Population and Labor Force Trends and Future Projections: A Comparative Analysis for Northern Kentucky and Selected Metropolitan Statistical Areas

Conducted by

The Center for Economic Analysis and Development

Haile College of Business

Northern Kentucky University

Authors

Janet Harrah, Senior Director

James Blazina, Student Fellow

Dylan Fogt, Student Fellow

Executive Summary

To better understand the population and demographic factors that will shape the future size and composition of Northern Kentucky's labor force, the Center for Economic Analysis and Development, funded by BE NKY Growth Partnership, projected population and labor force growth for Northern Kentucky and 18 metropolitan statistical areas from 2020 to 2050. The report highlights the intensified national labor competition, with talent shortages impacting site selection decisions. Demographic trends, changing generational preferences, and the rise of remote work contribute to workforce challenges. CEAD analyzed four labor force scenarios to aid policy analysis.

Northern Kentucky consists of Boone, Campbell, and Kenton counties, while CEAD grouped the 18 metros into two categories, close-proximity, and high-growth aspirational. CEAD and BE NKY selected the metropolitan areas in the analysis for two primary reasons. First, Northern Kentucky often competes with the close-proximity (mostly midwestern) metro areas for economic development projects. Second, the high-growth aspirational metros include those that are typically characterized as growth "hot spots" by either the media or industry sources and are similar in size to the metropolitan areas in the close-proximity group. Except for Lexington and Charleston, with populations under 1 million, and Tampa and Detroit, with populations greater than 3 million, the population in the metropolitan areas of interest fall between 1 and 3 million. Table 1 in the report provides a complete list of the 18 metropolitan areas included in the study.

Starting with the 2020 Decennial Census data, CEAD projected population by age and race for each region of interest. CEAD provided four projection scenarios, titled:

- Optimistic
- Aspirational
- Baseline
- Pessimistic

The baseline projection is based on traditional cohort component methodology. This is the "most likely" scenario unless there are either policy interventions or unforeseen economic impacts that change the trajectory of net migration. This projection assumes that local policy will have little, if any, impact on birth and deaths rates.

The pessimistic projection asks what happens to the rate of population growth if the region adopts policies discouraging growth and investment? Or what happens if the region were to lose a major employer or have a major industry shrink substantially? A gradual exit of the auto industry in Detroit would be an example of the latter.

The aspirational projection is the converse of the pessimistic forecast. What happens to the population growth rate if the region emphasizes additional pro-growth policies? What happens if the region substantially invests in its assets, including everything from roads and highways to parks and recreation to education and childcare?

The optimistic projection assumes that in addition to the pro-growth policies and strategies noted under the aspirational projection, these policies start to have a significant impact on the attraction and retention of both employers and employees.

The primary takeaways from the historical trends, current data, and the four population projection scenarios include:

- Broader U.S. population trends are influencing regional outlook. Overall, the U.S. rate of population growth is slowing. At the same time, the population is aging and becoming more diverse. These trends are not playing out evenly across metro areas.
- The current demographics of a region greatly influence its future trajectory.
- Migration is vital to growth, but there is no singular solution to address a slowdown in population growth.
- Similarly, there is no single factor that explains why some metros have experienced growth while others are stable or declining, although there are some shared growth drivers. Notably, the fast-growing aspirational metro regions were not overnight success stories. Most have been experiencing above-average population growth rates for 50 years.
- Baseline projections call for modest population growth in Northern Kentucky and the Cincinnati MSA between 2020 and 2050.
- Baseline projections show the labor force in Northern Kentucky growing modestly while the labor force in the overall Cincinnati MSA will contract between 2020 to 2050.

Northern Kentucky is not an island unto itself. While Northern Kentucky's population growth is expected to outpace that of the Cincinnati MSA, the region is tied to the economic and demographic prospects of the larger metro area. Further, given its unique geographic positioning, Northern Kentucky's growth trajectory will be influenced by policy makers in both Frankfort and Columbus.

Rate of population growth is slowing

Historical trends highlight three key points. First, population growth rates peaked between 1990 and 2000, corresponding roughly to the Millennials' birth years. Second, the rate of population growth varies significantly across U.S. regions. Third, across most metropolitan areas, the population is aging.

Between 1970 and 2020, the U.S. population grew by 62.7 percent, adding 127.7 million people. The annual growth rate increased from 1.1 percent (1970-1980) to 1.3 percent (1990-2000) but slowed to 0.7 percent in the last decade (2010-2020).

Between 1970 and 2020, Northern Kentucky's population grew by 58.8 percent, adding 147,559 people while Cincinnati's population increased by 32.8 percent, adding 557,281 people.

