

Analysis of Workforce Housing in the State of Ohio

Prepared for Ohio REALTORS

February 2023

Final Report

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Executive Summary

Established in 1910, Ohio REALTORS is the largest professional trade organization in the State of Ohio with more than 36,000 real estate professionals (REALTORS). Through advocacy, engagement and leadership, Ohio REALTORS protects private property rights and advances the real estate industry in the State of Ohio. This analysis examines the supply and demand of workforce housing between 2015 and 2021 in the State of Ohio as well as in JobsOhio Regions.¹ Workforce housing is defined as housing affordable to households with income between 60.0 and 120.0 percent of the area median income (AMI). For the purposes of this analysis, the area median income refers to the median income of each respective county in the State of Ohio.

The supply of workforce housing is described using historical residential property transactions as well as permits issued for new construction of privately-owned, single-family homes. To provide additional context, characteristics of the existing housing stock as well as demographic and socioeconomic characteristics in the State of Ohio are explored. Economic indicators are detailed to further contextualize workforce housing in the State of Ohio. The roundtable discussions the Economics Center held with stakeholders across the State of Ohio are summarized in addition to possible solutions. This research is intended to inform the development and implementation of a comprehensive workforce housing strategy for the State of Ohio to assist in its long-term growth.

Demographic and Socioeconomic Characteristics

- The total population in the State of Ohio increased from 11.56 million in 2015 to 11.68 million in 2020, or by 99,298 individuals. This represents an annual increase of 0.2 percent.
- The number of households in the State of Ohio increased from approximately 4.59 million in 2015 to 4.72 million in 2020. This represents an increase of 132,142 households, or an annual growth rate of 0.6 percent. Furthermore, the average household size in the State of Ohio decreased from 2.46 individuals in 2015 to 2.41 individuals in 2020.
- The labor force participation rate in the State of Ohio decreased by 0.3 percentage points from 63.4 percent in 2015 to 63.1 percent in 2020. However, the unemployment rate in the State of Ohio dropped from 8.2 percent in 2015 and 5.3 percent in 2020, representing a 2.9 percentage point decline.
- There were 5.53 million jobs in the State of Ohio during 2015 and 5.50 million jobs during 2021. This represents a loss of 33,143 jobs between 2015 and 2021. The total jobs in Ohio increased each year between 2015 and 2019 followed by a loss of 325,237 jobs during 2020 and a recovery of 122,884 jobs during 2021. This means that jobs were recovering during 2021 but remained below levels prior to the onset of the COVID-19 pandemic. After adjusting for inflation, the average annual earnings per job in the State of Ohio were \$67,295 in 2015 and increased to \$70,472 in 2021. This means that average annual earnings in the State of Ohio had a real increase of \$3,177 between 2015 and 2021 and equates to an annual growth rate of 0.8 percent.
- The only industries experiencing a positive growth in jobs between 2015 and 2021 were the transportation and warehousing industry (55,665), the construction industry (24,216), the finance and insurance industry (21,978), the professional, scientific, and technical services industry (20,190), the health care and social assistance industry (4,152), the real estate and rental and leasing industry (2,030), and the unclassified industry (5).

¹ Please refer to the specific reports produced for each JobsOhio Region.

- By 2031, the State of Ohio is forecasted to have 5.65 million jobs. This represents a gain of 147,492 jobs between 2021 and 2031 and equates to an annual growth rate of 0.3 percent.
- The industries forecasted to experience the largest nominal growth in jobs between 2021 and 2031 are the health care and social assistance industry (53,011), the accommodation and food services industry (51,660), the arts, entertainment, and recreation industry (27,674), the transportation and warehousing industry (22,695), and the other services industry (18,741). These industries had average annual earnings in 2021 of \$67,977 for the health care and social assistance industry, \$23,963 for the accommodation and food services industry, \$47,792 for the arts, entertainment, and recreation industry, \$68,379 for the transportation and warehousing industry, and \$38,059 for the other services industry. The accommodation and food services industry and the other services industry had the lowest average annual earnings of all industries statewide in 2021.

Economic Indicators

- Nationally, the annual growth in wages and salaries has outpaced overall inflation, on average, between 2002 and 2021. However, inflation outpaced the growth in wages and salaries in 2021. Specifically, the Employment Cost Index increased by 3.3 percent from 2020 to 2021, whereas the Consumer Price Index for all items increased by 4.7 percent.
- The annual growth in national rent prices has outpaced the annual growth in both overall inflation and wages and salaries for every year since 2012 with the exception of 2021. In 2021, national rent prices increased by 2.2 percent compared to growth of 4.7 percent in overall inflation and growth of 3.3 percent in wages and salaries.
- The annual growth in home prices across the United States and the State of Ohio have increased at a higher rate than overall inflation as well as wages and salaries since 2013 and 2014, respectively. Home prices, nationally, increased by 13.7 percent between 2020 and 2021, whereas home prices in the State of Ohio increased by 12.6 percent between 2020 and 2021. This represents the highest annual growth both nationally and in the State of Ohio since 2001 and exceeds the annual growth experienced prior to the Great Recession.
- According to the Housing Opportunity Index² released by the National Association of Home Builders (NAHB) and Wells Fargo, the major metropolitan areas in the State of Ohio had a higher share of affordable homes sold since 2012 compared to the United States. Overall, the Youngstown MSA had the highest share of affordable homes sold, whereas the Columbus MSA had the lowest share of affordable homes sold.
- The United States as well as the major metropolitan areas in the State of Ohio experienced a sharp decline in the Housing Opportunity Index between the first and second quarters of 2022. The Housing Opportunity Index for the United States declined from 56.9 during the first quarter of 2022 to 42.8 during the second quarter of 2022, representing a 14.1-point drop in the index value. This means that less than half (42.8%) of homes sold across the United States in the second quarter of 2022 were affordable to a family earning the local median income. In the State of Ohio, the Columbus MSA had the highest decline in the index value between the first and second quarters of 2022. The index value for the Columbus MSA declined from 72.0 in the first quarter of 2022 to 55.7 in the second quarter of 2022. This represents a 16.3-point drop in

² The Housing Opportunity Index measures “the share of homes sold in that area that would have been affordable to a family earning the local median income, based on standard mortgage underwriting criteria.” An index value of 100 means that all homes sold in the area were affordable to a family earning the local median income.

the index value for the Columbus MSA, which is higher than the decline experienced nationally. During the second quarter of 2022, approximately half (55.7%) of homes sold were affordable to a family earning the local median income.

- The price-to-income ratio represents the relationship between the home price a household can afford given its annual household income. In the State of Ohio, price-to-income ratios were the highest between 2003 and 2006 as well as in 2021 and lowest between 2008 and 2012. The price-to-income ratio in the State of Ohio averaged 2.26 between 2001 and 2021. In 2021, the price-to-income ratio was estimated at 2.54, which is the highest value since 2006.

Housing Characteristics

- The State of Ohio had a total of 5.14 million housing units in 2015 and 5.22 million housing units in 2020. This represents an increase of 76,188 housing units, or an annual growth rate of 0.3 percent.
- The vacancy rate dropped from 10.8 percent in 2015 to 9.6 percent in 2020.
- Of occupied housing units, approximately two-thirds (66.3%) were owner-occupied in both 2015 and 2020. Therefore, renter-occupied units represented 33.7 percent of occupied housing units in both 2015 and 2020.
- In both 2015 and 2020, more than two-thirds of housing units in the State of Ohio were detached single-family homes.
- Of housing units in the State of Ohio during 2020, approximately 11.0 percent were built between 2000 and 2013 and 2.0 percent were built in 2014 or later.
- Householders under the age of 35 years were 1.7 times more likely to rent their housing unit than own it. However, householders between the ages of 35 and 44 years were 1.7 times more likely to own their housing unit than rent. Additionally, householders aged 45 years and older were between 2.5 and 4.2 times more likely to own their housing unit than rent it.
- White householders were 2.6 times more likely to own their housing unit than rent it, whereas, Black/African American householders were 1.8 times more likely to rent their housing unit than own it.
- The median household income of owner- and renter-occupied housing units in the State of Ohio was \$76,309 and \$35,590 in 2020, respectively, after adjusting for inflation. This means that owner-occupied housing units had median household income that was more than \$40,000 higher than the median household income of renter-occupied housing units in 2020.
- The median monthly housing costs of owner- and renter-occupied housing units in the State of Ohio were \$997 and \$844 in 2020, respectively, after adjusting for inflation. Owner-occupied housing units spent approximately 15.7 percent of their income on housing costs in 2020, whereas renter-occupied housing units spent approximately 28.4 percent of their income on housing costs in 2020. This means the renter-occupied housing units in the State of Ohio spent nearly twice as much of their income on housing costs compared to owner-occupied housing units during 2020.

Residential Property Transactions

- The number of residential property transactions throughout the State of Ohio increased from 161,201 in 2015 to 240,335 in 2021. This represents a 6.9 percent annual increase in residential property transactions in the State of Ohio. A total of nearly 1.4 million residential property transactions occurred in the State of Ohio between 2015 and 2021.
- Expressed in nominal dollars, the median sale price of residential property transactions in the State of Ohio was \$117,000 in 2015 and \$174,900 in 2021. This represents a nominal growth in median sale price of \$57,900. After adjusting for inflation, the median sale price of residential property transactions was \$168,980 in 2015 and \$174,900 in 2021. This represents a real increase of \$5,920.
- In the State of Ohio, residential property transactions affordable to households with income between 60.0 and 120.0 percent of AMI increased from 41,556 in 2015 to 82,477 in 2021. This represents an annual growth rate of 12.1 percent. Residential property transactions affordable to households with income between 60.0 and 120.0 percent of AMI comprised 25.8 percent of transactions in 2015 and 34.3 percent of transactions in 2021. This means the share of workforce housing transactions increased by 8.5 percentage points between 2015 and 2021.
- The real growth between 2015 and 2021 in the median sale price of residential property transactions affordable to households with income between 60.0 and 120.0 percent of AMI ranged from \$24,507 in the 60.0 to 79.9 percent of AMI income range to \$32,457 in the 80.0 to 99.9 percent of AMI income range. This means that residential property transactions in the workforce housing income range experienced real growth that was between 4.1 and 5.5 times as high as all residential property transactions across the State of Ohio between 2015 and 2021.

New Construction Permits

- Across the State of Ohio, permits issued for new construction of single-family homes increased from 13,529 permits in 2015 to 20,506 permits in 2021. Permits issued for new construction of single-family homes increased at an annual rate of 7.2 percent between 2015 and 2021. A total of 116,168 permits were issued for new construction of single-family homes in the State of Ohio between 2015 and 2021.
- Expressed in nominal dollars, the average value of permits issued for new construction of single-family homes increased from \$247,488 in 2015 to \$308,468 in 2021. This represents a nominal increase of \$60,980. After adjusting for inflation, permits issued for new construction of single-family homes had an average value of \$357,440 in 2015 and \$308,468 in 2021. This represents a real decrease of \$48,972.
- In the State of Ohio, permits issued for new construction of single-family homes that were affordable to households with between 60.0 and 120.0 percent of AMI increased from 569 permits in 2015 to 5,146 permits in 2021. This represents an annual growth rate of 44.3 percent. Permits issued for workforce housing comprised 4.2 percent of all permits issued in 2015 and 25.1 percent of all permits issued in 2021. Therefore, the share of workforce housing permits issued increased by 20.9 percentage points from 2015 to 2021.
- Between 2015 and 2021, the real growth in the average value of permits issued for new construction of single-family homes ranged from \$4,205 for permits affordable to households with income between 100.0 and 120.0 percent of AMI to \$201,738 for permits affordable to

households with income between 60.0 and 79.9 percent of AMI.³ This indicates that permits issued for new construction of single-family homes in the workforce housing income range experienced an increase in average value between 2015 and 2021 despite a decrease in average value among all permits issued.

Commuting Characteristics

- In the State of Ohio, approximately 91.4 percent of workers in 2015 and 89.1 percent of workers in 2020 commuted to work via a car, truck, or van. Despite an increasing number of workers who commuted to work via a car, truck, or van, the share of workers decreased by 2.3 percentage points between 2015 and 2020.
- In 2020, 28.5 percent of workers traveled less than 15 minutes to work, 68.9 percent traveled between 15 and 29 minutes to work, and the remaining 31.1 percent traveled 30 minutes or more to work. On average, workers in the State of Ohio who commuted to work traveled 24 minutes in 2020.
- The State of Ohio had 2,871 more resident workers than jobs in 2021, indicating that these workers leave the State of Ohio to work elsewhere.
- The State of Ohio is estimated to gain an additional 30,147 workforce housing jobs⁴ between 2021 and 2031. However, only 5,146 permits for new construction of single-family homes were issued in 2021. This indicates the potential future supply of workforce housing will not keep pace with the additional workforce housing jobs added in the State of Ohio between 2021 and 2031.

Roundtable Discussions

- The Economics Center held several roundtable discussions with local real estate experts to obtain information on housing opportunities and challenges that require local knowledge. These roundtable discussions provide a more complete understanding of local housing markets within communities and regions across the State of Ohio. There were many consistent themes across the State of Ohio including:
 - Housing is less affordable today than it was 10 years ago, and the limited inventory has only pushed prices even higher.
 - Institutional investors are outbidding homebuyers, which is pushing prices up and pushing out potential homeowners.
 - There are many underutilized and vacant buildings that could be repurposed for single and/or multi-family housing.
 - The down payment is often the biggest barrier to homeownership, especially for households with income between 60.0 and 120.0 percent of the area median income.

³ There were only seven permits issued in 2015 that were affordable to households with income between 60.0 and 79.9 percent of AMI. This indicates that the real growth experienced between 2015 and 2021 is likely skewed due to the small sample size in 2015.

⁴ Workforce housing jobs refer to jobs with average annual earnings between 60.0 and 120.0 percent of the average annual earnings across all jobs.

- U.S. Federal Housing Administration (FHA) requirements may present barriers for some potential buyers, particularly with the home inspection process of the length of time to close on the sale.
- Zoning laws in many communities make it difficult, if not impossible, to develop diversity in housing options.
- Housing options are not available to older residents who want to downsize but stay in the same community.
- Developers face challenges to building new workforce housing including zoning regulations and increasing costs of construction materials.
- The types of jobs that support income growth are often not being added to the economy.

Case Studies

- Restrictive land use regulations and regulatory constraints are barriers to the construction of new housing. Eased zoning restrictions that allow for density bonuses and reduced frontage, setbacks, greenspace, parking, and/or driveway requirements as well as expedited permitting and approval processes, established maximum or minimum lot sizes in sewer service areas, and requirements that allow accessory dwelling units (ADUs) are strategies to facilitate the construction of new housing.⁵
- Collaboration among community development financial institutions can result in innovative opportunities to provide and enhance housing for low- and moderate-income individuals such as social investment funds that provide private capital to nonprofit community development groups or land trusts that acquire and lease properties to low-income individuals.⁶
- Employer-assisted housing programs can be demand or supply driven. Demand driven programs include down payment assistance, closing cost assistance, rent subsidies, secondary (gap) financing, moving cost assistance, and homebuyer education. Supply driven programs include cash contributions, land donation, construction financing, and low-income housing tax credit investment. Additionally, a variety of financing options are available to employers and their development partners such as Low-Income Housing Tax Credits, tax-exempt bond financing, low-interest loans, and grant funding.⁷
- Strategies to diversify the housing stock include utilizing tax incentives, such as sales tax exemption of construction materials, to reduce workforce housing costs, establishing workforce housing tax increment financing districts, requiring municipalities to have at least one zoning district that allows multifamily housing construction, and providing financing for workforce housing in rural areas.⁸

⁵ (Fougere & White, 2021); (Paulsen 2019)

⁶ (von Hoffman & Arck, 2019)

⁷ (New Hampshire Housing, 2021)

⁸ (Paulsen, 2019)

Summary

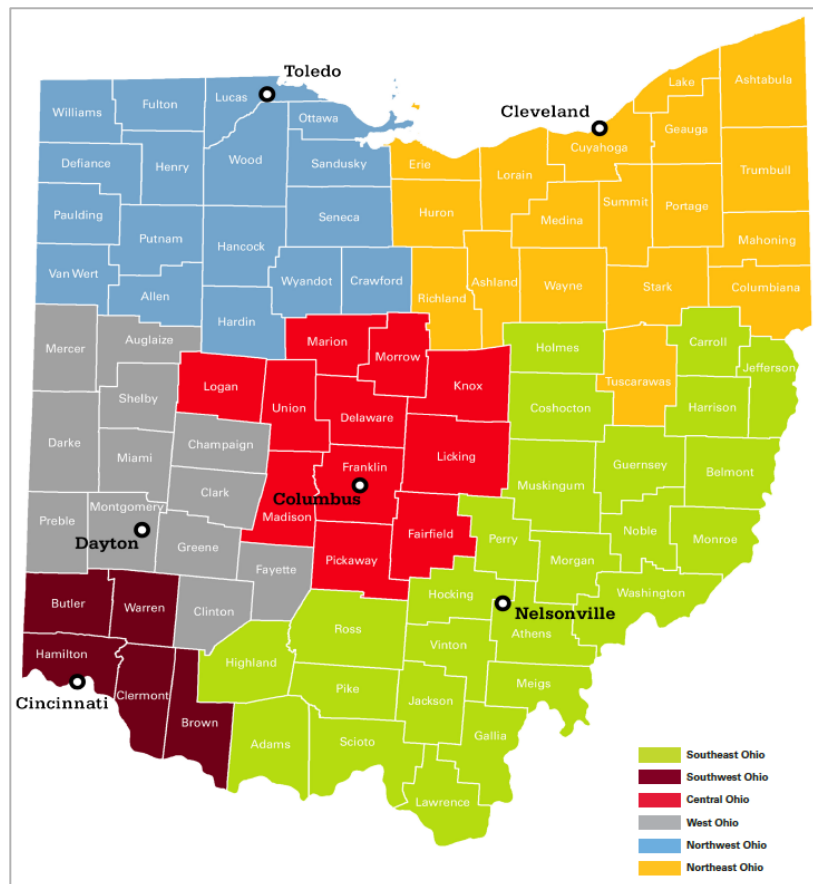
- The growth in home prices in the State of Ohio between 2015 and 2021 outpaced the growth in median household income. After adjusting for inflation, the median sale price of residential property transactions in the State of Ohio increased by \$5,920 between 2015 and 2021. During that same period, median household income in the State of Ohio increased by \$2,154, after adjusting for inflation. The growth in median sale price was even larger for residential property transaction affordable to households with income between 60.0 and 120.0 percent of area median income. On average, the median sale price of residential property transactions affordable to households with income between 60.0 and 120.0 percent of area median income increased by \$31,660 in the State of Ohio between 2015 and 2021.
- Permits issued for new construction of single-family homes represent the potential future new housing supply. Of permits issued in the State of Ohio between 2015 and 2021, approximately 14.3 percent of permits had an average value affordable to households with income between 60.0 and 120.0 percent of area median income. Approximately 84.9 percent of permits issued had an average value affordable to households with income above 120.0 percent of area median income. Of total households in the State of Ohio in 2021, it is estimated that 58.1 percent had median household income below 120.0 percent of the area median income. This means that the potential future new housing supply in the State of Ohio would be unaffordable to approximately 58.1 percent of households in 2021.
- Between 2020 and 2021, inflation and home prices in the State of Ohio have increased by 4.7 percent and 12.6 percent, respectively. Meanwhile, the share of homes sold in the United States that were affordable to a family earning the local median income declined by 14.1 points between the first and second quarters of 2022. In the second quarter of 2022, less than half (42.8%) of homes sold across the United States were affordable to a family earning the local median income. Additionally, the majority of jobs projected to be added to the economy in the State of Ohio between 2021 and 2031 had average annual earnings in 2021 that were below the statewide average across all industries.
- Although the State of Ohio has existing housing that is affordable to households with income between 60.0 and 120.0 percent of area median income, home prices increased at a higher rate than household income between 2015 and 2021. Additionally, the potential future new housing supply will be unaffordable to the majority of households in the State of Ohio, especially given the types of jobs projected to be added to the statewide economy between 2021 and 2031.

Introduction

Established in 1910, Ohio REALTORS is the largest professional trade organization in the State of Ohio with more than 36,000 real estate professionals (REALTORS). Through advocacy, engagement and leadership, Ohio REALTORS protects private property rights and advances the real estate industry in the State of Ohio. It offers services to its members including “lobbying state legislators on industry issues, research and professional development, providing current real estate information and member discounts on products and services, and legal assistance.”⁹

This analysis examines the supply and demand of workforce housing between 2015 and 2021 in the State of Ohio as well as in JobsOhio Regions, illustrated in Figure 1. Workforce housing is defined as housing affordable to households with income between 60.0 and 120.0 percent of the area median income. For the purposes of this analysis, the area median income refers to the median income of each respective county in the State of Ohio. The supply of workforce housing is described using historical residential property transactions as well as permits issued for new privately-owned construction of single-family homes. To provide additional context, characteristics of the existing housing stock as well as demographic and socioeconomic characteristics in the State of Ohio are explored. Economic indicators are detailed to further contextualize workforce housing in the State of Ohio. The roundtable discussions the Economics Center held with stakeholders across the State of Ohio are summarized in addition to potential solutions. This research is intended to inform the development and implementation of a comprehensive workforce housing strategy for the State of Ohio to assist in its long-term growth. All dollar values presented in this report reflect 2021 dollars, unless otherwise stated.

Figure 1: JobsOhio Regions



Source: JobsOhio.

⁹ (Ohio REALTORS 2022)

Methodology

Demographic and Socioeconomic Characteristics

Population and household characteristics reflect data from the U.S. Census Bureau, whereas employment characteristics reflect data from the U.S. Census Bureau and Lightcast, is a leading provider of labor market data, pulled from multiple sources to give a complete and current view of the labor market. Data from the U.S. Census Bureau were obtained for the State of Ohio and all 88 counties within the State. For the regional analyses, demographic and socioeconomic characteristics reflect JobsOhio Regions. Average earnings per job from Lightcast and median household income from the U.S. Census Bureau were adjusted for inflation using the Employment Cost Index for the nation from the U.S. Bureau of Labor Statistics. Median household income in 2021 was estimated for the State of Ohio and the 88 counties within the State using the annual growth in median household income between 2015 and 2020.

Median household income was estimated for each JobsOhio Region using county-level data on the number of households in discrete income ranges. The number of households by income range were aggregated for the counties in each JobsOhio Region. It was assumed that households were uniformly distributed in each income range. The total number of households in each county was divided in half to determine the midpoint. The income range containing that midpoint was then able to be identified. The midpoint minus the summation of all households in income ranges less than the range containing the midpoint was calculated. This represents the number of households necessary to reach the midpoint that were contained in the income range including the midpoint. The number of households was then multiplied by the difference between the end points of the income range, which represents the incremental income associated with each household in that income range.

The Economics Center utilized a similar methodology using the same data to estimate the number of households in various income ranges relative to area median income. This estimation relies on the assumption that households are uniformly distributed by income range.

Economic Indicators

The index growth comparison reflects a comparison of the annual growth in various cost indices. The Employment Cost Index from the U.S. Bureau of Labor Statistics reflects all workers across all industries and occupations in the United States. Produced by the U.S. Bureau of Labor Statistics and retrieved from the Federal Reserve Bank of St. Louis, the Consumer Price Index for all items and for the rent of primary residence reflects the average for all urban consumers. The House Price Index from the U.S. Federal Housing Finance Agency reflects the index for all transactions in the State of Ohio and the nation. All index values were not seasonally adjusted.

Price-to-income ratio data for the State of Ohio and the 88 counties within Ohio were obtained from the Ohio Housing Finance Agency. Data for the State of Ohio were available for 2001 through 2019. The growth in the price-to-income ratio for the State of Ohio between 2015 through 2019 was utilized to estimate the price-to-income ratio for 2020 and 2021. Data for the 88 counties within Ohio were available for 2019 only. The Economics Center assumed the relationship between the price-to-income ratio for each county and the State of Ohio in 2019 was the same for all other years.

Housing Characteristics

Housing characteristics reflect data obtained from the U.S. Census Bureau for the State of Ohio and all 88 counties within the State. For the regional analyses, housing characteristics reflect JobsOhio Regions. Median household income was adjusted for inflation using the Employment Cost Index for the nation from the U.S. Bureau of Labor Statistics. Median monthly housing costs for owner-occupied units were

adjusted for inflation using the Consumer Price Index for all items from the U.S. Bureau of Labor Statistics and retrieved from the Federal Reserve Bank of St. Louis. Median monthly housing costs for renter-occupied units were adjusted for inflation using the Consumer Price Index for rent of primary residence from the U.S. Bureau of Labor Statistics and retrieved from the Federal Reserve Bank of St. Louis.

Median monthly housing costs were estimated for each JobsOhio Region using county-level data on the number of households in discrete cost ranges. The number of households by cost range were aggregated for the counties in each JobsOhio Region. It was assumed that households were uniformly distributed in each cost range. The total number of households in the county was divided in half to determine the midpoint. The cost range containing that midpoint was identified. The midpoint minus the summation of all households in cost ranges less than the range containing the midpoint was calculated. This represents the number of households necessary to reach the midpoint that were contained in the cost range including the midpoint. The number of households was then multiplied by the difference between the end points of the cost range, which represents the incremental cost associated with each household in that cost range.

Residential Property Transactions

Data on property transactions between 2015 and 2021 were obtained from each county in the State of Ohio. The data from each county were cleaned to reflect only residential property transactions, excluding vacant residential land.¹⁰ The property transaction data were also cleaned to exclude records without a sale date, records with no sale price listed, records with a sale price of zero, and records with sale prices that were excessively high and represented an outlier within the data for that particular county. If possible, the data were also cleaned to exclude land only sales. Duplicate records were also excluded from the property transaction data. Duplicate records were observed in the data for 40 out of 88 counties. Of the counties with duplicate records, 31 counties had less than 200 duplicate records with the remaining 9 counties having between 200 and 11,000 duplicate records. Additionally, any records with a sale price less than or equal to 20.0 percent of the median sale price for the given year were excluded. The exclusion of these records attempts to account for records that more accurately reflect a transfer of a property rather than a sale.

The sale price of each property transaction was adjusted for inflation using the House Price Index for Ohio from the U.S. Federal Housing Finance Agency. Property transaction data for each county were then merged with the respective county's median household income from the U.S. Census Bureau and price-to-income ratio from the Ohio Housing Finance Agency. Median household income was adjusted for inflation using the Employment Cost Index for the nation from the U.S. Bureau of Labor Statistics. Price-to-income ratio data for the 88 counties within Ohio were available for 2019 only. The Economics Center assumed the relationship between the price-to-income ratio for each county and the State of Ohio in 2019 was the same for all other years. The price-to-income ratio for the State of Ohio was estimated for 2020 and 2021 using the growth in the price-to-income ratio for the State of Ohio between 2015 through 2019. Using median household income and the price-to-income ratio, indicator variables were created to determine if a record had a sale price affordable to households with various income levels relative to the county's median household income. The data were then aggregated statewide or by JobsOhio Region.

¹⁰ The data for Ottawa and Richland Counties may still include vacant residential land as the data from these counties do not include further delineation between residential structures and vacant residential land. Additionally, Brown, Fayette, Logan, Muskingum, and Tuscarawas Counties did not have a variable within the data or a filter mechanism to filter for only residential transactions. To the extent the data contains commercial, agricultural, industrial, or other transaction types, the data for these five counties may not reflect residential transactions.

New Construction Permits

Data on permits issued for new privately-owned construction were obtained from the U.S. Census Bureau's Building Permits Survey. The data were cleaned to reflect only places within the State of Ohio and to reflect only single-family homes. According to the U.S. Census Bureau, new residential construction refers to five phases of a residential construction project including "(1) housing units authorized to be built by a building or zoning permit; (2) housing units authorized to be built, but not yet started; (3) housing units started; (4) housing units under construction; and (5) housing units completed."¹¹ This data represents permits issued but does not necessarily equate to new homes built. However, permits issued serves as a proxy for understanding trends in the future supply of workforce housing.

The number of single-family homes were divided by the total value of single-family homes for each place in Ohio to determine the average value per single-family home, as reported on the permit. The average value of a single-family home was adjusted for inflation using the House Price Index for Ohio from the U.S. Federal Housing Finance Agency. Permit data for each place were then merged with the corresponding county's median household income from the U.S. Census Bureau and price-to-income ratio from the Ohio Housing Finance Agency. Median household income was adjusted for inflation using the Employment Cost Index for the nation from the U.S. Bureau of Labor Statistics. Price-to-income ratio data for the 88 counties within Ohio were available for 2019 only. The Economics Center assumed the relationship between the price-to-income ratio for each county and the State of Ohio in 2019 was the same for all other years. The price-to-income ratio for the State of Ohio was estimated for 2020 and 2021 using the growth in the price-to-income ratio for the State of Ohio between 2015 through 2019. Using median household income and the price-to-income ratio, indicator variables were created to determine if permits had an average value affordable to households with various income levels relative to the county's median household income. The data were then aggregated statewide or by JobsOhio Region.

Commuting Characteristics

Commuting characteristics reflect data obtained from the U.S. Census Bureau and Lightcast for the State of Ohio and all 88 counties within the State. For the regional analyses, housing characteristics reflect JobsOhio Regions. Mean travel time to work for JobsOhio Regions reflects a weighted average of the counties within each region. Data from Lightcast were utilized to estimate the number of jobs in 2021 and 2031 with average annual earnings in 2021 that were between 60.0 and 120.0 percent of the average annual earnings in 2021 across all jobs in each respective county. The estimated jobs were then aggregated by JobsOhio Region.

¹¹ (U.S. Census Bureau 2021)

Demographic and Socioeconomic Characteristics

The demographic and socioeconomic characteristics of the population within the State of Ohio are detailed in this section. The population characteristics include population growth, age, race, educational attainment, and poverty status. The employment characteristics include the employment-to-population ratio, labor force participation rate, unemployment rate, jobs by industry, and average annual earnings by industry. The household characteristics include household type, average household size, median household income, and households by income range. These demographic and socioeconomic characteristics provide context for understanding the demand of workforce housing in the State of Ohio.

Population Characteristics

As detailed in Table 1, the total population in the State of Ohio increased from 11.58 million in 2015 to 11.68 million in 2020, or by 99,298 individuals. This represents an annual increase of 0.2 percent. In the State of Ohio, the population aged 20 to 39 years and 60 years and over experienced positive growth between 2015 and 2020. The population aged 20 to 39 years increased by 80,768 individuals, whereas the population 60 years and over increased by 304,113. The population aged 19 years and under and 40 to 59 years declined by 71,306 individuals and 214,277 individuals, respectively, between 2015 and 2020.

Table 1: Population by Age in the State of Ohio, 2015 and 2020

Age Group	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Under 10	1,435,421	1,394,567	-40,854	-2.8%	-0.6%
10 to 19	1,539,605	1,509,153	-30,452	-2.0%	-0.4%
20 to 29	1,528,029	1,552,693	24,664	1.6%	0.3%
30 to 39	1,400,693	1,456,797	56,104	4.0%	0.8%
40 to 49	1,516,453	1,408,199	-108,254	-7.1%	-1.5%
50 to 59	1,690,093	1,584,070	-106,023	-6.3%	-1.3%
60 to 69	1,284,933	1,443,169	158,236	12.3%	2.3%
70 to 79	706,135	835,392	129,257	18.3%	3.4%
80 and over	474,615	491,235	16,620	3.5%	0.7%
Total¹²	11,575,977	11,675,275	99,298	0.9%	0.2%

Source: American Community Survey five-year estimates, Table S0101.

In 2015, the population in the State of Ohio was 80.3 percent White, 12.0 percent Black/African American, 3.4 percent Hispanic/Latino, 2.2 percent two or more races, 1.9 percent Asian, and 0.3 percent all other races. By 2020, the population in the State of Ohio was 78.3 percent White, 12.2 percent Black/African American, 3.9 percent Hispanic/Latino, 2.9 percent two or more races, 2.3 percent Asian, and 0.4 percent all other races. As detailed in Table 2, all but two population groups experienced an increase in population in the State of Ohio between 2015 and 2020. The population groups experiencing an increase in population between 2015 and 2020 were two or more races (83,744), Hispanic/Latino (68,969), Asian (52,264), Black/African American (28,884), other races (16,800), and Native Hawaiian/Other Pacific Islander (748). The White and American Indian/Alaska Native populations

¹² The total population in 2015 reported in Table 1 and Table 2 may not match due to rounding of population by age data from the American Community Survey.

experienced a decline of 149,933 individuals and 2,178 individuals, respectively, between 2015 and 2020.

Table 2: Population by Race and Hispanic/Latino Origin in the State of Ohio, 2015 and 2020

Race	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
American Indian/Alaska Native	17,079	14,901	-2,178	-12.8%	-2.7%
Asian	214,337	266,601	52,264	24.4%	4.5%
Black/African American	1,393,528	1,422,412	28,884	2.1%	0.4%
Native Hawaiian/Other Pacific Islander	2,619	3,367	748	28.6%	5.2%
White	9,291,303	9,141,370	-149,933	-1.6%	-0.3%
Two or More	252,017	335,761	83,744	33.2%	5.9%
Other	14,124	30,924	16,800	118.9%	17.0%
Hispanic/Latino ¹³	390,970	459,939	68,969	17.6%	3.3%
Total¹⁴	11,575,977	11,675,275	99,298	0.9%	0.2%

Source: American Community Survey five-year estimates, Table B02001.

The population aged 25 years and older in the State of Ohio achieved higher levels of educational attainment between 2015 and 2020, as detailed in Table 3. The population with less than a high school diploma decreased by 110,827 individuals, or by 2.8 percent annually. Additionally, the population with a high school diploma or equivalent decreased by 39,446 individuals, or by 0.3 percent annually. Collectively, the population with some college, an associate's degree, a bachelor's degree, or a graduate or professional degree increased by 347,731 individuals between 2015 and 2020. Overall, the percent of the population with some college or higher increased from 55.0 percent in 2015 to 58.0 percent in 2020. This represents a 3.0 percentage point increase.

Table 3: Education Attainment for the Population 25 Years of Age and Older in the State of Ohio, 2015 and 2020

Educational Attainment	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Less than a High School Diploma	849,597	738,770	-110,827	-13.0%	-2.8%
High School Graduate ¹⁵	2,669,316	2,629,870	-39,446	-1.5%	-0.3%
Some College	1,615,405	1,628,291	12,886	0.8%	0.2%
Associate's Degree	643,162	702,496	59,334	9.2%	1.8%
Bachelor's Degree	1,278,763	1,438,177	159,414	12.5%	2.4%
Graduate or Professional Degree	761,265	877,362	116,097	15.3%	2.9%
Total	7,817,508	8,014,966	197,458	2.5%	0.5%

Source: American Community Survey five-year estimates, Table S1501.

¹³ The Hispanic/Latino population may be of any race.

¹⁴ The total population in 2015 reported in Table 1 and Table 2 may not match due to rounding of population by age data from the American Community Survey.

¹⁵ Includes equivalency.

As detailed in Table 4, the percent of the population in the State of Ohio below the poverty threshold declined by 2.2 percentage points from 15.8 percent in 2015 to 13.6 percent in 2020. Furthermore, the percent of the population below 50.0 percent of the poverty threshold decreased from 7.3 percent in 2015 to 6.1 percent in 2020. This represents a 1.2 percentage point decline in the percent of the population below 50.0 percent of the poverty threshold. Overall, the percent of population in the State of Ohio below the poverty threshold decreased for each poverty ratio between 2015 and 2020.

Table 4: Percent of Population by Poverty Ratio in the State of Ohio, 2015 and 2020

Poverty Ratio	2015	2020	Percentage Point Change (2015-2020)
Below 50%	7.3%	6.1%	-1.2%
Below 100%	15.8%	13.6%	-2.2%
Below 125%	20.3%	17.7%	-2.6%
Below 150%	24.8%	21.7%	-3.1%
Below 185%	31.2%	27.8%	-3.4%
Below 200%	33.9%	30.5%	-3.4%
Total¹⁶	11,258,461	11,350,378	N/A

Source: American Community Survey five-year estimates, Table S1701.

Employment Characteristics

Table 5 details the employment-to-population ratio, labor force participation rate, and unemployment rate in the State of Ohio in 2015 and 2020. The employment-to-population ratio increased from 58.2 percent to 59.8 percent in 2020. This represents a 1.6 percentage point increase. However, the labor force participation rate decreased by 0.3 percentage points from 63.4 percent in 2015 to 63.1 percent in 2020. The unemployment rate in the State of Ohio experienced the largest percentage point change between 2015 and 2020. The unemployment rate dropped from 8.2 percent in 2015 and 5.3 percent in 2020, representing a 2.9 percentage point decline.

Table 5: Employment Characteristics of the Population 16 Years of Age and Older in the State of Ohio, 2015 and 2020

Employment Characteristic	2015	2020	Percentage Point Change (2015-2020)
Employment-to-Population Ratio	58.2%	59.8%	1.6%
Labor Force Participation Rate	63.4%	63.1%	-0.3%
Unemployment Rate	8.2%	5.3%	-2.9%

Source: Economics Center analysis of American Community Survey five-year estimates, Table DP03.

