

Kentucky Economic Analysis PY 2020

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Prepared by



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The Program Year (PY) 2020 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. 2-20, 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 2010 to 2020. 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, 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, 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 are from the U.S. Census Bureau's 2020 Census and the American Community Survey (ACS). ACS 5-year estimates (2015-2019) 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 and Wage Statistics (OEWS) program and KYSTATS.

Local Workforce Area

- Bluegrass
- Cumberlands
- EKCEP
- Green River
- Kentuckiana Works
- Lincoln Trail
- Northern Kentucky
- South Central
- TENCO
- West Kentucky

At the beginning of 2020, key economic indicators reflected economic growth (see GDP and Personal Income), rising employment, and unemployment rates at their lowest in 20 years (see Civilian Labor Force). However, in March, the global COVID-19 pandemic resulted in state-issued social distancing orders and a subsequent economic recession. Though many workers were able to work remotely, many others were laid off as businesses closed or suspended operations to slow the spread of the virus. There were an unprecedented number of initial unemployment claims filed during 2020 (see Unemployment Insurance Claims). Though every sector of the state economy experienced job loss during 2020, the effects were not even across industries or regions (see Covered Employment and Wages).

Though dramatic, the recession itself was short and the economic recovery began almost as quickly. Similar to the downturn, the recovery has been uneven and many metrics presented in this report are still below pre-pandemic levels. This report provides an analysis of an economy in transition.

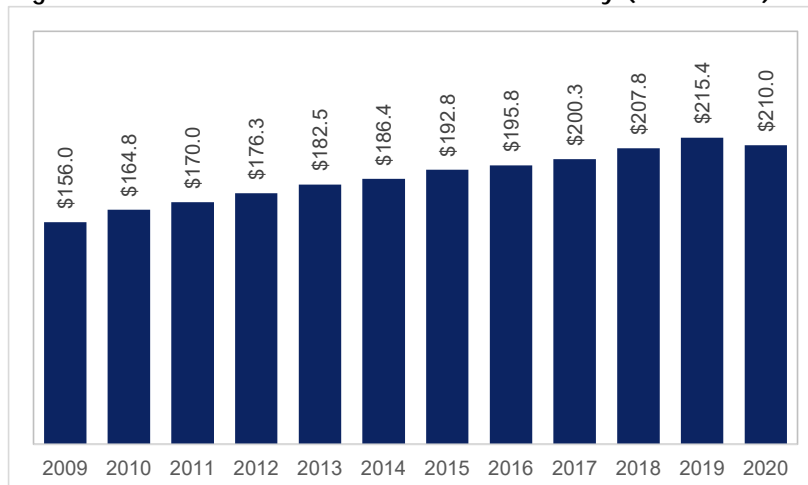
Gross Domestic Product (GDP)

GDP, produced by the BEA, measures the value of the goods and services produced in the U.S., states, and Metropolitan Statistical Areas (MSA). GDP estimates are also available by industry.

Kentucky's GDP was \$210.0 billion in 2020, a 2.5 percent decrease from 2019. This is the first decrease since the Great Recession when GDP dropped 1.4 percent from 2008 to 2009.

The growth rate of GDP is an indicator of a region's overall economic health. The chart below

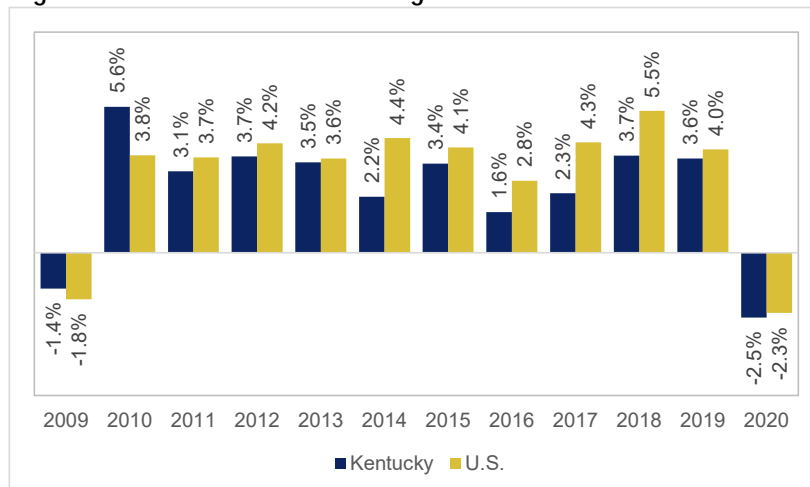
Figure 2 - Gross Domestic Product in Kentucky (in billions)



Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed May 2021).

compares the annual change in GDP for the U.S. and Kentucky since 2009. Kentucky's GDP had been growing at a slower rate than the U.S. since 2011. In 2020, the GDP of Kentucky fell 2.5 percent from 2019, slightly more than the U.S. decrease of 2.3 percent. Before the decline in 2020, Kentucky's GDP had been growing at a Compound Annual Growth Rate (CAGR) of 3.3 percent between 2009 and 2019. Over the same time frame, GDP for the U.S. grew at a CAGR of 4.0 percent annually.

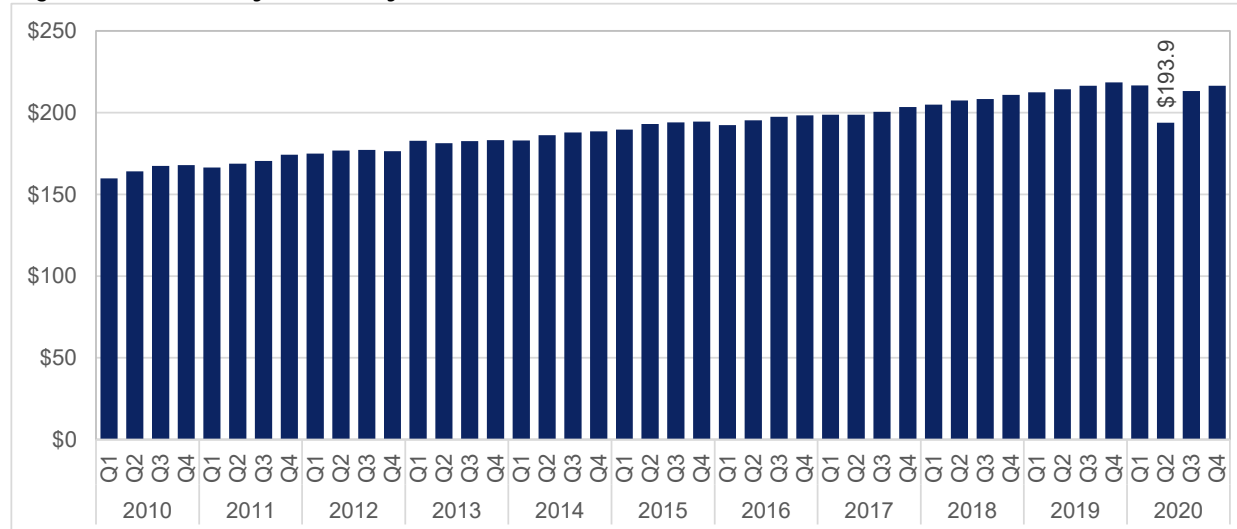
Figure 3 - Over-The-Year Change in Gross Domestic Product



Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed May 2021).

Kentucky GDP dropped sharply in the second quarter of 2020 as businesses closed in response to coronavirus. GDP fell to 2015 levels but began to recover in the third quarter. However, GDP in the fourth quarter of 2020 was still below 2019 levels.

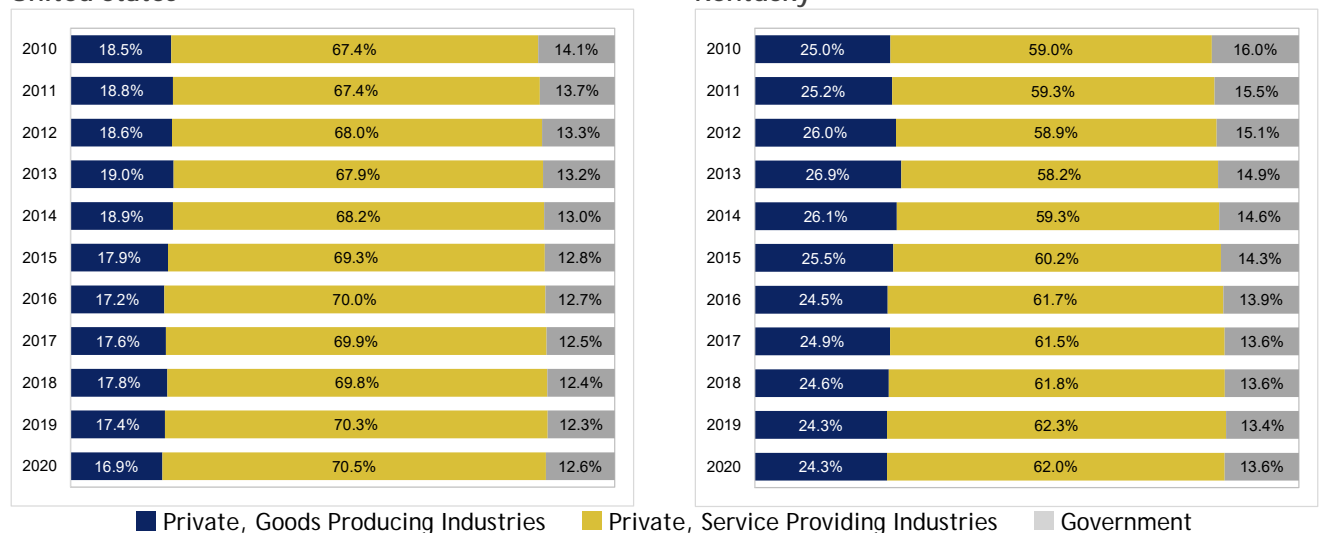
Figure 4 - Kentucky Quarterly GDP, 2010-2020



Source: U.S. Bureau of Economic Analysis, "Quarterly Gross Domestic Product (GDP) by State," (accessed May 2021).

GDP is classified into three major categories: private goods producing, private service providing, and government. Examining the data at this level shows the shift between Goods Producing Sectors and Service Providing Sectors. As shown in Figure 5, 67.4 percent of U.S. GDP in 2010 was from private service providing industries. This increased to 70.5 percent in 2020. In Kentucky, 62.0 percent of the state's GDP was attributed to private service providing industries in 2020, an increase of 3.0 percentage points from the 59.0 percent recorded in 2010, but still below the U.S. average.

Figure 5 - U.S. and Kentucky GDP for Public and Private Sectors, 2010, 2015, and 2020



Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed May 2021).

Kentucky's economy relies more heavily on private, goods producing industries than the U.S. In 2020, nearly one-quarter of the state's GDP was attributed to private goods producing industries, 24.3 percent, which is down from a peak of 26.9 percent in 2013. The U.S. share declined from 19.0 percent to 16.9 percent over the same time frame. Although the share declined for both Kentucky and the U.S. between 2010 and 2020, the gap between the U.S. and Kentucky widened. In 2010, there was a difference of 6.4 percentage points, which grew to 7.5 percentage points by 2020.

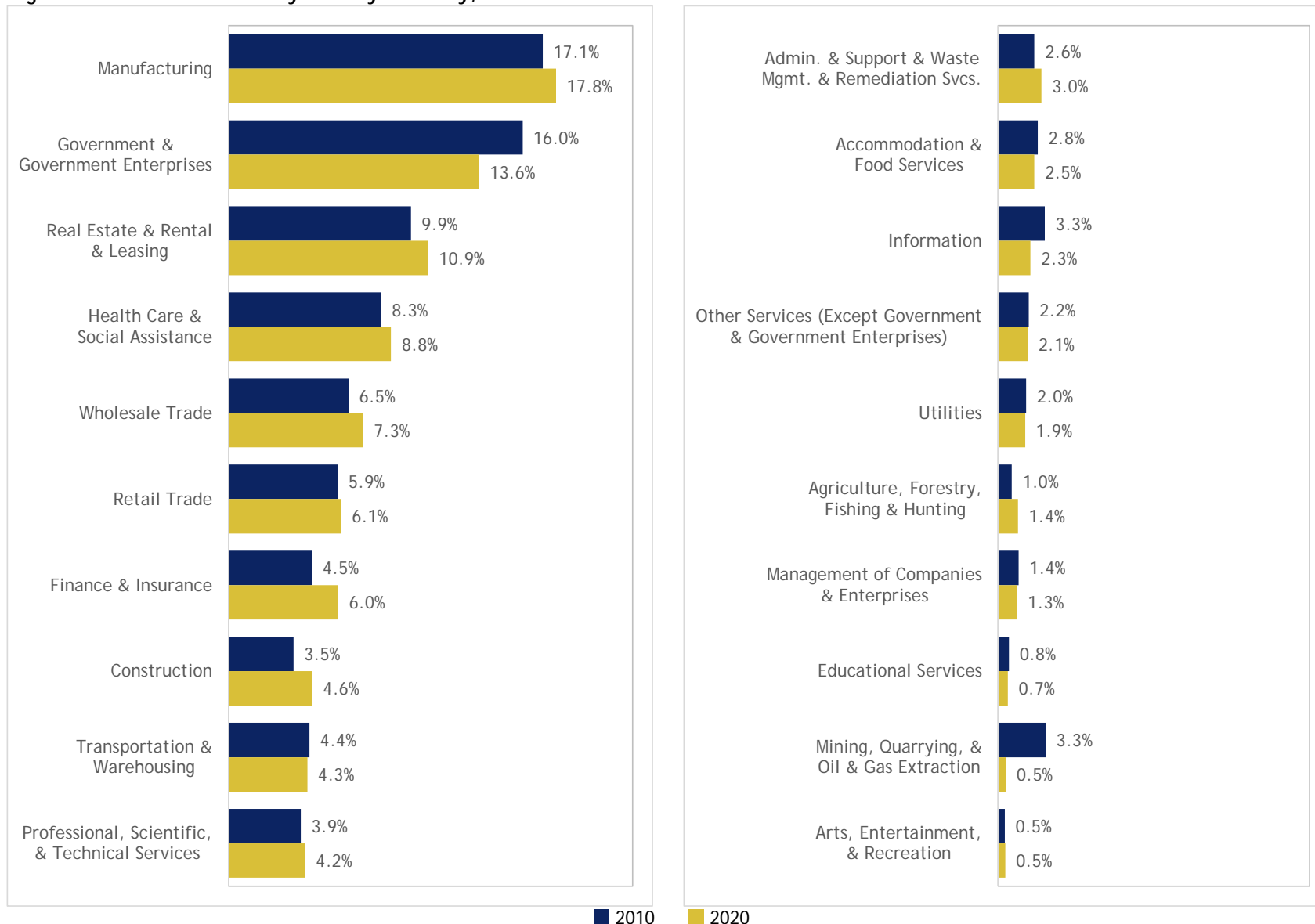
Government as a share of GDP was also higher in Kentucky than in the U.S., 13.6 percent in 2020 compared to 12.6 percent in the U.S. This share declined for both the U.S. and Kentucky, but Kentucky experienced a larger drop. In 2010, the share of GDP attributed to Government was 16.0 percent and fell in subsequent years to a low of 13.4 percent in 2019. GDP attributed to government increased in both Kentucky and the U.S. in 2020.

Figure 6 examines the contribution individual economic sectors made towards the state GDP in 2010 and 2020. Four sectors made up half of the state's GDP: Manufacturing, Government, Real Estate and Rental and Leasing, and Health Care and Social Assistance.

Manufacturing was the largest contributor to state GDP in both 2010 and 2020, increasing from 17.1 percent to 17.8 percent. Nationally, manufacturing decreased its contribution to GDP from 12.0 percent to 10.8 percent over this same period. 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 2010. However, the Mining, Quarrying, and Oil and Gas Extraction sector experienced the largest overall drop in GDP. In 2010, this sector contributed \$5.5 billion to state GDP, 3.3 percent of total GDP. In 2020, this dropped to \$1.1 billion, 0.5 percent of state GDP.

Figure 6 - Share of Kentucky GDP by Industry, 2010 and 2020



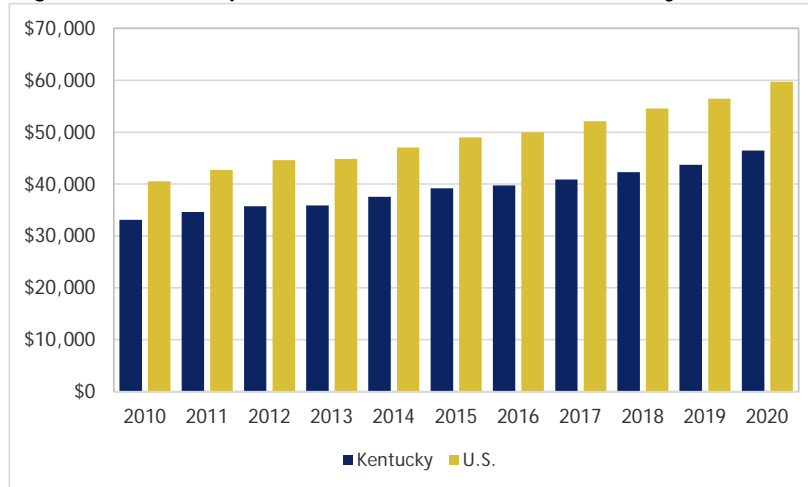
Source: U.S. Bureau of Economic Analysis, "Annual Gross Domestic Product (GDP) by State," (accessed May 2021).

Personal Income

While GDP is a measure of the economic health of the state, a metric that measures the economic well-being of its residents is 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 \$208.2 billion in personal income in 2020, an increase of 6.5 percent from 2019, higher than the national increase of 6.1 percent. However, personal income has grown at a CAGR of 3.7 percent per year in Kentucky since 2010 compared to U.S. growth of 4.6 percent over the same time period.

Figure 7 - Per Capita Personal Income for Kentucky



Source: U.S. Bureau of Economic Analysis, "Personal Income Summary," (accessed June 2021).

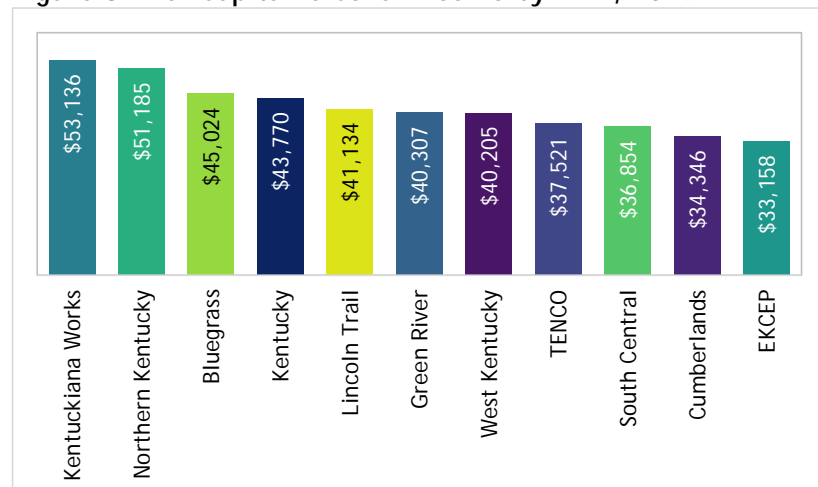
A comparison of per capita income in the U.S. and Kentucky is shown in Figure 7. In 2020, Kentucky's per capita income was \$46,507 compared to \$59,729 in the U.S. For most of the last decade, the gap has widened. In 2020, Kentucky's per capita personal income was 77.9 percent of the

U.S. average, down from 81.7 percent in 2010. While per capita income is growing in Kentucky at a compound annual rate of 3.4 percent, it remains lower than the U.S. average and is growing at a slower rate (U.S. CAGR of 3.9 percent).

Personal income, population and per capita personal income are available by county through 2019 which was aggregated by LWA.

Kentuckiana Works, Northern Kentucky, and Bluegrass LWAs had higher per capita personal income than the state overall in 2019.

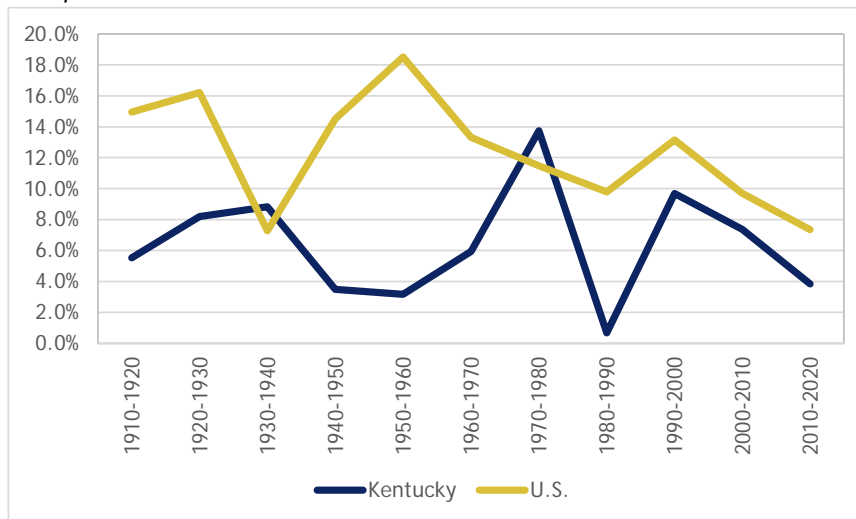
Figure 8 - Per Capita Personal Income by LWA, 2019



Source: U.S. Bureau of Economic Analysis, "Personal Income Summary," (accessed June 2021).

In 2020, Kentucky's population surpassed 4.5 million residents. However, population growth in the Commonwealth has lagged behind national rates for decades. Between 1910 and 2020, Kentucky's population growth rate exceeded the national average twice, first between 1930 to 1940 and most recently between 1970 and 1980. In 2020, Kentucky's population increased 3.8 percent since 2010, half of the national rate of 7.4 percent.

