

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN

## Chapter 2: Regional Trends

Central Ohio is one of the fastest growing regions in the United States. The ten-county region consisting of Delaware, Fairfield, Franklin, Knox, Licking, Madison, Marion, Morrow, Pickaway, and Union counties – henceforth referred to as the MORPC 10-county region – is home to 2.2 million residents and over 1.1 million jobs. This region is expected to exceed 2.9 million residents and 1.5 million jobs by the year 2050. Although Franklin County alone is expected to account for nearly half of the anticipated growth through 2050, many of the other counties are expected to grow faster in relative terms, especially Delaware, Union, Fairfield, Licking, and Madison counties.

Just as land uses and economic systems provide the origins and destinations of travel patterns, the transportation system provides the means for connecting them. Transportation systems support Central Ohio's inter-regional economic connections, and serve the intra-regional mobility needs of residents and commerce.



## 2.a Growth & Development Patterns

The Columbus region is well-positioned as a hub for distributing goods to the Eastern United States and Midwest. The region has extensive physical infrastructure to facilitate the transportation of people and goods to large nearby markets. Goods leaving Columbus can reach approximately 46 percent of the U.S. population within a 10-hour drive. These characteristics combined with the increasing prevalence of e-commerce during the COVID-19 pandemic and subsequent years are among the reasons that logistics companies are expanding their presence in Central Ohio. Beyond logistics, the regional economy is diverse and growing as a center for innovation and continues to be a national center for insurance, finance, healthcare, research facilities, and increasingly the tech sector. Numerous anchor institutions lend stability to the region's economy. Notably, Central Ohio is home to 52 college and university campuses (including The Ohio State University), several major healthcare organizations, and is the seat of state government for Ohio.

The region is attractive both to businesses and residents, as demonstrated by strong continued growth of population and jobs. While auto-oriented development is still prevalent throughout the region, in recent years there has been an increased interest in transit, walkable neighborhoods, and bicycle facilities, as well as the more compact development that supports these mobility options.

- ▶ The 10-county region was selected as the area of interest for this chapter instead of the smaller MPO region because it is expected that demographic and travel patterns in this entire region will impact transportation needs in the MPO region. The 10-county region also represents the full area covered by MORPC's land use model. All references to the Columbus region or Central Ohio region in this chapter refer to the 10-county region unless otherwise specified.

### Drivers of Change

Broadly, historic growth trends can help us understand the key drivers of growth that set the stage for predicting the future trajectory of the region. In recent years, natural change, or the excess of birth minus deaths, has remained positive but has been trending downward in alignment with the national trend. This trend is the result of declining fertility rates and increased mortality rates due in part to natural aging of the large Baby Boomer generation and is expected to continue for several decades. Consequently, future growth will increasingly rely on new residents moving into Central Ohio from the U.S. and abroad.

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## **Residents' life stages and generational preferences will impact demand.**

The needs of a growing population shift over time. The population will change by age as generations shift through different life stages in the next 30 years. A substantial part of the Baby Boomer generation is now retired or on the verge of retirement. Some in this generation are likely considering alternative housing and transportation options that are better suited for this new phase in life and which will allow them to remain socially-connected and independent as they age. Some in Generation X – especially parents of children who have recently reached adulthood – may be considering new housing and lifestyle options that are available to them now that they are no longer responsible for the care of children. On the other hand, considerations about children are likely top of mind for parents in the Millennial generation, who may prioritize stability, access to good schools, and enough living space to accommodate a larger family. Members of Generation Z may be more geographically mobile as they begin pursuing careers or post-secondary education, or they may be considering forming families and the new needs that life phase presents. Specific preferences about housing type and location and mode of transportation vary from generation to generation, and even from person to person depending on family and social connections, physical ability, income, and tastes, among other factors. Therefore, it is important that a variety of housing and transportation options are available throughout the region so that people of all sorts can be happy, healthy, and productive wherever they choose to live.

## **Policies and planning strategies in the region are essential for sustainable growth.**

Now, more than ever, it is important for Central Ohio communities to choose policies that will allow the region to grow better as it grows bigger. The region is expected to experience strong but manageable growth over the coming decades, which presents a unique opportunity for communities to be selective about what development patterns they promote. For the past century, our built environment has tended toward low-density, single-use, auto-oriented development patterns, however initiatives such as insight2050 and insight2050 Corridor Concepts2 explore how more walkable, bike-able, transit-supportive neighborhoods can positively impact transportation, infrastructure, housing, and the environment. These studies show that there are clear quality of life, economic, community development, and environmental benefits that come from such development patterns. These benefits include better access to jobs, more and better mobility options, and more inclusive communities. By building upon the infrastructure the region has today, Central Ohio can afford to grow in a way that makes resources go further and helps to meet the region's growing need and preference for better-connected neighborhoods.

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## **Recent trends toward more compact and accessible housing are steps in the right direction.**

Although a large numbers of low-density single-family homes are still being built in the region, housing developers, with support from local governments, have been increasing the production of denser multifamily projects. In fact, multifamily units account for approximately 60% of all units built over the period of 2017 to 2021. Pairing compact housing developments with jobs, stores, parks, and other amenities in a walkable neighborhood can lead to reduced vehicle miles traveled, less congestion, less pollution, and better health outcomes for residents. When these neighborhoods are also accessible via high-capacity transit and bicycle facilities, it becomes possible for some residents to choose a car-independent lifestyle – a choice which also benefits those who prefer to drive or for whom driving is necessary. Focusing growth in this way results in a compounding of benefits and a degree of scalability that is not possible with more dispersed auto-oriented development. In areas adjacent to natural amenities and farmland, focused growth also helps to ensure that these regional assets – and the lifestyles of the communities that value them - are protected and preserved.

## **Job growth continues, however industry composition, job locations and commute patterns remain in flux following the COVID-19 pandemic.**

In 2020, the COVID-19 pandemic disrupted our society, resulting in a tragic loss of life as well as severe economic consequences. That year was the first time in recent history that the region experienced a decline in jobs. As of 2022, job growth had resumed its prior trajectory and the total number of jobs had reached its pre-pandemic level. However, it is worth noting that the jobs created are not necessarily the same jobs that were lost. That being said, the region remains well positioned to support logistics and transportation business, is home to strong anchor employers, is an emerging leader in tech and innovation, and is home to a diverse portfolio of industries. It is too soon to understand what the long-term effects the pandemic had on job locations and commuting patterns. The pandemic highlighted the potential for workers in some industries to work from home, and many workers continue to express a preference to work at home at least part of the time. In response to reduced in-person work requirements and increased prevalence of virtual meetings, some employers have altered their real estate decisions by reducing their total office space and/or relocating from the central business district to outlying areas. However, some employers have begun to see the downsides to work-from-home arrangements and have asked their employees to return to the office. Many established firms have continued to maintain a downtown presence, and some firms that previously did not have a downtown presence have taken advantage of the newly vacated space. The pandemic also highlighted the criticality of many jobs that cannot be performed remotely, many of which are performed by low-wage workers who may struggle to travel to more far-flung work locations. be.

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Finally, the pandemic accelerated the decline of brick-and-mortar retail that was already in progress, resulting in a shift in demand for workers in jobs related to logistics and e-commerce. It seems likely that at least some of these trends will persist into the post-pandemic era, but it is difficult to say what the long-term impacts on industry composition, job location, and commuting patterns will be.

## Future growth in the region is expected to align with community plans and regional initiatives.

The distribution of future growth in the region is dependent on many factors—and that pattern of growth will inform, while also being influenced by, the needs of the region’s transportation system. Existing conditions, community land use plans, infrastructure, environmental constraints, and regional planning and policy initiatives all play a role in the future development pattern. These factors and others were considered in the land use model that was used to predict the distribution of growth out to the planning horizon year and which provides the underlying set of assumptions for this metropolitan transportation plan.

## Historic and Future Growth

The location of new housing and employment growth, and the density and arrangement of future development, define what types of transportation services will be necessary to support improved quality of life and continued economic success for the region in the years to come.

The 10-county region is expected to increase from 2.2 million people in 2020, to 2.9 million in 2050. This increase of 720,000 people (33%) will require growing the housing stock from 911,000 to 1,200,000 units (32% increase) and growing the job market from 1,185,000 to 1,542,000 million (30%), as shown in Figure 1.

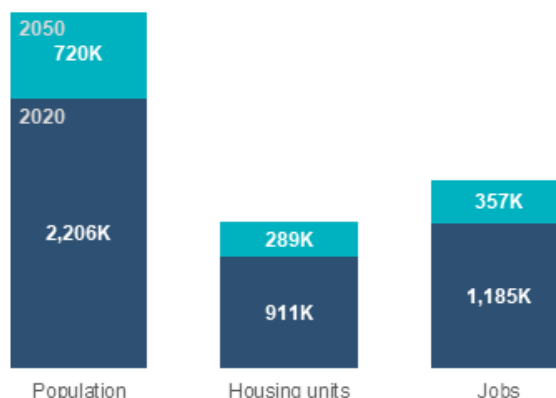


Figure 1: Projected population change, MORPC 10-County Region

Source: MORPC County Projections

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MORPC used an approach to develop forecasts that begins with projections of changes in households and jobs by industry type at the county level. Figure 2 shows the process for establishing those projections. The projected values are known as control totals because they are used to control - or constrain – the forecasts for sub-county areas. The process requires multiple stages in which each stage is dependent on the prior stage. The process begins by projecting the overall trajectory of population change at the county level using a statistical model that accounts for year-to-year variations in the trajectory. The variations are driven by two main factors, namely natural change and migration. Natural change is the difference between births and deaths and tends to vary gradually over generations. Recently, in alignment with national trends, natural change in Central Ohio has been positive but decreasing. This means that natural change is contributing positively to growth, but to a smaller and smaller degree each year. Because variation due to natural change is gradual, much of the year-to-year variation is driven by changes in migration, which are influenced by global and national geopolitical, economic, and social factors, as well as regional and local policies and initiatives.

Next, overall population projections were broken down into key subgroups such as population by age, population in households versus group quarters, and population in the labor force and employed workers. These subgroup projections were then translated into the number of households (based on household size and occupancy rates of housing units) and jobs (based on workforce participation and employment rates) under the assumption that current trends will persist through the planning horizon. Finally, the projections for total jobs were broken down by industry under similar assumptions about the persistence of current shares of the various industries.

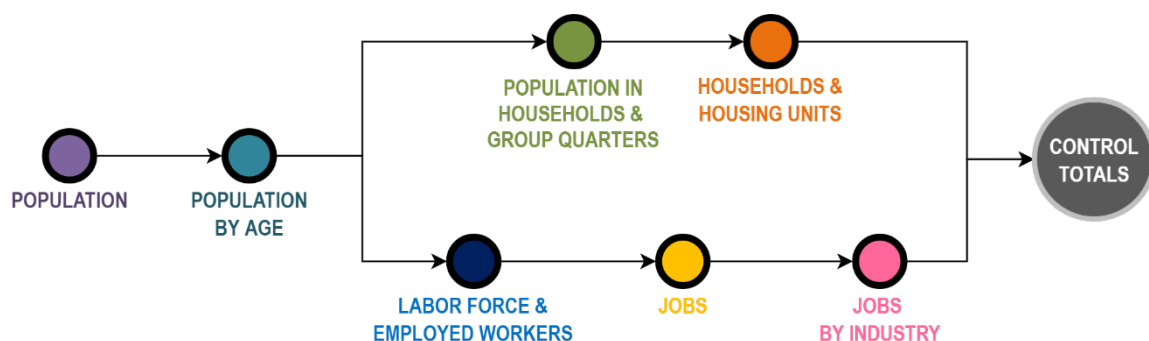


Figure 2: Establishing county-level control totals

Source: MORPC County Projections

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## Historic Dynamics of Population Change

From 2010 to 2020, the 10-county region experienced growth that was 49% (around 111,000 residents) driven by natural change (births minus deaths), and 51% (around 113,000 residents) by net migration into the region (Figure 3). This is a contrast from the previous decade when natural increase was responsible for a larger portion of the growth.

In part, this shifting pattern aligns with a national trend. According to the U.S. Census Bureau:

“[B]ecause of population aging, immigration is projected to overtake natural increase [in the year 2030] ...as the primary driver of population growth for the country.”

For the nation as a whole, this implies immigration from foreign origins. Growth in the region, however, is dependent on immigration from foreign and domestic origins. From 2010 to 2020, international migration into the 10-county region accounted for 52% (around 59,000 residents) of net migration into the region, while migration from elsewhere in the United States, or domestic migration, comprised around 48% (around 54,000 residents) (Figure 4).

Migration is dependent on many factors including economic opportunity, housing affordability, availability of and access to natural and cultural amenities, and migration-related policies, among others. The impact of policies is especially relevant as it pertains to international immigration, and the continued influx of international migrants is remarkable considering the immigration restrictions imposed during the COVID-19 pandemic and the varying response to immigration by different federal administrations. Historically, Central Ohioans have enjoyed a relatively low cost of living compared to other major metropolitan areas, which served as an attractor for prospective in-migrants, however housing costs have been rising in recent years and may become a deterrent if this trend continues.

In 2021, the region experienced net domestic out-migration for the first time in recent history. Detailed data is not yet available to help inform our understanding of who moved out and where they went, therefore it is difficult to infer why they left. Some possible causes may include recent retirees moving to out-of-region retirement locations (perhaps in the south) or people moving to more rural areas to take advantage of remote work options in the wake of the pandemic. Fortunately, strong international immigration in 2021 offset most of the out-migration from domestic migrants.

The age distribution of migrants is both an important factor of migration as well as an important consideration for regional planning. As we'll discuss in the next section, the vast majority of in-migration to the region comes from young adults in 15-to-39-year age range. It is likely that many of these migrants are attracted by education and employment opportunities.

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Conversely, there is a net outmigration of people of roughly retirement age (50 to 74). Availability of diverse housing choices and mobility options will play a prominent role in attracting and retaining people of all ages, as will development of lifestyle amenities such as stores, restaurants, parks, and entertainment venues.

