

City of Monroe Comprehensive Housing Study

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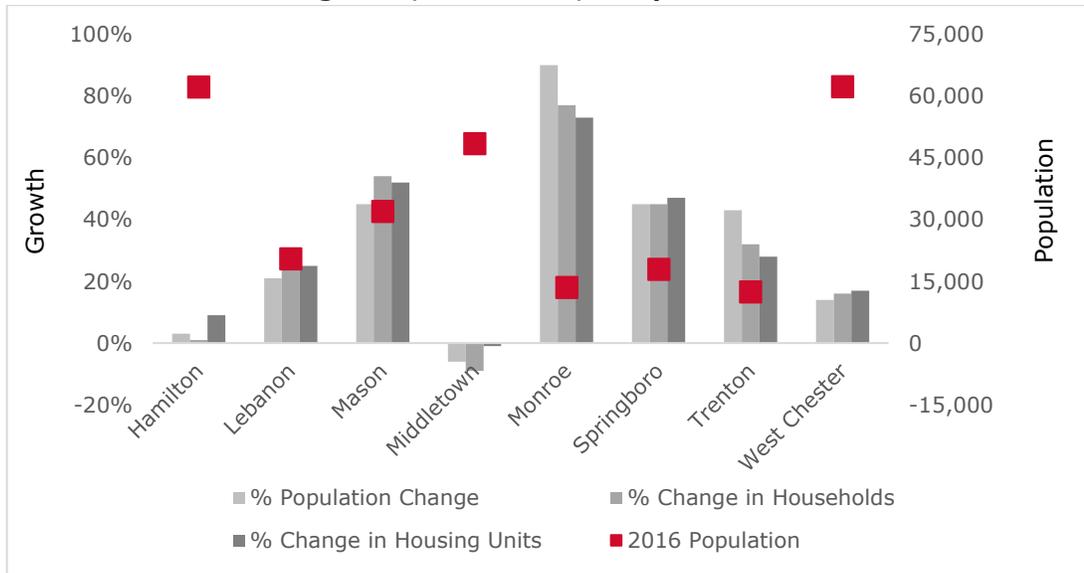
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Executive Summary

Overview of Historical Growth

The City of Monroe, Ohio (Monroe or the City), experienced dramatic growth in its population and housing stock during the 2000s, with growth continuing at a more moderate pace through 2016. As shown in **Figure ES-1**, Monroe’s population, household, and housing unit growth rates were significantly higher than in nearby communities from 2000 to 2016, although the City’s total population count remained well below those of West Chester Township, the City of Hamilton, the City of Middletown, and the City of Mason through 2016.

Figure ES-1. 2016 Population and Change in Population, Households, and Housing Units, 2000-2016, Sample Communities



Source: Economics Center calculations using data from the US Census Bureau (2000-2016).

Monroe’s growth was driven primarily through the attraction of young families. As shown in **Table ES-1**, Monroe is one of only two sample communities to experience a decline in the median age of its residents from 2000 to 2016 – as well as the community with the largest increase in its average household size – signaling that its population growth comprised an infusion of younger residents. Among the consequences of this growth in the number of young residents was a near-doubling of Monroe’s civilian labor force from 2000 to 2016, from 3,664 to 6,968 individuals. Another implication of the shift toward a younger population is that, controlling for overall population growth, Monroe will experience a less pronounced increase in demand for elderly housing than the other sample communities. However, the City is expected to experience a nominal increase in demand for elderly or assisted living facilities over the next decade.

Table ES-1. Change in Median Age of Population and Average Household Size, 2000-2016, Sample Communities

	Median Age			Average Household Size		
	2000	2016	2000-2016 Change	2000	2016	2000-2016 Change
Hamilton	34.9	37.2	6.6%	2.45	2.49	1.6%
Lebanon	31.9	33.2	4.1%	2.58	2.75	7.0%
Mason	34.5	41.9	21.4%	2.80	2.65	-5.4%
Middletown	36.2	37.8	4.4%	2.38	2.45	2.9%
Monroe	39.7	34.7	-12.6%	2.52	2.81	11.5%
Springboro	34.1	37.6	10.3%	2.90	2.88	-1.0%
Trenton	31.3	30.9	-1.3%	2.74	2.96	8.0%
West Chester	35.4	38.5	8.8%	2.79	2.74	-1.8%

Source: Economics Center calculations using data from the US Census Bureau (2000-2016).

According to Monroe residents and stakeholders, the City retained its character as a tight-knit community through this period of unprecedented growth. This bears mentioning considering how much younger the City became overall but less surprising when one considers that expansion of the housing stock was characterized by a high degree of homogeneity. By 2016, single-family homes comprised 88 percent of all housing units in the City. This figure is between six percent and 13 percent higher than corresponding levels for all other sample communities except Springboro, where single-family homes accounted for 90 percent of all housing units in 2016. Moreover, the 85 percent growth in the number of single-family homes in Monroe from 2000 to 2016 exceeded overall housing unit growth of 73 percent.

The trend in Monroe of nearly exclusive reliance on single-family homes to drive housing growth has become increasingly pronounced in recent years. From January 2008 to June 2018, the City issued 715 permits for new housing structures. All but one of these were for single-family dwellings and the lone exception – for a condominium building – was issued in 2008. Notably, Mason, which among sampled cities exhibited the greatest economic resilience through the Great Recession, expanded its own housing stock from 2000 to 2016 through more evenly balanced construction of single-family and multi-unit structures. The concurrence of the increasing diversification of Mason’s housing stock and its sustained economic strength (as measured in terms of occupancy rate, median household income, and median housing unit value) demonstrates that multi-unit housing is not necessarily correlated with a community’s increased vulnerability during an economic downturn. More important in determining a community’s economic resilience is how effectively its residents and/or most prominent industries maintain employment levels through a down economy. For example, sample communities that traditionally have relied heavily on industries in the manufacturing, construction, and transportation sectors fared far worse during the Great Recession in terms of job losses than those whose residents were heavily employed in sectors such as healthcare and research and development.

Monroe's growth from 2000 to 2016 also exhibited relative homogeneity with respect to the socioeconomic composition of its households, with household income in Monroe distributed more tightly than in the six more populated communities in the sample (see **Table 4**). Unsurprisingly, select owner costs among owner-occupied households in Monroe are also tightly distributed: with 81 percent of Monroe's owner-occupied households that had a mortgage spent between \$1,000 and \$1,999 on a monthly basis in 2016, and only six percent of such households spent \$2,000 or more. It is worth noting that newly built single-family homes in Monroe have gradually and consistently become larger and more expensive since 2000. Inflation-adjusted median assessed value, median livable square footage, and assessed value per square foot of these homes have all risen since 2000.

Continued growth in Monroe's housing stock and steadily increasing new home values are indicative of overall strong economic conditions among the City's residents. While only Mason and Springboro enjoyed net increases in real median household income and only Mason experienced an increase in its real median housing unit value from 2000 to 2016, Monroe – with declines of three percent and two percent, respectively – performed better in these measures than the other five communities. Despite a doubling of the portion of its families living in poverty from 2000 to 2016, Monroe's poverty rate in 2016 (4%) was the third-lowest among sample communities. Monroe's overall economic resilience through the years that included the Great Recession relative to most of the sample communities is likely attributable to two related phenomena: median income of the households that moved to the City during this period tended to be higher than that of the existing population, and the median home value of these new households tended to be higher than that of the existing population.

American Community Survey data indicate that Monroe homeowners and renters are not over-extending themselves financially with respect to living expenses. The proportion of Monroe's households with a mortgage spending 30 percent or more of income on housing costs has fallen dramatically over recent years. In addition, in 2016, the ratio of median housing unit value to median household income was lower for Monroe than all sample communities except Trenton. This suggests that, relative to the sample communities overall, Monroe's homeowners are spending less of their income on housing. Meanwhile, the City's renters spend approximately one percent, two percent, and four percent more of their income on rent than renters in Mason, West Chester, and Lebanon, respectively, but between two percent and eight percent less than renters in Middletown, Hamilton, and Trenton. Monroe's renters also spend approximately 35 percent more of their income on rent than renters Springboro, where median rent is low and median household income is just under \$100,000.

Employment Profile and Projected Growth

Comparative analysis of the distribution of employment by sector of Monroe residents and those employed in the City indicate that Monroe's working residents primarily commute to other communities for jobs and that most of those employed by businesses in Monroe commute from other communities for jobs located in Monroe. As exhibited in **Table ES-2**, large discrepancies exist with respect to the composition of employment by sector of Monroe residents and the composition of employment by sector of those working in Monroe. Relative to the distribution of employment within the City, Monroe residents are more heavily employed in the Manufacturing; Finance, Insurance, Real Estate, and Rental

and Leasing, Professional, Scientific, Management, Administrative, and Waste Management; and Education, Healthcare, and Social Services sectors and underrepresented in the Construction, Wholesale Trade, Retail Trade, and Transportation and Warehousing sectors. Large earnings gaps exist in certain sectors between Monroe residents and those working in the City, despite the fact that some Monroe residents work in the City and, therefore, are factored into employment and earnings calculations for both groups. Overall, Monroe residents earn more than those employed in the City in the Manufacturing; Retail trade; Transportation and Warehousing; Information; and Finance, Insurance, Real Estate, and Rental and Leasing sectors. Only in the Professional, Scientific, Management, Administrative, and Waste Management and Arts, Entertainment, Recreation, Accommodation, and Food Services sectors are Monroe residents out-earned by the corresponding cohort employed within the City.

Table ES-2. Comparison of Employment of Monroe Residents and Employment within City of Monroe, Selected Sectors

Sector	Employment of Monroe Residents (2016)			Employment within City of Monroe (2017)		
	Jobs	Share of Total	Average Annual Earnings	Jobs	Share of Total	Average Annual Earnings
Construction	344	5%	\$71,724	733	11%	\$71,142
Manufacturing	1,174	18%	\$75,290	799	12%	\$49,279
Wholesale Trade	136	2%	\$82,884	666	10%	\$81,652
Retail Trade	708	11%	\$27,109	1,332	20%	\$21,165
Transportation & Warehousing, & Utilities	293	5%	\$51,015	999	15%	\$36,732
Information	114	2%	\$87,727	96	1%	\$57,784
Finance, Insurance, Real Estate, & Rental/Leasing	501	8%	\$69,611	161	2%	\$39,353
Prof., Sci, Mgmt., Admin., & Waste Mgmt.	898	14%	\$46,057	333	5%	\$80,750
Edu., Healthcare & Social Svc.'s	1,335	20%	\$40,666	680	10%	\$39,785
Arts, Entertain., Rec., Accommod. & Food Svc.'s	528	8%	\$16,632	466	7%	\$17,387
Other Sectors	540	7%	\$56,042	395	6%	\$21,500

Note: Columns may not sum to 100% due to rounding. Due to data availability, 2016 ACS data for employment of Monroe residents are compared to 2017 ES202 data for employment within Monroe. Sectors presented in this table do not exactly match sectors presented later in this report; ACS data combine certain sectors that are reported separately by different data sources used elsewhere in the report.

Source: Source: Economics Center calculations using data from the US Census Bureau (2016) and the Ohio Department of Jobs and Family Services (2017).

The two highest-employing sectors in Monroe – Retail Trade; and Transportation and Warehousing, and Utilities – are also among the lowest paying. Wages associated with these jobs likely render housing options in Monroe unaffordable, forcing the job holders to commute from communities with more affordable housing. **Table ES-2** suggests that some employees in Monroe with high-earning jobs in Professional and Management and Wholesale Trade sectors are commuting to Monroe from other communities that offer more higher-end housing options.

The greatest short-term (2017-2020) nominal growth in employment within a 15-minute commute of Monroe is projected to occur in the Healthcare and Social Assistance; Manufacturing; Retail Trade; and Management sectors. Growth in these sectors is expected to continue through 2024 but then slow, particularly in Manufacturing, from 2024 to 2028. Competitive average earnings per job in Management; Manufacturing; and Healthcare positions signal that large numbers of high-income individuals with significant home buying power will be working in and around Monroe. Projections further suggest that more than 36,000 jobs will be added to the area within a 30-minute commute of Monroe between 2017 and 2028 and that three-quarters of these jobs will be added by 2024. While the 30-minute commuting radius encompasses a vastly larger area than the 15-minute commuting radius, total projected job growth through 2028 within the 15-minute commuting radius (23,601 jobs) equates to nearly two-thirds of total growth within the 30-minute commuting radius.

When stratified according to earnings tier, employment projections suggest that more than 11,000 jobs that pay \$50,000 or more per year will be added from 2017 to 2028 to the area encompassing a 15-minute commute from Monroe and, further, that approximately 3,400 of these jobs will pay \$70,000 or more per year. The greatest growth across all earnings categories is projected to occur over the short-term (through 2020), with more moderate growth projected over the medium-term (2021-2024) and long-term (2025-2028). Despite total jobs within a 15-minute commuting radius of Monroe constituting 27 percent of total jobs within a 30-minute commuting radius of Monroe in 2017, employment growth within the smaller commuting radius from 2017 to 2028 is projected to account for 65 percent of overall job growth and 59 percent of growth in jobs paying \$70,000 or more per year within the larger commuting radius. This suggests that Monroe is well situated to experience population and housing growth over the next decade relative to the overall area contained within a 30-minute commuting radius of the City.

Best Practices and Growth Strategies

With the projected addition of thousands of jobs paying \$50,000 or more per year within a 15-minute commute, significant potential exists for Monroe to continue to grow its population and housing stock over the next decade while maintaining a high overall occupancy rate. The housing growth options that the Economics Center considers viable also more effectively meet the housing demand of higher-income households – including current Monroe residents looking to upgrade to a larger single-family home – and renters-by-choice, primarily young professionals and empty nesters. According to multiple stakeholders within Monroe, the City should diversify its housing market in the form of higher-end single-family homes and upscale multi-unit housing. The stakeholders also identified affordable (but not necessarily subsidized) apartments as a solution to meet demand of people employed in low-paying positions in the City, but this solution would

likely increase demand for City services and add to the school system's enrollment capacity issue without adding significantly to the tax base.

The existing relative homogeneity of the housing stock – as defined by single-family homes' preponderant share of the total housing stock, as well as the narrow distributions of the assessed value and livable square footage of newly built housing units – does not appear to have negatively impacted Monroe's overall occupancy rate, which stood at 93 percent in 2016. However, it has yielded disequilibrium between the composition of the City's housing stock and the composition of demand from many people who work in or around Monroe but live elsewhere. This is evidenced by the fact that Mason and West Chester – both communities located within a 15-minute drive of Monroe – have employed more diversified residential development approaches in recent years while maintaining the highest occupancy rates of the sample communities. Higher-end multi-unit housing and upscale single-family homes, in particular, have the potential to expand Monroe's tax base significantly without adding large numbers of school-age children. Nearby communities such as Mason, West Chester, and Liberty Township have added luxury apartment properties with more than 200 units to their housing stocks in recent years, with all surveyed properties enjoying occupancy rates of at least 96 percent. These apartments attract high-income individuals and multiple-earner households – median monthly rent for the apartments, the vast majority of which are one- or two-bedroom units, is approximately \$1,500 – while limiting growth in the number of school-age children. In fact, of the 1,184 and 1,113 housing units that Mason and West Chester added to their respective housing stocks from 2010 to 2017, luxury apartment units accounted for 43 percent (482 units) and 49 percent (580 units), respectively. That these two communities have maintained high occupancy rates across their housing stocks as a whole amid the rapid expansion of multi-unit housing yields two key takeaways: the introduction or prevalence of multi-unit housing need not be correlated with declines to a community's property values, median income, or overall occupancy rate; and multi-unit housing is an increasingly important component of the housing portfolios of communities that wish to attract high-paid young professionals and empty nesters. Meanwhile, several of Monroe's neighboring communities, including Lebanon and Hamilton (both of which have substantially lower median household incomes than Monroe) have significantly outpaced Monroe in recent years in the addition of single-family homes with assessed values of \$300,000 or higher.