As detailed in Table 6, there were 5.53 million jobs in the State of Ohio during 2015 and 5.50 million jobs during 2021. This represents a loss of 33,143 jobs between 2015 and 2021. The total jobs in Ohio increased each year between 2015 and 2019 followed by a loss of 325,237 jobs during 2020 and a

¹⁶ Population for whom poverty status is determined.

recovery of 122,884 jobs during 2021. This means that jobs were recovering during 2021 but remained below levels prior to the onset of the COVID-19 pandemic.

The only industries experiencing a positive growth in jobs between 2015 and 2021 were the transportation and warehousing industry (55,665), the construction industry (24,216), the finance and insurance industry (21,978), the professional, scientific, and technical services industry (20,190), the health care and social assistance industry (4,152), the real estate and rental and leasing industry (2,030), and the unclassified industry (5). The remaining 14 industries each experienced a decrease in jobs statewide between 2015 and 2021. The industries experiencing the largest decline in jobs were the retail trade industry (-28,806), the accommodation and food services industry (-26,974), and the government industry (-21,585). These three industries represented 32.0 percent of all jobs statewide during 2021.

During 2021, people in Ohio were primarily employed in the health care and social assistance industry (14.4%), the government industry (14.1%), the manufacturing industry (12.1%), the retail trade industry (9.9%), and the accommodation and food service industry (8.0%). These five industries represent more than half of all jobs statewide in 2021.

By 2031, the State of Ohio is forecasted to have 5.65 million jobs. This represents a gain of 147,492 jobs between 2021 and 2031 and equates to an annual growth rate of 0.3 percent. The industries forecasted to experience the largest nominal growth in jobs between 2021 and 2031 were the health care and social assistance industry (53,011), the accommodation and food services industry (51,660), the arts, entertainment, and recreation industry (27,674), the transportation and warehousing industry (22,695), and the other services industry (18,741). Seven industries are forecasted to experience a decline in jobs between 2021 and 2031. Those industries are the retail trade industry (-49,477), the government industry (-9,469), the manufacturing industry (-6,000), the utilities industry (-1,557), the information industry (-1,005), and the management of companies and enterprises industry (-564), and the wholesale trade industry (-181 jobs).

Table 6: Jobs by Industry in the State of Ohio, 2015-2031

NAICS Code	Industry	2015	2021	2031	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)	Nominal Growth (2021-2031)	Annual Growth Rate (2021-2031)
11	Agriculture, Forestry, Fishing and Hunting	23,443	23,115	24,654	-328	-0.2%	1,538	0.6%
21	Mining, Quarrying, and Oil and Gas Extraction	13,799	8,304	11,359	-5,495	-8.1%	3,055	3.2%
22	Utilities	19,201	18,189	16,633	-1,012	-0.9%	-1,557	-0.9%
23	Construction	205,455	229,671	234,198	24,216	1.9%	4,527	0.2%
31	Manufacturing	686,593	666,484	660,484	-20,109	-0.5%	-6,000	-0.1%
42	Wholesale Trade	237,014	229,755	229,574	-7,259	-0.5%	-181	0.0%
44	Retail Trade	574,659	545,853	496,376	-28,806	-0.9%	-49,477	-0.9%
48	Transportation and Warehousing	192,297	247,962	270,657	55,665	4.3%	22,695	0.9%
51	Information	71,831	65,131	64,125	-6,700	-1.6%	-1,005	-0.2%
52	Finance and Insurance	224,693	246,671	255,768	21,978	1.6%	9,097	0.4%
53	Real Estate and Rental and Leasing	63,590	65,619	68,158	2,030	0.5%	2,538	0.4%
54	Professional, Scientific, and Technical Services	252,841	273,031	284,765	20,190	1.3%	11,734	0.4%
55	Management of Companies and Enterprises	139,262	137,785	137,221	-1,477	-0.2%	-564	0.0%
56	Administrative, Support, Waste Management, and Remediation Services	328,205	314,171	320,928	-14,034	-0.7%	6,757	0.2%
61	Educational Services	130,251	120,146	122,598	-10,105	-1.3%	2,452	0.2%
62	Health Care and Social Assistance	789,889	794,041	847,051	4,152	0.1%	53,011	0.6%
71	Arts, Entertainment, and Recreation	77,995	73,307	100,981	-4,688	-1.0%	27,674	3.3%
72	Accommodation and Food Services	464,267	437,293	488,953	-26,974	-1.0%	51,660	1.1%
81	Other Services (except Public Administration)	237,848	225,042	243,783	-12,807	-0.9%	18,741	0.8%
90	Government	798,681	777,096	767,628	-21,585	-0.5%	-9,469	-0.1%
99	Unclassified Industry	1,213	1,218	1,482	5	0.1%	265	2.0%
	Total	5,533,027	5,499,884	5,647,376	-33,143	-0.1%	147,492	0.3%

Source: Economics Center analysis of data from Lightcast.

Table 7 details the average annual earnings per job by industry in the State of Ohio between 2015 and 2021, reported in 2021 dollars. A corresponding table expressed in nominal dollars is in Appendix B. After adjusting for inflation, the average annual earnings per job in the State of Ohio were \$67,295 in 2015 and increased to \$70,472 in 2021. This means that average annual earnings in the State of Ohio had a real increase of \$3,177 between 2015 and 2021 and equates to an annual growth rate of 0.8 percent.

The industries with the highest average annual earnings in the State of Ohio during 2021 were the utilities industry (\$156,753); the management of companies and enterprises industry (\$145,552); the finance and insurance industry (\$110,079); the information industry (\$103,595); and the professional, scientific, and technical services industry (\$102,607).

The industries experiencing the largest real growth in average annual earnings between 2015 and 2021 were the finance and insurance industry (\$7,676), the information industry (\$6,998), the administrative, support, waste management, and remediation services industry (\$6,880), the utilities industry (\$5,711), and the retail trade industry (\$4,533). However, the industries experiencing the highest annual growth rate in average annual earnings between 2015 and 2021 were the administrative, support, waste management, and remediation services industry (2.3%); the accommodation and food services industry (1.9%); the retail trade industry (1.9%); the agriculture, forestry, fishing, and hunting industry (1.6%); and the other services industry (1.5%).

Additionally, the industries with the largest forecasted nominal growth in jobs statewide between 2021 and 2031 had average annual earnings in 2021 of \$67,977 for the health care and social assistance industry, \$23,963 for the accommodation and food services industry, \$47,792 for the arts, entertainment, and recreation industry, \$68,379 for the transportation and warehousing industry, and \$38,059 for the other services industry. The accommodation and food services industry and the other services industry had the lowest average annual earnings of all industries statewide in 2021.

Table 7: Average Annual Earnings by Industry in the State of Ohio, 2015 and 2021 (2021\$)

NAICS Code	Industry	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
11	Agriculture, Forestry, Fishing and Hunting	\$41,481	\$45,680	\$4,199	1.6%
21	Mining, Quarrying, and Oil and Gas Extraction	\$97,914	\$91,714	-\$6,200	-1.1%
22	Utilities	\$151,041	\$156,753	\$5,711	0.6%
23	Construction	\$79,545	\$80,176	\$631	0.1%
31	Manufacturing	\$85,942	\$84,109	-\$1,833	-0.4%
42	Wholesale Trade	\$93,758	\$96,459	\$2,700	0.5%
44	Retail Trade	\$38,071	\$42,604	\$4,533	1.9%
48	Transportation and Warehousing	\$70,346	\$68,379	-\$1,968	-0.5%
51	Information	\$96,597	\$103,595	\$6,998	1.2%
52	Finance and Insurance	\$102,403	\$110,079	\$7,676	1.2%
53	Real Estate and Rental and Leasing	\$63,529	\$67,215	\$3,686	0.9%
54	Professional, Scientific, and Technical Services	\$99,059	\$102,607	\$3,548	0.6%
55	Management of Companies and Enterprises	\$143,034	\$145,552	\$2,518	0.3%
56	Administrative, Support, Waste Management, and Remediation Services	\$46,816	\$53,697	\$6,880	2.3%
61	Educational Services	\$42,884	\$41,817	-\$1,067	-0.4%
62	Health Care and Social Assistance	\$64,328	\$67,977	\$3,648	0.9%
71	Arts, Entertainment, and Recreation	\$44,751	\$47,792	\$3,042	1.1%
72	Accommodation and Food Services	\$21,364	\$23,963	\$2,599	1.9%
81	Other Services (except Public Administration)	\$34,756	\$38,059	\$3,303	1.5%
90	Government	\$77,248	\$78,748	\$1,501	0.3%
99	Unclassified Industry	\$47,764	\$67,059	\$19,294	5.8%
	Total	\$67,295	\$70,472	\$3,177	0.8%

Source: Economics Center analysis of data from Lightcast, adjusted for inflation using the Employment Cost Index for the nation.

Household Characteristics

As detailed in Table 8, the number of households in the State of Ohio increased from approximately 4.59 million in 2015 to 4.72 million in 2020. This represents an increase of 132,142 households, or an annual growth rate of 0.6 percent. Nearly half of all households were married-couple families in both 2015 and 2020. However, the share of households that were married-couple families decreased from 46.8 percent in 2015 to 45.5 percent in 2020. Additionally, approximately one-third of households in both 2015 and 2020 were nonfamily households. The share of households that were nonfamily households increased from 35.9 percent in 2015 to 37.4 percent in 2020. Furthermore, the average household size in the State of Ohio decreased from 2.46 individuals in 2015 to 2.41 individuals in 2020.

Table 8: Households by Type and Average Household Size in the State of Ohio, 2015 and 2020

Household Type	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Female Householder (No Husband Present) Family Household	587,854	580,783	-7,071	-1.2%	-0.2%
Male Householder (No Wife Present) Family Household	205,848	225,763	19,915	9.7%	1.9%
Married-Couple Family Household	2,143,896	2,145,605	1,709	0.1%	0.0%
Nonfamily Household	1,647,486	1,765,075	117,589	7.1%	1.4%
Total Households¹⁷	4,585,084	4,717,226	132,142	2.9%	0.6%
Average Household Size	2.46	2.41	-0.05	N/A	N/A

Source: American Community Survey five-year estimates, Table S1101.

After adjusting for inflation, median household income in the State of Ohio increased from \$57,875 in 2015 to \$60,029 in 2021, as detailed in Table 9. This represents a real increase of \$2,154, or an annual growth rate of 0.6 percent. Workforce housing is defined as housing affordable to households with income between 60.0 and 120.0 percent of the area median income. On average, workforce housing in the State of Ohio was associated with incomes between \$34,725 and \$69,450 in 2015 and incomes between \$36,017 and \$72,034 in 2021. A corresponding table expressed in nominal dollars is in Appendix B.

Table 9: Median Household Income and Workforce Housing Income Ranges in the State of Ohio, 2015-2021 (2021\$)

Household Income	2015	2016	2017	2018	2019	2020	2021 ¹⁸	Real Growth (2015-2021)
Median Household Income (MHI)	\$57,875	\$58,071	\$58,656	\$59,445	\$60,006	\$60,023	\$60,029	\$2,154
60% of MHI	\$34,725	\$34,842	\$35,194	\$35,667	\$36,004	\$36,014	\$36,017	\$1,292
80% of MHI	\$46,300	\$46,456	\$46,925	\$47,556	\$48,005	\$48,018	\$48,023	\$1,723
120% of MHI	\$69,450	\$69,685	\$70,387	\$71,334	\$72,008	\$72,028	\$72,034	\$2,585

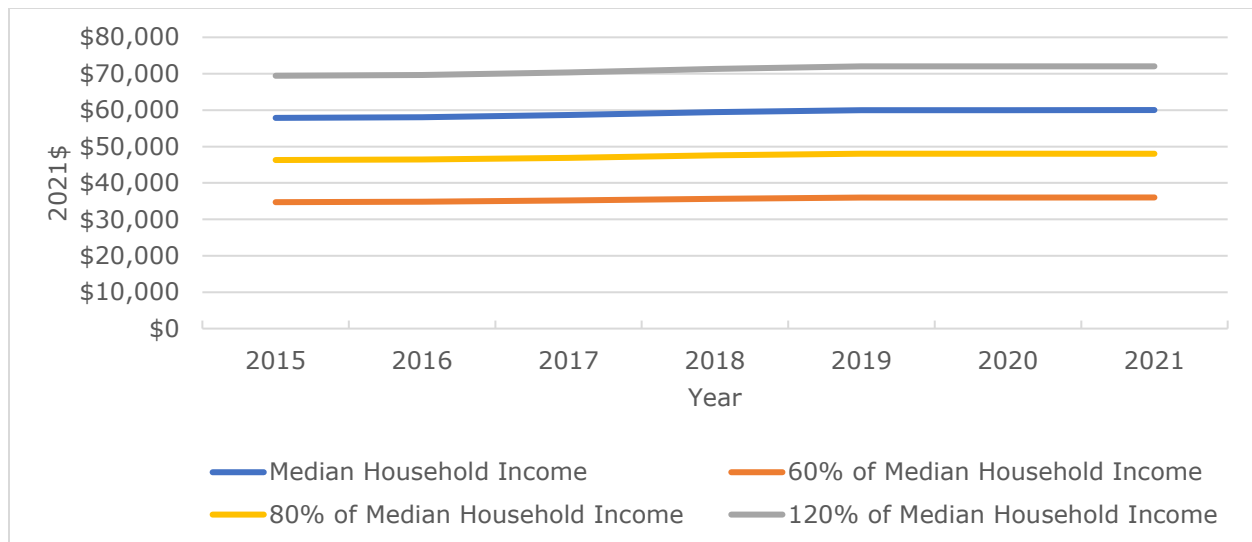
Source: Economics Center analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

Figure 2 illustrates the inflation-adjusted median household income in the State of Ohio as well as the income levels associated with workforce housing between 2015 and 2021. After adjusting for inflation, household income experienced minimal growth between 2015 and 2021. Median household income in the State of Ohio experienced real growth of \$2,154 between 2015 and 2021. The income levels associated with workforce housing experienced real growth of \$1,292 for 60.0 percent of median household income and \$2,585 for 120.0 percent of median household income.

¹⁷ The total households reported in Table 8 and Table 11 may not match due to rounding of households by income range data from the American Community Survey.

¹⁸ Estimated by the Economics Center.

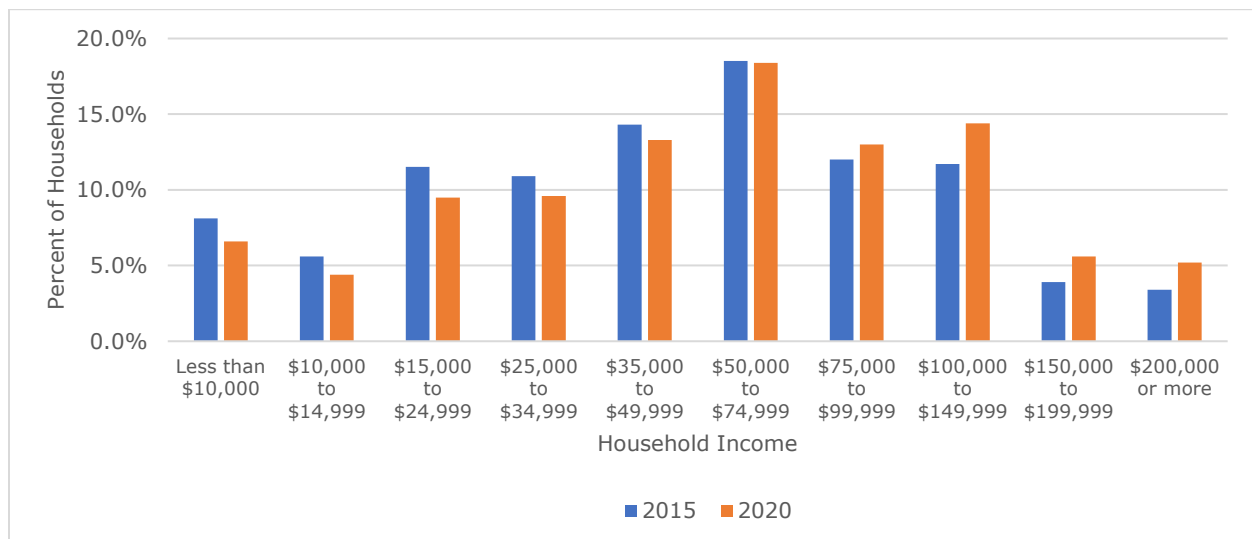
Figure 2: Median Household Income and Workforce Housing Income Ranges in the State of Ohio, 2015-2021 (2021\$)



Source: Economics Center analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

Figure 3 illustrates the percent of households by income range in the State of Ohio between 2015 and 2020. It is important to note that the income ranges are reported in nominal dollars and therefore do not account for the effects of inflation. Each income range less than \$75,000 experienced a decrease in the share of households between 2015 and 2020, whereas each income range more than \$75,000 experienced an increase in the share of households. Specifically, the share of households with annual income of less than \$75,000 decreased from 69.0 percent in 2015 to 61.8 percent in 2020. Conversely, the share of households with annual income of at least \$75,000 increased from 31.0 percent in 2015 to 38.2 percent in 2020.

Figure 3: Percent of Households by Income Range in the State of Ohio, 2015 and 2020



Source: American Community Survey five-year estimates, Table S1901.

Table 10 details the number of households in various income ranges relative to area median income (AMI). The number of households with income in the workforce housing range, defined as 60.0 to 120.0 percent of AMI, increased from 1.24 million in 2015 to 1.34 million in 2021. This represents an increase of 97,296 households and equates to an annual growth rate of 1.3 percent between 2015 and 2021. Within the workforce housing income range, the number of households with income between 100.0 and 120.0 percent of AMI increased by 76,415 households between 2015 and 2021, or 3.4 percent annually. Additionally, the number of households with income between 60.0 and 79.9 percent of AMI increased by 25,317 households between 2015 and 2021, or 0.9 percent annually. However, the number of households with income between 80.0 and 99.9 percent of AMI decreased by 4,435 households, or 0.2 percent annually. This indicates that the growth in the number of households in the workforce housing income range primarily occurred on the higher end of the workforce housing range and to a lesser degree on the lower end.

Table 10: Households by Income Range in the State of Ohio, 2015 and 2021

Income Range	2015	2021 ¹⁹	Nominal Growth (2015-2021)	Percent Change (2015-2021)	Annual Growth Rate (2015-2021)
Less than 60% of AMI	1,388,229	1,419,241	31,012	2.2%	0.4%
60-79% of AMI	465,588	490,904	25,317	5.4%	0.9%
80-99% of AMI	432,148	427,713	-4,435	-1.0%	-0.2%
100-120% of AMI	340,977	417,392	76,415	22.4%	3.4%
More than 120% of AMI	1,953,556	1,990,869	37,313	1.9%	0.3%
Total Households²⁰	4,580,498	4,746,119	159,022	3.5%	0.6%

Source: Economics Center analysis of data from the American Community Survey five-year estimates, Table S1901.

Economic Indicators

This section details economic indicators to better understand historical and current conditions in the housing market both in the State of Ohio and nationally. The annual growth in various indices are compared to illustrate the different growth rates in wages compared to prices. The housing opportunity index measures “the share of homes sold in that area that would have been affordable to a family earning the local median income, based on standard mortgage underwriting criteria.”²¹ The price-to-income ratio represents the relationship between the home price a household can afford given its annual household income.

Index Growth

Figure 4 compares the annual percent change in various indices between 2001 and 2021. The Employment Cost Index represents the growth in wages and salaries among all workers nationally. The Consumer Price Index for all items represents overall inflation, whereas the Consumer Price Index for rent represents the growth in rent prices. Additionally, the House Price Index represents the growth in the value of single-family homes in the United States and Ohio.

¹⁹ Estimated by the Economics Center.

²⁰ The total households reported in Table 8 and Table 11 may not match due to rounding of households by income range data from the American Community Survey.

²¹ (National Association of Home Builders n.d.)

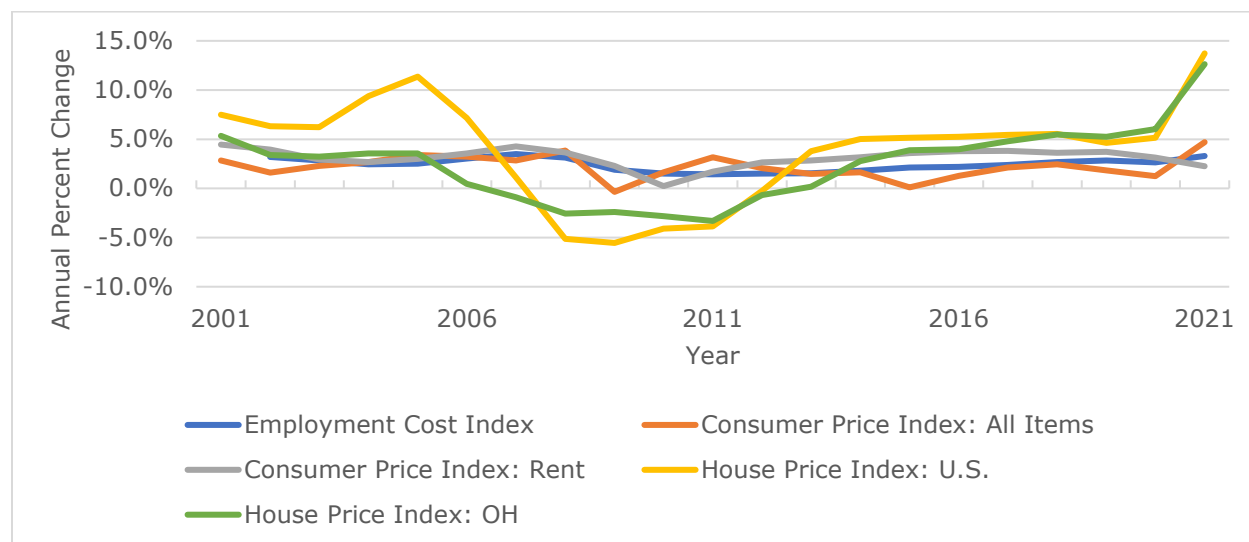
On average, the annual growth in wages and salaries nationally has outpaced overall inflation nationally. Between 2002 and 2021, the Employment Cost Index increased by an average of 2.4 percent per year. The Consumer Price Index for all items increased by an average of 2.2 percent annually between 2001 and 2021. However, inflation outpaced the growth in wages and salaries in 2021. Specifically, the Employment Cost Index increased by 3.3 percent from 2020 to 2021, whereas the Consumer Price Index for all items increased by 4.7 percent.

The Consumer Price Index for rent increased by an average of 3.1 percent per year between 2001 and 2021. On average, national rent prices have increased at a higher rate than overall inflation as well as wages and salaries. Specifically, the annual growth in national rent prices has outpaced the annual growth in both overall inflation and wages and salaries for every year since 2012 with the exception of 2021. In 2021, national rent prices increased by 2.2 percent compared to growth of 4.7 percent in overall inflation and growth of 3.3 percent in wages and salaries.

Between 2001 and 2021, the House Price Index for the United States increased by an average of 4.0 percent annually, whereas the House Price Index for the State of Ohio increased by an average of 2.5 percent annually. Since 2013, the annual growth in home prices across the United States has increased at a higher rate than overall inflation as well as wages and salaries. Similarly, the annual growth rate in home prices in the State of Ohio has increased at a higher rate than overall inflation as well as wages and salaries since 2014.

The annual growth in home prices nationally and in the State of Ohio increased by 13.7 percent and 12.6 percent in 2021, respectively. This represents the highest annual growth since 2001. The growth in home prices nationally also reached a peak of 11.3 percent in 2005. However, the annual growth in home prices in the State of Ohio was only 3.5 percent in 2005. This indicates that the annual growth in home prices experienced in 2021, both nationally and in the State of Ohio, is higher than in 2005 prior to the Great Recession.

Figure 4: Index Growth Comparison, 2001-2021



Source: U.S. Bureau of Labor Statistics' Employment Cost Index, U.S. Bureau of Labor Statistics' Consumer Price Index retrieved from the Federal Reserve Bank of St. Louis, and U.S. Federal Housing Finance Agency's House Price Index.

Housing Opportunity Index

The National Association of Home Builders (NAHB) and Wells Fargo release the quarterly Housing Opportunity Index which measures “the share of homes sold in that area that would have been affordable to a family earning the local median income, based on standard mortgage underwriting criteria.”²² Figure 5 illustrates the Housing Opportunity Index for metropolitan statistical areas (MSAs) in the State of Ohio and the United States. An index value of 100 means that all homes sold in the area were affordable to a family earning the local median income.

The major metropolitan areas in the State of Ohio had a higher share of affordable homes sold since 2012 compared to the United States. Overall, the Youngstown MSA had the highest share of affordable homes sold, whereas the Columbus MSA had the lowest share of affordable homes sold. The Youngstown MSA had an average index value of 89.4 between the first quarter of 2012 and the first quarter of 2022. This means that, on average, 89.4 percent of homes sold in Youngstown were affordable to a family earning the local median income. However, the Columbus MSA had an average index value of 75.5 during the same period. This means that, on average, 75.5 percent of homes sold in Columbus were affordable to a family earning the local median income.

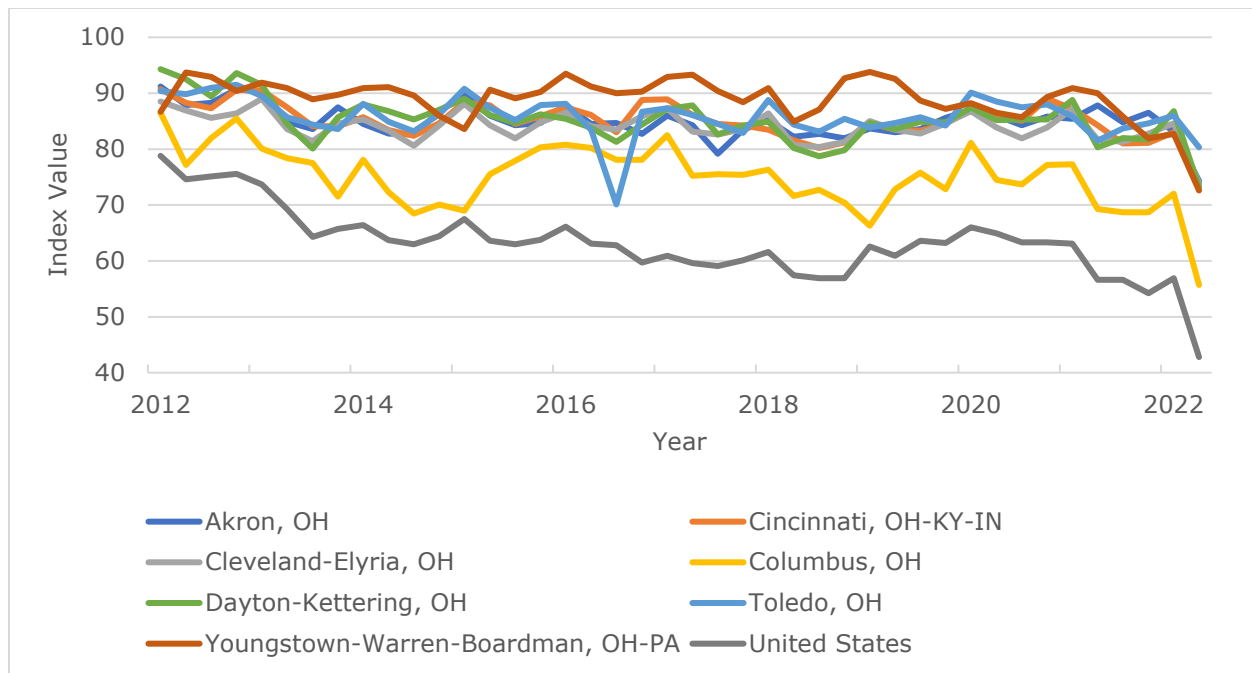
The United States as well as the major metropolitan areas in the State of Ohio experienced a sharp decline in the Housing Opportunity Index between the first and second quarters of 2022. The housing opportunity index for the United States declined from 56.9 during the first quarter of 2022 to 42.8 during the second quarter of 2022, representing a 14.1-point drop in the index value.

Among the major metropolitan areas in the State of Ohio, the Toledo MSA experienced the lowest drop in the index value between the first and second quarters of 2022. The index value for the Toledo MSA dropped from 86.0 in the first quarter of 2022 to 80.3 in the second quarter of 2022, representing a 5.7-point drop in the index value. The Toledo MSA had the highest share (80.3%) of affordable homes sold during the second quarter of 2022 compared to the other major metropolitan areas in the State of Ohio.

Conversely, the Columbus MSA had the highest decline in the index value between the first and second quarters of 2022. The index value for the Columbus MSA declined from 72.0 in the first quarter of 2022 to 55.7 in the second quarter of 2022. This represents a 16.3-point drop in the index value for the Columbus MSA, which is higher than the decline experienced nationally. During the second quarter of 2022, approximately half (55.7%) of homes sold were affordable to a family earning the local median income.

²² (National Association of Home Builders n.d.)

Figure 5: Housing Opportunity Index for Metropolitan Statistical Areas in the State of Ohio, Q1 2012-Q2 2022



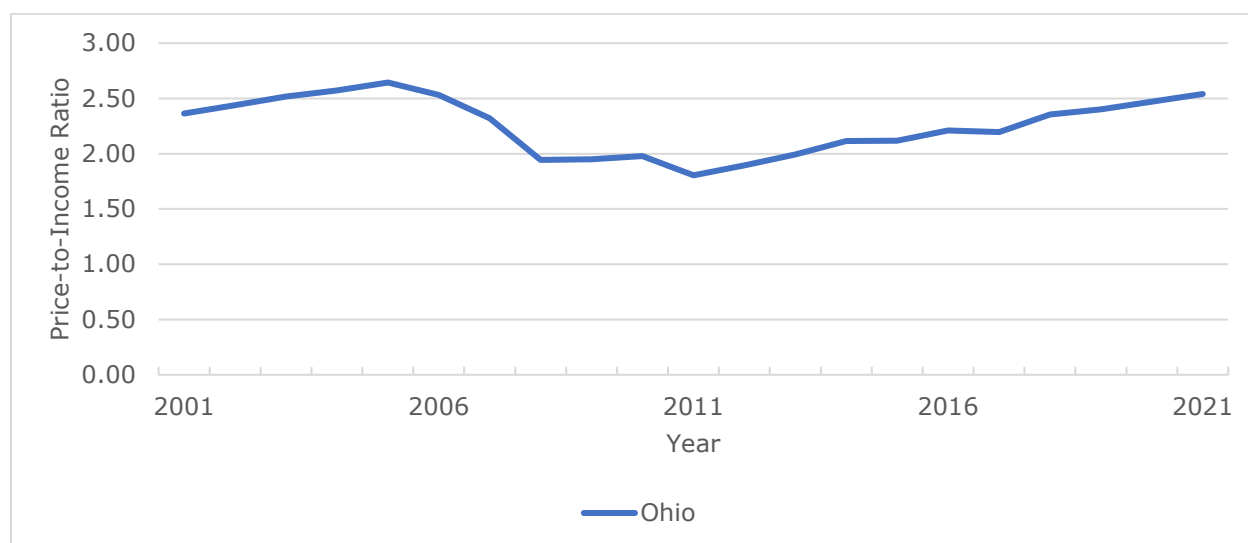
Source: National Association of Home Builders (NAHB)/Wells Fargo.

Price-to-Income Ratio

The price-to-income ratio represents the relationship between the home price a household can afford given its annual household income. Generally, a household can afford a home that is between 2.0 and 2.5 times its annual income.²³ Figure 6 illustrates the price-to-income ratio in the State of Ohio between 2001 and 2021. The price-to-income ratio in the State of Ohio averaged 2.26 between 2001 and 2021. The price-to-income ratio reached a high of 2.64 in 2005 prior to the Great Recession. In 2021, the price-to-income ratio was estimated at 2.54, which is the highest value since 2006. Conversely, the price-to-income ratio reached a low of 1.80 in 2011. In the State of Ohio, price-to-income ratios were the highest between 2003 and 2006 as well as in 2021 and lowest between 2008 and 2012.

²³ (Dickler 2021); (McWhinney 2022)

Figure 6: Price-to-Income Ratio in the State of Ohio, 2001-2021



Source: Economics Center analysis of data from the Ohio Housing Finance Agency.

Housing Characteristics

Housing characteristics for all housing units and occupied housing units within the State of Ohio are detailed in this section as well as housing costs. The characteristics of all housing units, regardless of vacancy status, include occupancy type, vacancy rate, units in structure, year built, rooms, and bedrooms. The characteristics of occupied housing units include the demographics of the householder, the year the householder moved in, number of vehicles available, and the value of owner-occupied housing units. Additionally, median housing costs and housing costs as a percent of household income are detailed for owner- and renter-occupied housing units. These characteristics provide detail on the housing supply in the State of Ohio as well as the costs of housing.

Total Housing Unit Characteristics

As detailed in Table 11, the State of Ohio had a total of 5.14 million housing units in 2015 and 5.22 million housing units in 2020. This represents an increase of 76,188 housing units, or an annual growth rate of 0.3 percent. In comparison, the number of households in the State of Ohio increased at an annual rate of 0.6 percent between 2015 and 2020. In 2015, approximately 89.2 percent of housing units were occupied, while approximately 90.4 percent of housing units were occupied in 2020. This indicates that the vacancy rate dropped from 10.8 percent in 2015 to 9.6 percent in 2020. Of occupied housing units, approximately two-thirds (66.3%) were owner-occupied in both 2015 and 2020. Therefore, renter-occupied units represented 33.7 percent of occupied housing units in both 2015 and 2020.

Table 11: Occupancy Characteristics in the State of Ohio, 2015 and 2020

Occupancy Characteristic	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Occupied Housing Units	4,585,084	4,717,226	132,142	2.9%	0.6%
Owner-Occupied Housing Units	3,040,444	3,128,172	87,728	2.9%	0.6%
Renter-Occupied Housing Units	1,544,640	1,589,054	44,414	2.9%	0.6%
Vacant Housing Units	555,818	499,864	-55,954	-10.1%	-2.1%
Total Housing Units	5,140,902	5,217,090	76,188	1.5%	0.3%
Vacancy Rate	10.8%	9.6%	-1.2%	N/A	N/A

Source: Economics Center analysis of data from the American Community Survey five-year estimates, Table DP04.

Table 12 details the number of units in each housing structure in the State of Ohio. More than two-thirds of housing units in the State of Ohio were detached single-family homes in 2015 and 2020. Between 2015 and 2020, the number of detached single-family homes increased from 3.52 million to 3.60 million. This represents an increase of 76,472 detached-single family homes between 2015 and 2020, or an annual growth rate of 0.4 percent. The number of attached single-family homes increased from 232,132 in 2015 to 240,057 in 2020. This represents an increase of 7,925 attached single-family homes between 2015 and 2020, or an annual growth rate of 0.7 percent.

For multi-unit housing, an increase in housing units was only experienced for housing units with at least 20 units. Multi-unit housing with less than 20 units decreased from 913,722 in 2015 to 881,026 in 2020. This represents a decrease of 32,696 housing units between 2015 and 2020, or an annual decrease of 0.7 percent. Housing units with at least 20 units increased from 274,261 in 2015 to 306,300 in 2020. This represents an increase of 32,039 housing units, or an annual growth rate of 2.2 percent.

Table 12: Total Housing Units by Units in Structure in the State of Ohio, 2015 and 2020

Units in Structure	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
1-Unit (Detached)	3,520,412	3,596,884	76,472	2.2%	0.4%
1-Unit (Attached)	232,132	240,057	7,925	3.4%	0.7%
2 Units	228,319	211,875	-16,444	-7.2%	-1.5%
3 or 4 Units	228,803	228,157	-646	-0.3%	-0.1%
5 to 9 Units	249,000	242,417	-6,583	-2.6%	-0.5%
10 to 19 Units	207,600	198,577	-9,023	-4.3%	-0.9%
20 or More Units	274,261	306,300	32,039	11.7%	2.2%
Mobile Home	198,887	191,217	-7,670	-3.9%	-0.8%
Boat, RV, Van, etc.	1,488	1,606	118	7.9%	1.5%
Total Housing Units	5,140,902	5,217,090	76,188	1.5%	0.3%

Source: American Community Survey five-year estimates, Table DP04.

Table 13 details the total housing units in the State of Ohio during 2020 by the year built. More than 1.04 million housing units were built in 1939 or earlier. This represents 20.0 percent of all housing units statewide in 2020. Housing units built between 1940 and 1949 accounted for 6.1 percent of all housing units statewide in 2020. Approximately 2.10 million housing units in the State of Ohio during 2020 were built between 1950 and 1979. The housing units built during this period accounted for 40.1 percent of all housing units statewide in 2020. Housing units built between 1980 and 1999 represented 20.9 percent of housing units in the State of Ohio during 2020. Additionally, 13.0 percent of housing units in the State of Ohio during 2020 were built in 2000 or later.

Table 13: Total Housing Units by Year Built in the State of Ohio, 2020

Year Built	2020	Percent of Total
1939 or Earlier	1,041,735	20.0%
1940 to 1949	316,465	6.1%
1950 to 1959	728,663	14.0%
1960 to 1969	625,077	12.0%
1970 to 1979	739,669	14.2%
1980 to 1989	471,628	9.0%
1990 to 1999	617,753	11.8%
2000 to 2009	488,431	9.4%
2010 to 2013	85,407	1.6%
2014 or later	102,262	2.0%
Total Housing Units	5,217,090	100.0%

Source: American Community Survey five-year estimates, Table DP04.

