucky’s overall employment was located in the Kentuckiana Works LWA. This increased to 28.1 percent in 2014 and 28.7 percent in 2019. 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 60 percent of the overall covered employment in the Commonwealth in 2019.

Figure 27 - Concentration of Covered Employment by LWA, 2009, 2014 & 2019

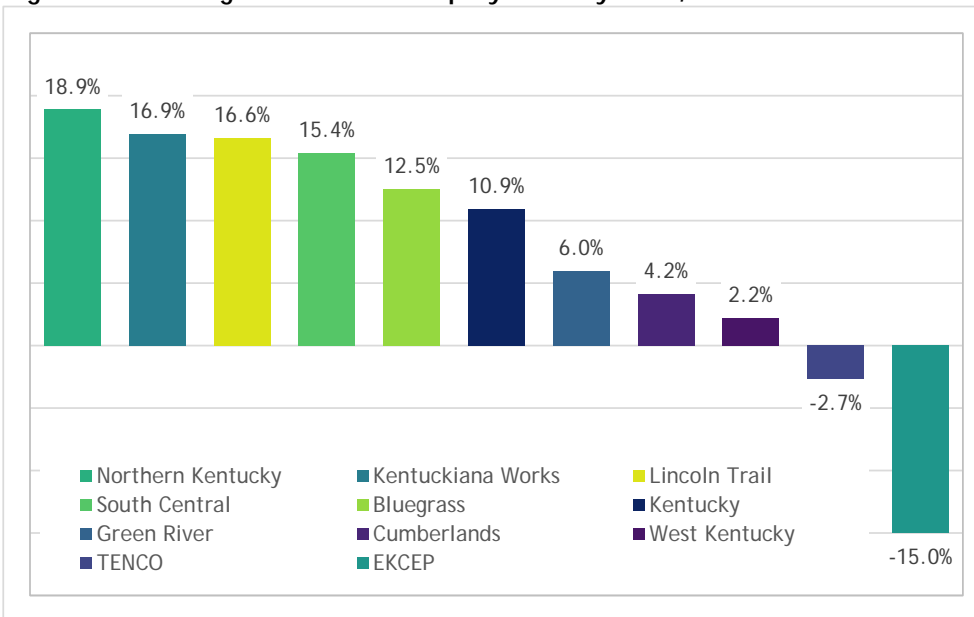


Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)

Two LWAs experienced declining concentrations of employment over the same period - EKCEP and TENCO. EKCEP suffered the largest drop in employment (18,270 jobs) as well as employment concentration, losing 1.7% of its employment share from 2009 (7.3 percent) to 2019 (5.6 percent).



Figure 28 - Change in Covered Employment by LWA, 2009-2019



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)

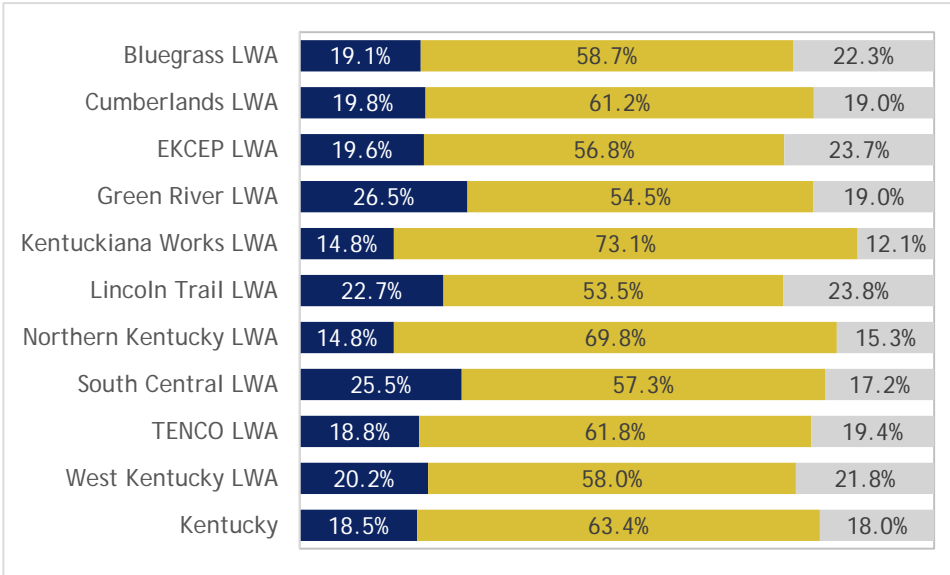
period. The areas with the largest growth were Northern Kentucky at 18.9 percent (33,315 jobs), Kentuckiana Works at 16.9 percent (77,278 jobs), and Lincoln Trail at 16.6 percent (13,391 jobs). The LWAs with declines were EKCEP dropping 15.0 percent (18,270 jobs) and TENCO dropping 2.7 percent (1,853 jobs) over the ten-year period.

Although overall employment fell in two of the LWAs, there were still sectors in those LWAs that experienced growth. For example, in EKCEP, which saw the largest decline in overall employment, the following sectors saw growth: Accommodation and Food Services, Educational Services, Health Care and Social Assistance, and Utilities. Between these ten years, 4,411 jobs were added in the Health Care and Social Assistance sector in this LWA. The sector with the largest decline in this area was Mining, Quarrying and Oil and Gas Extraction which lost 11,156 jobs from 2009 to 2019.

Between 2009 and 2019, employment grew 10.9 percent throughout Kentucky, increasing by 183,047 jobs. Five of the LWAs experienced growth that was higher than the state as a whole, three experienced growth that was slower, and two saw declining employment over this time



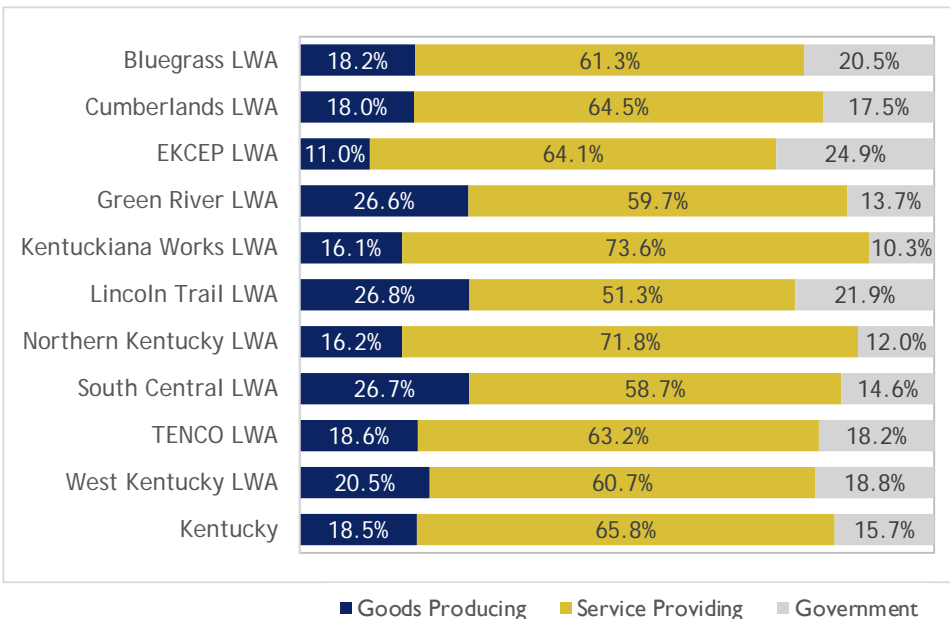
Figure 29 - Share of Covered Employment by Major Industry Groups, 2009 & 2019
2009



In 2009, 18.5 percent of all Kentucky employment was in Goods Producing sectors. This includes:

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

2019



The LWAs with more than 25 percent of employment in this major industry group in 2009 were Green River and South Central. By 2019, Lincoln Trail also had more than 25 percent employment in this supersector.

Service Providing sectors include all other sectors except for Government. This major group makes up the majority of

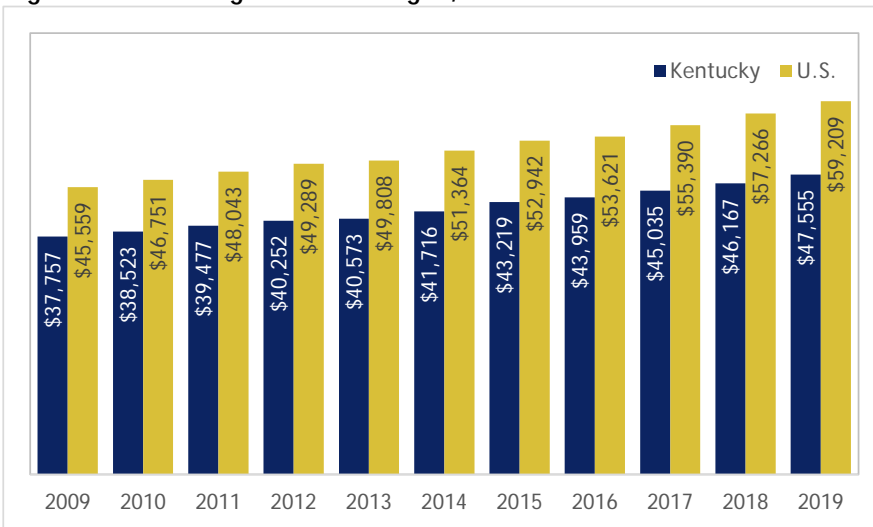
Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)

employment in all LWAs to varying extents. From 2009 to 2019, employment in Service Providing industries in Kentucky grew, from 63.4 percent to 65.8 percent. The LWA with the lowest share of employment in this supersector during 2019 was Lincoln Trail (51.3 percent of employment) while Kentuckiana Works had the largest share of employment in this group (73.6 percent). The share of employment in this major group increased over time for all LWAs with the exception of Lincoln Trail.

Employment in Government decreased from 18.0 percent in 2009 throughout Kentucky to 15.7 percent by 2019. LWAs with more than 20 percent of employment in 2019 in Government were Bluegrass, EKCEP and Lincoln Trail.



Figure 30 - Average Annual Wages, 2009 to 2019



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)

The average annual wage for covered workers in Kentucky grew steadily between 2009 and 2019 at a compound annual growth rate of 2.3 percent reaching \$47,555 in 2019. By contrast, the average annual wage for workers in the U.S. was \$59,209 and grew at a compound rate of 2.7 percent per year since 2009. 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 during 2019 in Kentucky was \$111,157 in the Management of Companies and Enterprises sector followed by Utilities at \$93,413. Industries with the lowest average annual wages were Accommodation and Food Services (\$17,614) and Arts, Entertainment and Recreation (\$23,673). Combined, these two sectors account for 10.8 percent of jobs in 2019.