Having identified opportunities for Monroe to expand its housing stock through the addition of higher-end single-family homes and luxury apartments, the Economics Center analyzed the likely impacts of four housing growth scenarios, or strategies, on overall housing growth, population growth, tax revenues, and cost of City services. These scenarios are summarized as follows:

Scenario 1. Status Quo

Under this scenario, residential growth patterns observed in Monroe from 2013 to 2016 continue through 2028. In essence, growth in this scenario consists almost entirely of the addition of single-family homes with assessed values between \$150,000 and \$300,000.

Scenario 2. Peer Community Growth in Monroe

In this scenario, housing growth in Monroe through 2028 reflects weighted growth trends witnessed from 2013 to 2016 across five peer communities: Hamilton, Lebanon, Mason, Springboro, and West Chester. The five-year (2013-2016) weighted growth rates for

various combinations of housing types and ranges of assessed values are applied to Monroe’s existing housing stock.

Scenario 3. High-End Single-Family Homes

An overall weighted housing unit growth rate of the five peer communities used in Scenario 2 is applied to Monroe’s current number of housing units to project total growth, but this growth is limited to single-family homes with assessed values of \$300,000 or higher. Peer communities’ weighted housing growth rate again reflects 2013-2016 growth, and the projection timeframe is 2019-2028.

Scenario 4. High-End Single-Family Homes and Luxury Apartments

In this scenario, half of ten-year growth in Monroe through 2028 takes the form of high-end single-family homes (i.e. growth in high-end single-family homes in Scenario 4 is half that of Scenario 3), while luxury apartments comprise the other half of new housing units.

As shown in **Table ES-3**, the four growth scenarios are projected to yield vastly different outcomes in terms of overall housing unit growth, volume and composition (adults versus children) of population growth, accrual of tax revenues to the City¹, and costs of expanded City services. Critically, the status quo (Scenario 1) is projected to result in the highest housing unit and population growth but is expected to generate less combined earnings and property tax revenue than Scenario 3, which is characterized by the addition of higher-end single-family homes. Despite adding approximately 550 more residents than Scenario 4, which includes the addition of an equal number of higher-end single-family homes and luxury apartment units, Scenario 1 will generate lower combined earnings and property tax revenue than Scenario 4 if luxury apartment rents average approximately \$1,300 per month or more. Moreover, Scenario 1 is projected to add more to the cost of police and fire/EMS services than both Scenario 3 and Scenario 4.

Table ES-3. Projected Attributes of Growth by Scenario

Scenario	Single-Family Homes/Apt Units	New Residents	Adults/Children	Income Tax	Property Tax	Fire/EMS & Police Costs
1	456/0	1,368	912/456	\$184,783	\$308,080	\$352,513
2	183/0	558	372/186	\$70,435	\$120,143	\$141,469
3	334/0	1,002	668/334	\$249,101	\$428,690	\$258,200
4	167/167	810	626/184	\$218,025 - \$328,859	\$244,421 - \$284,084	\$245,892

Source: Economics Center analysis of data from Auditors of Butler County and Warren County, apartment property websites, apartment property managers, City of Monroe 2017 Comprehensive Annual Financial Report, and the City of Monroe Development Department.

Monroe is well positioned both socioeconomically and geographically to achieve residential growth and, in particular, the attraction of young professionals and higher-income

¹ The earnings tax revenue estimates assume that the City collects 22 percent of the maximum share of earnings from Monroe residents. This 22 percent figure is based on the ratio of total household earnings of Monroe residents in 2016 to Residential Income Tax collections by the City of \$1,334,809 in FY 2017.

households, despite the cautioning of some City stakeholders that Monroe must contend with a shortage of enrollment capacity of the Monroe Local School District. As part of a successful strategy to better meet residential demand through diversification of its housing stock, the City should continue to promote the addition of convenience- and recreation-related amenities, such as restaurants, grocery stores, and parkland. Despite challenges inherent to residential and population growth, significant potential exists for housing growth in the City of Monroe and for the City to tailor that growth to align with its goals and overall vision.

Introduction

The City of Monroe contracted with the Economics Center to conduct a comprehensive housing study that will provide community leaders, stakeholders, and community members at large with analysis that can guide public policy and drive the development of a residential housing strategy. This report presents the results of a comprehensive analysis of historical housing growth within the City, as well as the local socioeconomic conditions and broader housing trends that will influence housing market demand in Monroe and surrounding areas over the next decade.

Sample Communities

This report examines changes to the physical and economic characteristics of Monroe's housing stock – as well changes to the socioeconomic, demographic, and employment composition of the City's residents and its local and resident workforces – in the context of corresponding changes experienced by neighboring communities, as well as Butler County and Warren County. The communities that comprise the comparative sample include:

- Hamilton City
- Lebanon
- Mason
- Middletown
- Springboro
- Trenton
- West Chester

The Economics Center evaluated potential sample communities primarily based on how well they satisfy two criteria:

1. A community's socioeconomic, demographic, employment, and/or housing profiles are sufficiently analogous to those of Monroe, thereby rendering analysis of the community's residential growth relevant to Monroe as the City considers approaches to future housing expansion.
2. The community is located within a 30-minute drive of Monroe. Employment analysis suggests that many residents of the sample communities work in areas other than those in which they live and that many Monroe residents currently commute elsewhere for their jobs. In addition, average commuting times exceed 20 minutes across sample communities. It is evident, therefore, that Monroe could continue to promote population growth in the future through the attraction of households whose jobholders work in neighboring communities.

Data Sources

The Economics Center gathered data from multiple sources to inform the analyses documented in this report. Data from the U.S. Census Bureau, including 2000 Decennial Census data and 2006-2010 and 2012-2016 American Community Survey five-year estimates informed analyses of changes over time to the socioeconomic and demographic composition of the sample communities, as well as economic characteristics of the housing stocks, homeowners, and renters in the sample communities. The American Community Survey data represent estimates calculated from sampled data spanning five-year periods. This approach adds precision to the estimates (i.e. reduces margins of error) but may smooth certain spikes or valleys within the data. For example, the 2012-2016 estimates (referred to as 2016 estimates throughout the report) is a moving average of the previous five years of data.

The Economics Center examined the employment and industrial mix within Monroe and the other sample communities using a proprietary dataset provided by the Ohio Department of Jobs and Family Services. The establishment-level data contained in this dataset (referred to as ES202 throughout the report) allowed for exact measurement of employment and earnings by industry for establishments located within the study area communities and counties. ES202 data also provided for examination of the prevalence of certain types of commercial amenities within sample communities. The Economics Center aggregated data to the sector level to avoid violation of data privacy guidelines adhered to by the U.S. Bureau of Labor Statistics. ES202 data for the second quarter of 2000 and 2017 were used in this study.

Data from EMSI, a labor market analytics company, were used to estimate the historical composition of employment by industry for those years for which ES202 data were unavailable. EMSI projections were used in combination with ES202 data to project the composition of employment and earnings within sample communities, as well as within a 15-minute and 30-minute commute of Monroe, through 2028.

Parcel and conveyance (sale or transfer) data from the Butler County Auditor and Warren County Auditor informed analysis of changes over time in housing stock value, volume and type of residential structures built, volume and type of commercial and recreational amenities, and volume and value of sales by housing type.

City of Monroe Development Department staff provided historical residential permit data to the Economics Center. This allowed for analysis of the volume and type of residential permit issuances within the City of Monroe from 2008 to present.

Organization of the Report

The *Demographic and Socioeconomic Overview* examines historical population and household growth across sample communities, as well as changes over time in the demographic and socioeconomic characteristics of these communities.

The next section, *Employment and Earnings by Industry*, documents changes over time to the composition of employment of Monroe residents by economic sector, as well as a comparison of employment and earnings by sector within sample communities. This section explores projected growth in employment by sector within Monroe and the other

sample communities, as well as the areas encompassed by a 15-minute and 30-minute commute of Monroe.

The *Historical and Current Survey of the Housing Stock* considers changes over time in the volume and composition of housing units in Monroe and the other sample communities. This section then assesses changes over time to the economic attributes of the housing stocks of the sample communities. The *Vulnerability Assessment* portion of this section looks at how financially leveraged homeowners and renters in Monroe are relative to residents of nearby communities. This section next examines differences across the sample communities in the availability and prevalence of various retail, service, and recreational amenities.

The section entitled *Sample Communities' Housing Stocks: A Closer Look* analyzes transaction and parcel data from the Butler County Auditor and Warren County Auditor and compares historical trends in new home construction, median housing sale prices and assessed values, and square footage across sample communities.

The *Monroe Local Schools Enrollment Projection* section comprises the Economics Center's projections for enrollment in Monroe's schools through the 2027-2028 school year under the assumption of unconstrained enrollment capacity.

The *Qualitative Analysis* documents insights gathered from Monroe stakeholders regarding the opportunities and challenges facing the City as it considers future housing development. This section also discusses the increasing prevalence of luxury apartment properties in sample communities and how these properties have proven successful complements to single-family homes in terms of occupancy rates, median rents, median income of residents, and attraction of two growing segments: young professionals and empty nesters.

Finally, the *Growth Opportunities and Conclusions* section synthesizes key takeaways from prior report sections and identifies and discusses implications of four growth strategies.

Demographic and Socioeconomic Overview

Section Highlights

- Monroe's population and household growth (90% and 77%, respectively) outpaced growth in nearby communities, as well as Butler County and Warren County, from 2000 to 2016.
- A concurrent decline in the median age and increase in average household size in Monroe from 2000 to 2016 – both of which run counter to median age and household size trends witnessed across the community sample as a whole, as well as the state of Ohio – indicate that the City expanded population primarily through the addition of younger residents, potentially through younger families with children.
- Among the implications of a shift toward a younger population is that, controlling for overall population growth, Monroe will experience a less pronounced increase in demand for elderly housing than the other sample communities.
- Demand for elderly or assisted living facilities in Monroe has grown, but at a slower rate than the City's overall population growth.
- Among sample communities, only Mason and Springboro enjoyed increases in real median household income from 2000 to 2016. The three percent decline among Monroe households was equivalent to that experienced across Warren County as a whole and far more modest than declines in the other sample communities, as well as Butler County.
- As of 2016, 70 percent of households in Monroe reported annual income of at least \$50,000. This figure compares favorably to Middletown (37%), Hamilton (41%), Lebanon (61%), and Trenton (63%) and is lower than Springboro (78%), Mason (75%), and West Chester (72%).
- Monroe and Lebanon are the only communities in the analysis to see increases in their labor force participation rates from 2000 to 2016, over which time Monroe's rate jumped from 65 percent to approximately 70 percent. Monroe's unemployment rate was higher in 2016 than 2000 (2% to 6%) but remained low relative to the community sample as a whole.²
- Among sample communities, only Mason and Springboro (2% each) had smaller portions of their families living in poverty than Monroe (4%) in 2016.
- Monroe's population and housing stock expansion was accompanied by a shift toward a more educated population, although the City still lagged behind Mason, Springboro, and West Chester considerably in terms of the portion of its population aged 25 and older with a bachelor's degree in 2016 (31% versus 59%, 49%, and 47%, respectively).

Population growth within the City of Monroe from 2000 to 2010 outpaced that of nearby communities, as well as growth across both Butler and Warren Counties. During that decade, Monroe added approximately 5,000 residents, representing 66 percent growth. In comparison, the populations of Springboro, Mason, Trenton, and West Chester grew by

² The source of the 2016 unemployment rate estimates is the U.S. Census Bureau's American Community Survey 5-Year estimates, which include data gathered from residents from 2013 to 2016. As a result, 2016 unemployment estimates presented in this report likely are overstated.

38 percent, 36 percent, 30 percent, and 10 percent, respectively, while Middletown's population fell by five percent.

As shown in **Table 1**, Monroe added population from 2010 to 2016 at a faster rate than the other communities in the sample but at a more moderate pace than the decade ending 2010. Monroe's population increased by 14 percent from 2010 to 2016, bringing the City's total population growth to more than 13,500 residents. Monroe's 90 percent population rate increase from 2000 to 2016 was approximately double that of Springboro (45%), Mason (45%), and Trenton (43%) and vastly higher than the growth rate across Butler County (12%). Meanwhile, Monroe's 77 percent increase in the number of households from 2000 to 2016 was the highest by a large margin among the sample communities but, considerably lower than the City's population growth. By contrast, Mason's growth in number of households (54%) exceeded population growth (45%), while population and household growth in Springboro were equivalent (45%). Contrasting ratios of population growth to household growth in Monroe and Mason reflect the communities' respective trends in household size. The average number of people per household increased in Monroe but fell in Mason from 2000 to 2016. Monroe's upward movement in the number of people per household also ran contrary to the statewide trend observed from 2000 to 2016 and greatly outpaced incremental growth in this measure nationally. From 2000 to 2016, the number of people per household decreased in Ohio from 2.48 to 2.45 and increased in the U.S. from 2.59 to 2.64³.

Table 1. Population Change, Monroe and Surrounding Communities, 2000-2016

	Population						Household
	2000	2010	2016	2000-2010 Change	2010-2016 Change	2000-2016 Change	2000-2016 Change
<i>Butler County</i>	332,807	363,465	373,638	9%	3%	12%	10%
Hamilton	60,690	62,466	62,259	3%	0%	3%	1%
Middletown	51,605	48,944	48,527	-5%	-1%	-6%	-9%
Monroe	7,133	11,868	13,552	66%	14%	90%	77%
Trenton	8,746	11,354	12,477	30%	10%	43%	32%
West Chester	54,895	60,174	62,316	10%	4%	14%	16%
<i>Warren County</i>	158,383	207,790	222,184	31%	7%	40%	42%
Lebanon	16,962	19,943	20,536	18%	3%	21%	24%
Mason	22,016	29,862	32,025	36%	7%	45%	54%
Springboro	12,380	17,072	17,978	38%	5%	45%	45%
<i>Hamilton County</i>	845,303	802,194	805,965	-5%	0%	-5%	-3%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

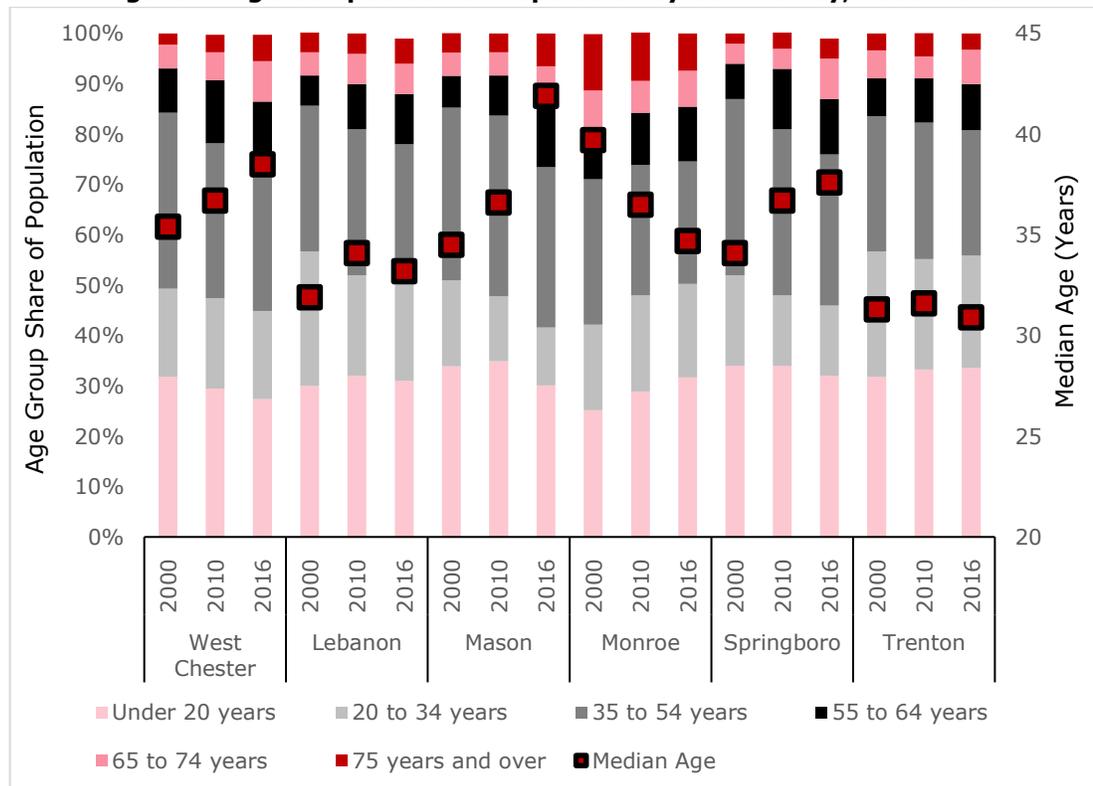
The age composition of most of the sample communities shows that median ages are increasing and representative of the aging U.S. population. With a growing share of baby boomers reaching retirement age, the median age of Americans is increasing and larger portions of most communities' residents are age 65 or older. These trends are shown in

³ Average household size in 2000 and 2016 from the U.S. Census Bureau Decennial Census and U.S. Census Bureau 5-Year American Community Survey estimates, respectively.