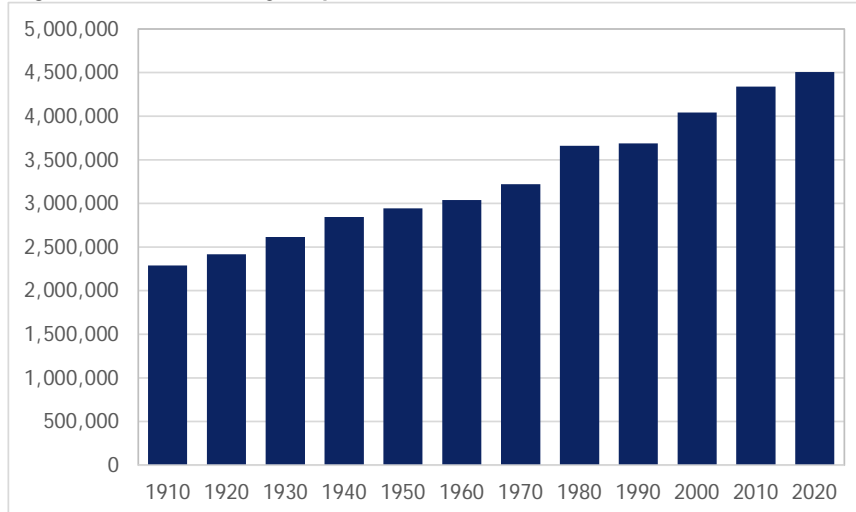
Figure 9 - Change in Population by Decade, Kentucky and the U.S., 1910-2020



Source: U.S. Census Bureau, "Historical Population Change Data (1910-2020)", (accessed June 2021).

Between 1970 and 1980, the state added 442,071 residents, the most growth in any decade between 1910 and 2020. The next largest growth occurred between 1990 and 2000 with 356,473 additional residents. Between 2010 and 2020, Kentucky's population grew by an additional 166,469 residents, the smallest population increase since 1980 to 1990.

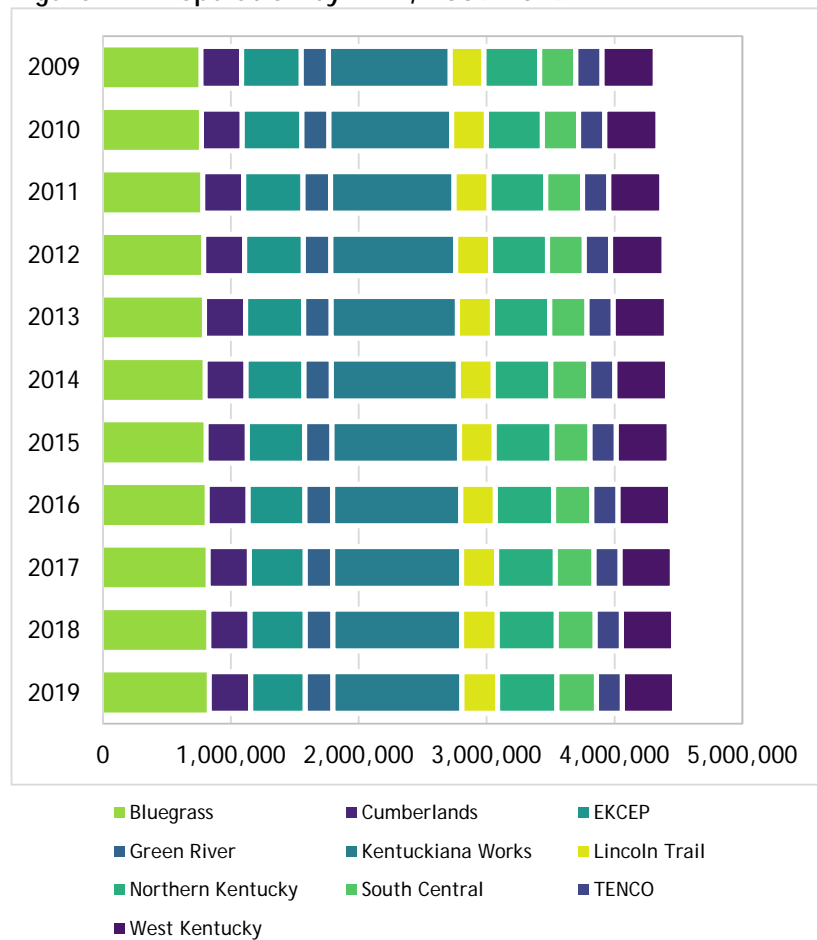
Figure 10 - Kentucky Population, 1910-2020



Source: U.S. Census Bureau, "Historical Population Change Data (1910-2020)", (accessed June 2021).

Note: Populations estimates provided by the Kentucky State Data Center (KSDC) have not been updated since the 2019 vintage estimates. These estimates will not reflect revisions to prior years' data incorporated with future estimates. Population projections produced by the KSDC utilize 2016 vintage estimates.

Figure 11 - Population by LWA, 2009-2019



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

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).

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)

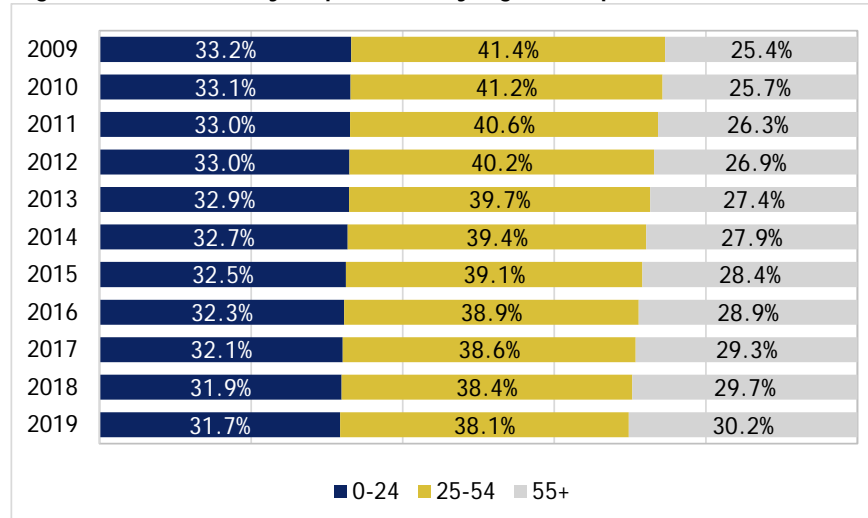
The five counties with the largest absolute decreases were:

- 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 12 - 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).

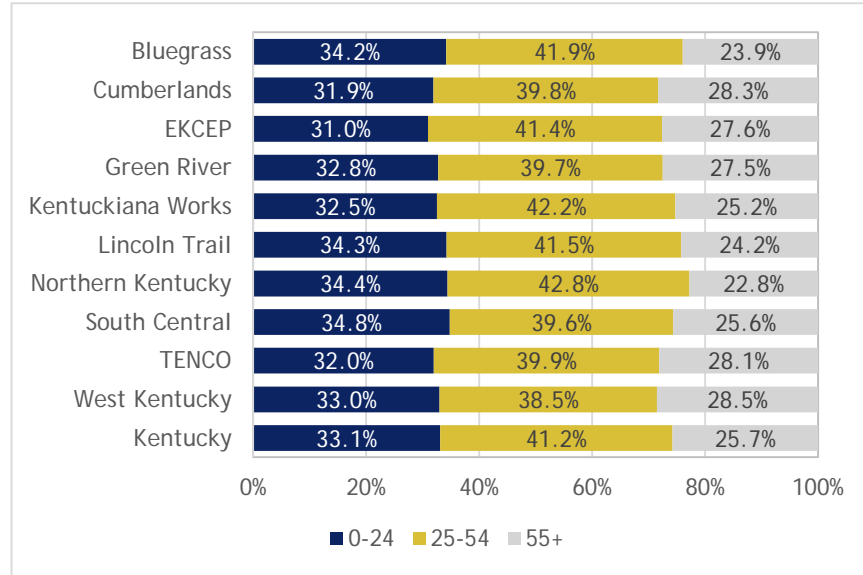
the ages of 25 and 54 in 2019.

A closer look at population by age group shows that the share of the Kentucky population that is between the ages of 25 and 54 (gold bars in Figure 12), 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

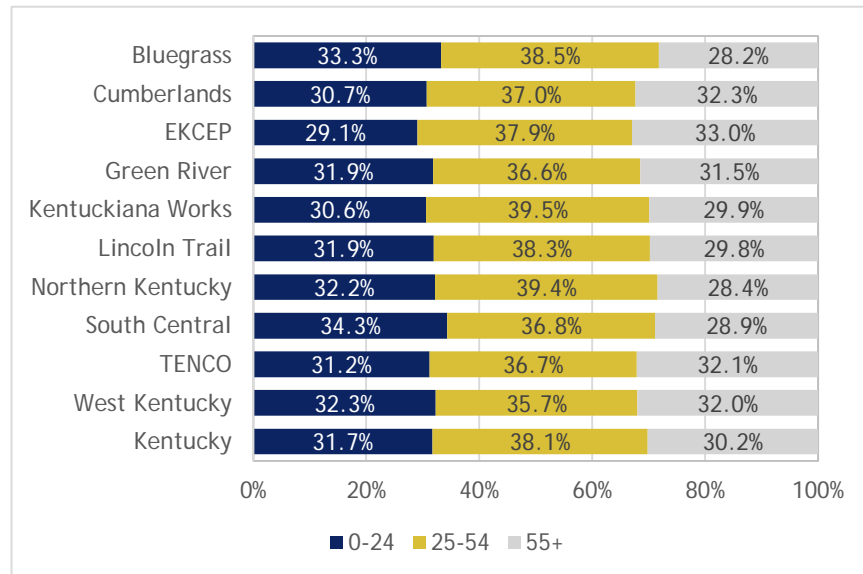
The share of Kentucky's population over the age of 55 has been steadily increasing over this same time period, up to 30.2 percent in 2019 from 25.4 percent in 2009. Further, since 2009, the number of people over the age of 55 increased 23.1 percent, growing by 253,055 residents. In the U.S., 29.1 percent 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 13 - 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 all the LWAs, the share of the population over the age of 55 grew 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

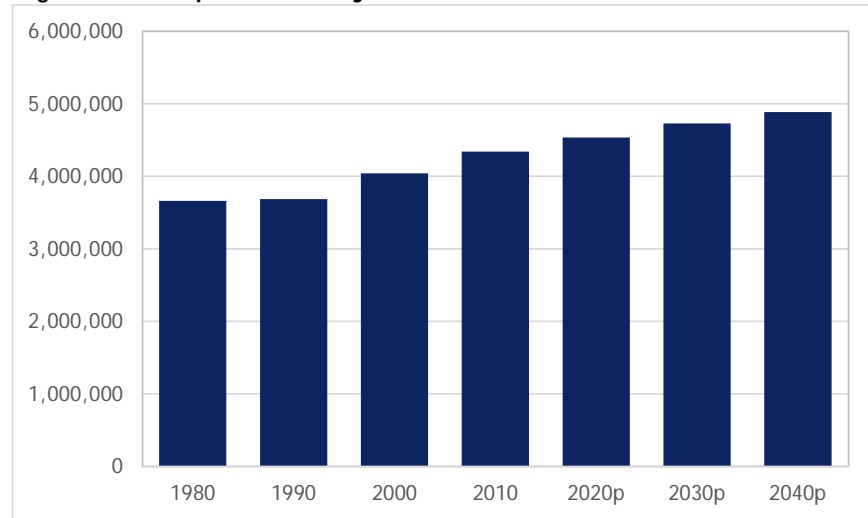
in 2019 - Bluegrass (38.5 percent), Kentuckiana Works (39.5 percent), Lincoln Trail (38.3 percent), and Northern Kentucky (39.4 percent).

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.

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 14, 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.

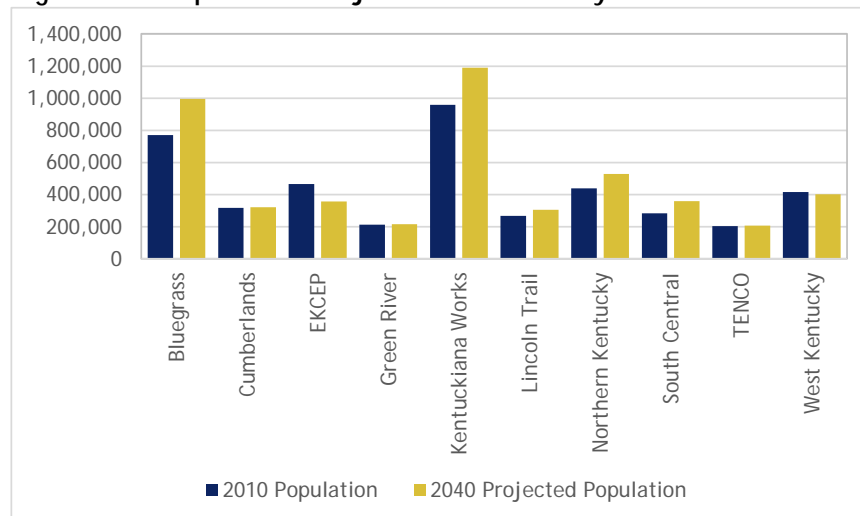
Figure 14 - Population Projections to 2040



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 15 - 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).

experience population declines between 2010 and 2040: EKCEP (-0.9 percent) and West Kentucky (-0.1 percent).

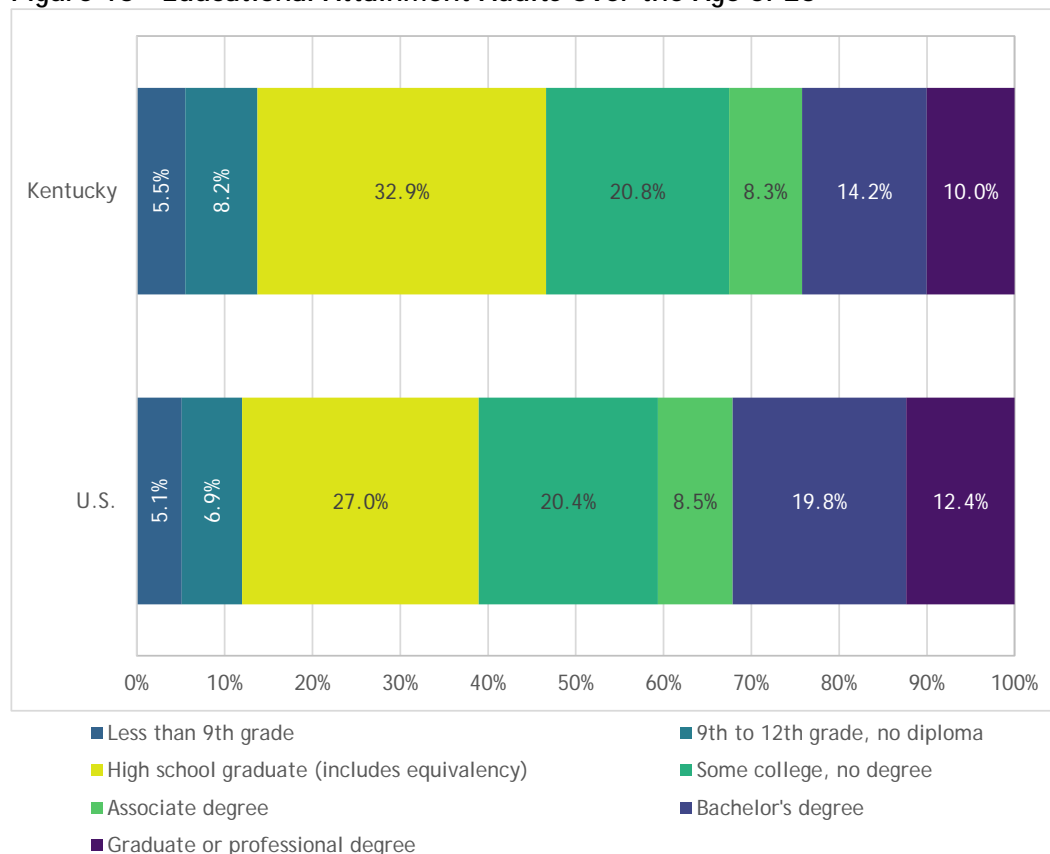
Similar to recent trends, the majority of the population growth through 2040 is projected to occur within three LWAs: Bluegrass, Kentuckiana Works, and Northern Kentucky. Population growth will outpace the state CAGR (0.4 percent) in these areas with 0.9 percent annual growth in the Bluegrass LWA, 0.7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

Educational Attainment

The educational attainment of the adult population (those over the age of 25) is often used as 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.

When comparing the education attainment of Kentucky residents over 25, the largest group is comprised of those who have attained a high school diploma or equivalent (32.9 percent), with the second largest group being those who have attended some college, but did not earn a degree (20.8 percent). Nearly one-quarter of Kentucky adults (24.2 percent) have at least a bachelor's degree compared to 32.1 percent in the U.S. The share of adults that have not completed high school was 13.7 percent in Kentucky compared to 12.0 percent in the U.S.

Figure 16 - Educational Attainment Adults Over the Age of 25



Source: U.S. Census Bureau, American Community Survey, 2015-2019 Five-Year Estimates, "Educational Attainment," (accessed August 2021).

Figure 17 - Share of Kentucky Adults (25+) with at least a High School Diploma by LWA

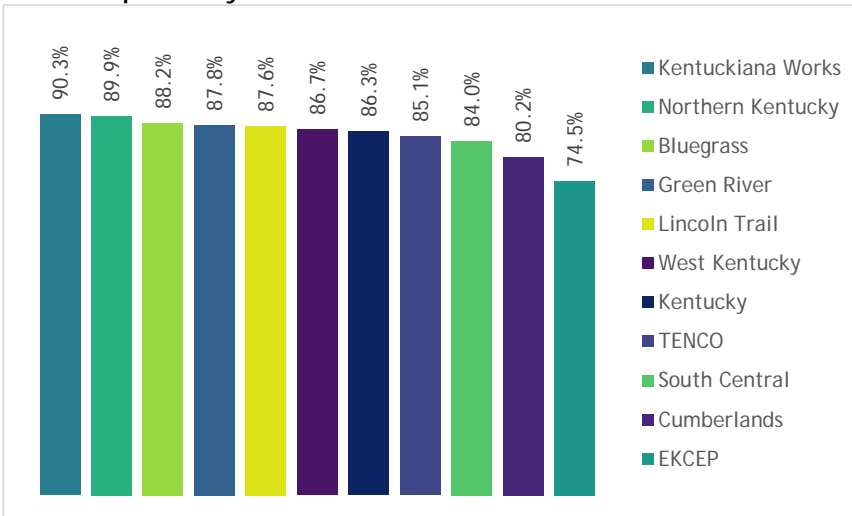
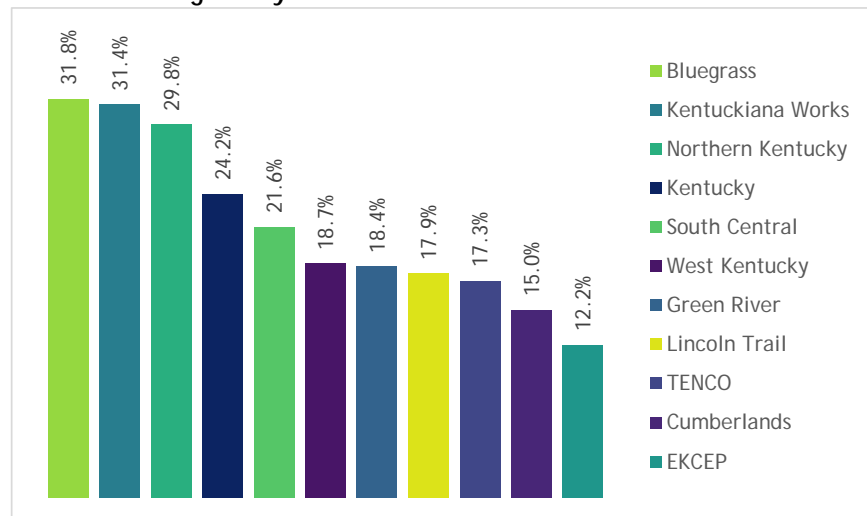


Figure 17 shows the percentage of Kentucky adults with at least a high school degree by LWA. Six LWAs have the same or larger share than the state average of 86.3 percent.

Source: U.S. Census Bureau, American Community Survey, 2015-2019 Five-Year Estimates, "Educational Attainment," (accessed August 2021).

There are three LWAs with a higher share of the adult population with at least a bachelor's degree than the state average of 24.2 percent: Bluegrass, Kentuckiana Works, and Northern Kentucky. In the Bluegrass LWA, 31.8 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 12.2 percent of the adult population with at least a bachelor's degree.

Figure 18 - Share of Kentucky Adults (25+) with at least a Bachelor's Degree by LWA



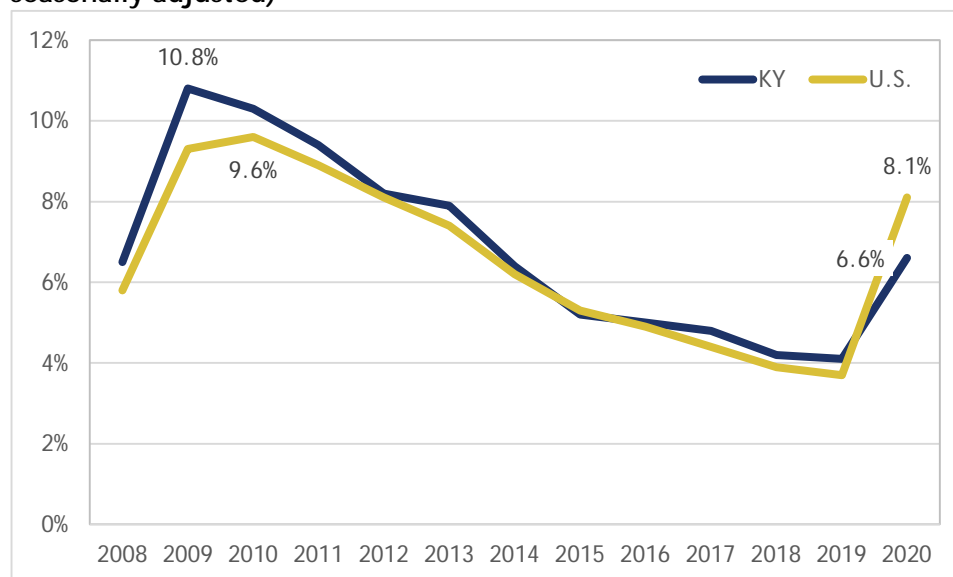
Source: U.S. Census Bureau, American Community Survey, 2015-2019 Five-year Estimates, "Educational Attainment," (accessed August 2021).