Industry sectors paying higher wages than the state average (\$47,555) in 2019 include:

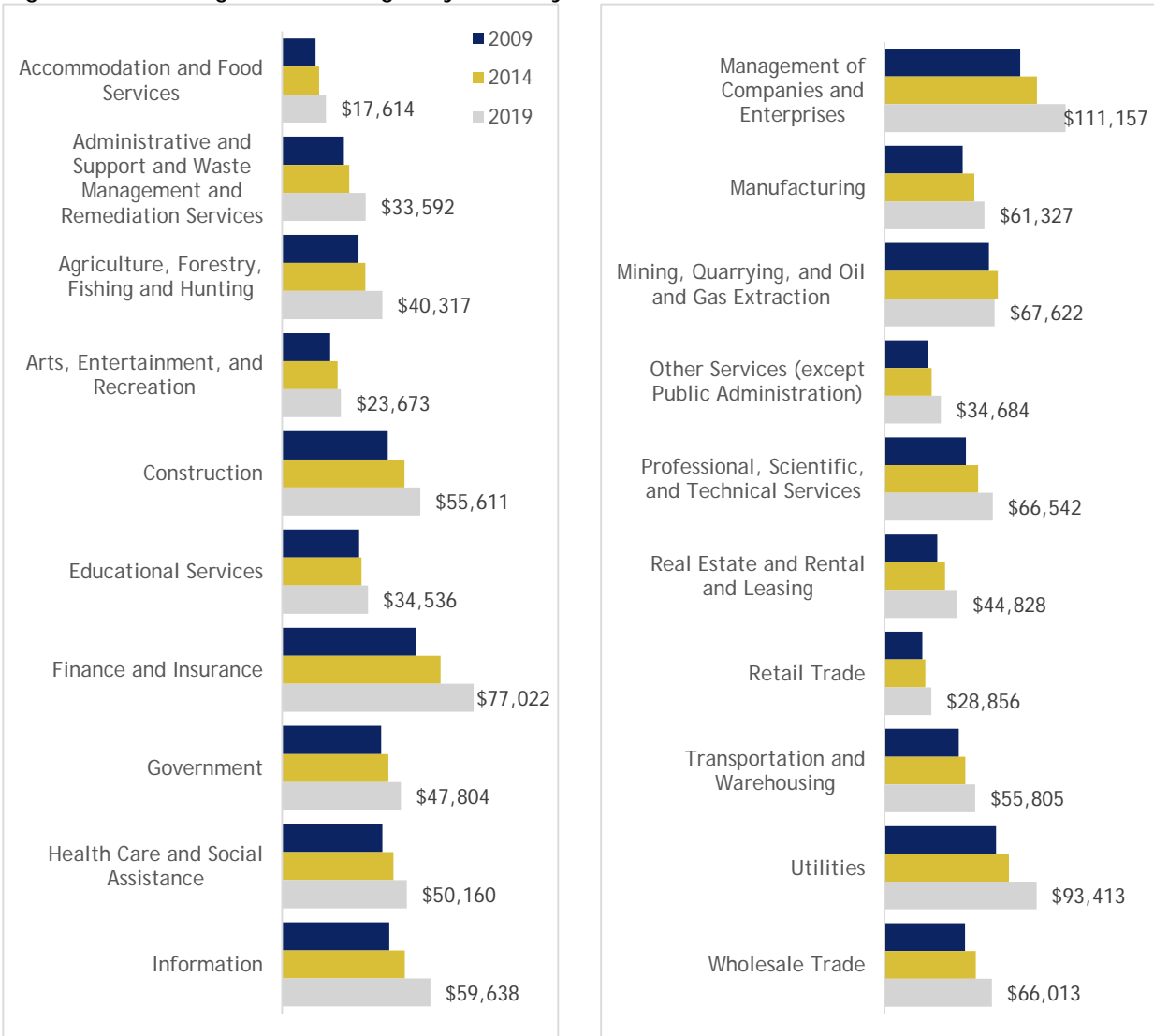
- Construction
- Finance and Insurance
- Government
- Health Care and Social Assistance
- Information
- Management of Companies and Enterprises
- Manufacturing
- Mining, Quarrying and Oil and Gas Extraction
- Professional, Scientific and Technical Services
- Transportation and Warehousing
- Utilities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

Sectors that experienced faster wage growth than the state between 2009 and 2019 (25.9 percent) include:

- Accommodation and Food Services (30.7%)
- Administrative and Support and Waste Management and Remediation Services (35.5%)
- Agriculture, Forestry, Fishing and Hunting (31.3%)
- Construction (30.8%)
- Finance and Insurance (43.3%)
- Information (38.5%)
- Management of Companies and Enterprises (33.4%)
- Manufacturing (27.8%)
- Other Services (except Public Administration) (29.0%)
- Professional, Scientific and Technical Services (33.1%)
- Real Estate and Rental and Leasing (38.3%)
- Utilities (36.4%)
- Wholesale Trade (33.2%)



Figure 31 - Average Annual Wages by Industry Sector, 2009 to 2019

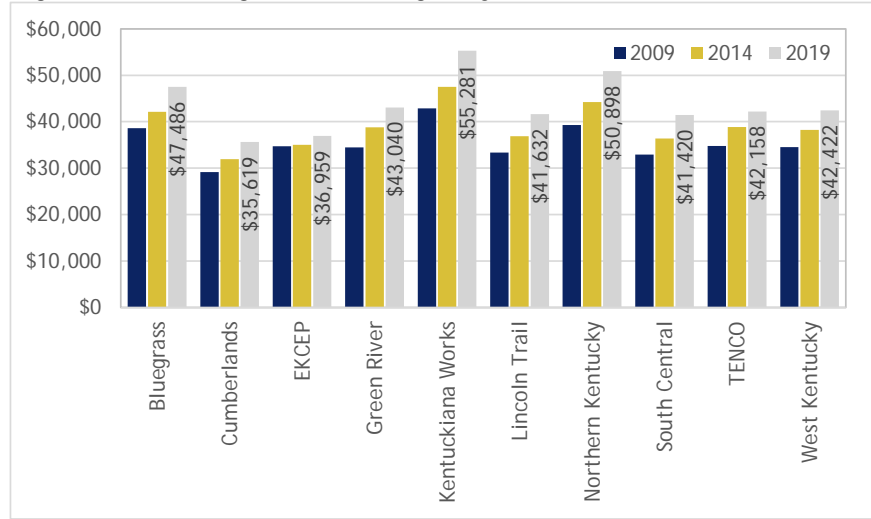


Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)



Average annual wages grew in all of the LWAs between 2009 and 2019. The highest wages were paid in Kentuckiana Works, reaching \$55,281 in 2019. The next highest wage was paid in Northern Kentucky at \$50,898 per year. There were two LWAs that experienced higher growth than the state growth of 2.3 percent annually between 2009 and 2019 - Kentuckiana Works and Northern Kentucky. The lowest average annual wages were paid in the Cumberlands LWA, averaging \$35,619 per year in 2019. EKCEP followed with an average of \$36,959. Wage growth was also the slowest in EKCEP over this time frame, a total of 6.4 percent compared to 25.9 percent for the state.

Figure 32 - Average Annual Wages by LWA, 2009, 2014 and 2019



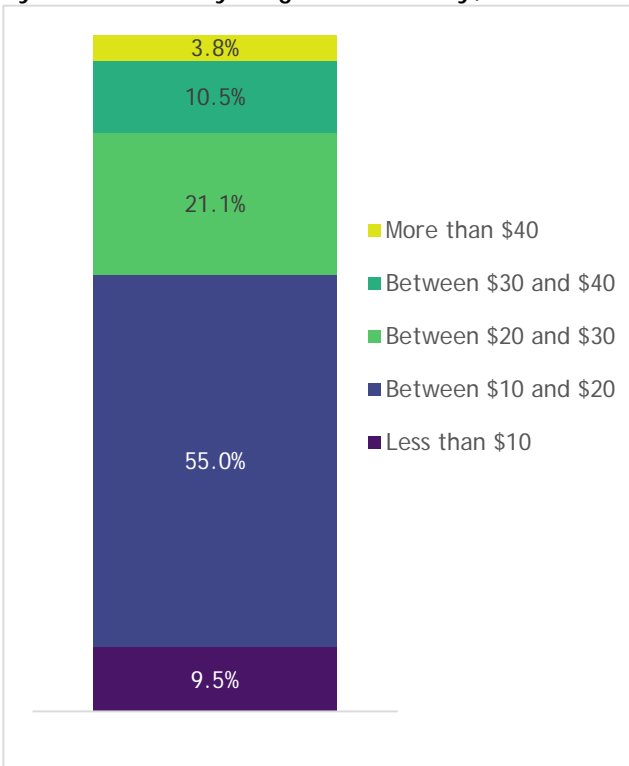
Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2020)



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 - Share of Occupational Employment by Median Hourly Wage in Kentucky, 2020



Source: KYSTATS, Labor Market Information Branch, Occupational Employment Statistics (OES), “2020 Statewide Wage & Employment,” (accessed September 2020).

According to occupational employment and wage estimates, Kentucky’s median wage for 2020 across all occupations was \$17.53 per hour, ranking 43rd in the U.S. The U.S. median hourly wage across all occupations was \$19.14.

Figure 33 displays the distribution of 2020 wage estimates across all occupations in the Kentucky labor market. Of the nearly 1.9 million jobs in Kentucky, the majority, 55.0 percent paid between \$10 and \$20 per hour while 9.5 percent paid less than \$10 per hour. For the jobs earning above \$20 per hour, there were 21.1 percent paying between \$20 and \$30 per hour and another 14.3 percent paying more than \$30 per hour.