Figure 1 for West Chester, Mason, and Springboro from 2000 to 2016. Each of these communities experienced both growth in the portion of residents age 65 or older and a significant increase in the median age. Monroe’s population deviated from both of these trends, with the City’s median age dropping from 39.7 years to 34.7 years and the portion of the population age 65 or older falling from 19 percent in 2000 to approximately 15 percent in 2016. The decline in the portion of the population age 75 or older was particularly pronounced, dropping from 11 percent in 2000 to approximately 10 percent in 2010 and seven percent in 2016. These statistics suggest that relatively young people comprise most of Monroe’s new residents.

A concurrent decline in the median age of Monroe residents and increase in average household size from 2000 to 2016 indicates that the City expanded primarily through the attraction of young families.

Figure 1. Age Composition of Population by Community, 2000-2016



Note: Both Hamilton and Middletown experienced significant rises in median age from 2000 to 2016. Median ages in these communities increased from 34.9 years and 36.4 years in 2000 to 37.2 years and 37.7 years in 2016.

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

The increase in average household size within Monroe from 2000 to 2016 indicates that the City has been expanding its population primarily by attracting younger residents, particularly younger families with children. As shown in **Table 2**, Monroe’s average household size rose from 2.52 people in 2000 to 2.81 people in 2016. This 12 percent increase in household size contrasts sharply with the prevailing trend in average household size among all of the other sample communities except Trenton and Lebanon, which experienced increases in average household size of eight percent and seven percent, respectively, from 2000 to 2016. As shown in **Figure 1**, both Trenton and Lebanon witnessed decreases in residents’ median age from 2010 to 2016 following upward movement from 2000 to 2010.

With aging populations and increasing shares of households comprised of middle-aged or older individuals or couples with no children, average household size barely increased or, for West Chester, Mason, and Springboro, even declined across the other sample communities from 2000 to 2016. Among the implications of a shift toward a younger population is that, controlling for overall population growth, Monroe will experience a less pronounced increase in demand for elderly housing than the other sample communities. In terms of nominal growth, however, the Economics Center estimates that Monroe was home to 610 more people age 65 or older and 204 people age 75 or older in 2016 than 2000. This signals that demand in Monroe for assisted living facilities has risen, albeit at a slower rate than that at which overall population growth has occurred. At the other end of the age spectrum, the disproportionate increase in the number of younger households with school-age children is likely to drive continued growth in enrollment in Monroe Local Schools.

Table 2. Average Household Size by Community, 2000-2016

	2000	2010	2016	2000-2010 Change	2010-2016 Change	2000-2016 Change
<i>Butler County</i>	2.61	2.60	2.68	0%	3%	3%
Hamilton	2.45	2.38	2.49	-3%	5%	2%
Middletown	2.38	2.39	2.45	0%	3%	3%
Monroe	2.52	2.65	2.81	5%	6%	12%
Trenton	2.74	2.74	2.96	0%	8%	8%
West Chester	2.79	2.75	2.74	-1%	0%	-2%
<i>Warren County</i>	2.72	2.74	2.71	1%	-1%	0%
Lebanon	2.58	2.69	2.75	4%	2%	7%
Mason	2.80	2.80	2.65	0%	-5%	-5%
Springboro	2.90	2.86	2.88	-1%	1%	-1%
<i>Hamilton County</i>	2.38	2.39	2.35	0%	-2%	-1%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

As of 2016, median household income stood at \$72,982 among Monroe residents. As shown in **Table 3**, this figure was slightly lower than that of Warren County overall but significantly higher than that of Butler County, which contains most of Monroe’s population. Among sample communities, median household incomes were highest in Springboro (\$99,364), Mason (\$92,819), and West Chester (\$81,378), with household incomes lower in Trenton (\$63,618), Lebanon (\$61,669), Hamilton (\$40,401) and Middletown (\$36,898) than Monroe. With the exceptions of Mason and Springboro, inflation-adjusted median household incomes declined across the sample communities from 2000 to 2016. Declines were most pronounced in Middletown (24%), West Chester (15%), and Hamilton (15%), and more modest in Trenton (7%), Monroe (3%), and Lebanon (2%). Particularly in the context of the more than four percent increase in Monroe’s labor force participation rate from 2000 to 2016, these data suggest that the City exhibited greater economic resilience through the Great Recession than most of the other sample communities by attracting large numbers of households with jobholders.

Table 3. Median Household Income, 2000-2016 (2016\$)

	Median Household Income			Change		
	2000	2010	2016	2000-2010	2010-2016	2000-2016
<i>Butler County</i>	\$64,335	\$59,546	\$59,652	-7%	0%	-7%
Hamilton	\$47,514	\$41,509	\$40,401	-13%	-3%	-15%
Middletown	\$48,656	\$40,694	\$36,898	-16%	-9%	-24%
Monroe	\$75,253	\$74,618	\$72,982	-1%	-2%	-3%
Trenton	\$68,430	\$62,656	\$63,618	-8%	2%	-7%
West Chester	\$96,000	\$87,239	\$81,378	-9%	-7%	-15%
<i>Warren County</i>	\$77,860	\$77,464	\$76,200	-1%	-2%	-2%
Lebanon	\$62,949	\$66,748	\$61,669	6%	-8%	-2%
Mason	\$88,630	\$90,218	\$92,819	2%	3%	5%
Springboro	\$97,154	\$100,957	\$99,364	4%	-2%	2%
<i>Hamilton County</i>	\$55,036	\$52,423	\$50,399	-5%	-4%	-8%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

As of 2016, 70 percent of households in Monroe reported annual income of at least \$50,000, and 81 percent of households reported income of at least \$35,000 (see **Table 4**). Relative to Monroe, household incomes were more highly concentrated in the higher income brackets for Springboro, Mason, and West Chester and more highly concentrated in the lower income brackets for Middletown, Hamilton, and Trenton. Equal proportions of the households of Lebanon and Monroe reported income between \$50,000 and \$99,999, although households reporting income less than \$25,000 constituted a larger share of all households in Lebanon (18%) than Monroe (11%). While lacking a large concentration of households in the highest income bracket – particularly when compared to the three highest-income communities – in 2016 Monroe (along with Trenton) was home to the largest share of households with incomes between \$50,000 and \$149,999 among sample communities. With at least 47 percent of households in all sample communities except Hamilton and Middletown reporting income between \$50,000 and \$149,999 in 2016, there is significant overlap in terms of the income profiles of these communities. This suggests that factors other than housing affordability, such as quality of schools,

proximity to jobs, availability of amenities, and volume and type of housing available for purchase or rent, heavily influence households' decisions of where to reside.

Table 4. Distribution of Household Income by Income Bracket, 2016

	Less than \$10,000	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 to \$99,999	\$100,000 to \$149,999	\$150,000 to \$199,999	\$200,000 or more
Hamilton	9%	7%	15%	12%	17%	18%	11%	9%	2%	1%
Lebanon	4%	4%	10%	11%	11%	24%	15%	16%	3%	3%
Mason	3%	1%	5%	7%	10%	15%	13%	19%	12%	16%
Middletown	11%	8%	15%	14%	16%	17%	9%	7%	2%	2%
Monroe	3%	3%	5%	10%	11%	21%	18%	19%	7%	5%
Springboro	4%	1%	2%	7%	8%	14%	14%	26%	15%	9%
Trenton	6%	3%	7%	7%	13%	23%	20%	15%	3%	2%
West Chester	3%	2%	6%	7%	11%	18%	13%	20%	11%	10%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

A community's labor force participation rate – the percentage of the population of working age that is either employed or actively seeking employment – tends to be negatively correlated with the portion of the population that is of retirement age or older. As Monroe became younger from 2000 to 2016 – in terms of both median age and distribution of its population across age brackets – its labor force participation rate rose from 65 percent to approximately 70 percent (see **Table 5**). In nominal terms, Monroe experienced a near-doubling of its civilian labor force from 2000 to 2016, from 3,664 to 6,968 individuals.

Monroe and Lebanon are the only sample communities whose labor force participation rate increased from 2000 to 2016. Labor force participation in the other communities declined as larger portions of their populations reached retirement age. Meanwhile, Monroe claimed the second-lowest unemployment rate among the sample communities in 2000, and all sample communities experienced dramatic surges in unemployment rates during the Great Recession of the late 2000s. Monroe's 2016 unemployment rate estimate, which reflects a five-year (2012-2016) average and may not capture more recent declines in unemployment rates witnessed by many communities, was higher than the unemployment rates of Springboro, Mason, and West Chester but lower than those of Middletown, Hamilton, Trenton, and Lebanon.

Table 5. Labor Force Participation and Unemployment Rates, 2000-2016

	Labor Force Participation			Unemployment Rate		
	2000	2010	2016	2000	2010	2016
<i>Butler County</i>	66.6%	66.9%	64.8%	4.0%	8.0%	6.1%
Hamilton	61.0%	63.3%	59.7%	5.5%	11.5%	9.8%
Middletown	62.4%	60.9%	61.0%	5.4%	11.1%	13.1%
Monroe	65.3%	67.3%	69.7%	2.3%	5.6%	5.7%
Trenton	72.6%	74.5%	71.6%	3.0%	5.5%	6.2%
West Chester	74.5%	72.7%	69.5%	2.5%	5.2%	3.8%
<i>Warren County</i>	67.5%	68.9%	65.9%	3.0%	6.3%	5.0%
Lebanon	64.0%	72.0%	68.4%	3.7%	7.0%	5.8%
Mason	73.3%	75.6%	66.3%	3.1%	6.4%	3.6%
Springboro	71.8%	74.0%	68.9%	2.1%	5.1%	4.9%
<i>Hamilton County</i>	65.5%	66.1%	66.1%	5.0%	7.8%	7.9%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Even after experiencing a large increase in the proportion of families living in poverty from 2000 to 2010, Monroe ranked behind only Mason and Springboro among sample communities in terms of poverty rate in 2016. As shown in **Table 6**, Monroe's four percent poverty rate in 2016 was lower than that of West Chester (6%), which ranks ahead of Monroe in most wealth- and income-related measures. Monroe's sustained low poverty rate is another indication that the City grew population and housing stock during and following the 2000s through the attraction of households with workers.

Table 6. Portion of Families Living in Poverty, 2000-2016

	% of Families			Change		
	2000	2010	2016	2000-2010	2010-2016	2000-2016
<i>Butler County</i>	5%	8%	9%	54%	11%	70%
Hamilton	11%	17%	18%	57%	6%	66%
Middletown	9%	15%	20%	67%	29%	115%
Monroe	1%	4%	4%	320%	-7%	290%
Trenton	3%	5%	9%	68%	73%	190%
West Chester	3%	3%	6%	10%	94%	114%
<i>Warren County</i>	3%	5%	4%	57%	-17%	30%
Lebanon	5%	9%	8%	87%	-6%	77%
Mason	2%	3%	2%	69%	-37%	6%
Springboro	2%	3%	2%	25%	-33%	-17%
<i>Hamilton County</i>	9%	11%	13%	26%	19%	50%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Similarly, as shown in **Table 7**, seven percent of Monroe’s population receives cash public assistance income and/or Supplemental Nutrition Assistance Program (SNAP) benefits. Only two percent of families in Monroe received cash public assistance income in 2016, which was higher only than the figures for West Chester, Trenton, Mason, and Springboro (1% each). Further, five percent of Monroe’s families received SNAP benefits in 2016, putting the City on par for this measure with Mason (3%) and West Chester (4%) and well below Middletown (25%), Hamilton (22%), Lebanon (11%), and Trenton (10%). As documented later in this report, West Chester, Mason, and Springboro have expanded their housing stocks in part through the construction of multi-unit housing. That these communities have done so while maintaining low poverty and public assistance rates indicates that the construction of multi-unit housing structures need not weaken a community’s economy.

Table 7. Portion of Families Receiving Public Assistance, 2000-2016

	Cash Public Assistance Income			SNAP Benefits		
	2000	2010	2016	2000	2010	2016
<i>Butler County</i>	2%	3%	2%	NR	10%	12%
Hamilton	5%	6%	4%	NR	18%	22%
Middletown	4%	4%	3%	NR	18%	25%
Monroe	0%	1%	2%	NR	3%	5%
Trenton	2%	2%	1%	NR	12%	10%
West Chester	1%	2%	1%	NR	4%	4%
<i>Warren County</i>	1%	2%	1%	NR	4%	5%
Lebanon	1%	3%	2%	NR	6%	11%
Mason	0%	1%	1%	NR	2%	3%
Springboro	1%	2%	1%	NR	2%	2%
<i>Hamilton County</i>	3%	3%	4%	NR	10%	15%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Educational attainment data indicate that Monroe’s population and housing stock expansion have been accompanied by a shift toward a more educated population and, further, that the majority of residents age 25 or older who moved to Monroe during and following the 2000s possessed at least some postsecondary education. As shown in **Table 8**, 63 percent of Monroe residents age 25 or older had received at least some postsecondary education in 2016, compared to 52 percent in 2000. In addition, Monroe ranked fourth among sample communities in 2016 in terms of portion of the population aged 25 or older with a bachelor’s degree at 31 percent, behind Mason (59%), Springboro (49%), and West Chester (47%) but ahead of Lebanon (29%), Middletown (17%), Hamilton (15%), and Trenton (15%).

Sizable differences exist across the sample communities in terms of proportional population growth from 2000 to 2016 in residents with a bachelor’s degree or higher level of education. At the upper end of the educational attainment spectrum, the portion of Mason’s residents aged 25 or older with a bachelor’s degree increased from 40 percent in 2000 to 51 percent in 2010 and 59 percent in 2016, while West Chester experienced

more modest growth in this category (44% in 2000 to 45% in 2010 and 47% in 2016). Unlike West Chester, Mason grew its working-age population during this period almost exclusively through the addition of individuals with bachelor's degrees or higher levels of education. As higher levels of education tend to be positively correlated with higher employment rates and greater earnings, Mason's disproportionate growth from 2000 to 2016 in the share of its population age 25 or older with a bachelor's degree also helps explain its positive growth during this time period in median housing unit values – unique among sample communities – and median household income. Mason's experience also reinforces that Monroe's economy will be strengthened overall and will exhibit greater resilience through an economic downturn to the extent that the City is able to attract companies in industries that tend to require higher levels of educational attainment.