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 four weeks, and are currently available to work. Persons who were waiting to be recalled to a job from which they had been laid off need not have been looking for work to be classified as unemployed.

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.

During the previous recession, Kentucky's unemployment rate peaked in 2009 at 10.8 percent. The U.S. rate peaked at 9.6 percent in 2010, 1.2 percentage points lower. During the 2020 economic downturn, Kentucky's unemployment rate was 1.5 percentage points lower than the U.S. average of 8.1 percent at 6.6 percent.

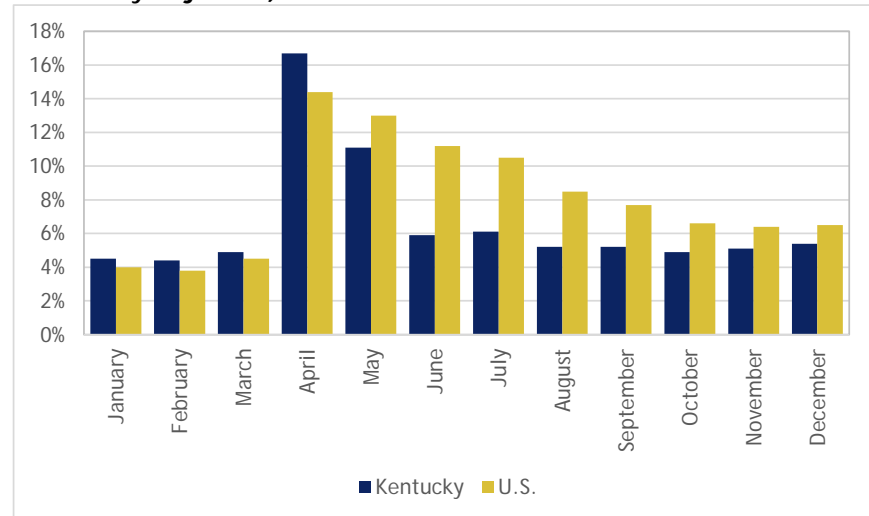
Figure 19 - Annual Unemployment Rates, U.S. and KY, 2008-2020 (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed June 2021).

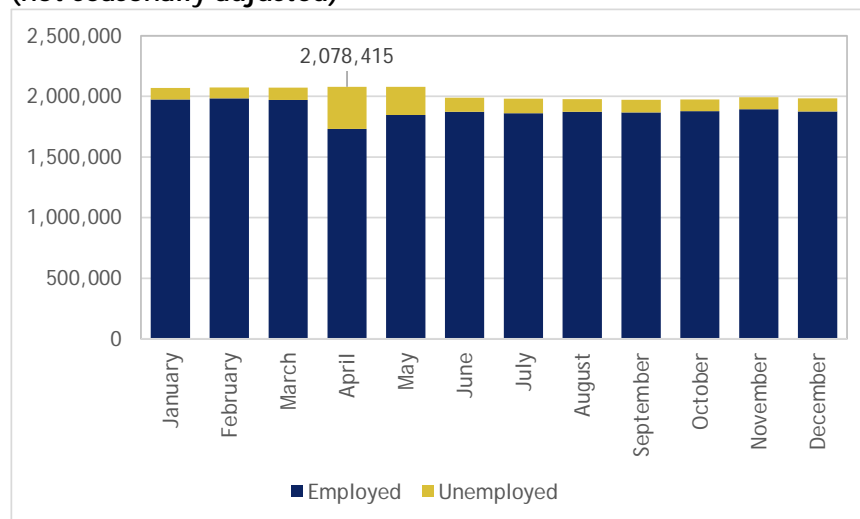
Looking at annual averages masks the turmoil experienced in the economy each month as the pandemic took hold. During the first three months of 2020, unemployment rates were slightly higher in Kentucky than in the U.S. Following state-issued orders for select businesses to close or reduce capacity, unemployment rates peaked in April at 16.7 percent in Kentucky and 14.4 percent nationally. Unemployment rates dropped steadily through the remaining months of 2020 with U.S. rates higher than those in Kentucky through the rest of the year. However, the not seasonally adjusted unemployment rates in December 2020 were still higher than those in December 2019 by several percentage points.

Figure 20 - Monthly Unemployment Rates, U.S. and KY, 2020 (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed June 2021).

Figure 21 - Kentucky Civilian Labor Force, 2020 (not seasonally adjusted)

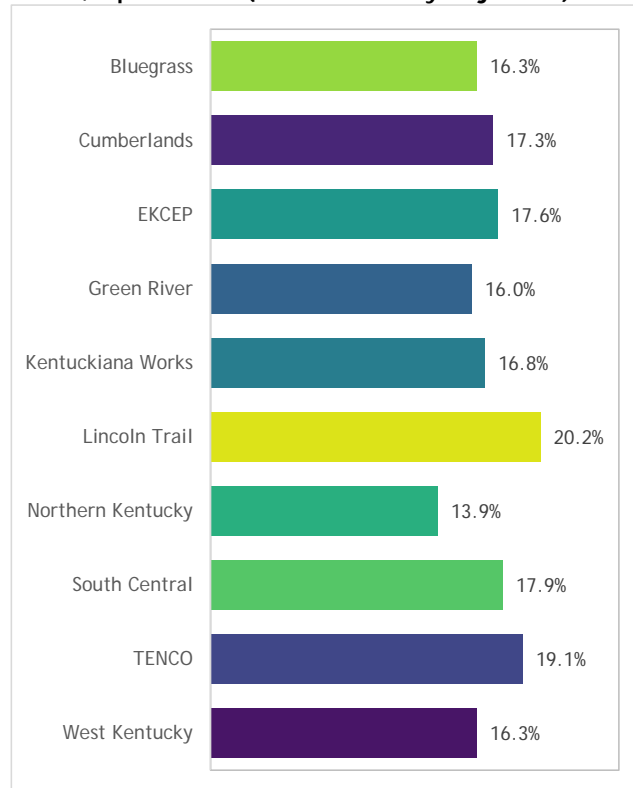


Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed June 2021).

During 2020, the size of the civilian labor force peaked in April with 2,078,415 people. Of those, 16.7 percent were unemployed, also the peak during 2020 (347,938 persons). The size of the overall labor force remained nearly the same in May but there was a decline in the number of people unemployed and an increase in the number of employed people indicating that some people started returning to their jobs fairly quickly after a temporary layoff.

As defined earlier, to be considered unemployed, a person had to be actively looking for work and be available to work or be on a temporary layoff. With COVID-19, many workers left the labor force. They were not working or looking for work. As a result, the size of the civilian labor force shrank from June through September. While the number of employed persons was relatively stable, there was a noticeable drop in the number of unemployed persons.

Figure 22 - Unemployment Rates in Kentucky LWAs, April 2020 (not seasonally adjusted)



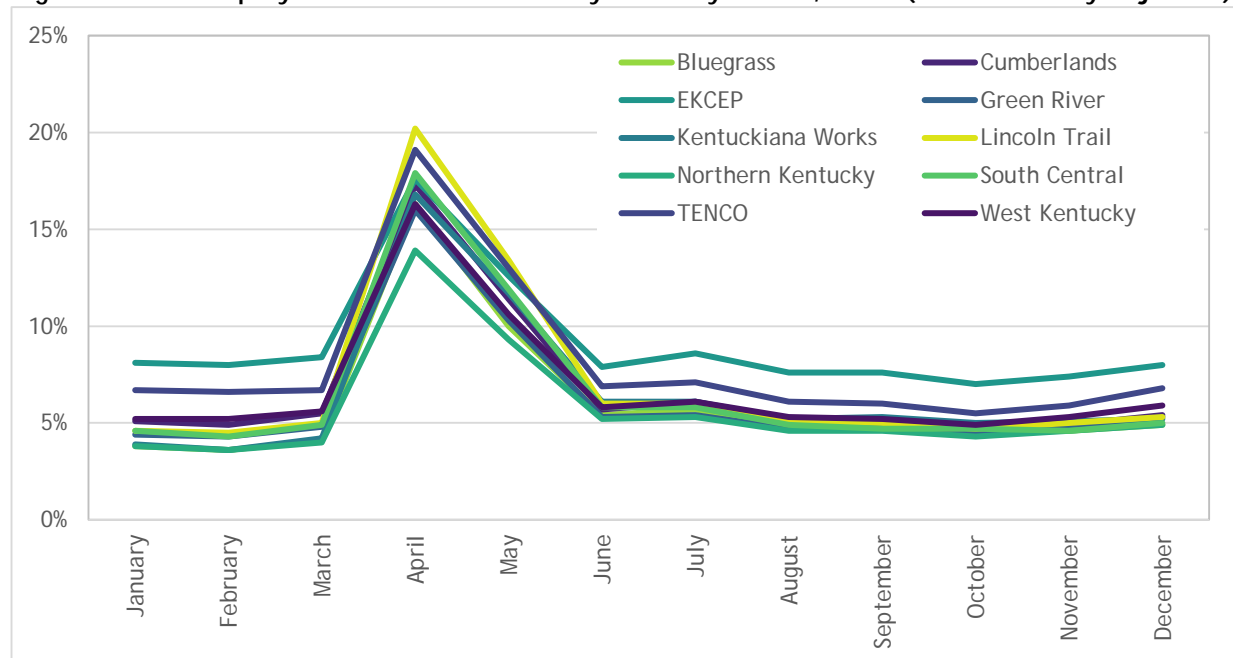
Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed June 2021).

The impact of the pandemic, as measured by unemployment rates, was not uniform across the state. The three largest LWAs - Bluegrass, Kentuckiana Works, and Northern Kentucky - made up 57.9 percent of the average annual employment in Kentucky during 2020 but had a disproportionately smaller share of the unemployed, 53.9 percent, indicating that unemployment hit the smaller LWAs harder.

Lincoln Trail had the highest unemployment rate in April 2020 at 20.2 percent, 3.5 percentage points higher than the state. Northern Kentucky's was 2.8 percentage points lower than the state average of 16.7 percent.

The rate of recovery also varied by region as shown below. The Lincoln Trail LWA had the most improvement in its unemployment rate by December 2020, declining to 5.3 percent, a drop of 14.9 percentage points. However, similar to state trends, the decreasing unemployment rate reflects a drop in the number of unemployed persons beginning in June 2020 with a stable number of employed persons.

Figure 23 - Unemployment Rates in Kentucky LWAs by Month, 2020 (not seasonally adjusted)



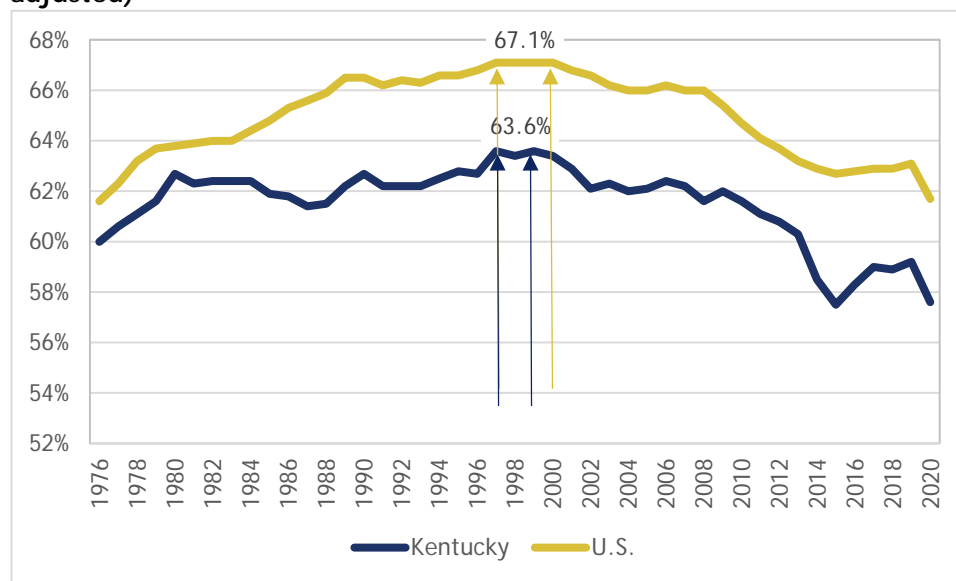
Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), Current and Historical LAUS tables, (accessed June 2021).

Labor Force Participation

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

The annual U.S. LFPR peaked from 1997 to 2000 at 67.1 percent, (not seasonally adjusted). By 2020, the U.S. rate had dropped to 61.7 percent. In Kentucky, the not seasonally adjusted LFPR peaked in 1999 at 63.6 percent. Similar to U.S. trends, the LFPR in Kentucky has decreased over the last decade, dropping to its lowest point of 57.5 percent in 2015. However, Kentucky's LFPR rebounded, increasing to 59.2 percent by 2019. Kentucky's LFPR again fell in 2020 to 57.6 percent reflecting national trends.

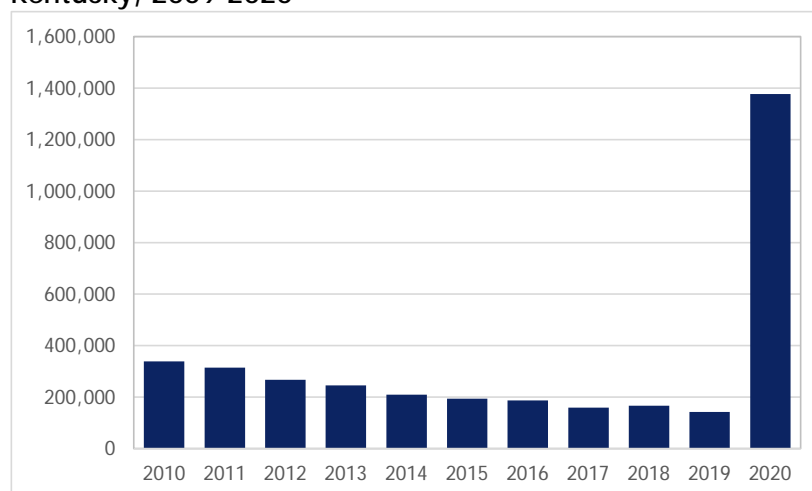
Figure 24 - Annual Labor Force Participation Rate (not seasonally adjusted)



Source: KYSTATS, Labor Market Information Branch, Local Area Unemployment Statistics (LAUS), "Labor Force Participation Rate," (accessed June 2021).

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 25 - Initial Unemployment Insurance Claims in Kentucky, 2009-2020



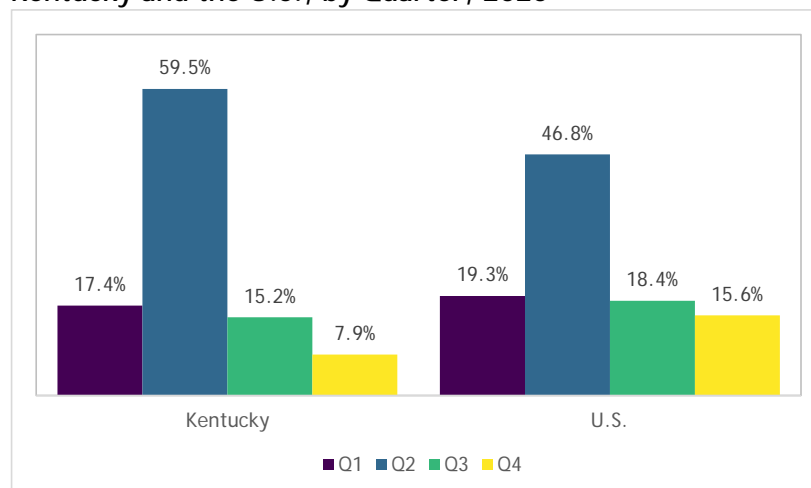
Source: U.S. Department of Labor, Employment and Training Administration, "Quarterly UI Data Summary," (accessed August 2021).

As shown in Figure 25, the number of initial UI claims filed in 2020, nearly 1.4 million, exceeded the number of initial UI claims filed during 2009 (519,753 initial claims), the peak year of the previous recession, by more than 2.5 times. There was a change in UI eligibility adopted in response to the

COVID-19 pandemic in 2020. UI was expanded to include individuals typically not covered by UI including the self-employed, independent contractors, freelance workers, substitute teachers, and childcare workers employed by religious affiliated organizations and non-profits. In addition, workers that left employment due to risk of exposure or the need to care for a family member affected by COVID-19 were also eligible.

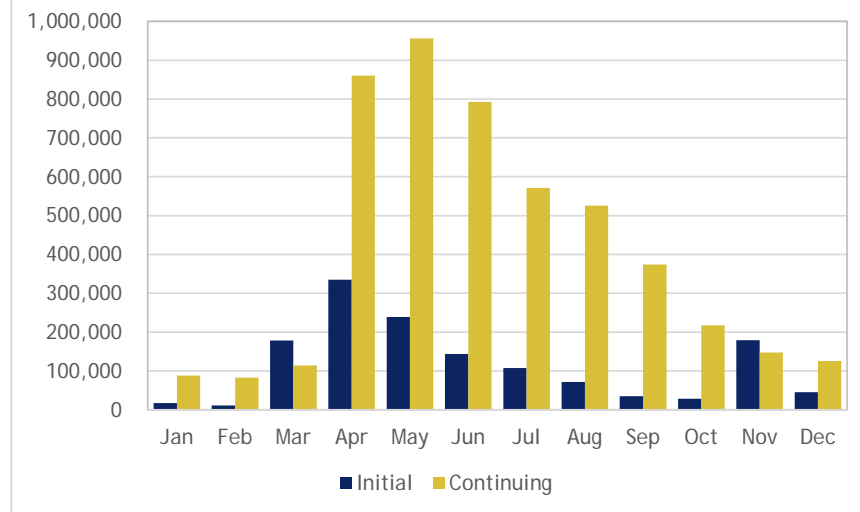
In both Kentucky and the U.S., the largest share of initial claims made in 2020 were filed in the second quarter (April through June). However, the share of initial claims filed in the second quarter was 12.7 percentage points higher in Kentucky than the U.S. The share of initial claims made in the remaining quarters was higher in the U.S. than in Kentucky.

Figure 26 - Initial Unemployment Insurance Claims in Kentucky and the U.S., by Quarter, 2020



Source: U.S. Department of Labor, Employment and Training Administration, "Quarterly UI Data Summary," (accessed August 2021).

Figure 27 - Initial and Continuing Unemployment Insurance Claims in Kentucky by Month, 2020

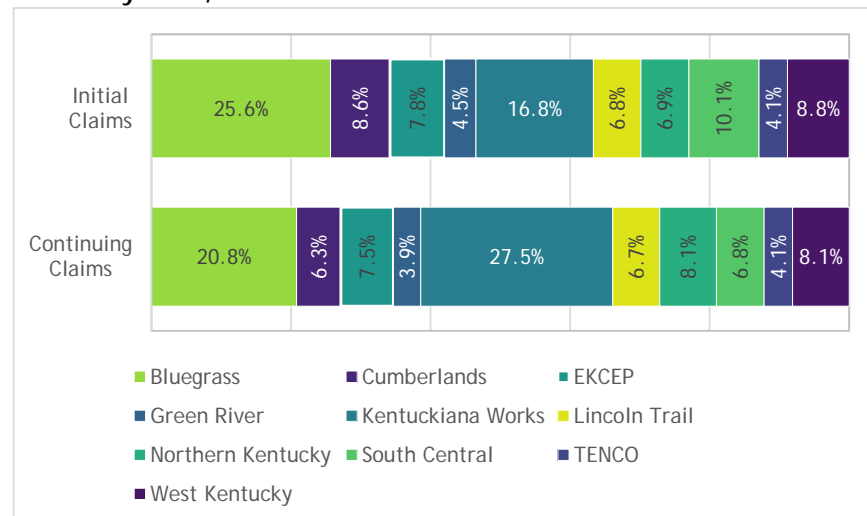


Source: U.S. Department of Labor, Employment and Training Administration, "Quarterly UI Data Summary," (accessed August 2021).

Initial claims peaked in April 2020 with 334,966 claims. Continuing claims peaked in May at 955,822 and remained above pre-pandemic levels in March (113,840) through December. Initial claims increased in November and remained higher in December than the first two months of 2020.

Among Kentucky's regions, UI claims were concentrated in the larger LWAs. More than one-quarter of initial claims made in 2020 were made in the Bluegrass LWA followed by 16.8 percent in Kentuckiana Works LWA. The share of continuing claims was higher in Kentuckiana Works LWA with 27.5 percent compared to 20.8 percent in the Bluegrass LWA. The fewest initial claims were made in the TENCO LWA (4.1 percent of the total, 54,733 initial claims). The fewest continuing claims during 2020 were in the Green River LWA (3.9 percent of the total, 182,019 continuing claims).

Figure 28 - Initial and Continuing Unemployment Insurance Claims by LWA, 2020

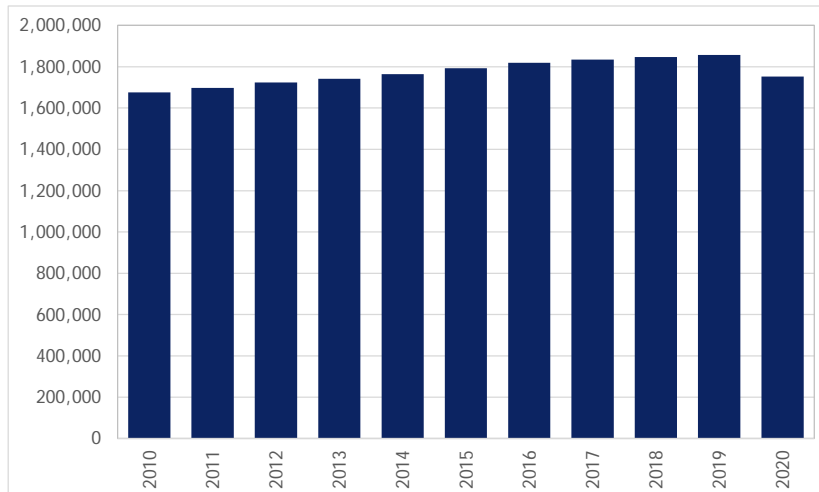


Source: Kentucky Unemployment Insurance (UI), Office of Employment and Training, UI Quality Control Branch, Unemployment claims data (accessed August 2021).