The OES estimates categorize occupations into 22 major groups. As shown in Table 2 below, the 2020 median wage was higher in Kentucky than the same group nationally in four groups:

- Farming, Fishing and Forestry
- Healthcare Support
- Production
- Transportation and Material Moving

In those occupational groups where the United States had a higher median hourly 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

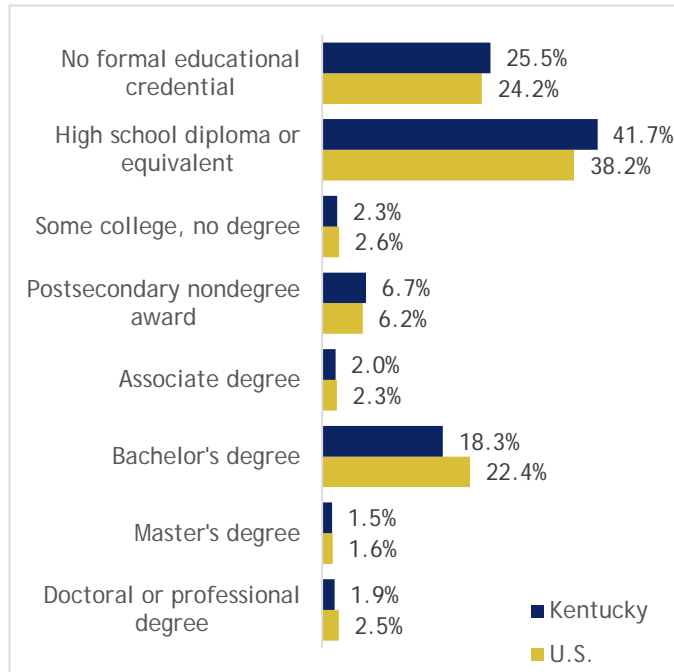
SOC Code	Major Occupational Group	Median Hourly Wage		Estimated Employment in Kentucky
		U.S.	Kentucky	
00-0000	Total	\$19.14	\$17.53	1,896,900
11-0000	Management	\$50.80	\$39.00	88,720
13-0000	Business and Financial Operations	\$33.57	\$28.91	80,210
15-0000	Computer and Mathematical	\$42.47	\$33.30	34,220
17-0000	Architecture and Engineering	\$39.15	\$34.65	28,660
19-0000	Life, Physical and Social Science	\$32.77	\$27.63	10,990
21-0000	Community and Social Services	\$22.16	\$19.19	27,850
23-0000	Legal	\$39.34	\$30.78	10,500
25-0000	Education, Training and Library	\$24.42	\$24.31	97,710
27-0000	Arts, Design, Entertainment, Sports and Media	\$24.59	\$18.94	16,340
29-0000	Healthcare Practitioners and Technical	\$32.78	\$28.35	122,100
31-0000	Healthcare Support	\$13.69	\$13.83	71,560
33-0000	Protective Service	\$19.99	\$15.89	40,160
35-0000	Food Preparation and Serving-Related	\$11.65	\$9.96	176,980
37-0000	Building and Grounds Cleaning and Maintenance	\$13.62	\$12.58	50,150
39-0000	Personal Care and Service	\$12.61	\$11.51	40,220
41-0000	Sales and Related	\$14.24	\$12.48	174,410
43-0000	Office and Administrative Support	\$18.07	\$16.50	257,130
45-0000	Farming, Fishing and Forestry	\$13.07	\$14.17	4,020
47-0000	Construction and Extraction	\$22.80	\$22.14	70,790
49-0000	Installation, Maintenance and Repair	\$22.42	\$21.45	88,630
51-0000	Production	\$17.31	\$18.15	189,220
53-0000	Transportation and Material Moving	\$15.60	\$15.65	216,310

Source: KYSTATS, Labor Market Information Branch, Occupational Employment Statistics (OES), "2020 Statewide Wage & Employment," (accessed September 2020).

The occupational groups with the largest estimated employment were Office and Administrative Support, Transportation and Material Moving, Production, Food Preparation and Serving Related, and, Sales and Related occupations.



Figure 34 - Employment by Level of Education, 2019



Source: BLS, "Typical Entry-Level Educational Requirement Data, May 2019," (accessed September 2020).

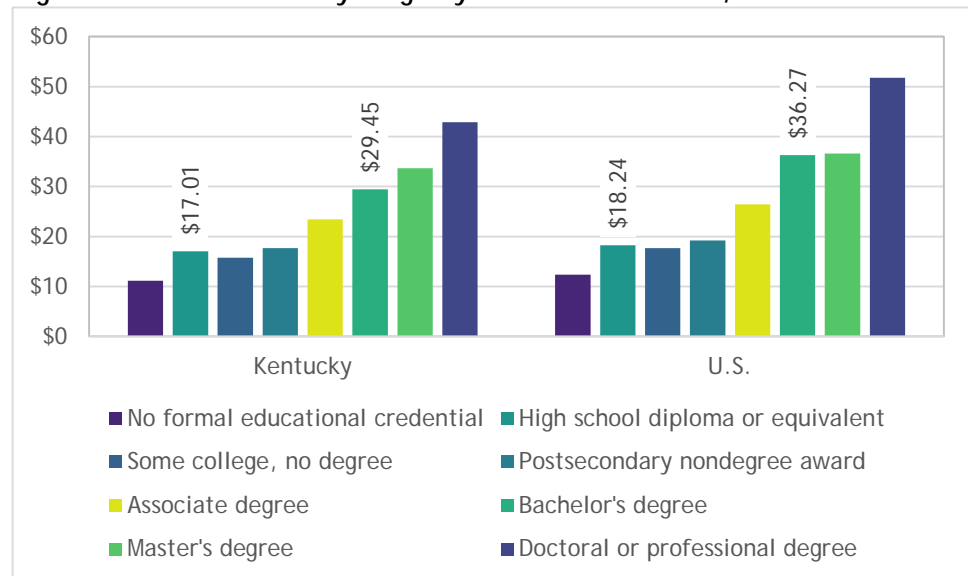
The BLS publication, "Typical Entry-Level Educational Requirement Data, May 2019" presents employment and wage data for occupations by the typical education required for entry. As shown in Figure 34, 41.7 percent of Kentucky employees are in occupations that require a high school diploma or equivalent for entry. This compares to 38.2 percent in the U.S. At the same time, the share of employees in occupations that require a bachelor's degree is lower in Kentucky (18.3 percent) than in the U.S. (22.4 percent).

The median hourly wage by level of education shows that Kentucky employees make less per hour than U.S. employees, a difference that grows with education. An employee in an occupation that requires a high school diploma for entry in Kentucky earns 93 percent of U.S. workers with the same entry requirements. For occupations requiring a bachelor's degree, Kentucky

employees earn 81 percent of U.S. workers, median hourly wage of \$29.45 compared to \$36.27. In the U.S., employees in jobs requiring a bachelor's degree make twice the median hourly wage than those employed in jobs requiring a high school diploma. In Kentucky, that ratio is lower, 1.7. Those employed in jobs requiring a bachelor's degree have a median hourly wage of \$29.45, 1.7 times higher than those requiring a high school diploma, \$17.01 per hour.

Table 3 provides information on the five largest occupations in Kentucky by typical education required for entry. Median hourly wages by levels of experience are also provided.

Figure 35 - Median Hourly Wage by Level of Education, 2019



Source: BLS, "Typical Entry-Level Educational Requirement Data, May 2019," (accessed September 2020).



Table 3 - Largest Occupations in Kentucky by Typical Education Required for Entry, 2020

SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25 th Percentile	Median	75 th Percentile	Experienced
Less than high school							
35-3023	Fast Food and Counter Workers	65,690	\$8.20	\$8.68	\$9.50	\$10.80	\$12.34
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	63,980	\$10.42	\$11.81	\$14.31	\$17.92	\$21.41
41-2031	Retail Salespersons	54,250	\$8.70	\$9.84	\$11.57	\$14.38	\$19.43
41-2011	Cashiers	51,260	\$8.33	\$8.93	\$9.98	\$11.75	\$13.65
35-3031	Waiters and Waitresses	31,690	\$8.13	\$8.57	\$9.29	\$10.24	\$14.01
High school diploma or equivalent							
51-2090	Miscellaneous Assemblers and Fabricators	50,480	\$11.64	\$14.14	\$17.83	\$21.99	\$26.41
43-4051	Customer Service Representatives	43,270	\$9.96	\$11.77	\$15.02	\$19.11	\$25.08
43-9061	Office Clerks, General	38,750	\$8.91	\$10.30	\$13.83	\$18.38	\$23.32
53-7065	Stockers and Order Fillers	32,900	\$9.26	\$10.68	\$12.60	\$16.02	\$19.87
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	23,670	\$10.33	\$13.31	\$16.54	\$20.07	\$24.45
Postsecondary non-degree award							
53-3032	Heavy and Tractor-Trailer Truck Drivers	27,230	\$15.38	\$17.99	\$22.21	\$27.27	\$33.70
31-1131	Nursing Assistants	22,280	\$10.32	\$11.49	\$13.34	\$15.20	\$17.54
31-9092	Medical Assistants	9,940	\$11.50	\$13.49	\$15.89	\$18.60	\$21.04
29-2061	Licensed Practical and Licensed Vocational Nurses	9,790	\$16.04	\$18.01	\$21.03	\$23.82	\$26.67
49-3023	Automotive Service Technicians and Mechanics	9,020	\$10.12	\$12.44	\$17.12	\$23.78	\$30.48



SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25 th Percentile	Median	75 th Percentile	Experienced
Some college, no degree							
43-3031	Bookkeeping, Accounting, and Auditing Clerks	18,130	\$10.85	\$14.45	\$18.25	\$23.07	\$28.20
25-9045	Teaching Assistants, Except Postsecondary	16,140	N/A	N/A	N/A	N/A	N/A
15-1232	Computer User Support Specialists	6,260	\$13.43	\$17.20	\$23.07	\$30.51	\$38.26
49-2011	Computer, Automated Teller, and Office Machine Repairers	1,510	\$13.32	\$16.27	\$18.70	\$22.20	\$24.76
43-4151	Order Clerks	1,500	\$10.83	\$12.56	\$15.09	\$18.59	\$23.84
Associate degree							
25-2011	Preschool Teachers, Except Special Education	3,930	\$9.09	\$10.81	\$14.73	\$22.48	\$28.54
29-2034	Radiologic Technologists and Technicians	3,890	\$18.19	\$21.40	\$25.22	\$30.16	\$35.74
23-2011	Paralegals and Legal Assistants	3,120	\$13.27	\$15.99	\$20.32	\$25.61	\$34.07
29-1292	Dental Hygienists	2,270	\$22.51	\$26.98	\$30.30	\$34.41	\$37.99
29-1126	Respiratory Therapists	2,250	\$18.42	\$20.90	\$24.08	\$28.51	\$31.73
Bachelor's degree							
29-1141	Registered Nurses	43,840	\$21.93	\$26.21	\$30.53	\$36.34	\$40.79
11-1021	General and Operations Managers	31,650	\$17.14	\$23.83	\$34.85	\$54.22	\$85.67
25-2021	Elementary School Teachers, Except Special Education	19,270	N/A	N/A	N/A	N/A	N/A
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	12,280	N/A	N/A	N/A	N/A	N/A
13-2011	Accountants and Auditors	12,080	\$17.85	\$23.03	\$29.54	\$38.38	\$53.00