Table 8. Educational Attainment of Residents Age 25 and Older, 2000-2016

	2000			2010			2016		
	HS diploma or below	Some college to Associate's	Bachelor's or above	HS diploma or below	Some college to Associate's	Bachelor's or above	HS diploma or below	Some college to Associate's	Bachelor's or above
<i>Butler County</i>	50%	26%	24%	48%	26%	26%	44%	27%	29%
Hamilton	66%	22%	12%	64%	22%	14%	58%	27%	15%
Middletown	61%	26%	13%	60%	26%	14%	57%	27%	17%
Monroe	47%	28%	24%	43%	28%	29%	37%	32%	31%
Trenton	61%	30%	10%	55%	35%	10%	53%	32%	15%
West Chester	28%	29%	44%	27%	27%	45%	28%	25%	47%
<i>Warren County</i>	45%	27%	28%	37%	27%	36%	33%	26%	41%
Lebanon	51%	24%	25%	44%	31%	27%	39%	32%	29%
Mason	31%	29%	40%	26%	23%	51%	21%	20%	59%
Springboro	28%	30%	42%	24%	27%	49%	25%	26%	49%
<i>Hamilton County</i>	45%	26%	29%	41%	27%	33%	37%	28%	36%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Employment and Earnings by Industry

Section Highlights

- The Education, Health, and Social Services Sector was the largest employer of Monroe residents in 2016, with a 20 percent share. The next highest-employing sector was Manufacturing (18%), which experienced positive job growth from 2000 to 2010 and again from 2010 to 2016.
- The more than doubling of jobs held by Monroe residents in the Professional, Scientific, Management, and Administrative Sector from 2010 to 2016 likely is a result of a combination of economic recovery following the Great Recession and the relatively recent addition of individuals employed in these fields as residents.
- Indicative of a low concentration of hotels and restaurants, Monroe is under-represented relative to the other communities in employment in the Accommodation and Food Services Sector.
- The considerable percentages of Monroe residents employed in the Finance and Insurance; Professional, Scientific, and Technical Services;⁴ Manufacturing; and Education, Healthcare, and Social Services sectors reveals that sizable numbers of Monroe residents are commuting elsewhere for jobs in these fields.
- Earnings analysis suggests that the majority of Monroe residents commute to other communities for jobs and that most individuals with jobs located within Monroe live elsewhere, as most of the latter group cannot afford the City's existing housing options.
- The greatest short-term nominal growth in employment within a 15-minute commute of Monroe is projected to occur in the Healthcare and Social Assistance; Manufacturing; Retail Trade; and Management Sectors. Growth in these sectors is expected to remain strong through 2024, with growth slowing from 2024 to 2028.
- Monroe sustained robust growth in both the number of housing units and average home price from 2000 to 2010, even as the number of higher-paying jobs located in the City declined. This reinforces that the majority of Monroe's working residents hold jobs outside the City.
- Thousands of jobs paying more than \$50,000 per year (in 2017 dollars) are projected to be created within a 15-minute commute of Monroe over the next decade, implying that strong demand for higher-priced housing options in the area will persist.
- Nearly two-thirds of total job growth (including 59% of growth in high-paying jobs) that is projected to occur within a 30-minute commute of Monroe from 2017 to 2028 is expected to take place in the area encompassing a 15-minute commute from the City. This suggests that significant potential exists for Monroe to grow population and housing stock over the next decade.
- More than three-quarters of total growth projected from 2017 to 2028 in the area within a 30-minute commute of Monroe is expected to occur by 2024.

⁴ Estimates of the employment distribution of Monroe residents were based on ACS data, which in some cases combine multiple sectors that are reported separately in the Economics Center's analysis of employment by place. As a result, the sectors included in the analysis of employment by place of residence (for Monroe residents only) do not match exactly the sectors included in the analysis of employment by place of residence.

The distribution of employment of Monroe residents across sectors reflects employment patterns of the Cincinnati Metropolitan Statistical Area (MSA)⁵ economy, as well as the industrial mix of businesses in Monroe. As with the MSA, Manufacturing employment declined in terms of share of total employment. However, Monroe experienced a nominal increase in Manufacturing jobs held by residents from 2000 to 2016 (see **Table 9**), with average annual earnings ranking among the highest of all jobs.⁶

Meanwhile, the Educational, Health, and Social Services Sector was the largest employer of Monroe residents in 2016, despite a decline in share of total jobs from 2010 to 2016. The rapid job growth in sectors such as Construction and Transportation and Warehousing from 2010 to 2016 mirrors growth in the nation and MSA following the Great Recession. The more than doubling of jobs held by Monroe residents in the Professional, Scientific, Management, and Administrative sector from 2010 to 2016 likely is a result of a combination of economic recovery and the relatively recent addition of professionals employed in these fields as residents.

Overall, jobs held by Monroe residents span a broader earnings spectrum than median household incomes, implying that many Monroe households have multiple earners. Also, employment growth and decline among Monroe residents have been spread inconsistently across sectors with respect to average annual earnings.

⁵ The Cincinnati MSA is a 15-county region comprised of Dearborn, Ohio, and Union Counties in Indiana; Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton Counties in Kentucky; and Butler, Brown, Clermont, Hamilton, and Warren Counties in Ohio.

⁶ This analysis examines average earnings instead of median earnings because neither ES202 data nor EMSI data allow for estimation of the latter.

Table 9. Employment of City of Monroe Residents, 2000-2016

Sector	Jobs			Share of Total			Average Annual Earnings
	2000	2010	2016	2000	2010	2016	(2016\$)
Construction	295	181	344	8%	3%	5%	\$71,724
Manufacturing	940	1,078	1,174	26%	19%	18%	\$75,290
Wholesale Trade	149	220	136	4%	4%	2%	\$82,884
Retail Trade	351	774	708	10%	14%	11%	\$27,109
Transportation & Warehousing, & Utilities	115	204	293	3%	4%	5%	\$51,015
Information	37	87	114	1%	2%	2%	\$87,727
Finance, Insurance, Real Estate, & Rental/Leasing	261	574	501	7%	10%	8%	\$69,611
Prof., Sci, Mgmt., Admin., & Waste Mgmt.	356	376	898	10%	7%	14%	\$46,057
Edu., Healthcare & Social Services	615	1,323	1,335	17%	24%	20%	\$40,666
Arts, Entertain., Rec., Accommod. & Food Svc.'s	217	278	528	6%	5%	8%	\$16,632
Other Services (Except Public Administration)	124	319	244	4%	6%	4%	\$36,794
Public Administration	120	201	296	3%	4%	5%	\$71,912
Total Jobs	3,580	5,636	6,571				\$51,445

Note: Share of Total columns may not sum to 100% due to rounding.

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Analysis of jobs by place of employment reveals significant differences across the sample communities in terms of the percent distribution of jobs by sector. These differences indicate varying geographic concentrations of businesses by sector, as well as widely varying concentrations of total employment relative to population. **Table 10** presents total employment, the employment-to-population ratio, and proportional representation of each sector in terms of total employment for each of the eight sample communities. Higher values are shaded grey, while lower values are shaded pink (for select sectors). This analysis is based on individual establishment-level data provided by the Ohio Department of Jobs and Family Services (ES 202) and reflects aggregations and averages of job and earnings figures for the second quarter of 2017.^{7, 8}

⁷ 2017 Q2 data represent the most recent ES202 dataset available.

⁸ Similar analysis for Kettering and Beavercreek is provided in Appendix B to include the employment profiles of additional communities located within a 30-minute drive of Monroe.

Comparative analysis of employment by sector of Monroe residents and the composition of jobs located within the City indicates that a large portion of Monroe residents commute to other communities for jobs in sectors such as Finance and Insurance; Professional, Scientific, and Technical Services; and Manufacturing.

Mason is unique in that it is home to more jobs than residents, and it claims an employment-to-population ratio at least double that of all other sample communities except Lebanon (employment-to-population of 0.9). This ratio ranges from 0.4 to 0.6 for the remaining communities except Trenton, which counts both the fewest residents and jobs among sample communities. Mason claims proportional over-representation in the Finance and Insurance and Management Sectors, both of which offer high average annual earnings relative to average earnings across all sectors (see **Table 11**), and Mason and Springboro (7% and 6%, respectively) are home to the largest proportions of jobs in the Professional, Scientific, and Technical Services sector among sample communities. Springboro claims the highest proportion of Accommodation and Food Services jobs, which are the lowest-paying in Springboro on average, while Hamilton has the highest proportional representation of Healthcare and Social Assistance jobs. Meanwhile, West Chester and Monroe have

the highest proportional representation of jobs in the Wholesale Trade Sector, which offers high average annual wages across communities. At the low end of the spectrum, Mason is proportionally under-represented in the Construction and Transportation and Warehousing Sectors, and jobs in the Finance and Insurance and Management Sectors account for at most three percent of total employment in the majority of sample communities.

A closer examination of jobs located within Monroe yields noteworthy findings regarding the City's industrial mix, as well as significant variations in the distributions of jobs held by residents and jobs located in the City. Indicative of a low concentration of hotels and restaurants, Monroe is under-represented relative to the other communities in employment in low-paying Accommodation and Food Services jobs. That the City is home to relatively few Management; Finance and Insurance; and Professional, Scientific, and Technical Services jobs reveals that these sectors have not gained a foothold within the City as its population and employment have grown. Meanwhile, the considerable percentages of Monroe residents employed in the Finance and Insurance; Professional, Scientific, and Technical Services; Manufacturing; and Education, Healthcare, and Social Services Sectors reveals that sizable numbers of Monroe residents are commuting elsewhere for jobs in these fields. This suggests that Monroe holds particular appeal for its well-paid residents who work in other communities and that additional high-earning households would move to Monroe if the City's housing stock included more higher-end homes. On the other end of the wage spectrum, Monroe is proportionally over-represented in the Construction, Retail Trade, Transportation and Warehousing, and Wholesale Trade Sectors in terms of the distribution of jobs located within the City relative to the distribution of jobs held by residents. The high concentration of jobs in these sectors in Monroe primarily reflects the presence of the many shopping options located in the City along I-75. The majority of employees in these sectors, which are among the lowest-paying in Monroe (see **Table 11**), commute to the City from communities that offer more affordable housing options.

Table 10. Total Employment and Share of Employment by Sector and Community in which Job Is Located (2017)

	Hamilton	Lebanon	Mason	Middletown	Monroe	Springboro	Trenton	West Chester
Total Employment	32,392	17,779	36,867	19,513	6,661	7,574	1,747	35,265
2016 Population	62,259	20,536	32,025	48,527	13,552	17,978	12,477	62,316
Employment/Population Ratio	0.5	0.9	1.2	0.4	0.5	0.4	0.1	0.6
Sector								
Accommod. & Food Services	11%	6%	11%	11%	7%	15%	13%	12%
Admin./Support & Waste Mgmt.	5%	5%	8%	5%	4%	3%	2%	6%
Construction	5%	5%	2%	6%	11%	5%	3%	4%
Educational Services	12%	11%	5%	8%	4%	9%	19%	3%
Finance & Insurance	2%	2%	7%	1%	1%	3%	1%	3%
Healthcare & Social Assistance	17%	12%	11%	10%	7%	9%	2%	14%
Management	1%	1%	14%	<1%	<1%	<1%	<1%	1%
Manufacturing	10%	20%	13%	24%	12%	17%	39%	15%
Prof., Sci., and Tech. Svc.	2%	3%	7%	2%	1%	6%	<1%	4%
Retail Trade	12%	8%	7%	16%	20%	11%	7%	13%
Transportation & Warehousing	3%	2%	1%	2%	15%	3%	2%	8%
Wholesale Trade	5%	2%	4%	7%	10%	7%	2%	10%
Other Sectors	14%	23%	10%	8%	10%	12%	10%	6%

Note: Share of Employment columns may not sum to 100% due to rounding. Employment reflects Q2 2017 estimates, while population estimates used in this analysis are for 2016. Public Administration jobs account for 13 percent of all jobs in Lebanon, which is the county seat of Warren County.

Source: Economics Center analysis using data from the US Census Bureau (2016) and Ohio Department of Job and Family Services (2017).

Analysis of earnings of Monroe residents and workers employed in Monroe suggests that most Monroe residents commute to other communities for jobs and that most individuals with jobs in Monroe live in other communities.

Analysis of average earnings per job further suggests that the majority of Monroe residents commute to other communities for jobs and that most individuals with jobs located within Monroe live elsewhere. Across multiple sectors, average annual earnings per job are lower in Monroe than the other sample communities and, importantly, fall well below median household income in Monroe of \$72,982 (in 2016). As exhibited in **Table 11**, jobs located in Monroe pay lower on average than jobs located in the other five sample communities across the Finance and Insurance, Healthcare and Social Assistance, Manufacturing, Retail Trade, and Transportation and Warehousing Sectors. These findings suggest, for example, that retail banking jobs comprise the majority of jobs in the Finance and Insurance Sector in Monroe, that most of the retail jobs in the City pay at or just above minimum wage, and that many of Monroe's Transportation and Warehousing Sector jobs are entry-level fulfillment positions. Meanwhile, vastly higher average annual earnings in Finance and Insurance and Management positions in West Chester and Mason suggest that wealth management and executive-level management jobs constitute proportionally large shares of respective sectors in these communities. Notably, average earnings in Construction jobs, which account for 11 percent of all jobs located in Monroe and five percent of all jobs held by Monroe residents, are highest in Monroe among the sample communities.

Table 11. Average Annual Earnings per Job by Sector and Community in which Job Is Located (2017)

	West Chester	Hamilton	Lebanon	Mason	Middletown	Monroe	Springboro	Trenton
Accommod. & Food Svc.	\$17,520	\$14,067	\$15,952	\$17,046	\$15,768	\$16,691	\$15,993	\$14,163
Admin./Support & Waste Mgmt.	\$37,792	\$23,994	\$28,648	\$48,654	\$25,221	\$27,307	\$31,412	\$23,556
Construction	\$61,338	\$52,191	\$53,992	\$58,481	\$61,317	\$71,142	\$57,601	\$37,269
Educational Services	\$44,242	\$44,297	\$31,626	\$41,201	\$46,399	\$49,720	\$40,030	\$45,541
Finance & Insurance	\$70,013	\$53,577	\$50,619	\$67,972	\$42,000	\$34,224	\$58,544	\$35,212
Healthcare & Social Assistance	\$42,415	\$43,319	\$36,803	\$41,315	\$40,133	\$30,739	\$42,689	\$33,352
Management	\$125,185	\$43,511	\$96,353	\$108,156	\$76,414	\$55,406	\$39,628	N/A
Manufacturing	\$86,530	\$54,360	\$53,724	\$68,308	\$64,986	\$49,279	\$52,441	\$82,695
Prof., Sci., and Tech. Svc.	\$68,984	\$58,788	\$53,133	\$64,582	\$49,836	\$53,443	\$59,601	\$45,427
Retail Trade	\$30,338	\$25,676	\$30,021	\$34,550	\$26,304	\$21,165	\$28,533	\$22,831
Transportation & Warehousing	\$48,598	\$44,073	\$39,765	\$43,376	\$47,960	\$36,732	\$41,575	\$68,626
Wholesale Trade	\$61,640	\$58,438	\$64,076	\$94,318	\$61,306	\$81,652	\$69,681	\$108,457
Other Sectors	\$34,315	\$43,199	\$42,743	\$46,635	\$32,291	\$56,727	\$29,439	\$32,793

Source: Economics Center analysis using data from the Ohio Department of Job and Family Services (2017).