Covered Employment and Wages

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 29 - Average Annual Covered Employment in Kentucky, 2010-2020

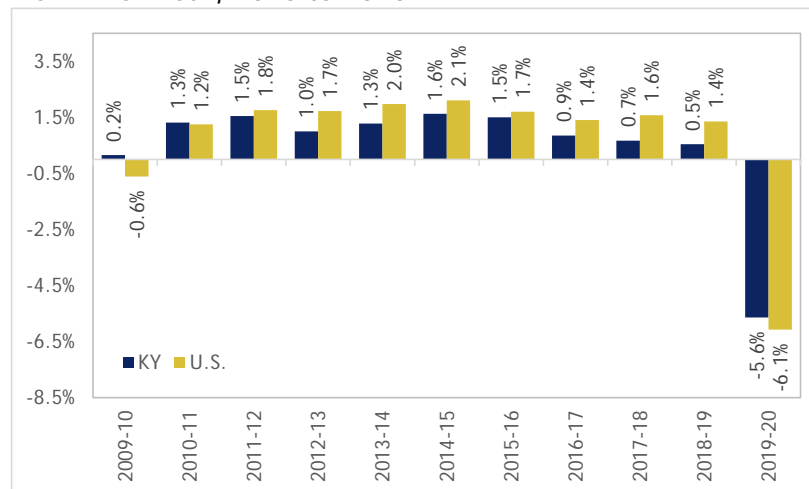


In 2020, the average annual employment in Kentucky dropped by 5.6 percent from 2019 to 1,752,505. There were nearly 105,000 fewer jobs in Kentucky during 2020 than in 2019.

Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

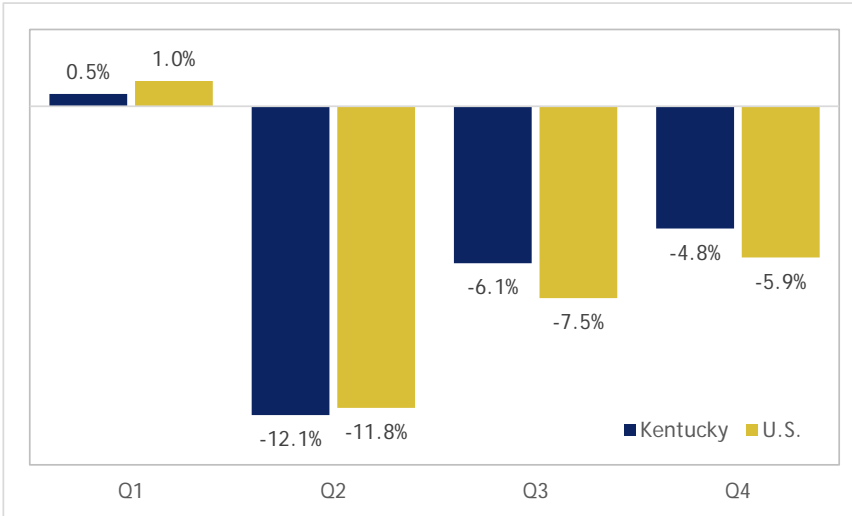
Between 2011 and 2019, job growth in the U.S., measured by changes in employment in the QCEW program, was higher than the rate of job growth in Kentucky. The rate of job loss in the U.S. between 2019 and 2020 was also greater, 6.1 percent compared to 5.6 percent in Kentucky.

Figure 30 - Change in Average Annual Covered Employment from Prior Year, 2010 to 2020



Sources: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021) and U.S. Bureau Labor Statistics, QCEW for the U.S., (accessed September 2021).

Figure 31 - Change in Covered Employment by Quarter, 2019 to 2020



Sources: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021) and U.S. Bureau Labor Statistics, QCEW for the U.S., (accessed September 2021).

Because work is seasonal, changes in employment were examined by quarter to the same quarter in the previous year. Job growth occurred in the first quarter of 2020 for both Kentucky (0.5 percent) and the U.S. (1.0 percent). Similarly, the largest drop in employment occurred during the second quarter of 2020 for both the U.S. and Kentucky. While job losses continued through the third and fourth quarters of 2020, they were not as steep in Kentucky as they were for the U.S.

Table 1 shows employment by the 20 major industry sectors in Kentucky in five-year increments of 2010, 2015, and 2020. In 2020, the sectors with the largest number of jobs included Government, Health Care and Social Assistance, and Manufacturing. The largest sector, Government with 280,612 jobs, experienced a decline of 28,036 jobs over this decade.

Eleven of the 20 sectors experienced stronger growth than the state (CAGR of 0.4%). Employment in the Utilities sector increased at a compound annual growth rate of 6.4 percent between 2010 and 2020 though there were less than 3,800 jobs in the sector.

Table 1 - Covered Employment by Major Industry Sector in Kentucky, 2010, 2015, & 2020

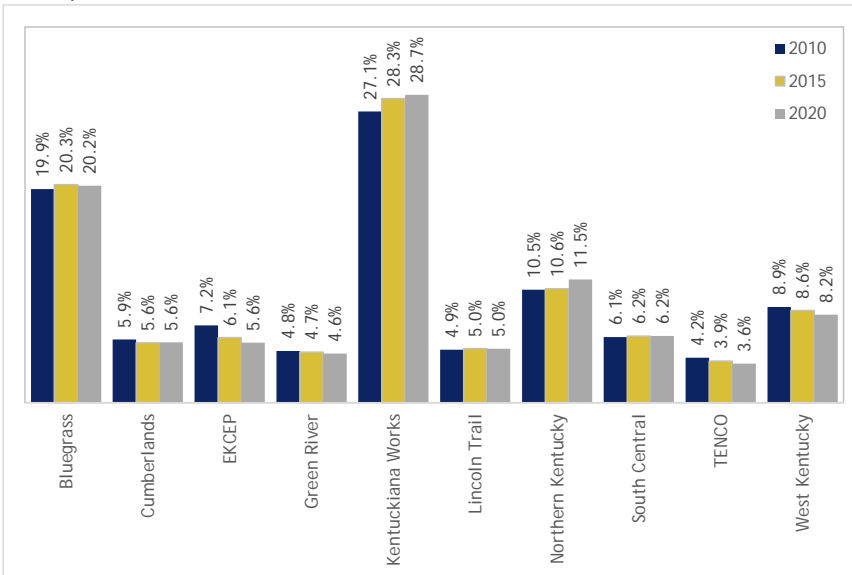
Industry Sector	Employment			Change Since 2010		
	2010	2015	2020	Absolute	Percent	CAGR
Accommodation and Food Services	148,605	166,292	146,844	-1,761	-1.2%	-0.1%
Administrative and Support and Waste Management and Remediation Services	86,763	116,166	107,815	21,052	24.3%	2.2%
Agriculture, Forestry, Fishing and Hunting	7,083	7,838	8,343	1,260	17.8%	1.7%
Arts, Entertainment, and Recreation	17,640	19,832	17,432	-208	-1.2%	-0.1%
Construction	65,995	73,079	76,777	10,782	16.3%	1.5%
Educational Services	11,764	12,761	11,159	-605	-5.1%	-0.5%
Finance and Insurance	66,570	72,280	70,221	3,651	5.5%	0.5%
Government	308,648	295,733	280,612	-28,036	-9.1%	-0.9%
Health Care and Social Assistance	218,667	233,052	244,826	26,158	12.0%	1.1%
Information	25,051	24,158	18,833	-6,217	-24.8%	-2.8%
Management of Companies and Enterprises	18,247	18,691	18,945	698	3.8%	0.4%
Manufacturing	207,241	237,959	231,367	24,127	11.6%	1.1%
Mining, Quarrying, and Oil and Gas Extraction	19,502	10,565	4,618	-14,884	-76.3%	-13.4%
Other Services (except Public Administration)	46,098	45,712	39,816	-6,282	-13.6%	-1.5%
Professional, Scientific, and Technical Services	67,106	71,355	75,207	8,101	12.1%	1.1%
Real Estate and Rental and Leasing	17,870	18,192	18,964	1,094	6.1%	0.6%
Retail Trade	200,274	209,063	201,264	991	0.5%	0.0%
Transportation and Warehousing	73,095	85,725	106,084	32,989	45.1%	3.8%
Utilities	2,037	3,220	3,797	1,760	86.4%	6.4%
Wholesale Trade	67,814	70,641	69,407	1,593	2.3%	0.2%
Unclassified	60	218	176	117	195.8%	11.5%
Total All Industries	1,676,126	1,792,529	1,752,505	76,380	4.6%	0.4%

Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

There were four sectors that each added more than 20,000 jobs between 2010 and 2020, despite the economic downturn in 2020: Administrative and Support and Waste Management and Remediation Services with 21,052 jobs, Health Care and Social Assistance with 26,158 jobs, Manufacturing with 24,127 jobs, and Transportation and Warehousing with 32,989 jobs.

Several sectors experienced job losses during these ten years. The largest absolute decline occurred in Government with the loss of 28,036 jobs followed by Mining, Quarrying, and Oil and Gas Extraction with the loss of 14,884 jobs between 2010 and 2020.

Figure 32 - Concentration of Covered Employment by LWA, 2010, 2015, & 2020



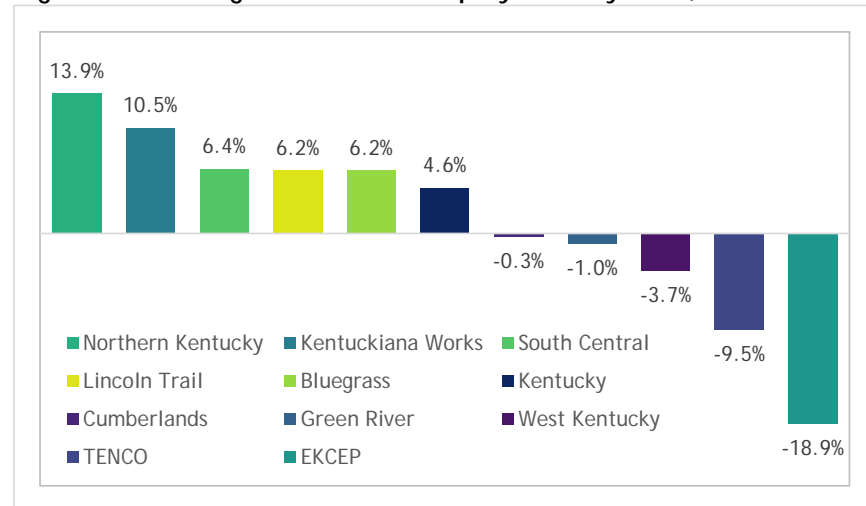
Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

Similar to the civilian labor force statistics, QCEW data indicate that 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 32. In 2010, 27.1 percent of Kentucky's overall employment was located in the Kentuckiana Works LWA. This increased to 28.3 percent in 2015 and 28.7 percent in 2020. Over the same ten-year period, Northern Kentucky and Bluegrass also increased

their employment share, though the increases in those areas was more modest. Together, these three areas comprised 60.3 percent of the overall covered employment in the Commonwealth in 2020, up from 57.5 percent in 2010. Several LWAs experienced declining concentrations of employment over the same period. EKCEP suffered the largest drop in employment (22,787 jobs) as well as employment concentration, dropping from 7.2 percent in 2010 to 5.6 percent in 2020.

Between 2010 and 2020, employment grew 4.6 percent throughout Kentucky, increasing by 76,380 jobs. Five of the LWAs experienced growth rates higher than the state as a whole and the remaining five saw declining employment over this time period. The areas with the largest growth were Northern Kentucky at 13.9 percent (24,532 jobs), Kentuckiana Works at 10.5 percent (47,646 jobs), and South Central at 6.4 percent (6,564 jobs).

Figure 33 - Change in Covered Employment by LWA, 2010-2020

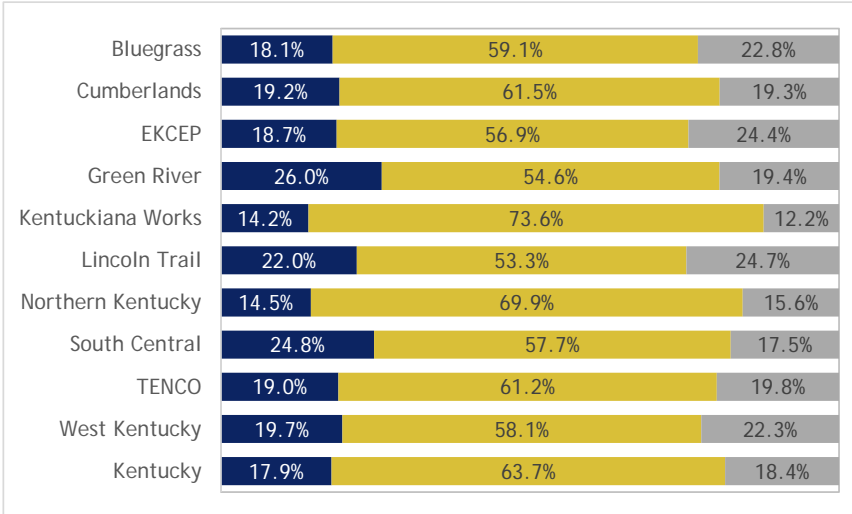


Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

Although overall employment fell in five 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 between 2010 and 2020: Educational Services, Health Care and Social Assistance, and Utilities.

Figure 34 - Share of Covered Employment by Major Industry Groups, 2010 and 2020
2010

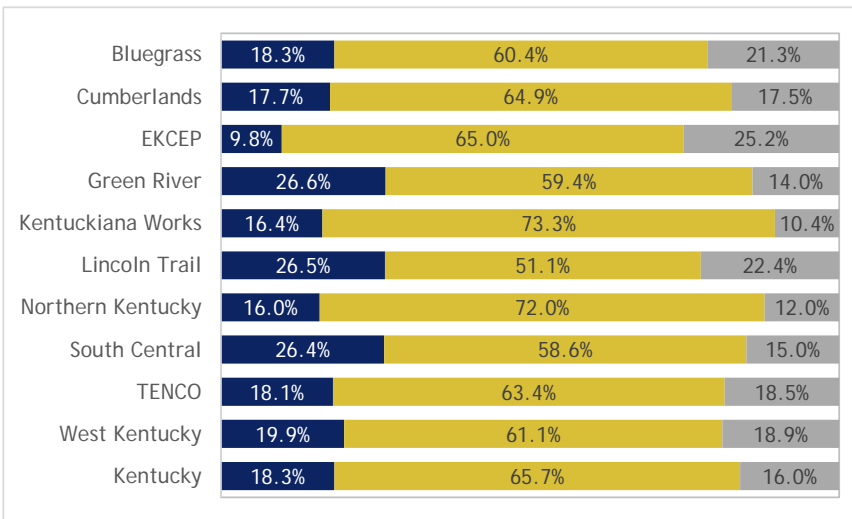


In 2010, 17.9 percent of all Kentucky employment was in Goods Producing sectors. This includes:

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

The LWAs with more than 20 percent of employment in this major industry group in 2010 were Green River, Lincoln Trail, and South Central. By 2020, this share had increased to more than 25 percent employment in each of these three LWAs.

2020



■ Goods producing ■ Service providing ■ Government

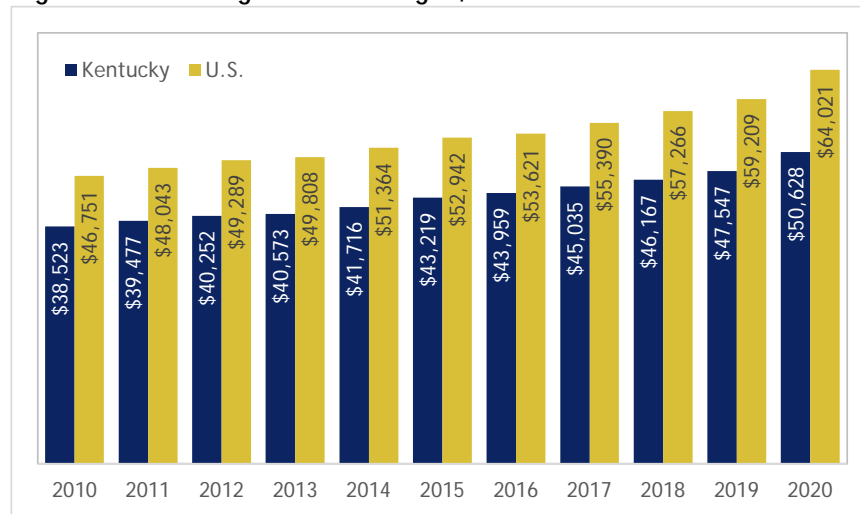
Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

employment) while Kentuckiana Works had the largest share of employment in this group (73.3 percent).

Service Providing sectors include all other sectors except for Government. This major group makes up the majority of employment in all LWAs to varying extents. From 2010 to 2020, employment in Service Providing industries in Kentucky grew from 63.7 percent to 65.7 percent. The LWA with the lowest share of employment in this supersector during 2020 was Lincoln Trail (51.1 percent of

Employment in Government decreased from 18.4 percent in 2010 throughout Kentucky to 16.0 percent by 2020. LWAs with more than 20 percent of 2020 employment in Government were Bluegrass, EKCEP, and Lincoln Trail.

Figure 35 - Average Annual Wages, 2010 to 2020



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

The average annual wage for covered workers in Kentucky grew 6.5 percent in 2020, reaching \$50,628. This compares to an average annual wage for U.S. covered workers of \$64,021, which was an increase of 8.1 percent from 2019. The gap between the average wage in Kentucky and the U.S. overall widened during this ten-year span. In 2010, the average annual wage for Kentucky covered workers was 82.4 percent of the U.S. average. By 2020, this had fallen to 79.1 percent. Average annual wages are growing faster in the U.S. than they are in Kentucky.

As shown in Figure 36, the highest average annual wage for covered workers during 2020 in Kentucky was \$110,117 in the Management of Companies and Enterprises sector followed by Utilities at \$97,887. Combined, employment in these two industries made up 1.3 percent of total covered employment. Industries with the lowest average annual wages were Accommodation and Food Services (\$18,313) and Arts, Entertainment, and Recreation (\$29,025). Combined, these two sectors accounted for 9.4 percent of jobs in 2020.

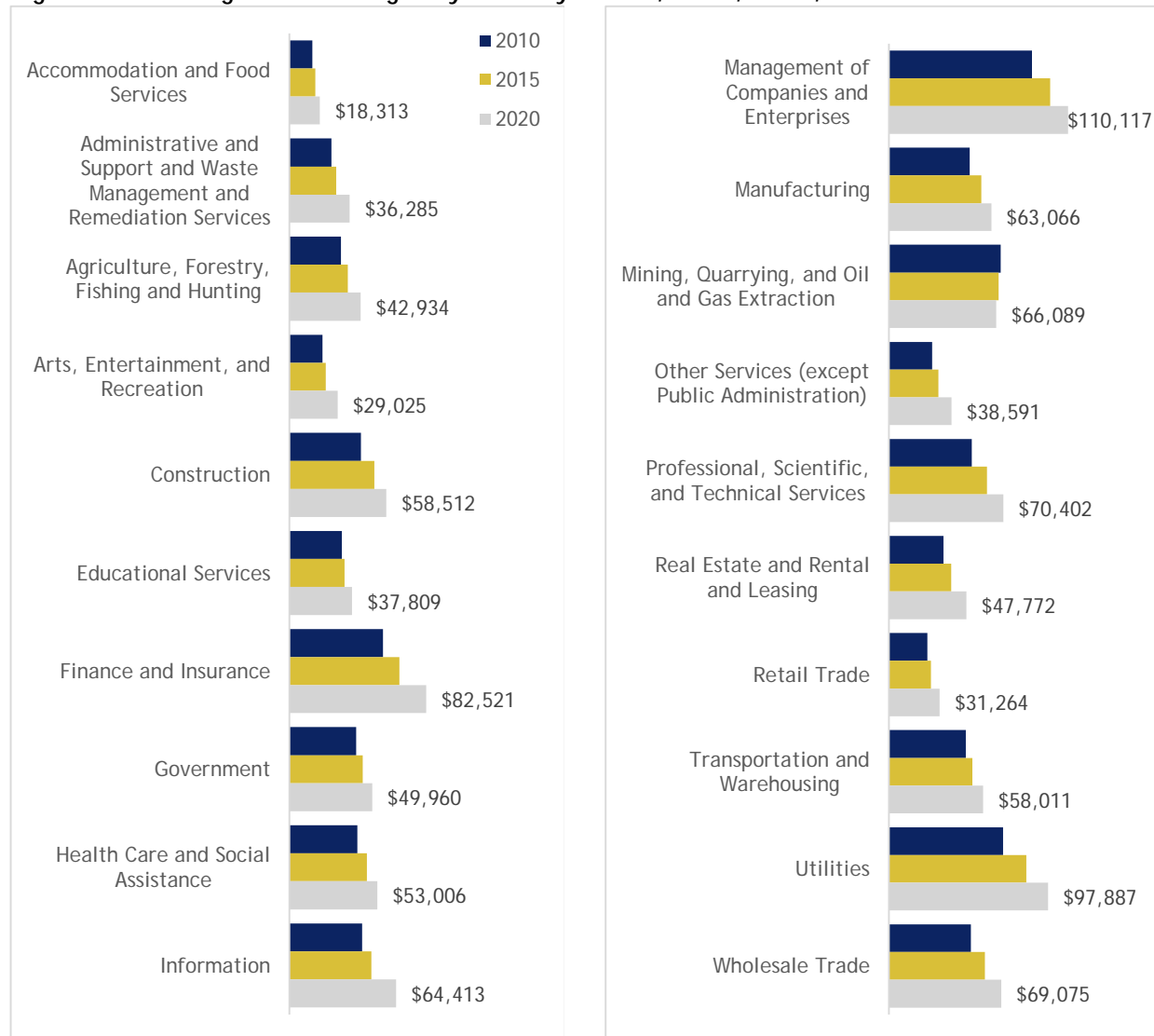
Industry sectors paying higher wages than the state average (\$50,628) in 2020 include:

- Construction
- Finance and Insurance
- 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 2010 and 2020 (31.4 percent) include:

- Accommodation and Food Services (32.4%)
- Administrative and Support and Waste Management and Remediation Services (43.6%)
- Agriculture, Forestry, Fishing and Hunting (38.2%)
- Arts, Entertainment, and Recreation (46.1%)
- Construction (35.7%)
- Finance and Insurance (46.0%)
- Information (46.7%)
- Other Services (except Public Administration) (44.5%)
- Professional, Scientific, and Technical Services (38.2%)
- Real Estate and Rental and Leasing (41.9%)
- Retail Trade (32.1%)
- Utilities (39.3%)
- Wholesale Trade (36.7%)

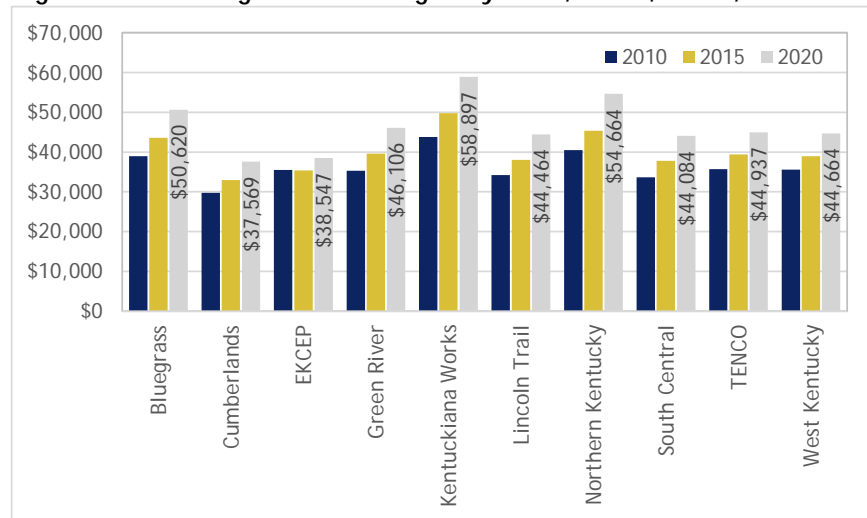
Figure 36 - Average Annual Wages by Industry Sector, 2010, 2015, and 2020



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

Average annual wages grew in all of the LWAs between 2010 and 2020. The highest wages were paid in Kentuckiana Works, reaching \$58,897 in 2020, a 34.6 percent increase from 2010. The next highest wage was paid in Northern Kentucky at \$54,664 per year, a 35.1 percent increase from 2010. These two LWAs were the only ones that had higher growth rates than the state growth of 31.4 percent between 2010 and 2020. The lowest average annual wages were paid in the Cumberlands LWA, averaging \$37,569 in 2020. EKCEP followed with an average of \$38,547. Wage growth was also the slowest in EKCEP over this time frame, 8.5 percent since 2010.