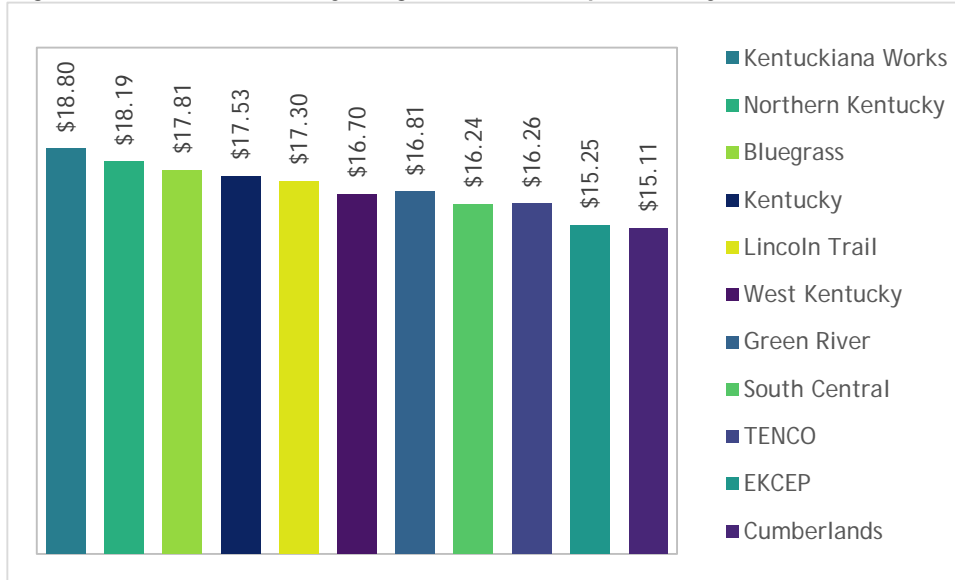
SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25 th Percentile	Median	75 th Percentile	Experienced
Master degree							
11-9032	Education Administrators, Kindergarten through Secondary	4,300	N/A	N/A	N/A	N/A	N/A
29-1171	Nurse Practitioners	3,620	\$33.65	\$41.57	\$47.46	\$56.35	\$65.62
21-1012	Educational, Guidance, and Career Counselors and Advisors	3,360	\$16.15	\$20.20	\$29.06	\$35.40	\$39.25
25-9031	Instructional Coordinators	2,160	\$16.80	\$22.39	\$29.77	\$37.96	\$46.04
29-1127	Speech-Language Pathologists	2,130	\$24.80	\$28.00	\$33.84	\$44.16	\$53.08
Doctoral or professional degree							
23-1011	Lawyers	6,030	\$22.41	\$29.33	\$38.80	\$61.38	\$94.80
29-1051	Pharmacists	5,180	\$43.34	\$54.68	\$61.60	\$71.46	\$79.14
29-1228	Physicians, All Other and Ophthalmologists, Except Pediatric	3,280	\$47.57	\$69.18	N/A	N/A	N/A
29-1123	Physical Therapists	2,650	\$30.37	\$35.46	\$42.23	\$48.47	\$54.86
25-1071	Health Specialties Teachers, Postsecondary	1,890	N/A	N/A	N/A	N/A	N/A

N/A = Not available

Source: KYSTATS, Labor Market Information Branch, Occupational Employment Statistics (OES), "2020 Statewide Wage & Employment" and BLS, "Typical Entry-Level Educational Requirement Data, May 2019," (accessed September 2020).



Figure 36 - Median Hourly Wage for All Occupations by LWA, 2020



Source: KYSTATS, Labor Market Information Branch, "2020 LWA Wage & Employment," (accessed September 2020).

The 2020 median hourly wage for all occupations in Kentucky was \$17.53 per hour. Kentuckiana Works, Northern Kentucky and Bluegrass LWAs all exceeded that as shown in Figure 36. The lowest median hourly wage for all occupations was \$15.11 in the Cumberlandds LWA followed by EKCEP at \$15.25 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 - Est. Employment and Median Hourly Wage by Occupational Group and LWA, 2020

00-0000	Total	382,520	\$17.81	112,020	\$15.11	110,530	\$15.25	86,150	\$16.81	546,510	\$18.80
11-0000	Management	19,810	\$38.85	4,160	\$35.42	4,630	\$32.30	3,270	\$35.88	27,260	\$42.50
13-0000	Business and Financial Operations	N/A	\$27.74	2,430	\$24.76	2,750	\$22.97	2,620	\$27.70	30,620	\$30.27
15-0000	Computer and Mathematical	7,020	\$31.36	810	\$25.71	800	\$25.52	500	\$28.13	17,000	\$36.29
17-0000	Architecture and Engineering	6,950	\$35.32	740	\$26.46	1,050	\$24.67	1,030	\$34.77	9,270	\$36.06
19-0000	Life, Physical, and Social Science	3,910	\$26.07	480	\$24.58	590	\$28.64	340	\$26.68	2,450	\$31.82
21-0000	Community and Social Service	5,470	\$19.48	2,100	\$18.34	3,480	\$18.07	1,220	\$19.89	6,640	\$20.13
23-0000	Legal	N/A	\$32.13	N/A	\$22.02	670	\$26.22	260	\$30.66	3,430	\$34.95
25-0000	Educational Instruction and Library	20,780	\$25.58	7,540	\$23.53	9,910	\$23.70	4,370	\$23.50	20,710	\$24.10
27-0000	Arts, Design, Entertainment, Sports, and Media	4,240	\$19.97	590	\$15.34	650	\$15.12	390	\$16.19	6,080	\$20.80
29-0000	Healthcare Practitioners and Technical	25,290	\$28.63	8,250	\$26.59	10,210	\$24.97	5,310	\$28.93	33,350	\$29.74
31-0000	Healthcare Support	13,890	\$14.03	5,620	\$12.67	6,280	\$11.94	3,550	\$13.29	18,490	\$15.18
33-0000	Protective Service	9,440	\$16.26	2,190	\$16.06	3,670	\$14.67	1,980	\$12.13	10,870	\$14.72
35-0000	Food Preparation and Serving Related	37,540	\$10.02	10,970	\$9.58	10,390	\$9.41	7,240	\$9.83	47,390	\$10.58
37-0000	Building and Grounds Cleaning and Maintenance	10,660	\$13.01	2,810	\$11.43	3,510	\$11.24	2,310	\$12.08	13,680	\$13.02
39-0000	Personal Care and Service	7,990	\$11.60	2,020	\$10.49	1,830	\$10.76	1,650	\$10.88	14,170	\$12.26
41-0000	Sales and Related	35,560	\$12.21	8,880	\$11.93	12,070	\$10.47	8,020	\$11.56	48,170	\$13.92
43-0000	Office and Administrative Support	54,160	\$16.48	17,460	\$14.16	14,110	\$14.51	10,730	\$16.08	77,530	\$17.55
45-0000	Farming, Fishing, and Forestry	1,790	\$13.41	490	\$13.87	130	\$12.50	150	\$16.24	560	\$16.61
47-0000	Construction and Extraction	12,970	\$21.52	2,880	\$18.80	5,830	\$21.44	4,290	\$22.52	19,430	\$24.15
49-0000	Installation, Maintenance, and Repair	16,150	\$21.50	5,060	\$17.52	4,960	\$18.48	5,280	\$22.55	23,050	\$22.64
51-0000	Production	36,760	\$19.03	12,850	\$15.89	4,080	\$14.64	11,280	\$18.65	46,310	\$18.69
53-0000	Transportation and Material Moving	31,790	\$15.26	13,160	\$15.00	8,940	\$14.01	10,340	\$15.18	70,060	\$15.70



SOC Code	Major Occupational Group	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	95,390	\$17.30	211,100	\$18.19	119,570	\$16.24	69,350	\$16.26	150,940	\$16.70
11-0000	Management	4,060	\$38.43	10,090	\$40.92	5,220	\$37.42	3,090	\$34.71	6,590	\$37.98
13-0000	Business and Financial Operations	4,370	\$30.97	9,450	\$30.54	3,350	\$27.66	1,690	\$24.00	4,670	\$27.71
15-0000	Computer and Mathematical	1,870	\$34.10	3,220	\$31.92	800	\$29.52	420	\$24.00	1,320	\$29.09
17-0000	Architecture and Engineering	1,060	\$32.69	3,410	\$35.31	2,060	\$31.91	1,060	\$35.90	1,730	\$37.07
19-0000	Life, Physical, and Social Science	430	\$28.87	1,000	\$28.65	320	\$27.03	340	\$25.72	1,070	\$28.40
21-0000	Community and Social Service	1,590	\$18.35	2,030	\$20.56	1,500	\$19.15	1,510	\$18.44	2,140	\$18.94
23-0000	Legal	360	\$26.79	1,110	\$33.93	N/A	\$24.70	210	\$26.86	660	\$27.46
25-0000	Educational Instruction and Library	5,410	\$23.70	9,730	\$24.95	6,600	\$24.95	4,370	\$23.80	8,160	\$23.16
27-0000	Arts, Design, Entertainment, Sports, and Media	560	\$21.37	1,440	\$17.85	910	\$15.27	270	\$13.88	1,010	\$17.31
29-0000	Healthcare Practitioners and Technical	5,870	\$27.47	10,780	\$30.78	6,960	\$26.47	5,540	\$26.95	10,230	\$27.16
31-0000	Healthcare Support	3,500	\$13.28	6,240	\$14.98	4,700	\$12.90	3,170	\$12.79	5,930	\$12.78
33-0000	Protective Service	1,610	\$18.17	3,990	\$18.89	2,030	\$15.16	1,440	\$17.70	2,780	\$17.18
35-0000	Food Preparation and Serving Related	9,630	\$10.07	20,350	\$10.00	10,490	\$9.82	7,600	\$9.62	14,980	\$9.67
37-0000	Building and Grounds Cleaning and Maintenance	1,930	\$12.53	5,130	\$13.56	3,100	\$11.86	1,860	\$12.61	4,490	\$12.66
39-0000	Personal Care and Service	1,900	\$10.55	5,030	\$11.64	2,360	\$11.00	980	\$10.78	2,260	\$10.94
41-0000	Sales and Related	7,960	\$11.92	18,290	\$14.46	12,570	\$11.74	7,170	\$11.43	14,920	\$11.82
43-0000	Office and Administrative Support	11,490	\$16.47	27,470	\$17.98	14,990	\$15.43	8,420	\$15.21	18,960	\$15.13
45-0000	Farming, Fishing, and Forestry	90	\$11.76	130	\$16.01	170	\$14.42	90	\$15.65	330	\$14.36
47-0000	Construction and Extraction	4,170	\$19.45	5,730	\$22.35	3,960	\$19.62	3,390	\$22.21	7,120	\$22.13
49-0000	Installation, Maintenance, and Repair	4,480	\$18.95	10,630	\$23.51	5,820	\$20.68	3,340	\$19.13	8,760	\$20.88
51-0000	Production	15,660	\$18.26	20,810	\$19.30	17,880	\$17.36	6,940	\$17.63	16,200	\$17.31
53-0000	Transportation and Material Moving	7,400	\$15.72	35,030	\$16.10	13,340	\$15.05	6,450	\$15.74	16,610	\$16.88

Source: KYSTATS, Labor Market Information Branch, "2020 LWA Wage & Employment," (accessed September 2020).