The Economics Center gathered earnings and employment estimates, as well as employment projections, from EMSI to assess in which sectors the greatest nominal job growth is likely to occur through 2028 and, further, to relate this growth to earnings and home-buying power. EMSI models job growth and earnings using datasets from the U.S. Bureau of Labor Statistics and other sources, instead of establishment-level data. Variation in datasets and geographic scope of analysis explain differences in average earnings estimates where they occur between this and the above analyses. This analysis was conducted using both a 15-minute and 30-minute commuting time from Monroe.⁹ In both **Table 12** and **Table 13**, which provide employment projections for areas within a 15-minute and 30-minute drive of Monroe, respectively, projections are provided for the years 2020, 2024, and 2028, so as to offer near-term, medium-term, and long-term perspectives on employment growth in the communities located within these commuting radii.

Home buying power among job holders employed within a 15-minute commute of Monroe will remain strong through 2028, though nominal growth in high-paying jobs will be greatest in the near- to medium-term.

As shown in **Table 12**, the greatest short-term nominal growth in employment within a 15-minute commute of Monroe is projected to occur in the Healthcare and Social Assistance, Manufacturing, Retail Trade, and Management Sectors. While strong growth is projected to continue through 2024, growth is expected to slow from 2024 to 2028, particularly in Manufacturing. Average earnings per job in Management positions are greater than median household income in Monroe, while average earnings per job in Manufacturing positions are only slightly lower than median household income. These measures signal that significant home buying power exists in the current Monroe housing market. Healthcare jobs in or around Monroe paying at or above the average earnings level also would likely qualify most jobholders for homeownership in Monroe, particularly if the individual's earnings are complemented by wages of an additional member of the household. Among these fastest-growing sectors, only Retail Trade is unlikely to pay employees wages that are sufficient to afford homeownership in Monroe without the construction of more affordable housing units than currently exist. Among other sectors with high-paying jobs, Professional, Scientific, and Technical Services; Wholesale Trade; and Construction also are projected to experience substantial job growth within a 15-minute commute of Monroe through 2028. These findings indicate that buying power among jobholders employed near Monroe will remain strong through 2028, though there

⁹ Communities included in the 15-minute commute analysis include Franklin, Hamilton, Lebanon, Mason, Middletown, Monroe, Trenton, and West Chester. Communities included in the 30-minute commute analysis include Franklin, Hamilton, Fairfield, Kings Mills, Lebanon, Maineville, Mason, Middletown, Monroe, Oregonia, Overpeck, Seven Mile, Somerville, South Lebanon, Springboro, Trenton, Waynesville, West Chester, Clarksville, Loveland, Morrow, Bellbrook, Germantown, Miamisburg, and large portions of both Cincinnati and Dayton.

will be greater nominal growth in high-paying jobs in the short- to medium-term than the long-term.

Table 12. Projected Employment within a 15-Minute Commute of the City of Monroe, 2017-2028

Sector	2017 Jobs	Projected Nominal Job Growth				Average Earnings per Job
	2017	2017-2020	2020-2024	2024-2028	Total 2017-2028	2017\$
Accommodation & Food Services	16,707	860	541	317	1,718	\$16,394
Construction	7,009	420	350	278	1,048	\$64,023
Manufacturing	27,225	1,683	677	100	2,460	\$66,119
Wholesale Trade	12,611	449	290	179	918	\$74,013
Retail trade	22,725	1,450	984	635	3,069	\$30,827
Transportation & Warehousing	6,979	306	119	12	437	\$44,443
Finance & Insurance	5,743	-107	-59	-29	-195	\$69,995
Prof., Sci., & Tech. Svc.	6,656	832	643	475	1,950	\$65,843
Management of Companies	6,382	1,311	917	612	2,840	\$127,211
Admin & Support & Waste Mgmt.	10,669	431	273	163	867	\$35,416
Healthcare & Social Assistance	19,017	2,259	1,971	1,592	5,822	\$42,509
Government	16,503	212	201	166	579	\$46,595
Other Industries	15,239	921	683	485	2,089	\$33,952
Total Jobs	173,465	11,027	7,590	4,985	23,602	\$49,529

Source: Economics Center analysis using data from the Ohio Department of Job and Family Services (2017) and EMSI (2018).

EMSI projections indicate that just under 40,000 jobs will be added within a 30-minute commute of Monroe between 2017 and 2028 (see **Table 13**). While the 30-minute commuting radius encompasses a vastly larger area than the 15-minute commuting radius, total projected job growth through 2028 within the 15-minute commuting radius constitutes well over half (23,601 jobs) of the 30-minute commuting radius. This indicates that Monroe is well situated geographically in terms of where the greatest growth in jobs located within a 30-minute commute of Monroe is expected to occur over the next decade.

Healthcare and Social Assistance jobs are expected to account for nearly half of the growth through 2028, with the Professional, Scientific, and Technical services; Construction; Accommodation and Food Services; and Finance and Insurance Sectors projected to add between 1,000 and 4,000 jobs each. Notwithstanding considerable variation in earnings across Healthcare professions, average annual earnings per job in all these sectors except Accommodation and Food services are sufficient to qualify most jobholders for homeownership in Monroe.¹⁰ It is interesting to note that sector-specific

¹⁰ Seventeen percent of single-family homes sold in Monroe from January 2013 to June 2018 (542 homes total) were priced under \$150,000. The Economics Center estimates that a household with annual earnings of \$42,000 could qualify for the purchase of a \$133,000 home, assuming no disqualifying characteristics of the homebuyer and a 15 percent down payment.

discrepancies exist between the 15-minute and 30-minute commuting radii in terms of projected growth. For example, nominal job growth is projected to be higher through 2028 within a 15-minute commute of Monroe than within a 30-minute commute in the Manufacturing, Retail Trade, and Management Sectors. On the other hand, nominal job growth is expected to be greater within the 30-minute radius for the Finance and Insurance and Healthcare Sectors.

As with projected growth within a 15-minute commute of Monroe, just under half of all projected job growth through 2028 is projected to occur by 2020, and more than three-quarters of total growth projected from 2017 to 2028 is expected to occur by 2024. This suggests that the greatest demand for housing in the areas surrounding Monroe will occur over the near- to medium-term than the long-term.

Table 13. Projected Employment within a 30-Minute Commute of the City of Monroe, 2017-2028

Sector	2017 Jobs	Projected Nominal Job Growth				Average Earnings per Job
	2017	2017-2020	2020-2024	2024-2028	2017-2028	2017\$
Accommodation & Food Services	55,089	1,965	1,113	557	3,635	\$16,832
Construction	28,853	1,506	1,349	1,112	3,967	\$61,207
Manufacturing	76,671	1,592	-231	-1,087	274	\$71,761
Wholesale trade	37,368	161	51	-8	204	\$73,099
Retail trade	68,528	77	-258	-391	-572	\$29,871
Transportation & Warehousing	19,792	589	183	-39	733	\$44,928
Finance & Insurance	29,652	480	356	247	1,083	\$79,733
Prof., Sci., & Tech. Svc.	33,286	1,618	1,242	922	3,782	\$74,346
Mgmt. of Companies	19,333	668	293	71	1,032	\$115,106
Admin & Support & Waste Mgmt.	42,678	370	193	95	658	\$34,601
Healthcare & Social Assistance	90,025	6,492	5,992	5,023	17,507	\$50,176
Government	62,265	21	137	176	334	\$50,445
Other Industries	66,827	1,803	1,223	801	3,827	\$41,482
Total Jobs	630,367	17,342	11,643	7,478	36,464	\$52,088

Source: Economics Center analysis using data from the Ohio Department of Job and Family Services (2017) and EMSI (2018).

The Economics Center combined establishment-level employment and earnings data received from the Ohio Department of Job and Family Services with earnings and employment estimates and projections from EMSI to compare historical and projected job growth by average earnings range within Monroe, as well as within 15-minute and 30-minute commuting radii. This approach provides for the consideration of historical and potential future housing growth in the context of historical and projected growth in jobs by earnings range.¹¹ More specifically to this study, this approach offers insight into the question: how has the housing stock in Monroe changed over time relative to growth in

¹¹ The use of average earnings instead of median earnings likely overstates the number of jobs paying within certain earnings ranges for most sectors. This is particularly the case for sectors with very high-paying jobs at the top end of their earnings spectra.

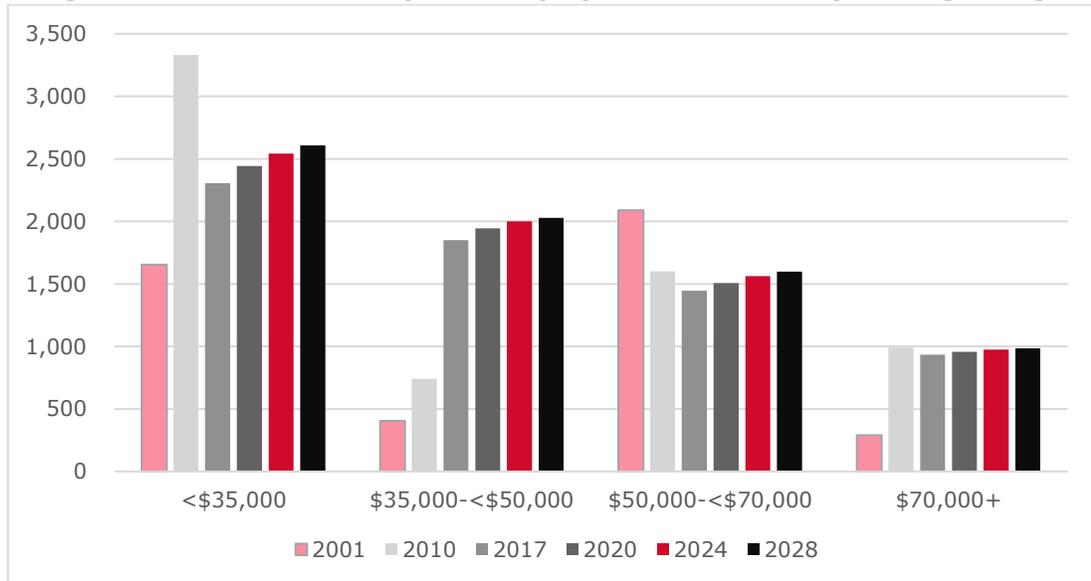
jobs at various earnings levels, and how might it do so in the future? To simplify the analysis, earnings are assumed static (at inflation-adjusted 2017 levels for Monroe as well as areas within a 15-minute and 30-minute commute) across the analysis timeframe. In reality, earnings growth varies over time across industries, but earnings growth projections were unavailable. Thus, put differently, this analysis assumes that a job that pays \$70,000 per year in 2017 paid \$70,000 per year in 2001 and will pay \$70,000 per year in 2028 (both in 2017, rather than nominal, dollars).

Monroe sustained substantial housing growth even as the City experienced declines in middle-income jobs from 2001 to 2010 and jobs paying \$50,000 or more from 2010 to 2017. This further attests to the fact that Monroe residents primarily rely on employment outside the City.

As shown in **Figure 2**, growth in jobs located in Monroe has been inconsistent across earnings categories but is projected to remain positive across categories through 2028. Concurrent with spikes in jobs with earnings under \$35,000 per year, as well as those with earnings of \$70,000 or more per year, Monroe experienced a dramatic decline in jobs with annual earnings from \$50,000 to less than \$70,000 between 2001 and 2010. Regardless of the sources of employment change across the earnings categories over the decade, it is notable that, despite the large drop in middle-income jobs, Monroe's population and total housing units grew by 66 percent and 55 percent, respectively, from 2000 to 2010. Changes over time in the volume and composition of housing growth in Monroe will be documented in greater detail in the following section. However, it is significant that, amidst the substantial loss of middle-income jobs from 2001 to 2010, as well as losses (albeit more modest) from 2010 to 2017 in jobs located within

Monroe in both the \$50,000 to \$69,999 and \$70,000 and above annual earnings categories, housing growth continued, as did the average sale price of homes. The seeming discordance of these trends is explained by the reality that most Monroe residents with jobs – and particularly those who moved to the City from 2000 onward – commute to other communities for their jobs. Employment projections suggest that positive job growth will occur within Monroe over the short-term, medium-term, and long-term across earnings categories, with the greatest nominal growth occurring among jobs that pay less than \$35,000 per year. As will be demonstrated in greater detail later in the report, existing housing options in Monroe would likely prove unaffordable to these individuals at the low end of the earnings spectrum but would be within financial reach of many of the householders represented in the higher-earnings categories.

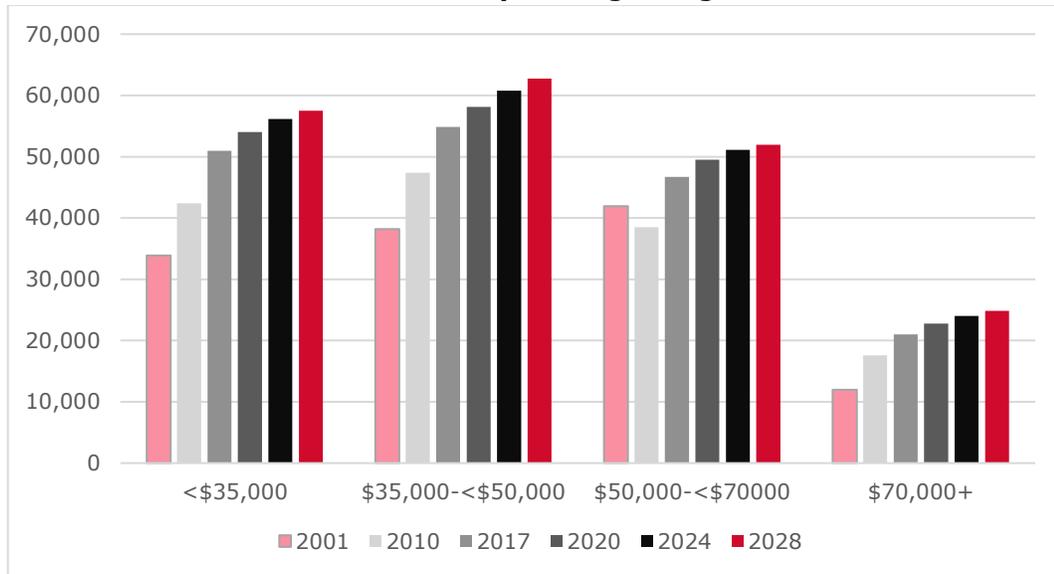
Figure 2. Historical and Projected Employment in Monroe by Earnings Range



Source: Economics Center analysis using data from the Ohio Department of Job and Family Services (2017) and EMSI (2018).

Despite a spike in unemployment during the Great Recession, the area comprising a 15-minute driving radius around Monroe experienced employment increases across earnings tiers from 2001 to 2010, albeit at a lower rate overall than population growth. As shown in **Figure 3**, growth across earnings categories accelerated from 2010 to 2017 within the 15-minute commuting area, with the addition of more than 27,000 jobs overall and more than 7,000 jobs each in all categories except the \$70,000 or more range. Total nominal growth between the highest two earnings categories exceeded 11,000 jobs from 2010 to 2017 (including the addition of approximately 3,400 jobs paying \$70,000 per year or more), helping promote both recovery and/or growth of the housing markets in proximity to Monroe in which these higher-earning households reside. Employment projections indicate that positive job growth will continue across earnings categories through 2028, although the rate of growth will consistently decline. The greatest projected nominal growth from 2017 to 2028 is projected for the \$35,000 to less than \$50,000 range, although the top two earnings categories are expected to exhibit a combined net gain of more than 9,000 jobs. The considerable projected growth through 2028 in jobs located within a 15-minute commute of Monroe paying \$50,000 or more per year implies that strong demand for higher-priced housing options will persist. Further, high occupancy rates in the sample communities with large volumes of higher-priced single-family homes indicates that additional supply of this type of housing stock will be needed in the areas around Monroe over the next decade.