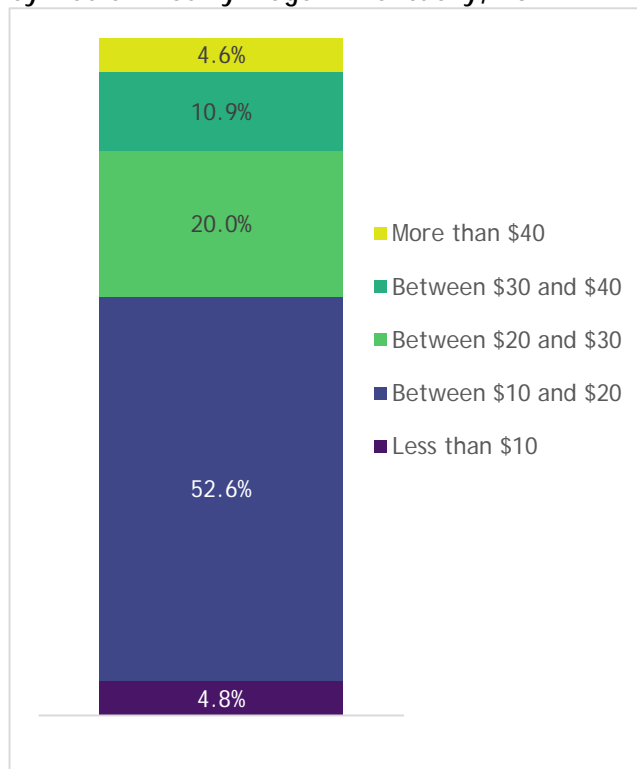
Figure 37 - Average Annual Wages by LWA, 2010, 2015, and 2020



Source: KYSTATS, Labor Market Information Branch, Quarterly Census of Employment and Wages (QCEW), "Employment and Wages by Industry," (accessed September 2021)

In addition to understanding employment and wages by industry sector, similar estimates are available by more than 700 detailed occupations produced by the OEWS program. The OEWS 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 38 - Share of Occupational Employment by Median Hourly Wage in Kentucky, 2021



Note: Total does not sum to 100 percent since several occupations did not have a median hourly wage.

Source: KYSTATS, Labor Market Information Branch, Occupational Employment and Wage Statistics (OEWS), “2021 Statewide Wage & Employment,” (accessed September 2021).

(\$18.96 per hour in Kentucky compared to \$18.00 in the U.S.).

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

According to occupational employment and wage estimates, Kentucky’s median wage across all occupations was \$18.37 per hour compared to the U.S. median hourly wage across all occupations of \$20.17.

Figure 38 displays the distribution of wage estimates across all occupations in the Kentucky labor market. Of the nearly 1.8 million estimated jobs in Kentucky, the majority, 52.6 percent paid between \$10 and \$20 per hour while 4.8 percent paid less than \$10 per hour. For the jobs earning above \$20 per hour, there were 20.0 percent paying between \$20 and \$30 per hour and another 15.5 percent paying more than \$30 per hour.

The OEWS estimates categorize occupations into 22 major groups. As shown in Table 2 below, the median wage was higher in Kentucky than the same group nationally for one group, Production occupations

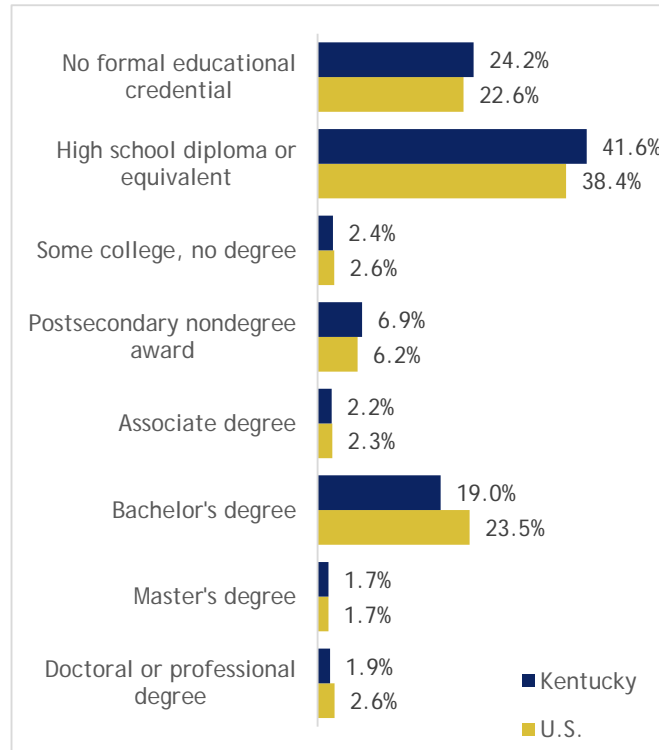
Table 2 - Comparison of Median Hourly Earnings for Major Occupational Group

SOC Code	Major Occupational Group	Median Hourly Wage		Estimated Employment in Kentucky
		U.S.	Kentucky	
00-0000	Total	\$20.17	\$18.37	1,782,580
11-0000	Management	\$52.77	\$40.16	85,990
13-0000	Business and Financial Operations	\$34.73	\$29.49	79,140
15-0000	Computer and Mathematical	\$43.92	\$34.76	35,750
17-0000	Architecture and Engineering	\$39.98	\$34.46	26,150
19-0000	Life, Physical and Social Science	\$33.54	\$28.36	12,910
21-0000	Community and Social Services	\$22.85	\$19.98	29,570
23-0000	Legal	\$40.82	\$31.46	9,850
25-0000	Education, Training and Library	\$25.18	\$24.14	94,120
27-0000	Arts, Design, Entertainment, Sports and Media	\$25.55	\$20.05	15,060
29-0000	Healthcare Practitioners and Technical	\$33.59	\$28.60	122,470
31-0000	Healthcare Support	\$14.40	\$14.38	69,350
33-0000	Protective Service	\$21.02	\$16.24	37,590
35-0000	Food Preparation and Serving-Related	\$12.26	\$10.28	148,160
37-0000	Building and Grounds Cleaning and Maintenance	\$14.39	\$13.04	46,480
39-0000	Personal Care and Service	\$13.52	\$12.18	30,070
41-0000	Sales and Related	\$15.15	\$13.35	160,160
43-0000	Office and Administrative Support	\$18.62	\$17.30	242,190
45-0000	Farming, Fishing and Forestry	\$14.27	\$14.01	3,660
47-0000	Construction and Extraction	\$23.37	\$21.97	67,010
49-0000	Installation, Maintenance and Repair	\$23.44	\$22.22	83,050
51-0000	Production	\$18.00	\$18.96	172,360
53-0000	Transportation and Material Moving	\$16.38	\$16.07	211,490

Source: KYSTATS, Labor Market Information Branch, Occupational Employment and Wage Statistics (OEWS), "2021 Statewide Wage & Employment," (accessed September 2021).

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

Figure 39 - Employment by Level of Education, 2020



Note: Total does not sum to 100 percent since several occupations did not include educational requirements.
Source: BLS, "Typical Entry-Level Educational Requirement Data, May 2020," (accessed September 2021).

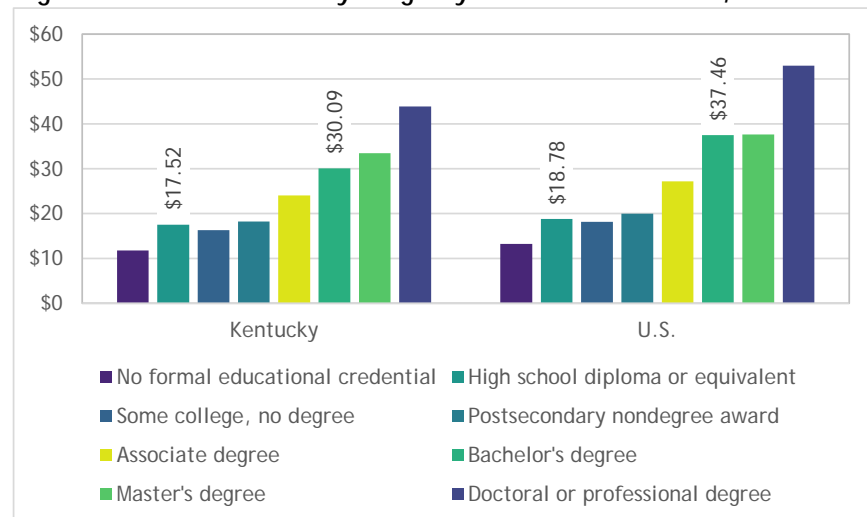
The BLS publication, "Typical Entry-Level Educational Requirement Data, May 2020" presents employment and wage data for occupations by the typical education required for entry. As shown in Figure 39, 41.6 percent of Kentucky employment is in occupations that require a high school diploma or equivalent for entry. This compares to 38.4 percent in the U.S. At the same time, the share of employees in occupations that require a bachelor's degree or higher is lower in Kentucky (22.7 percent) than in the U.S. (27.9 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 93.3 percent of U.S. workers with the same entry requirements. For occupations requiring a bachelor's degree, Kentucky employees with a median hourly wage of \$30.09, earn 80.3 percent of the median U.S. wage (\$37.46 per hour). 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 (\$18.78 per hour). In Kentucky, that ratio is lower, 1.7 (\$17.52 per hour).

Table 3 provides information on the five largest occupations in Kentucky by education typically required for entry. Median hourly wages by levels of experience are also provided from the 2021 OEWS estimates published by KYSTATS.

Figure 40 - Median Hourly Wage by Level of Education, 2020



Source: BLS, "Typical Entry-Level Educational Requirement Data, May 2020," (accessed September 2021).

Table 3 - Largest Occupations in Kentucky by Typical Education Required for Entry, 2021

SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25 th Percentile	Median	75 th Percentile	Experienced
Less than high school							
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	65,050	\$10.95	\$12.72	\$15.05	\$18.51	\$22.44
35-3023	Fast Food and Counter Workers	54,430	\$8.35	\$8.88	\$9.75	\$11.35	\$13.02
41-2011	Cashiers	48,050	\$8.70	\$9.43	\$10.65	\$12.51	\$14.92
41-2031	Retail Salespersons	46,080	\$9.12	\$10.40	\$12.27	\$15.42	\$20.48
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	24,070	\$9.08	\$10.53	\$12.61	\$15.62	\$19.71
High school diploma or equivalent							
43-4051	Customer Service Representatives	40,620	\$10.40	\$12.41	\$15.65	\$19.76	\$25.84
51-2090	Miscellaneous Assemblers and Fabricators	38,230	\$11.98	\$14.32	\$17.66	\$21.54	\$25.67
53-7065	Stockers and Order Fillers	35,950	\$9.73	\$10.95	\$12.88	\$15.79	\$19.63
43-9061	Office Clerks, General	33,660	\$9.75	\$11.90	\$15.37	\$19.63	\$24.90
31-1120	Home Health and Personal Care Aides	23,630	\$9.13	\$10.49	\$12.32	\$16.06	\$20.15
Postsecondary non-degree award							
53-3032	Heavy and Tractor-Trailer Truck Drivers	27,660	\$15.26	\$18.50	\$23.13	\$29.23	\$37.21
31-1131	Nursing Assistants	20,310	\$10.59	\$11.84	\$13.78	\$15.65	\$18.18
31-9092	Medical Assistants	10,110	\$12.30	\$14.01	\$16.32	\$19.15	\$21.69
29-2061	Licensed Practical and Licensed Vocational Nurses	9,390	\$16.28	\$18.59	\$21.79	\$24.53	\$27.80
49-3023	Automotive Service Technicians and Mechanics	8,510	\$10.33	\$12.64	\$17.32	\$24.39	\$31.06

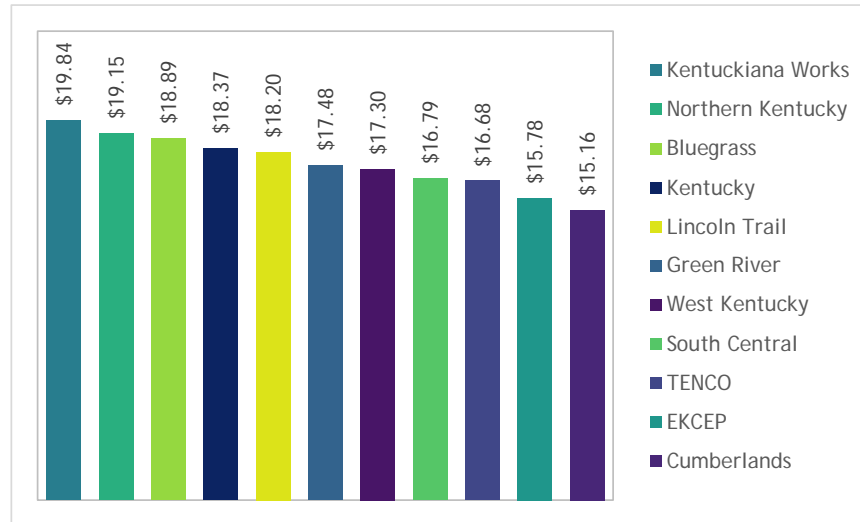
SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25 th Percentile	Median	75 th Percentile	Experienced
Some college, no degree							
43-3031	Bookkeeping, Accounting, and Auditing Clerks	17,980	\$10.73	\$14.83	\$18.83	\$23.63	\$28.91
25-9045	Teaching Assistants, Except Postsecondary	15,190	N/A	N/A	N/A	N/A	N/A
15-1232	Computer User Support Specialists	6,260	\$14.47	\$18.28	\$23.65	\$30.98	\$38.92
43-4151	Order Clerks	1,520	\$10.87	\$12.92	\$15.36	\$19.24	\$25.86
49-2011	Computer, Automated Teller, and Office Machine Repairers	1,500	\$13.71	\$16.40	\$18.87	\$22.53	\$25.77
Associate degree							
29-2034	Radiologic Technologists and Technicians	4,040	\$18.19	\$21.50	\$25.46	\$30.49	\$35.51
25-2011	Preschool Teachers, Except Special Education	3,330	\$9.64	\$11.93	\$17.29	\$23.85	\$29.16
23-2011	Paralegals and Legal Assistants	2,960	\$13.54	\$16.51	\$21.35	\$27.24	\$36.00
15-1231	Computer Network Support Specialists	2,440	\$17.72	\$21.82	\$27.26	\$34.61	\$42.94
17-3022	Civil Engineering Technologists and Technicians	2,280	\$18.05	\$19.40	\$21.52	\$25.31	\$28.86
Bachelor's degree							
29-1141	Registered Nurses	42,940	\$22.54	\$26.71	\$30.94	\$36.73	\$41.24
11-1021	General and Operations Managers	32,010	\$17.28	\$24.49	\$36.08	\$56.32	\$85.74
25-2021	Elementary School Teachers, Except Special Education	18,170	N/A	N/A	N/A	N/A	N/A
13-1198	Project Management Specialists and Business Operations Specialists, All Other	12,630	\$19.42	\$24.18	\$32.14	\$42.49	\$54.14
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	11,680	N/A	N/A	N/A	N/A	N/A

SOC Code	Standard Occupational Classification (SOC) Title	Estimated Employment	Hourly Wage				
			Entry	25 th Percentile	Median	75 th Percentile	Experienced
Master degree							
29-1171	Nurse Practitioners	4,250	\$36.25	\$43.41	\$48.81	\$55.73	\$66.09
11-9032	Education Administrators, Kindergarten through Secondary	4,190	N/A	N/A	N/A	N/A	N/A
21-1012	Educational, Guidance, and Career Counselors and Advisors	3,890	\$16.90	\$20.62	\$27.95	\$34.59	\$39.43
25-9031	Instructional Coordinators	2,490	\$17.99	\$22.43	\$28.52	\$36.92	\$45.87
29-1127	Speech-Language Pathologists	2,310	\$25.16	\$28.55	\$34.50	\$43.08	\$52.46
Doctoral or professional degree							
23-1011	Lawyers	5,770	\$23.50	\$28.87	\$40.53	\$62.80	\$94.96
29-1051	Pharmacists	4,940	\$41.77	\$54.52	\$61.46	\$69.61	\$79.05
29-1123	Physical Therapists	2,730	\$30.20	\$35.78	\$42.19	\$49.26	\$55.77
25-1199	Postsecondary Teachers, All Other	2,090	N/A	N/A	N/A	N/A	N/A
29-1131	Veterinarians	1,250	\$16.98	\$33.73	\$42.16	\$50.79	\$68.52

N/A = Not available

Source: KYSTATS, Labor Market Information Branch, Occupational Employment and Wage Statistics (OEWS), "2021 Statewide Wage & Employment" and BLS, "Typical Entry-Level Educational Requirement Data, May 2020," (accessed September 2021).

Figure 41 - Median Hourly Wage for All Occupations by LWA, 2021



Source: KYSTATS, Labor Market Information Branch, "2021 LWA Wage & Employment," (accessed September 2021).

five occupations with the highest estimated employment for each LWA are presented in Table 5.

The median hourly wage for all occupations in Kentucky was \$18.37. Kentuckiana Works, Northern Kentucky, and Bluegrass LWAs all exceeded that as shown in Figure 41. The lowest median hourly wage for all occupations was \$15.16 in the Cumberlandands LWA followed by EKCEP at \$15.78 per hour.