Table 14 details total housing units in the State of Ohio by the number of rooms used for living purposes such as “living rooms, dining rooms, kitchens, bedrooms, finished recreation rooms, enclosed porches suitable for year-round use, and lodger's rooms.”²⁴ Between 2015 and 2020, positive growth occurred for housing units with three rooms or less and housing units with at least seven units, whereas negative growth occurred for housing units with four to six rooms. The number of housing units with three rooms or less increased from 496,967 in 2015 to 521,856 in 2020. This represents an increase of 24,899 housing units with three rooms or less. The number of housing units with at least seven rooms increased from 1.90 million in 2015 to 2.00 million in 2020. This represents an increase of 97,434 housing units with at least seven rooms. Specifically, housing units with at least nine rooms increased by 77,991 between 2015 and 2020, equating to an annual growth rate of 2.3 percent. This indicates that the positive growth experienced between 2015 and 2020 was concentrated in housing units with at least nine rooms. Overall, the median number of rooms across all housing units in the State of Ohio was 5.90 in 2015 and 2020.

²⁴ (U.S. Census Bureau 2022)

Table 14: Total Housing Units by Number of Rooms in the State of Ohio, 2015 and 2020

Number of Rooms	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
1 Room	66,160	72,839	6,679	10.1%	1.9%
2 Rooms	78,463	91,555	13,092	16.7%	3.1%
3 Rooms	352,344	357,462	5,118	1.5%	0.3%
4 Rooms	706,367	693,871	-12,496	-1.8%	-0.4%
5 Rooms	1,003,807	978,538	-25,269	-2.5%	-0.5%
6 Rooms	1,030,834	1,022,464	-8,370	-0.8%	-0.2%
7 Rooms	736,699	744,638	7,939	1.1%	0.2%
8 Rooms	524,479	535,983	11,504	2.2%	0.4%
9 or More Rooms	641,749	719,740	77,991	12.2%	2.3%
Total Housing Units	5,140,902	5,217,090	76,188	1.5%	0.3%

Source: American Community Survey five-year estimates, Table DP04.

Table 15 details total housing units in the State of Ohio during 2015 and 2020 by the number of rooms currently or intended to be used as a bedroom. Housing units consisting of only one room are classified as having no bedrooms.²⁵ The largest nominal growth in housing units between 2015 and 2020 occurred for housing units with four bedrooms. Specifically, housing units with four bedrooms increased by 41,446 units between 2015 and 2020. Housing units with one or two bedrooms declined by a combined 10,125 units between 2015 and 2020. Overall, approximately two-thirds of all housing units in the State of Ohio had two or three bedrooms during 2015 and 2020.

Table 15: Total Housing Units by Number of Bedrooms in the State of Ohio, 2015 and 2020

Number of Bedrooms	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
No Bedroom	72,580	80,794	8,214	11.3%	2.2%
1 Bedroom	486,450	484,161	-2,289	-0.5%	-0.1%
2 Bedrooms	1,358,494	1,350,658	-7,836	-0.6%	-0.1%
3 Bedrooms	2,177,926	2,198,694	20,768	1.0%	0.2%
4 Bedrooms	879,585	921,031	41,446	4.7%	0.9%
5 or More Bedrooms	165,867	181,752	15,885	9.6%	1.8%
Total Housing Units	5,140,902	5,217,090	76,188	1.5%	0.3%

Source: American Community Survey five-year estimates, Table DP04.

Occupied Housing Unit Characteristics

As detailed in Table 16, more than half (53.8%) of renter-occupied housing units in the State of Ohio in 2020 had a householder who was under the age of 45 years. In comparison, 25.6 percent of owner-occupied housing units had a householder who was under the age of 45 years. Of all occupied housing units with householders under the age of 35 years, 37.0 percent were owner-occupied and 63.0 percent

²⁵ (U.S. Census Bureau 2022)

were renter-occupied. This means that householders under the age of 35 years were 1.7 times more likely to rent their housing unit than own it. However, householders between the ages of 35 and 44 years were 1.7 times more likely to own their housing unit than rent. Additionally, householders aged 45 years and older were between 2.5 and 4.2 times more likely to own their housing unit than rent it.

Table 16: Occupied Housing Units by Age of Householder in the State of Ohio, 2020

Age	Owner-Occupied	Renter-Occupied	Total
Under 35 Years	337,262	573,675	910,937
35 to 44 Years	464,505	280,455	744,960
45 to 54 Years	596,938	239,464	836,402
55 to 64 Years	720,649	232,021	952,670
65 to 74 Years	584,342	143,243	727,585
75 to 84 Years	301,668	71,634	373,302
85 Years and Over	122,808	48,562	171,370
Total Occupied Housing Units	3,128,172	1,589,054	4,717,226

Source: American Community Survey five-year estimates, Table S2502.

Table 17 details the race of the householder for owner- and renter-occupied housing units in the State of Ohio in 2020. White householders represented 89.5 percent of owner-occupied housing units and 68.3 percent of renter-occupied housing units. Black/African American householders represented 6.8 percent of owner-occupied housing units and 23.8 percent of renter-occupied housing units. Of all occupied housing units with a White householder, 72.1 percent were owner-occupied and 27.9 percent were renter-occupied. This means that White householders were 2.6 times more likely to own their housing unit than rent it. Of all occupied housing units with a Black/African American householder, 36.0 percent were owner-occupied and 64.0 percent were renter-occupied. This means that Black/African American householders were 1.8 times more likely to rent their housing unit than own it. Similarly, Native Hawaiian or Other Pacific Islander householders were 1.7 times more likely to rent their housing unit than own it. Additionally, Hispanic/Latino householders of any race represented 2.0 percent of owner-occupied housing units and 4.7 percent of renter-occupied housing units. This indicates that Hispanic/Latino householders were 2.3 times more likely to rent their housing unit than own it.

Table 17: Occupied Housing Units by Race of Householder in the State of Ohio, 2020

Race	Owner-Occupied	Renter-Occupied	Total
American Indian/Alaska Native	4,085	4,484	8,569
Asian	47,256	41,648	88,904
Black/African American	212,231	378,024	590,255
Native Hawaiian/Other Pacific Islander	353	583	936
White	2,800,827	1,085,445	3,886,272
Two or More	46,502	56,730	103,232
Other	16,918	22,140	39,058
Total Occupied Housing Units	3,128,172	1,589,054	4,717,226

Source: American Community Survey five-year estimates, Table S2502.

Table 18 details the educational attainment of the householder of owner- and renter-occupied housing units in the State of Ohio in 2020. Approximately the same number of householders with less than a high school diploma or equivalent lived in owner- and renter-occupied housing units. Of householders who were high school graduates, 64.4 percent lived in owner-occupied housing units and 35.6 percent lived in renter-occupied housing units. Similarly, 63.1 percent of householders with some college or an associate's degree lived in owner-occupied housing units and 36.9 percent lived in renter-occupied housing units. High school graduate householders and householders with some college or an associate's degree were 1.8 and 1.7 times more likely to live in an owner-occupied housing unit compared to a renter-occupied housing unit in the State of Ohio in 2020, respectively. Approximately 75.8 percent of householders with a bachelor's degree or higher in 2020 lived in an owner-occupied housing unit, while the remaining 24.2 percent lived in a renter-occupied housing unit. This indicates that householders in Ohio with a bachelor's degree or higher were 3.1 times more likely to live in an owner-occupied housing unit compared to a renter-occupied housing unit.

Table 18: Occupied Housing Units by Educational Attainment of Householder in the State of Ohio, 2020

Educational Attainment	Owner-Occupied	Renter-Occupied	Total
Less than High School Graduate	191,854	192,500	384,354
High School Graduate ²⁶	924,226	510,214	1,434,440
Some College or Associate's Degree	924,251	539,617	1,463,868
Bachelor's Degree or Higher	1,087,841	346,723	1,434,564
Total Occupied Housing Units	3,128,172	1,589,054	4,717,226

Source: American Community Survey five-year estimates, Table S2502.

The year the householder moved in to owner- and renter-occupied housing units in the State of Ohio during 2020 is detailed in Table 19. Approximately 66.0 percent of owner-occupied householders in 2020 moved in prior to 2010, whereas 17.0 percent of renter-occupied householders in 2020 moved in prior to 2010. For owner-occupied housing units, 15.7 percent of householders in 2020 moved in between 2010 and 2014 and 16.2 percent of householders in 2020 moved in between 2015 and 2018. Only 2.1 percent of owner-occupied householders in 2020 moved in 2019 or later. For renter-occupied housing units, 25.4 percent of householders in 2020 moved in between 2010 and 2014. Approximately 48.6 percent of renter-occupied householders in 2020 moved in between 2015 and 2018. The remaining 9.0 percent of renter-occupied householders in 2020 moved in 2019 or later.

Table 19: Occupied Housing Units by Year Householder Moved In in the State of Ohio, 2020

Year Moved In	Owner-Occupied	Renter-Occupied	Total
1989 and Earlier	679,464	33,661	713,125
1990 to 1999	554,403	47,322	601,725
2000 to 2009	831,629	188,882	1,020,511
2010 to 2014	490,954	404,271	895,225
2015 to 2018	505,216	771,845	1,277,061
2019 or Later	66,506	143,073	209,579
Total Occupied Housing Units	3,128,172	1,589,054	4,717,226

Source: American Community Survey five-year estimates, Table S2502.

²⁶ Includes equivalency.

As detailed in Table 20, 91.5 percent of occupied housing units in 2015 and 92.2 percent of occupied housing units in 2020 had at least one vehicle available. This means that 8.5 percent of occupied housing units in 2015 and 7.8 percent of occupied housing units in 2020 had no vehicle available. Of occupied housing units in 2015, 33.9 percent had one vehicle available, 37.5 percent had two vehicles available, and 20.1 percent had three or more vehicles available. Of occupied housing units in 2020, 33.0 percent had one vehicle available, 37.6 percent had two vehicles available, and 21.6 percent had three or more vehicles available.

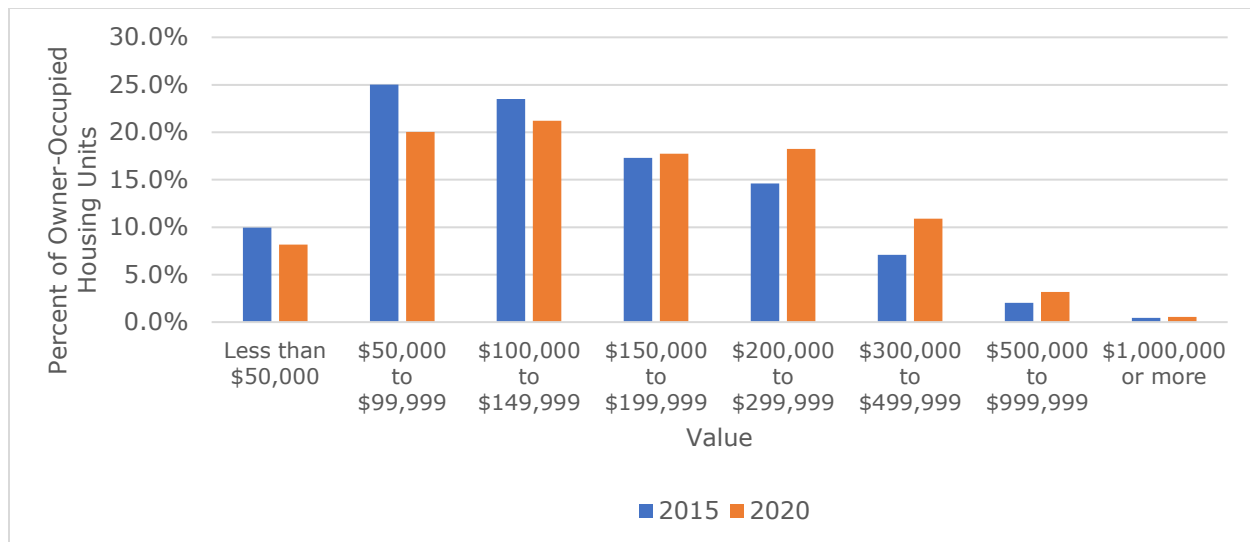
Table 20: Occupied Housing Units by Vehicles Available in the State of Ohio, 2015 and 2020

Vehicles Available	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
No Vehicles	388,047	365,855	-22,192	-5.7%	-1.2%
1 Vehicle	1,555,313	1,558,488	3,175	0.2%	0.0%
2 Vehicles	1,719,408	1,775,061	55,653	3.2%	0.6%
3 or More Vehicles	922,316	1,017,822	95,506	10.4%	2.0%
Total Occupied Housing Units	4,585,084	4,717,226	132,142	2.9%	0.6%

Source: American Community Survey five-year estimates, Table DP04.

Figure 7 illustrates the percent of owner-occupied housing units in the State of Ohio during 2015 and 2020 by the value of the housing unit. It is important to note that the value ranges are reported in nominal dollars and therefore do not account for the effects of inflation. The share of owner-occupied housing units with a value of less than \$150,000 decreased in 2020 compared to 2015. Approximately 80.5 percent of owner-occupied housing units in 2015 had a value between \$50,000 and \$299,999. In 2020, 77.2 percent of owner-occupied housing units had a value between \$50,000 and \$299,999. The share of owner-occupied housing units with a value between \$200,000 and \$299,999 increased 3.6 percentage points from 14.6 percent in 2015 to 18.2 percent in 2020. The share of owner-occupied housing units with a value between \$300,000 and \$499,999 increased 3.8 percentage points from 7.1 percent in 2015 to 10.9 percent in 2020. After adjusting for inflation using the House Price Index for Ohio, the median value of owner-occupied housing units was \$187,611 in 2015 and \$170,523 in 2020. This represents a real decrease of \$17,088, or an annual decrease of 1.9 percent.

Figure 7: Percent of Owner-Occupied Housing Units by Value in the State of Ohio, 2015 and 2020



Source: Economics Center analysis of data from the American Community Survey five-year estimates, Table DP04.

Housing Cost Characteristics

Table 21 details the median household income, median monthly housing costs, and housing costs as a percent of household income for owner- and renter-occupied housing units in the State of Ohio after adjusting for inflation. A corresponding table expressed in nominal dollars is in Appendix B. Owner-occupied housing units in the State of Ohio had median household income of \$74,487 in 2015 and \$76,309 in 2020. In comparison, renter-occupied housing units in the State of Ohio had median household income of \$32,200 in 2015 and \$35,590 in 2020. This means that owner-occupied housing units had a real increase in household income of \$1,822, or 2.4 percent, between 2015 and 2020 compared to a real increase of \$3,390, or 10.5 percent for renter-occupied housing units. Despite renter-occupied units experiencing a larger real increase in median household income than owner-occupied units between 2015 and 2020, owner-occupied housing units had median household income that was more than \$40,000 higher than the median household income of renter-occupied housing units.

Owner-occupied housing units in the State of Ohio had median monthly housing costs of \$1,075 in 2015 and \$997 in 2020. This represents a real decrease of \$78 in median monthly housing costs for owner-occupied housing units between 2015 and 2020. Renter-occupied housing units had median monthly housing costs of \$891 in 2015 and \$844 in 2020. This represents a real decrease of \$48 in median monthly housing costs for renter-occupied housing units between 2015 and 2020. The COVID-19 pandemic began in 2020; therefore, the trends in housing costs detailed in Table 21 are likely not reflective of overall trends. Data from the American Community Survey is typically released during the following year, and data for 2021 had not been released at the time of this analysis. The COVID-19 pandemic resulted in renter-protection policies and eviction moratoriums. Additionally, low interest rates may have increased the numbers of homeowners that chose to refinance their mortgage. These factors, among others, may be influencing the decrease in median monthly housing costs detailed in the American Community Survey.

Owner-occupied housing units spent approximately 17.3 percent of their income on housing costs in 2015. In comparison, renter-occupied housing units spent approximately 33.2 percent of their income on housing costs in 2015. This means the renter-occupied housing units in the State of Ohio spent nearly

twice as much of their income on housing costs compared to owner-occupied housing units. Similarly, the percent of income spent on housing costs was 15.7 percent for owner-occupied housing units and 28.4 percent for renter-occupied units in 2020.

Table 21: Median Household Income and Median Housing Costs by Occupancy Type in the State of Ohio, 2015 and 2020 (2021\$)

Housing Unit Type	Household Characteristic	2015	2020	Real Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Owner-Occupied	Median Household Income	\$74,487	\$76,309	\$1,822	2.4%	0.5%
	Median Monthly Housing Costs	\$1,075	\$997	-\$78	-7.3%	-1.5%
	Housing Costs as Percent of Household Income	17.3%	15.7%	N/A	N/A	N/A
Renter-Occupied	Median Household Income	\$32,200	\$35,590	\$3,390	10.5%	2.0%
	Median Monthly Housing Costs	\$891	\$844	-\$48	-5.3%	-1.1%
	Housing Costs as Percent of Household Income	33.2%	28.4%	N/A	N/A	N/A

Source: Economics Center analysis of American Community Survey five-year estimates, Table S2503. Median household income is adjusted for inflation using the Employment Cost Index for the nation, median monthly housing costs for owner-occupied units are adjusted for inflation using the Consumer Price Index for all items, and median monthly housing costs for renter-occupied units are adjusted for inflation using the Consumer Price Index for rent.

The U.S. Department of Housing and Urban Development (HUD) classifies households as cost-burdened if they spend more than 30.0 percent of their income on housing.²⁷ Table 22 details the distribution of monthly housing costs as a percentage of household income for owner-occupied housing units with a mortgage in the State of Ohio. The percent of owner-occupied housing units with a mortgage that were cost-burdened fell from 26.4 percent in 2015 to 21.0 percent in 2020. This means that 113,407 fewer owner-occupied housing units with a mortgage were cost-burdened in 2020 compared to 2015. As previously discussed, the COVID-19 pandemic began in 2020, and therefore, it is unclear whether the trends detailed in Table 22 reflect overall trends.

²⁷ (U.S. Department of Housing and Urban Development's Office of Policy Development and Research 2014)

Table 22: Monthly Housing Costs as a Percentage of Household Income for Owner-Occupied Housing Units with a Mortgage in the State of Ohio, 2015 and 2020

Monthly Costs as a Percentage of Household Income	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Less than 20.0 percent	910,791	1,066,721	155,930	17.1%	3.2%
20.0 to 24.9 percent	328,502	292,670	-35,832	-10.9%	-2.3%
25.0 to 29.9 percent	214,163	175,785	-38,378	-17.9%	-3.9%
30.0 to 34.9 percent	136,320	108,352	-27,968	-20.5%	-4.5%
35.0 percent or more	386,314	300,875	-85,439	-22.1%	-4.9%
Housing Units with a Mortgage	1,976,090²⁸	1,944,403²⁹	-31,687	-1.6%	-0.3%

Source: American Community Survey five-year estimates, Table DP04.

Table 23 details the distribution of monthly housing costs as a percentage of household income for owner-occupied housing units without a mortgage in the State of Ohio. The percent of owner-occupied housing units without a mortgage that were cost-burdened fell from 12.8 percent in 2015 to 11.7 percent in 2020. This means that 2,272 fewer owner-occupied housing units without a mortgage were cost-burdened in 2020 compared to 2015.

Table 23: Monthly Housing Costs as a Percentage of Household Income for Owner-Occupied Housing Units without a Mortgage in the State of Ohio, 2015 and 2020

Monthly Costs as a Percentage of Household Income	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Less than 10.0 percent	417,042	523,038	105,996	25.4%	4.6%
10.0 to 14.9 percent	226,319	244,275	17,956	7.9%	1.5%
15.0 to 19.9 percent	135,332	133,511	-1,821	-1.3%	-0.3%
20.0 to 24.9 percent	81,525	78,221	-3,304	-4.1%	-0.8%
25.0 to 29.9 percent	51,496	48,074	-3,422	-6.6%	-1.4%
30.0 to 34.9 percent	33,356	33,524	168	0.5%	0.1%
35.0 percent or more	100,273	102,377	2,104	2.1%	0.4%
Housing Units without a Mortgage	1,045,343³⁰	1,163,020³¹	117,677	11.3%	2.2%

Source: American Community Survey five-year estimates, Table DP04.

²⁸ Excludes 7,248 housing units with a mortgage where selected monthly owner costs as a percentage of household income could not be computed.

²⁹ Excludes 7,176 housing units with a mortgage where selected monthly owner costs as a percentage of household income could not be computed.

³⁰ Excludes 11,763 housing units without a mortgage where selected monthly owner costs as a percentage of household income could not be computed.

³¹ Excludes 13,573 housing units without a mortgage where selected monthly owner costs as a percentage of household income could not be computed.

Table 24 details the distribution of monthly rent costs as a percentage of household income for occupied housing units paying rent in the State of Ohio. The percent of occupied housing units paying rent that were cost-burdened fell from 48.8 percent in 2015 to 44.1 percent in 2020. This means that 44,979 fewer occupied housing units paying rent were cost-burdened in 2020 compared to 2015. However, this means that occupied housing units paying rent were approximately twice as likely to be cost-burdened as owner-occupied housing units with a mortgage and nearly four times as likely to be cost-burdened as owner-occupied housing units without a mortgage.

Table 24: Monthly Rent as a Percentage of Household Income for Occupied Units Paying Rent in the State of Ohio, 2015 and 2020

Monthly Rent as a Percentage of Household Income	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Less than 15.0 percent	198,823	241,353	42,530	21.4%	4.0%
15.0 to 19.9 percent	187,186	213,048	25,862	13.8%	2.6%
20.0 to 24.9 percent	177,470	196,038	18,568	10.5%	2.0%
25.0 to 29.9 percent	165,056	173,693	8,637	5.2%	1.0%
30.0 to 34.9 percent	122,041	125,398	3,357	2.8%	0.5%
35.0 percent or more	573,006	524,670	-48,336	-8.4%	-1.7%
Occupied Units Paying Rent	1,423,582³²	1,474,200³³	50,618	3.6%	0.7%

Source: American Community Survey five-year estimates, Table DP04.

Residential Property Transactions

An analysis of historical residential property transactions in the State of Ohio characterizes the existing housing supply. Using data from each county in the State of Ohio, the number and the median sale price of residential property transactions in the State of Ohio and each JobsOhio Region were analyzed. Due to limitations in the data available from each county, further analysis of the residential property transaction data is not possible.

All Transactions

Table 25 summarizes the residential property transactions by JobsOhio Region between 2015 and 2021. The number of residential property transactions throughout the State of Ohio increased from 161,201 in 2015 to 240,335 in 2021. This represents a 6.9 percent annual increase in residential property transactions statewide. A total of nearly 1.38 million residential property transactions occurred in the State of Ohio between 2015 and 2021. More than one-third of (37.5%) of the residential property transactions occurred in the Northeast JobsOhio Region. Additionally, the Central JobsOhio Region accounted for 17.9 percent of residential property transactions between 2015 and 2021 followed by the Southwest JobsOhio Region (16.3%) and the West JobsOhio Region (12.7%). The Northwest and Southeast JobsOhio Regions each accounted for less than 10.0 percent of the total residential property transactions between 2015 and 2021.

³² Excludes 121,058 occupied units paying rent where selected monthly owner costs as a percentage of household income could not be computed.

³³ Excludes 114,854 occupied units paying rent where selected monthly owner costs as a percentage of household income could not be computed.

The Northeast JobsOhio Region experienced the largest increase in annual residential property transactions between 2015 and 2021. Specifically, residential property transactions increased from 60,591 in 2015 to 90,794 in 2021. This represents a nominal increase of 30,203 residential property transactions and equates to a 7.0 percent annual increase. However, the Central JobsOhio Region experienced the largest annual growth rate in residential property transactions between 2015 and 2021. The Central JobsOhio Region experienced a 9.3 percent annual increase in residential property transactions. Residential property transactions in the Central JobsOhio Region increased from 26,662 in 2015 to 45,516 in 2021. This represents a nominal increase of 18,854 residential property transactions. Appendix A details residential property transactions by county.

Table 25: Residential Property Transactions by JobsOhio Region, 2015 and 2021

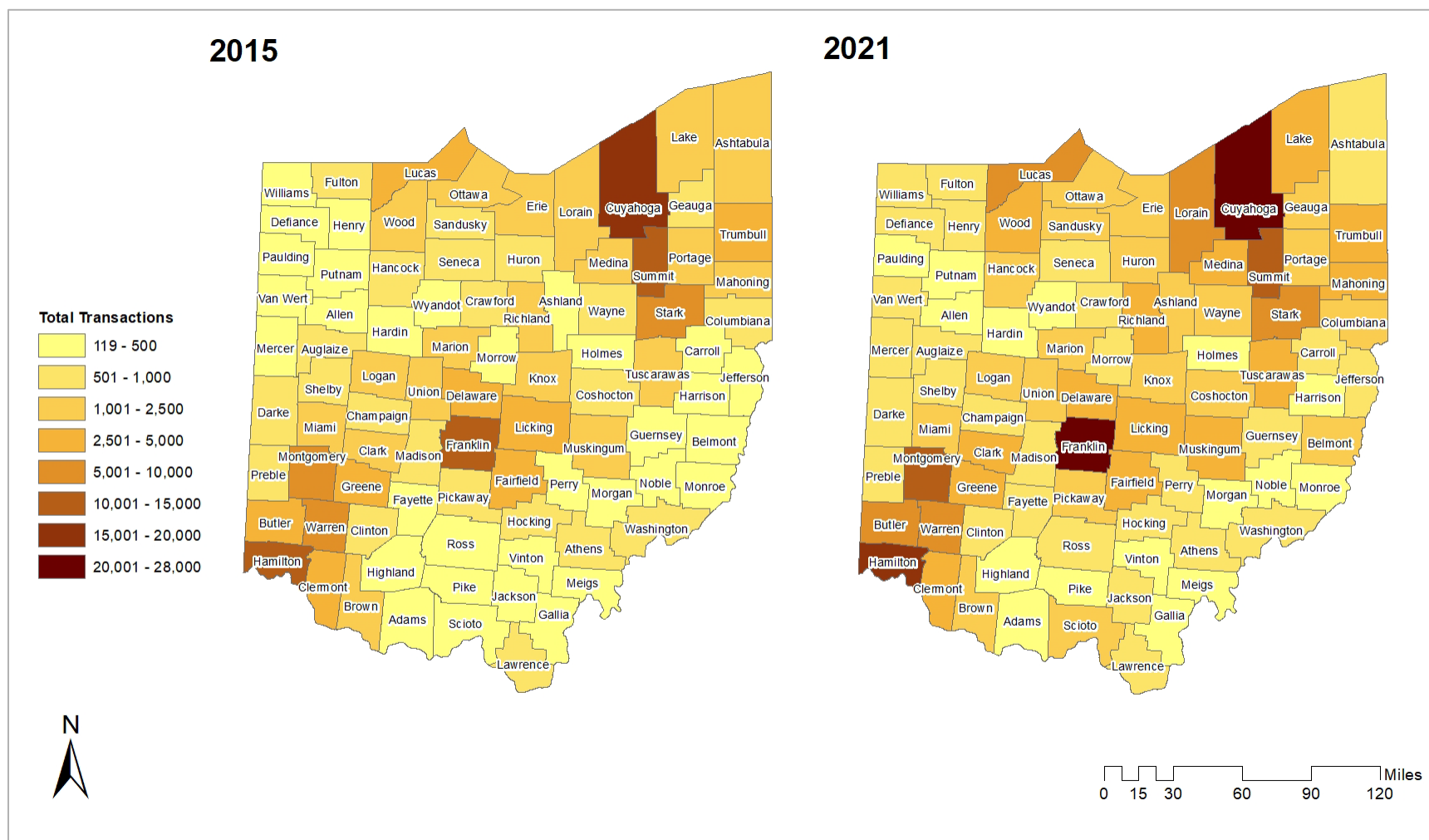
JobsOhio Region	2015	2021	Total (2015-2021)	Percent of Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	26,662	45,516	246,008	17.9%	18,854	9.3%
Northeast	60,591	90,794	515,619	37.5%	30,203	7.0%
Northwest	14,607	20,520	121,517	8.8%	5,913	5.8%
Southeast	11,546	16,193	93,849	6.8%	4,647	5.8%
Southwest	27,362	37,165	224,762	16.3%	9,803	5.2%
West	20,433	30,147	174,516	12.7%	9,714	6.7%
Ohio	161,201	240,335	1,376,271	100.0%	79,134	6.9%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Residential property transactions in 2015 through 2021 were concentrated in the major metropolitan areas across the State of Ohio, as illustrated in Figure 8. The counties with the most residential property transactions in 2015 were Cuyahoga (18,197), Hamilton (14,326), Summit (11,654), Franklin (11,227), and Montgomery Counties (9,416). These counties contain the primary city of the five largest metropolitan statistical areas (MSAs) in the State of Ohio. Similarly, residential property transactions were also concentrated in Cuyahoga (27,541), Franklin (25,570), Hamilton (18,485), Montgomery (14,877), and Summit Counties (14,670) in 2021. These five counties accounted for 40.2 percent and 42.1 percent of all residential property transactions across the State of Ohio during 2015 and 2021, respectively.

The counties with the largest growth in annual residential property transactions between 2015 and 2021 were Franklin (14,343), Cuyahoga (9,344), Montgomery (5,461), Lorain (4,348), and Butler Counties (4,217). Despite have the largest nominal increase in annual residential property transactions, the counties with the highest annual growth rate between 2015 and 2021 were Hancock (21.6%), Lorain (18.7%), Pike (17.9%), Morrow (16.9%), and Clark (16.6%). Ashtabula, Harrison, Madison, Monroe, and Warren Counties were the only counties to experience a decline in annual residential property transactions between 2015 and 2021.

Figure 8: Residential Property Transactions in the State of Ohio, 2015 and 2021



Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Table 26 details the median sale price of residential property transactions by JobsOhio Region, after adjusting for inflation using the House Price Index for Ohio. A corresponding table expressed in nominal dollars is in Appendix B. Residential property transactions in the State of Ohio had a median sale price of \$168,980 in 2015 and increased to \$174,900 in 2021. This represents an increase of \$5,920, or an annual increase of 0.6 percent. Expressed in nominal dollars, the median sale price of residential property transactions was \$117,000 in 2015 and \$174,900 in 2021. This represents a nominal growth in median sale price of \$57,900.

The median sale price of residential property transactions varied substantially between JobsOhio Regions. The Central JobsOhio Region had the highest median sale price for each year between 2015 and 2021, whereas the Southeast JobsOhio Region had the lowest median sale price. Specifically, the Central JobsOhio Region had a median sale price of \$250,000 in 2021 compared to a median sale price of \$130,400 for the Southeast JobsOhio Region. The Central and Southwest JobsOhio Regions were the only regions with a median sale price that was higher than the overall median sale price statewide for each year between 2015 and 2021.

The real increase in median sale price of residential property transactions between 2015 and 2021 ranged from \$2,629 for the Northeast JobsOhio Region to \$15,306 for the Central JobsOhio Region. The corresponding annual growth rates are 0.3 percent for the Northeast JobsOhio Region and 1.1 percent for the Central JobsOhio Region.

The Southeast JobsOhio Region had the largest annual growth rate in median sale price between 2015 and 2021 of 2.0 percent. Specifically, the median sale price of residential property transactions in the Southeast JobsOhio Region increased from \$115,542 in 2015 to \$130,400 in 2021, representing a real increase of \$14,858. This means that the Southeast JobsOhio Region had the largest annual growth rate despite having the lowest median sale price of the JobsOhio Regions. Appendix A details the median sale price of residential property transactions by county.

Table 26: Median Sale Price of Residential Property Transactions by JobsOhio Region, 2015 and 2021 (2021\$)

JobsOhio Region	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	\$234,694	\$250,000	\$15,306	1.1%
Northeast	\$152,371	\$155,000	\$2,629	0.3%
Northwest	\$144,427	\$148,000	\$3,573	0.4%
Southeast	\$115,542	\$130,400	\$14,858	2.0%
Southwest	\$198,587	\$212,000	\$13,413	1.1%
West	\$142,983	\$152,000	\$9,017	1.0%
Ohio	\$168,980	\$174,900	\$5,920	0.6%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio.

Workforce Housing Transactions

Table 27 summarizes the number of residential property transactions that were affordable for households with income in various ranges relative to area median income (AMI). Affordability is determined using the sale price of the transaction, the corresponding county's median household income, and the corresponding county's relationship between house price and income. Appendix A details workforce housing residential property transactions by county.

Residential property transactions affordable to households with income less than 60.0 percent of AMI increased from 25,072 in 2015 to 40,154 in 2021, representing an annual growth rate of 8.2 percent across the State of Ohio. The share of residential property transactions affordable to households with income of less than 60.0 percent of AMI increased from 15.6 percent of all residential property transactions statewide in 2015 to 16.7 percent of all residential property transactions statewide in 2021.³⁴ This represents a 1.2 percentage point increase in the share of residential property transactions affordable to households with income less than 60.0 percent of AMI.

In the State of Ohio, residential property transactions affordable to households with income between 60.0 and 79.9 percent of AMI increased from 13,789 in 2015 to 25,710 in 2021. This represents an annual growth rate of 10.9 percent. Residential property transactions affordable to households with income between 60.0 and 79.9 percent of AMI accounted for 8.6% of all residential property transactions in 2015 and increased to 10.7 percent of all residential property transactions 2021. This equates to a 2.1 percentage point increase in the share of residential property transactions affordable to households with income between 60.0 and 79.9 percent of AMI.

Residential property transactions affordable to households with income between 80.0 and 99.9 percent of AMI increased from 13,678 in 2015 to 28,148 in 2021. This represents an annual growth rate of 12.8 percent in the State of Ohio. The share of residential property transactions affordable to households with income between 80.0 and 99.9 percent of AMI increased from 8.5 percent of all residential property transactions statewide in 2015 to 11.7 percent of all residential property transactions statewide in 2021. This equates to a 3.2 percentage point increase in the share of residential property transactions affordable to households with income between 80.0 and 99.9 percent of AMI.

In the State of Ohio, residential property transactions affordable to households with income between 100.0 and 120.0 percent of AMI increased from 14,089 in 2015 to 28,619 in 2021. This represents an annual growth rate of 12.5 percent between 2015 and 2021. Residential property transactions affordable to households with income between 100.0 and 120.0 percent of AMI accounted for 8.7 percent of all residential property transactions in 2015 and increased to 11.9 percent of all residential property transactions 2021. This equates to a 3.2 percentage point increase in the share of residential property transactions affordable to households with income between 100.0 and 120.0 percent of AMI.

In the State of Ohio, residential property transactions affordable to households with income of more than 120.0 percent of AMI increased from 94,573 in 2015 to 117,704 in 2021. This represents an annual growth rate of 3.7 percent between 2015 and 2021. However, the share of residential property transactions affordable to households with income of more than 120.0 percent of AMI decreased from 58.7 percent in 2015 to 49.0 percent in 2021. This represents a decrease of 9.7 percentage points. Between 2015 and 2021, more than half (53.7%) of all residential property transactions statewide were affordable to households with income more than 120.0 percent of AMI.

³⁴ Although residential property transactions with a sale price less than or equal to 20.0 percent of the median sale price were excluded, it is important to note transactions in this income range may still include sales that do not represent the types of transactions relevant to this analysis.

Collectively, residential property transactions affordable to households with income between 60.0 and 120.0 percent of AMI increased from 41,556 in 2015 to 82,477 in 2021. This mean that workforce housing transactions in the State of Ohio nearly doubled between 2015 and 2021. Additionally, the annual growth rate in workforce housing transactions was 12.1 percent, which is larger than the annual growth rates for transactions affordable to households with income less than 60.0 percent of AMI and income more than 120.0 percent of AMI.

Table 27: Summary of Affordable Residential Property Transactions by Income Range, 2015 and 2021

Income Range	2015	2021	Total (2015-2021)	Percent of Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Less than 60% of AMI	25,072	40,154	224,235	16.3%	15,082	8.2%
60-79% of AMI	13,789	25,710	130,759	9.5%	11,921	10.9%
80-99% of AMI	13,678	28,148	140,061	10.2%	14,470	12.8%
100-120% of AMI	14,089	28,619	141,700	10.3%	14,530	12.5%
More than 120% of AMI	94,573	117,704	739,516	53.7%	23,131	3.7%
Total	161,201	240,335	1,376,271	100.0%	79,134	6.9%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Table 28 details the median sale price of residential property transactions in the State of Ohio between 2015 and 2021 by income range, after adjusting for inflation using the House Price Index for Ohio. A corresponding table expressed in nominal dollars is in Appendix B. The median sale price of all residential property transactions in the State of Ohio was \$168,980 in 2015 and increased to \$174,900 in 2021. This represents real growth of \$5,920 in the median sale price statewide between 2015 and 2021.

Residential property transactions affordable to households in the State of Ohio with less than 60.0 percent of AMI had a median sale price of \$44,772 in 2015 and \$57,500 in 2021.³⁵ For residential property transactions affordable to households with income between 60.0 and 79.9 percent of AMI, the median sale price statewide increased from \$76,978 in 2015 to \$101,485 in 2021. Residential property transactions affordable to households in the State of Ohio with income between 80.0 and 99.9 percent of AMI had a median sale price of \$102,543 in 2015 and \$135,000 in 2021. For residential property transactions affordable to households with income between 100.0 and 120.0 percent of AMI, the median sale price statewide increased from \$127,674 in 2015 to \$160,000 in 2021. Residential property transactions affordable to households in the State of Ohio with more than 120.0 percent of AMI had a median sale price of \$246,248 in 2015 and \$274,000 in 2021.