Figure 3. Historical and Projected Employment within a 15-Minute Drive of Monroe by Earnings Range



Source: Economics Center analysis using data from the Ohio Department of Job and Family Services (2017) and EMSI (2018).

Well over half of the job growth projected to take place within a 30-minute commute of Monroe from 2017 to 2028 is expected within the area encompassing a 15-minute commute from the City. Thus, Monroe is well situated geographically to experience population and housing growth over the next decade.

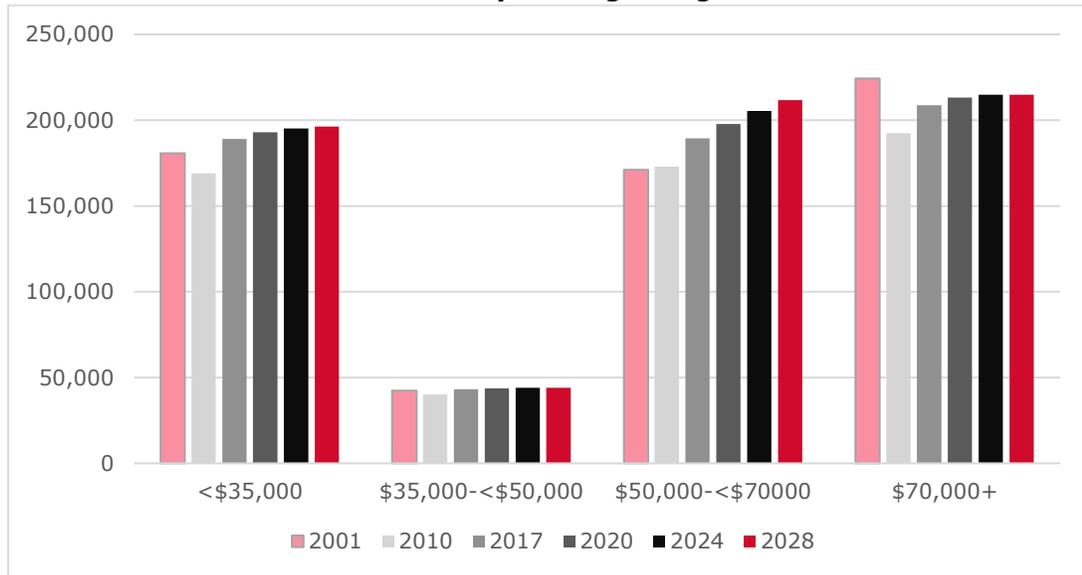
Historical and projected growth across the area within a 30-minute commute of Monroe contrasts somewhat with growth within the 15-minute commuting radius.¹² As shown in **Figure 4**, all earnings categories except the \$50,000 to less than \$70,000 sustained job losses from 2001 to 2010, with the greatest nominal losses experienced within the top earnings category. While all four earnings categories experienced positive growth from 2010 to 2017 and more than 33,000 jobs were added across the two highest-earnings categories, job totals in the \$70,000 or more category had not recovered to 2001 levels by 2017. However, with positive growth within a 30-minute commuting radius of Monroe projected across earnings categories through 2028 – and the greatest nominal growth expected to take place within the top two earnings categories – demand for higher-priced housing will likely remain strong over the next decade. Notably, despite total jobs within a 15-minute commuting radius of Monroe constituting only 27 percent of total jobs within a 30-minute

commuting radius of Monroe in 2017, employment growth within the smaller commuting radius from 2017 to 2028 is projected to account for 65 percent of overall job growth and 59 percent of growth across the top earning category within the larger commuting radius. This suggests that Monroe is well situated to experience population and housing growth

¹² The disparate distribution of jobs across earnings categories in **Figure 3** and **Figure 4** is a consequence of average annual earnings in Healthcare and Government jobs exceeding \$50,000 in the 30-minute radius analysis but falling slightly below the \$50,000 threshold in the 15-minute radius analysis.

over the next decade relative to the overall area contained within a 30-minute commuting radius of the City.

Figure 4. Historical and Projected Employment within a 30-Minute Drive of Monroe by Earnings Range



Source: Economics Center analysis using data from the Ohio Department of Job and Family Services (2017) and EMSI (2018).

Historical and Current Survey of the Housing Stock

Section Highlights

- Monroe's housing stock grew by 73 percent from 2000 to 2016, from fewer than 3,000 housing units to nearly 5,000 units. This growth greatly exceeded that of the other sample communities. Three-quarters of this nominal increase occurred between 2000 and 2010.
- While three-quarters of total nominal growth in Monroe's housing stock from 2000 to 2016 occurred from 2000 to 2010, the number of housing units within the City increased by 12 percent from 2010 to 2016.
- As of 2016, single-unit housing units, i.e. single-family homes, accounted for 88 percent of all housing units in the City. This figure is significantly higher than corresponding figures for the other sample communities except Springboro (90%), which ranged from 73 percent to 83 percent.
- Multi-unit structures with two to 19 housing units comprised just 10 percent of total housing units in Monroe in 2016. These structures' share of total housing units ranged from 14 percent to 23 percent in the remaining sample communities in 2016 except in Springboro (8%).
- No relationship exists among sample communities between the prevalence of multi-unit housing and either low median household incomes or low median housing unit values.
- Monroe's housing market exhibited resilience through the housing market collapse, with inflation-adjusted home values declining by only two percent between 2000 and 2016. Among sample communities, only Mason fared better in this regard.
- Median housing unit values vary considerably across the sample communities, with Monroe (\$162,800 in 2016) significantly higher than Middletown, Hamilton, and Trenton, but far lower than Springboro, Mason, and West Chester.
- The presence of large gaps between housing unit values in Monroe and those in nearly all the other communities does not preclude the possibility that significant demand may exist in the future for housing in Monroe that is considerably more (or less) expensive than the City's current median home value.
- More recently built single-family homes in Monroe tend to have higher assessed values, more total square footage, and higher dollar value per square foot than older single-family homes.
- The overall ratio of home values to median household income is lower for Monroe than all the other sample communities except Trenton, signaling strong affordability of homeownership among Monroe homeowners relative to the community sample as a whole.
- Homeownership rates declined across all sample communities except Springboro and Lebanon between 2000 and 2016. The homeownership rate in Monroe was among the highest of the sample communities in 2016 and was considerably higher than the rates in Lebanon, Trenton, Hamilton, and Middletown.
- The comparatively narrow distribution of monthly costs of owners with a mortgage in Monroe suggests a higher degree of homogeneity of the City's housing stock in terms of assessed value of the housing units than the housing stocks of the other sample communities.

- Despite Monroe’s relatively recent housing boom, overall the City’s homeowners with a mortgage are not excessively leveraged due to homeownership. A smaller share (17%) of Monroe’s homeowners with a mortgage spend 35 percent or more on housing costs than homeowners with a mortgage in Lebanon (18%), Trenton (18%), Hamilton (18%), and Middletown (26%).
- Of the eight sample communities, Monroe was home to the highest proportion (43%) of renters whose gross rent represented 35 percent or more of household income in 2016.
- Monroe is positioned disadvantageously relative to most of the other sample communities in terms of availability and prevalence of certain amenities, including dining options, grocery stores, and park land.

Growth and Composition

Monroe’s housing stock grew by 73 percent from 2000 to 2016, from fewer than 3,000 housing units to almost 5,000 housing units. As shown in **Table 14**, three-quarters of this nominal increase occurred from 2000 to 2010, over which time nearly 1,600 units were added. As with most sample communities, Monroe’s housing unit growth rate closely matched its population growth rate. Also reflecting population growth from 2000 to 2016, Monroe experienced the largest percentage expansion in its housing stock among the sample communities. Even with a decline in the rate of growth of Monroe’s housing units from 2010 to 2016, only Mason experienced higher percent growth in its housing stock over this time period. While the housing stock and population both grew steadily over this time period, population outpaced housing stock growth and resulted in increased numbers of persons per household. Average household size among residents who drove Monroe’s housing growth from 2000 to 2016 was greater than that of Monroe’s previously existing households, thus causing population to increase at a faster rate than the number of occupied housing units and, correlatively, the overall number of housing units.

Table 14. Total Housing Units, Monroe and Surrounding Communities, 2000-2016

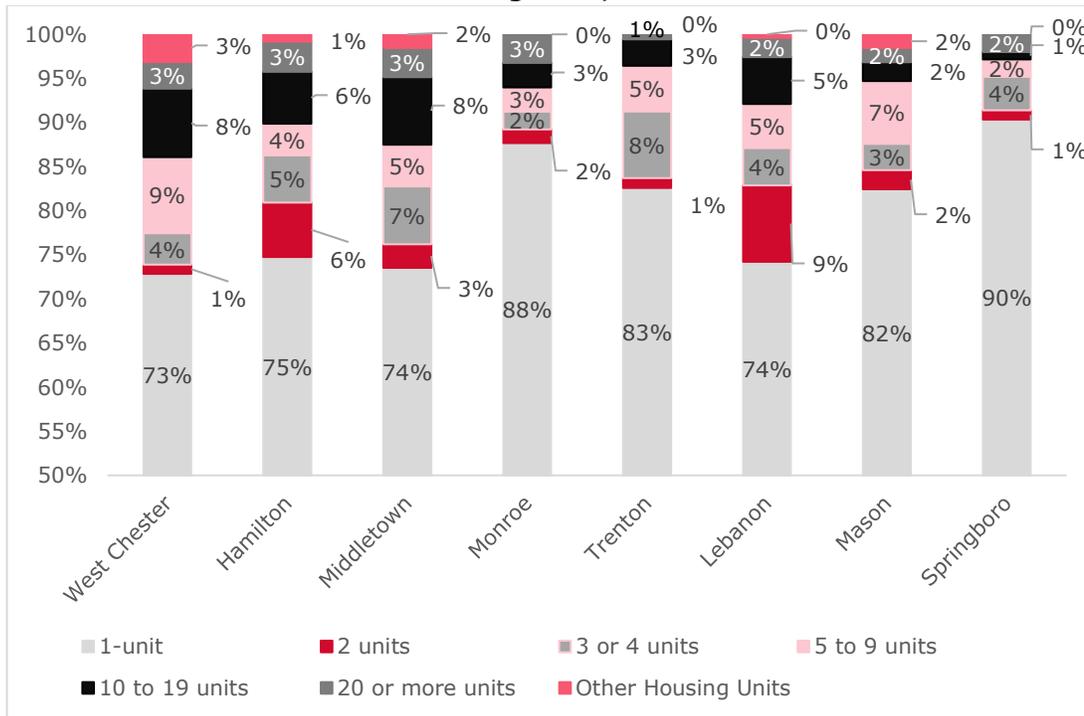
	Number of Housing Units			Change		
	2000	2010	2016	2000-2010	2010-2016	2000-2016
<i>Butler County</i>	129,793	146,804	149,418	13%	2%	15%
Hamilton	25,932	28,522	28,355	10%	-1%	9%
Middletown	23,174	23,641	22,985	2%	-3%	-1%
Monroe	2,848	4,421	4,930	55%	12%	73%
Trenton	3,385	4,325	4,349	28%	1%	28%
West Chester	20,398	22,927	23,765	12%	4%	17%
<i>Warren County</i>	58,692	78,879	83,747	34%	6%	43%
Lebanon	6,218	7,652	7,793	23%	2%	25%
Mason	8,127	10,898	12,337	34%	13%	52%
Springboro	4,423	6,280	6,509	42%	4%	47%
<i>Hamilton County</i>	373,393	378,914	377,268	1%	0%	1%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Relative to the housing stocks of all other sample communities except Springboro, single-unit housing structures are vastly over-represented in Monroe and multi-unit structures are under-represented.

Single-unit housing structures account for a significantly higher portion of total housing units in Springboro and Monroe than in the other sample communities. As exhibited in **Figure 5**, single-unit housing structures comprised 90 percent of all housing units in Springboro and 88 percent of all housing units in Monroe in 2016. Across the other sample communities, single-unit housing units' share of total housing units ranged from 73 percent (West Chester) to 83 percent (Trenton) in 2016. Particularly pronounced are the relatively low volumes of residential structures with two to nine units in Monroe and Springboro: these structures accounted for just seven percent of housing units in each of these communities in 2016, compared to between 12 percent (Mason) and 18 percent (Lebanon) in the other sample communities. Analysis of housing unit values (see **Table 18**) indicates that no negative correlation exists among sample communities between the prevalence of multi-unit structures and median housing unit value. Nor does a negative correlation exist between the prevalence of multi-unit housing and household income: West Chester has the third-highest median household income among sample communities, as well as the highest proportion of multi-unit housing.

Figure 5. Composition of Housing Stock by Structure Types' Shares of Total Housing Units, 2016



Source: Economics Center analysis using data from the US Census Bureau (2016).

Analysis of the change in the distribution of residential structures by number of housing units from 2000 to 2016 reveals that the high concentration of single-unit properties in Monroe was perpetuated over this time period. **Table 15** details the distribution of residential structures by number of housing units in 2016, as well as the percent change in number of housing units by type of structure from 2000 to 2016. While Monroe witnessed the greatest percent growth in structures with between five and 19 units, these structures accounted for less than six percent of all housing units in 2016. Growth in Monroe in single-unit structures (85%) outpaced overall housing unit growth, while the number of housing units in structures with between two and four units fell by 34 percent from 2000 to 2016. The latter figure stands in sharp contrast to that of Springboro, which saw a near tripling from 2000 to 2016 in the number of housing units comprised by two-to-four-unit structures. These trends in residential development in Monroe also contrast sharply with recent development in West Chester and Mason. In West Chester, growth in the number of housing units with between two and 19 units sharply exceeded growth of single-unit structures from 2000 to 2016, while Mason’s expansion was distributed more evenly (on a percentage basis) across structures with one to 19 units.

Permit data provided by Monroe further underscore the relative homogeneity (in terms of type of housing structure) of the housing stock built in the City over the past decade. From January 2008 through June 2018, the City issued 715 permits for new residential structures. All but one of these permits were for single-family dwellings, and the lone exception was for an eight-unit condominium building issued in 2008.

Table 15. Housing Units by Type and Community in 2016, 2000-2016 Change

	Housing Units in 2016				Change, 2000-2016			
	1 Unit	2 to 4 Units	5 to 19 Units	20+ Units	1 Unit	2 to 4 Units	5 to 19 Units	20+ Units
<i>Butler County</i>	114,075	10,333	16,794	3,876	19%	-2%	16%	-8%
Hamilton	21,198	3,268	2,680	979	13%	-11%	20%	1%
Middletown	16,897	2,126	2,845	763	9%	-34%	-4%	-13%
Monroe	4,323	175	273	159	85%	-34%	91%	46%
Trenton	3,592	377	355	25	34%	39%	5%	-67%
West Chester	17,311	1,097	3,890	727	12%	76%	44%	15%
<i>Warren County</i>	69,799	4,211	7,216	1,697	46%	3%	63%	20%
Lebanon	5,783	1,007	802	172	51%	-25%	29%	-52%
Mason	10,170	639	1,139	197	48%	57%	94%	-1%
Springboro	5,880	317	180	132	47%	183%	18%	57%
<i>Hamilton County</i>	235,011	50,357	56,831	31,827	6%	-12%	-5%	0%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Monroe’s housing stock is much younger than that of any of the other sample communities. As shown in **Table 16**, 48 percent of residential structures in Monroe were built between 2000 and 2016, with 44 percent constructed between 2000 and 2009. Across the other sample communities, the share of housing structures built from 2000 to 2016 ranges from less than five percent (Middletown) to 31 percent (Springboro). Meanwhile, housing structures built between 1990 and 1999 constitute much higher shares of the housing stocks of Mason, West Chester, and Trenton than of that of Monroe, further underscoring that, in the context of overall housing growth over time, Monroe experienced its relative boom later than the other communities. Notably, fewer than 10 percent of the housing structures in Hamilton and Middletown, the communities with the lowest median household incomes and housing unit values, were constructed in 2000 or after, and only 12 percent of structures in each these communities were constructed in 1990 or after. In contrast, at least 45 percent of housing structures in remaining sample communities were built in 1990 or later, pointing to a positive correlation among sample communities between housing growth from 1990 onward and measures such as household income, housing unit values, and employment.