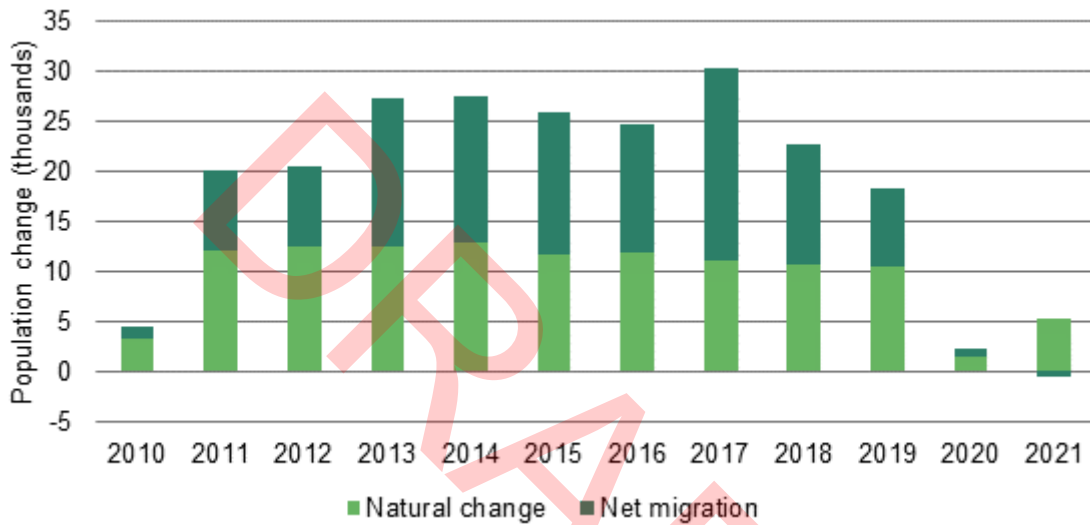


Figure 3: Population change by type; MORPC 10-County Region  
 Source: U.S. Census Bureau Population Estimates Program

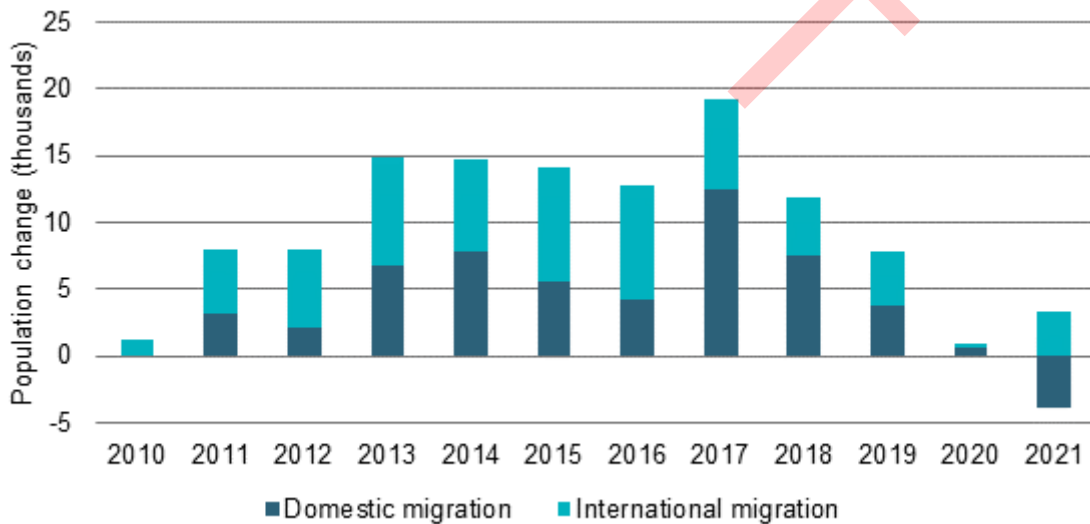


Figure 4: Migration by type, MORPC 10-County Region  
 Source: U.S. Census Bureau Population Estimates Program



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## Characteristics of Projected Population Change

Since 1980, the share of the population comprised by people of retirement age (65 and over) has steadily increased from 9% to its current share of 14%. This growth has been offset primarily by a reduction in the share of children under 18 (Figure 5).

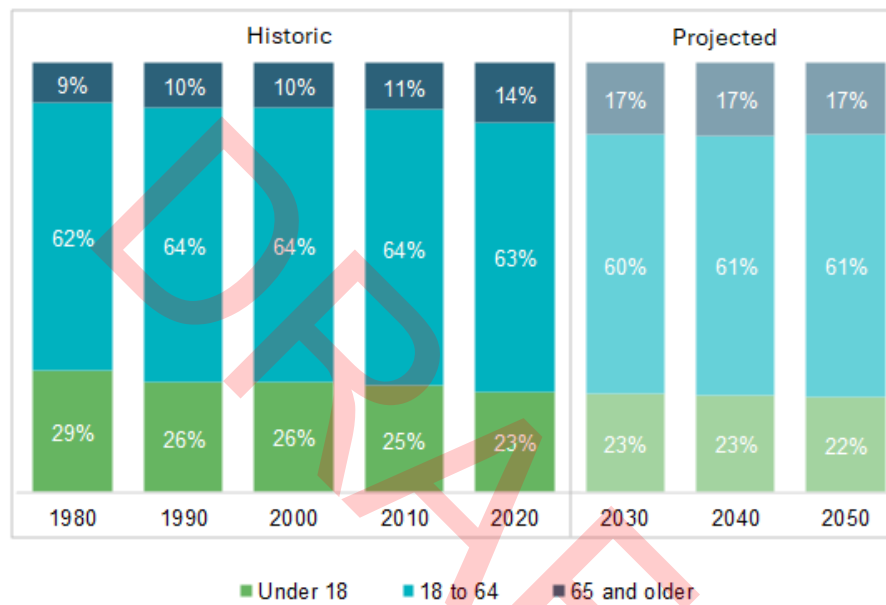


Figure 5: Share of population by major age group, MORPC 10-County Region  
Sources: U.S. Census Bureau Population Estimates Program, MORPC County Projections

The large Baby Boomer generation is currently driving the increase in population 65 and older and will continue to drive growth of this age group through around 2040. In 2020, the youngest members of this generation were about 60 years old. The entire Baby Boomer generation will be 70 and older by about 2030.

More people in the Baby Boomer generation and older moved out of the region than have moved in (Figure 7). As migration is not driving growth, the increases in this age group are almost entirely caused by the sheer size of the population in the Boomer generation as they age into the 65 and older category. In 2020, there were an estimated 448,000 Baby Boomers in the 10-county region, making up 20% of the population (the second largest generation in Central Ohio) (Figure 6). Despite a lack of older residents moving into the region, as this generation ages into older adulthood, the 65 and older age group is expected to make up an increasingly large share of the population through the 2030s. Growth of that age group will slow down considerably in the 2040s when the smaller Generation X (19% or about 420,000 people) are 65 and older (Figure 2.5).

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The Millennials are the largest generation in the region (22% or about 491,000 people). In 2020, Millennials ranged from about 25 to 39 years old. Over 60% of the population that moved to the region in recent years are members of the Millennial generation.

Since 2020, the Millennials have started to enter a life stage in which they are less geographically mobile. Consequently, the share of in-migrants from Generation Z is expected to grow. Generation Z is smaller (20% or about 433,000 people in Central Ohio), however, and is expected to remain smaller than Millennials even with increased migration. This, compounded by the relatively small size of Generation Alpha (13% or about 283,000) and declining fertility rates, will lead to smaller representation of younger people for the next decade or more.

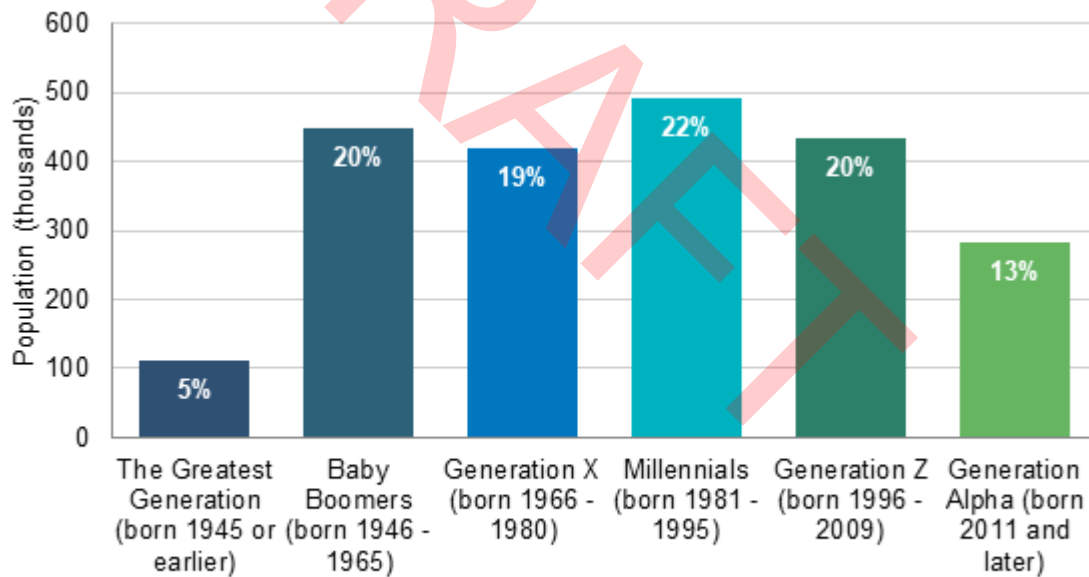


Figure 6: Population by generation, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table S0101

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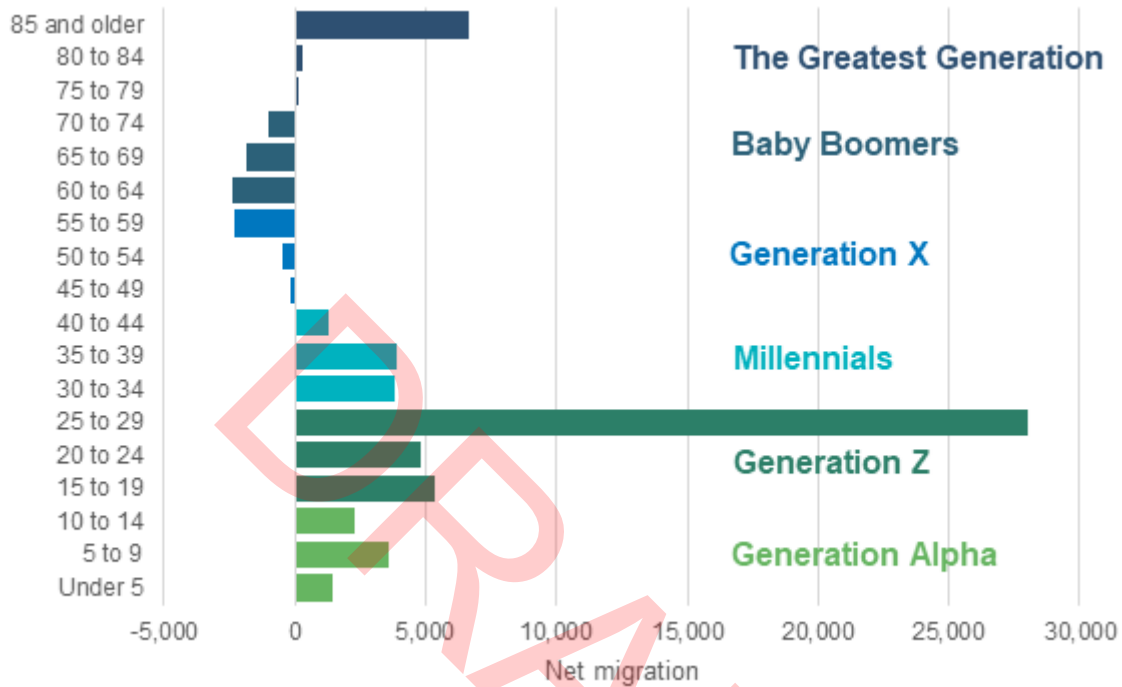


Figure 7: Residual net migration by age and generation, 2015-2020, MORPC 10-County Region  
 Source: MORPC Cohort Component Analysis  
 Sources: U.S. Census Bureau Population Estimates Program, MORPC County Projections

## Policy and Planning Impacts on Development

The regional insight2050 study completed in 2014 helped promote consensus around a vision for compact, focused development throughout Central Ohio. The study advocates for an approach that comprehensively addresses the land use, housing, and transportation challenges ahead. To better ground this future vision, the insights2050 Corridor Concepts (2019) built upon the momentum generated from the “Focused Growth” scenario first detailed in insight2050 as well as outcomes of other recent planning efforts in the region. It explores in detail where growth can occur and how to make it happen. Specifically, the report proposes that development should focus on five corridors radiating out from downtown Columbus to the surrounding suburbs and prioritize these corridors for transit-oriented development.

Local jurisdictions have begun to embrace the corridor concepts, and implementation has begun on several of the corridors, specifically the Northwest Corridor toward Dublin, along with the West Broad Street Corridor toward Prairie Township, and the East Main Street Corridor toward Reynoldsburg. Implementation of these corridors has been formalized with the creation of the LinkUS initiative, which also includes the development of bus rapid transit along these corridors.

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Implementation has not yet started on the remaining corridors, namely the Northeast Corridor toward Westerville/Polaris, and the Southeast Corridor toward Groveport/Rickenbacker Airport. The Insight2050 Corridor Concepts and the LinkUs initiative are critical next steps in the region's commitment to thoughtful urban planning to improve livability and keep the region competitive while supporting a projection of continued growth.

Like other major metropolitan areas across the nation, Central Ohio is at the precipice of a new generation of mobility options that must be carefully considered and weighed. Understanding how these emerging technologies will impact larger goals that address; housing needs and affordability, promote equitable access to opportunity, foster complete communities, and grow in more compact and fiscally efficient ways is crucial.

Well-informed discussions of these impacts and a holistic approach to the region's growth will be necessary for Central Ohio to encourage a high quality of life for all. This is particularly true for housing. Over the years, various studies have concluded Central Ohio lacks sufficient housing of all types and price points to meet the needs and preferences of its growing population. In response, a Regional Housing Strategy was introduced in 2020. This comprehensive report complements and builds upon past work to develop a regional approach to expand the supply and affordability of housing in Central Ohio. The Regional Housing Strategy presents scalable, implementable, context-sensitive strategies – including policies, programs, and funding resources – to address housing needs in the unique and varied markets across the region. In addition to increasing the supply of housing, these strategies recognize the relationship between land use and transportation. Housing and transportation costs together are often the two largest household expenses. Therefore, to improve affordability, a complete approach to mobility will be required — one that addresses walking, biking, transit, and automobile use, which balances impacts on land use, community health, and economic and environmental sustainability.

## Residential Development Trends

Growth in Central Ohio is strong regionwide. On average, the 10-county region grew by almost 66 new residents per day in the 2010s, up from 63 new residents per day in the 2000s, and 59 per day in the 1990s. That growth was highly centralized in Franklin County, which grew by a record 44 new residents per day in the 2010s (Figure 8).

In fact, nearly 67% of the region's growth occurred in Franklin County (the most populous county in the region and in the state) in the 2010s. This is an increase from the 41% of regional growth that Franklin County experienced in the 2000s. The share of growth experienced in suburban and exurban counties surrounding Franklin County decreased somewhat in the 2010s (Figure 9).

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However several of these counties - especially Fairfield and Licking counties – are expected to account for a large share of the region’s growth in the coming decades.

The past decade marks a distinctive shift toward more centralized, higher-density development than in decades past. Estimates from the U.S. Census Bureau (Figure 10) show that more multi-unit structures were built in the 2000s and 2010s than in any previous period and that those structures tended to include more units than in previous periods. These estimates are supported by residential housing permit data compiled by MORPC (Figure 11), which shows that the number of multifamily units built exceeded the number of single-family units built in every year since 2011 in the 10-county region. Moreover, multifamily units accounted for about 60% of all units constructed between 2017 and 2021. Continued construction of housing of all types is critical to ensure that all residents have appropriate housing options as the population grows. Continued construction of multifamily units is especially important because of the relatively large share of renters in the 10-county region (38%). Renter share is greater in Central Ohio than the state overall (33%), the Midwest4 (32%), and the United States (35%).