Between 2015 and 2021, the real growth in the median sale price of residential property transactions was \$12,728 for transactions affordable to households with income less than 60.0 percent of AMI, \$24,507 for transactions affordable to households with income between 60.0 and 79.9 percent of AMI, \$32,457 for transactions affordable to households with income between 80.0 and 99.9 percent of AMI, \$32,326 for transactions affordable to households with income between 100.0 and 120.0 percent of AMI, and \$27,752 for transactions affordable to households with income more than 120.0 percent of AMI.

³⁵ Although residential property transactions with a sale price less than or equal to 20.0 percent of the median sale price were excluded, it is important to note transactions in this income range may still include sales that do not represent the types of transactions relevant to this analysis.

Collectively, residential property transactions affordable to households with income between 60.0 and 120.0 percent of AMI had a median sale price of \$103,340 in 2015 and \$135,000 in 2021. This represents a real increase of \$31,660 in the median sale price of workforce housing transactions in the State of Ohio between 2015 and 2021. In the State of Ohio, workforce housing transactions had a real increase in median sale price that exceeded the real increase in median sale price of all residential property transactions by more than \$25,000. Appendix A details the median sale price of workforce housing residential property transactions by county.

Table 28: Summary of Median Sale Price of Affordable Residential Property Transactions by Income Range, 2015 and 2021 (2021\$)

Income Range	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Less than 60% of AMI	\$44,772	\$57,500	\$12,728	4.3%
60-79% of AMI	\$76,978	\$101,485	\$24,507	4.7%
80-99% of AMI	\$102,543	\$135,000	\$32,457	4.7%
100-120% of AMI	\$127,674	\$160,000	\$32,326	3.8%
More than 120% of AMI	\$246,248	\$274,000	\$27,752	1.8%
Total	\$168,980	\$174,900	\$5,920	0.6%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio.

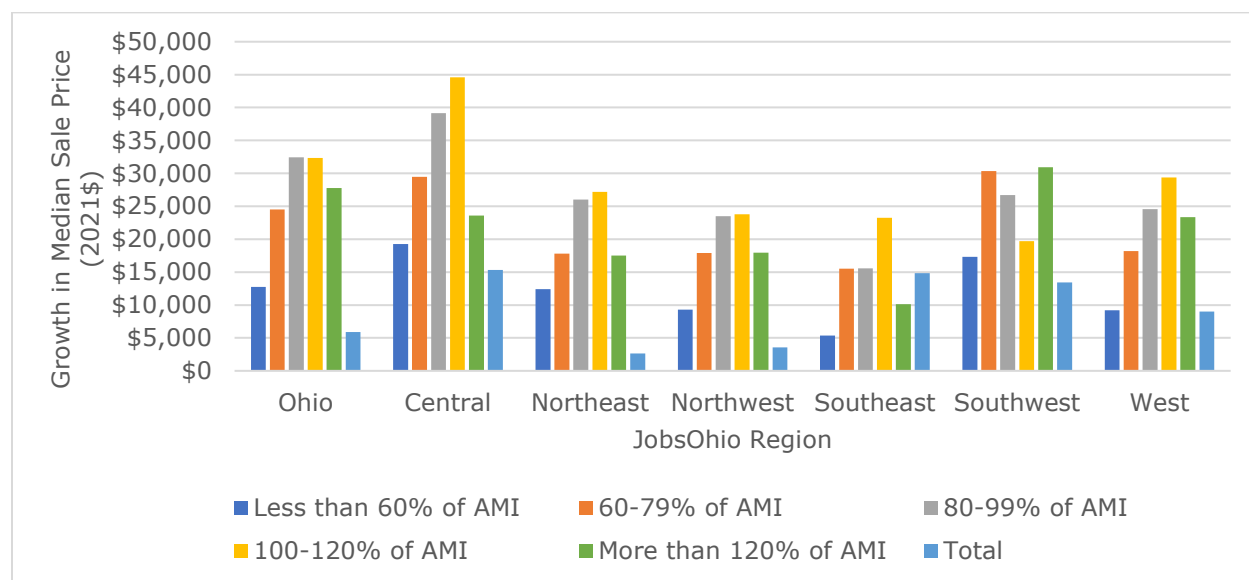
Figure 9 illustrates the real growth in the median sale price of residential property transactions in Ohio and the JobsOhio Regions between 2015 and 2021, after adjusting for inflation. Between 2015 and 2021, the real growth in the median sale price of residential property transactions across the State of Ohio was \$5,920. For residential property transactions affordable to households with income between 60.0 and 79.9 percent of AMI, the real growth in median sale price between 2015 and 2021 was \$24,507 statewide. For residential property transactions affordable to households with income between 80.0 and 99.9 percent of AMI, the real growth in median sale price in the State of Ohio was \$32,457 between 2015 and 2021. Statewide, the real growth in median sale price of residential property transactions affordable to households with 100.0 and 120.0 percent of AMI was \$32,326 between 2015 and 2021. This means that residential property transactions in the workforce housing income range experienced real growth that was between 4.1 and 5.5 times higher than all residential property transactions across the State of Ohio between 2015 and 2021.

The Southwest JobsOhio Region experienced the largest real growth in median sale price for residential property transactions affordable to households with income between 60.0 and 79.9 percent of the AMI. Specifically, the Southwest JobsOhio Region experienced real growth of \$30,345 between 2015 and 2021. Between 2015 and 2021, the Central JobsOhio Region experienced the largest real growth in median sale price for residential property transactions affordable to households with income between 80.0 and 99.9 percent of AMI and between 100.0 and 120.0 percent of AMI. For residential property transaction affordable to households with 80.0 and 99.9 percent of AMI, the real growth in median sale price in the Central JobsOhio Region was \$39,129. For residential property transaction affordable to households with 100.0 and 120.0 percent of AMI, the real growth in median sale price in the Central JobsOhio Region was \$44,610.

However, the Northeast and Northwest JobsOhio Regions experienced greater growth in median sale price for workforce housing relative to overall growth in median sale price among all residential property

transactions. In the Northeast JobsOhio Region, the growth in median sale price was between 6.8 and 10.3 times as much for residential property transactions in the workforce housing income range compared to all residential property transactions. In the Northwest JobsOhio Region the growth in median sale price was between 5.0 and 6.7 times as much for residential property transactions in the workforce housing income range compared to all residential property transactions.

Figure 9: Real Growth in Median Sale Price of Residential Property Transactions in Ohio by Income Range and JobsOhio Region, 2015-2021 (2021\$)



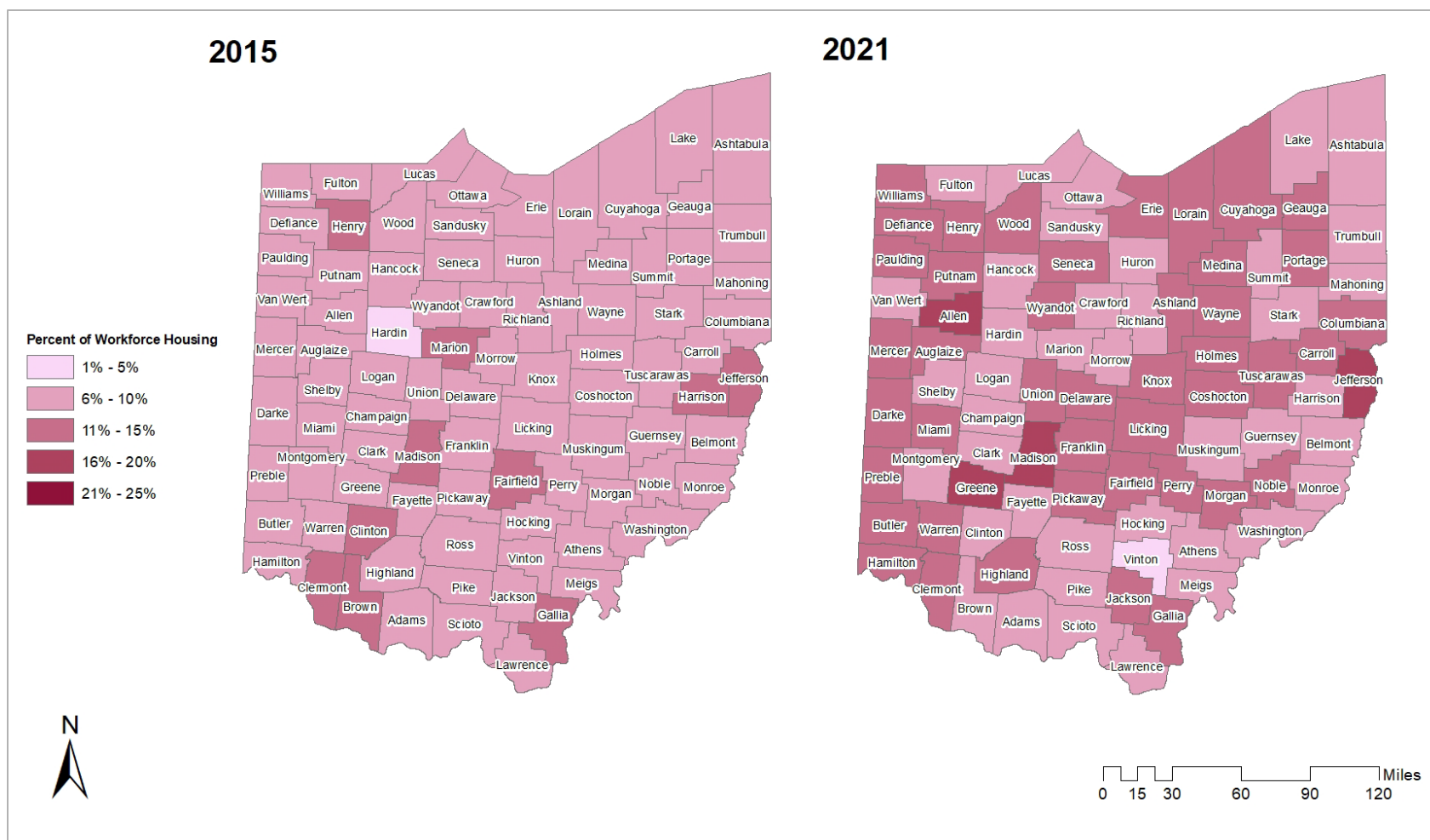
Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio.

Figure 10 illustrates the percent of residential property transactions in each county in the State of Ohio that were affordable to households with 60.0 to 79.9 percent of AMI. The counties that experienced the largest nominal increase in residential property transactions that were affordable to households with income between 60.0 to 79.9 percent of AMI were Franklin (2,172), Cuyahoga (984), Butler (785), Hamilton (744), and Lorain Counties (587). However, the counties that experienced the largest annual growth rate in residential property transactions that were affordable to households with income between 60.0 to 79.9 percent of AMI were Defiance (33.4%), Paulding (28.2%), Lorain (27.8%), Clark (27.7%), and Wayne Counties (27.4%). Ashtabula, Brown, Clinton, Harrison, Marion, and Vinton Counties were the only counties that experienced a decline in residential property transactions affordable to households with income between 60.0 and 79.9 percent of AMI from 2015 to 2021.

Figure 11 illustrates the percent of residential property transactions in each county in the State of Ohio that were affordable to households with 80.0 to 99.9 percent of AMI. The counties that experienced the largest nominal increase in residential property transactions that were affordable to households with income between 80.0 to 99.9 percent of AMI were Franklin (2,603), Hamilton (1,246), Cuyahoga (918), Lake (662), and Montgomery Counties (659). However, the counties that experienced the largest annual growth rate in residential property transactions that were affordable to households with income between 80.0 to 99.9 percent of AMI were Paulding (41.8%), Monroe (34.8%), Morgan (34.8%), Hancock (33.5%), and Clark Counties (27.5%). Adams, Ashtabula, Harrison, Jackson, Lawrence, and Noble Counties were the only counties that experienced a decline in residential property transactions affordable to households with income between 80.0 and 99.9 percent of AMI from 2015 to 2021.

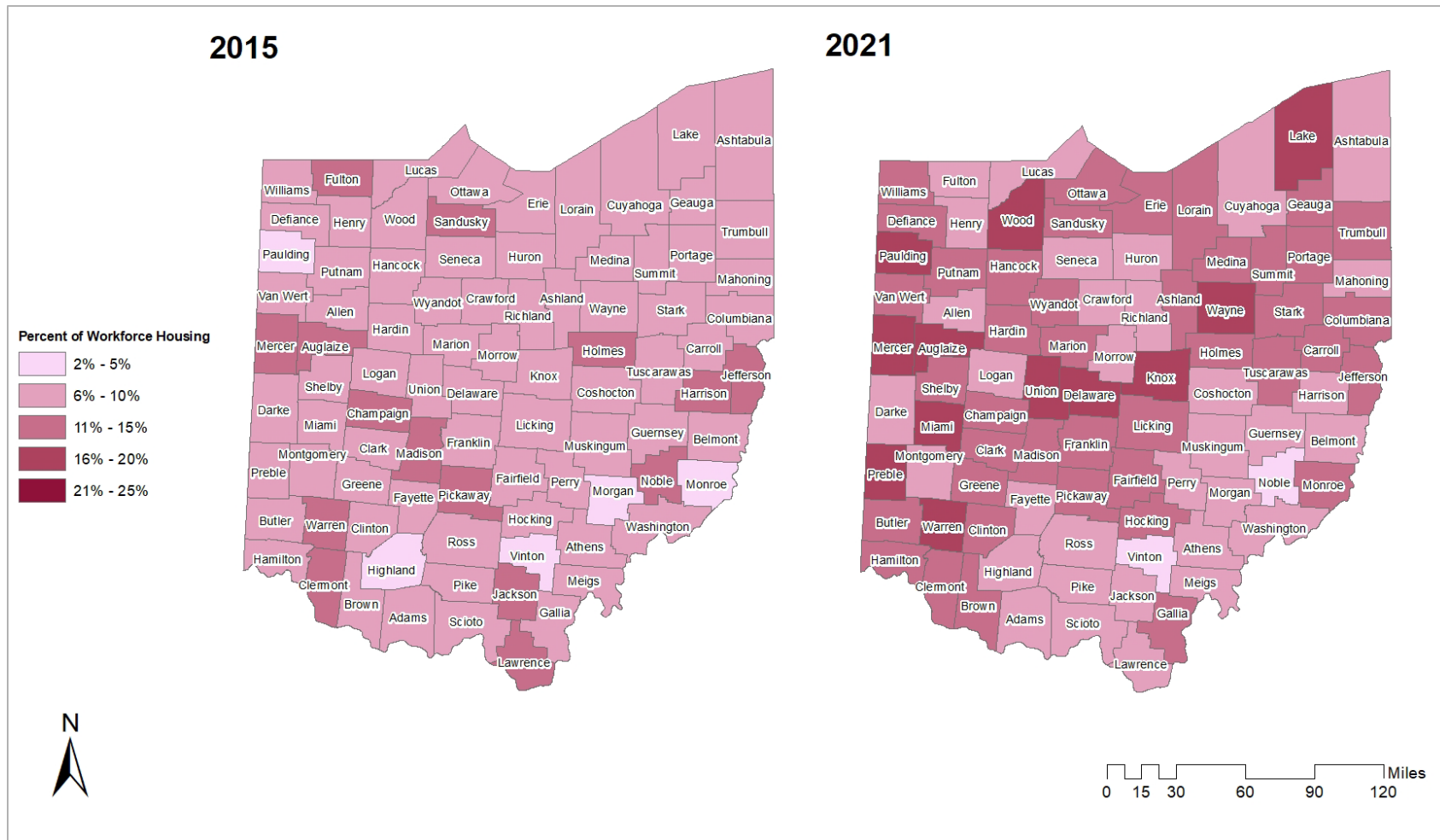
Figure 12 illustrates the percent of residential property transactions in each county in the State of Ohio that were affordable to households with 100.0 to 120.0 percent of AMI. The counties that experienced the largest nominal increase in residential property transactions that were affordable to households with income between 100.0 to 120.0 percent of AMI were Franklin (2,077), Cuyahoga (1,819), Hamilton (1,373), Montgomery (927), and Delaware Counties (758). However, the counties that experienced the largest annual growth rate in residential property transactions that were affordable to households with income between 100.0 to 120.0 percent of AMI were Lake (28.3%), Hancock (27.6%), Defiance (25.7%), Scioto (24.2%), and Wayne Counties (24.0%). Madison, Meigs, Morgan, and Vinton Counties were the only counties that experienced a decline in residential property transactions affordable to households with income between 100.0 and 120.0 percent of AMI from 2015 to 2021.

Figure 10: Percent of Residential Property Transactions that were Affordable to Households with 60.0 to 79.9 Percent of Area Median Income, 2015 and 2021



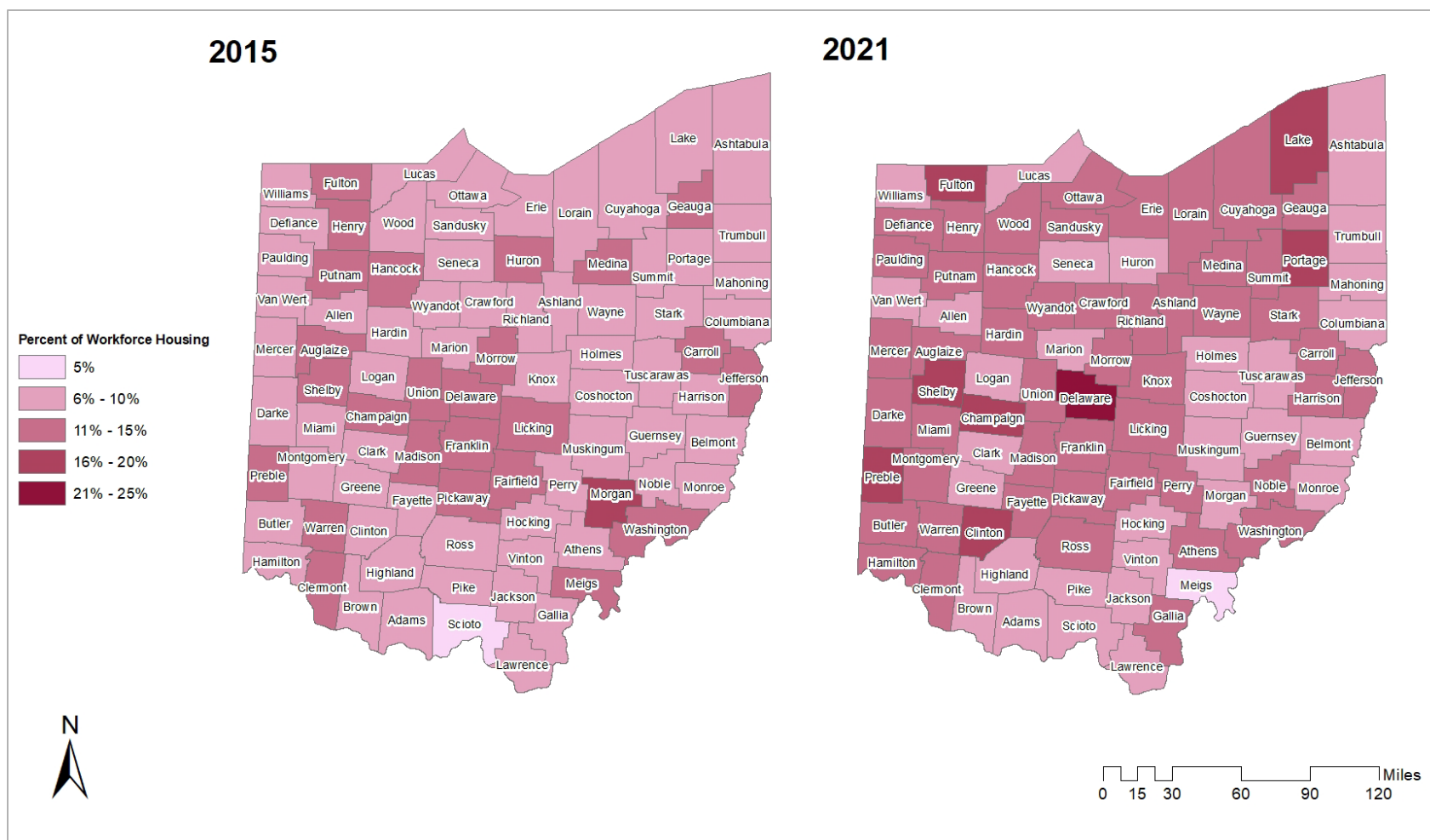
Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio, and analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

Figure 11: Percent of Residential Property Transactions that were Affordable to Households with 80.0 to 99.9 Percent of Area Median Income, 2015 and 2021



Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio, and analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

Figure 12: Percent of Residential Property Transactions that were Affordable to Households with 100.0 to 120.0 Percent of Area Median Income, 2015 and 2021



Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio, and analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

New Construction Permits

To understand the potential future supply of new workforce housing, data on permits issued for new privately-owned construction of single-family homes from the U.S. Census Bureau's Building Permits Survey were analyzed. According to the U.S. Census Bureau, new residential construction refers to five phases of a residential construction project including "(1) housing units authorized to be built by a building or zoning permit; (2) housing units authorized to be built, but not yet started; (3) housing units started; (4) housing units under construction; and (5) housing units completed."³⁶ These data represent permits issued but does not necessarily equate to new homes built. However, permits issued serves as a proxy for understanding trends in the future supply of workforce housing.

All Permits

Table 29 details the total permits issued for new privately-owned construction of single-family homes in the State of Ohio between 2015 and 2021. Across the State of Ohio, permits issued for new construction of single-family homes increased from 13,529 permits in 2015 to 20,506 permits in 2021. A total of 116,168 permits were issued for new construction of single-family homes in the State of Ohio between 2015 and 2021. This equates to an average of 16,595 permits issued each year. Permits issued for new construction of single-family homes increased at an annual rate of 7.2 percent between 2015 and 2021.

The Central JobsOhio Region accounted for 30.1 percent of all permits issued for new construction of single-family homes in the State of Ohio between 2015 and 2021 followed by the Northeast JobsOhio Region (29.7%), Southwest JobsOhio Region (19.7%), West JobsOhio Region (10.0%), Northwest JobsOhio Region (8.1%), and the Southeast JobsOhio Region (2.4%). The Central JobsOhio Region also experienced the largest annual growth in permits issued for new construction of single-family homes. Specifically, permits issued in the Central JobsOhio Region increased by 12.0 percent annually between 2015 and 2021. This means that permits issued in the Central JobsOhio Region increased at an annual rate that was 4.8 percentage points higher than the State of Ohio between 2015 and 2021.

Despite accounting for only 10.0 percent of the total permits issued for new construction of single-family homes statewide, the West JobsOhio Region experienced the second highest annual growth rate in permits issued. Permits issued in the West JobsOhio Region increased at an annual rate of 9.1 percent between 2015 and 2021. Additionally, the Southeast JobsOhio Region experienced the lowest annual growth rate of 0.4 percent in permits issued for new construction of single-family homes between 2015 and 2021. Appendix A details total permits issued for new construction of single-family homes by county.

³⁶ (U.S. Census Bureau 2021)

Table 29: Total Permits Issued for New Construction of Single-Family Homes by JobsOhio Region, 2015 and 2021

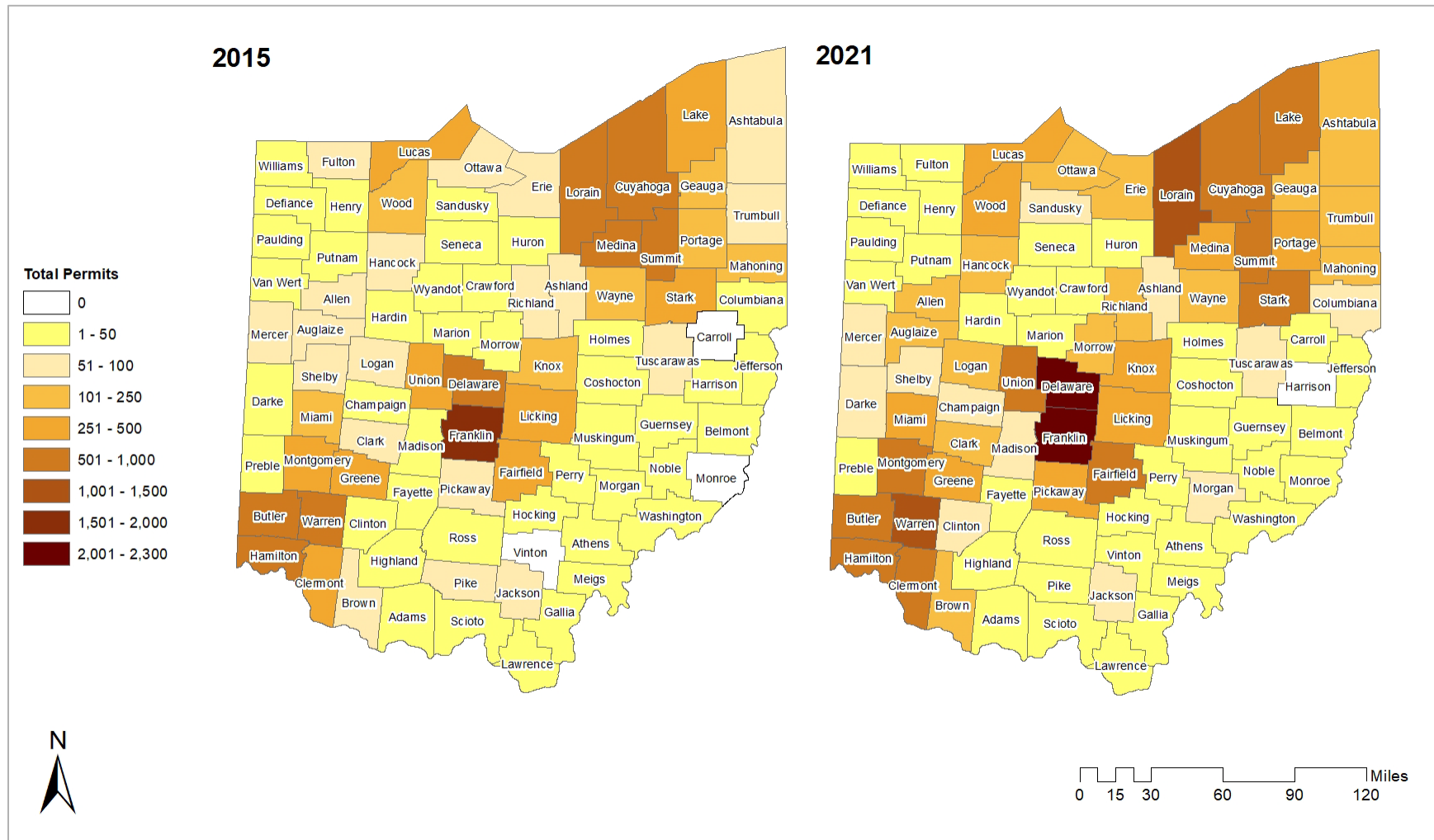
JobsOhio Region	2015	2021	Total (2015-2021)	Percent of Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	3,710	7,309	34,928	30.1%	3,599	12.0%
Northeast	4,496	5,443	34,507	29.7%	947	3.2%
Northwest	1,150	1,447	9,389	8.1%	297	3.9%
Southeast	374	384	2,833	2.4%	10	0.4%
Southwest	2,492	3,723	22,898	19.7%	1,231	6.9%
West	1,307	2,200	11,613	10.0%	893	9.1%
Ohio	13,529	20,506	116,168	100.0%	6,977	7.2%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

As illustrated in Figure 13, permits issued for new construction of single-family homes in 2015 were concentrated in the major metropolitan areas across the State of Ohio. The counties with the most permits issued in 2015 were Franklin (1,508 permits), Warren (898 permits), Delaware (852 permits), Cuyahoga (702 permits), and Lorain Counties (699 permits). These counties contain or surround Columbus, Cincinnati, and Cleveland. Permits issued for new construction of single-family homes were also concentrated, but to a lesser degree, in Akron, Dayton, and Toledo.

Similarly, permits issued for new construction of single-family homes in 2021 were concentrated in the major metropolitan areas across the State of Ohio. The counties with the most permits issued in 2021 were Franklin (2,288 permits), Delaware (2,258 permits), Warren (1,259 permits), Lorain (1,030 permits), and Butler Counties (934 permits). These counties contain or surround Columbus, Cincinnati, and Cleveland. Compared to 2015, Dayton and Toledo had a higher concentration of permits issued for new construction of single-family homes in 2021, whereas Akron had a lower concentration of permits issued.

Figure 13: Total Permits Issued for New Construction of Single-Family Homes in the State of Ohio, 2015 and 2021



Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

Table 30 details the average value of permits issued for new construction of single-family homes by JobsOhio Region, after adjusting for inflation using the House Price Index for Ohio. A corresponding table expressed in nominal dollars is in Appendix B. Across the State of Ohio, permits issued had an average value of \$357,440 in 2015 and \$308,468 in 2021. This represents a real decrease of \$48,972 in the average value of permits issued for new construction of single-family homes, or an annual decrease of 2.4 percent. Expressed in nominal dollars, the average value of permits issued increased from \$247,488 in 2015 to \$308,468 in 2021. This represents a nominal increase of \$60,980 before adjusting for inflation, as detailed in Appendix B. This corresponds to an annual increase of 3.7 percent.

The average value of permits issued varied substantially between JobsOhio Regions. The West JobsOhio Region had the highest average value for all but one year between 2015 and 2021, whereas the Southeast JobsOhio Region had the lowest average value for each year. Permits issued in the West JobsOhio Region had an average value of \$384,409 in 2015 and \$344,521 in 2021, whereas permits issued in the Southeast JobsOhio Region had an average value of \$274,060 in 2015 and \$233,706 in 2021. This mean that the average value of permits issued varied by JobsOhio Region by more than \$110,000 in 2015 and \$120,000 in 2021. Appendix A details the average value per permit issued for new construction of single-family homes by county.

Table 30: Average Value per Permit Issued for New Construction of Single-Family Homes by JobsOhio Region, 2015 and 2021 (2021\$)

JobsOhio Region	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	\$380,600	\$323,906	-\$56,693	-2.7%
Northeast	\$348,326	\$297,227	-\$51,098	-2.6%
Northwest	\$330,154	\$286,683	-\$43,471	-2.3%
Southeast	\$274,060	\$223,706	-\$50,353	-3.3%
Southwest	\$350,365	\$290,496	-\$59,869	-3.1%
West	\$384,409	\$344,521	-\$39,888	-1.8%
Ohio	\$357,440	\$308,468	-\$48,972	-2.4%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey, adjusted for inflation using the House Price Index for Ohio.

Workforce Housing Permits

Table 31 details the permits issued for new construction of single-family homes that are affordable for households with income in various ranges relative to area median income (AMI). Affordability is determined using the estimated value of the residential structure as reported on the building permit, the corresponding county's median household income, and the corresponding county's relationship between house price and income.

Of the permits issued for new construction of single-family homes between 2015 and 2021, 84.9 percent of permits issued required household income that was more than 120.0 percent of the AMI. Additionally, only 0.7 percent of permits issued between 2015 and 2021 required household income that was less than 60.0 percent of the AMI. This indicates that only 14.3 percent of permits issued required household income that was between 60.0 and 120.0 percent of the AMI, also referred to as workforce housing.

Across the State of Ohio, permits issued for workforce housing increased from 569 permits in 2015 to 5,146 permits in 2021. This represents an annual growth rate of 44.3 percent. Permits issued for

workforce housing comprised 4.2 percent of all permits issued in 2015 and 25.1 percent of all permits issued in 2021. Therefore, the share of workforce housing permits issued increased by 20.9 percentage points from 2015 to 2021.

Permits issued for workforce housing in the 60.0 to 79.9 percent of AMI range increased from seven permits in 2015 to 1,747 permits in 2021. This represents an annual growth rate of 150.9 percent. Permits issued for workforce housing in the 80.0 to 99.9 percent of AMI range increased from 162 permits in 2015 to 1,099 permits in 2021, representing an annual growth rate of 37.6 percent. Permits issued for workforce housing in the 100.0 to 120.0 percent of AMI range increased from 400 permits in 2015 to 2,300 permits in 2021. This represents an annual growth rate of 33.8 percent.

Of permits issued in 2015, 0.1 percent were affordable to households with income between 60.0 and 79.9 percent of AMI, 1.2 percent were affordable to households with income between 80.0 and 99.9 percent of AMI, and 3.0 percent were 8.5.1 percent were affordable to households with income between 60.0 and 79.9 percent of AMI, 5.4 percent were affordable to households with income between 80.0 and 99.9 percent of AMI, and 11.2 percent were affordable to households with income between 100.0 and 120.0 percent of AMI. Although there was variation from year to year, the majority of permits issued between 2015 and 2021 for workforce housing occurred in the 100.0 to 120.0 percent of AMI range. Appendix A details workforce housing permits issued for new construction of single-family homes by county.

Table 31: Total Permits Issued for New Construction of Single-Family Homes that are Affordable by Income Range, 2015 and 2021

Income Range	2015	2021	Total (2015-2021)	Percent of Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Less than 60% of AMI	116	208	866	0.7%	92	10.2%
60-79% of AMI	7	1,747	2,083	1.8%	1,740	150.9%
80-99% of AMI	162	1,099	6,105	5.3%	937	37.6%
100-120% of AMI	400	2,300	8,437	7.3%	1,900	33.8%
More than 120% of AMI	12,844	15,152	98,677	84.9%	2,308	2.8%
Total	13,529	20,506	116,168	100.0%	6,977	7.2%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

Table 32 details the average value of permits issued for new construction of single-family homes in the State of Ohio between 2015 and 2021 by income range, after adjusting for inflation using the House Price Index for Ohio. A corresponding table expressed in nominal dollars is in Appendix B. Across the State of Ohio, permits issued had an average value of \$357,440 in 2015 and \$308,468 in 2021. This represents a real decrease of \$48,972 in the average value of permits issued for new construction of single-family homes. Overall, permits issued for new construction of single-family homes that were affordable to households with income between 60.0 and 120.0 percent of AMI had an average value of \$188,127 in 2015 and \$248,992 in 2021. Despite a decrease in average value among all permits issued statewide between 2015 and 2021, the average value of permits issued for workforce housing experienced real growth of \$60,865.

Permits issued with an average value affordable to households in the State of Ohio with income less than 60.0 percent of AMI had an average value of \$54,449 in 2015 and \$174,011 in 2021. This represents real growth of \$119,562 in the average value of permits issued that were affordable to

households with income less than 60.0 percent of AMI. For permits issued that were affordable to households with income between 60.0 and 79.9 percent of AMI, the average value statewide increased from \$65,611 in 2015 to \$267,350 in 2021. This represents real growth of \$201,738 in the average value of permits issued that were affordable to households with income between 60.0 and 79.9 percent of AMI. However, there were only seven permits issued in 2015 that were affordable to households with income between 60.0 and 79.9 percent of AMI. This indicates that the real growth experienced between 2015 and 2021 is likely skewed due to the small sample size in 2015. Permits issued that were affordable to households in the State of Ohio with income between 80.0 and 99.9 percent of AMI had an average value of \$93,472 in 2015 and \$253,674 in 2021. This represents real growth of \$160,202 in the average value of permits issued that were affordable to households with income between 80.0 and 99.9 percent of AMI. For permits issued that were affordable to households with income between 100.0 and 120.0 percent of AMI, the average value statewide increased from \$228,607 in 2015 to \$232,812 in 2021. This represents real growth of \$4,205 in the average value of permits issued that were affordable to households with income between 100.0 and 120.0 percent of AMI. Permits issued that were affordable to households in the State of Ohio with more than 120.0 percent of AMI had a median sale price of \$367,677 in 2015 and \$330,513 in 2021. This represents a real decrease of \$37,164 in the average value of permits issued that were affordable to households with income of more than 120.0 percent of AMI. Appendix A details the average value per workforce housing permit issued for new construction of single-family homes by county.