Table 5 - Top Five Occupations by Estimated Employment in Each LWA, 2020

SOC Code	Standard Occupational Classification (SOC) Title	Est. Emp.	Median Hourly Wage
Bluegrass			
00-0000	Total all occupations	382,520	\$17.81
35-3023	Fast Food and Counter Workers	13,800	\$9.54
41-2031	Retail Salespersons	11,980	\$11.44
51-2090	Miscellaneous Assemblers and Fabricators	10,520	\$18.48
41-2011	Cashiers	9,990	\$10.11
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	9,720	\$13.74
Cumberlands			
00-0000	Total all occupations	112,020	\$15.11
43-4051	Customer Service Representatives	4,650	\$12.57
35-3023	Fast Food and Counter Workers	4,520	\$9.06
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	4,130	\$12.57
41-2011	Cashiers	2,940	\$9.59
41-2031	Retail Salespersons	2,840	\$11.83
EKCEP			
00-0000	Total all occupations	110,530	\$15.25
41-2011	Cashiers	5,230	\$9.25
35-3023	Fast Food and Counter Workers	4,330	\$9.06
29-1141	Registered Nurses	3,180	\$28.85
41-2031	Retail Salespersons	3,040	\$11.15
31-1120	Home Health and Personal Care Aides	2,320	\$11.18
Green River			
00-0000	Total all occupations	86,150	\$16.81
35-3023	Fast Food and Counter Workers	3,230	\$9.57
41-2011	Cashiers	3,100	\$9.74
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2,830	\$14.39
41-2031	Retail Salespersons	2,390	\$11.38
29-1141	Registered Nurses	2,200	\$30.34
Kentuckiana Works			
00-0000	Total all occupations	546,510	\$18.80
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	23,600	\$14.41
51-2090	Miscellaneous Assemblers and Fabricators	17,150	\$18.63
35-3023	Fast Food and Counter Workers	15,180	\$9.85
43-4051	Customer Service Representatives	14,180	\$17.06
41-2031	Retail Salespersons	14,070	\$11.79



SOC Code	Standard Occupational Classification (SOC) Title	Est. Emp.	Median Hourly Wage
Lincoln Trail			
00-0000	Total all occupations	95,390	\$17.30
51-2090	Miscellaneous Assemblers and Fabricators	5,480	\$18.80
35-3023	Fast Food and Counter Workers	4,110	\$9.57
41-2011	Cashiers	2,590	\$9.99
41-2031	Retail Salespersons	2,510	\$11.39
29-1141	Registered Nurses	1,900	\$29.52
Northern Kentucky			
00-0000	Total all occupations	211,100	\$18.19
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	11,270	\$15.20
35-3023	Fast Food and Counter Workers	6,280	\$9.63
41-2031	Retail Salespersons	5,580	\$12.24
53-7065	Stockers and Order Fillers	5,090	\$13.19
43-4051	Customer Service Representatives	4,960	\$16.57
South Central			
00-0000	Total all occupations	119,570	\$16.24
35-3023	Fast Food and Counter Workers	4,790	\$9.54
51-2090	Miscellaneous Assemblers and Fabricators	4,090	\$17.34
41-2031	Retail Salespersons	3,980	\$11.34
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	3,920	\$14.35
41-2011	Cashiers	3,900	\$9.67
TENCO			
00-0000	Total all occupations	69,350	\$16.26
35-3023	Fast Food and Counter Workers	3,260	\$9.34
41-2011	Cashiers	2,890	\$9.81
41-2031	Retail Salespersons	2,150	\$11.29
29-1141	Registered Nurses	2,050	\$28.57
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	1,720	\$13.47
West Kentucky			
00-0000	Total all occupations	150,940	\$16.70
35-3023	Fast Food and Counter Workers	5,940	\$9.39
41-2031	Retail Salespersons	5,660	\$11.03
51-2090	Miscellaneous Assemblers and Fabricators	4,350	\$16.61
41-2011	Cashiers	4,020	\$9.62
29-1141	Registered Nurses	3,740	\$29.56

N/A = Not Available

Source: KYSTATS, Labor Market Information Branch, "2020 LWA Wage & Employment," (accessed September 2020).



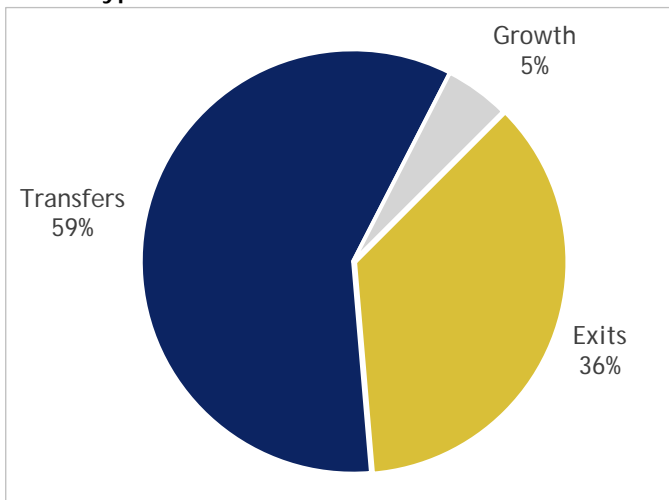
OCCUPATIONAL PROJECTIONS

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 37 - Projected Job Openings in Kentucky by Event Type

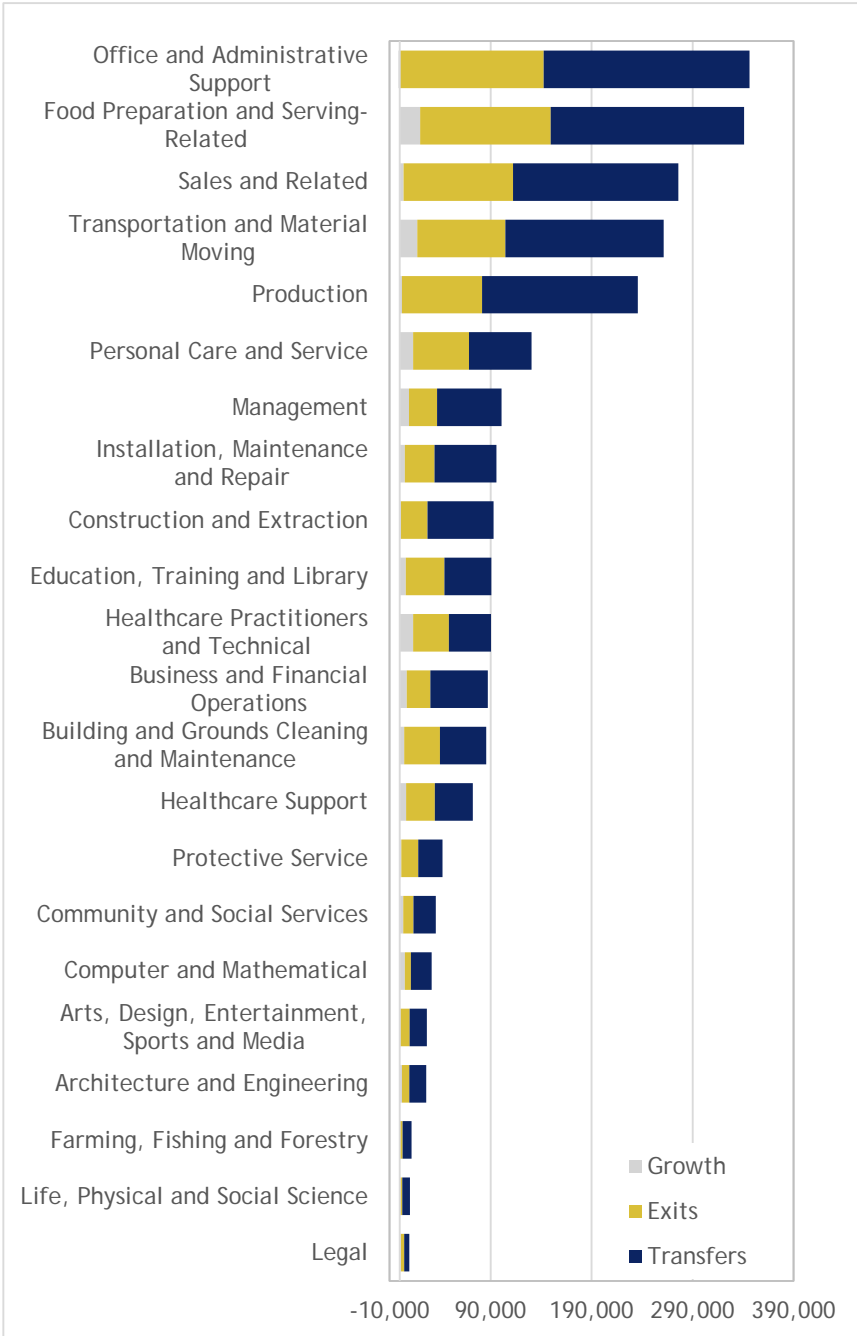


Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed August 2020).

In Kentucky, the job market is expected to experience nearly 2.5 million job openings between 2018 and 2028, with the majority of openings attributed to workers transferring between occupations. These transfers are expected to account for 59 percent of the total job openings between 2018 and 2028, 1.47 million openings. An estimated 903,500 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 (approximately 124,000) between 2018 and 2028.