Population growth between 1970 and 2020 varied across 384 U.S. metro areas, with larger metros generally growing faster.[1] Among 18 metros of interest, Northern Kentucky, if classified, would be among smaller metros. Its 58.8 percent growth from 1970 to 2020 places it in the third quintile among smaller metros with a 2020 population of less than 500,000.

---

[1] Metropolitan areas are defined (geographically delineated) by the Office of Management and Budget (OMB) bulletin no. 20-01 issued March 6, 2020.

Population is aging

The population projections through the next quarter-century show that the U.S. population will continue to age. By 2050, in the Cincinnati MSA 22.4 percent of the population will be 65 years and over, up from 16 percent in 2020. In Northern Kentucky 24.4 percent of the population will be 65 years and over in 2050, up from 15.1 percent in 2020.

The aging of the population is reflected in both the Old Age Dependency Rate and the Youth Dependency Rate. Each rate reflects the number of dependents per 1,000 people of working age. In Northern Kentucky, under the baseline population projection, the old age dependency ratio will increase from 23.2 in 2020 to 41.5 in 2050, an increase of 18.3. The Cincinnati MSA old-age dependency ratio will rise from 24.7 in 2020 to 37.1 in 2050, an increase of 12.4. Under the baseline population projection, the youth dependency ratio fell between 2020 and 2050 in both Northern Kentucky and the Cincinnati MSA.

Population is becoming more diverse

Racial and ethnic diversity is emphasized for its role in economic growth, contributing to innovation, workforce utilization, entrepreneurship, and meeting diversity, equity, and inclusion goals. Population projections for the four scenarios include data for White, Black, Hispanic, and All Other groups. The White population is projected to decrease as a percentage of the total, becoming less than half of the U.S. population by 2050.

Northern Kentucky faces a challenge in its relative lack of racial and ethnic diversity. Although it is projected to become more diverse, with the White population falling from 84.8 percent in 2020 to 78.1 percent in 2050, it will still be less diverse than any of the 18 metros of interest.

The Cincinnati MSA is projected to become more diverse as well, with the White population falling from 75.9 percent in 2020 to 67.1 percent in 2050.

In the United States, the Hispanic population is among the fastest growing racial groups. Hispanic women in recent years have had among the highest birth rates relative to other racial/ethnic groups. It is notable that among the close-proximity metropolitan areas, each has a relatively small Hispanic population accounting for 10.5 percent or less of total population. In Northern Kentucky the Hispanic population is just 4.5 percent of total population. Among the high-growth aspirational metros, the Hispanic population generally accounts for a higher percentage of the total population topping out at 31.9 percent in Austin.

A region's current demographics influences its future trajectory

Three main factors determine a region's population growth: births, deaths, and net migration. All else equal, if a region is relatively young it will have a higher birth rate than a region with an older population. Likewise, in general, the White population has a lower fertility rate than the Black and Hispanic populations. And of course, an older population will typically have a higher death rate. Without significant changes in net migration rates, a region's future population is largely determined by its current demographics. The baseline projection assumes that the current demographic baseline and trends in a region will continue going forward. **Without a significant change in migration rates, it is unlikely that a region will move from its baseline forecast.**

Migration is vital to growth, but there is no singular solution to address a slowdown in population growth

In general, high-growth aspirational metros experience faster growth due to domestic net migration. In contrast, Cincinnati, Northern Kentucky, and many close-proximity metros rely more on natural change and international net migration. In-migration means new talent, which has the potential to drive innovation, household formation, elevated birth rates and new business creation, among other things.

Domestic net migration has averaged 433 people annually since 2010 in Northern Kentucky, contrasting with the Cincinnati MSA loss of 1,803 people annually.

Assuming a consistent natural change rate (births minus deaths), achieving the optimistic projection from the baseline projection in the Cincinnati MSA would require attracting 12,502 people annually. **Similarly, Northern Kentucky would need to attract 2,402 people annually to reach the optimistic forecast from the baseline while holding natural change constant.** In other words, the region would need to increase net migration from its historical average of 433 per year to 2,402 per year, an increase of 1,969, an annual increase of more than 400 percent.

The starting age profile, economic conditions, and amenities influence population growth. Younger populations tend to grow faster, and economic factors and amenities play roles in attraction and retention. No single factor explains growth patterns across metros; for example, Nashville's rapid growth contrasts with Memphis's relative stagnation despite each having a similar climate and state tax environment. Yet, some common characteristics of growing metros include the presence of state government (i.e. a state capital), major research universities or other large postsecondary institutions, strong offerings in entertainment and amenities as well as a relatively low cost of living.