Table 32: Average Value per Permit Issued for New Construction of Single-Family Homes that are Affordable by Income Range, 2015 and 2021 (2021\$)

Income Range	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Less than 60% of AMI	\$54,449	\$174,011	\$119,562	21.4%
60-79% of AMI	\$65,611	\$267,350	\$201,738	26.4%
80-99% of AMI	\$93,472	\$253,674	\$160,202	18.1%
100-120% of AMI	\$228,607	\$232,812	\$4,205	0.3%
More than 120% of AMI	\$367,677	\$330,513	-\$37,164	-1.8%
Total	\$357,440	\$308,468	-\$48,972	-2.4%

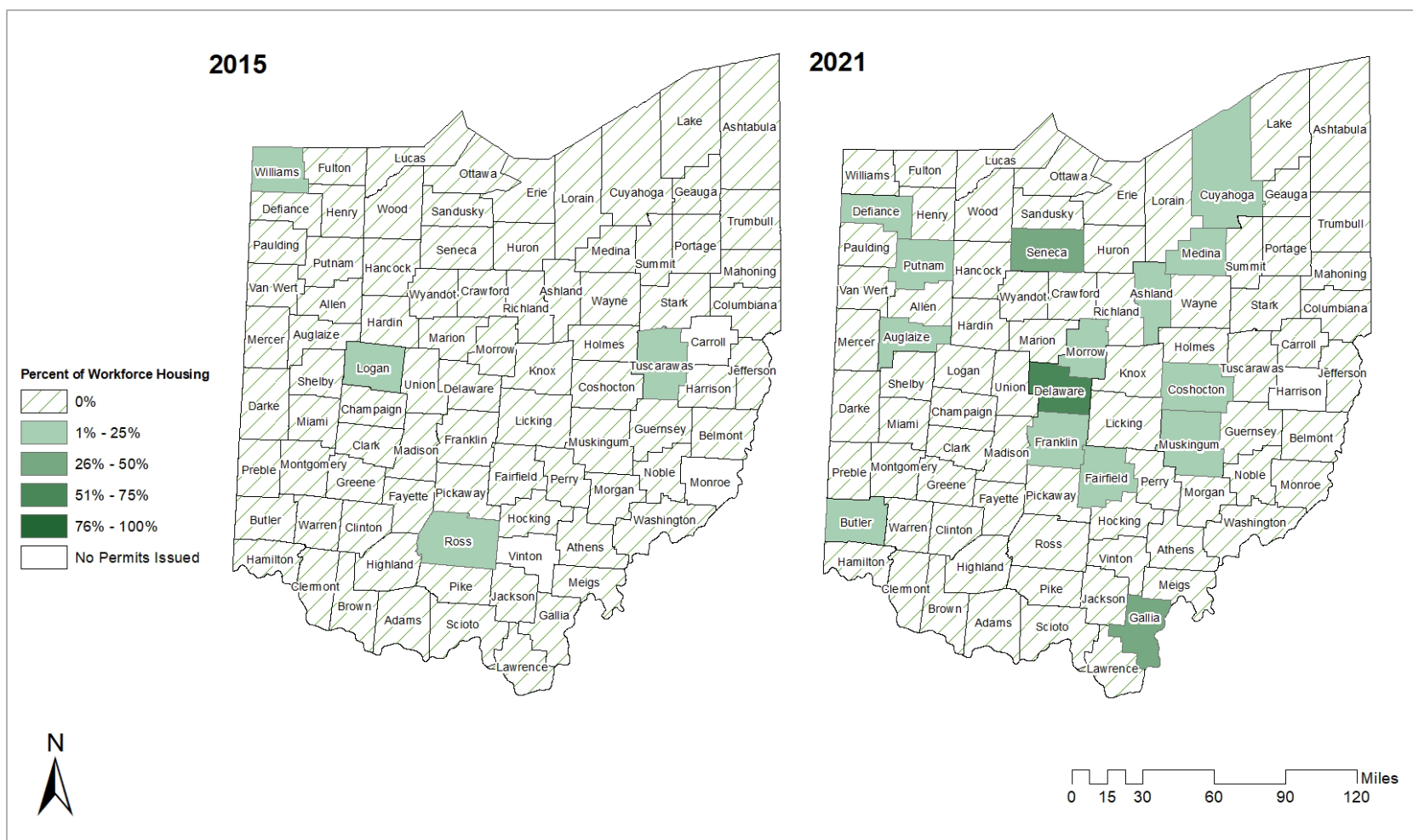
Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey, adjusted for inflation using the House Price Index for Ohio.

Figure 14 illustrates the percent of permits issued for new construction of single-family homes in each county in that State of Ohio that were affordable to households with income between 60.0 to 79.9 percent of AMI. Only four counties in Ohio issued permits that were affordable to households with income between 60.0 to 79.9 percent of AMI in 2015. Those counties were Logan (1), Ross (3), Tuscarawas (2), and Williams Counties (1). In 2021, 15 counties in Ohio issued permits that were affordable to households with 60.0 to 79.9 percent of AMI. Those counties were Ashland (2), Auglaize (2), Butler (125), Coshocton (1), Cuyahoga (8), Defiance (2), Delaware (1,550), Fairfield (2), Franklin (3), Gallia (3), Medina (35), Morrow (1), Muskingum (1), Putnam (1), and Seneca (11). Delaware County had 68.6 percent of permits issued with an average value affordable to households with income between 60.0 and 79.9 percent of AMI. Coshocton and Gallia Counties had 20.0 percent and 50.0 percent of permits issued with an average value affordable to households with income between 60.0 and 79.9 percent of AMI, respectively. However, Coshocton County only had five permits issued in total, and Gallia County only had six permits issued in total.

Figure 15 illustrates the percent of permits issued for new construction of single-family homes in each county in that State of Ohio that were affordable to households with income between 80.0 to 99.9 percent of AMI. Eight counties in Ohio issued permits that were affordable to households with income between 80.0 to 99.9 percent of AMI in 2015. Those counties were Athens (3), Butler (13), Cuyahoga (130), Franklin (5), Gallia (4), Hamilton (5), Logan (1), and Williams Counties (1). Athens and Gallia Counties had 30.0 percent and 80.0 percent of permits issued with an average value affordable to households with income between 80.0 and 99.9 percent of AMI. However, Athens and Gallia Counties only issued 10 and five permits in total during 2015, respectively. In 2021, 20 counties in Ohio issued permits that were affordable to households with 80.0 to 99.9 percent of AMI. Those counties were Ashland (12), Butler (215), Cuyahoga (30), Delaware (510), Fairfield (10), Greene (1), Hamilton (15), Hancock (2), Hardin (1), Highland (6), Knox (5), Lake (7), Logan (1), Lorain (17), Madison (11), Medina (51), Morrow (8), Stark (88), Tuscarawas (1), and Warren (108). Highland County had 40.0 percent of permits issued in 2021 that were affordable to households with income between 80.0 and 99.9 percent of AMI. However, only 15 permits were issued in total.

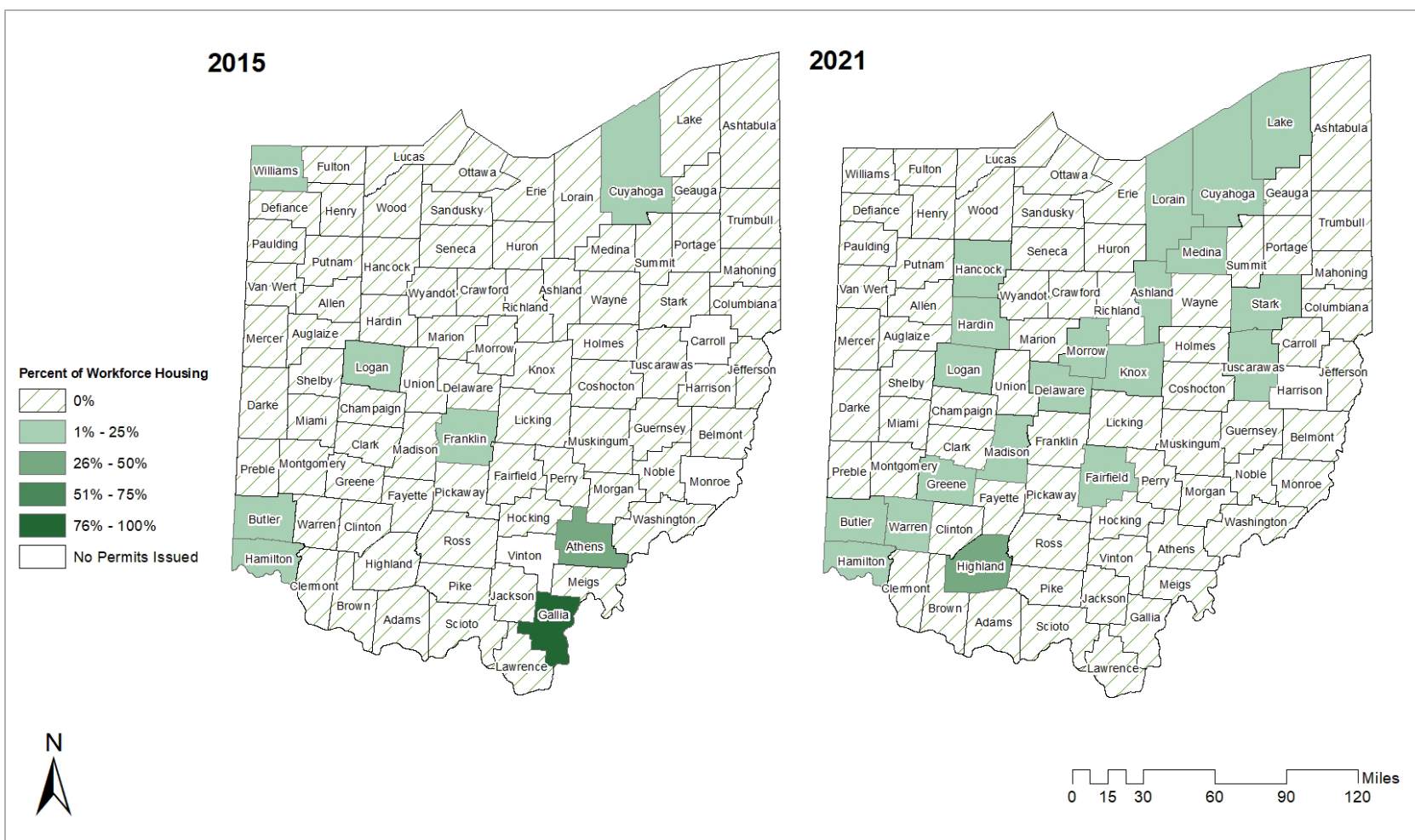
Figure 16 illustrates the percent of permits issued for new construction of single-family homes in each county in that State of Ohio that were affordable to households with income between 100.0 to 120.0 percent of AMI. Twelve counties in Ohio issued permits that were affordable to households with income between 100.0 to 120.0 percent of AMI in 2015. Those counties were Ashland (10), Butler (20), Coshocton (1), Defiance (2), Delaware (180), Hancock (3), Hardin (1), Henry (1), Highland (2), Lorain (127), Paulding (2), and Pickaway (51). Coshocton and Highland Counties had 100.0 percent and 40.0 percent of permits issued with an average value affordable to households with income between 100.0 and 120.0 percent of AMI. However, Coshocton and Highland Counties only issued one and five permits, respectively, in total during 2015. In 2021, 22 counties in Ohio issued permits that were affordable to households with 100.0 to 120.0 percent of AMI. Those counties were Auglaize (5), Butler (583), Clinton (6), Cuyahoga (31), Fairfield (91), Franklin (93), Hamilton (131), Hancock (2), Huron (8), Knox (4), Lake (42), Mercer (5), Montgomery (56), Paulding (5), Seneca (9), Summit (9), Tuscarawas (4), Warren (994), and Wood (3).

Figure 14: Percent of Permits Issued for New Construction of Single-Family Homes that are Affordable to Households with 60.0 to 79.9 Percent of Area Median Income, 2015 and 2021



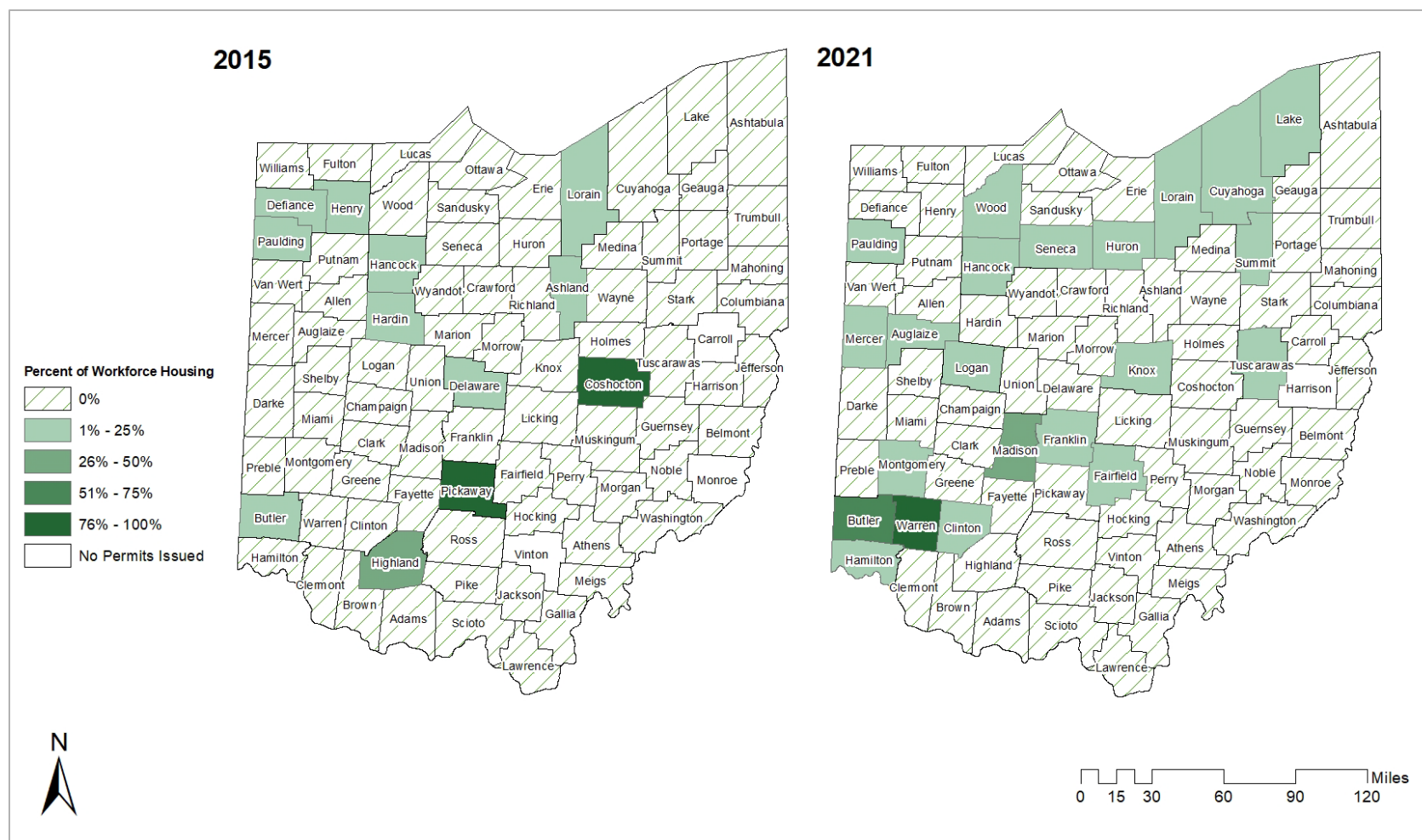
Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey, adjusted for inflation using the House Price Index for Ohio, and analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

Figure 15: Percent of Permits Issued for New Construction of Single-Family Homes that are Affordable to Households with 80.0 to 99.9 Percent of Area Median Income, 2015 and 2021



Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey, adjusted for inflation using the House Price Index for Ohio, and analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

Figure 16: Percent of Permits Issued for New Construction of Single-Family Homes that are Affordable to Households with 100.0 to 120.0 Percent of Area Median Income, 2015 and 2021



Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey, adjusted for inflation using the House Price Index for Ohio, and analysis of data from the American Community Survey five-year estimates, Table S1901, adjusted for inflation using the Employment Cost Index for the nation.

Commuting Characteristics

Commuting characteristics, including means of transportation to work and travel time to work, are detailed in this section for workers 16 years of age and older within the State of Ohio. Additionally, the relationship between resident workers and net commuters is detailed for each JobsOhio Region as well as the estimated jobs with average annual earnings between 60.0 and 120.0 percent of the average annual earnings across all jobs. These characteristics, along with the current and potential future supply of workforce housing, provide additional context for understanding the potential mismatches between the demand and supply of workforce housing in the State of Ohio.

Table 33 details the means of transportation for workers 16 years of age and older in the State of Ohio. In the State of Ohio, approximately 91.4 percent of workers in 2015 and 89.1 percent of workers in 2020 commuted to work via a car, truck, or van. Despite an increasing number of workers who commuted to work via a car, truck, or van, the share of workers decreased by 2.3 percentage points between 2015 and 2020. Approximately 3.5 percent of workers in the State of Ohio worked at home in 2015, whereas 6.1 percent of workers statewide worked at home in 2020. This represents a 2.6 percentage point increase. However, it corresponds to an additional 151,073 workers in the State of Ohio working from home in 2020 compared to 2015.

Table 33: Means of Transportation for Workers 16 Years of Age and Older in the State of Ohio, 2015 and 2020

Means of Transportation	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Car, Truck, or Van	4,810,649	4,897,410	86,761	1.8%	0.4%
Public Transportation (Excluding Taxicab)	89,476	76,951	-12,525	-14.0%	-3.0%
Walked	121,056	120,924	-132	-0.1%	0.0%
Bicycle	15,790	16,490	700	4.4%	0.9%
Taxicab, Motorcycle, or Other	42,106	49,469	7,362	17.5%	3.3%
Worked at Home	184,215	335,288	151,073	82.0%	12.7%
Total	5,263,292	5,496,532	233,240	4.4%	0.9%

Source: American Community Survey five-year estimates, Table S0801.

Table 34 details the travel time to work for workers 16 years of age and older who did not work from home in the State of Ohio. On average, workers in the State of Ohio who commuted to work traveled 23 minutes in 2015 and 24 minutes in 2020. In 2015, approximately 29.6 percent of workers traveled less than 15 minutes to work, 69.7 percent traveled between 15 and 29 minutes to work, and the remaining 30.3 percent traveled 30 minutes or more to work. Similarly, 28.5 percent of workers in 2020 traveled less than 15 minutes to work, 68.9 percent traveled between 15 and 29 minutes to work, and the remaining 31.1 percent traveled 30 minutes or more to work.

Table 34: Travel Time to Work for Workers 16 Years of Age and Older Who Did Not Work from Home in the State of Ohio, 2015 and 2020

Travel Time to Work	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Less than 10 minutes	741,303	738,391	-2,912	-0.4%	-0.1%
10 to 14 minutes	756,535	733,227	-23,308	-3.1%	-0.6%
15 to 19 minutes	822,541	836,498	13,957	1.7%	0.3%
20 to 24 minutes	822,541	821,008	-1,534	-0.2%	0.0%
25 to 29 minutes	390,961	423,413	32,452	8.3%	1.6%
30 to 34 minutes	639,754	650,610	10,856	1.7%	0.3%
35 to 44 minutes	335,109	356,286	21,177	6.3%	1.2%
45 to 59 minutes	304,645	325,305	20,660	6.8%	1.3%
60 or more minutes	253,871	273,669	19,798	7.8%	1.5%
Total	5,067,260	5,158,406	91,146	1.8%	0.4%
Mean Travel Time (Minutes)	23	24	1	N/A	N/A

Source: American Community Survey five-year estimates, Table S0801.

To illustrate the potential mismatch between where jobs are located and where workers live, Table 35 details the resident workers, net commuters, and total jobs by JobsOhio Region in 2021. Net commuters represent the difference between the workers residing in a region and the employment in a region. Only two JobsOhio Regions had more jobs than there were resident workers in 2021. The Central JobsOhio Region had 73,131 more jobs than resident workers in 2021, whereas the Southwest JobsOhio Region had 41,810 more jobs than resident workers in 2021. This indicates that workers commute to those JobsOhio Regions for work. However, the remaining JobsOhio Regions had more resident workers than jobs in 2021 indicating that workers leave these JobsOhio Regions to work elsewhere. The gap between jobs and resident workers was smallest for the Northwest JobsOhio Region at 8,096 more resident workers than jobs in 2021, whereas the gap between jobs and resident workers was largest for the Southeast JobsOhio Region at 73,973 more resident workers than jobs in 2021. Additionally, the Northeast and West JobsOhio Regions had 17,904 and 17,840 more resident workers than jobs in 2021. Overall, the State of Ohio had 2,871 more resident workers than jobs in 2021. Appendix A details the resident workers and net commuters in 2021 by county.

Table 35: Resident Workers and Net Commuters by JobsOhio Region, 2021

JobsOhio Region	Resident Workers	Net Commuters	Total Jobs
Central	1,067,767	73,131	1,140,899
Northeast	1,948,032	-17,904	1,930,128
Northwest	559,457	-8,096	551,361
Southeast	400,934	-73,973	326,962
Southwest	804,581	41,810	846,391
West	585,990	-17,840	568,149
Ohio³⁷	5,366,761	-2,871	5,363,890

Source: Economics Center analysis of data from Lightcast.

³⁷ Excludes jobs in which the county was not reported.

Table 36 summarizes the jobs with average annual earnings between 60.0 and 120.0 percent of the average annual earnings across all jobs as well as the corresponding number of residential property transactions and permits issued for new construction of single-family homes affordable to households with income between 60.0 and 120.0 percent of area median income. There were an estimated 2.36 million jobs in the State of Ohio in 2021 that had average annual earnings between 60.0 and 120.0 percent of the average annual earnings across all jobs, referred to as workforce housing jobs. This means that approximately 44.0 percent of jobs in the State of Ohio during 2021 were workforce housing jobs. Four JobsOhio Regions had a higher share of workforce housing jobs compared to the State of Ohio in 2021. Specifically, the share of workforce housing jobs in 2021 was 49.7 percent for the Northwest JobsOhio Region, 49.5 percent for the Southeast JobsOhio Region, 45.2 percent for the West JobsOhio Region, and 44.6 percent for the Northeast JobsOhio Region. The Central and Southwest JobsOhio Regions had a smaller share of workforce housing jobs in 2021 compared to the State of Ohio. The share of workforce housing jobs in 2021 was 42.6 percent for the Central JobsOhio Region and 37.8 percent for the Southwest JobsOhio Region.

The State of Ohio is estimated to gain an additional 30,147 workforce housing jobs between 2021 and 2031. However, only 5,146 permits for new construction of single-family homes were issued in 2021. This indicates the potential future supply of workforce housing will not keep pace with the additional workforce housing jobs added in the State of Ohio between 2021 and 2031. Similarly, the additional workforce housing jobs estimated to be added between 2021 and 2031 in four of the six JobsOhio Regions will outpace the potential future supply of workforce housing based on permits issued in 2021.

Table 36: Workforce Housing Summary by JobsOhio Region, 2021-2031

JobsOhio Region	Workforce Housing Jobs 2021	Workforce Housing Jobs 2031	Nominal Job Growth (2021-2031)	Workforce Housing Permits Issued for New Construction of Single-Family Homes 2021
Central	485,604	511,749	26,145	2,332
Northeast	860,115	841,316	-18,799	521
Northwest	274,205	273,774	-431	36
Southeast	161,990	173,629	11,640	11
Southwest	319,700	327,113	7,413	2,171
West	256,605	260,783	4,178	75
Ohio³⁸	2,358,218	2,388,365	30,147	5,146

Source: Economics Center analysis of data from Lightcast, property transaction data retrieved from each county in the State of Ohio, and data from the U.S. Census Bureau's Building Permits Survey.

³⁸ Excludes jobs in which the county was not reported.

Roundtable Discussions

The Economics Center held several roundtable discussions with local real estate experts to obtain information on residential opportunities and challenges that require local knowledge. These roundtable discussions provide a more complete understanding of local housing markets within communities and regions across the State of Ohio. Housing topics such as affordability, affordable housing programs, permitting histories, potential issues with the permitting process, zoning restrictions, and institutional investors were discussed. The Economics Center held the following roundtable discussions across the State of Ohio during 2022:

- Cincinnati/Dayton: July 12, 2022
- Cleveland/Akron: July 25, 2022
- Columbus: August 10, 2022
- Toledo: September 7, 2022
- Athens: November 10, 2022

Themes from Across the State of Ohio

All across the State of Ohio, there has been a trend with institutional investors outbidding homebuyers, fixing up the property through cosmetic changes, and selling it at a price point above market value, which also increases the sale prices of properties in the surrounding area as well. This practice discourages potential homebuyers from becoming homeowners, so they turn to the rental market in hopes that prices will go down, the prospect of which is currently unpredictable.

Many realtors from the roundtable discussions highlighted that they see many underutilized or vacant office space or buildings in general. A conclusion was reached that it is time to advise communities that office workers are not going to return to the office as working from home has become more common. These buildings can be converted into single-family or multi-family units to help combat the housing supply shortage that Ohio is currently experiencing. There was consensus among roundtable participants that it is more cost effective to develop housing units from a pre-existing building as opposed to starting a new building from the ground up.

In each of the roundtables, participants indicated that housing is less available and affordable now than it was 10-years ago. The housing market was a buyers' market 10-years ago where buyers had more housing options available to them in their price ranges. Buyers then also had more time to consider potential purchase options. In the current market, there are not nearly as many options available in price ranges that are affordable to many and buyers have very little to decide on making an offer, given the lack of available supply and competition.

The cost of construction materials has substantially increased over the past several years making it difficult for home builders to construct housing within certain price ranges, including workforce housing. Realtors discussed the idea of state and local governments creating incentives to offset the cost for developers to construct new housing units within price ranges that would be considered affordable to households between 60.0 percent and 120.0 percent AMI. Further, participants offered that zoning laws need to be revised in order to remove barriers and make building workforce housing an easier task. Further, state and local governments might consider providing grants or forgivable loans to developers as long as all or a certain part of a housing development is set aside for households that are in the affordable income range.

Employers can play a key role in combating the housing shortage. Roundtable participants shared examples of employers in their communities offering interest-free or low interest rate loans to employees, housing vouchers, move-in assistance, and down payment assistance to aid in attracting and retaining talent.

Central Region

There was consensus at the Central region housing roundtable that there is investor intervention in the housing market. Investors are driving the housing prices up, and are creating communities of renters as opposed to homeowners. This problem is not going to go away but rather escalate, according to participants. One proposed idea to combat this practice is to have a set amount of days that a home needs to be on the market before institutional investors are able to buy it. There was some concern among participants regarding government intervention as realtors also represent people selling properties and those households should have the opportunity to maximize sale price.

Discussion also occurred regarding the impact zoning has on home builders' ability to construct new housing stock. From a developer point of view, old zoning laws make it more difficult to build and those laws need to be revised. Given the cost escalation of construction materials, communities ought to revisit local zoning regulations such as lot size, density, and construction materials as possible solutions to encourage new housing stock.

Some participants indicated that even if a house was available in the 60.0 percent to 120.0 AMI, the additional investment necessary to fix up the property was often cost prohibitive. Many in the group believe programs should be created to provide funding to fix up existing homes to encourage home ownership. Many potential buyers in Central Ohio turn away from being home owners because they can rent an apartment that is nicer.

There is not available housing stock that promotes local job growth in the Columbus region. Jobs are coming into the region, but housing is not available for employees. Even if there are developers who want to build an affordable housing project, municipalities are not allowing it because they do not want the higher density housing replace green space.

A barrier for people to access affordable workforce housing is credit and finance. In the rental market, application fees eat up cash. Just applying can cost hundreds of dollars depending on the amount of applications per individual. Not only do application fees take away cash from applicants, once an applicant can become a renter, they are already behind on rent because of the money that went to the application fees. Apartment complexes also take lump sums of money by not allowing renters to break a lease unless they pay out the rest of the lease up front, even though the apartment could be rented out the next day. There are other companies that have provisions in their lease agreements that state if you do not give a 60-day notice on resigning another lease, you automatically start a new, full year lease and cannot get out of it.

There are cases where rents can go up unannounced. For example, if someone that is currently renting an apartment is building a house and the initial deadline gets pushed back due to external issues such as labor issues or supply chain issues, the rent can automatically go up.

Realtors discussed ideas to get employers involved in fixing the workforce housing shortage. Such ideas included interest-free or low-interest loans to workers, or offer signing bonuses that can help with down payments. Employers will be willing to participate, if there is a comprehensive plan that assists them in participating.

Public transportation in Central Ohio, according to roundtable participants, is not efficient. This creates a ripple effect. For example, if a community experiences inflation, the workforce will start to move to rural areas because those areas are cheaper. Once people start moving to rural areas, they will eventually find jobs that are located where they live.

An education campaign was proposed by roundtable participants to talk to community members and government officials about the issues of housing supply in the Columbus region.

Northeast Region

The realtors made it known that it is challenging to find affordable housing as it is nearly nonexistent, and with the rise of interest rates and the frequency of people renting properties, affordable rental properties are scarce as well. Many areas in the Northeast region do not offer prices that are considered affordable.

One trend that was discussed was investors outbidding a possible owner-occupier for a property, pay with cash, do minimal cosmetic changes to the properties, and then put the properties back on the market in hopes that a potential buyer will commit to rent the property for a couple of years before eventually purchasing the property. It was also discussed that sellers in Northeast Ohio want to deal with conventional buyers as opposed to an FHA buyer due to some of the potential issues with FHA home inspections and the length of time necessary to close on the transaction.

Several realtors mentioned that the lending ratio is too low for homes that are deemed affordable as nobody will lend on it because the price of the property is too low. FHA does not accept condominiums as an eligible home purchase due to the number of renters in adjacent units and will not lend if there are too many rentals, which shuts out potential buyers who would be staying in a home as opposed to renting. Roundtable participants would like to see this particular FHA rule be changed.

Housing projects that are built around the Cleveland Clinic are higher-end compared to most properties in the Northeast region, so if there are jobs in the area surrounding Cleveland Clinic, those workers will not be able to live there and will have to find housing elsewhere or relocate completely.

A problem that communities within this region are seeing is that when housing was being developed around 20 to 30 years ago, the housing was more suitable for families. Today, there is a lack of choice for where people of senior age can move to or even downsize to a house and condos are not sufficient because cities do not want condo dwellers.

Point of sale ordinances in Maple Heights, for example, otherwise known as a certificate of inspection, creates a barrier to owner-occupants and affordable housing because residents have to complete housing repairs, deemed necessary by the local community, in a certain period of time instead of building equity in the property. This led to a substantial number of foreclosures because people were unable to sell their houses because they were not able to make the repairs that the local jurisdiction deemed to be necessary before the sale can proceed.

Participants discussed investors buying houses in the Akron area and selling them at a starting price between \$200,000-\$350,000 which is not affordable for the working-class buyers there.

Some participants discussed their desire for government intervention to encourage homebuilders to focus on a different type of housing stock and to revisit local zoning regulations to allow for use of less expensive construction materials, and to support the development of new housing stock by providing money for infrastructure.

In cities, there is not available land for construction, which pushes people out to the suburbs where prices are high. One benefit that was discussed is children will have the stability of being in a home as opposed to constantly moving around to find cheaper prices. Downsides include not being able to sell the home to make profit.

Given the shift to telecommuting or a hybrid work environment as a result of the COVID-19 pandemic, opportunities exist to transform vacant office buildings into mixed-income housing. However, vacant office buildings will not be turned into housing options unless builders know that the housing development will be profitable. Because of this, the housing costs will be high, and no longer affordable, unless there is a government grant program available to builders to help offset the costs to keep new housing options affordable to households between 60.0 percent and 120.0 percent AMI.

Roundtable participants discussed realtor associations partnering with business owners, and with state and/or local governments to offer a tax rebate. Employers could also offer down payment assistance if an employee works a certain number of years. The overarching theme is to keep employees from moving away for housing purposes.

Studies show that recent college grads are showing a boomerang effect with their location and this phenomenon was discussed. When college grads leave college and look for jobs, they will move around the country and eventually end up moving back close to home. In order to bring those individuals back home it is necessary to have an available and affordable existing housing stock.

Realtors also discussed that owning a home is not as desirable as it once was to the younger population. First-time home buyers want less to take care of, such as not having a yard that needs constant care. It is the responsibility of realtors to promote the positives of owning homes.

Northwest Region

The first issue that was discussed in the Northwest region was centered around resident-occupation mismatch. In the city of Findlay, more than 100,000 individuals work in Findlay, but approximately half of the workers reside in Findlay. Many others would like to live in Findlay to avoid a longer commute time, but either the rent is too high or they cannot afford to live closer to work.

Aside from resident-occupation mismatch, one realtor mentioned that they have seen institutional investors outbidding potential homebuyers simply because they have more cash, and this trend seems to be occurring more frequently every year. Investors have shrunk the housing supply because they take properties that could be on the market for sale, and do not put them back on the market, or the prices are too high for a consumer that makes an income in the workforce housing range. The investors also create LLC's, which allows them to hold property rights and get around rental rules.

Roundtable participants expressed concern that many developers do not build in the region anymore. Contractors who used to create housing subdivisions in the region had either retired or passed on, and no one is coming in and taking on those roles because in order to create a subdivision, millions of dollars have to be invested in infrastructure such as roads, streets, and sewers, for example. For certain counties in the Northwest region, such as Williams and Hancock, infrastructure has to be in place before a developer is able to begin housing construction, and if developers are not able to make the upfront infrastructure invest to build a subdivision, then building new housing is cost prohibitive in these areas.

When discussing opportunities to make affordable workforce housing more encouraging, financing options were discussed. There was consensus that many financing programs exist, but it is not easy for anyone to find the right fit for them. One realtor mentioned that there is a home buyer program where

people can get a certificate for down payment assistance. Aside from down payment assistance, there are banks that will offer conventional loans as long as someone is below a certain income threshold.

Southeast Region

Given the proximity to Ohio University, investors are purchasing housing that would be affordable to potential home owners in the 60.0 percent to 120.0 AMI range and then renting them to college students. This competition for housing has made it difficult to the area's residents to purchase homes. The participants also offered that they have worked with clients that were relocating to the Athens area to work at Ohio University, but ultimately had to decline the job offer because there were not able to find suitable housing.

Participants also discussed a mismatch between the availability of jobs in the community and workforce housing options. The community is very dependent on Ohio University in terms of employment opportunities, but the majority of the available housing supply is located outside of Athens. Further, many other large employers in Southeast Ohio, such as General Electric, are in the process of closing facilities.

There have not been many new homes built in the community, and those that have been recently constructed do not fit within the workforce housing definition as they are being listed at a minimum of \$200,000 to \$250,000.

Roundtable participants discussed the availability of manufactured housing as an option for people in the 60.0 to 120.0 percent AMI. However, manufactured housing is difficult to finance and there may be opportunities to create some programs to help with financing this housing option.

There was discussion regarding many of the existing homes are in a state of disrepair. These homes could be brought back to the market with investment in new roofs, windows, siding, septic systems/sewers, for example. There was consensus among the participants that creating some low-interest, forgivable loan, or grant program to encourage reinvestment to these existing homes would help to encourage new home owners to the community.

Southwest Region

For the Southwest region, an issue was raised regarding empty office space that could be converted into single-family or multi-family homes, and that the community should encourage the redevelopment of vacant office buildings into mixed-income housing as workers are more than likely not going to return to work as working from home as become a mainstay. There is belief among the participants repurposing these vacant buildings in this way is cheaper and easier rather than build something new.

Many of the realtors described how jobs are moving out of downtown Cincinnati and relocating to the suburbs, which greatly impacts commuting patterns. Higher paying jobs are leaving, and the jobs that are being filled as replacements may not pay the same salary level, and with the increase of housing costs, along with general inflation, the quality of life is impacted for people in the community.

According to the roundtable, a big issue facing the entire state is the rise of cash investors outbidding individual buyers for a property, and this outbidding greatly affects younger buyers as they do not have the cash to compete with the investors. Investors will buy a property, fix it, and then turn around and sell it at a price point above market value. This process is essentially crowding out hopeful home buyers.

In regards to quality and quantity of housing supply, it was mentioned that the Cincinnati region needs to build more housing, have different types of housing, and update zoning codes that are outdated.

Elected officials need to be educated that the white-picket-fence, single detached family home is not what buyers are looking for. These areas have to build housing that is specific to workforce housing.

Transportation was another area of discussion. As density of housing is increased, there will be less of a need for cars, and this change will bring along an increased demand for different types of public transportation.

Regarding density, if people can purchase properties in certain areas, they build not only equity, but a community as well. Realtors do not have the money to get funds for these types of density increases, and the realtors mentioned that a partnership with the Cincinnati Business Council would be helpful.

Case Studies

Many communities are facing a workforce housing shortage due to rising home prices, a limited supply of quality housing, the new housing supply lagging behind demand, regulatory constraints, and restrictive land use regulations.³⁹ This section highlights strategies to address the workforce housing shortage through easing zoning restrictions to allow for greater density and smaller minimum lot sizes, incentives for developers such as tax credits and subsidized loans, public-private partnerships, and down payment assistance or rental assistance.

Zoning and Regulatory

Rising home prices, a limited supply of quality housing, home production lagging behind demand, regulatory constraints, and the inability of employers to attract workers led to combined efforts by housing coalitions, community leaders, housing partners, and state legislators to lift barriers to workforce housing development in New Hampshire. These efforts, in addition to the 1991 Supreme Court case *Britton v. Chester*, resulted in the passage of New Hampshire's Workforce Housing Law in 2008, which took effect on January 1, 2010. This law requires all municipalities in New Hampshire "to provide a 'reasonable and realistic opportunity' for the development of workforce housing."⁴⁰ The Workforce Housing Law defines workforce housing as for-sale housing that is affordable to a household of four earning up to 100.0 percent of the area median income or rental housing that is affordable to a household of three earning up to 60.0 percent of area median income. The Workforce Housing Law further defines affordable as "spending no more than 30% of a household's income on housing costs."⁴¹

Fougere and White (2021) conducted a 10-year retrospective analysis of the impacts of New Hampshire's Workforce Housing Law. The analysis included a review and assessment of changes to municipal land use regulations and processes as well as interviews conducted in the first quarter of 2020 with staff members of 33 municipalities in New Hampshire. A total 10 municipalities were selected as case studies to reflect the diversity in location, population, and governance structure. The municipalities selected as case studies responded in different ways in their efforts to comply with New Hampshire's Workforce Housing Law. Each of the case studies are summarized to illustrate the variety of changes to land use regulations and the results of those changes.