	1970s	1980s	1990s	2000s	2010s
Delaware	3.0	3.6	11.8	17.6	10.9
Fairfield	5.6	2.7	5.3	6.4	3.5
Franklin	9.8	25.3	29.4	25.9	43.9
Knox	1.2	0.3	1.9	1.8	0.5
Licking	3.6	2.0	4.7	5.8	3.3
Madison	1.3	1.1	0.9	0.9	0.1
Marion	0.9	-1.0	0.5	0.1	-0.3
Morrow	1.4	0.3	1.1	0.9	0.0
Pickaway	1.0	1.3	1.2	0.8	0.8
Union	1.6	0.7	2.4	3.1	2.9

Figure 8: Average new residents per day, MORPC 10-County Region

Source: U.S. Census Bureau Population Estimates Program

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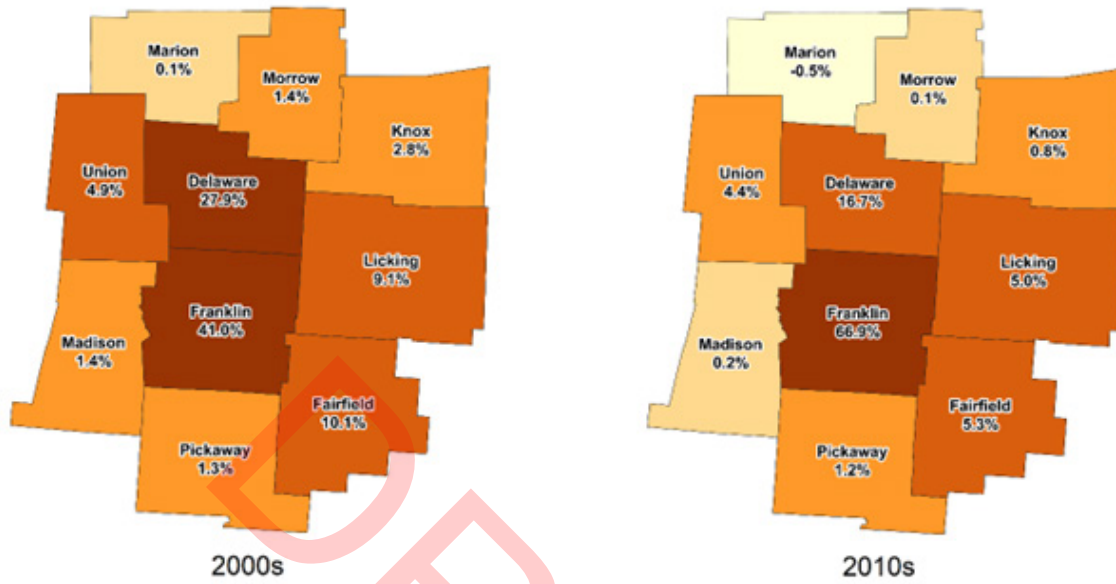


Figure 9: Share of population change by county, MORPC 10-County Region  
 Source: U.S. Census Bureau Population Estimates Program

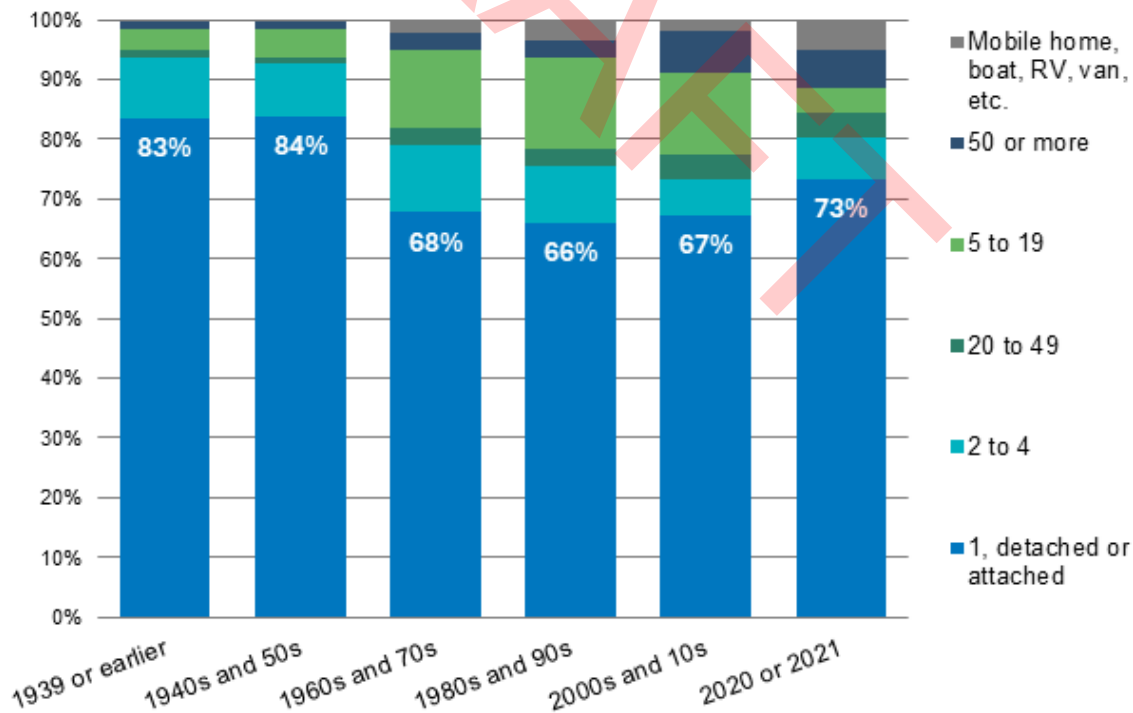


Figure 10: Units in structure by year built, MORPC 10-County Region  
 Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B25127

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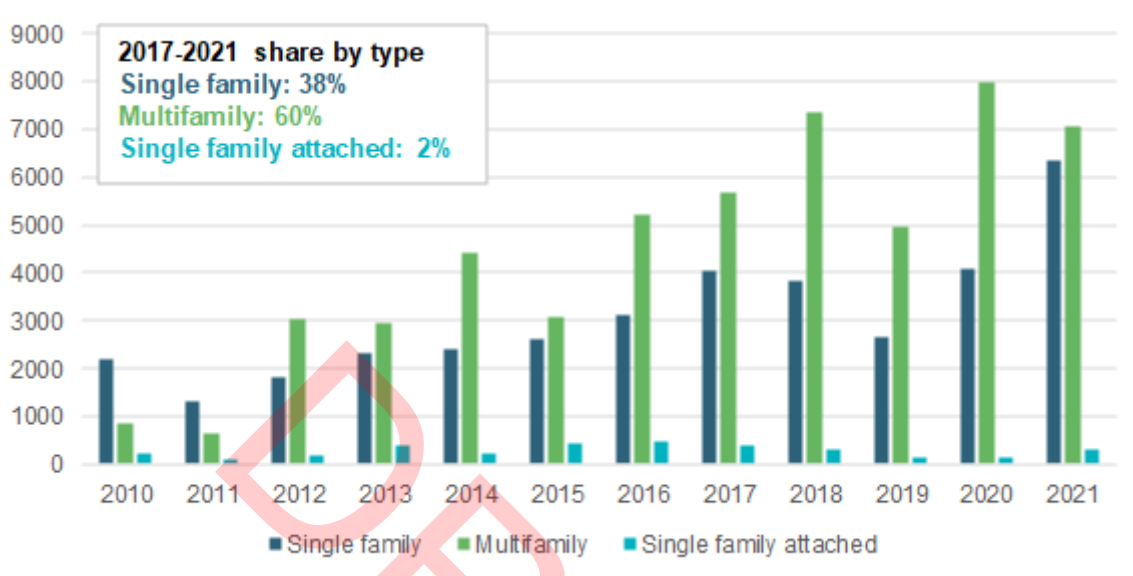


Figure 11: Number of new residential units by type, MORPC 10-County Region

Source: MORPC Residential Building Permits

Note: Due to year-to-year variations in availability of permit data, this data is inappropriate for use as a time series.

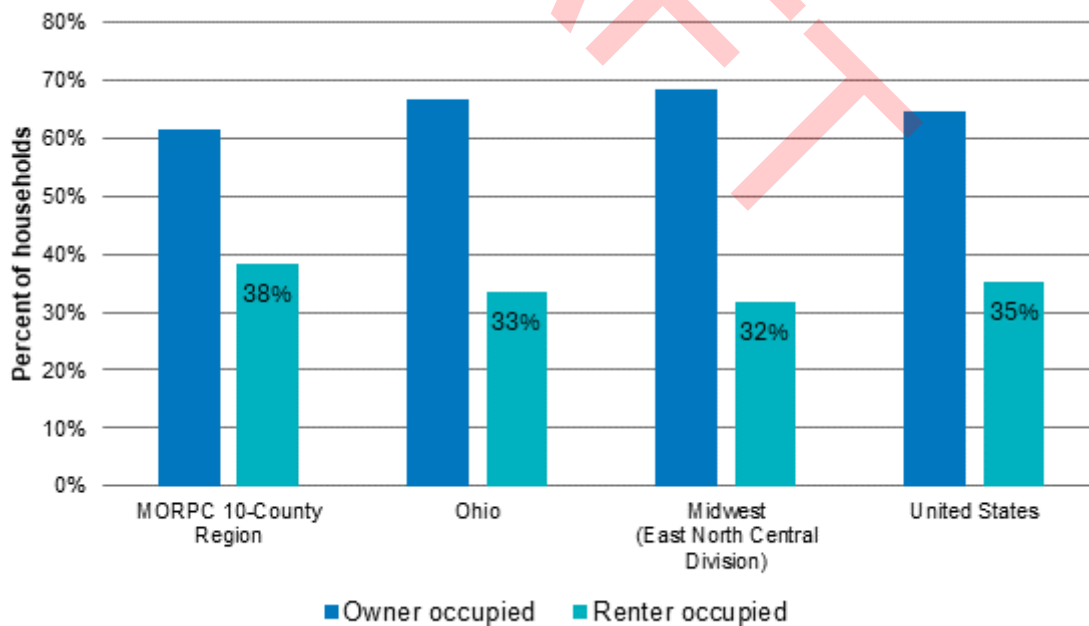


Figure 12: Share of owner and renter households

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B25003

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## Major Industries and Employers

The population growth that spurs residential development is inextricably linked with industry growth in the region, and regional travel patterns largely depend upon the relative locations of workforce residences and employment locations.

From 2014 to 2022, Bureau of Labor Statistics data suggests a 10.3% increase in average annual employment in the 10-county region (Figure 13). The employment level increased each year with the exception of 2020 when the COVID-19 pandemic resulted in an employment reduction of 4.3% year-over-year. Despite the severity of the economic upheaval of the pandemic and the tragic loss of life that accompanied it, Central Ohio once again demonstrated the ability to weather economic downturns and recover quickly. Employment began growing again in 2021, and by 2022 employment had exceeded pre-pandemic levels.

Significant employment in stable industries like health care, insurance, higher education, and state government; a prime location for logistics operations; world-class research institutions; and a diversity of industries all contribute to the region's economic resilience. The highest proportions of the labor force work in (1) health care and social assistance, (2) retail trade (including some distribution and warehousing), (3) manufacturing, (4) educational services, and (5) finance and insurance (Figure 14).

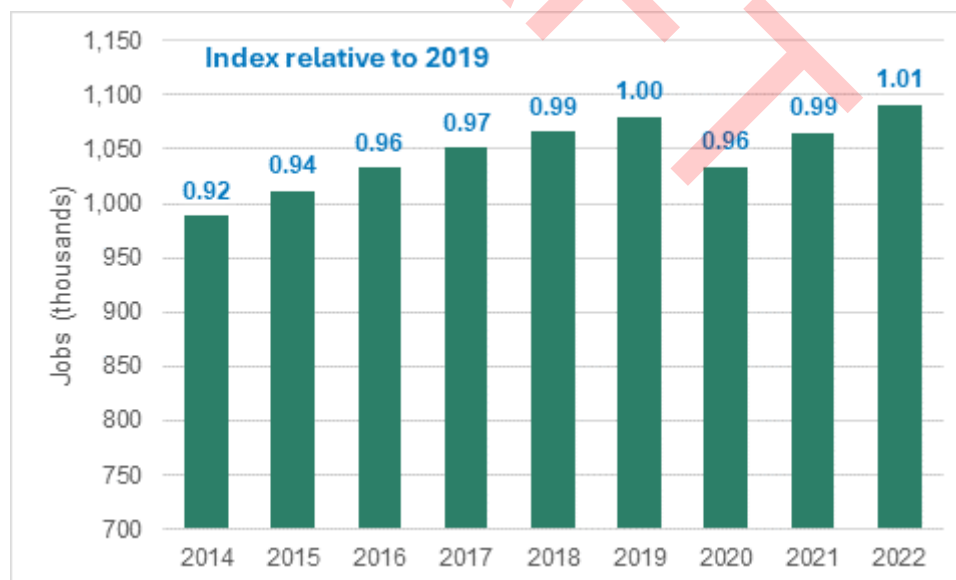


Figure 13: Total employment, MORPC 10-County Region

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages



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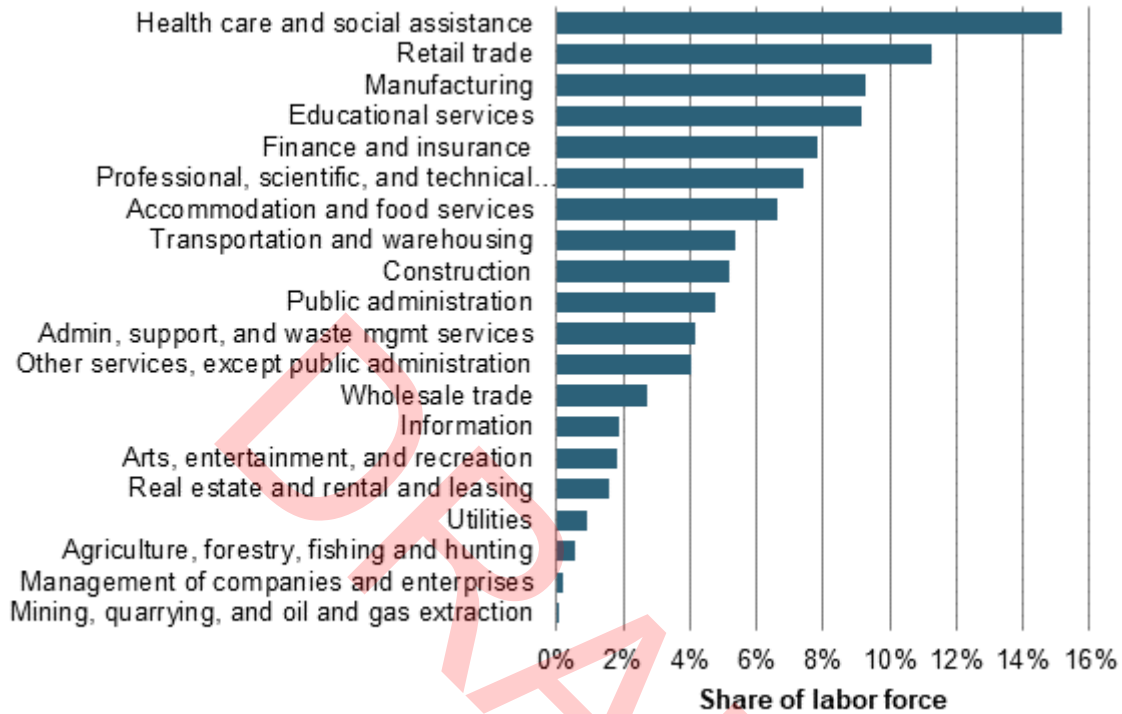


Figure 14: Share of labor force by industry, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table C24030

Compared with both the State of Ohio and the U.S., Central Ohio has a very high concentration of jobs in the finance and insurance sector. Compared with Ohio, there is also a high concentration of jobs in both the information and professional, scientific, and technical services industries, as well as a significant concentration of jobs in public administration, administrative and support services, and management of companies and enterprises (Figure 15). Relative to the United States, the region has a high share of jobs in management of companies and enterprises (Figure 16). Manufacturing is one industry that is currently under-represented in Central Ohio compared to the state and the nation, however several recent high-profile developments, most notably the Intel Ohio semiconductor plant near New Albany, the Honda/LG battery plant near Jeffersonville, and the Hyperion fuel cell plant in far west Columbus, may be an indication of greater manufacturing representation in years to come.