Table 4 provides estimated employment and median hourly wages for the major occupation groups for each LWA. The

Table 4 - Est. Employment and Median Hourly Wage by Occupational Group and LWA, 2021

SOC Code	Major Occupational Group	Bluegrass		Cumberlands		EKCEP		Green River		Kentuckiana Works	
		Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage	Est. Emp.	Median Hourly Wage
00-0000	Total	361,680	\$18.89	105,370	\$15.16	104,850	\$15.78	80,000	\$17.48	510,420	\$19.84
11-0000	Management	19,360	\$40.16	4,190	\$36.36	4,510	\$33.05	3,340	\$35.46	25,410	\$44.31
13-0000	Business and Financial Operations	17,770	\$28.06	2,500	\$25.48	2,690	\$23.95	2,550	\$28.33	28,770	\$31.21
15-0000	Computer and Mathematical	7,550	\$31.80	990	\$27.51	900	\$24.66	790	\$32.90	16,380	\$38.25
17-0000	Architecture and Engineering	6,890	\$35.21	690	\$26.58	970	\$25.73	930	\$34.05	7,870	\$35.60
19-0000	Life, Physical, and Social Science	4,960	\$26.96	330	\$26.87	550	\$27.18	390	\$26.15	3,190	\$30.87
21-0000	Community and Social Service	6,490	\$19.93	2,320	\$18.42	3,740	\$19.13	1,090	\$19.67	7,130	\$21.35
23-0000	Legal	N/A	\$31.36	N/A	\$20.68	580	\$26.43	230	\$27.55	3,430	\$37.10
25-0000	Educational Instruction and Library	19,820	\$24.73	7,390	\$24.35	9,370	\$23.41	4,400	\$23.24	19,020	\$24.02
27-0000	Arts, Design, Entertainment, Sports, and Media	4,350	\$21.33	580	\$16.96	410	\$14.53	350	\$17.04	5,190	\$21.80
29-0000	Healthcare Practitioners and Technical	25,410	\$29.18	7,680	\$26.48	10,210	\$24.93	5,520	\$29.32	34,260	\$29.80
31-0000	Healthcare Support	13,970	\$14.50	4,730	\$13.06	5,870	\$12.49	3,640	\$13.96	17,840	\$15.92
33-0000	Protective Service	9,090	\$17.38	2,180	\$16.23	3,730	\$15.22	1,620	\$14.36	9,370	\$15.23
35-0000	Food Preparation and Serving Related	31,140	\$10.27	9,600	\$9.79	9,170	\$9.70	5,900	\$10.14	37,750	\$11.02
37-0000	Building and Grounds Cleaning and Maintenance	9,850	\$13.47	2,740	\$11.72	3,210	\$11.51	2,260	\$12.86	12,560	\$13.32
39-0000	Personal Care and Service	6,640	\$12.57	1,760	\$10.48	1,660	\$11.33	1,100	\$11.22	9,800	\$12.96
41-0000	Sales and Related	32,180	\$13.26	8,310	\$12.51	11,550	N/A	8,020	\$12.25	42,840	\$15.12
43-0000	Office and Administrative Support	49,130	\$17.55	16,530	\$14.45	13,670	\$14.77	9,870	\$17.22	73,420	\$18.37
45-0000	Farming, Fishing, and Forestry	1,910	\$13.57	190	\$14.45	140	\$11.25	250	\$14.94	410	\$14.44
47-0000	Construction and Extraction	12,940	\$21.46	3,130	\$17.69	5,070	\$21.02	3,700	\$22.43	17,530	\$24.30
49-0000	Installation, Maintenance, and Repair	14,620	\$22.46	4,670	\$17.93	4,680	\$19.37	4,150	\$21.93	21,560	\$23.66
51-0000	Production	32,540	\$19.96	11,690	\$15.34	4,000	\$15.75	10,780	\$18.96	46,680	\$20.31
53-0000	Transportation and Material Moving	32,470	\$16.06	12,570	\$13.79	8,160	\$14.55	9,100	\$15.32	70,000	\$16.39

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	85,870	\$18.20	204,790	\$19.15	110,610	\$16.79	64,720	\$16.68	142,880	\$17.30
11-0000	Management	3,850	\$39.00	10,350	\$43.19	5,280	\$38.81	3,070	\$36.34	6,230	\$37.00
13-0000	Business and Financial Operations	4,250	\$32.15	9,920	\$30.35	3,560	\$28.32	1,720	\$24.21	4,760	\$28.03
15-0000	Computer and Mathematical	2,100	\$34.20	3,960	\$34.35	960	\$31.19	470	\$24.59	1,340	\$30.43
17-0000	Architecture and Engineering	1,020	\$32.16	3,200	\$34.50	1,970	\$33.62	720	\$34.15	1,710	\$35.72
19-0000	Life, Physical, and Social Science	430	\$30.27	1,210	\$30.15	390	\$28.28	360	\$26.45	1,000	\$29.48
21-0000	Community and Social Service	1,360	\$19.14	1,900	\$21.21	1,520	\$20.61	1,630	\$18.65	2,220	\$19.75
23-0000	Legal	330	\$27.22	740	\$40.18	N/A	\$26.45	220	\$26.64	620	\$26.97
25-0000	Educational Instruction and Library	5,050	\$24.27	9,420	\$24.82	6,940	\$23.76	4,240	\$23.84	8,070	\$23.81
27-0000	Arts, Design, Entertainment, Sports, and Media	510	\$25.96	1,570	\$17.92	940	\$16.00	250	\$15.33	890	\$17.52
29-0000	Healthcare Practitioners and Technical	5,460	\$27.81	10,310	\$31.35	7,250	\$25.75	5,970	\$26.86	9,890	\$27.60
31-0000	Healthcare Support	3,340	\$13.37	5,770	\$15.21	5,000	\$13.22	3,180	\$13.32	5,790	\$13.17
33-0000	Protective Service	1,490	\$18.13	3,850	\$19.94	1,760	\$15.83	1,210	\$19.06	3,130	\$17.28
35-0000	Food Preparation and Serving Related	7,570	\$10.37	16,880	\$10.74	8,960	\$10.08	7,050	\$9.91	13,750	\$9.83
37-0000	Building and Grounds Cleaning and Maintenance	1,810	\$13.36	4,880	\$14.69	2,910	\$12.35	1,770	\$12.57	3,810	\$13.32
39-0000	Personal Care and Service	1,390	\$11.55	3,560	\$12.08	1,660	\$11.86	680	\$11.71	1,790	\$11.90
41-0000	Sales and Related	6,960	\$12.72	17,360	\$16.46	11,850	\$12.00	6,280	\$11.81	13,920	\$12.60
43-0000	Office and Administrative Support	10,910	\$16.69	27,710	\$18.76	13,710	\$15.61	7,900	\$15.28	18,040	\$15.72
45-0000	Farming, Fishing, and Forestry	N/A	\$13.22	110	\$16.52	170	\$14.32	70	\$14.89	320	\$14.67
47-0000	Construction and Extraction	3,770	\$20.13	6,290	\$22.78	4,050	\$19.10	2,710	\$22.06	6,860	\$21.68
49-0000	Installation, Maintenance, and Repair	4,470	\$20.30	10,910	\$23.96	5,140	\$21.80	3,170	\$19.89	9,030	\$22.16
51-0000	Production	12,740	\$19.31	18,610	\$19.33	14,890	\$17.97	5,570	\$17.95	14,370	\$17.45
53-0000	Transportation and Material Moving	7,010	\$16.10	36,300	\$16.58	11,230	\$15.25	6,500	\$16.47	15,310	\$16.76

Source: KYSTATS, Labor Market Information Branch, "2021 LWA Wage & Employment," (accessed September 2021).

Table 5 - Top Five Occupations by Estimated Employment in Each LWA, 2021

SOC Code	Standard Occupational Classification (SOC) Title	Est. Emp.	Median Hourly Wage
Bluegrass			
00-0000	Total All Occupations	361,680	\$18.89
35-3023	Fast Food and Counter Workers	10,850	\$9.84
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	10,560	\$14.76
41-2031	Retail Salespersons	10,180	\$12.18
51-2090	Miscellaneous Assemblers and Fabricators	9,430	\$19.35
29-1141	Registered Nurses	9,210	\$30.78
Cumberlands			
00-0000	Total All Occupations	105,370	\$15.16
53-7065	Stockers and Order Fillers	4,400	\$11.65
43-4051	Customer Service Representatives	4,140	\$12.86
35-3023	Fast Food and Counter Workers	3,840	\$9.23
41-2031	Retail Salespersons	2,770	\$12.38
41-2011	Cashiers	2,650	\$10.23
EKCEP			
00-0000	Total All Occupations	104,850	\$15.78
41-2011	Cashiers	5,310	\$9.62
35-3023	Fast Food and Counter Workers	3,480	\$9.22
29-1141	Registered Nurses	3,260	\$28.49
41-2031	Retail Salespersons	2,610	\$11.15
31-1120	Home Health and Personal Care Aides	2,530	\$11.71
Green River			
00-0000	Total All Occupations	80,000	\$17.48
41-2011	Cashiers	3,380	\$10.29
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2,740	\$14.97
35-3023	Fast Food and Counter Workers	2,380	\$9.84
29-1141	Registered Nurses	2,110	\$30.41
41-2031	Retail Salespersons	2,110	\$12.34
Kentuckiana Works			
00-0000	Total All Occupations	510,420	\$19.84
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	26,130	\$15.03
43-4051	Customer Service Representatives	13,140	\$17.64
29-1141	Registered Nurses	12,540	\$32.81
35-3023	Fast Food and Counter Workers	12,310	\$10.17
41-2031	Retail Salespersons	11,270	\$12.50

SOC Code	Standard Occupational Classification (SOC) Title	Est. Emp.	Median Hourly Wage
Lincoln Trail			
00-0000	Total All Occupations	85,870	\$18.20
51-2090	Miscellaneous Assemblers and Fabricators	4,200	\$20.09
35-3023	Fast Food and Counter Workers	2,960	\$9.63
41-2031	Retail Salespersons	2,270	\$11.85
41-2011	Cashiers	2,180	\$10.83
29-1141	Registered Nurses	1,790	\$30.27
Northern Kentucky			
00-0000	Total All Occupations	204,790	\$19.15
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	12,410	\$15.93
35-3023	Fast Food and Counter Workers	5,810	\$10.48
53-7065	Stockers and Order Fillers	5,420	\$13.56
43-4051	Customer Service Representatives	5,280	\$17.14
41-2011	Cashiers	4,670	\$11.41
South Central			
00-0000	Total All Occupations	110,610	\$16.79
35-3023	Fast Food and Counter Workers	4,200	\$9.79
41-2011	Cashiers	3,870	\$10.14
41-2031	Retail Salespersons	3,630	\$11.59
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	3,260	\$14.32
51-2090	Miscellaneous Assemblers and Fabricators	2,960	\$17.12
TENCO			
00-0000	Total All Occupations	64,720	\$16.68
35-3023	Fast Food and Counter Workers	3,190	\$9.53
41-2011	Cashiers	2,820	\$10.27
29-1141	Registered Nurses	2,180	\$28.59
41-2031	Retail Salespersons	1,560	\$11.74
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	1,480	\$14.54
West Kentucky			
00-0000	Total All Occupations	142,880	\$17.30
35-3023	Fast Food and Counter Workers	5,200	\$9.47
41-2031	Retail Salespersons	5,200	\$11.60
41-2011	Cashiers	3,650	\$10.25
51-2090	Miscellaneous Assemblers and Fabricators	3,440	\$16.58
29-1141	Registered Nurses	3,360	\$30.37

N/A = Not Available

Source: KYSTATS, Labor Market Information Branch, "2021 LWA Wage & Employment," (accessed September 2021).

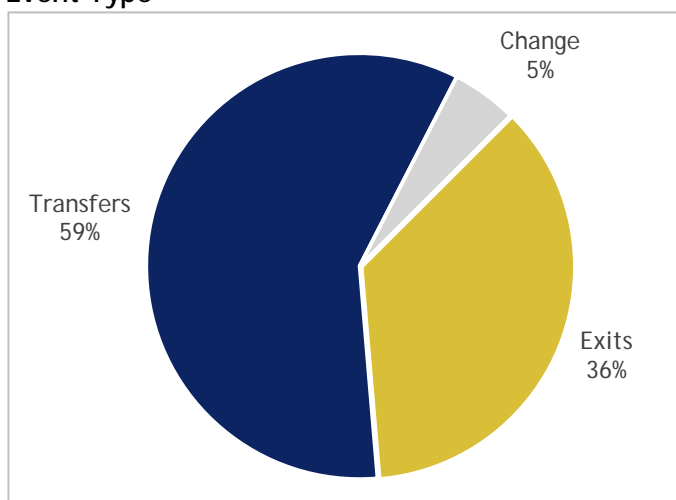
Long-term occupational employment projections reflect predicted employer demand for labor over a ten-year period. Projections are available at the major and specific SOC levels. Occupational employment projections include estimates on projected job openings resulting from three events:

- Individuals transferring among occupations (e.g. a career change)
- Individuals exiting the workforce (e.g. retirement)
- 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."

These projections were completed with inputs that preceded the pandemic and therefore do not capture the impacts of COVID.

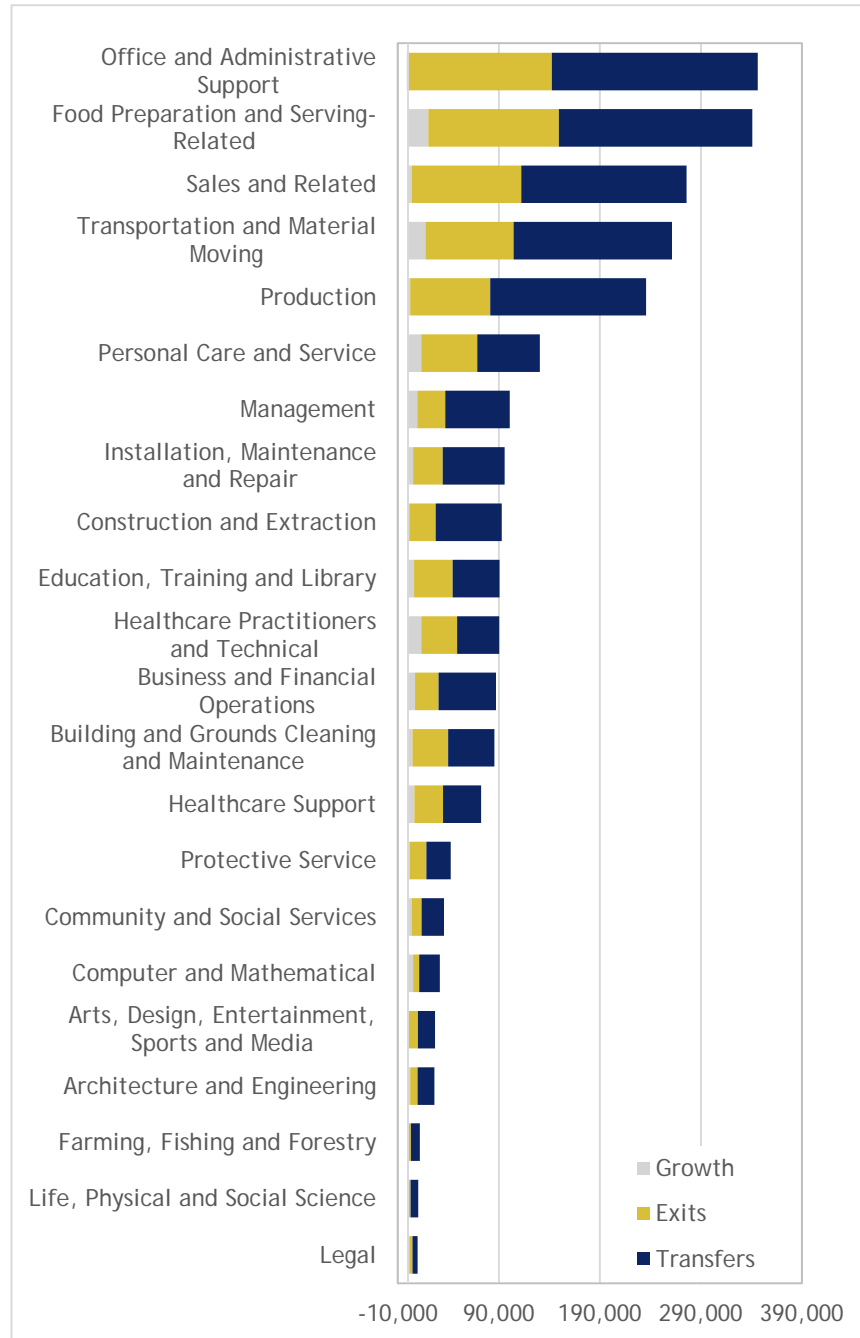
Figure 42 - Projected Job Openings in Kentucky by Event Type



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

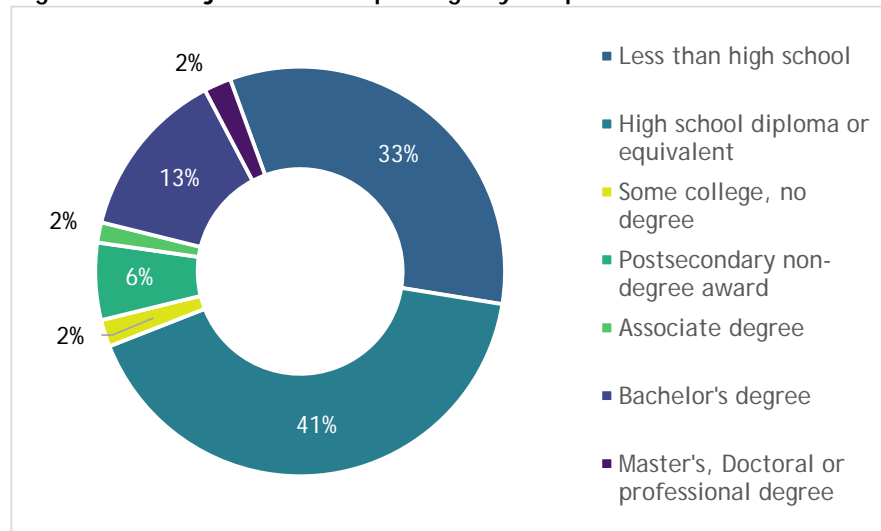


Source: KYSTATS, Labor Market Information Branch, "2018-2028 KY Occupational Outlook," (accessed August 2020).

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 1,356 jobs). However, both exits and transfers are expected in this occupational group, resulting in overall projected openings of 345,069 jobs, the most of any occupational group.

Food Preparation and Serving-Related occupations are estimated to have the next largest openings with an estimated 340,772 openings. This group also has the most anticipated growth with 20,243 jobs followed by Transportation and Material Moving occupations (17,496 jobs) and Healthcare Practitioners (13,305 jobs). However, the majority of future job openings are from transfers.

Figure 44 - Projected Job Openings by Required Education



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

Compared to current requirements, there will be more job openings in the next decade for those with lower 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.

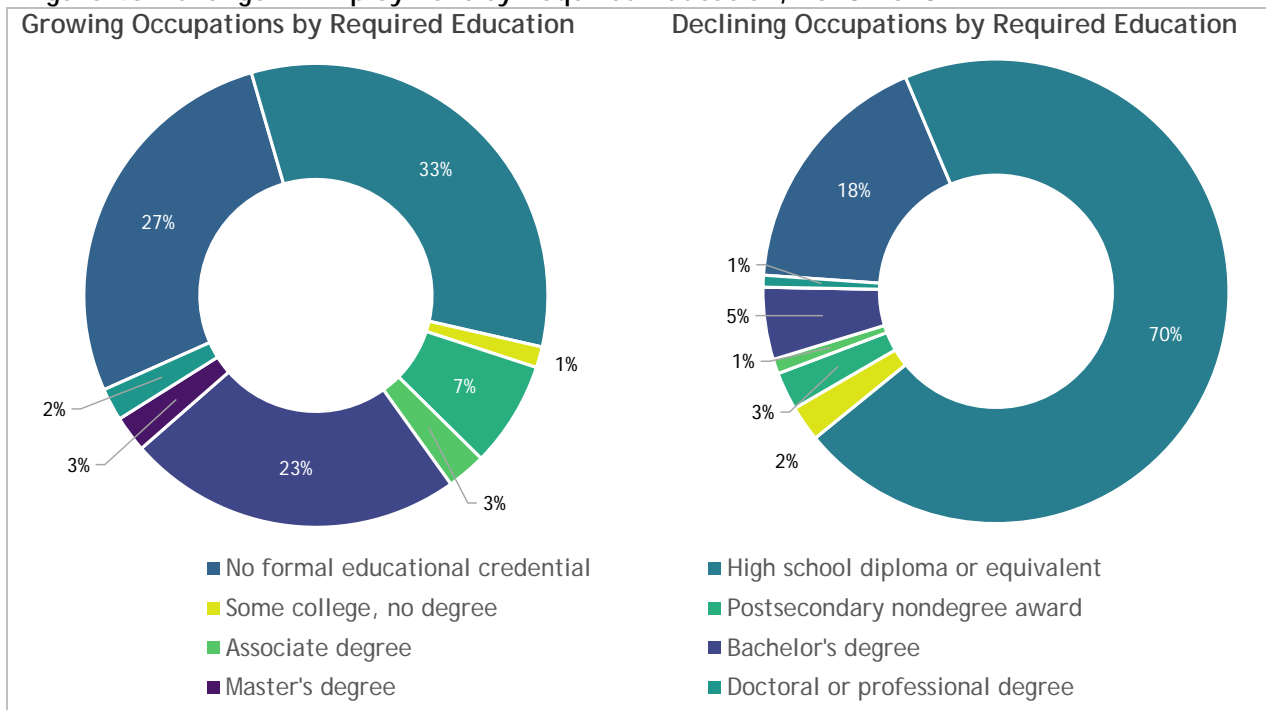
Every occupation in Kentucky is expected to have openings between 2018 and 2028. Recall that job openings come from people transferring between jobs, exiting the labor force or growth in the occupation. However, there are 154 occupations that will have fewer employees in 2028 than 2018. In total, employment 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 498 occupations that are projected to grow between 2018 and 2028, increasing employment by 142,723. While 23 percent of the employment growth will be in occupations requiring a bachelor's degree for entry, 60 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 45 - Change in Employment by Required Education, 2018-2028



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

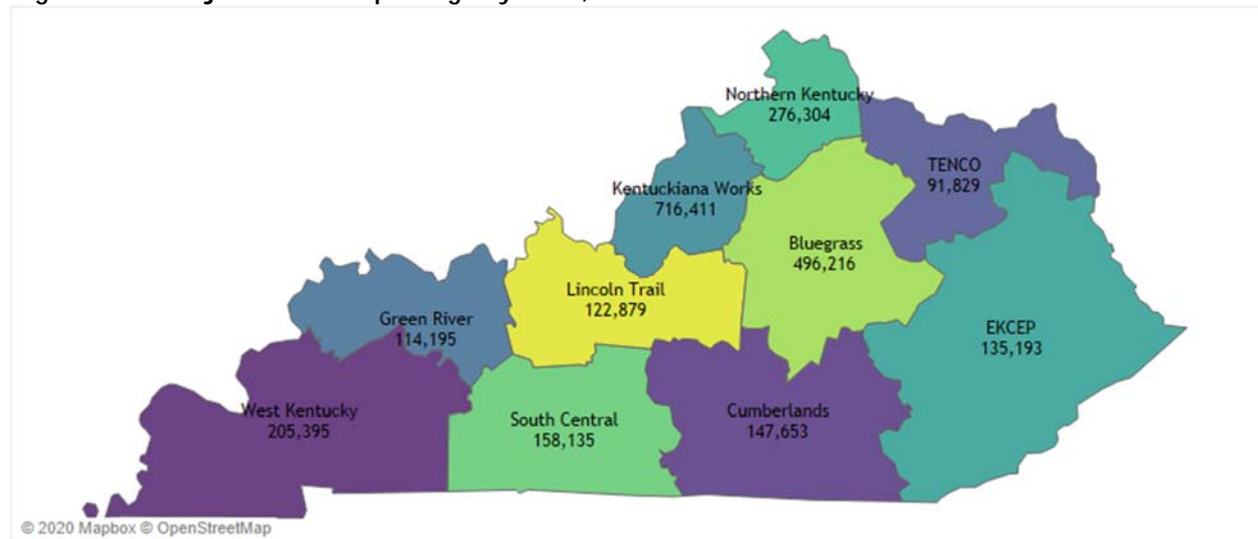
SOC Code	SOC Title (Code)	Est. Emp.	Job Openings				Median Wage
			Exits	Transfers	Change	Total	
High Skill							
29-1141	Registered nurses	46,900	13,868	12,819	6,152	32,839	\$63,514
11-1021	General and operations managers	31,353	6,852	21,522	2,641	31,015	\$72,491
25-2021	Elementary school teachers, 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
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 and Wage Statistics (OEWS), "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 percent by 2028. The fastest growing areas, Kentuckiana Works, Bluegrass, and Cumberlands, are projected to experience growth of 7.6 percent, 6.4 percent, and 6.4 percent, respectively. EKCEP is likely to be the most affected by exits from the labor force, with exits comprising as much as 39 percent of total job openings in the area over the next decade.