Located southwest of Manchester, Bedford is a bedroom community, meaning that the majority of residents commute elsewhere for work, with a diverse non-residential tax base. Approximately 77.3 percent of Bedford's housing stock is single-family. Bedford adopted a workforce housing ordinance in 2009 as a result of the Workforce Housing Law. The workforce housing ordinance in

³⁹ (von Hoffman & Arck, 2019); (Paulsen, 2019)

⁴⁰ (Fougere & White, 2021)

⁴¹ (Fougere & White, 2021)

Bedford requires a 25.0 percent set-aside of workforce housing units in addition to an affordable covenant restriction, which restricts the price at which a homeowner can resell the workforce housing property. Owners of workforce housing units may sell the property at full market value after the expiration of the covenant restriction, otherwise, the restriction continues with the new owner. A series of petitioned zoning amendments were approved following the adoption of the workforce housing ordinance that limited the areas where workforce housing is allowed and reduced building density of multi-family housing. Since the adoption of the workforce housing ordinance, four workforce housing projects have been approved.⁴²

Located east of Manchester, Chester is a bedroom community that is predominately residential single-family. Chester adopted the Open Space Subdivision ordinance in 2007, which provides a 25.0 percent density bonus if 20.0 percent of the units are workforce housing. The density bonus may be increased to 75.0 percent if the development includes senior housing. Both owner- and renter-occupied workforce housing units require an affordable covenant restriction. Additionally, owner-occupied workforce housing units cannot be altered in such a way that the unit's value would increase above the affordable price that is in place. Notably, no workforce housing units have been constructed since the ordinance's adoption in 2007.⁴³

Conway and its village districts attract tourists and year-round visitors to the White Mountains. Upscale seasonal housing is profitable for developers, however, seasonal and year-round workers in this resort area need affordable housing. In 2003, Conway amended its zoning ordinance to allow for density bonuses by special exemption provided a minimum of 25.0 percent of the units were designated as full-time rental apartments for 20 years. This amended zoning ordinance only resulted in the construction of 49 multi-family units between 2010 and 2018. Passed in April 2020 and effective July 2020, the Workforce Housing Ordinance in Conway includes automatic density bonuses in six of the seven zoning districts, the removal of a special exemption for density bonuses under 12 units per acre or multifamily rentals, and reduced road frontage requirements. The Workforce Housing Ordinance stipulates that a minimum of 25.0 percent of rental and/or for-sale units must be affordable housing with these units controlled by a restrictive covenant. Only one workforce housing project has been approved in Conway since the approval of the Workforce Housing Ordinance in April 2020.⁴⁴

Dover is a river community with a strong economy located between Portsmouth and Rochester. The local housing market is influenced by Dover's proximity to the University of New Hampshire as well as its innovative form-based zoning code. Following the passage of New Hampshire's Workforce Housing Law, a series of zoning amendments were approved to further encourage the development of affordable housing in Dover despite numerous opportunities for higher density development. Dover allows for an additional story for developments with affordable housing and allows the transfer of development rights for the expansion of existing businesses and housing units. Two workforce housing projects have been approved although Dover was in compliance with the Workforce Housing Law in 2020.⁴⁵

Hanover is the home of Dartmouth College and is located along the border of New Hampshire and Vermont. Dartmouth College with the nearby Dartmouth-Hitchcock Medical Center are the dominant employers in the area, which leads to increased housing demand and excessive prices for housing that does not exist. Affordable housing was included into Hanover's municipal zoning

⁴² (Fougere & White, 2021)

⁴³ (Fougere & White, 2021)

⁴⁴ (Fougere & White, 2021)

⁴⁵ (Fougere & White, 2021)

ordinance over a decade ago. The inclusionary ordinance defines affordable housing as housing for households with less than 120.0 percent of area median income and allows affordable housing in all major subdivisions, open space subdivisions, multi-family residential developments, senior housing developments, and planned residential developments. This inclusionary ordinance specifies that density bonuses may not exceed 20.0 percent of the number of units otherwise allowed by the ordinance. Additionally, the inclusionary ordinance specifies that each affordable unit must remain affordable in perpetuity. A multi-phased project containing a total of 120 units, 68 of which are affordable housing, has been the only approved workforce housing development since the inclusionary zoning ordinance was approved.⁴⁶

Located near the New Hampshire and Vermont border, Lancaster has not formally adopted a workforce housing ordinance following the passage of New Hampshire's Workforce Housing Law. The population of Lancaster has been slowly declining for 30 years in part due to the decline of the forest products industry and its aging population. In a survey for the 2011 Lancaster Master Plan, respondents raised concerns over the lack of rental housing supply and the poor condition of existing multi-family housing. The need for revitalization and the need for housing new residents may continue to worsen the workforce housing situation.⁴⁷

Located southeast of Manchester, Londonderry is a growing community with a broad non-residential tax base. Londonderry adopted a workforce housing ordinance in 2010, which was later amended to specify the number of units in a building and the location of workforce housing units. Workforce housing developments must follow a conditional use permit procedure that allows the density, setbacks, greenspace, frontage, parking, and driveway requirements to be waived. The workforce housing ordinance requires at least half of units be workforce housing with at least 51.0 percent of the units having at least two bedrooms. The affordability requirements for all projects remain in place for a minimum of 40 years. Two workforce housing projects have been approved since the adoption of the workforce housing ordinance, however, none have been approved since the ordinance was amended.⁴⁸

North Hampton is a coastal town in which 84.0 percent of residents commute elsewhere for work. The absence of municipal water and sewer infrastructure, smaller total acreage, federal and state coastal regulations, significant wetlands areas, and costly land are barriers to development. North Hampton adopted an inclusionary workforce housing ordinance in 2009, which was later modified in 2013, that allows for certain density bonuses and reductions in frontage as well as specifies the number of workforce housing units that must be included in each new development. However, the workforce housing ordinance states that it is only in effect during years when the planning board determines that North Hampton does not equal or exceed its fair share of workforce housing. Since the adoption of the workforce housing ordinance, only three workforce housing rental units have been approved.⁴⁹

Located along the Massachusetts border in southern portion of New Hampshire, Pelham is a bedroom community with single-family homes comprising 86.0 percent of its housing stock. Pelham has not adopted a workforce housing ordinance, and no workforce housing developments have

⁴⁶ (Fougere & White, 2021)

⁴⁷ (Fougere & White, 2021)

⁴⁸ (Fougere & White, 2021)

⁴⁹ (Fougere & White, 2021)

been approved. Additionally, its conservation subdivision ordinance, which included provisions for the creation of workforce housing in rural areas, was removed in 2020.⁵⁰

Located in the Monadnock region of southwest New Hampshire, Rindge is a small town in which single-family homes comprises 85.0 percent of the housing stock. Rindge added a workforce housing Planned Unit Residential Development Regulation (PURD) instead of a zoning ordinance. The workforce housing PURD increased the density of land use by up to 30.0 percent and specified that the additional units be designated as workforce housing. The affordability standards of workforce housing units must be maintained for a minimum of 30 years. Three workforce housing developments have been approved since the addition of the workforce housing PURD.⁵¹

Fougere and White concluded with the importance of state and local leaders understanding that housing supply is directly related to economic growth. Municipalities are required to provide enough workforce housing in order to meet their fair share of the region's need. However, clearer standards that specify a municipality's fair share of workforce housing would be beneficial to measure compliance with the Workforce Housing Law. Additionally, New Hampshire's regional planning commissions experience challenges in producing a regional housing needs assessment every five years, which creates compliance challenges for municipalities.

Community Development

Since 2013, the Partnerships for Raising Opportunity in Neighborhoods (PRO Neighborhoods) program by JPMorgan Chase & Co. has provided grants to innovative collaborations of community development financial institutions (CDFIs) that enhance opportunities for low- and moderate-income Americans and revitalize distressed neighborhoods. Von Hoffman and Arck (2019) detail five innovative housing programs created by grant recipients of the PRO Neighborhoods program.

In the South and West Side neighborhoods of Chicago, low-income residents experience a shortage of affordable housing. One-to-four-unit properties account for nearly half of the affordable rental housing in Chicago, but these properties are deteriorating. Small-scale investors often rehabilitate these properties. However, a lack of access to capital and difficulty acquiring distressed properties present barriers for small-scale investors. The Chicago CDFI Collaborative was formed to help small-scale investors and owner-occupants rehabilitate one-to-four-unit properties in distressed neighborhoods. The Chicago CDFI Collaborative acquired distressed properties, identified investors, arranged the transfer of the distressed properties to interested investors, and provided loans to investors and owner-occupants. The Chicago CDFI leveraged its expertise to identify distressed properties, simplify and speed up the acquisition and land assembly process, and provide financing to make investments more attractive.⁵²

In Washington, D.C., the 11th Street Bridge connects Capitol Hill west of the Anacostia River and low-income neighborhoods east of the Anacostia River. City planners decided to build a community-focused park on and around the 11th Street Bridge. However, leaders recognized that low-income residents would be vulnerable to displacement if housing prices continued to rise. To address this housing problem, the Douglas Community Land Trust was created and capital was raised to acquire multiple properties in a short period of time. The Douglas Community Land Trust then leases the

⁵⁰ (Fougere & White, 2021)

⁵¹ (Fougere & White, 2021)

⁵² (von Hoffman & Arck, 2019)

acquired properties to the owners of buildings on that land in order to maintain the properties affordability for low-income residents.⁵³

Residents of manufactured housing communities often do not own the land their homes sit on. Because manufactured housing is not mobile, these residents are vulnerable to rent increases and forced relocation. ROC USA was founded in 2008 with the intent of expanding economic opportunities for owners of manufactured housing. ROC USA encourages owners of manufactured housing to form a resident-owned community (ROC) and partners with local technical assistance providers. Technical assistance providers search for mobile home parks that are for sale, confirm with the landlord that the mobile home park is for sale, connect with homeowners, and organize a community meeting. Technical assistance providers then assist homeowners with the creation of a cooperative corporation to negotiate the purchase, complete due diligence, and secure financing. In partnership with Leviticus Fund and Mercy Loan Fund, ROC USA utilized this model to assist manufactured housing communities in New York, Washington, Wisconsin, and Connecticut. These partnering organization helped twelve manufactured housing communities, which attracted \$23.0 million in additional financing from state housing agencies and other foundations.⁵⁴

In neighborhoods with rapidly increasing real estate prices, private investors often acquire properties soon after they become available. Nonprofit community development groups often lack the capital to acquire these types of properties. Public subsidies enable some nonprofit community development groups to make properties affordable to low-income households. However, regulatory requirements impede the ability of nonprofit community development groups to acquire properties in highly competitive housing markets. The National Association for Latino Community Asset Builders (NALCAB) and its partner organizations created a social investment fund to provide private capital to nonprofit community development groups. The Catalyst Fund acquires and funds the development and preservation of affordable single-family, small multifamily, and/or manufactured housing. The Catalyst Fund provided short-term financing to a group of residents in the Columbia Heights neighborhood of Washington, D.C., who were attempting to purchase their apartment building and convert it into permanent affordable housing when threatened with foreclosure by the lender of their rehab construction loan. The Catalyst Fund also acquired and operates a small property in central San Antonio that provides six units of affordable housing as well as space for a nonprofit community organization to operate.⁵⁵

In Los Angeles and San Jose, California, RETHINK Housing was created by partner organizations with the aim of preserving or developing affordable housing without utilizing tax credits or public capital. RETHINK Housing focuses on preserving Naturally Occurring Affordable Housing (NOAH) and developing accessory dwelling units (ADUs) to help low-income residents obtain affordable housing. NOAH refers to multifamily properties with private owners that do not utilize housing subsidies, whereas, ADUs refer to residences built on the same property as an existing house such as apartment above a garage. RETHINK Housing provides subordinate, patient loans to nonprofit groups that acquire NOAH and loans for low- and moderate-income households to assist with building ADUs. For homeowners who wish to construct an ADU on their property, grants are provided to those in need of financing help to cover the costs of a consultant to assess the site and potential ADUs. Construction loans of up to \$250,000 are also offered to assist with building ADUs with affordability restrictions on the rent rate. RETHINK Housing's first project was an

⁵³ (von Hoffman & Arck, 2019)

⁵⁴ (von Hoffman & Arck, 2019)

⁵⁵ (von Hoffman & Arck, 2019)

\$800,000 loan for the development, construction, and operations of a new apartment complex with the capability to house ten homeless or at-risk youth.⁵⁶

Employer-Assisted

New Hampshire Housing (2021) defines employer-assisted housing as “any housing program – either rental or homeownership – that an employer finances or assists in developing in some way.” Employer-assisted housing programs are either demand or supply driven. Demand driven programs are typically preferred by employers because they are less expensive and require less administrative support compared to supply driven programs. However, demand driven solutions do not contribute to economic development in the same way as supply driven solutions.

Demand driven employer-assisted housing programs include down payment assistance, closing cost assistance, rent subsidies, secondary (gap) financing, moving cost assistance, and homebuyer education. Down payment assistance is a common demand driven employer-assisted housing program in which employers typically offer forgivable or no-interest down payment assistance. For employees who need additional support, secondary (gap) financing may be provided by employers in the form of a zero or low-interest loan that is repayable upon sale or refinance. Employers may also provide monthly rent subsidies for employees who do not want to own a home.⁵⁷

Supply driven employer-assisted housing programs include cash contributions, land donation, construction financing, and low-income housing tax credit investment. Cash contributions can be in the form of charitable contributions, business expenses, or investments in Low-Income Housing Tax Credits. Charitable contributions have U.S. Internal Revenue Service regulations that specify occupancy must be available to the general public, whereas contributions in the form of a business expense allow employers to negotiate favorable terms for their employees. Employers who donate excess land for housing projects can stipulate priority consideration for their employees and ensure affordability. Employers can provide low-interest construction financing or guarantee a portion of a loan received from a third-party lender. Additionally, a loan fund can be formed by a group of interested employers to reduce the required investment from any one employer resulting in a decreased risk to participating employers and a potential increase in the tolerance for concessionary loan terms.⁵⁸

A variety of financing options are available to employers and their development partners through New Hampshire Housing such as Low-Income Housing Tax Credits, tax-exempt bond financing, low-interest loans, and grant funding. The Low-Income Housing Tax Credit Program provides investors with reductions in their federal tax liability in exchange for investing in the creation or preservation of affordable housing. A 9.0 percent and a 4.0 percent credit are available and awarded in annual allotments over a 10-year period. The 9.0 percent credit is awarded on a competitive basis and will subsidize approximately 70.0 percent of the total development costs of a project’s qualified basis. The qualified basis refers to the portion of total development costs associated with the construction of the affordable units. The 4.0 percent credit is available for projects that fund at least half of the development costs through tax-exempt bond financing and will subsidize approximately 30.0 percent of the total development costs of a project’s qualified basis. The U.S. Department of Housing and Urban Development requires that all units must remain

⁵⁶ (von Hoffman & Arck, 2019)

⁵⁷ (New Hampshire Housing, 2021)

⁵⁸ (New Hampshire Housing, 2021)

open for general public use and that affordability in designated units must be maintained for a minimum of 30 years.⁵⁹

New Hampshire Housing administers the Multi-Family Bond Financing Program to provide funds for developers to pursue multi-family rental housing projects. The proceeds from the sale of tax-exempt or taxable bonds are made available to developers for the construction, acquisition, rehabilitation, renovation, furnishing, and equipping of multi-family housing developments. Tax-exempt bond financing is ideal for the preservation of existing subsidized housing and is often paired with a 4.0 percent Low-Income Housing Tax Credit.⁶⁰

The New Hampshire Community Development Investment Program enables businesses to make contributions to community projects in exchange for a 75.0 percent credit against the contribution that goes towards the state tax liability of the business. The program awards \$5.0 million in tax credits each year on a competitive basis. Eligible projects require the involvement of a nonprofit or municipality. After tax credits are awarded, the nonprofit or municipality must sell those credits to businesses to generate the capital for the project. Prior projects funded through this program include the construction of new housing, homeless shelters, community centers, and museums.⁶¹

The Affordable Housing Fund Program provides gap financing for affordable rental housing projects that are financed with other resources administered by New Hampshire Housing such as tax-exempt bonds and 4.0 percent Low-Income Housing Tax Credits. This program provides loans for the acquisition, rehabilitation, or construction of affordable housing projects for low- to moderate-income individuals. Loans through the Affordable Housing Fund Program are structured as “construction-to-permanent deferred payment loans with subordinate mortgage positions and below-market interest rates.” All housing projects financed through this program must meet income targeting restrictions.⁶²

The HOME Investment Partnerships Program provides grants to states and localities to finance the construction, acquisition, and rehabilitation of affordable rental or owner housing. Participating jurisdictions have discretion over the appropriation of the funds, which may be administered in the form of grants, direct loans, loan guarantees, or other forms of credit enhancements. Projects financed with HOME funds that include a major rehabilitation or new construction must maintain affordability for 20 years.⁶³

Additional financing options include the Housing Trust Fund and the Community Development Block Grant Program. The Housing Trust Fund is a federal program that provides grants to states for housing projects for extremely and very low-income individuals. The Community Development Block Grant Programs provides grants to states, counties, and cities to provide housing and suitable living environments in urban areas. This program funds housing projects for low- to moderate-income individuals and must be available to the general public.⁶⁴

New Hampshire Housing highlights six locations in which affordable housing was developed with assistance from local employers. In Keystone, Colorado, a ski resort donated land for a 196-unit, 10-building complex to assist their employees with finding affordable housing in close proximity to the resort. The housing development, the Village at Wintergreen, is a public-private partnership.

⁵⁹ (New Hampshire Housing, 2021)

⁶⁰ (New Hampshire Housing, 2021)

⁶¹ (New Hampshire Housing, 2021)

⁶² (New Hampshire Housing, 2021)

⁶³ (New Hampshire Housing, 2021)

⁶⁴ (New Hampshire Housing, 2021)

In addition to the developer's contribution, the developer received Low-Income Housing Tax Credits for 40 units, a \$300,000 loan from the Summit County, and funding provided by the HOME Program. Additionally, the partnership between the developer and the Summit Combined Housing Authority resulted in a property tax exemption for the development. The Village at Wintergreen has 40 units designated for tenants earning between 30.0 and 60.0 percent of area median income, 120 units designated for tenants earning no more than 100.0 percent of area median income, and 36 seasonable rental units.⁶⁵

In Kennebunkport, Maine, the Kennebunkport Heritage Housing Trust is a nonprofit with a mission of building affordable housing. The Heritage Woods neighborhood was the first project developed by the Kennebunkport Heritage Housing Trust. The development contains six single-family homes and attached duplexes developed on land donated by the town. To subsidize the purchase price of the homes, the Kennebunkport Heritage Housing Trust received grants from the Maine State Housing Authority and the Federal Home Loan Bank. The Maine State Housing Authority all provides low-down payment mortgage loan to buyers.⁶⁶

The Housing Trust of Silicon Valley was founded in 2000 by a \$1.0 million investment by five companies in the Santa Clara area of California. This cooperative loan fund now has dozens of contributors ranging from employers to government entities. Contributions to the Housing Trust of Silicon Valley are disbursed to employees for down payment assistance or loaned to developers for affordable, multi-family rental housing projects. Since its founding, the Housing Trust of Silicon Valley has invested nearly \$257.0 million. This funding has helped borrowers leverage an additional \$3.8 billion in funding and has helped create more than 19,000 affordable housing opportunities for nearly 35,000 individuals.⁶⁷

Hormel Foods recognized the need for quality, affordable housing options in Pelican Rapids, Minnesota. Therefore, Hormel Foods partnered with a local developer to construct a 40-unit townhome development. Hormel Foods purchased Low-Income Housing Tax Credits, provided over \$1.5 million in equity, and secured a \$270,000 deferred payment loan from the Greater Minnesota Housing Fund to help finance the development.⁶⁸

A lack of affordable housing in Aitkin, Minnesota, led a local businessman to construct an 18-townhome rental housing development with assistance from a nonprofit developer, the Central Minnesota Housing Partnership. The businessman contributed \$180,000 for construction and donated the land for the development, which allowed him to specify the affordability requirements and give occupancy preference to his own employees. Additionally, the City of Aitkin provided infrastructure assistance, and the Greater Minnesota Housing Fund provided a no interest \$270,000 deferred payment loan for the development costs.⁶⁹

In Durham, New Hampshire, the owners of two assisted living facilities struggled to retain their current staff and to recruit new employees. The owners surveyed their employees and discovered the lack of affordable housing was a challenge their employees were facing. To address the issue, the owners constructed seven one-bedroom apartments and a childcare center for employees in the area adjacent to the assisted living facilities. The rent for these apartments were restricted to 30.0 percent of an employee's pay. The development was estimated to save their employees \$250

⁶⁵ (New Hampshire Housing, 2021)

⁶⁶ (New Hampshire Housing, 2021)

⁶⁷ (New Hampshire Housing, 2021)

⁶⁸ (New Hampshire Housing, 2021)

⁶⁹ (New Hampshire Housing, 2021)

to \$400 in rent and approximately \$600 in childcare costs each month. Due to increased demand, the owners acquired a 7.16-acre parcel of land to construct 44 single-family homes for their employees.⁷⁰

Other

Wisconsin has a shortage of workforce housing, which is defined as rental housing that is affordable for households earning up to 60.0 percent of area median income and owner housing that is affordable for households earning up to 120.0 percent of area median income. Paulsen (2019) details the causes, results, and possible reform options of the workforce housing shortage in Wisconsin. The main factors contributing to the workforce housing shortage are the new housing supply not keeping pace with demand, construction costs increasing at a faster rate than inflation and income, and restrictive land use regulations increasing housing costs. The increase in construction costs reflects the increasing cost of materials as well as a severe labor shortage in the building and construction trades. Increasing construction costs create barriers to housing affordability because all forms of housing become more expensive and less available. Restrictive land use regulations in Wisconsin include large minimum lot sizes, limitations on multi-family housing, excessive parking requirements, building material requirements, and long approval processes. These zoning regulations lower the overall housing supply, increase the cost of underlying land for housing that is built, and lead to more expensive and larger home being built by developers.

The workforce housing shortage in Wisconsin is resulting in increasing housing costs and declining homeownership rates. A limited housing supply along with growing demand results in increasing housing costs. Households are forced to rent, purchase a less expensive home that is further from their work, or purchase a home with more mortgage debt. However, housing costs are increasing faster than incomes making it challenging for first-time homebuyers to enter the market and for seniors to downsize. Homeownership rates have declined for younger adults, first-time homebuyers, and African American and Hispanic households.⁷¹

Possible reform strategies are focused on building more housing, increasing diversity of the housing stock, increasing homeownership rates, reinvesting in older housing, and making housing a priority. Expedited permitting and approval processes, established maximum or minimum lot sizes in sewer service areas, and requirements that allow accessory dwelling units (ADUs) are strategies to facilitate the construction of new housing. Strategies to diversify the housing stock include utilizing tax incentives, such as sales tax exemption on construction materials, to reduce workforce housing costs, establishing workforce housing tax increment financing districts, requiring municipalities to have at least one zoning district that allows multifamily housing construction, and providing financing for workforce housing in rural areas. Possible strategies to increase homeownership rates include funding down payment assistance programs and creating a first-time homebuyer savings account program. To encourage investment in older housing, a state tax credit or low interest loans could be provided to owners or nonprofit housing agencies to rehabilitate older housing. Leveraging existing housing programs, incentivizing innovative solutions, expanding financial incentives, providing technical and financial assistance to municipalities, and financing the pre-development of nonprofit and affordable housing providers will make housing a priority. Additionally, training programs for displaced or underemployed workers could be expanded to skilled construction trades to address the labor shortage.⁷²

⁷⁰ (New Hampshire Housing, 2021)

⁷¹ (Paulsen, 2019)

⁷² (Paulsen, 2019)

Conclusion

Established in 1910, Ohio REALTORS is the largest professional trade organization in the State of Ohio with more than 36,000 real estate professionals (REALTORS). Through advocacy, engagement and leadership, Ohio REALTORS protects private property rights and advances the real estate industry in the State of Ohio. This analysis examines the supply and demand of workforce housing between 2015 and 2021 in the State of Ohio as well as in JobsOhio Regions. Workforce housing is defined as housing affordable to households with income between 60.0 and 120.0 percent of the area median income. For the purposes of this analysis, the area median income refers to the median income of each respective county in the State of Ohio.

The supply of workforce housing is described using historical residential property transactions as well as permits issued for new privately-owned construction of single-family homes. To provide additional context, characteristics of the existing housing stock as well as demographic and socioeconomic characteristics in the State of Ohio are explored. Economic indicators are detailed to further contextualize workforce housing in the State of Ohio. The roundtable discussions the Economics Center held with stakeholders across the State of Ohio are summarized in addition to possible solutions. This research is intended to inform the development and implementation of a comprehensive workforce housing strategy for the State of Ohio to assist in its long-term growth.

The growth in home prices in the State of Ohio between 2015 and 2021 outpaced the growth in median household income. After adjusting for inflation, the median sale price of residential property transactions in the State of Ohio increased by \$5,920 between 2015 and 2021. During that same period, median household income in the State of Ohio increased by \$2,154, after adjusting for inflation. The growth in median sale price was even larger for residential property transaction affordable to households with income between 60.0 and 120.0 percent of area median income. On average, the median sale price of residential property transactions affordable to households with income between 60.0 and 120.0 percent of area median income increased by \$31,660 in the State of Ohio between 2015 and 2021.

Permits issued for new construction of single-family homes represent the potential future housing supply. Of permits issued in the State of Ohio between 2015 and 2021, approximately 14.3 percent of permits had an average value affordable to households with income between 60.0 and 120.0 percent of area median income. Approximately 84.9 percent of permits issued had an average value affordable to households with income above 120.0 percent of area median income. Of total households in the State of Ohio in 2021, it is estimated that 58.1 percent of households had median household income below 120.0 percent of the area median income. This means that the potential future housing supply in the State of Ohio would be unaffordable to approximately 58.1 percent of households in 2021.

Between 2020 and 2021, inflation and home prices in the State of Ohio have increased by 4.7 percent and 12.6 percent, respectively. Meanwhile, the share of homes sold in the United States that were affordable to a family earning the local median income declined by 14.1 points between the first and second quarters of 2022. In the second quarter of 2022, less than half (42.8%) of homes sold across the United States were affordable to a family earning the local median income. Additionally, the majority of jobs projected to be added to the economy in the State of Ohio between 2021 and 2031 had average annual earnings in 2021 that were below the statewide average across all industries.

Although the State of Ohio has existing housing that is affordable to households with income between 60.0 and 120.0 percent of area median income, home prices increased at a higher rate than household income between 2015 and 2021. Additionally, the potential future housing supply will be unaffordable to the majority of households in the State of Ohio, especially given the types of jobs projected to be added to the statewide economy between 2021 and 2031.

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Appendix A

All Transactions

Table 37: Residential Property Transactions by County in the State of Ohio, 2015 and 2021

JobsOhio Region	County	2015	2021	Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	2,794	4,674	25,654	1,880	9.0%
	Fairfield	2,657	3,065	22,027	408	2.4%
	Franklin	11,227	25,570	119,929	14,343	14.7%
	Knox	1,098	1,312	8,426	214	3.0%
	Licking	2,972	3,793	23,469	821	4.1%
	Logan	1,555	1,778	11,830	223	2.3%
	Madison	612	569	4,935	-43	-1.2%
	Marion	1,089	1,357	8,243	268	3.7%
	Morrow	289	739	3,428	450	16.9%
	Pickaway	876	1,019	7,142	143	2.6%
	Union	1,493	1,640	10,925	147	1.6%
	Central JobsOhio Region	26,662	45,516	246,008	18,854	9.3%
Northeast	Ashland	466	1,031	4,897	565	14.2%
	Ashtabula	1,478	985	10,167	-493	-6.5%
	Columbiana	803	1,004	6,269	201	3.8%
	Cuyahoga	18,197	27,541	154,684	9,344	7.2%
	Erie	1,231	1,669	10,108	438	5.2%
	Geauga	752	1,438	7,484	686	11.4%
	Huron	876	1,208	6,837	332	5.5%
	Lake	2,168	4,734	23,421	2,566	13.9%
	Lorain	2,425	6,773	30,295	4,348	18.7%
	Mahoning	1,808	4,025	18,880	2,217	14.3%
	Medina	1,970	3,220	18,679	1,250	8.5%
	Portage	1,772	1,981	13,024	209	1.9%
	Richland	2,160	3,032	17,848	872	5.8%
	Stark	7,251	9,780	57,564	2,529	5.1%
	Summit	11,654	14,670	89,801	3,016	3.9%
	Trumbull	2,710	3,430	20,965	720	4.0%
	Tuscarawas	2,062	2,559	16,107	497	3.7%
	Wayne	808	1,714	8,589	906	13.4%
	Northeast JobsOhio Region	60,591	90,794	515,619	30,203	7.0%

Northwest	Allen	213	270	1,625	57	4.0%
	Crawford	560	779	4,496	219	5.7%
	Defiance	286	644	3,054	358	14.5%
	Fulton	614	704	4,468	90	2.3%
	Hancock	535	1,731	7,255	1,196	21.6%
	Hardin	381	453	2,984	72	2.9%
	Henry	473	565	3,510	92	3.0%
	Lucas	4,700	6,488	40,175	1,788	5.5%
	Ottawa	1,234	1,649	10,115	415	5.0%
	Paulding	157	366	1,654	209	15.1%
	Putnam	291	478	2,707	187	8.6%
	Sandusky	911	1,074	6,967	163	2.8%
	Seneca	725	974	5,475	249	5.0%
	Van Wert	469	644	3,753	175	5.4%
	Williams	371	739	3,536	368	12.2%
	Wood	2,431	2,612	17,748	181	1.2%
	Wyandot	256	350	1,995	94	5.4%
	Northwest JobsOhio Region	14,607	20,520	121,517	5,913	5.8%
Southeast	Adams	275	401	2,264	126	6.5%
	Athens	669	736	4,923	67	1.6%
	Belmont	499	1,055	4,942	556	13.3%
	Carroll	446	601	3,761	155	5.1%
	Coshocton	772	1,078	5,572	306	5.7%
	Gallia	325	403	2,475	78	3.7%
	Guernsey	363	752	3,626	389	12.9%
	Harrison	193	182	1,251	-11	-1.0%
	Highland	174	252	1,384	78	6.4%
	Hocking	504	627	3,909	123	3.7%
	Holmes	378	430	3,185	52	2.2%
	Jackson	489	584	3,748	95	3.0%
	Jefferson	455	883	4,412	428	11.7%
	Lawrence	758	801	5,559	43	0.9%
	Meigs	317	391	2,375	74	3.6%
	Monroe	134	133	916	-1	-0.1%
	Morgan	119	241	1,156	122	12.5%
	Muskingum	2,176	2,579	15,896	403	2.9%
	Noble	136	172	1,020	36	4.0%

	Perry	451	555	3,493	104	3.5%
	Pike	136	365	1,733	229	17.9%
	Ross	474	811	4,941	337	9.4%
	Scioto	442	1,082	4,986	640	16.1%
	Vinton	217	228	1,522	11	0.8%
	Washington	644	851	4,800	207	4.8%
	Southeast JobsOhio Region	11,546	16,193	93,849	4,647	5.8%
Southwest	Brown	1,150	1,638	9,354	488	6.1%
	Butler	3,052	7,269	33,397	4,217	15.6%
	Clermont	3,620	4,595	28,598	975	4.1%
	Hamilton	14,326	18,485	113,443	4,159	4.3%
	Warren	5,214	5,178	39,970	-36	-0.1%
	Southwest JobsOhio Region	27,362	37,165	224,762	9,803	5.2%
West	Auglaize	774	785	5,652	11	0.2%
	Champaign	696	758	4,827	62	1.4%
	Clark	1,001	2,516	11,835	1,515	16.6%
	Clinton	683	817	5,272	134	3.0%
	Darke	819	998	6,276	179	3.3%
	Fayette	475	965	5,054	490	12.5%
	Greene	2,951	3,632	24,274	681	3.5%
	Mercer	472	763	4,060	291	8.3%
	Miami	1,828	2,305	14,193	477	3.9%
	Montgomery	9,416	14,877	82,018	5,461	7.9%
	Preble	624	819	5,126	195	4.6%
	Shelby	694	912	5,929	218	4.7%
	West JobsOhio Region	20,433	30,147	174,516	9,714	6.7%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Table 38: Median Sale Price of Residential Property Transactions by County in the State of Ohio, 2015 and 2021 (2021\$)

JobsOhio Region	County	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$433,209	\$402,000	-\$31,209	-1.2%
	Fairfield	\$223,718	\$260,000	\$36,282	2.5%
	Franklin	\$253,759	\$244,900	-\$8,859	-0.6%
	Knox	\$166,091	\$173,000	\$6,909	0.7%
	Licking	\$217,364	\$230,000	\$12,636	0.9%
	Logan	\$158,870	\$169,900	\$11,030	1.1%
	Madison	\$180,534	\$218,900	\$38,366	3.3%
	Marion	\$89,545	\$125,000	\$35,455	5.7%
	Morrow	\$166,091	\$185,000	\$18,909	1.8%
	Pickaway	\$198,804	\$225,000	\$26,196	2.1%
	Union	\$259,824	\$304,500	\$44,676	2.7%
	Central JobsOhio Region	\$326,405	\$350,000	\$23,595	1.2%
Northeast	Ashland	\$160,314	\$152,500	-\$7,814	-0.8%
	Ashtabula	\$95,322	\$120,000	\$24,678	3.9%
	Columbiana	\$93,733	\$92,500	-\$1,233	-0.2%
	Cuyahoga	\$128,396	\$148,900	\$20,504	2.5%
	Erie	\$171,868	\$155,000	-\$16,868	-1.7%
	Geauga	\$285,605	\$275,750	-\$9,855	-0.6%
	Huron	\$129,984	\$140,000	\$10,016	1.2%
	Lake	\$194,977	\$173,500	-\$21,477	-1.9%
	Lorain	\$205,087	\$164,000	-\$41,087	-3.7%
	Mahoning	\$121,319	\$126,000	\$4,681	0.6%
	Medina	\$252,603	\$246,500	-\$6,103	-0.4%
	Portage	\$209,419	\$180,000	-\$29,419	-2.5%
	Richland	\$127,096	\$135,000	\$7,904	1.0%
	Stark	\$158,870	\$153,500	-\$5,370	-0.6%
	Summit	\$158,870	\$156,000	-\$2,870	-0.3%
	Trumbull	\$108,104	\$117,450	\$9,346	1.4%
	Tuscarawas	\$162,481	\$150,000	-\$12,481	-1.3%
	Wayne	\$180,390	\$174,400	-\$5,990	-0.6%
	Northeast JobsOhio Region	\$227,473	\$245,000	\$17,527	1.2%
Northwest	Allen	\$119,152	\$94,350	-\$24,802	-3.8%
	Crawford	\$92,072	\$105,000	\$12,928	2.2%
	Defiance	\$136,411	\$129,950	-\$6,461	-0.8%

	Fulton	\$158,870	\$150,000	-\$8,870	-1.0%
	Hancock	\$179,090	\$172,500	-\$6,590	-0.6%
	Hardin	\$127,529	\$118,000	-\$9,529	-1.3%
	Henry	\$126,374	\$129,900	\$3,526	0.5%
	Lucas	\$158,870	\$158,000	-\$870	-0.1%
	Ottawa	\$151,649	\$168,000	\$16,351	1.7%
	Paulding	\$114,097	\$97,374	-\$16,724	-2.6%
	Putnam	\$158,870	\$140,005	-\$18,865	-2.1%
	Sandusky	\$115,542	\$125,000	\$9,458	1.3%
	Seneca	\$100,377	\$117,250	\$16,873	2.6%
	Van Wert	\$108,320	\$113,450	\$5,130	0.8%
	Williams	\$118,430	\$120,000	\$1,570	0.2%
	Wood	\$187,755	\$193,100	\$5,345	0.5%
	Wyandot	\$117,708	\$126,250	\$8,542	1.2%
	Northwest JobsOhio Region	\$206,531	\$224,500	\$17,969	1.4%
Southeast	Adams	\$86,656	\$95,000	\$8,344	1.5%
	Athens	\$154,884	\$155,500	\$616	0.1%
	Belmont	\$112,653	\$132,900	\$20,247	2.8%
	Carroll	\$108,320	\$128,800	\$20,480	2.9%
	Coshocton	\$115,361	\$110,050	-\$5,311	-0.8%
	Gallia	\$112,653	\$115,000	\$2,347	0.3%
	Guernsey	\$106,154	\$115,000	\$8,846	1.3%
	Harrison	\$75,102	\$83,750	\$8,648	1.8%
	Highland	\$102,543	\$118,950	\$16,407	2.5%
	Hocking	\$150,204	\$174,900	\$24,696	2.6%
	Holmes	\$205,809	\$221,500	\$15,691	1.2%
	Jackson	\$81,843	\$125,000	\$43,157	7.3%
	Jefferson	\$109,765	\$120,000	\$10,235	1.5%
	Lawrence	\$115,542	\$135,000	\$19,458	2.6%
	Meigs	\$57,771	\$60,000	\$2,229	0.6%
	Monroe	\$100,377	\$80,000	-\$20,377	-3.7%
	Morgan	\$79,435	\$100,000	\$20,565	3.9%
	Muskingum	\$133,884	\$150,000	\$16,116	1.9%
	Noble	\$101,099	\$96,250	-\$4,849	-0.8%
	Perry	\$111,931	\$133,000	\$21,069	2.9%
	Pike	\$92,433	\$142,000	\$49,567	7.4%
	Ross	\$134,678	\$155,000	\$20,322	2.4%
	Scioto	\$98,210	\$100,000	\$1,790	0.3%

	Vinton	\$64,992	\$99,250	\$34,258	7.3%
	Washington	\$136,841	\$135,000	-\$1,841	-0.2%
	Southeast JobsOhio Region	\$184,867	\$195,000	\$10,133	0.9%
Southwest	Brown	\$139,560	\$154,199	\$14,639	1.7%
	Butler	\$232,528	\$224,900	-\$7,628	-0.6%
	Clermont	\$194,977	\$225,000	\$30,023	2.4%
	Hamilton	\$173,313	\$190,000	\$16,687	1.5%
	Warren	\$267,190	\$290,000	\$22,810	1.4%
	Southwest JobsOhio Region	\$309,074	\$340,000	\$30,926	1.6%
West	Auglaize	\$142,983	\$155,000	\$12,017	1.4%
	Champaign	\$129,623	\$160,000	\$30,377	3.6%
	Clark	\$141,539	\$137,000	-\$4,539	-0.5%
	Clinton	\$115,542	\$145,000	\$29,458	3.9%
	Darke	\$128,973	\$137,000	\$8,027	1.0%
	Fayette	\$129,840	\$150,000	\$20,160	2.4%
	Greene	\$205,087	\$205,000	-\$87	0.0%
	Mercer	\$151,649	\$164,900	\$13,251	1.4%
	Miami	\$173,313	\$169,900	-\$3,413	-0.3%
	Montgomery	\$127,096	\$145,000	\$17,904	2.2%
	Preble	\$122,619	\$140,000	\$17,381	2.2%
	Shelby	\$153,093	\$150,950	-\$2,143	-0.2%
	West JobsOhio Region	\$216,641	\$240,000	\$23,359	1.7%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio.