Table 16. Distribution of Housing Structures by Year Built

	Before 1980	1980-1989	1990-1999	2000-2004	2005-2009	2010-2016
<i>Butler County</i>	55%	13%	17%	10%	4%	1%
Hamilton	82%	6%	4%	4%	3%	1%
Middletown	79%	9%	8%	3%	1%	<1%
Monroe	33%	5%	13%	26%	18%	4%
Trenton	46%	5%	21%	18%	6%	4%
West Chester	29%	27%	30%	9%	5%	1%
<i>Warren County</i>	34%	11%	25%	18%	8%	4%
Lebanon	41%	13%	22%	16%	5%	2%
Mason	26%	11%	37%	22%	3%	2%
Springboro	25%	11%	32%	22%	5%	4%
<i>Hamilton County</i>	77%	9%	8%	3%	2%	1%

Note: Rows may not sum to 100 percent due to rounding.

Source: Economics Center analysis using data from the US Census Bureau (2016).

Economic Attributes

The growth rate of occupied housing units in Monroe from 2000 to 2016 (77%) was almost identical to the City’s housing unit growth rate. Meanwhile, Monroe’s overall residential unit occupancy rate remained fairly stable, moving slightly downward from 94 percent in 2000 to 93 percent in 2016 (see **Table 17**). As of 2016, Monroe’s occupancy rate was slightly lower than those of the most affluent communities in the sample (Mason, West Chester, and Springboro), as well as that of Trenton, but significantly higher than the occupancy rates of Hamilton City and Middletown and equal to that of Lebanon.

Table 17. Occupied Housing Units and Occupancy Rates, 2000-2016

	Occupied Housing Units			Change			Occupancy Rate, All Units		
	2000	2010	2016	2000-2010	2010-2016	2000-2016	2000	2010	2016
<i>Butler County</i>	123,082	134,287	135,100	9%	1%	10%	95%	91%	91%
Hamilton	24,188	25,358	24,325	5%	-4%	1%	93%	89%	88%
Middletown	21,469	20,271	19,584	-6%	-3%	-9%	93%	86%	85%
Monroe	2,685	4,206	4,751	57%	13%	77%	94%	95%	93%
Trenton	3,189	4,144	4,209	30%	2%	32%	94%	96%	95%
West Chester	19,588	21,809	22,630	11%	4%	16%	96%	95%	96%
<i>Warren County</i>	55,966	74,144	79,466	32%	7%	42%	95%	94%	94%
Lebanon	5,887	7,096	7,279	21%	3%	24%	95%	93%	93%
Mason	7,789	10,656	12,009	37%	13%	54%	96%	98%	97%
Springboro	4,261	5,859	6,192	38%	6%	45%	95%	93%	95%
<i>Hamilton County</i>	346,790	327,864	335,334	-5%	2%	-3%	93%	87%	86%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Monroe's housing market exhibited resilience through the housing market collapse, with inflation-adjusted home values declining by only two percent between 2000 and 2012-2016. Among sampled communities, only Mason fared better in this regard.

The rise and fall of median housing unit values in Monroe and the other sample communities reflect the surge in home prices experienced throughout much of the United States until early 2006, as well as the dramatic decline in home values that began in 2006 and 2007 and continued until values reached their lowest point in 2012. **Table 18** presents median housing unit values in inflation-adjusted 2016 dollars for the sample counties and communities from 2000 to 2016. Importantly, however, while the values for 2000 are single-year medians (from the 2000 Decennial Census), the 2010 and 2016 values reflect five-year estimates over the years 2006-2010 and 2012-2016, respectively. Consequently, median values in 2010 are overstated in **Table 18**, since they include home values collected while housing prices were still at or near their peaks. Median values in 2016, on the other hand, likely are understated, since they include years in which many homes

were still at their lowest valuations. Nevertheless, a comparative analysis of the change in median home values across sample communities indicates that the housing market in Monroe was relatively resilient through the bursting of the housing bubble. Of the eight sample communities, only Mason fared better in terms of retention of median housing unit values, both from 2000 to 2010 and 2010 to 2016.

Sizable differences in median housing unit values exist across the sample communities. Home values in Monroe are on par overall with home values in Lebanon; considerably lower than in Mason, Springboro, and West Chester; and significantly higher than in Middletown, Hamilton, and Trenton. This wide distribution of housing unit values (and, by extension, home prices) across sample communities is an important distinguishing

characteristic of Monroe’s housing stock relative to the housing stocks of the other sample communities. However, the presence of large gaps between housing unit values in Monroe and home values in nearly all the other communities at either end of the housing unit value spectrum does not preclude the possibility that significant demand may exist in the future for housing in Monroe that is considerably more (or less) expensive than the City’s current median home value.

Table 18. Median Housing Unit Values, 2000-2016 (2016\$)

	Median Housing Unit Values			Change		
	2000	2010	2016	2000-2010	2010-2016	2000-2016
<i>Butler County</i>	\$165,522	\$174,548	\$159,800	5%	-8%	-3%
Hamilton	\$114,334	\$118,684	\$99,900	4%	-16%	-13%
Middletown	\$123,067	\$117,163	\$91,300	-5%	-22%	-26%
Monroe	\$166,060	\$177,157	\$162,800	7%	-8%	-2%
Trenton	\$149,669	\$147,703	\$123,700	-1%	-16%	-17%
West Chester	\$222,891	\$226,391	\$203,800	2%	-10%	-9%
<i>Warren County</i>	\$191,049	\$211,610	\$196,200	11%	-7%	3%
Lebanon	\$174,512	\$186,967	\$163,800	7%	-12%	-6%
Mason	\$209,321	\$238,129	\$230,100	14%	-3%	10%
Springboro	\$230,130	\$228,709	\$207,500	-1%	-9%	-10%
<i>Hamilton County</i>	\$149,669	\$161,071	\$143,700	8%	-11%	-4%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Strong positive correlations exist among Monroe’s single-family homes between how recently the home was built and assessed value, total square footage, and value per livable square foot.

Analysis of Monroe’s single-family housing units according to the time period in which they were built reveals that newer builds tend to be larger and have higher assessed values than older units on both an overall and per-square foot basis. As shown in **Table 19**, which reflects data from the auditors of Butler County and Warren County, the median assessed value of single-family dwellings is \$212,080 for homes built from 2010 to 2016 but more than \$18,000 less for homes built between 2006 and 2010 and more than \$40,000 less for homes built from 2001 to 2005. On a dollar-per-square foot basis, single-family home values also have risen over time, from \$76 per square foot among homes built in 1990 or before to \$98 per square foot among homes built from 2011 to 2016 (in 2018\$). Concurrent with the continued increase in median assessed value over time has been a sharp decline in the pace of development since the early 2000s, as documented in greater detail above. More recently built single-family homes offer more livable square footage, with median livable square footage increasing from 1,728 square feet among homes built from 1996 to 2000 to just under 2,100 square feet among homes

built between 2006 and 2010, and again to almost 2,200 square feet among homes built from 2011 to 2016.

Table 19. Characteristics of Monroe Single-Family Dwellings by Year Built

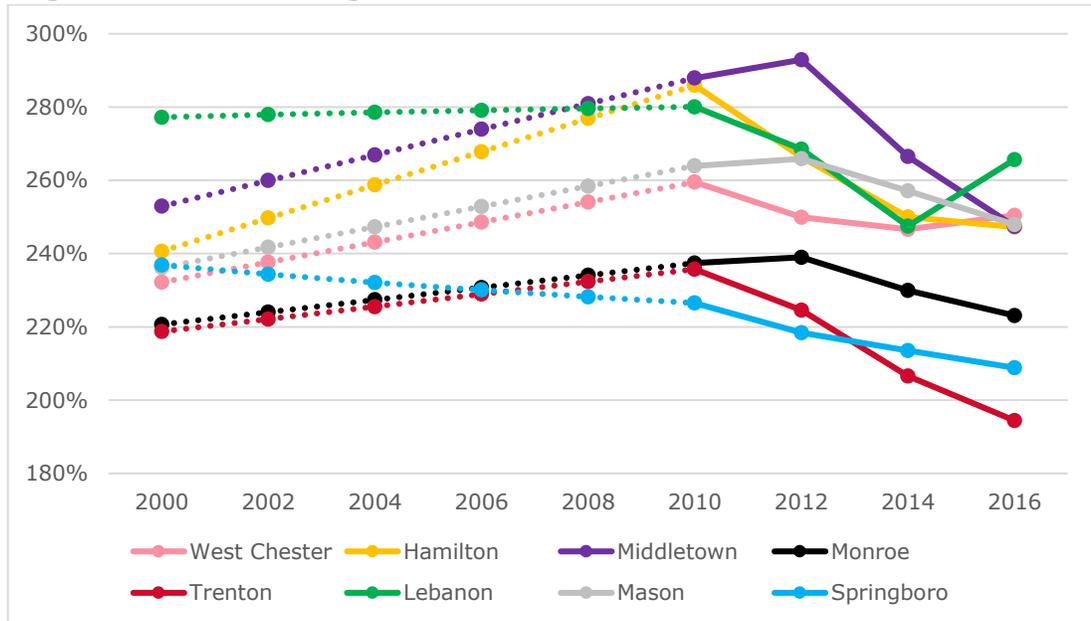
Year Built	Median Assessed Value (2018\$)	Median SF	\$/SF (2018\$)	Number of Units
1990 or earlier	\$117,265	1,534	\$76	1,818
1991-1995	\$130,245	1,446	\$90	82
1996-2000	\$159,920	1,728	\$93	534
2001-2005	\$171,085	1,942	\$88	1,112
2006-2010	\$193,500	2,093	\$92	540
2011-2016	\$212,080	2,173	\$98	375

Source: Economics Center analysis using data from the Butler County Auditor and Warren County Auditor (2018).

Vulnerability Assessment

Examining the relationship between a community’s median housing unit assessed value and its median household income helps understand the degree to which residents leverage income to support homeownership. As exhibited in **Figure 6**, since 2000 Monroe has consistently maintained one of the lowest ratios of median housing unit value to median household income among sample communities. Albeit excluding other factors that impact home-buying power and the true costs of homeownership, such as local property tax rates and the percentage of homeowners alternately with or without mortgages, this measure suggests that, overall, Monroe residents are applying a lower portion of income toward home ownership than residents of Middletown, Hamilton, Lebanon, West Chester, and Mason. All sample communities except Springboro and Lebanon experienced significant increases in the ratio of median assessed housing unit value to median household income during the 2000s, as assessed home values shot up and household incomes stagnated. This was followed by pronounced downward movement in this ratio for each community as a result of lower real estate prices and rising nominal median household incomes.

Figure 6. Median Housing Unit Value as a Percent of Median Household Income

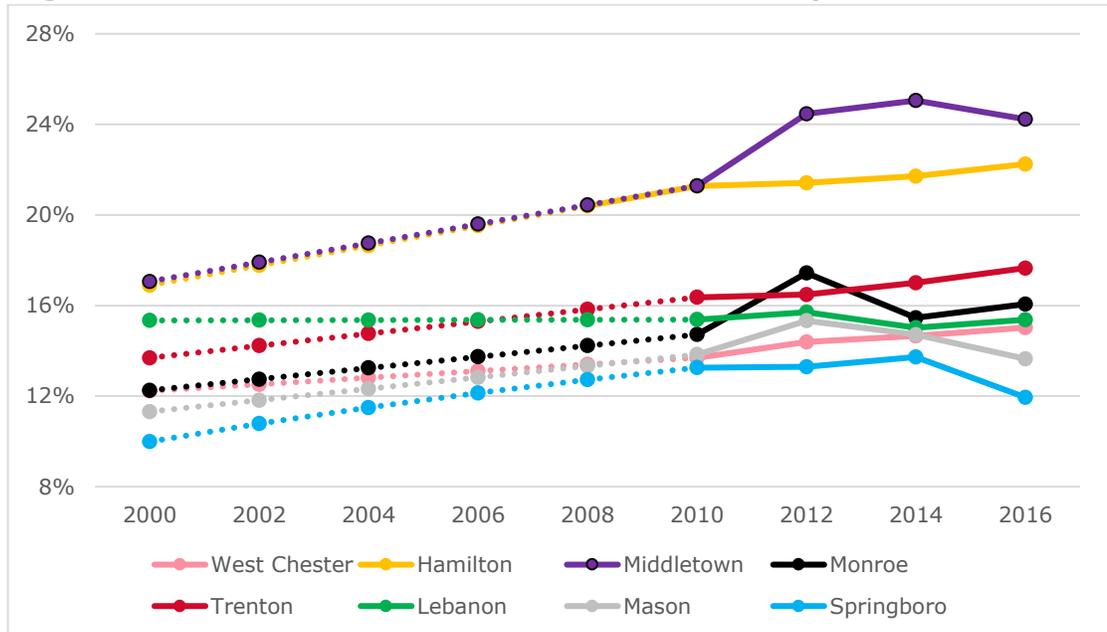


Note: Median housing unit value data were available for 2000, as well as 2010-2016. Dashed segments covering the years 2000-2010 denote a linear extrapolation for years for which data were unavailable.

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Similarly, median gross rent represents a lower share of median household income in Monroe than in Middletown, Hamilton, and Trenton. As shown in **Figure 7**, the ratio of median gross rent to median household income was higher in 2016 than 2000 for all eight sample communities. However, this measure spanned a considerable range across the communities in 2016, from 12 percent in Springboro to 24 percent in Middletown. The ratio for Monroe was closer to the former, at 16 percent. While this measure does not signal that renters in Monroe spend on average only 16 percent of their household income on rent, it does suggest that renting is more affordable in Monroe than in Middletown, Hamilton, and Trenton and comparably priced to the cost of renting (relative to income) in Lebanon and West Chester.

Figure 7. Median Gross Rent as a Percent of Median Monthly Household Income



Note: Median gross rent data were available for 2000, as well as 2010-2016. Dashed segments covering the years 2000-2010 denote a linear extrapolation for years for which data were unavailable.

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

Owner-occupied housing units accounted for three-quarters of all occupied housing units in Monroe in 2016. Declines in homeownership rates across most sampled communities from 2000 to 2016 partly reflect growing demand for renting among young urban professionals.

Owner-occupied housing units' share of all occupied housing units was lower in 2016 than 2000 across all sample communities except Springboro and Lebanon, while remaining essentially unchanged overall in Butler County and Warren County at 69 percent and 77 percent, respectively. As shown in **Table 20**, Monroe's homeownership rate in 2016 was lower than those of Springboro (85%), Mason (81%), and West Chester (75%) but substantially higher than the homeownership rates of Middletown (53%), Hamilton (56%), Lebanon (60%), and Trenton (64%). Monroe's comparatively modest decline in homeownership rate from 2000 to 2016 indicates that the City exhibited economic resilience relative to some of the sample communities, even amidst rapid population and housing stock growth. **Table 20** further indicates that in five of the eight communities, as well as both Butler and Warren Counties, homeownership rates moved upward during the 2000s, but, based on five-year averages, declined across all sample communities from 2010 to 2016.