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## Ohio based location quotient

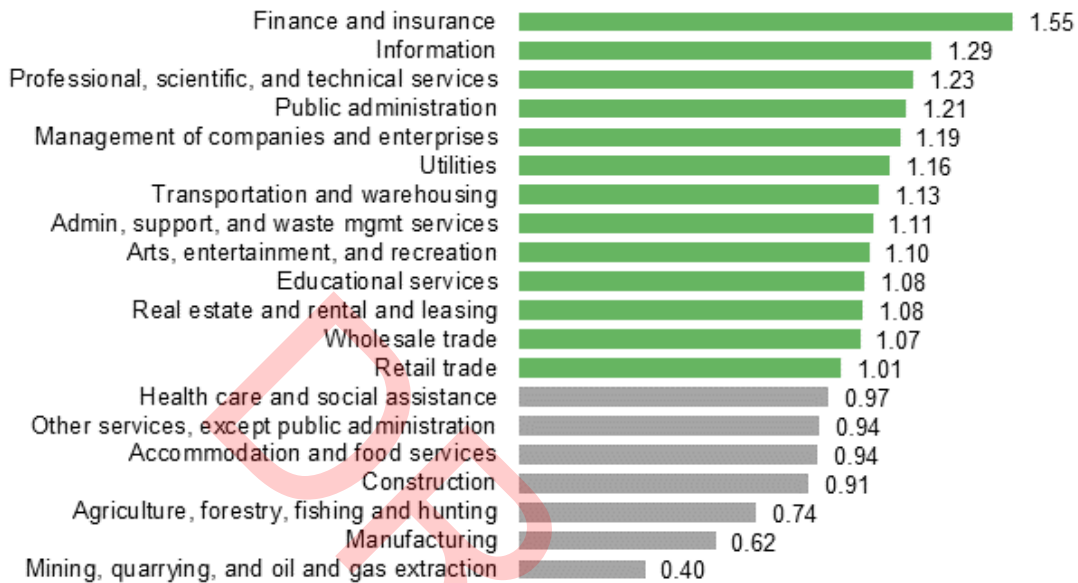


Figure 15: Concentration of jobs by industry, MORPC 10-County Region compared to Ohio

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table C24030

## United States based location quotient



Figure 16: Concentration of jobs by industry, MORPC 10-County Region compared to the United States

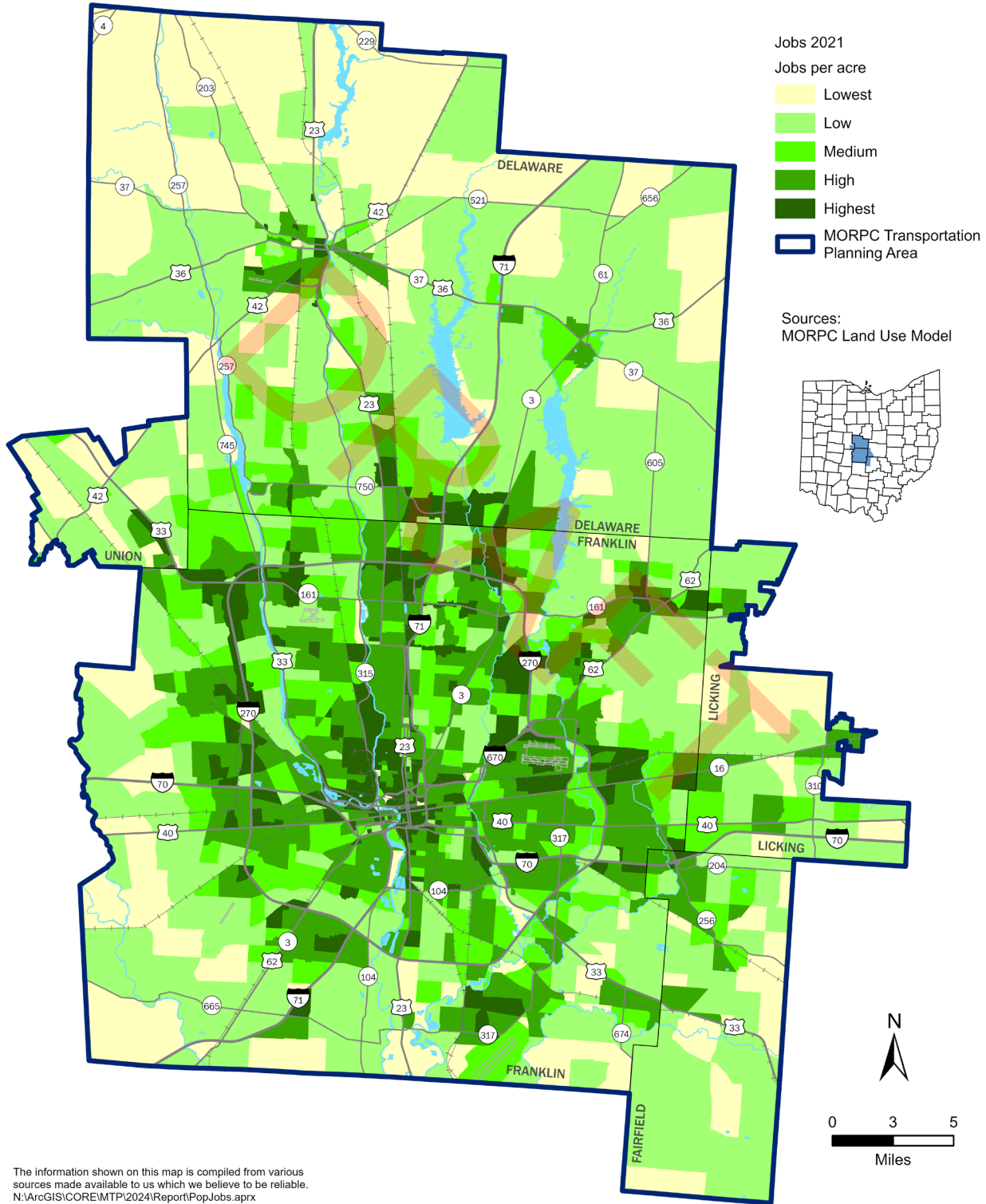
Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table C24030

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Although there has been some national media coverage in the wake of the pandemic that some businesses are choosing to relocate to suburbs, the central business district in downtown Columbus continues to be a major hub for businesses, including Nationwide Insurance, Columbia Gas, Cover My Meds, Ohio Health, Rogue Fitness, Hexion, and White Castle. These are just a few examples of strong regional employers opting for offices that are centrally located and proximate to complementary land uses and robust transportation options. As Columbus suburbs continue to grow, some of them are developing into urban commercial hubs in their own right. A notable example is Dublin's Bridge Park, which is a large, walkable, mixed-use development that includes housing, retail, offices, restaurants and services, hotels, and more as well as home to the headquarters of The Wendy's Company. Other major nearby employers include Cardinal Health and OCLC.

There are still major employment centers that are continuing to add new businesses beyond the urban core. Airports—especially John Glenn International Airport, and Rickenbacker International Airport and Intermodal Yard serve as hubs for logistics, distribution and warehousing. Other sites serve as major centers of research and development, light manufacturing and warehousing, such as the New Albany Beauty Park and the Prologis Park in Pataskala. Additionally, there are major office parks combined with regional shopping centers like Easton Town Center and Polaris. Figure 17 shows the distribution of existing employment throughout the MPO area, with areas of high job concentration both around the perimeter of the region, and within the urban core.

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## Future Allocation of Change

Using community-based land use plans, along with data and research to contextualize development patterns and decisions, MORPC distributed future projected county growth to small geographic units called Traffic Analysis Zones (TAZs) for consumption by the travel demand model. Whereas the travel demand model is used to predict future traffic volumes and transit ridership, MORPC uses a separate land use model to allocate future development (see Appendix A for a more detailed methodology).

A graphical overview of the land use allocation model process is shown in Figure 18. The model uses data about existing locations of households and jobs, along with community land use plans to determine the capacity for new growth in each TAZ. Next, a set of attractiveness criteria was used to determine the likelihood that each TAZ would experience growth. Some criteria such as presence of the TAZ within a district targeted for growth or access to utilities increase the likelihood of growth, while others such as exposure to airport noise or proximity to a landfill reduce the likelihood. When possible, the strength, or “weight,” of each criterion was calibrated by measuring its relationship with existing development activity. The criteria are organized into four categories: (1) economic development, (2) environmental, (3) infrastructure, and (4) land use nuisances. A special criterion was created to increase the likelihood for TAZ along the LinkUS corridors for which implementation is underway.

Communities in the region were given the opportunity to review the TAZ-level household and job forecasts that were produced by the model, as well as select inputs. Feedback from the communities was incorporated by verifying inputs into the model and making adjustments to the underlying data or the criteria weights as needed, as opposed to making adjustments to the model outputs. After the inputs were adjusted to account for community feedback, the land use model was run a final time. The resulting households and jobs forecasts by Traffic Analysis Zone can be seen in Figure 19 and Figure 20.

Finally, the forecasts of households and employment were used to forecast other variables like population by age, workers, income and wages, and enrollment in schools and group quarters facilities. A detailed description of this process is beyond the scope of this chapter, however additional details are provided in Appendix A.

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN

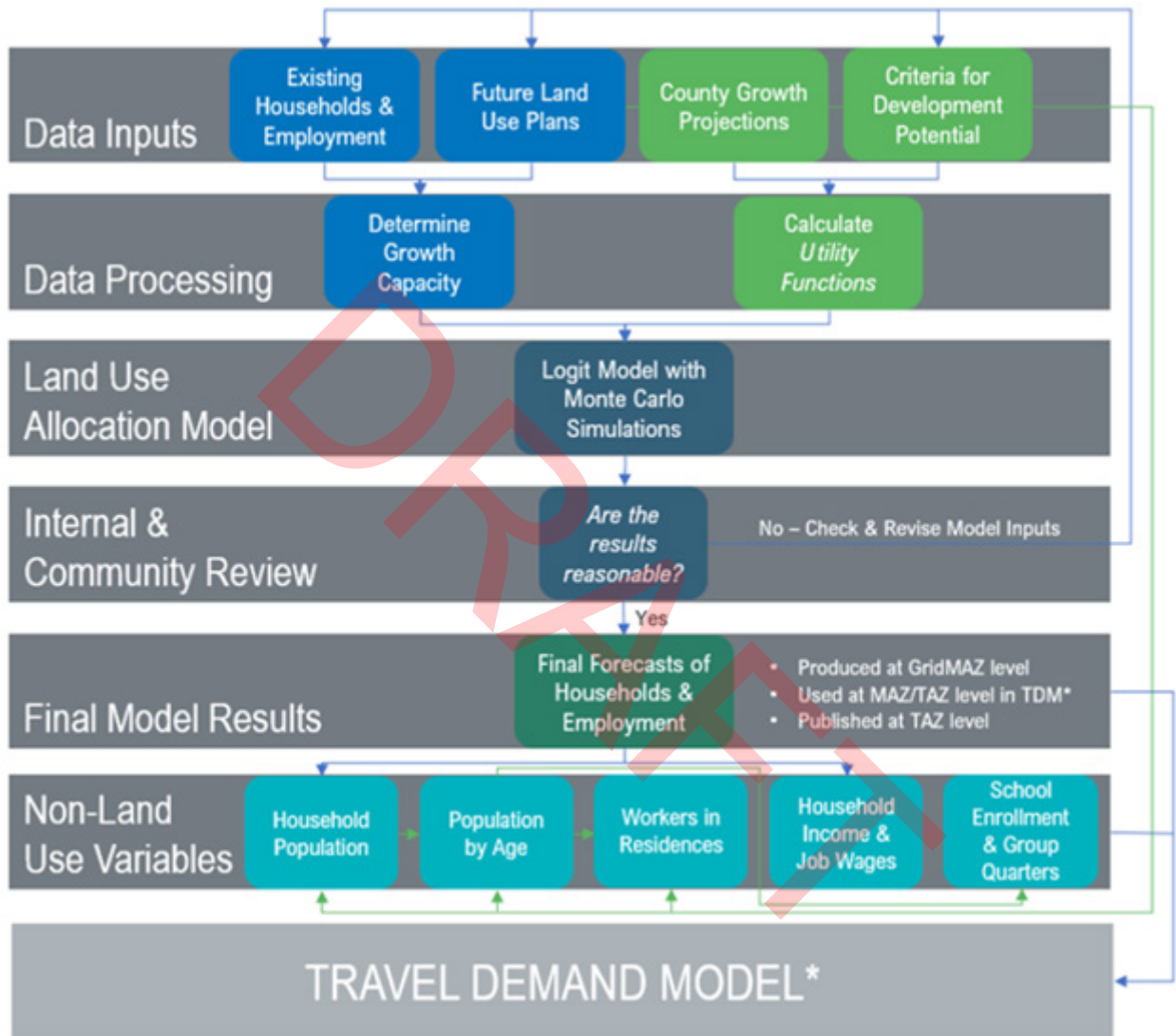
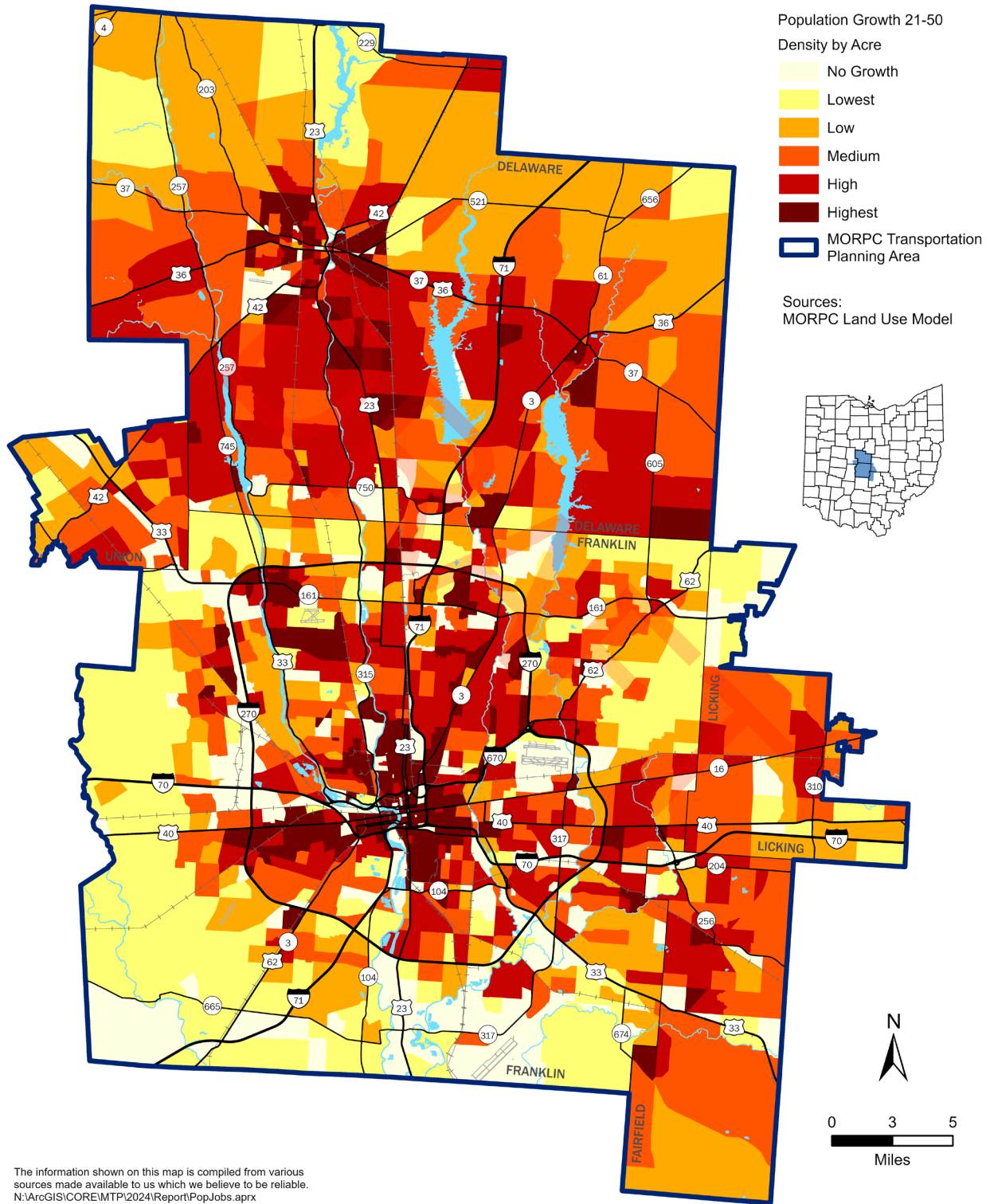