Table 39: Median Sale Price of Residential Property Transactions by County in the State of Ohio, 2015 and 2021 (Nominal\$)

JobsOhio Region	County	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$299,950	\$402,000	\$102,050	5.0%
	Fairfield	\$154,900	\$260,000	\$105,100	9.0%
	Franklin	\$175,700	\$244,900	\$69,200	5.7%
	Knox	\$115,000	\$173,000	\$58,000	7.0%
	Licking	\$150,501	\$230,000	\$79,500	7.3%
	Logan	\$110,000	\$169,900	\$59,900	7.5%
	Madison	\$125,000	\$218,900	\$93,900	9.8%
	Marion	\$62,000	\$125,000	\$63,000	12.4%
	Morrow	\$115,000	\$185,000	\$70,000	8.2%
	Pickaway	\$137,650	\$225,000	\$87,350	8.5%
	Union	\$179,900	\$304,500	\$124,600	9.2%
	Central JobsOhio Region	\$162,500	\$250,000	\$87,500	7.4%
Northeast	Ashland	\$111,000	\$152,500	\$41,500	5.4%
	Ashtabula	\$66,000	\$120,000	\$54,000	10.5%
	Columbiana	\$64,900	\$92,500	\$27,600	6.1%
	Cuyahoga	\$88,900	\$148,900	\$60,000	9.0%
	Erie	\$119,000	\$155,000	\$36,000	4.5%
	Geauga	\$197,750	\$275,750	\$78,000	5.7%
	Huron	\$90,000	\$140,000	\$50,000	7.6%
	Lake	\$135,000	\$173,500	\$38,500	4.3%
	Lorain	\$142,000	\$164,000	\$22,000	2.4%
	Mahoning	\$84,000	\$126,000	\$42,000	7.0%
	Medina	\$174,900	\$246,500	\$71,600	5.9%
	Portage	\$145,000	\$180,000	\$35,000	3.7%
	Richland	\$88,000	\$135,000	\$47,000	7.4%
	Stark	\$110,000	\$153,500	\$43,500	5.7%
	Summit	\$110,000	\$156,000	\$46,000	6.0%
	Trumbull	\$74,850	\$117,450	\$42,600	7.8%
	Tuscarawas	\$112,500	\$150,000	\$37,500	4.9%
	Wayne	\$124,900	\$174,400	\$49,500	5.7%
	Northeast JobsOhio Region	\$105,500	\$155,000	\$49,500	6.6%
Northwest	Allen	\$82,500	\$94,350	\$11,850	2.3%
	Crawford	\$63,750	\$105,000	\$41,250	8.7%
	Defiance	\$94,450	\$129,950	\$35,500	5.5%

	Fulton	\$110,000	\$150,000	\$40,000	5.3%
	Hancock	\$124,000	\$172,500	\$48,500	5.7%
	Hardin	\$88,300	\$118,000	\$29,700	5.0%
	Henry	\$87,500	\$129,900	\$42,400	6.8%
	Lucas	\$110,000	\$158,000	\$48,000	6.2%
	Ottawa	\$105,000	\$168,000	\$63,000	8.1%
	Paulding	\$79,000	\$97,374	\$18,374	3.5%
	Putnam	\$110,000	\$140,005	\$30,005	4.1%
	Sandusky	\$80,000	\$125,000	\$45,000	7.7%
	Seneca	\$69,500	\$117,250	\$47,750	9.1%
	Van Wert	\$75,000	\$113,450	\$38,450	7.1%
	Williams	\$82,000	\$120,000	\$38,000	6.6%
	Wood	\$130,000	\$193,100	\$63,100	6.8%
	Wyandot	\$81,500	\$126,250	\$44,750	7.6%
	Northwest JobsOhio Region	\$100,000	\$148,000	\$48,000	6.8%
Southeast	Adams	\$60,000	\$95,000	\$35,000	8.0%
	Athens	\$107,240	\$155,500	\$48,260	6.4%
	Belmont	\$78,000	\$132,900	\$54,900	9.3%
	Carroll	\$75,000	\$128,800	\$53,800	9.4%
	Coshocton	\$79,875	\$110,050	\$30,175	5.5%
	Gallia	\$78,000	\$115,000	\$37,000	6.7%
	Guernsey	\$73,500	\$115,000	\$41,500	7.7%
	Harrison	\$52,000	\$83,750	\$31,750	8.3%
	Highland	\$71,000	\$118,950	\$47,950	9.0%
	Hocking	\$104,000	\$174,900	\$70,900	9.1%
	Holmes	\$142,500	\$221,500	\$79,000	7.6%
	Jackson	\$56,667	\$125,000	\$68,333	14.1%
	Jefferson	\$76,000	\$120,000	\$44,000	7.9%
	Lawrence	\$80,000	\$135,000	\$55,000	9.1%
	Meigs	\$40,000	\$60,000	\$20,000	7.0%
	Monroe	\$69,500	\$80,000	\$10,500	2.4%
	Morgan	\$55,000	\$100,000	\$45,000	10.5%
	Muskingum	\$92,700	\$150,000	\$57,300	8.4%
	Noble	\$70,000	\$96,250	\$26,250	5.5%
	Perry	\$77,500	\$133,000	\$55,500	9.4%
	Pike	\$64,000	\$142,000	\$78,000	14.2%
	Ross	\$93,250	\$155,000	\$61,750	8.8%
	Scioto	\$68,000	\$100,000	\$32,000	6.6%

	Vinton	\$45,000	\$99,250	\$54,250	14.1%
	Washington	\$94,748	\$135,000	\$40,253	6.1%
	Southeast JobsOhio Region	\$80,000	\$130,400	\$50,400	8.5%
Southwest	Brown	\$96,630	\$154,199	\$57,569	8.1%
	Butler	\$161,000	\$224,900	\$63,900	5.7%
	Clermont	\$135,000	\$225,000	\$90,000	8.9%
	Hamilton	\$120,000	\$190,000	\$70,000	8.0%
	Warren	\$185,000	\$290,000	\$105,000	7.8%
	Southwest JobsOhio Region	\$137,500	\$212,000	\$74,500	7.5%
West	Auglaize	\$99,000	\$155,000	\$56,000	7.8%
	Champaign	\$89,750	\$160,000	\$70,250	10.1%
	Clark	\$98,000	\$137,000	\$39,000	5.7%
	Clinton	\$80,000	\$145,000	\$65,000	10.4%
	Darke	\$89,300	\$137,000	\$47,700	7.4%
	Fayette	\$89,900	\$150,000	\$60,100	8.9%
	Greene	\$142,000	\$205,000	\$63,000	6.3%
	Mercer	\$105,000	\$164,900	\$59,900	7.8%
	Miami	\$120,000	\$169,900	\$49,900	6.0%
	Montgomery	\$88,000	\$145,000	\$57,000	8.7%
	Preble	\$84,900	\$140,000	\$55,100	8.7%
	Shelby	\$106,000	\$150,950	\$44,950	6.1%
	West JobsOhio Region	\$99,000	\$152,000	\$53,000	7.4%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Workforce Housing Transactions

Table 40: Workforce Housing Residential Property Transactions by County in the State of Ohio, 2015 and 2021

JobsOhio Region	County	2015	2021	Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	793	2,413	10,122	1,620	20.4%
	Fairfield	848	1,118	7,459	270	4.7%
	Franklin	2,743	9,595	39,605	6,852	23.2%
	Knox	304	552	2,851	248	10.5%
	Licking	820	1,434	7,674	614	9.8%
	Logan	289	388	2,449	99	5.0%
	Madison	219	237	1,982	18	1.3%
	Marion	254	352	2,077	98	5.6%
	Morrow	73	184	791	111	16.7%
	Pickaway	315	389	2,689	74	3.6%
	Union	463	699	3,997	236	7.1%
	Central JobsOhio Region	7,121	17,361	81,696	10,240	16.0%
Northeast	Ashland	118	356	1,471	238	20.2%
	Ashtabula	341	267	2,379	-74	-4.0%
	Columbiana	213	301	1,814	88	5.9%
	Cuyahoga	4,447	8,168	40,037	3,721	10.7%
	Erie	298	614	2,874	316	12.8%
	Geauga	223	592	2,590	369	17.7%
	Huron	223	319	1,792	96	6.1%
	Lake	518	2,103	8,265	1,585	26.3%
	Lorain	582	2,289	9,039	1,707	25.6%
	Mahoning	387	1,112	4,904	725	19.2%
	Medina	512	1,348	6,570	836	17.5%
	Portage	431	798	4,007	367	10.8%
	Richland	450	899	4,663	449	12.2%
	Stark	1,835	3,253	16,901	1,418	10.0%
	Summit	3,031	4,363	24,178	1,332	6.3%
	Trumbull	661	1,012	5,810	351	7.4%
	Tuscarawas	474	848	4,610	374	10.2%
	Wayne	195	768	2,951	573	25.7%
	Northeast JobsOhio Region	14,939	29,410	144,855	14,471	12.0%
Northwest	Allen	48	90	423	42	11.0%

	Crawford	132	197	1,107	65	6.9%
	Defiance	62	249	1,050	187	26.1%
	Fulton	176	264	1,463	88	7.0%
	Hancock	144	641	2,354	497	28.3%
	Hardin	70	143	859	73	12.6%
	Henry	142	200	1,119	58	5.9%
	Lucas	960	1,692	9,192	732	9.9%
	Ottawa	340	524	2,852	184	7.5%
	Paulding	29	137	481	108	29.5%
	Putnam	77	174	859	97	14.6%
	Sandusky	256	357	1,976	101	5.7%
	Seneca	157	281	1,460	124	10.2%
	Van Wert	120	213	1,147	93	10.0%
	Williams	79	234	976	155	19.8%
	Wood	640	1,084	5,910	444	9.2%
	Wyandot	56	131	620	75	15.2%
	Northwest JobsOhio Region	3,488	6,611	33,848	3,123	11.2%
Southeast	Adams	58	84	516	26	6.4%
	Athens	135	229	1,213	94	9.2%
	Belmont	114	262	1,199	148	14.9%
	Carroll	125	204	1,101	79	8.5%
	Coshocton	158	285	1,302	127	10.3%
	Gallia	81	156	789	75	11.5%
	Guernsey	91	170	878	79	11.0%
	Harrison	55	56	310	1	0.3%
	Highland	32	65	314	33	12.5%
	Hocking	115	186	1,041	71	8.3%
	Holmes	89	141	928	52	8.0%
	Jackson	138	153	936	15	1.7%
	Jefferson	184	339	1,704	155	10.7%
	Lawrence	198	196	1,409	-2	-0.2%
	Meigs	79	89	587	10	2.0%
	Monroe	20	44	248	24	14.0%
	Morgan	31	60	264	29	11.6%
	Muskingum	472	586	3,564	114	3.7%
	Noble	38	47	322	9	3.6%
	Perry	115	173	944	58	7.0%

	Pike	30	70	381	40	15.2%
	Ross	114	184	1,123	70	8.3%
	Scioto	94	254	1,097	160	18.0%
	Vinton	37	29	227	-8	-4.0%
	Washington	159	253	1,388	94	8.0%
	Southeast JobsOhio Region	2,762	4,315	23,785	1,553	7.7%
Southwest	Brown	294	426	2,421	132	6.4%
	Butler	860	2,817	11,446	1,957	21.9%
	Clermont	1,320	1,923	11,509	603	6.5%
	Hamilton	3,666	7,029	36,072	3,363	11.5%
	Warren	1,661	2,319	14,575	658	5.7%
	Southwest JobsOhio Region	7,801	14,514	76,023	6,713	10.9%
West	Auglaize	232	355	2,005	123	7.3%
	Champaign	223	283	1,621	60	4.1%
	Clark	214	764	3,168	550	23.6%
	Clinton	199	341	1,826	142	9.4%
	Darke	190	313	1,787	123	8.7%
	Fayette	116	258	1,300	142	14.3%
	Greene	803	1,355	7,358	552	9.1%
	Mercer	120	321	1,317	201	17.8%
	Miami	510	947	4,845	437	10.9%
	Montgomery	2,452	4,622	23,423	2,170	11.1%
	Preble	185	352	1,773	167	11.3%
	Shelby	201	355	1,890	154	9.9%
	West JobsOhio Region	5,445	10,266	52,313	4,821	11.1%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Table 41: Median Sale Price of Workforce Housing Residential Property Transactions by County in the State of Ohio, 2015 and 2021 (2021\$)

JobsOhio Region	County	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$262,857	\$359,000	\$96,143	5.3%
	Fairfield	\$166,091	\$195,950	\$29,859	2.8%
	Franklin	\$150,204	\$184,000	\$33,796	3.4%
	Knox	\$108,320	\$149,700	\$41,380	5.5%
	Licking	\$141,539	\$175,000	\$33,461	3.6%
	Logan	\$75,247	\$100,000	\$24,753	4.9%
	Madison	\$150,942	\$178,500	\$27,558	2.8%
	Marion	\$64,270	\$85,000	\$20,730	4.8%
	Morrow	\$99,655	\$130,000	\$30,345	4.5%
	Pickaway	\$158,870	\$175,000	\$16,130	1.6%
	Union	\$192,088	\$265,500	\$73,412	5.5%
	Central JobsOhio Region	\$152,298	\$190,000	\$37,702	3.8%
Northeast	Ashland	\$93,878	\$120,000	\$26,122	4.2%
	Ashtabula	\$57,771	\$75,000	\$17,229	4.4%
	Columbiana	\$72,214	\$82,500	\$10,286	2.2%
	Cuyahoga	\$82,901	\$110,000	\$27,099	4.8%
	Erie	\$98,210	\$126,000	\$27,790	4.2%
	Geauga	\$187,755	\$215,000	\$27,245	2.3%
	Huron	\$79,435	\$94,490	\$15,055	2.9%
	Lake	\$115,542	\$141,000	\$25,458	3.4%
	Lorain	\$115,542	\$135,000	\$19,458	2.6%
	Mahoning	\$72,214	\$86,000	\$13,786	3.0%
	Medina	\$166,091	\$195,000	\$28,909	2.7%
	Portage	\$115,542	\$145,000	\$29,458	3.9%
	Richland	\$73,961	\$95,000	\$21,039	4.3%
	Stark	\$101,388	\$125,000	\$23,612	3.6%
	Summit	\$96,766	\$123,000	\$26,234	4.1%
	Trumbull	\$69,325	\$80,000	\$10,675	2.4%
	Tuscarawas	\$98,210	\$115,750	\$17,540	2.8%
	Wayne	\$115,542	\$140,000	\$24,458	3.3%
	Northeast JobsOhio Region	\$92,289	\$120,000	\$27,711	4.5%
Northwest	Allen	\$72,936	\$81,500	\$8,564	1.9%
	Crawford	\$51,296	\$68,500	\$17,204	4.9%
	Defiance	\$72,214	\$98,000	\$25,786	5.2%

	Fulton	\$103,298	\$125,000	\$21,702	3.2%
	Hancock	\$108,320	\$133,600	\$25,280	3.6%
	Hardin	\$70,047	\$85,000	\$14,953	3.3%
	Henry	\$87,619	\$104,000	\$16,381	2.9%
	Lucas	\$78,424	\$105,000	\$26,576	5.0%
	Ottawa	\$114,459	\$133,339	\$18,880	2.6%
	Paulding	\$59,215	\$79,500	\$20,285	5.0%
	Putnam	\$103,988	\$123,250	\$19,262	2.9%
	Sandusky	\$72,214	\$86,000	\$13,786	3.0%
	Seneca	\$57,626	\$74,000	\$16,374	4.3%
	Van Wert	\$66,436	\$84,500	\$18,064	4.1%
	Williams	\$62,104	\$87,000	\$24,896	5.8%
	Wood	\$124,207	\$151,300	\$27,093	3.3%
	Wyandot	\$74,380	\$93,000	\$18,620	3.8%
	Northwest JobsOhio Region	\$86,656	\$110,000	\$23,344	4.1%
Southeast	Adams	\$45,495	\$54,900	\$9,405	3.2%
	Athens	\$86,656	\$126,000	\$39,344	6.4%
	Belmont	\$60,659	\$80,250	\$19,591	4.8%
	Carroll	\$93,156	\$98,250	\$5,094	0.9%
	Coshocton	\$70,733	\$81,500	\$10,767	2.4%
	Gallia	\$77,269	\$119,000	\$41,731	7.5%
	Guernsey	\$57,771	\$76,750	\$18,979	4.8%
	Harrison	\$53,438	\$68,950	\$15,512	4.3%
	Highland	\$63,223	\$79,000	\$15,777	3.8%
	Hocking	\$93,733	\$130,000	\$36,267	5.6%
	Holmes	\$128,540	\$165,000	\$36,460	4.2%
	Jackson	\$62,104	\$82,000	\$19,896	4.7%
	Jefferson	\$94,058	\$108,500	\$14,442	2.4%
	Lawrence	\$77,305	\$85,000	\$7,695	1.6%
	Meigs	\$47,219	\$55,000	\$7,781	2.6%
	Monroe	\$54,882	\$68,000	\$13,118	3.6%
	Morgan	\$50,550	\$53,500	\$2,950	0.9%
	Muskingum	\$82,685	\$100,000	\$17,315	3.2%
	Noble	\$92,433	\$117,000	\$24,567	4.0%
	Perry	\$74,386	\$108,000	\$33,614	6.4%
	Pike	\$72,214	\$79,950	\$7,736	1.7%
	Ross	\$79,099	\$105,000	\$25,901	4.8%
	Scioto	\$50,550	\$64,950	\$14,400	4.3%

	Vinton	\$21,664	\$25,000	\$3,336	2.4%
	Washington	\$92,433	\$120,000	\$27,567	4.4%
	Southeast JobsOhio Region	\$74,236	\$93,333	\$19,098	3.9%
Southwest	Brown	\$83,623	\$124,000	\$40,377	6.8%
	Butler	\$144,427	\$180,000	\$35,573	3.7%
	Clermont	\$162,481	\$189,900	\$27,419	2.6%
	Hamilton	\$114,097	\$150,000	\$35,903	4.7%
	Warren	\$190,644	\$240,000	\$49,356	3.9%
	Southwest JobsOhio Region	\$134,317	\$169,500	\$35,183	4.0%
West	Auglaize	\$102,110	\$128,000	\$25,890	3.8%
	Champaign	\$100,377	\$129,500	\$29,123	4.3%
	Clark	\$83,046	\$100,000	\$16,954	3.1%
	Clinton	\$93,878	\$130,000	\$36,122	5.6%
	Darke	\$79,435	\$100,000	\$20,565	3.9%
	Fayette	\$80,157	\$107,250	\$27,093	5.0%
	Greene	\$129,840	\$155,000	\$25,160	3.0%
	Mercer	\$100,955	\$140,000	\$39,045	5.6%
	Miami	\$111,931	\$145,000	\$33,069	4.4%
	Montgomery	\$85,682	\$114,500	\$28,818	5.0%
	Preble	\$89,545	\$125,000	\$35,455	5.7%
	Shelby	\$98,210	\$130,000	\$31,790	4.8%
	West JobsOhio Region	\$93,878	\$121,503	\$27,625	4.4%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio, adjusted for inflation using the House Price Index for Ohio.

Table 42: Median Sale Price of Workforce Housing Residential Property Transactions by County in the State of Ohio, 2015 and 2021 (Nominal\$)

JobsOhio Region	County	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$182,000	\$359,000	\$177,000	12.0%
	Fairfield	\$115,000	\$195,950	\$80,950	9.3%
	Franklin	\$104,000	\$184,000	\$80,000	10.0%
	Knox	\$75,000	\$149,700	\$74,700	12.2%
	Licking	\$98,000	\$175,000	\$77,000	10.1%
	Logan	\$52,100	\$100,000	\$47,900	11.5%
	Madison	\$104,511	\$178,500	\$73,989	9.3%
	Marion	\$44,500	\$85,000	\$40,500	11.4%
	Morrow	\$69,000	\$130,000	\$61,000	11.1%
	Pickaway	\$110,000	\$175,000	\$65,000	8.0%
	Union	\$133,000	\$265,500	\$132,500	12.2%
	Central JobsOhio Region	\$105,450	\$190,000	\$84,550	10.3%
Northeast	Ashland	\$65,000	\$120,000	\$55,000	10.8%
	Ashtabula	\$40,000	\$75,000	\$35,000	11.0%
	Columbiana	\$50,000	\$82,500	\$32,500	8.7%
	Cuyahoga	\$57,400	\$110,000	\$52,600	11.5%
	Erie	\$68,000	\$126,000	\$58,000	10.8%
	Geauga	\$130,000	\$215,000	\$85,000	8.7%
	Huron	\$55,000	\$94,490	\$39,490	9.4%
	Lake	\$80,000	\$141,000	\$61,000	9.9%
	Lorain	\$80,000	\$135,000	\$55,000	9.1%
	Mahoning	\$50,000	\$86,000	\$36,000	9.5%
	Medina	\$115,000	\$195,000	\$80,000	9.2%
	Portage	\$80,000	\$145,000	\$65,000	10.4%
	Richland	\$51,210	\$95,000	\$43,790	10.8%
	Stark	\$70,200	\$125,000	\$54,800	10.1%
	Summit	\$67,000	\$123,000	\$56,000	10.7%
	Trumbull	\$48,000	\$80,000	\$32,000	8.9%
	Tuscarawas	\$68,000	\$115,750	\$47,750	9.3%
	Wayne	\$80,000	\$140,000	\$60,000	9.8%
	Northeast JobsOhio Region	\$63,900	\$120,000	\$56,100	11.1%
Northwest	Allen	\$50,500	\$81,500	\$31,000	8.3%
	Crawford	\$35,517	\$68,500	\$32,983	11.6%
	Defiance	\$50,000	\$98,000	\$48,000	11.9%

	Fulton	\$71,523	\$125,000	\$53,478	9.8%
	Hancock	\$75,000	\$133,600	\$58,600	10.1%
	Hardin	\$48,500	\$85,000	\$36,500	9.8%
	Henry	\$60,667	\$104,000	\$43,334	9.4%
	Lucas	\$54,300	\$105,000	\$50,700	11.6%
	Ottawa	\$79,250	\$133,339	\$54,089	9.1%
	Paulding	\$41,000	\$79,500	\$38,500	11.7%
	Putnam	\$72,000	\$123,250	\$51,250	9.4%
	Sandusky	\$50,000	\$86,000	\$36,000	9.5%
	Seneca	\$39,900	\$74,000	\$34,100	10.8%
	Van Wert	\$46,000	\$84,500	\$38,500	10.7%
	Williams	\$43,000	\$87,000	\$44,000	12.5%
	Wood	\$86,000	\$151,300	\$65,300	9.9%
	Wyandot	\$51,500	\$93,000	\$41,500	10.4%
	Northwest JobsOhio Region	\$60,000	\$110,000	\$50,000	10.6%
Southeast	Adams	\$31,500	\$54,900	\$23,400	9.7%
	Athens	\$60,000	\$126,000	\$66,000	13.2%
	Belmont	\$42,000	\$80,250	\$38,250	11.4%
	Carroll	\$64,500	\$98,250	\$33,750	7.3%
	Coshocton	\$48,975	\$81,500	\$32,525	8.9%
	Gallia	\$53,500	\$119,000	\$65,500	14.3%
	Guernsey	\$40,000	\$76,750	\$36,750	11.5%
	Harrison	\$37,000	\$68,950	\$31,950	10.9%
	Highland	\$43,775	\$79,000	\$35,225	10.3%
	Hocking	\$64,900	\$130,000	\$65,100	12.3%
	Holmes	\$89,000	\$165,000	\$76,000	10.8%
	Jackson	\$43,000	\$82,000	\$39,000	11.4%
	Jefferson	\$65,125	\$108,500	\$43,375	8.9%
	Lawrence	\$53,526	\$85,000	\$31,475	8.0%
	Meigs	\$32,694	\$55,000	\$22,306	9.1%
	Monroe	\$38,000	\$68,000	\$30,000	10.2%
	Morgan	\$35,000	\$53,500	\$18,500	7.3%
	Muskingum	\$57,250	\$100,000	\$42,750	9.7%
	Noble	\$64,000	\$117,000	\$53,000	10.6%
	Perry	\$51,504	\$108,000	\$56,496	13.1%
	Pike	\$50,000	\$79,950	\$29,950	8.1%
	Ross	\$54,768	\$105,000	\$50,233	11.5%
	Scioto	\$35,000	\$64,950	\$29,950	10.9%

	Vinton	\$15,000	\$25,000	\$10,000	8.9%
	Washington	\$64,000	\$120,000	\$56,000	11.0%
	Southeast JobsOhio Region	\$51,400	\$93,333	\$41,933	10.5%
Southwest	Brown	\$57,900	\$124,000	\$66,100	13.5%
	Butler	\$100,000	\$180,000	\$80,000	10.3%
	Clermont	\$112,500	\$189,900	\$77,400	9.1%
	Hamilton	\$79,000	\$150,000	\$71,000	11.3%
	Warren	\$132,000	\$240,000	\$108,000	10.5%
	Southwest JobsOhio Region	\$93,000	\$169,500	\$76,500	10.5%
West	Auglaize	\$70,700	\$128,000	\$57,300	10.4%
	Champaign	\$69,500	\$129,500	\$60,000	10.9%
	Clark	\$57,500	\$100,000	\$42,500	9.7%
	Clinton	\$65,000	\$130,000	\$65,000	12.2%
	Darke	\$55,000	\$100,000	\$45,000	10.5%
	Fayette	\$55,500	\$107,250	\$51,750	11.6%
	Greene	\$89,900	\$155,000	\$65,100	9.5%
	Mercer	\$69,900	\$140,000	\$70,100	12.3%
	Miami	\$77,500	\$145,000	\$67,500	11.0%
	Montgomery	\$59,326	\$114,500	\$55,175	11.6%
	Preble	\$62,000	\$125,000	\$63,000	12.4%
	Shelby	\$68,000	\$130,000	\$62,000	11.4%
	West JobsOhio Region	\$65,000	\$121,503	\$56,503	11.0%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

All Permits

Table 43: Total Permits Issued for New Construction of Single-Family Homes by County in the State of Ohio, 2015 and 2021

JobsOhio Region	County	2015	2021	Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	852	2,258	9,908	1,406	17.6%
	Fairfield	338	667	3,518	329	12.0%
	Franklin	1,508	2,288	11,877	780	7.2%
	Knox	117	351	1,120	234	20.1%
	Licking	269	361	1,977	92	5.0%
	Logan	82	126	654	44	7.4%
	Madison	41	89	661	48	13.8%
	Marion	31	47	281	16	7.2%
	Morrow	27	130	515	103	29.9%
	Pickaway	55	262	1,050	207	29.7%
	Union	390	730	3,367	340	11.0%
	Central JobsOhio Region	3,710	7,309	34,928	3,599	12.0%
Northeast	Ashland	63	61	411	-2	-0.5%
	Ashtabula	68	144	676	76	13.3%
	Columbiana	27	57	274	30	13.3%
	Cuyahoga	702	752	4,734	50	1.2%
	Erie	77	141	657	64	10.6%
	Geauga	132	191	1,066	59	6.4%
	Huron	41	43	262	2	0.8%
	Lake	326	513	3,028	187	7.8%
	Lorain	699	1,030	6,135	331	6.7%
	Mahoning	127	190	1,042	63	6.9%
	Medina	674	463	4,017	-211	-6.1%
	Portage	231	379	2,224	148	8.6%
	Richland	62	107	520	45	9.5%
	Stark	405	537	3,245	132	4.8%
	Summit	561	502	3,910	-59	-1.8%
	Trumbull	77	101	623	24	4.6%
	Tuscarawas	60	64	421	4	1.1%
	Wayne	164	168	1,262	4	0.4%
	Northeast JobsOhio Region	4,496	5,443	34,507	947	3.2%
Northwest	Allen	64	121	600	57	11.2%

	Crawford	6	10	45	4	8.9%
	Defiance	16	38	238	22	15.5%
	Fulton	66	29	325	-37	-12.8%
	Hancock	93	104	737	11	1.9%
	Hardin	27	24	189	-3	-1.9%
	Henry	27	19	156	-8	-5.7%
	Lucas	356	418	2,803	62	2.7%
	Ottawa	88	148	858	60	9.1%
	Paulding	16	25	199	9	7.7%
	Putnam	36	45	340	9	3.8%
	Sandusky	32	52	304	20	8.4%
	Seneca	31	41	194	10	4.8%
	Van Wert	17	37	164	20	13.8%
	Williams	30	29	200	-1	-0.6%
	Wood	227	287	1,903	60	4.0%
	Wyandot	18	20	134	2	1.8%
	Northwest JobsOhio Region	1,150	1,447	9,389	297	3.9%
Southeast	Adams	4	25	64	21	35.7%
	Athens	10	3	68	-7	-18.2%
	Belmont	8	4	45	-4	-10.9%
	Carroll	0	1	10	1	N/A
	Coshocton	1	5	26	4	30.8%
	Gallia	5	6	30	1	3.1%
	Guernsey	28	26	237	-2	-1.2%
	Harrison	1	0	9	-1	N/A
	Highland	5	15	57	10	20.1%
	Hocking	5	12	44	7	15.7%
	Holmes	5	4	31	-1	-3.7%
	Jackson	65	51	486	-14	-4.0%
	Jefferson	8	6	40	-2	-4.7%
	Lawrence	5	16	78	11	21.4%
	Meigs	4	6	57	2	7.0%
	Monroe	0	1	4	1	N/A
	Morgan	39	55	270	16	5.9%
	Muskingum	15	21	182	6	5.8%
	Noble	26	25	173	-1	-0.7%
	Perry	38	47	265	9	3.6%

	Pike	66	29	460	-37	-12.8%
	Ross	20	15	110	-5	-4.7%
	Scioto	4	4	28	0	0.0%
	Vinton	0	2	2	2	N/A
	Washington	12	5	57	-7	-13.6%
	Southeast JobsOhio Region	374	384	2,833	10	0.4%
Southwest	Brown	63	119	621	56	11.2%
	Butler	591	934	5,589	343	7.9%
	Clermont	306	669	3,426	363	13.9%
	Hamilton	634	742	5,098	108	2.7%
	Warren	898	1,259	8,164	361	5.8%
	Southwest JobsOhio Region	2,492	3,723	22,898	1,231	6.9%
West	Auglaize	98	115	767	17	2.7%
	Champaign	37	51	333	14	5.5%
	Clark	61	189	641	128	20.7%
	Clinton	37	56	335	19	7.2%
	Darke	44	63	377	19	6.2%
	Fayette	24	27	227	3	2.0%
	Greene	296	486	2,978	190	8.6%
	Mercer	58	79	468	21	5.3%
	Miami	141	293	1,421	152	13.0%
	Montgomery	420	742	3,374	322	9.9%
	Preble	32	48	272	16	7.0%
	Shelby	59	51	420	-8	-2.4%
	West JobsOhio Region	1,307	2,200	11,613	893	9.1%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

Table 44: Average Value per Permit Issued for New Construction of Single-Family Homes by County in the State of Ohio, 2015 and 2021 (2021\$)

JobsOhio Region	County	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$354,868	\$287,890	-\$66,978	-3.4%
	Fairfield	\$389,801	\$324,712	-\$65,089	-3.0%
	Franklin	\$420,547	\$351,244	-\$69,304	-3.0%
	Knox	\$259,532	\$342,580	\$83,048	4.7%
	Licking	\$365,267	\$329,413	-\$35,854	-1.7%
	Logan	\$218,644	\$229,379	\$10,735	0.8%
	Madison	\$331,063	\$235,182	-\$95,881	-5.5%
	Marion	\$255,121	\$276,199	\$21,078	1.3%
	Morrow	\$285,864	\$271,883	-\$13,981	-0.8%
	Pickaway	\$188,543	\$266,896	\$78,353	6.0%
	Union	\$404,147	\$397,117	-\$7,030	-0.3%
	Central JobsOhio Region	\$380,600	\$323,906	-\$56,693	-2.7%
Northeast	Ashland	\$239,175	\$183,210	-\$55,966	-4.3%
	Ashtabula	\$264,390	\$244,695	-\$19,695	-1.3%
	Columbiana	\$256,906	\$260,535	\$3,630	0.2%
	Cuyahoga	\$418,274	\$365,177	-\$53,097	-2.2%
	Erie	\$382,533	\$283,556	-\$98,977	-4.9%
	Geauga	\$504,069	\$456,862	-\$47,206	-1.6%
	Huron	\$287,903	\$255,489	-\$32,414	-2.0%
	Lake	\$333,701	\$224,737	-\$108,964	-6.4%
	Lorain	\$321,839	\$263,350	-\$58,490	-3.3%
	Mahoning	\$320,486	\$229,631	-\$90,855	-5.4%
	Medina	\$327,314	\$399,045	\$71,731	3.4%
	Portage	\$310,099	\$279,364	-\$30,735	-1.7%
	Richland	\$370,525	\$298,589	-\$71,936	-3.5%
	Stark	\$336,724	\$287,310	-\$49,414	-2.6%
	Summit	\$368,783	\$301,515	-\$67,267	-3.3%
	Trumbull	\$250,667	\$179,948	-\$70,718	-5.4%
	Tuscarawas	\$271,222	\$249,672	-\$21,550	-1.4%
	Wayne	\$342,453	\$304,465	-\$37,988	-1.9%
	Northeast JobsOhio Region	\$348,326	\$297,227	-\$51,098	-2.6%
Northwest	Allen	\$314,029	\$271,328	-\$42,701	-2.4%
	Crawford	\$218,085	\$228,000	\$9,915	0.7%
	Defiance	\$240,006	\$229,802	-\$10,204	-0.7%

	Fulton	\$218,447	\$254,329	\$35,882	2.6%
	Hancock	\$357,529	\$284,623	-\$72,906	-3.7%
	Hardin	\$178,523	\$215,631	\$37,107	3.2%
	Henry	\$303,384	\$312,209	\$8,826	0.5%
	Lucas	\$361,241	\$284,191	-\$77,049	-3.9%
	Ottawa	\$413,367	\$364,293	-\$49,074	-2.1%
	Paulding	\$223,606	\$253,095	\$29,489	2.1%
	Putnam	\$372,077	\$331,818	-\$40,260	-1.9%
	Sandusky	\$238,238	\$240,523	\$2,285	0.2%
	Seneca	\$208,806	\$145,709	-\$63,097	-5.8%
	Van Wert	\$272,732	\$287,315	\$14,583	0.9%
	Williams	\$254,939	\$233,269	-\$21,670	-1.5%
	Wood	\$348,937	\$308,737	-\$40,201	-2.0%
	Wyandot	\$345,061	\$222,655	-\$122,406	-7.0%
	Northwest JobsOhio Region	\$330,154	\$286,683	-\$43,471	-2.3%
Southeast	Adams	\$225,842	\$234,162	\$8,321	0.6%
	Athens	\$286,255	\$486,667	\$200,412	9.2%
	Belmont	\$220,591	\$192,500	-\$28,091	-2.2%
	Carroll	N/A	\$502,400	N/A	N/A
	Coshocton	\$86,656	\$228,783	\$142,127	17.6%
	Gallia	\$123,652	\$164,059	\$40,407	4.8%
	Guernsey	\$243,573	\$253,235	\$9,662	0.7%
	Harrison	\$367,993	N/A	N/A	N/A
	Highland	\$108,320	\$136,152	\$27,832	3.9%
	Hocking	\$161,758	\$228,865	\$67,107	6.0%
	Holmes	\$186,226	\$509,250	\$323,024	18.3%
	Jackson	\$350,425	\$211,288	-\$139,137	-8.1%
	Jefferson	\$283,258	\$217,000	-\$66,258	-4.3%
	Lawrence	\$232,130	\$182,125	-\$50,005	-4.0%
	Meigs	\$154,176	\$115,798	-\$38,378	-4.7%
	Monroe	N/A	\$100,000	N/A	N/A
	Morgan	\$309,240	\$253,513	-\$55,727	-3.3%
	Muskingum	\$255,829	\$250,651	-\$5,178	-0.3%
	Noble	\$210,530	\$189,677	-\$20,854	-1.7%
	Perry	\$259,278	\$223,114	-\$36,164	-2.5%
	Pike	\$355,427	\$238,570	-\$116,857	-6.4%
	Ross	\$102,951	\$204,377	\$101,427	12.1%
	Scioto	\$137,206	\$95,000	-\$42,206	-5.9%

	Vinton	N/A	\$64,950	N/A	N/A
	Washington	\$223,503	\$212,600	-\$10,903	-0.8%
	Southeast JobsOhio Region	\$274,060	\$223,706	-\$50,353	-3.3%
Southwest	Brown	\$230,115	\$283,591	\$53,476	3.5%
	Butler	\$317,258	\$217,346	-\$99,912	-6.1%
	Clermont	\$303,911	\$257,322	-\$46,589	-2.7%
	Hamilton	\$369,898	\$404,035	\$34,137	1.5%
	Warren	\$382,630	\$296,130	-\$86,500	-4.2%
	Southwest JobsOhio Region	\$350,365	\$290,496	-\$59,869	-3.1%
West	Auglaize	\$341,068	\$249,233	-\$91,835	-5.1%
	Champaign	\$249,588	\$400,598	\$151,010	8.2%
	Clark	\$390,838	\$284,323	-\$106,515	-5.2%
	Clinton	\$281,623	\$233,737	-\$47,886	-3.1%
	Darke	\$330,594	\$372,103	\$41,510	2.0%
	Fayette	\$363,143	\$274,963	-\$88,180	-4.5%
	Greene	\$553,059	\$438,547	-\$114,512	-3.8%
	Mercer	\$351,682	\$278,258	-\$73,424	-3.8%
	Miami	\$389,251	\$318,391	-\$70,859	-3.3%
	Montgomery	\$306,827	\$336,085	\$29,258	1.5%
	Preble	\$287,377	\$245,640	-\$41,737	-2.6%
	Shelby	\$426,934	\$423,339	-\$3,595	-0.1%
	West JobsOhio Region	\$384,409	\$344,521	-\$39,888	-1.8%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey, adjusted for inflation using the House Price Index for Ohio.