Figure 38 - Total Job Openings by Major Occupational Group, 2018 to 2028



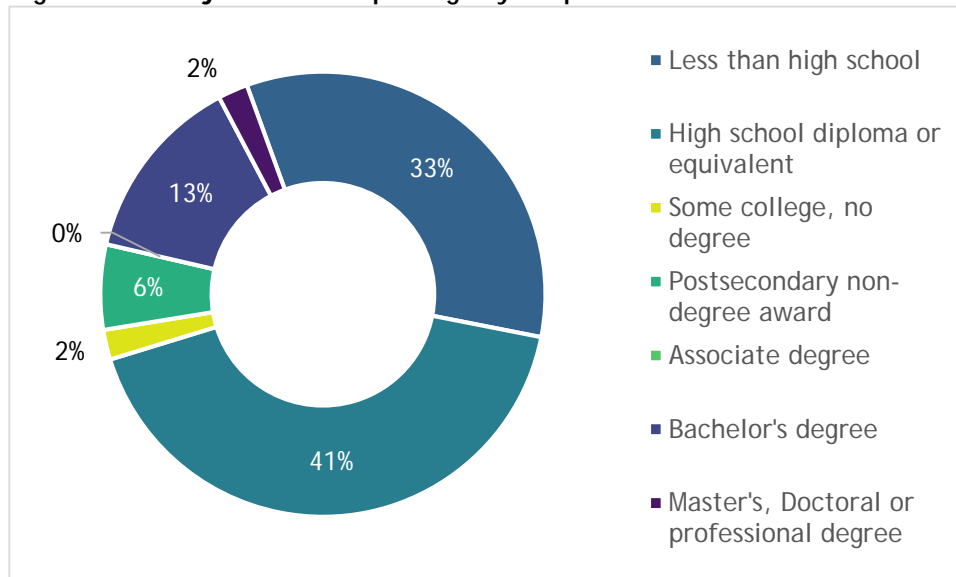
Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed August 2020).

The most projected job openings between 2018 and 2028 are in Office and Administrative Support occupations. This occupational group is the only group projected to have negative growth (decline) over this time period (losing 1,400 jobs). However, both exits and transfers are expected in this occupational group, resulting in overall projected openings of 345,100 jobs.

Food Preparation and Serving-Related occupations are estimated to have the next largest openings with an estimated 340,800 openings. This group also has the most anticipated growth with 20,200 jobs followed by Transportation and Material Moving occupations (17,500 jobs) and Healthcare Practitioners (13,400 jobs). However, the majority of future job openings are from transfers.



Figure 39 - Projected Job Openings by Required Education



Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed September 2020).

Many job openings in the next decade will not require comparatively high levels of educational attainment. One-quarter (25 percent) of all projected job openings in Kentucky from 2018 to 2028 will require an education beyond a high school diploma or equivalent award. Among all projected openings, 33 percent typically require less than high school completion, and 41 percent 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.

Every occupation in Kentucky is expected to have openings between 2018 and 2028. Recall that job openings come from people transferring between jobs, exiting the labor force or growth in the occupation. However, there are 154 occupations that will have fewer employees in 2028 than 2018. In total, employment is projected to decrease by 19,198 in these occupations, the majority of which (88.0 percent) require a high school diploma or less education. The occupations expected to experience the largest declines include:

- Secretaries and administrative assistants, except legal, medical, and executive (-1,908)
- Inspectors, testers, sorters, samplers, and weighers (-1,444)
- Office clerks, general (-1,000)
- Cashiers (-988)
- Executive secretaries and executive administrative assistants (-971)

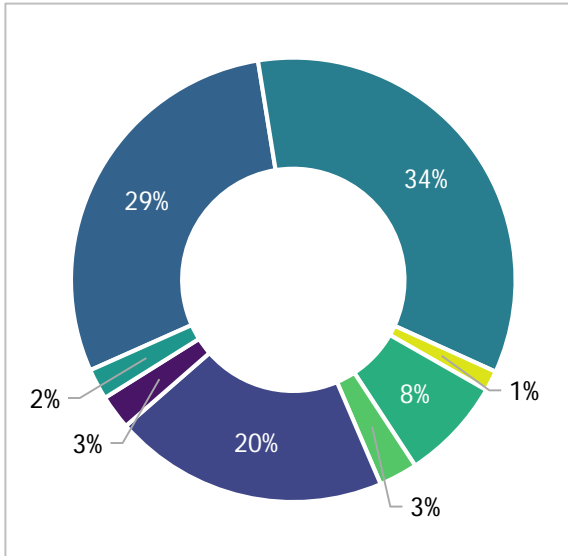
There are 507 occupations that are projected to grow between 2018 and 2028, increasing employment by 133,190. While 20 percent of the employment growth will be in occupations requiring a bachelor's degree for entry, 63 percent will require a high school diploma or less. Occupations that have the largest projected growth include:

- Combined food preparation and serving workers, including fast food (10,861)
- Personal care aides (6,963)
- Laborers and freight, stock, and material movers, hand (6,666)
- Registered nurses (6,152)
- Cooks, restaurant (4,195)



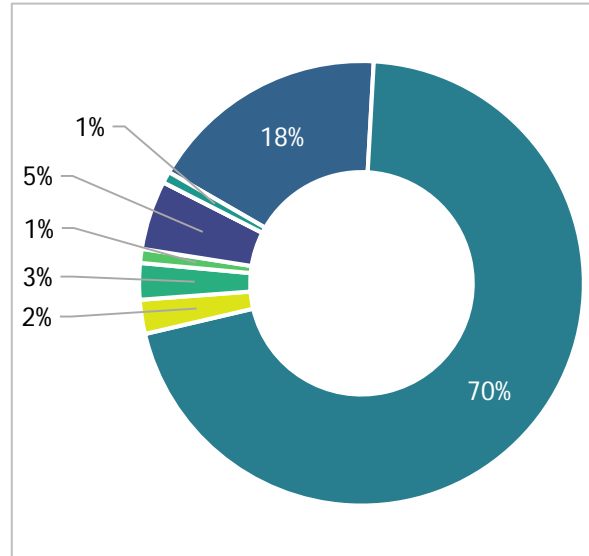
Figure 40 - Change in Employment by Required Education, 2018-2028

Growing Occupations by Required Education



- No formal educational credential
- Some college, no degree
- Associate degree
- Master's degree

Declining Occupations by Required Education



- High school diploma or equivalent
- Postsecondary nondegree award
- Bachelor's degree
- Doctoral or professional degree

Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed September 2020).

High school diplomas and bachelor degrees are the two levels of educational attainment that typically grant workers entry to the widest variety of occupations, with the former qualifying workers for 265 unique occupations across the state, and the latter granting access to 154 additional occupations. Advanced postsecondary degrees (Master's, Doctoral, and other professional degrees) grant access to 80 occupations that lower levels of educational attainment do not. Only 81 unique occupations do not typically require any formal education credentials.

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's degree. This also includes occupations requiring a master's 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 32,839 openings by 2028. The median wage for this occupation was \$63,514 in 2019.



Table 6 - Most Job Openings by Skill Classification

SOC Code	SOC Title (Code)	Est. Emp.	Job Openings				Median Wage
			Exits	Transfers	Change	Total	
High Skill							
29-1141	Registered nurses	46,900	13,868	12,819	6,152	32,839	\$63,514
11-1021	General and operations managers	31,353	6,852	21,522	2,641	31,015	\$72,491
25-2021	Elementary school teachers, except special education	17,797	5,680	7,787	920	14,387	#N/A
13-2011	Accountants and auditors	12,281	3,633	8,370	1,197	13,200	\$61,434
13-1199	Business operations specialists, all other	9,918	2,818	7,145	921	10,884	#N/A
Moderate Skill							
53-3032	Heavy and tractor-trailer truck drivers	26,650	11,435	20,144	2,248	33,827	\$46,206
31-1014	Nursing assistants	24,776	13,901	15,077	2,162	31,140	#N/A
43-3031	Bookkeeping, accounting, and auditing clerks	20,747	12,478	11,417	-476	23,419	\$37,969
25-9041	Teacher assistants	15,825	8,638	8,513	905	18,056	#N/A
31-9092	Medical assistants	9,135	3,812	6,942	1,254	12,008	\$33,055
53-3032	Heavy and tractor-trailer truck drivers	26,650	11,435	20,144	2,248	33,827	\$46,206
Basic Skill							
35-3021	Combined food preparation and serving workers, including fast food	64,657	55,881	68,924	10,861	135,666	#N/A
41-2011	Cashiers	51,927	45,904	51,119	-988	96,035	\$20,754
53-7062	Laborers and freight, stock, and material movers, hand	60,271	28,724	59,616	6,666	95,006	\$29,760
41-2031	Retail salespersons	56,018	32,508	50,117	1,094	83,719	\$24,055
51-2098	Assemblers and fabricators, all other, including team assemblers	61,501	25,337	46,726	742	72,805	#N/A

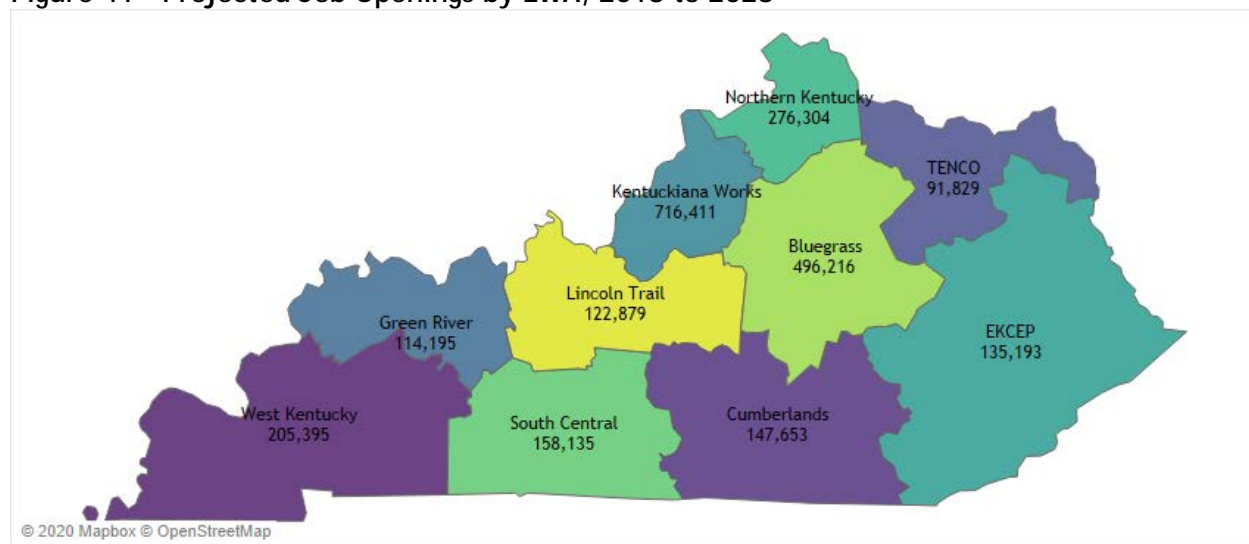
N/A = Not available

Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," and Occupational Employment Statistics (OES), "2020 Statewide Wage & Employment" (accessed September 2020).