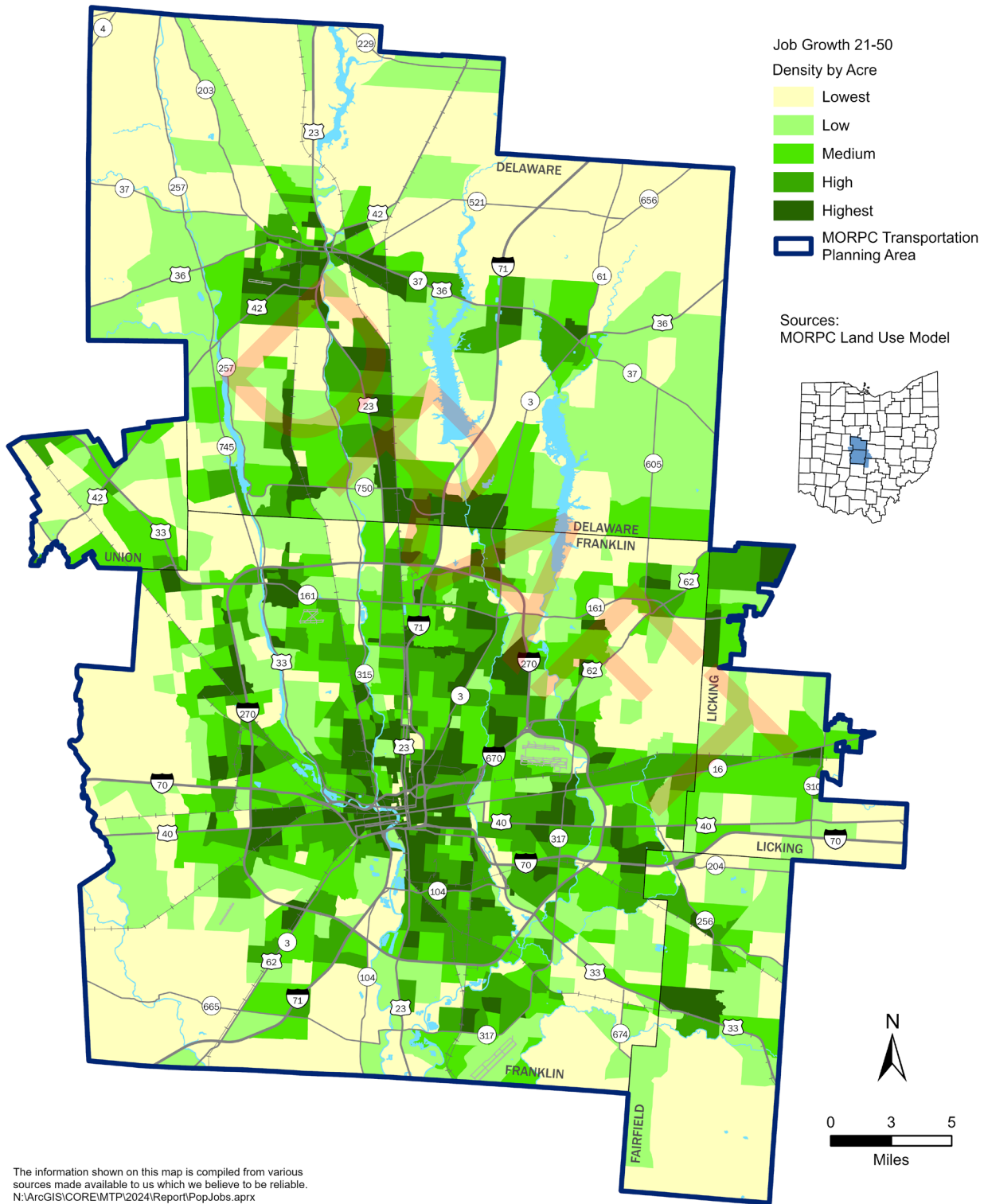
Figure 18: Land Use Allocation Process

Source: MORPC Land Use Model

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN



# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN



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## 2.b Transportation, Society & the Environment

Growth and development are integral to understanding and planning for the transportation needs of the region. Consideration of the social and economic characteristics of residents sits at the nexus of regional patterns of housing, employment, and transportation system development. It is imperative that planning for growth is evaluated through a lens of the diverse races, ages, cultural backgrounds, financial circumstances, and abilities of the residents that comprise the region.

Furthermore, some populations have historically been disproportionately impacted by changes made to the transportation system. As such, all proposed projects are evaluated in the context of Environmental Justice.

According to the US Environmental Protection Agency, Environmental Justice addresses “fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.”

This section is intended to provide an overview of the environmental and social characteristics of the region. Additional detail about the analysis of environmental justice impacts is provided in Appendix C.

### Natural Landscape

Central Ohio benefits from its natural landscape. Parks and open spaces improve the health of people and the environment. Agriculture provides food, fiber, and economic benefits. Rivers and lakes provide recreational and industrial value, and both – as well as aquifers - provide drinking water. All these features provide natural beauty and, of course, plant and animal habitat and ecosystem services. The natural landscape also plays a critical role in mitigating the effects of weather events including flooding, tornadoes, severe thunderstorms and winter storms. As the region continues to grow, it is necessary to balance development with preservation of the natural landscape. Infill and redevelopment strategies can help, as can the implementation of best management practices for storm water runoff and green infrastructure. Management strategies relating to the natural landscape are found in Chapter 4.

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## Socioeconomic Conditions

### Age

As described previously, the age structure of the region's population is a strong determinant of housing needs and preferences. Recent trends show an increase not only in the number of older adults in the region as the Baby Boomer generation ages, but also in the number of younger adults, especially ages 25 – 39 (Figure 21). The increase in the number of younger adults has been strongly driven by migration. To ensure the continuity of the workforce as Baby Boomers retire, it will be critical to attract younger working adults to backfill the vacated roles. Among other things, this will require diverse housing options and abundant lifestyle amenities in the region.

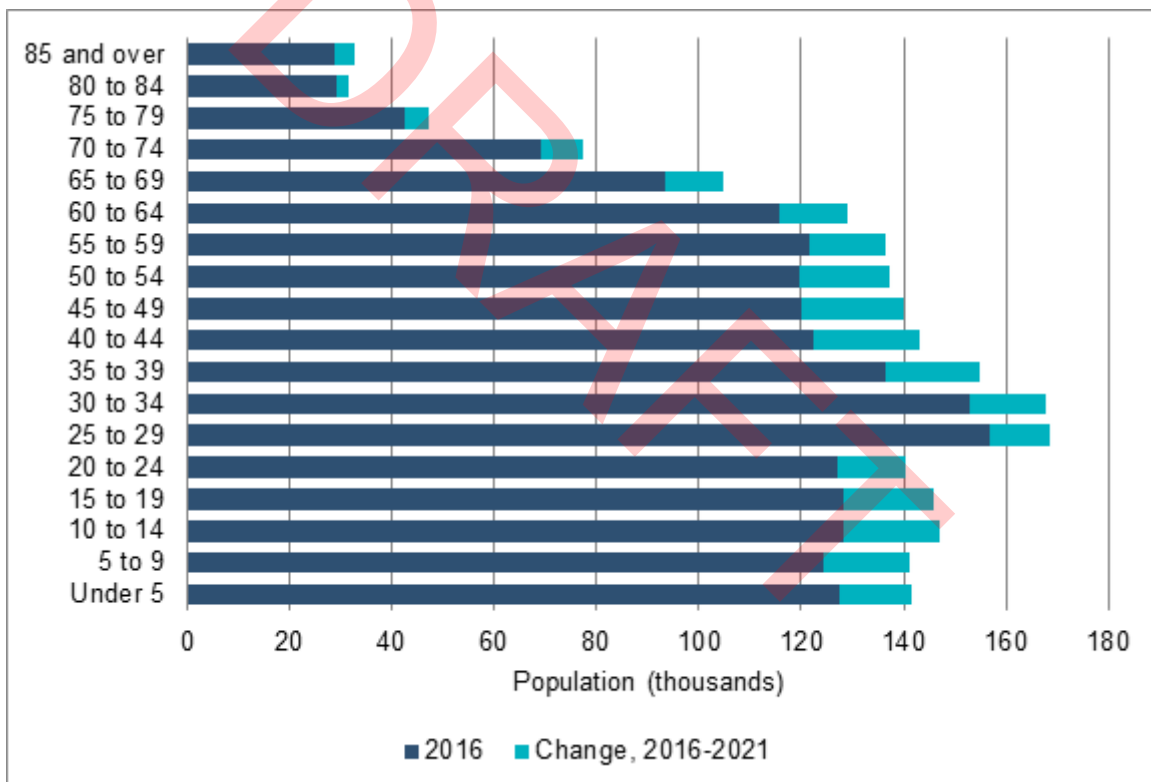


Figure 21: Change in population by age, MORPC 10-County Region, 2016 to 2021

Source: U.S. Census Bureau American Community Survey, 2012-2016 & 2017-2021 5-year Estimates, Table B01001

### Race and Ethnicity

Central Ohio's residents are predominately White (72%), however the region is more racially and ethnically diverse than the State of Ohio (78% White) and the Midwest region as a whole (73% White). Within the 10-county area, 15% of residents are Black or African American, 4% are Asian, and about 4% identify as some other race alone or two or more races.

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN

The U.S. Census regards Hispanic or Latino origin as an ethnicity which is distinct from race. Therefore, a person of any race may identify as Hispanic or Latino, and 4% of the Central Ohio population identify as such (Figure 22). In recent years, the majority of population change in the region was driven by non-White residents (around 80%). This growth represents a combination of natural increase and net migration, in part driven by the significant international migration experienced in Central Ohio over the past decade or so (Figure 2.23).

Much of the region’s non-White population is concentrated in Franklin County, and especially in the City of Columbus; however, there are some distinct geographic areas within the region where certain races or ethnicities are concentrated. In some instances, emerging communities of New Americans (immigrants or refugees) have formed the region’s first new ethnic enclaves in over a century. These communities may face language barriers, embody different cultural norms, and face distinct transportation challenges. In other instances, there are long-standing, mostly Black or African American communities, with historical neighborhood ties that span many generations. These communities bear the marks of decades of segregation, disinvestment, and public policies (e.g., urban renewal, limited services, and interstate construction) that continue to limit opportunities for residents to this day.

There are also clear differences in socioeconomic indicators (such as poverty rates) across race and ethnicities, which will be discussed more in following sections.