Table 45: Average Value per Permit Issued for New Construction of Single-Family Homes by County in the State of Ohio, 2015 and 2021 (Nominal\$)

JobsOhio Region	County	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$245,707	\$287,890	\$42,183	2.7%
	Fairfield	\$269,894	\$324,712	\$54,818	3.1%
	Franklin	\$291,183	\$351,244	\$60,061	3.2%
	Knox	\$179,697	\$342,580	\$162,883	11.4%
	Licking	\$252,907	\$329,413	\$76,506	4.5%
	Logan	\$151,387	\$229,379	\$77,992	7.2%
	Madison	\$229,225	\$235,182	\$5,957	0.4%
	Marion	\$176,644	\$276,199	\$99,556	7.7%
	Morrow	\$197,929	\$271,883	\$73,954	5.4%
	Pickaway	\$130,545	\$266,896	\$136,351	12.7%
	Union	\$279,828	\$397,117	\$117,290	6.0%
	Central JobsOhio Region	\$263,524	\$323,906	\$60,383	3.5%
Northeast	Ashland	\$165,603	\$183,210	\$17,607	1.7%
	Ashtabula	\$183,061	\$244,695	\$61,634	5.0%
	Columbiana	\$177,879	\$260,535	\$82,656	6.6%
	Cuyahoga	\$289,609	\$365,177	\$75,568	3.9%
	Erie	\$264,863	\$283,556	\$18,694	1.1%
	Geauga	\$349,012	\$456,862	\$107,850	4.6%
	Huron	\$199,342	\$255,489	\$56,148	4.2%
	Lake	\$231,051	\$224,737	-\$6,315	-0.5%
	Lorain	\$222,838	\$263,350	\$40,511	2.8%
	Mahoning	\$221,901	\$229,631	\$7,730	0.6%
	Medina	\$226,629	\$399,045	\$172,416	9.9%
	Portage	\$214,709	\$279,364	\$64,655	4.5%
	Richland	\$256,548	\$298,589	\$42,041	2.6%
	Stark	\$233,144	\$287,310	\$54,165	3.5%
	Summit	\$255,342	\$301,515	\$46,174	2.8%
	Trumbull	\$173,559	\$179,948	\$6,389	0.6%
	Tuscarawas	\$187,791	\$249,672	\$61,880	4.9%
	Wayne	\$237,111	\$304,465	\$67,354	4.3%
	Northeast JobsOhio Region	\$241,178	\$297,227	\$56,050	3.5%
Northwest	Allen	\$217,431	\$271,328	\$53,897	3.8%
	Crawford	\$151,000	\$228,000	\$77,000	7.1%
	Defiance	\$166,178	\$229,802	\$63,624	5.6%

	Fulton	\$151,250	\$254,329	\$103,079	9.0%
	Hancock	\$247,550	\$284,623	\$37,073	2.4%
	Hardin	\$123,608	\$215,631	\$92,023	9.7%
	Henry	\$210,060	\$312,209	\$102,149	6.8%
	Lucas	\$250,120	\$284,191	\$34,072	2.2%
	Ottawa	\$286,211	\$364,293	\$78,081	4.1%
	Paulding	\$154,823	\$253,095	\$98,272	8.5%
	Putnam	\$257,623	\$331,818	\$74,195	4.3%
	Sandusky	\$164,954	\$240,523	\$75,569	6.5%
	Seneca	\$144,575	\$145,709	\$1,134	0.1%
	Van Wert	\$188,837	\$287,315	\$98,478	7.2%
	Williams	\$176,517	\$233,269	\$56,752	4.8%
	Wood	\$241,601	\$308,737	\$67,136	4.2%
	Wyandot	\$238,917	\$222,655	-\$16,262	-1.2%
	Northwest JobsOhio Region	\$228,596	\$286,683	\$58,087	3.8%
Southeast	Adams	\$156,371	\$234,162	\$77,792	7.0%
	Athens	\$198,200	\$486,667	\$288,467	16.2%
	Belmont	\$152,735	\$192,500	\$39,765	3.9%
	Carroll	N/A	\$502,400	N/A	N/A
	Coshocton	\$60,000	\$228,783	\$168,783	25.0%
	Gallia	\$85,615	\$164,059	\$78,444	11.4%
	Guernsey	\$168,648	\$253,235	\$84,587	7.0%
	Harrison	\$254,795	N/A	N/A	N/A
	Highland	\$75,000	\$136,152	\$61,152	10.4%
	Hocking	\$112,000	\$228,865	\$116,865	12.6%
	Holmes	\$128,941	\$509,250	\$380,309	25.7%
	Jackson	\$242,631	\$211,288	-\$31,343	-2.3%
	Jefferson	\$196,125	\$217,000	\$20,875	1.7%
	Lawrence	\$160,724	\$182,125	\$21,401	2.1%
	Meigs	\$106,750	\$115,798	\$9,048	1.4%
	Monroe	N/A	\$100,000	N/A	N/A
	Morgan	\$214,115	\$253,513	\$39,398	2.9%
	Muskingum	\$177,133	\$250,651	\$73,518	6.0%
	Noble	\$145,769	\$189,677	\$43,908	4.5%
	Perry	\$179,522	\$223,114	\$43,592	3.7%
	Pike	\$246,094	\$238,570	-\$7,524	-0.5%
	Ross	\$71,282	\$204,377	\$133,095	19.2%
	Scioto	\$95,000	\$95,000	\$0	0.0%

	Vinton	N/A	\$64,950	N/A	N/A
	Washington	\$154,751	\$212,600	\$57,849	5.4%
	Southeast JobsOhio Region	\$189,756	\$223,706	\$33,950	2.8%
Southwest	Brown	\$159,330	\$283,591	\$124,262	10.1%
	Butler	\$219,666	\$217,346	-\$2,321	-0.2%
	Clermont	\$210,425	\$257,322	\$46,897	3.4%
	Hamilton	\$256,114	\$404,035	\$147,921	7.9%
	Warren	\$264,930	\$296,130	\$31,200	1.9%
	Southwest JobsOhio Region	\$242,590	\$290,496	\$47,907	3.0%
West	Auglaize	\$236,152	\$249,233	\$13,081	0.9%
	Champaign	\$172,812	\$400,598	\$227,785	15.0%
	Clark	\$270,613	\$284,323	\$13,711	0.8%
	Clinton	\$194,993	\$233,737	\$38,744	3.1%
	Darke	\$228,900	\$372,103	\$143,203	8.4%
	Fayette	\$251,437	\$274,963	\$23,526	1.5%
	Greene	\$382,933	\$438,547	\$55,614	2.3%
	Mercer	\$243,501	\$278,258	\$34,756	2.2%
	Miami	\$269,513	\$318,391	\$48,878	2.8%
	Montgomery	\$212,444	\$336,085	\$123,641	7.9%
	Preble	\$198,977	\$245,640	\$46,663	3.6%
	Shelby	\$295,605	\$423,339	\$127,734	6.2%
	West JobsOhio Region	\$266,161	\$344,521	\$78,360	4.4%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

Workforce Housing Permits

Table 46: Workforce Housing Permits Issued for New Construction of Single-Family Homes by County in the State of Ohio, 2015 and 2021

JobsOhio Region	County	2015	2021	Total (2015-2021)	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	180	2,060	8,315	1,880	50.1%
	Fairfield	0	103	188	103	N/A
	Franklin	5	96	391	91	63.6%
	Knox	0	9	51	9	N/A
	Licking	0	0	4	0	N/A
	Logan	2	2	4	0	0.0%
	Madison	0	53	54	53	N/A
	Marion	0	0	56	0	N/A
	Morrow	0	9	19	9	N/A
	Pickaway	51	0	93	-51	N/A
	Union	0	0	0	0	N/A
	Central JobsOhio Region	238	2,332	9,175	2,094	46.3%
Northeast	Ashland	10	14	104	4	5.8%
	Ashtabula	0	0	0	0	N/A
	Columbiana	0	0	4	0	N/A
	Cuyahoga	130	69	543	-61	-10.0%
	Erie	0	0	3	0	N/A
	Geauga	0	0	0	0	N/A
	Huron	0	8	9	8	N/A
	Lake	0	49	162	49	N/A
	Lorain	127	193	1,071	66	7.2%
	Mahoning	0	0	0	0	N/A
	Medina	0	86	194	86	N/A
	Portage	0	0	0	0	N/A
	Richland	0	0	0	0	N/A
	Stark	0	88	311	88	N/A
	Summit	0	9	17	9	N/A
	Trumbull	0	0	0	0	N/A
	Tuscarawas	2	5	31	3	16.5%
	Wayne	0	0	0	0	N/A
	Northeast JobsOhio Region	269	521	2,449	252	11.6%
Northwest	Allen	0	0	9	0	N/A

	Crawford	0	0	0	0	N/A
	Defiance	2	2	14	0	0.0%
	Fulton	0	0	0	0	N/A
	Hancock	3	4	15	1	4.9%
	Hardin	1	1	6	0	0.0%
	Henry	1	0	4	-1	N/A
	Lucas	0	0	23	0	N/A
	Ottawa	0	0	0	0	N/A
	Paulding	2	5	9	3	16.5%
	Putnam	0	1	2	1	N/A
	Sandusky	0	0	0	0	N/A
	Seneca	0	20	30	20	N/A
	Van Wert	0	0	2	0	N/A
	Williams	2	0	2	-2	N/A
	Wood	0	3	3	3	N/A
	Wyandot	0	0	0	0	N/A
	Northwest JobsOhio Region	11	36	119	25	21.8%
Southeast	Adams	0	0	0	0	N/A
	Athens	3	0	3	-3	N/A
	Belmont	0	0	1	0	N/A
	Carroll	0	0	0	0	N/A
	Coshocton	1	1	7	0	0.0%
	Gallia	4	3	21	-1	-4.7%
	Guernsey	0	0	1	0	N/A
	Harrison	0	0	0	0	N/A
	Highland	2	6	10	4	20.1%
	Hocking	0	0	0	0	N/A
	Holmes	0	0	1	0	N/A
	Jackson	0	0	10	0	N/A
	Jefferson	0	0	0	0	N/A
	Lawrence	0	0	15	0	N/A
	Meigs	0	0	0	0	N/A
	Monroe	0	0	0	0	N/A
	Morgan	0	0	1	0	N/A
	Muskingum	0	1	44	1	N/A
	Noble	0	0	0	0	N/A
	Perry	0	0	6	0	N/A

	Pike	0	0	0	0	N/A
	Ross	3	0	13	-3	N/A
	Scioto	0	0	0	0	N/A
	Vinton	0	0	0	0	N/A
	Washington	0	0	1	0	N/A
	Southeast JobsOhio Region	13	11	134	-2	-2.7%
Southwest	Brown	0	0	0	0	N/A
	Butler	33	923	1,892	890	74.2%
	Clermont	0	0	2	0	N/A
	Hamilton	5	146	447	141	75.5%
	Warren	0	1,102	2,233	1,102	N/A
	Southwest JobsOhio Region	38	2,171	4,574	2,133	96.3%
West	Auglaize	0	7	15	7	N/A
	Champaign	0	0	0	0	N/A
	Clark	0	0	0	0	N/A
	Clinton	0	6	12	6	N/A
	Darke	0	0	0	0	N/A
	Fayette	0	0	0	0	N/A
	Greene	0	1	1	1	N/A
	Mercer	0	5	7	5	N/A
	Miami	0	0	0	0	N/A
	Montgomery	0	56	139	56	N/A
	Preble	0	0	0	0	N/A
	Shelby	0	0	0	0	N/A
	West JobsOhio Region	0	75	174	75	N/A

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

Table 47: Average Value per Workforce Housing Permit Issued for New Construction of Single-Family Homes by County in the State of Ohio, 2015 and 2021 (2021\$)

JobsOhio Region	County	2015	2021	Real Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$319,117	\$298,327	-\$20,789	-1.1%
	Fairfield	N/A	\$229,449	N/A	N/A
	Franklin	\$152,371	\$209,897	\$57,526	5.5%
	Knox	N/A	\$164,096	N/A	N/A
	Licking	N/A	N/A	N/A	N/A
	Logan	\$64,992	\$110,000	\$45,008	9.2%
	Madison	N/A	\$204,482	N/A	N/A
	Marion	N/A	N/A	N/A	N/A
	Morrow	N/A	\$127,111	N/A	N/A
	Pickaway	\$184,074	N/A	N/A	N/A
	Union	N/A	N/A	N/A	N/A
	Central JobsOhio Region	\$284,540	\$288,172	\$3,631	0.2%
Northeast	Ashland	\$123,759	\$108,988	-\$14,771	-2.1%
	Ashtabula	N/A	N/A	N/A	N/A
	Columbiana	N/A	N/A	N/A	N/A
	Cuyahoga	\$85,378	\$116,662	\$31,284	5.3%
	Erie	N/A	N/A	N/A	N/A
	Geauga	N/A	N/A	N/A	N/A
	Huron	N/A	\$114,125	N/A	N/A
	Lake	N/A	\$151,017	N/A	N/A
	Lorain	\$144,856	\$155,657	\$10,801	1.2%
	Mahoning	N/A	N/A	N/A	N/A
	Medina	N/A	\$169,421	N/A	N/A
	Portage	N/A	N/A	N/A	N/A
	Richland	N/A	N/A	N/A	N/A
	Stark	N/A	\$116,693	N/A	N/A
	Summit	N/A	\$135,000	N/A	N/A
	Trumbull	N/A	N/A	N/A	N/A
	Tuscarawas	\$72,214	\$134,600	\$62,386	10.9%
	Wayne	N/A	N/A	N/A	N/A
	Northeast JobsOhio Region	\$114,788	\$143,296	\$28,508	3.8%
Northwest	Allen	N/A	N/A	N/A	N/A
	Crawford	N/A	N/A	N/A	N/A
	Defiance	\$97,131	\$67,253	-\$29,878	-5.9%

	Fulton	N/A	N/A	N/A	N/A
	Hancock	\$129,984	\$141,125	\$11,141	1.4%
	Hardin	\$86,656	\$80,000	-\$6,656	-1.3%
	Henry	\$108,320	N/A	N/A	N/A
	Lucas	N/A	N/A	N/A	N/A
	Ottawa	N/A	N/A	N/A	N/A
	Paulding	\$72,214	\$98,000	\$25,786	5.2%
	Putnam	N/A	\$90,000	N/A	N/A
	Sandusky	N/A	N/A	N/A	N/A
	Seneca	N/A	\$66,550	N/A	N/A
	Van Wert	N/A	N/A	N/A	N/A
	Williams	\$56,327	N/A	N/A	N/A
	Wood	N/A	\$180,000	N/A	N/A
	Wyandot	N/A	N/A	N/A	N/A
	Northwest JobsOhio Region	\$94,207	\$89,722	-\$4,484	-0.8%
Southeast	Adams	N/A	N/A	N/A	N/A
	Athens	\$97,248	N/A	N/A	N/A
	Belmont	N/A	N/A	N/A	N/A
	Carroll	N/A	N/A	N/A	N/A
	Coshocton	\$86,656	\$60,000	-\$26,656	-5.9%
	Gallia	\$84,249	\$83,333	-\$916	-0.2%
	Guernsey	N/A	N/A	N/A	N/A
	Harrison	N/A	N/A	N/A	N/A
	Highland	\$72,214	\$72,500	\$286	0.1%
	Hocking	N/A	N/A	N/A	N/A
	Holmes	N/A	N/A	N/A	N/A
	Jackson	N/A	N/A	N/A	N/A
	Jefferson	N/A	N/A	N/A	N/A
	Lawrence	N/A	N/A	N/A	N/A
	Meigs	N/A	N/A	N/A	N/A
	Monroe	N/A	N/A	N/A	N/A
	Morgan	N/A	N/A	N/A	N/A
	Muskingum	N/A	\$80,000	N/A	N/A
	Noble	N/A	N/A	N/A	N/A
	Perry	N/A	N/A	N/A	N/A
	Pike	N/A	N/A	N/A	N/A
	Ross	\$67,399	N/A	N/A	N/A
	Scioto	N/A	N/A	N/A	N/A

	Vinton	N/A	N/A	N/A	N/A
	Washington	N/A	N/A	N/A	N/A
	Southeast JobsOhio Region	\$81,694	\$75,000	-\$6,694	-1.4%
Southwest	Brown	N/A	N/A	N/A	N/A
	Butler	\$174,848	\$215,116	\$40,268	3.5%
	Clermont	N/A	N/A	N/A	N/A
	Hamilton	\$115,542	\$176,486	\$60,944	7.3%
	Warren	N/A	\$269,062	N/A	N/A
	Southwest JobsOhio Region	\$167,044	\$239,901	\$72,857	6.2%
West	Auglaize	N/A	\$138,442	N/A	N/A
	Champaign	N/A	N/A	N/A	N/A
	Clark	N/A	N/A	N/A	N/A
	Clinton	N/A	\$141,667	N/A	N/A
	Darke	N/A	N/A	N/A	N/A
	Fayette	N/A	N/A	N/A	N/A
	Greene	N/A	\$150,000	N/A	N/A
	Mercer	N/A	\$180,000	N/A	N/A
	Miami	N/A	N/A	N/A	N/A
	Montgomery	N/A	\$123,064	N/A	N/A
	Preble	N/A	N/A	N/A	N/A
	Shelby	N/A	N/A	N/A	N/A
	West JobsOhio Region	N/A	\$130,143	N/A	N/A

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey, adjusted for inflation using the House Price Index for Ohio.

Table 48: Average Value per Permit Issued for New Construction of Single-Family Homes by County in the State of Ohio, 2015 and 2021 (Nominal\$)

JobsOhio Region	County	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	Delaware	\$220,953	\$298,327	\$77,374	5.1%
	Fairfield	N/A	\$229,449	N/A	N/A
	Franklin	\$105,500	\$209,897	\$104,397	12.1%
	Knox	N/A	\$164,096	N/A	N/A
	Licking	N/A	N/A	N/A	N/A
	Logan	\$45,000	\$110,000	\$65,000	16.1%
	Madison	N/A	\$204,482	N/A	N/A
	Marion	N/A	N/A	N/A	N/A
	Morrow	N/A	\$127,111	N/A	N/A
	Pickaway	\$127,451	N/A	N/A	N/A
	Union	N/A	N/A	N/A	N/A
	Central JobsOhio Region	\$197,013	\$288,172	\$91,159	6.5%
Northeast	Ashland	\$85,690	\$108,988	\$23,299	4.1%
	Ashtabula	N/A	N/A	N/A	N/A
	Columbiana	N/A	N/A	N/A	N/A
	Cuyahoga	\$59,115	\$116,662	\$57,547	12.0%
	Erie	N/A	N/A	N/A	N/A
	Geauga	N/A	N/A	N/A	N/A
	Huron	N/A	\$114,125	N/A	N/A
	Lake	N/A	\$151,017	N/A	N/A
	Lorain	\$100,297	\$155,657	\$55,360	7.6%
	Mahoning	N/A	N/A	N/A	N/A
	Medina	N/A	\$169,421	N/A	N/A
	Portage	N/A	N/A	N/A	N/A
	Richland	N/A	N/A	N/A	N/A
	Stark	N/A	\$116,693	N/A	N/A
	Summit	N/A	\$135,000	N/A	N/A
	Trumbull	N/A	N/A	N/A	N/A
	Tuscarawas	\$50,000	\$134,600	\$84,600	17.9%
	Wayne	N/A	N/A	N/A	N/A
	Northeast JobsOhio Region	\$79,478	\$143,296	\$63,818	10.3%
Northwest	Allen	N/A	N/A	N/A	N/A
	Crawford	N/A	N/A	N/A	N/A
	Defiance	\$67,253	\$67,253	\$0	0.0%

	Fulton	N/A	N/A	N/A	N/A
	Hancock	\$90,000	\$141,125	\$51,125	7.8%
	Hardin	\$60,000	\$80,000	\$20,000	4.9%
	Henry	\$75,000	N/A	N/A	N/A
	Lucas	N/A	N/A	N/A	N/A
	Ottawa	N/A	N/A	N/A	N/A
	Paulding	\$50,000	\$98,000	\$48,000	11.9%
	Putnam	N/A	\$90,000	N/A	N/A
	Sandusky	N/A	N/A	N/A	N/A
	Seneca	N/A	\$66,550	N/A	N/A
	Van Wert	N/A	N/A	N/A	N/A
	Williams	\$39,000	N/A	N/A	N/A
	Wood	N/A	\$180,000	N/A	N/A
	Wyandot	N/A	N/A	N/A	N/A
	Northwest JobsOhio Region	\$65,228	\$89,722	\$24,495	5.5%
Southeast	Adams	N/A	N/A	N/A	N/A
	Athens	\$67,333	N/A	N/A	N/A
	Belmont	N/A	N/A	N/A	N/A
	Carroll	N/A	N/A	N/A	N/A
	Coshocton	\$60,000	\$60,000	\$0	0.0%
	Gallia	\$58,333	\$83,333	\$25,000	6.1%
	Guernsey	N/A	N/A	N/A	N/A
	Harrison	N/A	N/A	N/A	N/A
	Highland	\$50,000	\$72,500	\$22,500	6.4%
	Hocking	N/A	N/A	N/A	N/A
	Holmes	N/A	N/A	N/A	N/A
	Jackson	N/A	N/A	N/A	N/A
	Jefferson	N/A	N/A	N/A	N/A
	Lawrence	N/A	N/A	N/A	N/A
	Meigs	N/A	N/A	N/A	N/A
	Monroe	N/A	N/A	N/A	N/A
	Morgan	N/A	N/A	N/A	N/A
	Muskingum	N/A	\$80,000	N/A	N/A
	Noble	N/A	N/A	N/A	N/A
	Perry	N/A	N/A	N/A	N/A
	Pike	N/A	N/A	N/A	N/A
	Ross	\$46,667	N/A	N/A	N/A
	Scioto	N/A	N/A	N/A	N/A

	Vinton	N/A	N/A	N/A	N/A
	Washington	N/A	N/A	N/A	N/A
	Southeast JobsOhio Region	\$56,564	\$75,000	\$18,436	4.8%
Southwest	Brown	N/A	N/A	N/A	N/A
	Butler	\$121,063	\$215,116	\$94,053	10.1%
	Clermont	N/A	N/A	N/A	N/A
	Hamilton	\$80,000	\$176,486	\$96,486	14.1%
	Warren	N/A	\$269,062	N/A	N/A
	Southwest JobsOhio Region	\$115,660	\$239,901	\$124,241	12.9%
West	Auglaize	N/A	\$138,442	N/A	N/A
	Champaign	N/A	N/A	N/A	N/A
	Clark	N/A	N/A	N/A	N/A
	Clinton	N/A	\$141,667	N/A	N/A
	Darke	N/A	N/A	N/A	N/A
	Fayette	N/A	N/A	N/A	N/A
	Greene	N/A	\$150,000	N/A	N/A
	Mercer	N/A	\$180,000	N/A	N/A
	Miami	N/A	N/A	N/A	N/A
	Montgomery	N/A	\$123,064	N/A	N/A
	Preble	N/A	N/A	N/A	N/A
	Shelby	N/A	N/A	N/A	N/A
	West JobsOhio Region	N/A	\$130,143	N/A	N/A

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

Commuting Characteristics

Table 49: Resident Workers and Net Commuters by County, 2021

JobsOhio Region	County	Resident Workers	Net Commuters	Jobs
Central	Delaware	105,690	-12,434	93,256
	Fairfield	69,551	-24,724	44,827
	Franklin	647,156	137,530	784,686
	Knox	26,051	-4,631	21,420
	Licking	82,393	-3,820	78,572
	Logan	22,126	-3,010	19,116
	Madison	25,608	-5,455	20,153
	Marion	27,439	-2,886	24,553
	Morrow	10,628	-5,028	5,600
	Pickaway	26,274	-11,286	14,988
	Union	24,853	8,874	33,726
	Central JobsOhio Region	1,067,767	73,131	1,140,899
Northeast	Ashland	22,912	-2,162	20,750
	Ashtabula	39,799	-9,807	29,992
	Columbiana	43,271	-13,794	29,477
	Cuyahoga	583,877	138,561	722,439
	Erie	35,167	1,585	36,752
	Geauga	42,282	-6,164	36,118
	Huron	31,398	-9,412	21,986
	Lake	113,635	-18,494	95,142
	Lorain	135,746	-36,078	99,667
	Mahoning	91,381	4,968	96,349
	Medina	87,477	-26,532	60,945
	Portage	80,093	-23,099	56,994
	Richland	49,838	-179	49,658
	Stark	171,636	-11,744	159,892
	Summit	242,389	22,731	265,120
	Trumbull	79,190	-17,008	62,181
	Tuscarawas	43,019	-5,852	37,167
	Wayne	54,922	-5,422	49,500
	Northeast JobsOhio Region	1,948,032	-17,904	1,930,128
Northwest	Allen	47,266	3,378	50,644
	Crawford	19,650	-6,572	13,078
	Defiance	17,361	-2,051	15,310

	Fulton	23,138	-4,802	18,335
	Hancock	34,250	11,815	46,065
	Hardin	13,941	-5,590	8,350
	Henry	12,348	-1,467	10,881
	Lucas	186,178	16,599	202,777
	Ottawa	20,812	-6,759	14,053
	Paulding	9,373	-4,320	5,053
	Putnam	17,585	-5,143	12,442
	Sandusky	26,364	-633	25,731
	Seneca	28,146	-8,065	20,081
	Van Wert	12,637	-1,130	11,507
	Williams	18,341	-1,440	16,901
	Wood	60,424	9,883	70,307
	Wyandot	11,643	-1,798	9,846
	Northwest JobsOhio Region	559,457	-8,096	551,361
Southeast	Adams	9,990	-3,693	6,297
	Athens	24,013	-1,640	22,373
	Belmont	27,077	-5,757	21,319
	Carroll	8,546	-2,426	6,119
	Coshocton	14,315	-4,377	9,937
	Gallia	11,740	-442	11,298
	Guernsey	15,378	-958	14,421
	Harrison	6,299	-2,819	3,481
	Highland	17,632	-6,795	10,837
	Hocking	10,428	-3,328	7,101
	Holmes	16,962	4,059	21,021
	Jackson	10,936	-726	10,210
	Jefferson	28,081	-5,802	22,279
	Lawrence	24,183	-9,840	14,343
	Meigs	7,722	-3,945	3,777
	Monroe	4,958	-1,883	3,075
	Morgan	4,434	-1,647	2,787
	Muskingum	39,228	-4,609	34,620
	Noble	3,929	-814	3,115
	Perry	15,908	-9,699	6,209
	Pike	10,040	-125	9,916
	Ross	29,620	258	29,879
	Scioto	29,363	-4,589	24,774

	Vinton	4,181	-1,852	2,328
	Washington	25,971	-526	25,445
	Southeast JobsOhio Region	400,934	-73,973	326,962
Southwest	Brown	17,268	-9,090	8,178
	Butler	175,549	-18,479	157,070
	Clermont	102,303	-41,512	60,791
	Hamilton	405,287	115,035	520,321
	Warren	104,174	-4,144	100,030
	Southwest JobsOhio Region	804,581	41,810	846,391
West	Auglaize	21,933	-303	21,629
	Champaign	16,092	-5,563	10,529
	Clark	56,192	-8,472	47,720
	Clinton	21,922	-3,413	18,509
	Darke	25,679	-6,632	19,047
	Fayette	10,387	493	10,880
	Greene	76,975	6,748	83,723
	Mercer	21,670	-1,615	20,055
	Miami	51,888	-9,885	42,003
	Montgomery	241,833	13,490	255,323
	Preble	18,400	-7,023	11,378
	Shelby	23,018	4,335	27,352
	West JobsOhio Region	585,990	-17,840	568,149

Source: Economics Center analysis of data from Lightcast.

Appendix B

**Table 50: Average Annual Earnings by Industry in the State of Ohio, 2015 and 2021
(Nominal\$)**

NAICS Code	Industry	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
11	Agriculture, Forestry, Fishing and Hunting	\$35,428	\$45,680	\$10,252	4.3%
21	Mining, Quarrying, and Oil and Gas Extraction	\$83,625	\$91,714	\$8,089	1.6%
22	Utilities	\$129,000	\$156,753	\$27,753	3.3%
23	Construction	\$67,937	\$80,176	\$12,239	2.8%
31	Manufacturing	\$73,401	\$84,109	\$10,709	2.3%
42	Wholesale Trade	\$80,076	\$96,459	\$16,383	3.2%
44	Retail Trade	\$32,515	\$42,604	\$10,089	4.6%
48	Transportation and Warehousing	\$60,081	\$68,379	\$8,298	2.2%
51	Information	\$82,500	\$103,595	\$21,095	3.9%
52	Finance and Insurance	\$87,459	\$110,079	\$22,620	3.9%
53	Real Estate and Rental and Leasing	\$54,258	\$67,215	\$12,957	3.6%
54	Professional, Scientific, and Technical Services	\$84,603	\$102,607	\$18,004	3.3%
55	Management of Companies and Enterprises	\$122,161	\$145,552	\$23,391	3.0%
56	Administrative, Support, Waste Management, and Remediation Services	\$39,984	\$53,697	\$13,713	5.0%
61	Educational Services	\$36,626	\$41,817	\$5,191	2.2%
62	Health Care and Social Assistance	\$54,941	\$67,977	\$13,036	3.6%
71	Arts, Entertainment, and Recreation	\$38,220	\$47,792	\$9,572	3.8%
72	Accommodation and Food Services	\$18,247	\$23,963	\$5,716	4.6%
81	Other Services (except Public Administration)	\$29,684	\$38,059	\$8,375	4.2%
90	Government	\$65,975	\$78,748	\$12,774	3.0%
99	Unclassified Industry	\$40,794	\$67,059	\$26,265	8.6%
	Total	\$57,475	\$70,472	\$12,997	3.5%

Source: Economics Center analysis of data from Lightcast.

Table 51: Median Household Income and Workforce Housing Income Range in the State of Ohio, 2015-2021 (Nominal\$)

Household Income	2015	2016	2017	2018	2019	2020	2021 ⁷³	Nominal Growth (2015-2021)
Median Household Income	\$49,429	\$50,674	\$52,407	\$54,533	\$56,602	\$58,116	\$60,029	\$10,600
60% of MHI	\$29,657	\$30,404	\$31,444	\$32,720	\$33,961	\$34,870	\$36,017	\$6,360
80% of MHI	\$39,543	\$40,539	\$41,926	\$43,626	\$45,282	\$46,493	\$48,023	\$8,480
120% of MHI	\$59,315	\$60,809	\$62,888	\$65,440	\$67,922	\$69,739	\$72,034	\$12,720

Source: Economics Center analysis of data from the American Community Survey five-year estimates, Table S1901.

Table 52: Median Household Income and Median Housing Costs by Occupancy Type in the State of Ohio, 2015 and 2020 (Nominal\$)

Housing Unit Type	Household Characteristic	2015	2020	Nominal Growth (2015-2020)	Percent Change (2015-2020)	Annual Growth Rate (2015-2020)
Owner-Occupied	Median Household Income	\$63,617	\$73,885	\$10,268	16.1%	3.0%
	Median Monthly Housing Costs	\$940	\$952	\$12	1.3%	0.3%
	Housing Costs as Percent of Household Income	17.7%	15.5%	N/A	N/A	N/A
Renter-Occupied	Median Household Income	\$27,501	\$34,459	\$6,958	25.3%	4.6%
	Median Monthly Housing Costs	\$730	\$825	\$95	13.0%	2.5%
	Housing Costs as Percent of Household Income	31.9%	28.7%	N/A	N/A	N/A

Source: Economics Center analysis of American Community Survey five-year estimates, Table S2503.

⁷³ Estimated by the Economics Center.

Table 53: Median Sale Price of Residential Property Transactions by JobsOhio Region, 2015 and 2021 (Nominal\$)

JobsOhio Region	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	\$162,500	\$250,000	\$87,500	7.4%
Northeast	\$105,500	\$155,000	\$49,500	6.6%
Northwest	\$100,000	\$148,000	\$48,000	6.8%
Southeast	\$80,000	\$130,400	\$50,400	8.5%
Southwest	\$137,500	\$212,000	\$74,500	7.5%
West	\$99,000	\$152,000	\$53,000	7.4%
Ohio	\$117,000	\$174,900	\$57,900	6.9%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Table 54: Summary of Median Sale Price of Affordable Residential Property Transactions by Income Range, 2015 and 2021 (Nominal\$)

Income Range	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Less than 60% of AMI	\$31,000	\$57,500	\$26,500	10.8%
60-79% of AMI	\$53,299	\$101,485	\$48,186	11.3%
80-99% of AMI	\$71,000	\$135,000	\$64,000	11.3%
100-120% of AMI	\$88,400	\$160,000	\$71,600	10.4%
More than 120% of AMI	\$170,500	\$274,000	\$103,500	8.2%
Total	\$117,000	\$174,900	\$57,900	6.9%

Source: Economics Center analysis of property transaction data retrieved from each county in the State of Ohio.

Table 55: Average Value of Permits Issued for New Construction of Single-Family Homes by JobsOhio Region, 2015 and 2021 (Nominal\$)

JobsOhio Region	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Central	\$263,524	\$323,906	\$60,383	3.5%
Northeast	\$241,178	\$297,227	\$56,050	3.5%
Northwest	\$228,596	\$286,683	\$58,087	3.8%
Southeast	\$189,756	\$223,706	\$33,950	2.8%
Southwest	\$242,590	\$290,496	\$47,907	3.0%
West	\$266,161	\$344,521	\$78,360	4.4%
Ohio	\$247,488	\$308,468	\$60,980	3.7%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.

Table 56: Summary of Average Value of Permits Issued for New Construction of Single-Family Homes by Income Range, 2015 and 2021 (Nominal\$)

Income Range	2015	2021	Nominal Growth (2015-2021)	Annual Growth Rate (2015-2021)
Less than 60% of AMI	\$37,700	\$174,011	\$136,311	29.0%
60-79% of AMI	\$45,429	\$267,350	\$221,921	34.4%
80-99% of AMI	\$64,719	\$253,674	\$188,955	25.6%
100-120% of AMI	\$158,285	\$232,812	\$74,527	6.6%
More than 120% of AMI	\$254,576	\$330,513	\$75,937	4.4%
Total	\$247,488	\$308,468	\$60,980	3.7%

Source: Economics Center analysis of data from the U.S. Census Bureau's Building Permits Survey.