Kentucky's ten LWAs are expected to experience uneven growth, with each area growing by at least 3.3% by 2028. The fastest growing areas, Kentuckiana Works, Bluegrass, and Cumberlands, are projected to experience growth of 7.6%, 6.4%, and 6.4%, respectively. EKCEP is likely to be the most affected by exits from the labor force, with exits comprising as much as 39% of total job openings in the area over the next decade.



Figure 41 - Projected Job Openings by LWA, 2018 to 2028



Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed September 2020).

The following tables present total projected job openings for the LWAs (Table 7) and by major occupational group for each LWA (Table 8). Current and projected employment as well as total openings and contributions to openings are shown.

Table 7 - Job Openings by LWA

LWA	2018	2020	2022	2024	2026	2028
Bluegrass	398,638	423,978	25,340	179,597	291,279	496,216
Cumberlands	116,033	123,425	7,392	54,631	85,630	147,653
EKCEP	113,171	116,941	3,770	52,367	79,056	135,193
Green River	92,901	96,804	3,903	41,945	68,347	114,195
Kentuckiana Works	564,703	607,546	42,843	253,290	420,278	716,411
Lincoln Trail	99,792	104,509	4,717	45,101	73,061	122,879
Northern Kentucky	219,291	232,643	13,352	98,608	164,344	276,304
South Central	125,083	132,237	7,154	57,789	93,192	158,135
TENCO	73,730	78,112	4,382	33,944	53,503	91,829
West Kentucky	163,395	173,056	9,661	74,483	121,251	205,395

Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed September 2020).



Table 8 - Job Openings by LWA and Major Occupational Group

SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
Bluegrass LWA							
00-0000	Total	398,638	423,978	25,340	179,597	291,279	496,216
11-0000	Management	24,626	26,604	1,978	6,886	14,617	23,481
13-0000	Business and financial operations	17,420	18,850	1,430	5,048	12,099	18,577
15-0000	Computer and mathematical	6,714	7,620	906	1,231	4,031	6,168
17-0000	Architecture and engineering	7,248	7,747	499	1,809	4,159	6,467
19-0000	Life, physical, and social science	3,036	3,299	263	637	2,467	3,367
21-0000	Community and social service	5,511	6,144	633	1,936	4,151	6,720
23-0000	Legal	3,075	3,312	237	783	1,193	2,213
25-0000	Education, training, and library	20,013	21,519	1,506	8,186	9,918	19,610
27-0000	Arts, design, entertainment, sports, and media	5,771	6,108	337	2,323	4,334	6,994
29-0000	Healthcare practitioners and technical	27,414	30,283	2,869	7,502	8,659	19,030
31-0000	Healthcare support	11,775	13,236	1,461	6,281	8,123	15,865
33-0000	Protective service	7,889	8,266	377	3,397	4,922	8,696
35-0000	Food preparation and serving related	36,846	41,159	4,313	26,977	40,049	71,339
37-0000	Building and grounds cleaning and maintenance	12,524	13,528	1,004	7,343	9,591	17,938
39-0000	Personal care and service	13,534	15,926	2,392	10,346	11,863	24,601
41-0000	Sales and related	36,727	37,456	729	20,751	31,701	53,181
43-0000	Office and administrative support	59,157	58,782	-375	29,093	40,949	69,667
45-0000	Farming, fishing, and forestry	2,672	2,852	180	1,091	3,361	4,632
47-0000	Construction and extraction	15,398	16,127	729	5,074	12,324	18,127
49-0000	Installation, maintenance, and repair	15,845	16,920	1,075	5,199	10,741	17,015
51-0000	Production	39,713	40,220	507	15,581	30,237	46,325
53-0000	Transportation and material moving	25,730	28,020	2,290	12,123	21,790	36,203



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
Cumberlands LWA							
00-0000	Total	116,033	123,425	7,392	54,631	85,630	147,653
11-0000	Management	4,963	5,410	447	1,304	3,065	4,816
13-0000	Business and financial operations	2,513	2,770	257	729	1,750	2,736
15-0000	Computer and mathematical	958	1,124	166	177	610	953
17-0000	Architecture and engineering	694	760	66	192	416	674
21-0000	Community and social service	1,950	2,147	197	661	1,437	2,295
25-0000	Education, training, and library	7,007	7,423	416	2,846	3,410	6,672
27-0000	Arts, design, entertainment, sports, and media	1,072	1,086	14	402	802	1,218
29-0000	Healthcare practitioners and technical	7,839	8,645	806	2,164	2,546	5,516
31-0000	Healthcare support	4,070	4,478	408	2,101	2,821	5,330
33-0000	Protective service	2,046	2,141	95	959	1,279	2,333
35-0000	Food preparation and serving related	9,824	10,878	1,054	7,207	10,399	18,660
37-0000	Building and grounds cleaning and maintenance	3,379	3,666	287	2,053	2,566	4,906
39-0000	Personal care and service	5,023	6,068	1,045	3,851	4,089	8,985
41-0000	Sales and related	10,207	10,410	203	6,018	8,905	15,126
43-0000	Office and administrative support	19,871	19,799	-72	9,680	14,138	23,746
45-0000	Farming, fishing, and forestry	720	717	-3	284	865	1,146
47-0000	Construction and extraction	3,167	3,203	36	1,025	2,562	3,623
49-0000	Installation, maintenance, and repair	4,824	5,147	323	1,615	3,262	5,200
51-0000	Production	12,814	12,924	110	5,386	9,642	15,138
53-0000	Transportation and material moving	12,178	13,641	1,463	5,743	10,484	17,690



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
EKCEP LWA							
00-0000	Total	113,171	116,941	3,770	52,367	79,056	135,193
11-0000	Management	5,117	5,430	313	1,292	3,071	4,676
13-0000	Business and financial operations	2,774	2,929	155	842	1,906	2,903
15-0000	Computer and mathematical	770	872	102	139	469	710
17-0000	Architecture and engineering	1,091	1,047	-44	290	659	905
19-0000	Life, physical, and social science	454	481	27	93	366	486
21-0000	Community and social service	3,722	4,138	416	1,290	2,792	4,498
23-0000	Legal	862	929	67	232	380	679
25-0000	Education, training, and library	9,304	9,858	554	3,745	4,537	8,836
27-0000	Arts, design, entertainment, sports, and media	876	880	4	337	673	1,014
29-0000	Healthcare practitioners and technical	10,950	12,014	1,064	3,002	3,835	7,901
31-0000	Healthcare support	4,028	4,501	473	2,120	2,712	5,305
33-0000	Protective service	3,434	3,468	34	1,296	1,892	3,222
35-0000	Food preparation and serving related	10,023	11,074	1,051	7,380	10,541	18,972
37-0000	Building and grounds cleaning and maintenance	3,759	3,974	215	2,304	2,778	5,297
39-0000	Personal care and service	3,904	4,665	761	3,016	3,207	6,984
41-0000	Sales and related	12,569	12,649	80	7,985	11,142	19,207
43-0000	Office and administrative support	16,115	15,807	-308	7,872	10,966	18,530
45-0000	Farming, fishing, and forestry	160	141	-19	59	179	219
47-0000	Construction and extraction	5,941	4,740	-1,201	1,763	4,390	4,952
49-0000	Installation, maintenance, and repair	4,854	4,726	-128	1,529	3,121	4,522
51-0000	Production	4,757	4,800	43	1,998	3,673	5,714
53-0000	Transportation and material moving	7,707	7,818	111	3,783	5,767	9,661



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
Green River LWA							
00-0000	Total	92,901	96,804	3,903	41,945	68,347	114,195
11-0000	Management	4,377	4,627	250	1,249	2,556	4,055
13-0000	Business and financial operations	3,189	3,407	218	902	2,204	3,324
15-0000	Computer and mathematical	507	549	42	90	302	434
17-0000	Architecture and engineering	1,135	1,138	3	275	618	896
19-0000	Life, physical, and social science	288	306	18	56	233	307
21-0000	Community and social service	1,484	1,661	177	533	1,133	1,843
23-0000	Legal	355	392	37	90	135	262
25-0000	Education, training, and library	4,372	4,646	274	1,770	2,134	4,178
27-0000	Arts, design, entertainment, sports, and media	497	482	-15	177	367	529
29-0000	Healthcare practitioners and technical	5,811	6,442	631	1,606	1,884	4,121
31-0000	Healthcare support	2,737	3,053	316	1,428	1,845	3,589
33-0000	Protective service	1,537	1,615	78	644	974	1,696
35-0000	Food preparation and serving related	7,738	8,574	836	5,681	8,306	14,823
37-0000	Building and grounds cleaning and maintenance	2,886	3,122	236	1,666	2,235	4,137
39-0000	Personal care and service	3,489	4,123	634	2,610	3,035	6,279
41-0000	Sales and related	8,147	8,278	131	4,914	7,127	12,172
43-0000	Office and administrative support	12,664	12,506	-158	6,120	8,705	14,667
45-0000	Farming, fishing, and forestry	635	625	-10	250	762	1,002
47-0000	Construction and extraction	4,586	4,327	-259	1,412	3,615	4,768
49-0000	Installation, maintenance, and repair	5,647	5,677	30	1,787	3,638	5,455
51-0000	Production	12,994	13,137	143	5,055	10,087	15,285
53-0000	Transportation and material moving	7,826	8,117	291	3,630	6,452	10,373



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
Kentuckiana Works LWA							
00-0000	Total	564,703	607,546	42,843	253,290	420,278	716,411
11-0000	Management	30,713	34,173	3,460	7,708	19,119	30,287
13-0000	Business and financial operations	29,127	32,143	3,016	8,308	20,612	31,936
15-0000	Computer and mathematical	15,537	18,330	2,793	2,792	9,580	15,165
17-0000	Architecture and engineering	8,990	9,886	896	2,187	5,109	8,192
19-0000	Life, physical, and social science	2,245	2,470	225	487	1,781	2,493
21-0000	Community and social service	6,934	7,839	905	2,459	5,243	8,607
23-0000	Legal	3,923	4,376	453	1,037	1,654	3,144
25-0000	Education, training, and library	20,193	21,720	1,527	8,332	10,120	19,979
27-0000	Arts, design, entertainment, sports, and media	8,117	8,469	352	3,136	5,977	9,465
29-0000	Healthcare practitioners and technical	34,737	38,486	3,749	9,698	11,123	24,570
31-0000	Healthcare support	13,415	14,912	1,497	6,936	9,338	17,771
33-0000	Protective service	10,917	11,534	617	5,348	7,194	13,159
35-0000	Food preparation and serving related	46,974	52,511	5,537	34,207	51,176	90,920
37-0000	Building and grounds cleaning and maintenance	16,118	17,470	1,352	9,480	12,293	23,125
39-0000	Personal care and service	22,668	26,874	4,206	17,562	19,924	41,692
41-0000	Sales and related	51,766	53,063	1,297	28,557	44,190	74,044
43-0000	Office and administrative support	86,160	86,915	755	41,818	60,544	103,117
45-0000	Farming, fishing, and forestry	770	801	31	310	946	1,287
47-0000	Construction and extraction	22,830	23,810	980	7,380	18,331	26,691
49-0000	Installation, maintenance, and repair	24,312	26,085	1,773	7,799	16,890	26,462
51-0000	Production	48,638	50,215	1,577	19,486	37,878	58,941
53-0000	Transportation and material moving	59,619	65,464	5,845	28,263	51,256	85,364