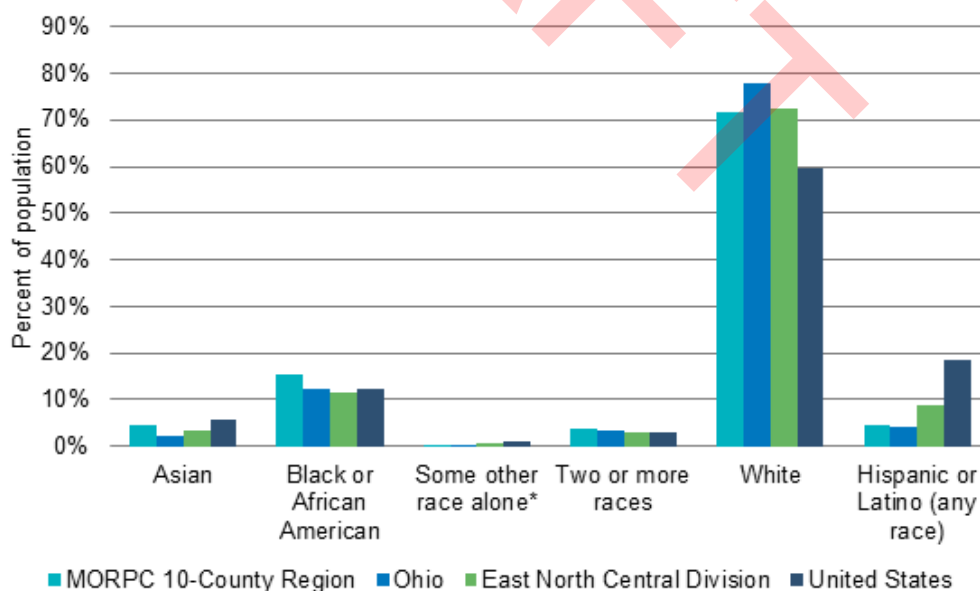


Figure 22: Share of population by race and ethnicity

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B03002

\* Some other race includes people identifying as American Indian / Alaska Native or Native Hawaiian / Other Pacific Islander

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN

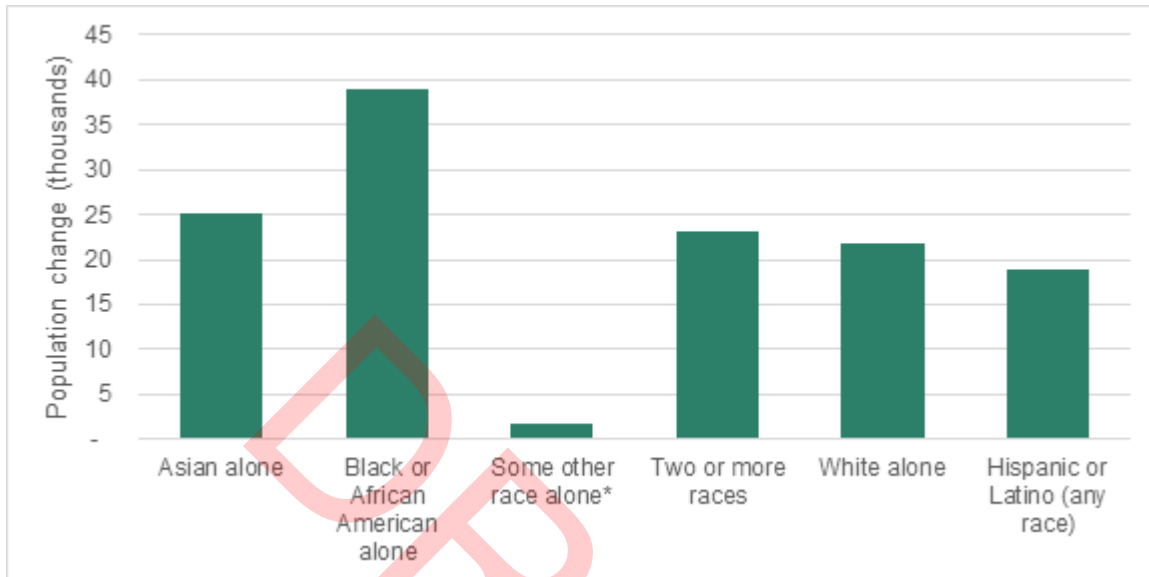


Figure 23: Population change by race and ethnicity, MORPC 10-County Region, 2016 to 2021

Source: U.S. Census Bureau American Community Survey, 2012-2016 & 2017-2021 5-year Estimates, Table B03002

\* Some other race includes people identifying as American Indian / Alaska Native or Native Hawaiian / Other Pacific Islander

## New Americans

Central Ohio is a region with rich international diversity. Between 2010 and 2020, new residents from overseas accounted for 52% of the growth from migration in the 10-county region. Based on the most recent estimates, most foreign-born residents in the region today are from South Central Asia (around 41,000), with India accounting for over 60% of these. The second largest group are residents from Latin America (35,000), followed by residents from Eastern African countries (24,000) (Figure 24).

In recent years, much of the increase of foreign-born residents was from subregions with large refugee communities (especially Bhutanese, Somali, Eritrean, and Ethiopian communities). The greatest change by subregion of origin has been due to immigrants from South Central Asia (nearly 16,000 new Americans), Eastern Africa (around 7,000), and Western Africa (around 5,500) (Figure 25).

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN

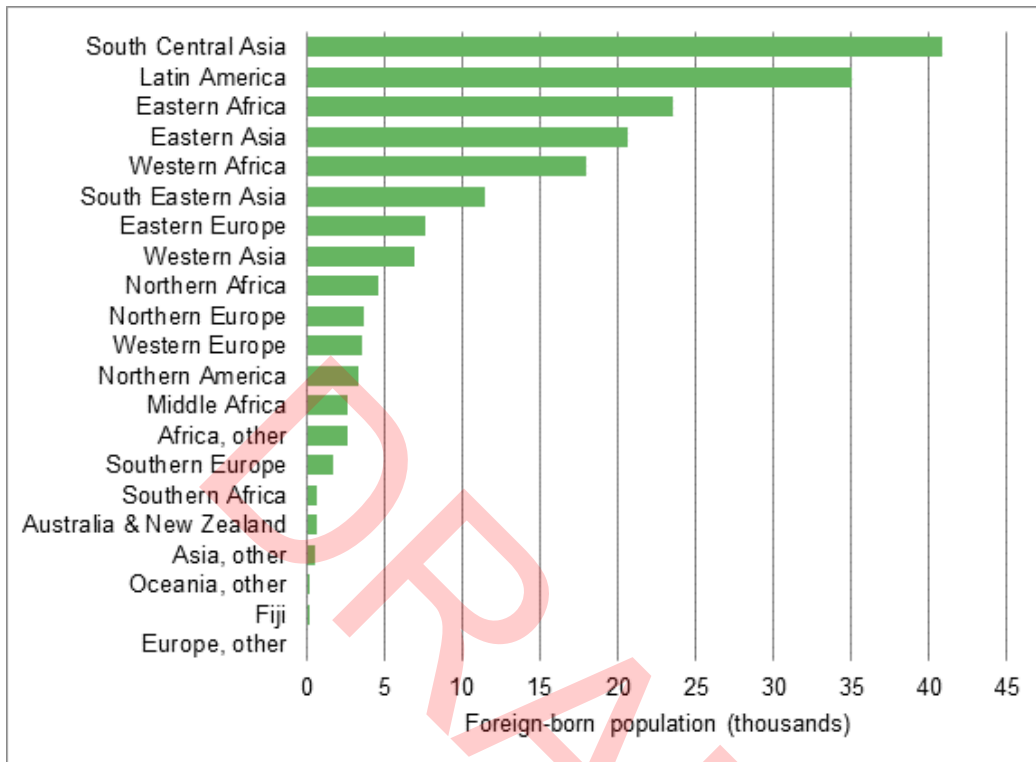


Figure 24: New American population by place of origin, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B05006

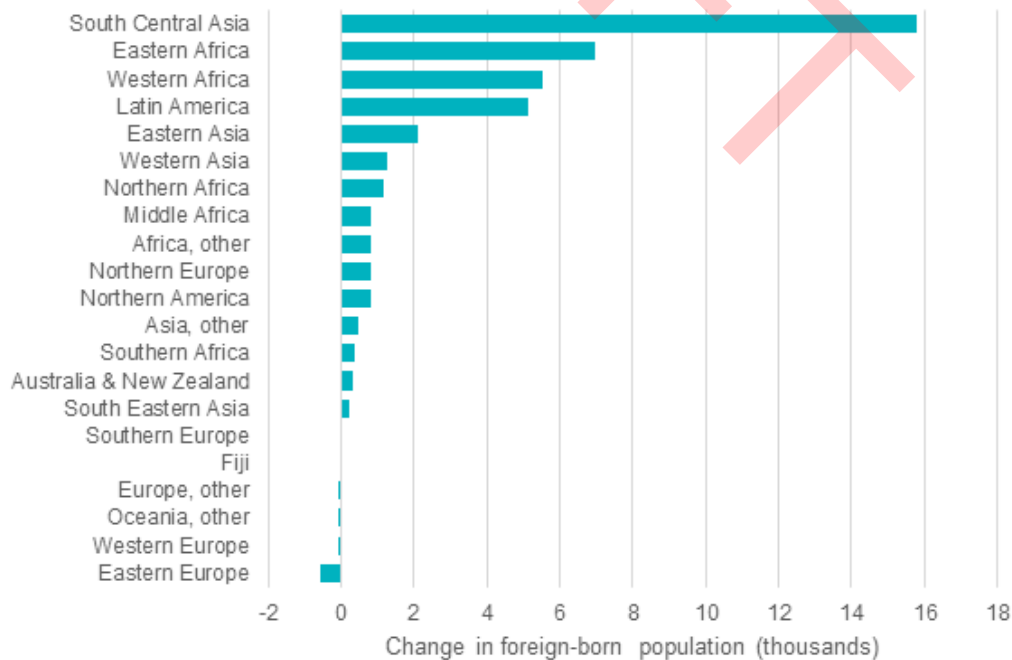


Figure 25: Change in New American population by place of origin, MORPC 10-County Region, 2016 to 2021

Source: U.S. Census Bureau American Community Survey, 2012-2016 & 2017-2021 5-year Estimates, Table B05006

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN

## English Proficiency

Due to the rich international diversity of the region, there is great variety in languages spoken by residents. Recent estimates suggest that 11% of households in the 10-county region speak a language other than English in their homes (Figure 26).

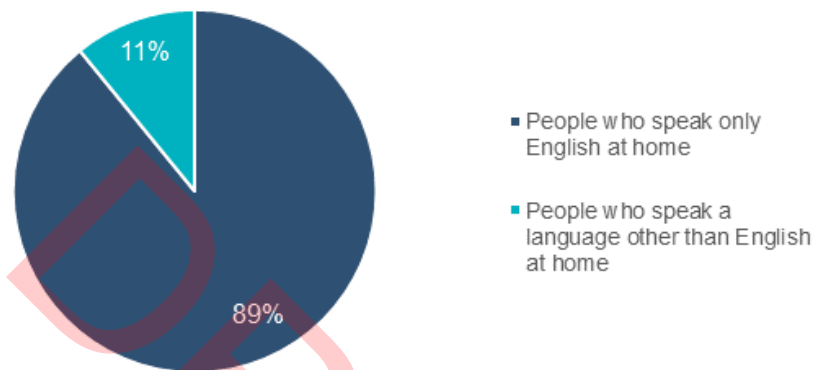


Figure 26: Share of speakers of languages other than English, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B16001

Of the 223,000 foreign-language speakers in the region, most speak Spanish (29%) followed by Chinese (7% including Mandarin and Cantonese)(Figure 27). Over half of the foreign-language speakers fall into grouped categories in the data, and within these categories, there is an incredible amount of diversity in languages and dialects. According to the Columbus City School District, 110 languages are spoken by students within that district.

English language proficiency varies by residents' first language, as shown in Figure 28. Typically, European language speakers are more likely to speak English very well, while many Spanish speakers and Asian and African language speakers are more likely to be less proficient in English.

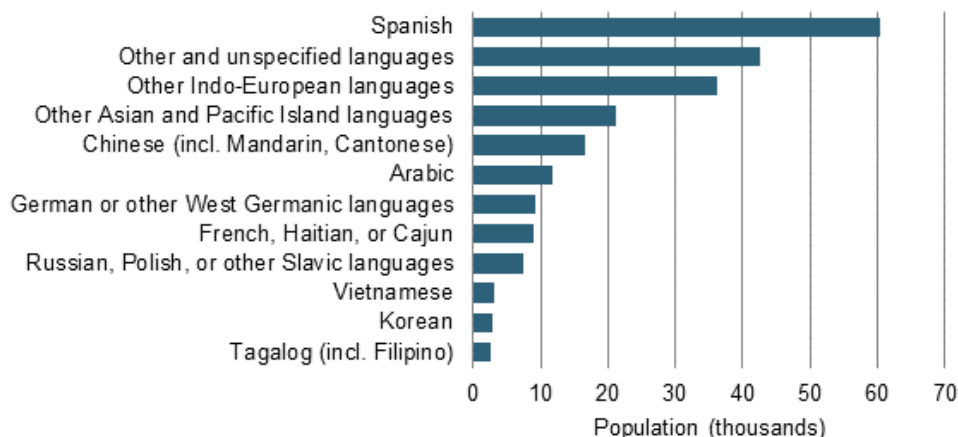


Figure 27: Number of persons speaking a language other than English at home, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table C16001

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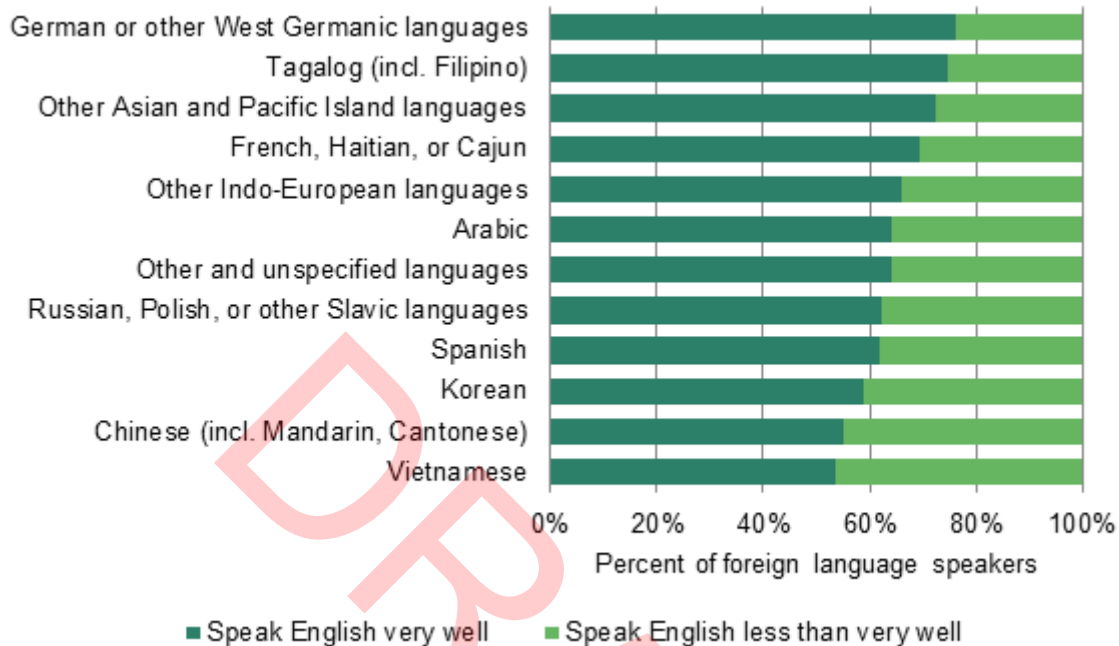


Figure 28: English proficiency rate for persons speaking a language other than English at home, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B16001

## People with Disabilities

The transportation, housing, and employment needs of people with disabilities vary widely depending on the nature of their disability. Within the 10-county region, there are 256,000 people with one or more disabilities, calling attention to a need for universal design considerations in planning efforts (Figure 29).