Fast-growing aspirational metro regions were not overnight success stories

One of the striking differences between the close-proximity and high-growth aspirational metropolitan regions is the large differences in population growth, both historically and projected through 2050.

Only three of the close-proximity metropolitan areas exceeded the U.S. average rate of growth in population including Indianapolis (up 64.2 percent), Columbus (up 78 percent), and Lexington (up 93.3 percent). On the other hand, all of the high-growth aspirational metros have experienced population growth at more than double the U.S. average, ranging from a low of 138.5 percent in Charleston to a high of 472.1 percent in Austin. In other words, the **high-growth aspirational metros are not overnight success stories. They have been outpacing U.S. population growth for the past 50 years.**

Baseline projections show modest population growth in Northern Kentucky and the Cincinnati MSA from 2020 to 2050.

Projections suggest a slowing growth rate of population growth for Northern Kentucky and the Cincinnati MSA, with modest growth under each scenario except for the pessimistic.

- The pessimistic scenario anticipates population declines, with an average annual decrease of 0.1 percent in Northern Kentucky and an average annual decline of 0.4 percent in the Cincinnati MSA between 2020 and 2050.

- **The baseline scenario predicts modest population increases, with an average annual increase of 0.5 percent in Northern Kentucky and an average annual increase of 0.1 percent in the Cincinnati MSA during the same 30-year period.**
- The aspirational scenario predicts faster population growth with an average annual increase of 0.6 percent in Northern Kentucky and an average annual increase of 0.2 percent in the Cincinnati MSA during the same 30-year period.
- The optimistic scenario predicts the fastest population growth with an average annual increase of 1.1 percent in Northern Kentucky and an average annual increase of 0.7 percent in the Cincinnati MSA during the same 30-year period.

Baseline projections show the labor force in Northern Kentucky grows modestly and the labor force in the Cincinnati MSA will decline from 2020 to 2050.

CEAD estimated the workforce size by determining the prime working-age population (15 to 64 years) and applying region-specific, age-specific labor force participation rates (LFPR). The assumption is made that LFPR rates will remain constant from 2020 to 2050. Both Cincinnati and Northern Kentucky show normal distributions of LFPR, with the highest participation rates among individuals aged 20-59 and lower participation rates for persons under 20 years of age and those 60 years and over. Today, the region benefits from a relatively high participation rate, so efforts to drive workforce expansion through increased participation will be difficult.

For the Cincinnati MSA, the baseline projection anticipates a decline of 31,685 in the labor force by 2050, with only the optimistic scenario predicting an increase (100,261). **Northern Kentucky's baseline projection forecasts a slight increase of 8,450 in the labor force, while the pessimistic scenario predicts a decline of 17,950.**

Notably, the aspirational forecast shows a smaller increase in the labor force compared to the baseline forecast, which is attributed to differences in age distribution. The age distribution influences LFPR, and regions with a younger population tend to have higher LFPR. The correlation between population growth and labor force growth is emphasized, with high-growth aspirational metros experiencing a positive relationship due to an increase in working-age population driven by domestic net migration.

Conclusion: High, Low, and Stagnant Population Growth Tradeoffs

There are tradeoffs associated with high, low, and stagnant population growth rates. **There is no singular optimal rate of population growth that is right for every community, rather stakeholders must decide on growth policies that reflect community goals and values.**

As previously discussed, benefits of population growth include increased income, jobs, innovation, consumer demand, and an expanded tax base. However, downsides encompass resource scarcity, environmental degradation, infrastructure strain, housing shortages, and pressure on the educational system. As exemplified by Austin, rapid growth may lead to housing shortages, increased homelessness and rapid rise in the cost of living.

Population decline also poses challenges, as reduced demand may discourage new housing construction. Housing preferences may shift to suburbs, causing inner-city vacancies, as seen in Detroit, where a response to population decline has been mass demolition of vacant housing.

Population stagnation correlates with limited economic growth and an aging population as younger residents seek opportunity elsewhere, increasing old-age dependency ratios, and straining social services. Pittsburgh, Cleveland, St. Louis, and Detroit face challenges due to the lack of robust growth.

An aging population brings economic challenges, including increased healthcare costs and pressure on social security. Slow labor force growth or shrinkage may increase dependency ratios, posing long-term fiscal challenges for governments.

The rate of population growth significantly influences a region's labor force growth and composition. A shrinking population coupled with falling labor force participation rates may limit a region's economic growth.

Potential solutions for labor shortages include increased immigration and job automation. Immigration, a key aspect of U.S. labor force policy, depends on regional factors. Automation, effective in maintaining economic efficiency with a shrinking labor force, may eliminate less skilled jobs. If both immigration and automation fail, there is a risk of declining innovation and economic productivity.