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
Lincoln Trail LWA							
00-0000	Total	99,792	104,509	4,717	45,101	73,061	122,879
11-0000	Management	4,478	4,779	301	1,157	2,683	4,141
13-0000	Business and financial operations	4,995	5,208	213	1,402	3,468	5,083
15-0000	Computer and mathematical	1,744	1,837	93	303	1,010	1,406
17-0000	Architecture and engineering	1,039	1,144	105	264	593	962
19-0000	Life, physical, and social science	314	330	16	70	232	318
21-0000	Community and social service	1,550	1,742	192	536	1,161	1,889
23-0000	Legal	358	380	22	91	146	259
25-0000	Education, training, and library	5,177	5,478	301	2,141	2,552	4,994
27-0000	Arts, design, entertainment, sports, and media	769	745	-24	277	550	803
29-0000	Healthcare practitioners and technical	5,545	6,094	549	1,518	1,830	3,897
31-0000	Healthcare support	2,465	2,747	282	1,272	1,714	3,268
33-0000	Protective service	1,978	2,059	81	730	1,107	1,918
35-0000	Food preparation and serving related	8,754	9,747	993	6,375	9,402	16,770
37-0000	Building and grounds cleaning and maintenance	2,657	2,856	199	1,604	2,013	3,816
39-0000	Personal care and service	3,368	4,067	699	2,637	2,871	6,207
41-0000	Sales and related	9,692	9,890	198	5,831	8,453	14,482
43-0000	Office and administrative support	13,132	12,827	-305	6,329	8,938	14,962
45-0000	Farming, fishing, and forestry	358	357	-1	141	437	577
47-0000	Construction and extraction	4,582	4,694	112	1,487	3,663	5,262
49-0000	Installation, maintenance, and repair	4,463	4,696	233	1,488	2,947	4,668
51-0000	Production	15,803	15,912	109	6,235	12,059	18,403
53-0000	Transportation and material moving	6,571	6,920	349	3,213	5,232	8,794



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
Northern Kentucky LWA							
00-0000	Total	219,291	232,643	13,352	98,608	164,344	276,304
11-0000	Management	11,702	12,685	983	2,878	7,193	11,054
13-0000	Business and financial operations	9,619	10,186	567	2,792	6,467	9,826
15-0000	Computer and mathematical	3,462	3,879	417	620	2,120	3,157
17-0000	Architecture and engineering	3,349	3,623	274	822	1,867	2,963
19-0000	Life, physical, and social science	884	960	76	179	697	952
21-0000	Community and social service	2,319	2,574	255	794	1,714	2,763
23-0000	Legal	1,272	1,410	138	347	559	1,044
25-0000	Education, training, and library	8,903	9,298	395	3,527	4,283	8,205
27-0000	Arts, design, entertainment, sports, and media	2,124	2,157	33	825	1,510	2,368
29-0000	Healthcare practitioners and technical	10,905	12,041	1,136	3,007	3,494	7,637
31-0000	Healthcare support	4,806	5,437	631	2,530	3,372	6,533
33-0000	Protective service	3,911	3,988	77	1,481	2,298	3,856
35-0000	Food preparation and serving related	21,141	23,541	2,400	15,134	23,033	40,567
37-0000	Building and grounds cleaning and maintenance	5,699	6,085	386	3,278	4,368	8,032
39-0000	Personal care and service	7,609	8,586	977	5,610	6,479	13,066
41-0000	Sales and related	21,429	21,810	381	11,576	18,362	30,319
43-0000	Office and administrative support	32,386	32,485	99	15,428	22,944	38,471
45-0000	Farming, fishing, and forestry	164	114	-50	59	166	175
47-0000	Construction and extraction	7,414	7,695	281	2,406	5,908	8,595
49-0000	Installation, maintenance, and repair	11,582	12,192	610	3,778	7,657	12,045
51-0000	Production	19,938	20,109	171	8,028	15,244	23,443
53-0000	Transportation and material moving	28,673	31,788	3,115	13,509	24,609	41,233



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
South Central LWA							
00-0000	Total	125,083	132,237	7,154	57,789	93,192	158,135
11-0000	Management	5,820	6,299	479	1,559	3,519	5,557
13-0000	Business and financial operations	3,342	3,628	286	974	2,363	3,623
15-0000	Computer and mathematical	741	821	80	133	445	658
17-0000	Architecture and engineering	1,943	2,097	154	496	1,113	1,763
21-0000	Community and social service	1,606	1,777	171	547	1,193	1,911
25-0000	Education, training, and library	6,320	6,751	431	2,501	3,063	5,995
27-0000	Arts, design, entertainment, sports, and media	1,629	1,639	10	649	1,248	1,907
29-0000	Healthcare practitioners and technical	7,321	8,069	748	2,037	2,506	5,291
31-0000	Healthcare support	3,096	3,455	359	1,612	2,089	4,060
33-0000	Protective service	2,156	2,296	140	887	1,284	2,311
35-0000	Food preparation and serving related	11,718	13,067	1,349	8,664	12,537	22,550
37-0000	Building and grounds cleaning and maintenance	3,662	3,966	304	2,237	2,752	5,293
39-0000	Personal care and service	4,437	5,386	949	3,496	3,927	8,372
41-0000	Sales and related	12,207	12,471	264	7,147	10,640	18,051
43-0000	Office and administrative support	16,138	15,919	-219	7,828	11,100	18,709
45-0000	Farming, fishing, and forestry	431	444	13	171	534	718
47-0000	Construction and extraction	4,495	4,750	255	1,480	3,611	5,346
49-0000	Installation, maintenance, and repair	6,084	6,475	391	2,027	4,059	6,477
51-0000	Production	19,093	19,142	49	7,363	14,520	21,932
53-0000	Transportation and material moving	12,058	12,907	849	5,788	10,247	16,884



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
TENCO LWA							
00-0000	Total	73,730	78,112	4,382	33,944	53,503	91,829
11-0000	Management	3,380	3,633	253	834	2,038	3,125
13-0000	Business and financial operations	1,906	2,006	100	554	1,311	1,965
15-0000	Computer and mathematical	598	589	-9	96	340	427
17-0000	Architecture and engineering	1,096	1,139	43	256	596	895
19-0000	Life, physical, and social science	299	313	14	61	235	310
21-0000	Community and social service	1,448	1,618	170	510	1,097	1,777
23-0000	Legal	255	275	20	67	108	195
25-0000	Education, training, and library	4,290	4,577	287	1,698	2,070	4,055
27-0000	Arts, design, entertainment, sports, and media	463	454	-9	182	342	515
29-0000	Healthcare practitioners and technical	6,481	7,180	699	1,763	2,091	4,553
31-0000	Healthcare support	2,854	3,211	357	1,512	1,963	3,832
33-0000	Protective service	1,512	1,576	64	509	825	1,398
35-0000	Food preparation and serving related	7,488	8,366	878	5,442	8,100	14,420
37-0000	Building and grounds cleaning and maintenance	2,380	2,573	193	1,406	1,819	3,418
39-0000	Personal care and service	2,361	2,813	452	1,787	1,933	4,172
41-0000	Sales and related	7,636	7,758	122	4,862	6,801	11,785
43-0000	Office and administrative support	9,911	9,719	-192	4,899	6,658	11,365
45-0000	Farming, fishing, and forestry	144	147	3	57	176	236
47-0000	Construction and extraction	3,589	3,788	199	1,216	2,916	4,331
49-0000	Installation, maintenance, and repair	3,279	3,472	193	1,073	2,219	3,485
51-0000	Production	7,062	7,055	-7	2,631	5,415	8,039
53-0000	Transportation and material moving	5,298	5,850	552	2,529	4,450	7,531



SOC Code	Occupational Group	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
West Kentucky LWA							
00-0000	Total	163,395	173,056	9,661	74,483	121,251	205,395
11-0000	Management	8,045	8,630	585	2,277	4,757	7,619
13-0000	Business and financial operations	4,910	5,286	376	1,413	3,435	5,224
15-0000	Computer and mathematical	1,291	1,463	172	234	794	1,200
17-0000	Architecture and engineering	1,880	2,036	156	479	1,082	1,717
19-0000	Life, physical, and social science	856	915	59	179	692	930
21-0000	Community and social service	2,127	2,363	236	719	1,577	2,532
23-0000	Legal	662	709	47	181	289	517
25-0000	Education, training, and library	7,998	8,513	515	3,245	3,925	7,685
27-0000	Arts, design, entertainment, sports, and media	1,308	1,278	-30	463	942	1,375
29-0000	Healthcare practitioners and technical	10,565	11,589	1,024	2,899	3,467	7,390
31-0000	Healthcare support	4,656	5,092	436	2,414	3,183	6,033
33-0000	Protective service	3,048	3,129	81	1,254	1,721	3,056
35-0000	Food preparation and serving related	15,849	17,638	1,789	11,539	17,139	30,467
37-0000	Building and grounds cleaning and maintenance	5,249	5,648	399	3,091	4,013	7,503
39-0000	Personal care and service	5,215	6,356	1,141	4,045	4,289	9,475
41-0000	Sales and related	15,967	16,233	266	9,247	13,949	23,462
43-0000	Office and administrative support	22,460	22,292	-168	10,917	15,357	26,106
45-0000	Farming, fishing, and forestry	971	948	-23	380	1,159	1,516
47-0000	Construction and extraction	7,924	8,007	83	2,577	6,360	9,020
49-0000	Installation, maintenance, and repair	8,277	8,667	390	2,660	5,544	8,594
51-0000	Production	18,375	18,326	-49	7,028	14,052	21,031
53-0000	Transportation and material moving	15,762	17,938	2,176	7,242	13,525	22,943

Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed September 2020).