There are people of all ages with disabilities. Among the population 75 and older, the vast majority of residents have one or more disabilities (91%). Disabilities are less common among younger people, however a significant number of people with a disability (around 98,000) are between 35 and 64 years old. In some instances, these residents may have unique challenges centered around access to employment.

Regardless of age, certain types of disabilities may impose limitations in mobility and independence that are magnified by accessibility limitations in the built environment. In some instances, these environmental barriers to independent mobility can have economic consequences for individuals. In all age categories, people with disabilities are more likely than others in their cohort to live in poverty (Figure 30).

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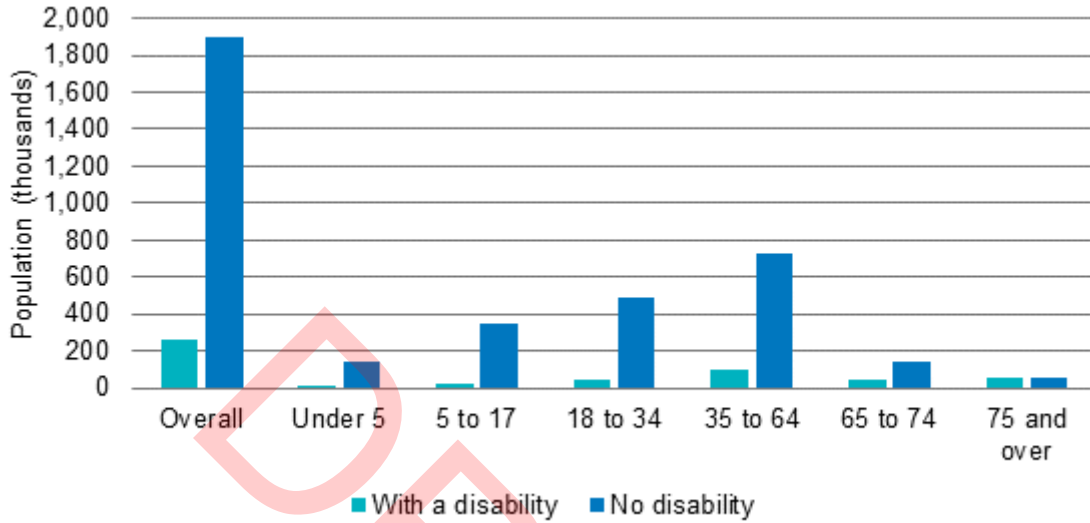


Figure 29: Disability status by age, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B18101

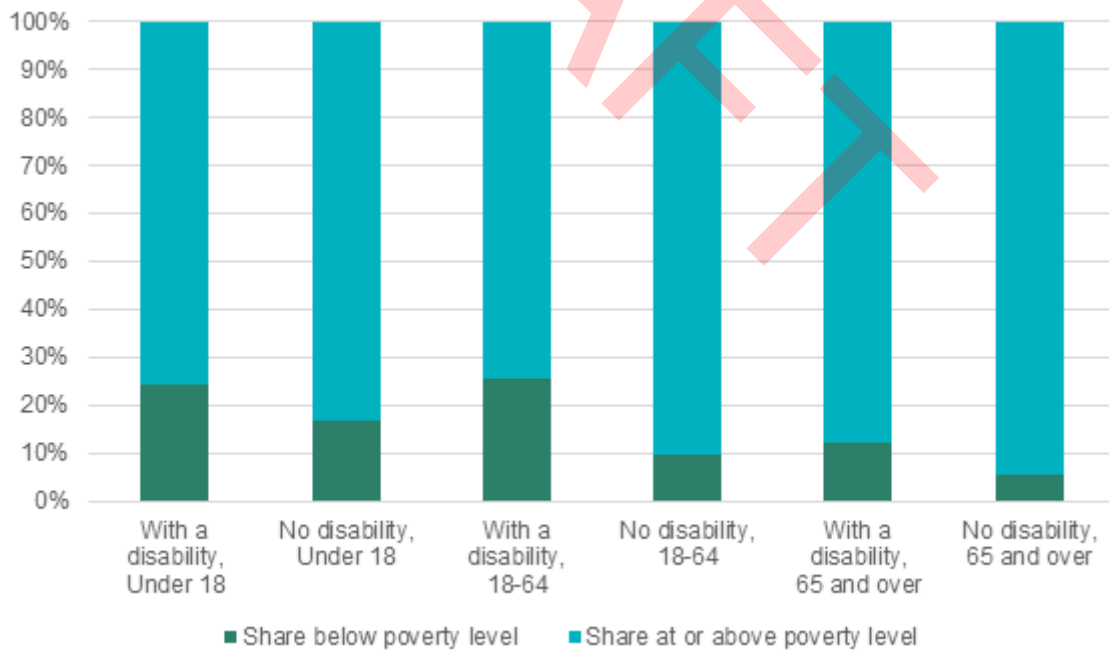


Figure 30: Poverty by age by disability status, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table C18130



# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN

## Household Income

The Columbus Metropolitan Statistical Area is a U.S. Census designated region consisting of Delaware, Fairfield, Franklin, Hocking, Licking, Madison, Morrow, Perry, Pickaway, and Union counties. The MSA was used in place of the 10-county region for income analysis because data was not available for that region. The latest estimates of median household income for the Columbus Metropolitan Statistical Area (MSA) indicate that the region has seen an increase of about \$7,800 in median household income in recent years after adjusting for inflation. This appears to be part of a national trend, however the median household income in the Columbus MSA (\$71K) is greater than the State of Ohio (\$62K), the Midwest region (\$65K), and the United States (\$69K) (Figure 31).

Despite the apparent improvements, there remain clear and persistent disparities in household income. In the Columbus MSA, White and Asian householders continue to have the highest earnings. Hispanic and Latino households only earn about three-quarters as much as White households, however this group experienced a fairly large increase (\$12K), exceeded only by people identifying as two or more races (\$14K increase). People identifying as White or some other (not listed) race experienced an increase of more than \$9K, however the relative impact of this change was greater for people of some other race due to their lower baseline income. Black or African American households continue to have the lowest earnings, making only about half of what White households make. Furthermore, the Black or African American householder group also saw the smallest gains in household income (\$5.7K) (Figure 31).



Figure 31: Median household income; 2021 Index relative to White householders

Source: U.S. Census Bureau American Community Survey, 2012-2016 & 2017-2021 5-year Estimates, Table S1903

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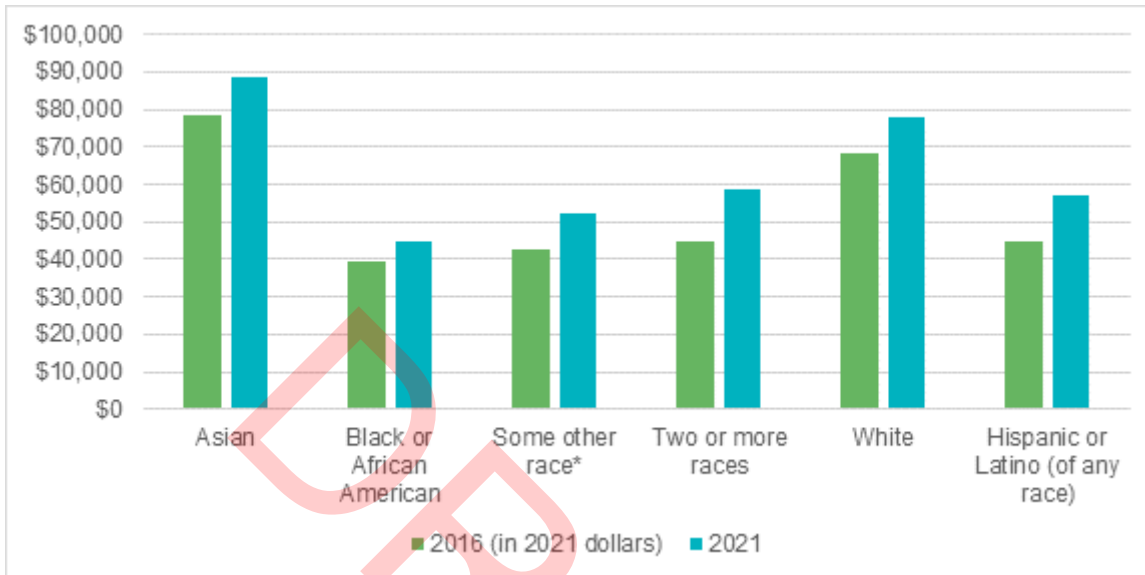


Figure 32: Median household income by race and ethnicity of householder, Columbus MSA

Source: U.S. Census Bureau American Community Survey, 2012-2016 & 2017-2021 5-year Estimates, Table S1903

\* American Indian / Alaska Native and Native Hawaiian / Other Pacific Islander have been omitted due to unavailability of data or high margin of error

## Poverty

In the most recent estimates, the poverty rate in Central Ohio is lower than the State of Ohio, the Midwest region, and the United States. The poverty rate in the 10-county region in the 2017-2021 period (12.3%) was considerably lower than estimates from the 2012-2016 period (14.4%) (Figure 33). More importantly, the total number of people living in poverty has gone down from the 2012-2016 period (287,000) to the 2017-2021 period (261,000). According to a report from the Franklin County Commissioners on poverty challenges<sup>5</sup>, poverty has spread to more areas within Franklin County in recent years, and has shown persistent high concentrations in certain neighborhoods, especially those with predominately Black or African American residents.

When considered by race and ethnicity, there is a lower poverty rate for White residents (9.4%) than for any other race or ethnic group. The poverty rates for Black or African American residents and Hispanic or Latino are over twice as high as White residents (24.4% and 20.9%, respectively). The poverty rates for all races fell between the 2012-2016 period and the 2017-2021 period, with changes ranging from -1.7% (people identifying as White) to -7.1% (people identifying as some other race). The poverty rate for people identifying as Hispanic or Latino fell by 5.3%. (Figure 34).

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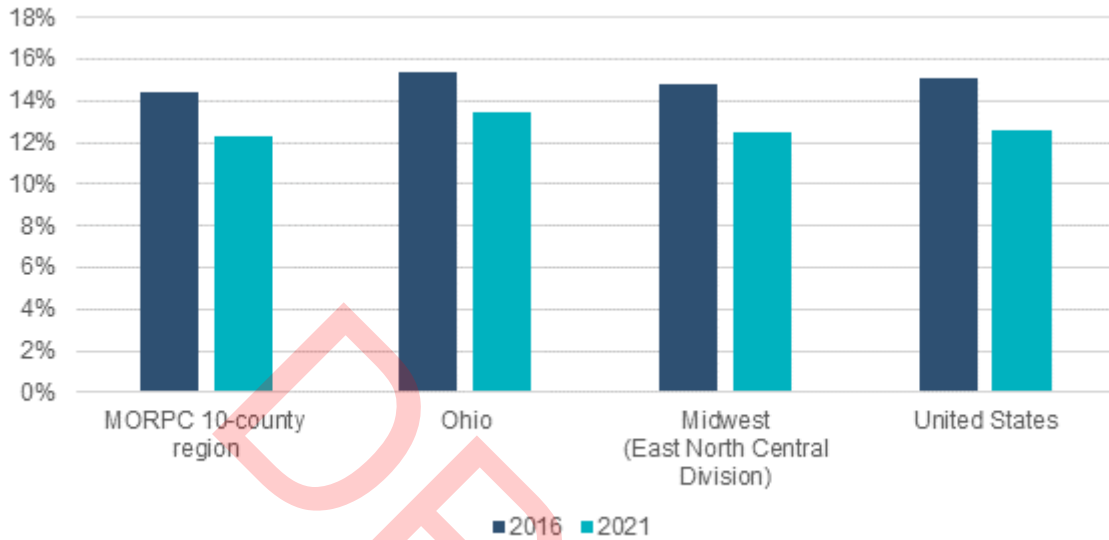


Figure 33: Poverty rate

Source: U.S. Census Bureau American Community Survey, 2012-2016 & 2017-2021 5-year Estimates, Table S1701

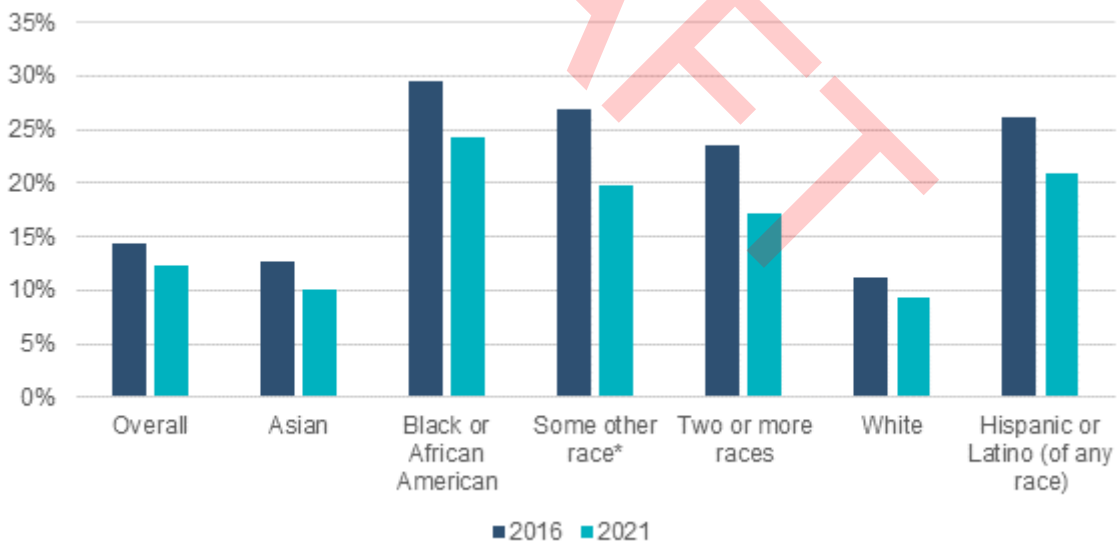


Figure 34: Poverty rate by race and ethnicity, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2012-2016 & 2017-2021 5-year Estimates, Table S1701

\* Some other race includes people identifying as American Indian / Alaska Native or Native Hawaiian / Other Pacific Islander

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## Housing Cost Burden

According to the U.S. Department of Housing and Urban Development (HUD), households are considered 'housing cost burdened' if they are spending more than 30% of their income on housing costs. Households spending too much of their income on housing are often stretched to cover other costs like food, transportation, childcare, or healthcare.

In the 10-county region, more renter households are housing cost burdened (40%), compared with only 18% of owner households. This varies when broken down by different locations or sub-populations. Notably, housing cost burden varies by income. Not surprisingly, households that earn less are more likely to struggle to find housing that costs less than 30% of what they earn. This is most dramatic for the lowest earning households in the region. Nearly 83% of owners and 89% of renters with household incomes less than \$20,000 a year spend more than 30% of their incomes on housing. The majority of all households earning less than \$35,000 a year meet the HUD definition of 'housing cost burdened' (Figure 35).