Figure 46 - Projected Job Openings by LWA, 2018 to 2028



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

The following table presents total projected job openings for the LWAs (Table 7). Current and projected employment as well as total openings and contributions to openings are shown.

Table 7 - Job Openings by LWA

LWA	2018 Estimated Employment	2028 Projected Employment	Change	Exits	Transfers	Total Openings
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).

The following images are from the Occupational Outlook, an interactive dashboard which explores 2018-2028 long-term occupational projections for Kentucky and its LWAs, augmented with education and training requirement data. The highlighted region on the map indicates the area for which projections are being displayed.

The bar graph in the upper right displays the total number of projected job openings for a specific area in the next ten years, and the projected levels of each type of event that can produce an opening (Exits, Transfers, and Change).

The 'Educational Attainment' section provides context for the percent of projected job openings in a given area that require each level of educational attainment, along with their associated median wage

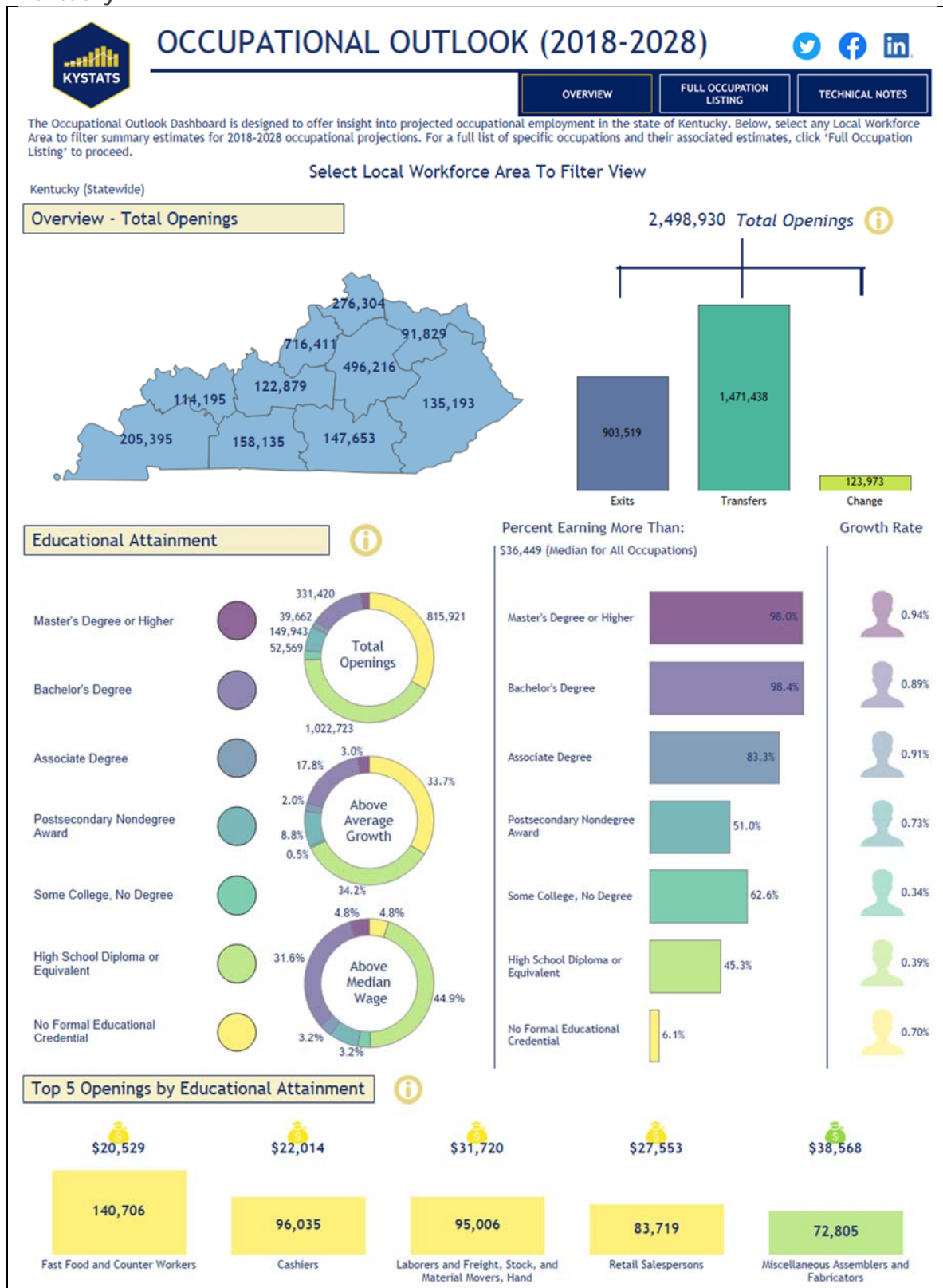
estimates. The donut charts display the percent of total projected openings, percent of projected openings among occupations expected to experience above-average growth, and percent of projected openings among occupations estimated to pay above median wages, respectively.

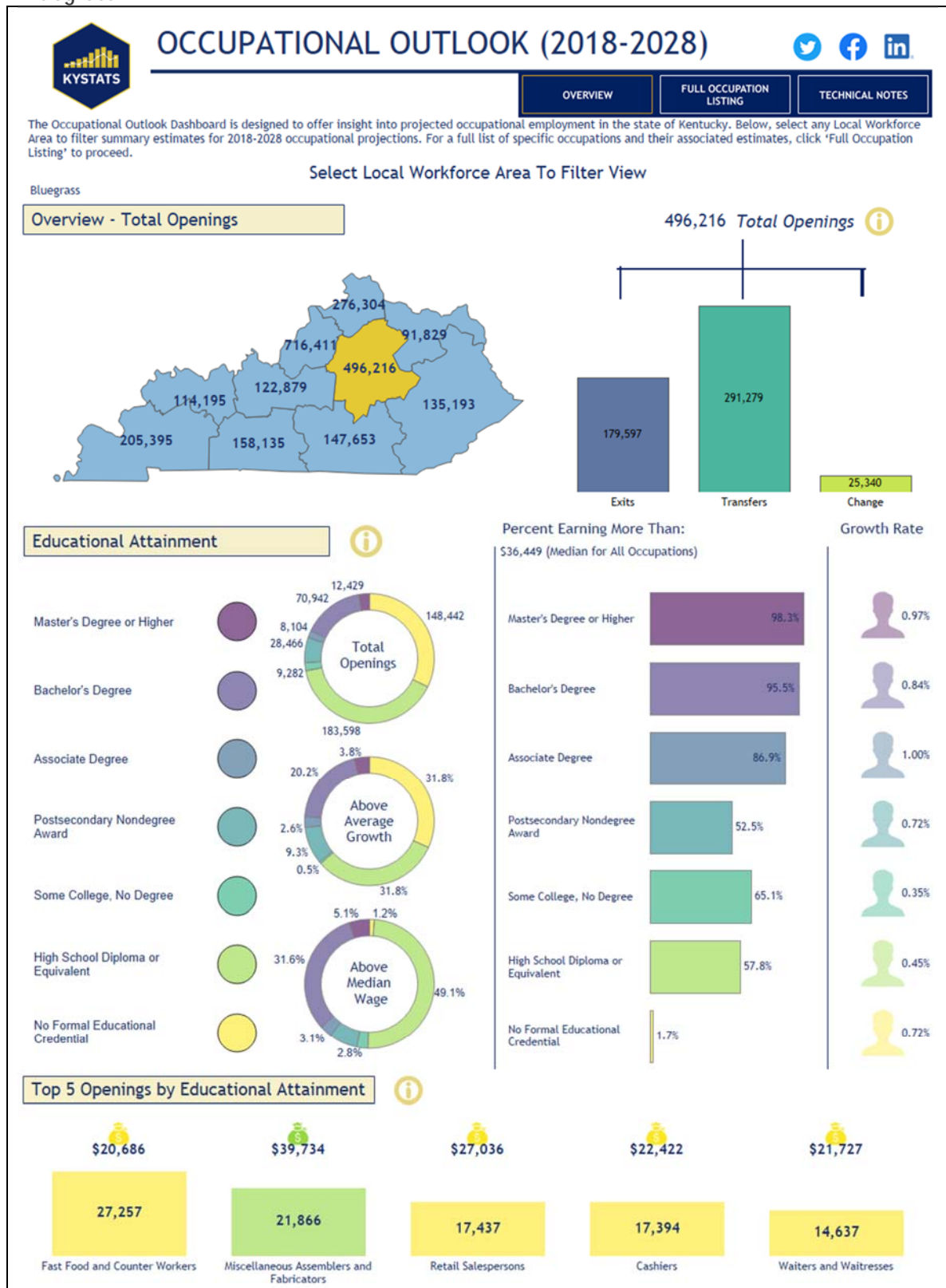
At the bottom of the dashboard, the total projected openings and median wage estimates are provided for the five occupations by educational attainment expected to produce the most job openings in the next ten years in the selected area.

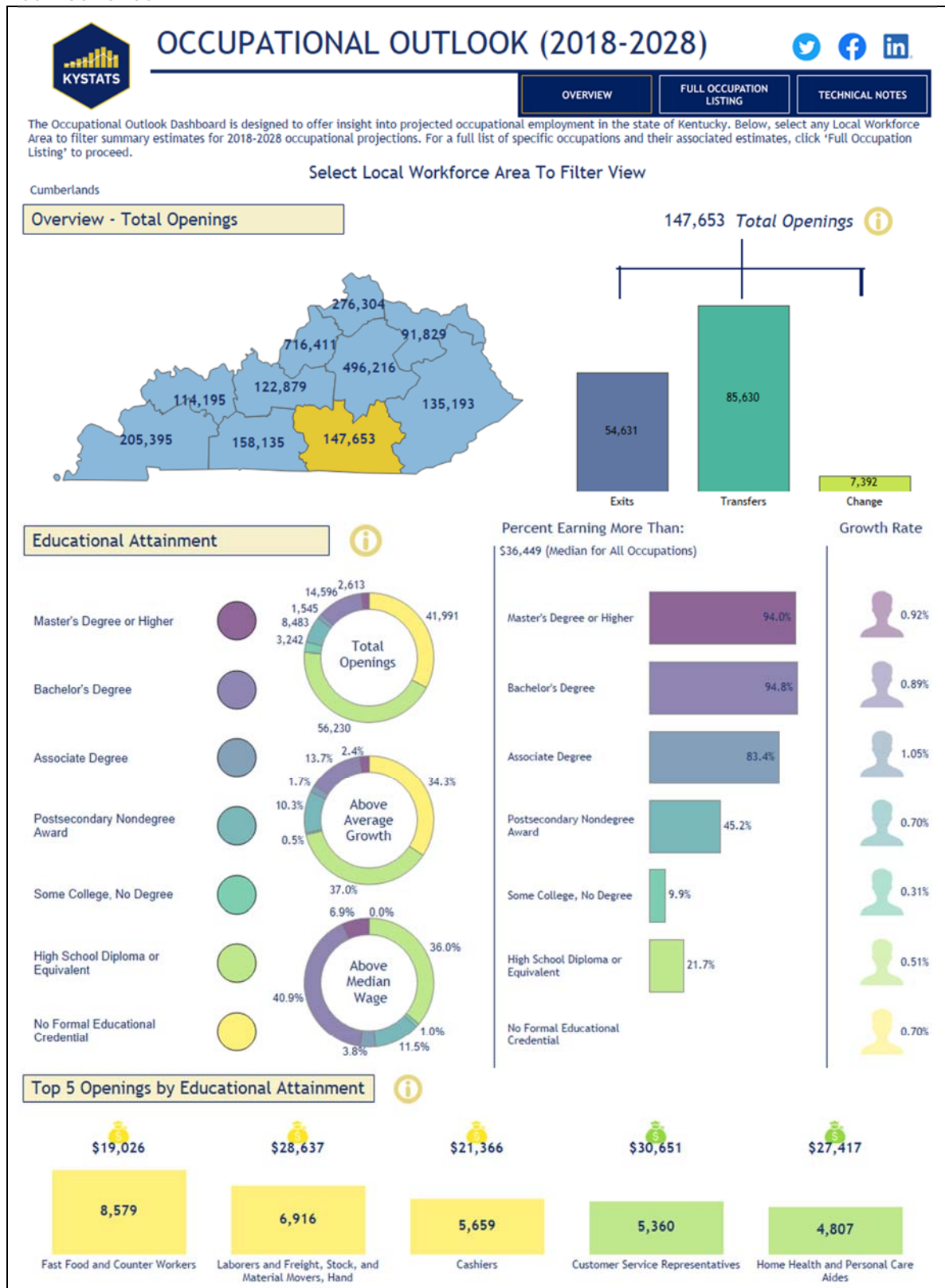
Additional features are available in the interactive dashboard:

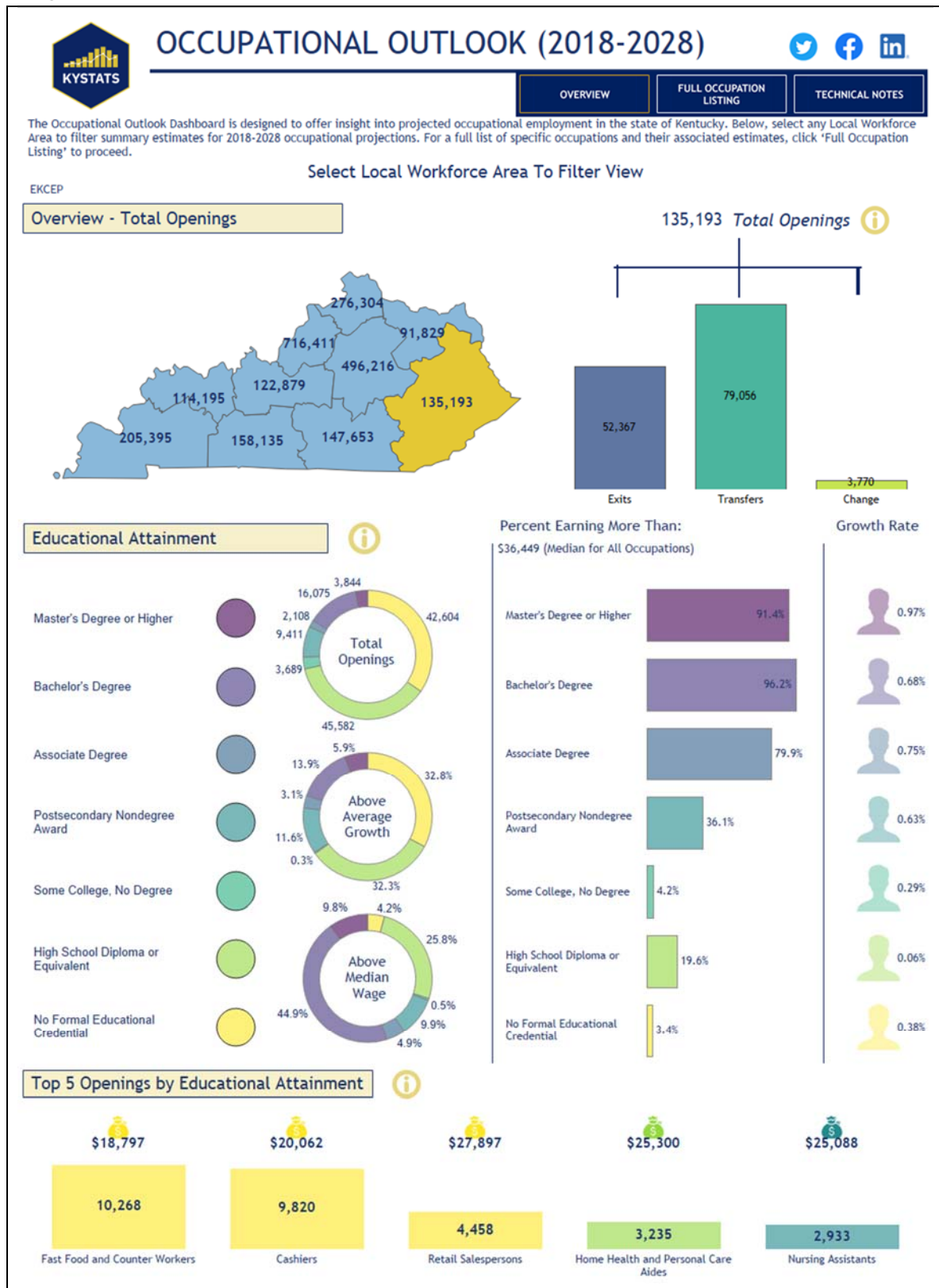
- Using the 'Percent Earning More Than:' slider, users can select a minimum wage threshold, and filter the accompanying bar graph to reflect the percent of projected openings among occupations requiring each level of educational attainment that have median annual wages above that threshold. For example, if the slider is set to \$50,000, the length of the bar representing bachelor's degrees corresponds to the percent of projected openings for occupations requiring a bachelor's degree that typically pay at least \$50,000. The adjacent growth rate displays the annual growth for occupations by education filter, and any other selected measures.
- In addition, the Full Listing dashboard provides users with a sortable list of all available occupations. Clicking on any field name will automatically sort the list of occupations by that field in descending order, and a second click will sort in ascending order. The 'Area' and 'Typical Education Required' filters will filter the table appropriately. The 'Group' filter will limit the table to only those occupations within each of the major SOC groups (e.g. Production Occupations, or Legal Occupations). The 'Keyword' search bar allows users to filter the table to only those occupations with titles containing the entered text.

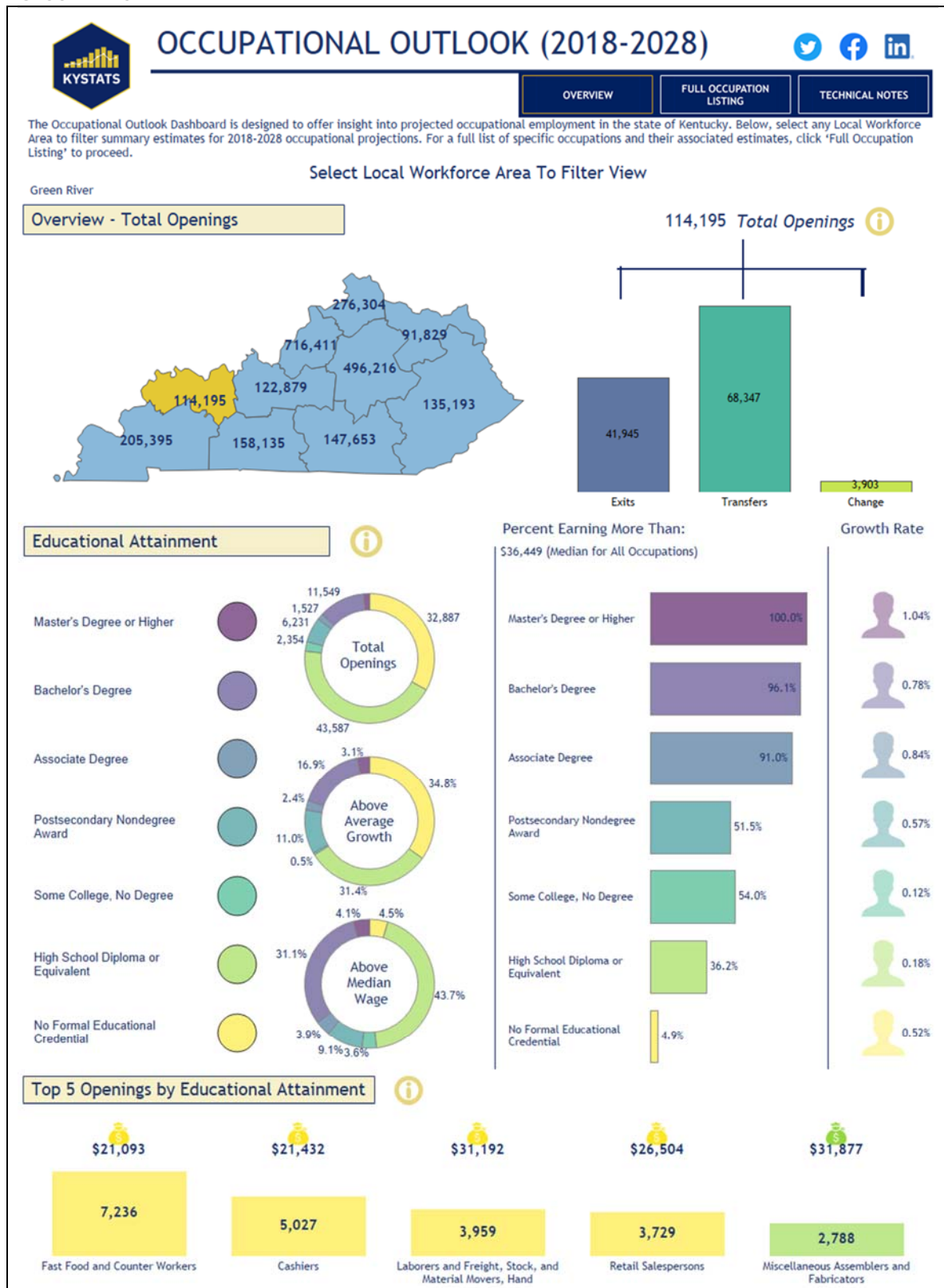
Figure 47 - Kentucky Occupational Outlook by LWA, 2018 to 2028
Kentucky