Figure 35: Share of cost burdened households by income and tenure, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B25106

## Educational Attainment

The Central Ohio region, which is home to 52 college and university campuses (including The Ohio State University), stands out for its high number of residents with post-secondary degrees. Relative to the State of Ohio, the Midwest region, and the U.S., the 10-county region has a high share of residents with a bachelor's degree (24%) and a graduate or professional degree (14%) (Figure 36).

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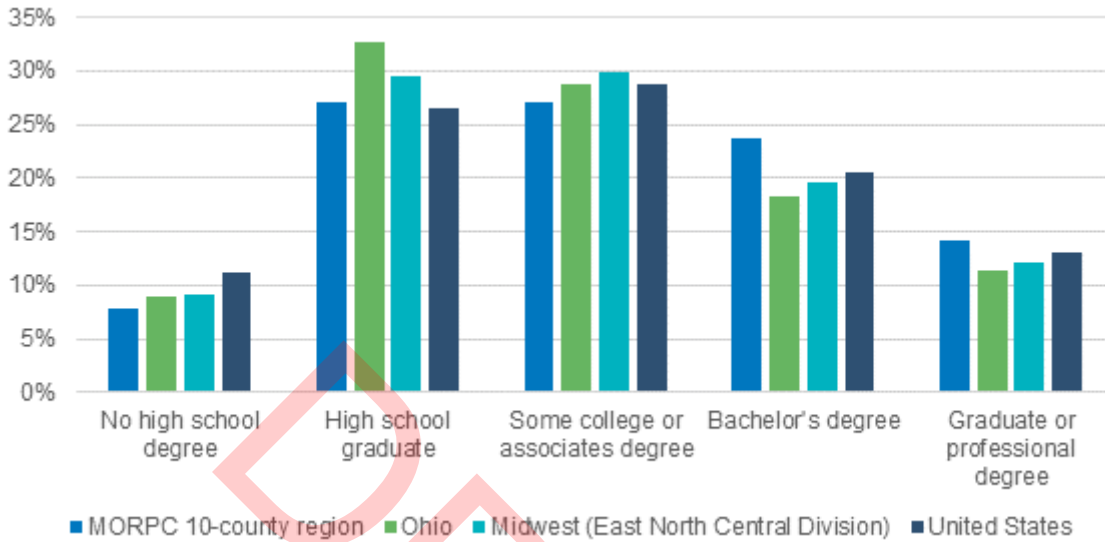


Figure 36: Share of population ages 25 and over by educational attainment

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table B06009

## Labor Force and Employment

The labor force in Central Ohio predominately includes residents from ages 25 to 64. Labor force participation is highest among 25- to 44-year-olds (85%), followed by 45- to 54-year-old residents (83%), then 20- to 24-year-olds (77%), then 55- to 64-year-olds (67%) (Figure 2.37).

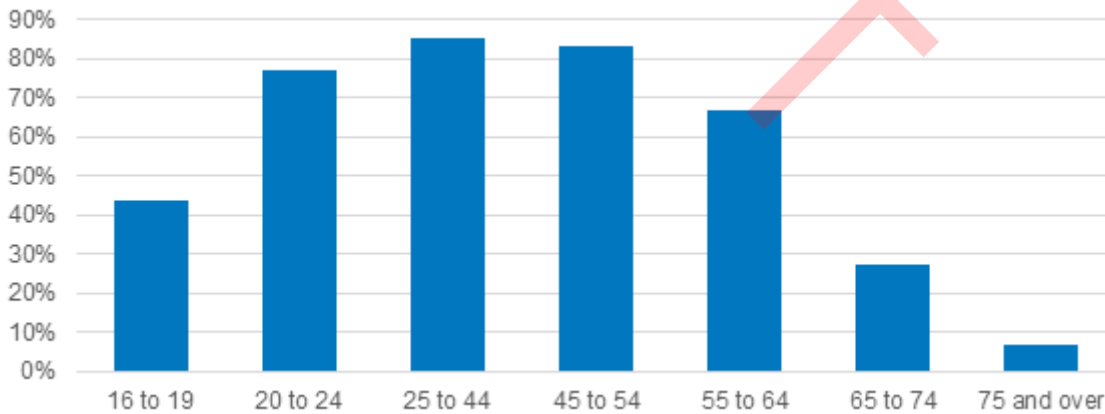


Figure 37: Labor force participation rate by age, MORPC 10-County Region

Source: U.S. Census Bureau American Community Survey, 2017-2021 5-year Estimates, Table S2301

Not all who participate in the labor force are employed. Based on estimates from the American Community Survey, 4.3% of the labor force in the 10-county region was unemployed. As with poverty rates, unemployment varies widely by race and ethnicity. 3.5% of White labor force participants are unemployed, whereas 8.1% of Black or African American labor force participants are unemployed. There are also higher unemployment rates for people identifying as some other (not listed) race or as two or more races. People who identify as Hispanic or Latino (regardless of race) experience a 4.7% unemployment rate. Asian residents on the job market fare almost as well as White residents, with a 3.8% unemployment rate (Figure 38).

## 2.c Travel Patterns

This section covers regional trends in travel patterns through 2050, corresponding to the forecasted land use changes discussed in the previous sections. Because distance separates where one lives, works, shops, and learns, daily life requires travel. One's travel behaviors depend upon many factors including the locations of daily activities, socioeconomic status, the transportation systems available, and other constraints.

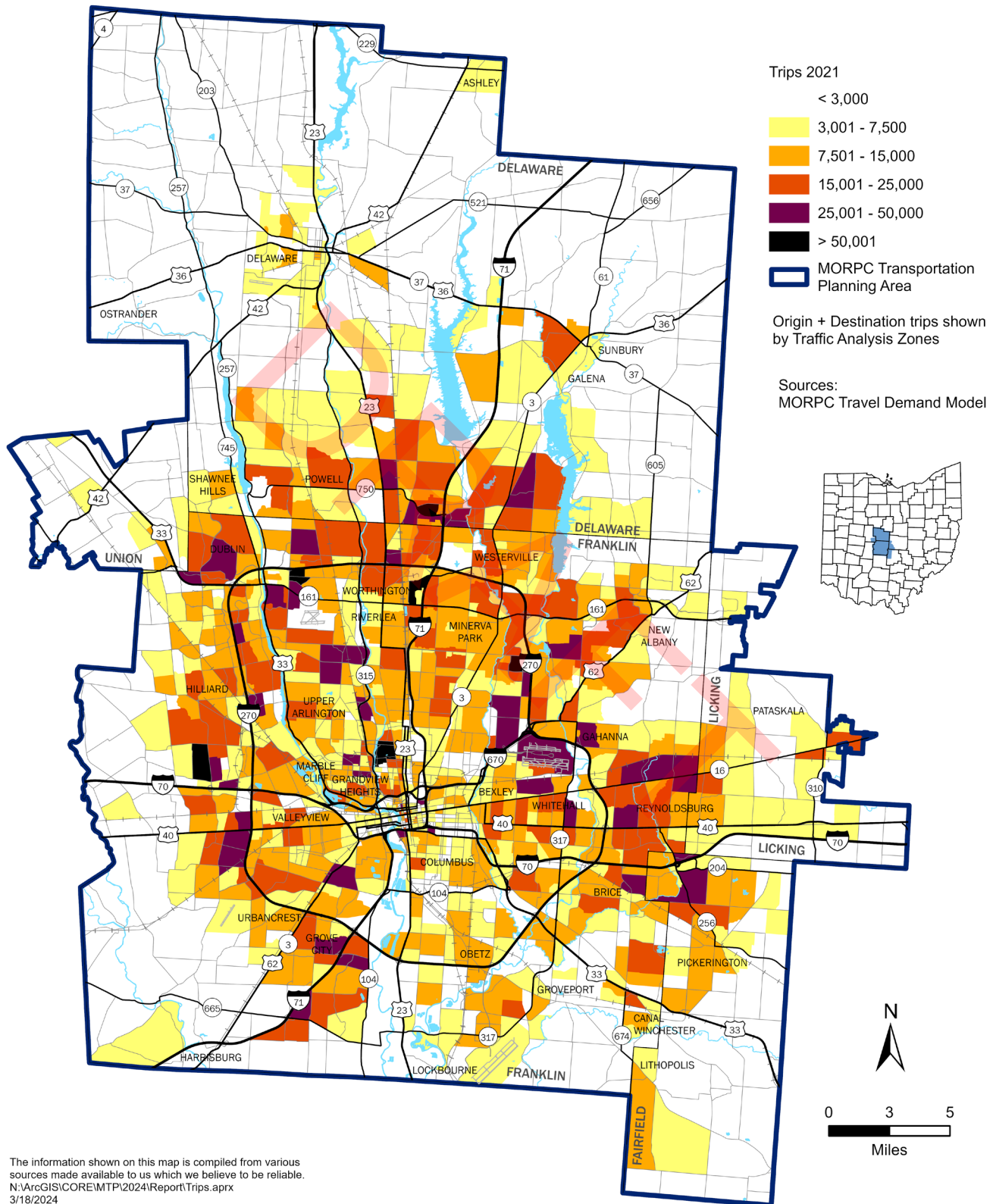
### Trip End Distributions

Where one travels depends upon where one lives, works, shops, eats, etc. A variety of measures can be used to determine where people are likely to travel, including the locations of population, households, and jobs. The only direct way to identify where people travel is to observe their actual trips. Due to scalability and privacy considerations, it is impractical to observe a large enough set of trips to accurately characterize regional travel, therefore it is necessary to simulate likely travel behavior using a model.

MORPC's Travel Demand Model is currently the best tool to translate the forecasted changes in population, households, jobs, and density into the change in person trips for the MPO planning area. Inputs to the Travel Demand Model include land use information, broken down into small geographic areas called "traffic analysis zones" (TAZs), and information about the transportation system.

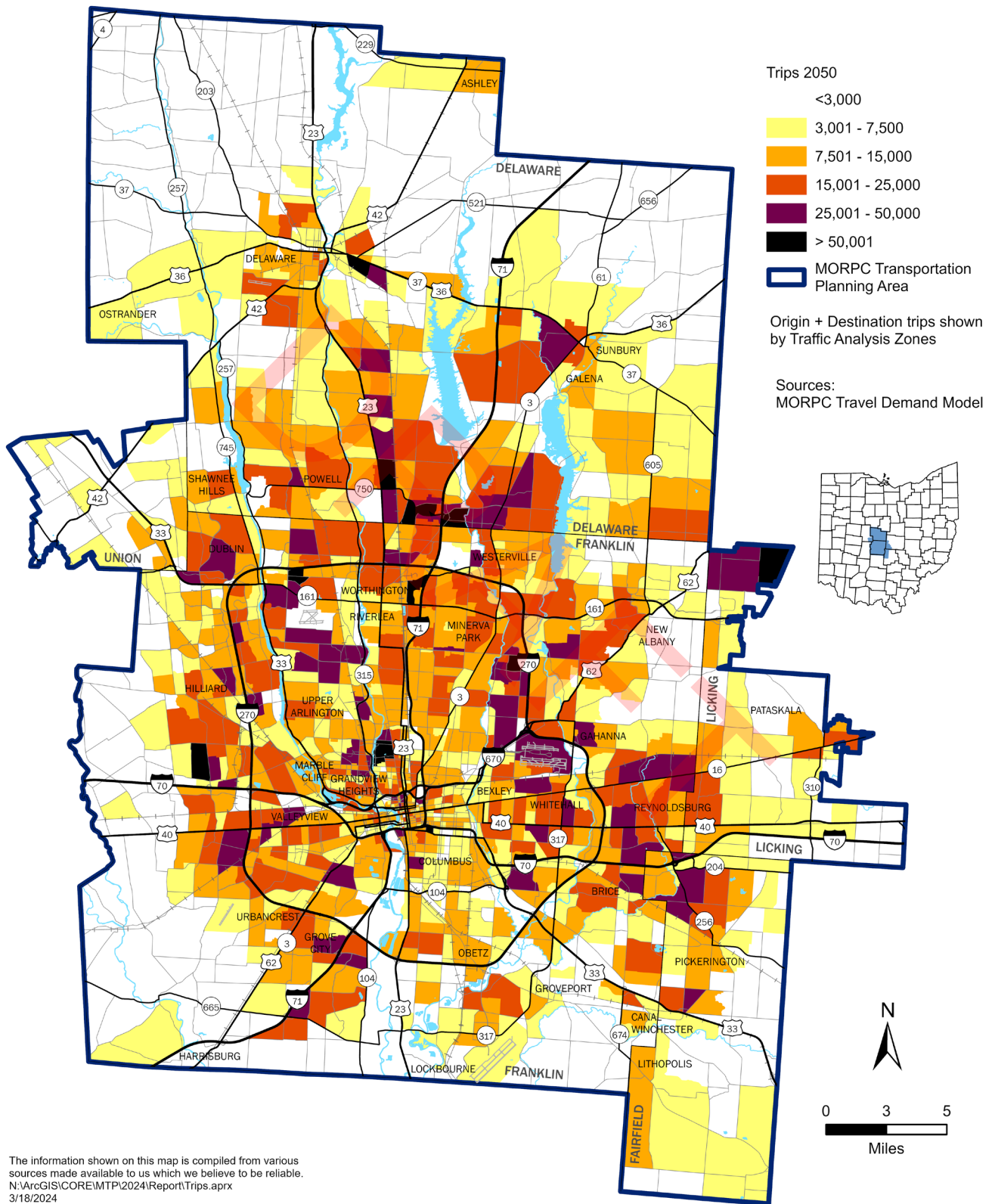
The model was used to estimate the numbers of 2021 and 2050 vehicle trips throughout the region. Every trip has two ends—origin and destination. The model-estimated trip ends (including both origins and destinations) were summed by TAZ across the region. The results of these summations are shown as maps in Figure 39 and Figure 40. As the maps show, vehicle travel will continue to increase in existing high travel corridors and areas, while also expanding some outside the I-270 outerbelt. This will have an impact on average trip length.

# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN



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# 2024-2050 COLUMBUS AREA METROPOLITAN TRANSPORTATION PLAN





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## Average Trip Lengths

Trip length is a good indicator of travel patterns for a region. One's trip length varies based on the transportation system, the spatial structure of the urban area, and one's socioeconomic characteristics. Estimates of average trip lengths and travel time for the MPO planning area are based on the results of the Travel Demand Model. Table 1 shows the regional changes in average trip lengths from 2021-2050. Average trip lengths decrease slightly from 2021 to 2050. This is likely due to the more compact development expected to occur by 2050. The table also shows the regional changes in average trip travel time from 2021 to 2050. From 2021 to 2050, average trip travel time will increase about 7 percent. This assumes no roadway expansion or other transportation system improvements as described in the MTP, and that travel behavior remains the same as today.

	2021	2050*
Average Trip Length (miles)	6.48	6.35
Average Trip Travel Time (minutes)	10.59	11.32

*Table 1: Average trip lengths, 2021 and 2050*

*Source: MORPC Travel Demand Model*

*\* Projections for 2050 assume no transportation system improvements are implemented as described in the MTP.*