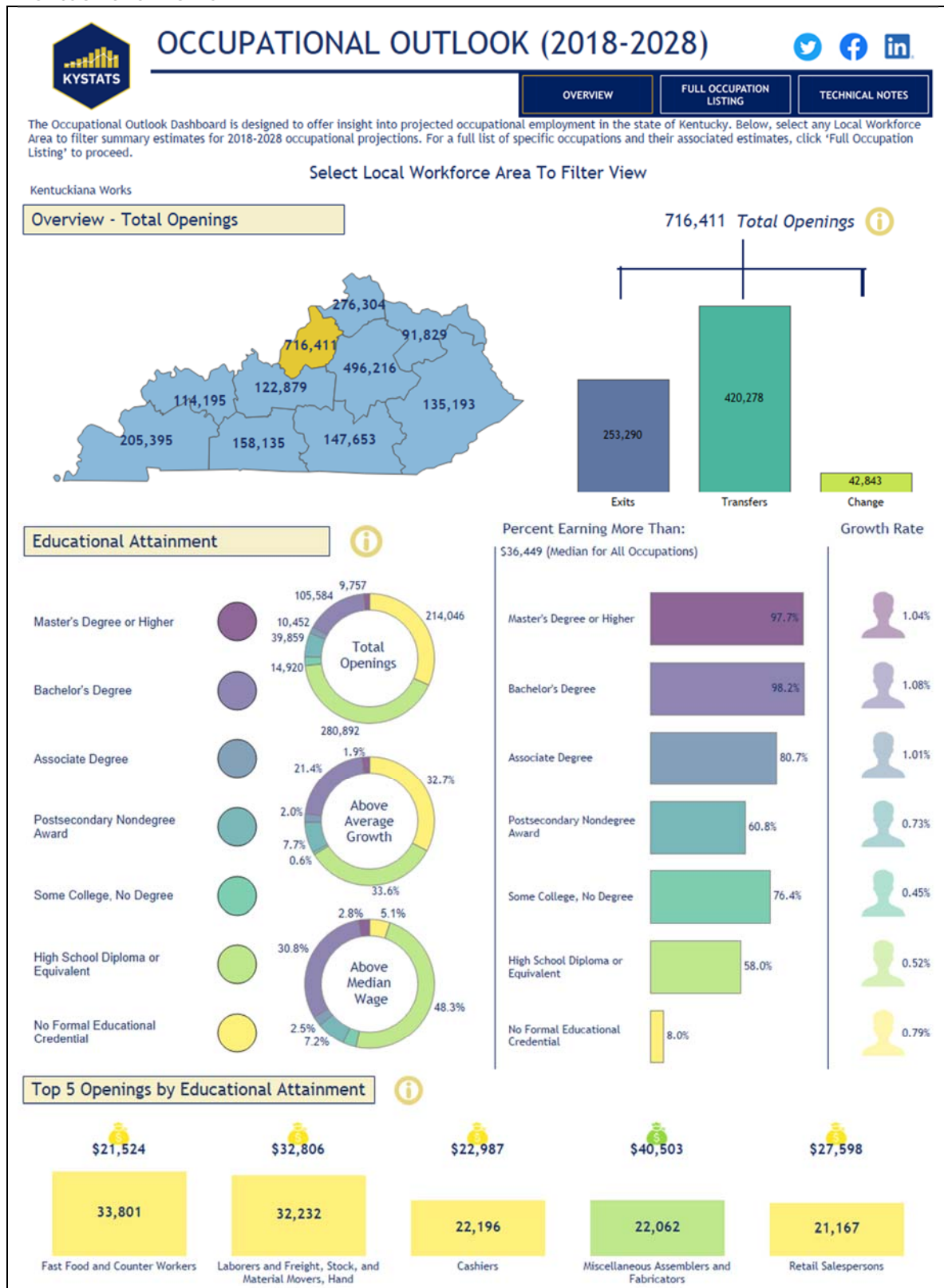


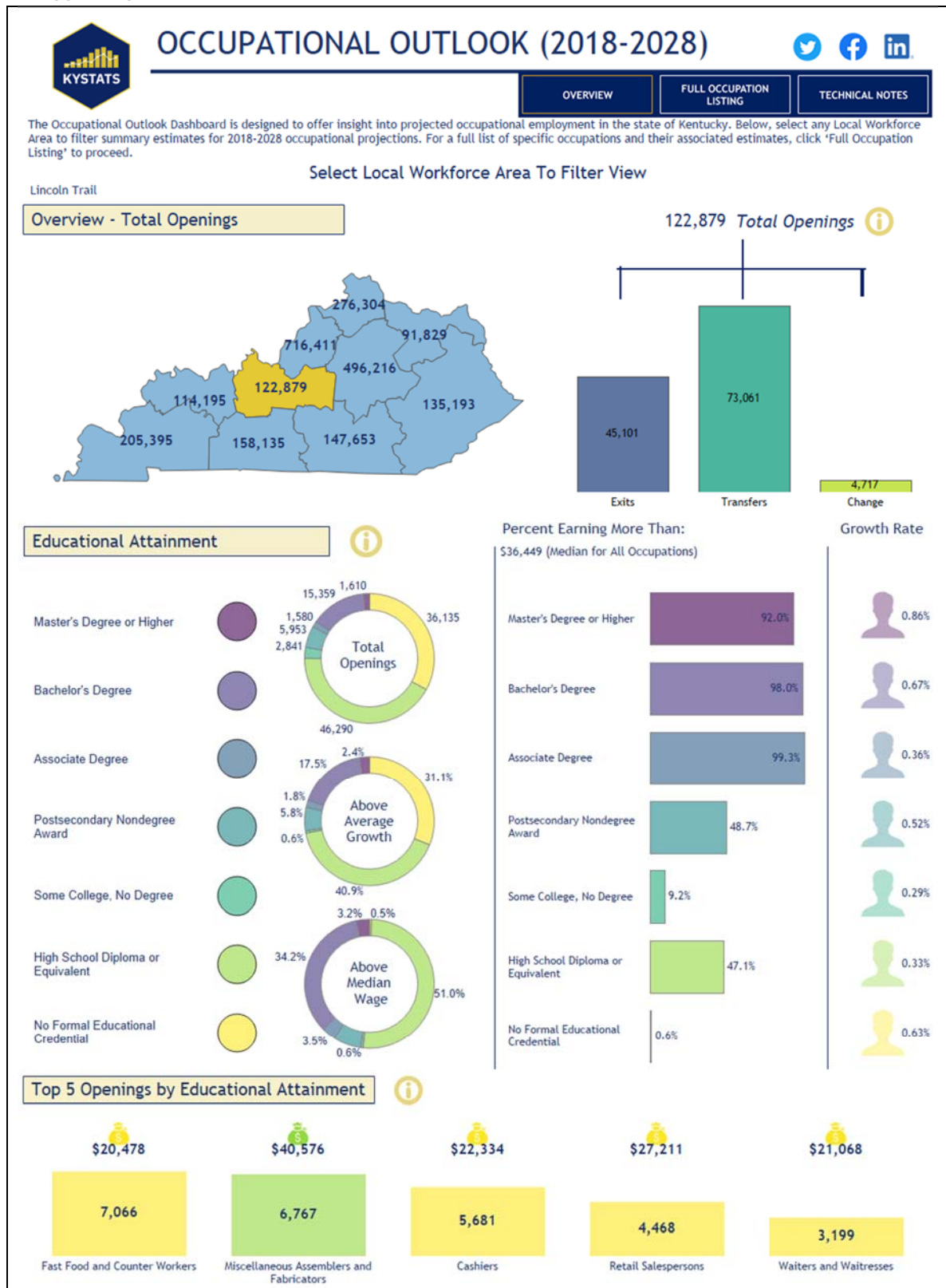






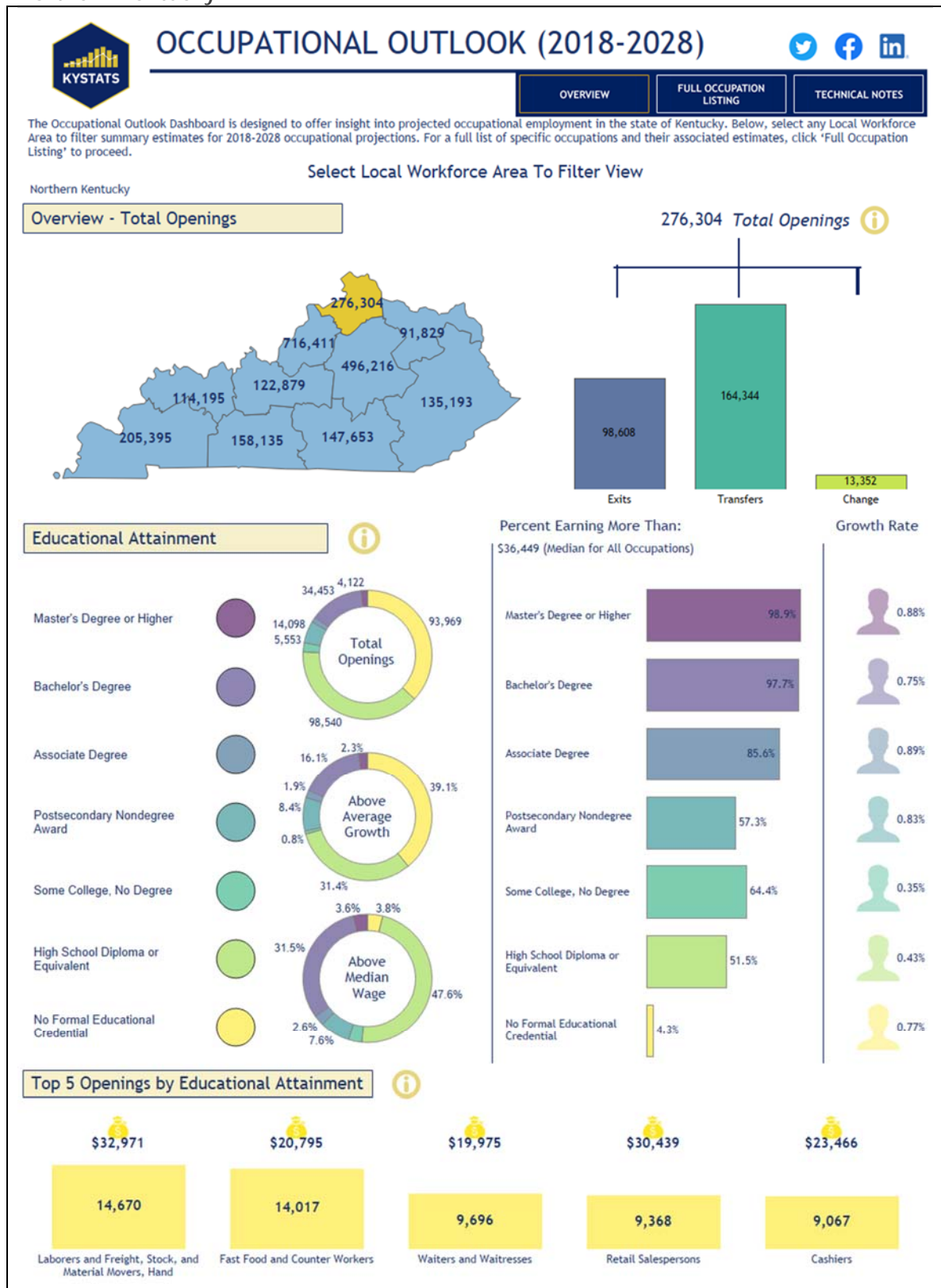


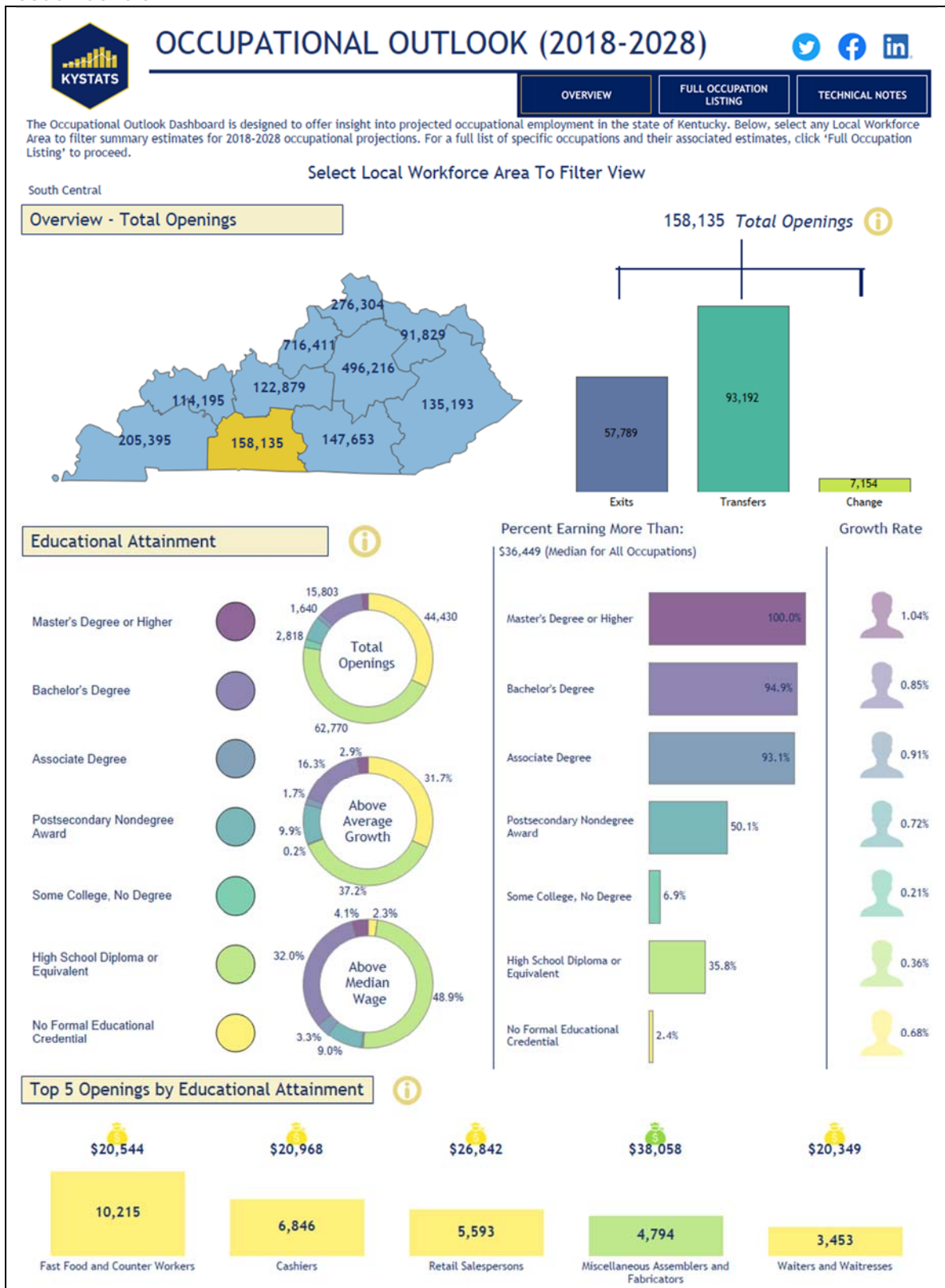


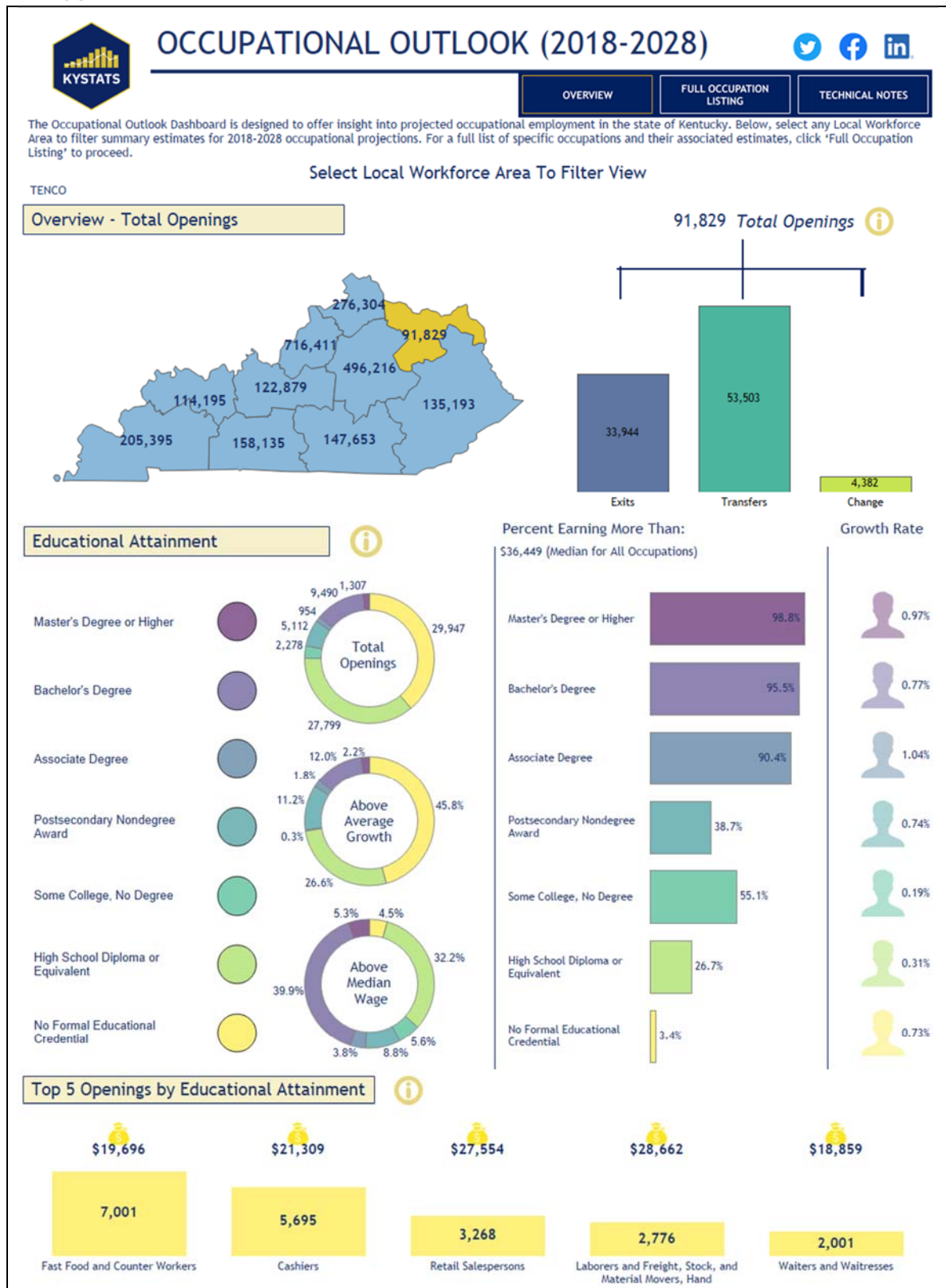


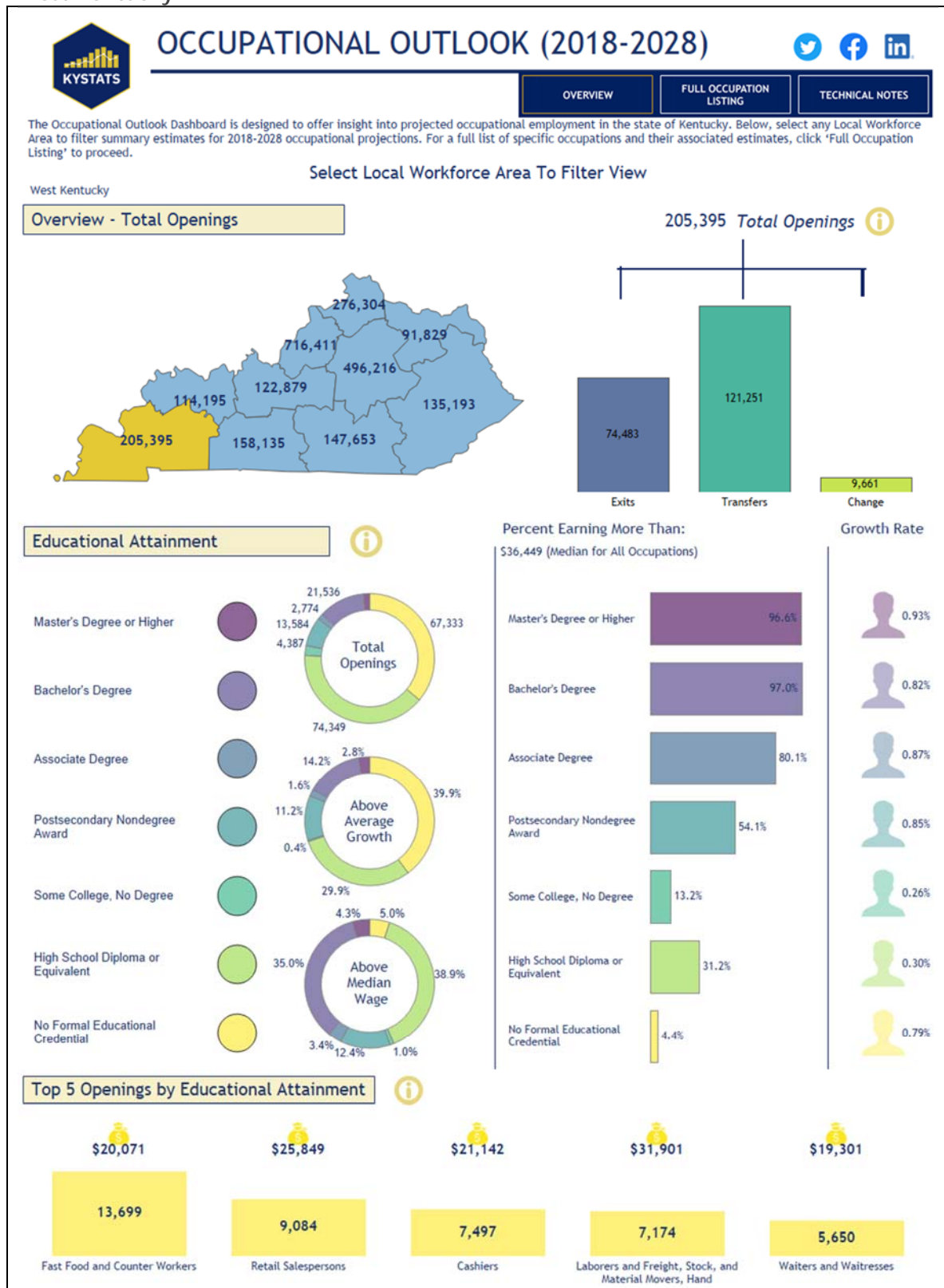
[Top 5 Openings by Educational Attainment](#)

Fast Food and Counter Workers	\$20,478	7,066
Miscellaneous Assemblers and Fabricators	\$40,576	6,767
Cashiers	\$22,334	5,681
Retail Salespersons	\$27,211	4,468
Waiters and Waitresses	\$21,068	3,199









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