These upward and downward movements in homeownership rates reflect the effects of the housing boom and subsequent bust, as well as the negative impact that job losses endured during the Great Recession had on homeownership rates. The decline in homeownership and associated increase in rented housing units as a percentage of all housing units also hints at the growing preference for renting among young professionals and empty nesters.

Table 20. Owner-Occupied Housing Units as a Percentage of All Occupied Units, 2000-2016

	% Owner-Occupied			Change		
	2000	2010	2016	2000-2010	2010-2016	2000-2016
<i>Butler County</i>	69%	71%	69%	3%	-3%	-1%
Hamilton	59%	57%	56%	-5%	-1%	-6%
Middletown	58%	60%	53%	3%	-12%	-9%
Monroe	79%	82%	75%	4%	-8%	-5%
Trenton	74%	71%	64%	-4%	-9%	-13%
West Chester	81%	79%	78%	-3%	-1%	-4%
<i>Warren County</i>	77%	80%	77%	4%	-4%	0%
Lebanon	54%	65%	60%	19%	-7%	11%
Mason	83%	85%	81%	1%	-4%	-2%
Springboro	83%	87%	85%	5%	-2%	3%
<i>Hamilton County</i>	57%	61%	58%	7%	-6%	1%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

The prevalence of housing units with mortgages tends to be positively correlated with population growth and negatively correlated with median householder age. It is unsurprising, therefore, that Monroe, with a near doubling of its population from 2000 to 2016 and a significant decrease in its median age, experienced the largest increase in the percent of owner-occupied housing units with a mortgage from 2000 to 2010 among sample communities. As shown in **Table 21**, Monroe’s demographic shifts from 2000 to 2016 also explain why it is the only sample community that exhibited overall positive growth in the percent of owner-occupied housing units with a mortgage over this time period. However, as Monroe’s population growth flattened from 2010 to 2016 and median length of homeownership among its population increased, this metric declined for Monroe. Nevertheless, Monroe claimed the highest percent of owner-occupied units with a mortgage among sample communities as of 2016, just ahead of Lebanon (78%), Mason (77%), Springboro (77%), and Trenton (76%). While a quickly growing population and expanding housing stock typically reflect positively on a community’s economic health, associated high prevalence of housing units with mortgages can also signify the community’s relative vulnerability to defaults in the event of an economic downturn.

Table 21. Percent of Owner-Occupied Units with a Mortgage, 2000-2016

	Share of Owner-Occupied Units			Change		
	2000	2010	2016	2000-2010	2010-2016	2000-2016
<i>Butler County</i>	76%	76%	71%	-1%	-6%	-7%
Hamilton	69%	73%	66%	6%	-9%	-4%
Middletown	68%	69%	65%	2%	-6%	-3%
Monroe	75%	85%	79%	14%	-7%	6%
Trenton	79%	81%	76%	3%	-6%	-4%
West Chester	86%	80%	72%	-7%	-10%	-16%
<i>Warren County</i>	80%	80%	75%	1%	-7%	-6%
Lebanon	80%	81%	78%	1%	-3%	-2%
Mason	85%	86%	77%	2%	-11%	-10%
Springboro	86%	83%	77%	-4%	-7%	-11%
<i>Hamilton County</i>	73%	73%	70%	0%	-4%	-4%

Source: Economics Center analysis using data from the US Census Bureau (2000-2016).

The comparatively narrow distribution of monthly costs of homeowners with a mortgage in Monroe implies a greater degree of homogeneity of the housing stock in Monroe than in the other sampled communities.

The distribution of monthly owner costs¹³ – as well as median monthly costs – among owner-occupied housing units in Monroe reflects the City’s median housing unit value relative to the other sample communities. Monthly owner costs tend to be higher in Mason, Springboro, and West Chester and lower in Middletown, Hamilton, Trenton, and Lebanon. As shown in **Table 22**, 47 percent of homeowners in Monroe with a mortgage reported selected monthly costs between \$1,000 and \$1,499 in 2016, and 81 percent of the City’s homeowners reported monthly costs between \$1,000 and \$1,999. Selected monthly owner costs for owner-occupied housing units with a mortgage are more widely distributed in Mason, Springboro, West Chester, and Lebanon and include higher percentages of housing units with monthly costs of \$2,000 or more. The tightness of the distribution of monthly owner costs in Monroe suggests a higher degree of homogeneity of the City’s housing stock in terms of housing unit type than the housing stocks of the sample communities with wider distributions. Notably, despite having a higher median housing unit value and higher median monthly costs than Butler County as a whole, a smaller portion of Monroe homeowners with a mortgage than homeowners with a mortgage across all of Butler County reported monthly costs of \$2,000 or more.

¹³ According to the U. S. Census Bureau, selected monthly owner costs include payment for mortgages, real estate taxes, various insurances, utilities, fuels, mobile home costs, and condominium fees.

Table 22. Distribution of Owner-Occupied Housing Units with a Mortgage by Selected Monthly Owner Costs, 2016\$

	Less than \$500	\$500 to \$999	\$1,000 to \$1,499	\$1,500 to \$1,999	\$2,000 to \$2,499	\$2,500 to \$2,999	\$3,000 or more	Median Monthly Costs
<i>Butler County</i>	1%	22%	35%	25%	11%	4%	3%	\$1,380
Hamilton	3%	44%	37%	12%	2%	1%	1%	\$1,027
Middletown	3%	42%	39%	11%	4%	1%	0%	\$1,052
Monroe	1%	13%	47%	34%	5%	1%	0%	\$1,408
Trenton	1%	16%	58%	23%	2%	0%	0%	\$1,229
West Chester	0%	11%	32%	29%	17%	5%	6%	\$1,597
<i>Warren County</i>	1%	12%	32%	26%	13%	8%	8%	\$1,583
Lebanon	1%	18%	45%	22%	8%	3%	3%	\$1,310
Mason	1%	12%	27%	25%	14%	10%	11%	\$1,709
Springboro	1%	8%	33%	31%	13%	8%	5%	\$1,608
<i>Hamilton County</i>	1%	22%	38%	19%	9%	5%	7%	\$1,346

Source: Economics Center analysis using data from the US Census Bureau (2016).

The distribution of owner-occupied housing units without a mortgage by selected monthly owner costs in Monroe further attests to a greater degree of homogeneity of Monroe’s housing stock in terms of housing unit type than the housing stocks of most of the other sample communities. Ninety-six percent of Monroe homeowners without a mortgage reported selected monthly costs between \$250 and \$799 in 2016. As shown in **Table 23**, while selected monthly owner costs of homeowners without a mortgage are similarly narrowly distributed among corresponding homeowners in Hamilton, Trenton, and Lebanon, costs are distributed more widely in West Chester, Middletown, Mason, and Springboro. Meanwhile, median selected monthly costs of \$484 among Monroe’s owner-occupied housing units without a mortgage are consistent with Monroe’s median housing unit value relative the other sample communities’ median housing unit values: median costs in Monroe are nearly equivalent to those in Lebanon; considerably lower than median costs in Mason, West Chester, and Springboro, as well as Warren County as a whole; and higher than in Hamilton, Middletown, and Trenton.

Table 23. Distribution of Owner-Occupied Housing Units without a Mortgage by Selected Monthly Owner Costs, 2016\$

	Less than \$250	\$250 to \$399	\$400 to \$599	\$600 to \$799	\$800 to \$999	\$1,000 or more	Median Monthly Costs
<i>Butler County</i>	8%	26%	38%	18%	6%	3%	\$477
Hamilton	15%	44%	28%	10%	2%	1%	\$371
Middletown	14%	38%	35%	7%	2%	3%	\$390
Monroe	1%	23%	56%	17%	0%	3%	\$484
Trenton	3%	41%	54%	2%	0%	0%	\$432
West Chester	3%	12%	37%	32%	11%	6%	\$590
<i>Warren County</i>	4%	18%	36%	24%	10%	8%	\$558
Lebanon	2%	24%	45%	23%	3%	3%	\$486
Mason	3%	10%	32%	21%	17%	17%	\$634
Springboro	2%	9%	45%	28%	12%	4%	\$576
<i>Hamilton County</i>	4%	20%	37%	20%	9%	10%	\$531

Source: Economics Center analysis using data from the US Census Bureau (2016).

Historically high mortgage delinquency rates were among the most notable features of the housing crisis that began in the late 2000s. It is well-documented that the widespread issuance of risky, subprime mortgages that stretched homeowners’ finances was one of the primary causes of the housing market collapse and, particularly as job losses and unemployment surged, one of the key drivers of the spike in mortgage defaults. **Figure 8** and **Figure 9**, respectively, juxtapose the percentage of owner-occupied housing units with a mortgage with expenditures on housing costs constituting 30 percent or more of household income against two economic indicators:

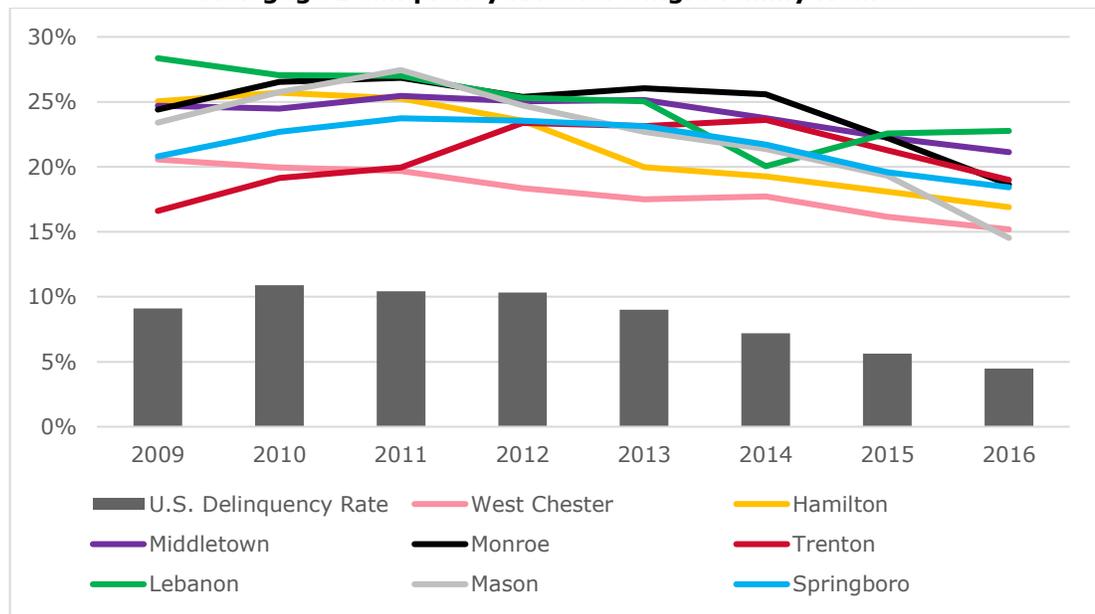
1. National delinquency rate on single-family residential mortgages; and,
2. U.S. civilian unemployment rate.

The analysis timeframe of **Figure 8** and **Figure 9**, 2009-2016, was selected based on data availability, as well as how the interconnectedness of these three indicators helps explain why the housing crisis was as devastating and widespread as it was. One notices a clear concurrence of spikes in all three measures in the early 2010s.¹⁴ Lending institutions in the 2000s issued large volumes of subprime mortgages to homeowners who, as a result, were heavily financially leveraged, i.e. spending large portions of their incomes on their mortgage payments and other housing costs. The confluence of the bursting of the housing bubble, the onset of the banking crisis, and the immense job losses incurred during the recessionary period that followed left hundreds of thousands of homeowners unable to pay their mortgages and unable to sell their homes for a profit.

¹⁴ It should be cautioned that the housing cost data represent five-year averages, while the delinquency and unemployment rates are one-year averages. The effect of this temporal mismatch in Figure 8 is that the lines representing the percentage of owner-occupied housing units spending 30 percent or more of household income on housing costs are shifted forward in time (i.e. to the right) relative to the one-year delinquency and unemployment rate data.

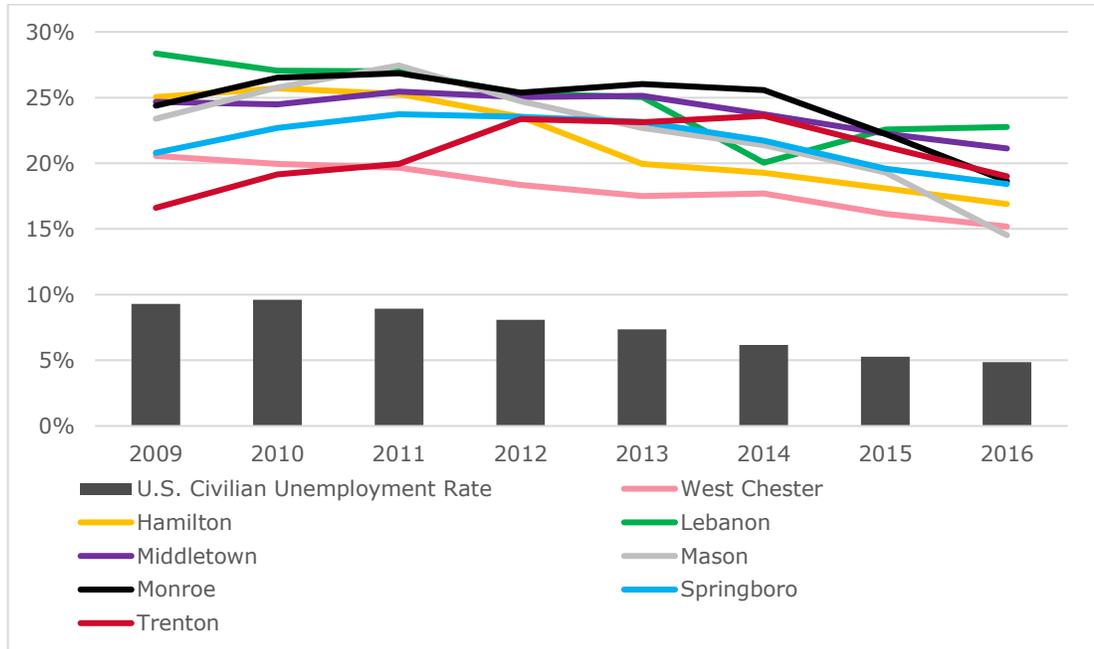
While causality between these three phenomena could be explored extensively, it suffices for purposes of this analysis that recent history indicates that they are strongly positively correlated. In addition, the decline over recent years in the share of Monroe’s owner-occupied housing units with a mortgage spending 30 percent or more of their household income on housing costs reflects the slowing of housing growth and the correlative increase in the average number of years lived in Monroe among the City’s homeowners. That this metric is falling for Monroe also implies an overall increase in affordability of living among its residents, including an increase in disposable income, and the likelihood that some current Monroe homeowners could afford higher-priced homes. This is worth considering in the context of attracting commercial amenities to the City, which will be explored later in this report.

Figure 8. Share of Owner-Occupied Housing Units with a Mortgage Spending 30 Percent or More of Household Income on Housing Costs against the U.S. Mortgage Delinquency Rate for Single-Family Homes



Source: Economics Center analysis using data from the US Bureau of Labor Statistics (2009-2016), the Board of Governors of the Federal Reserve System (2009-2016), and the US Census Bureau (2009-2016).

Figure 9. Share of Owner-Occupied Housing Units with a Mortgage Spending 30 Percent or More of Household Income on Housing Costs against the U.S. Civilian Unemployment Rate



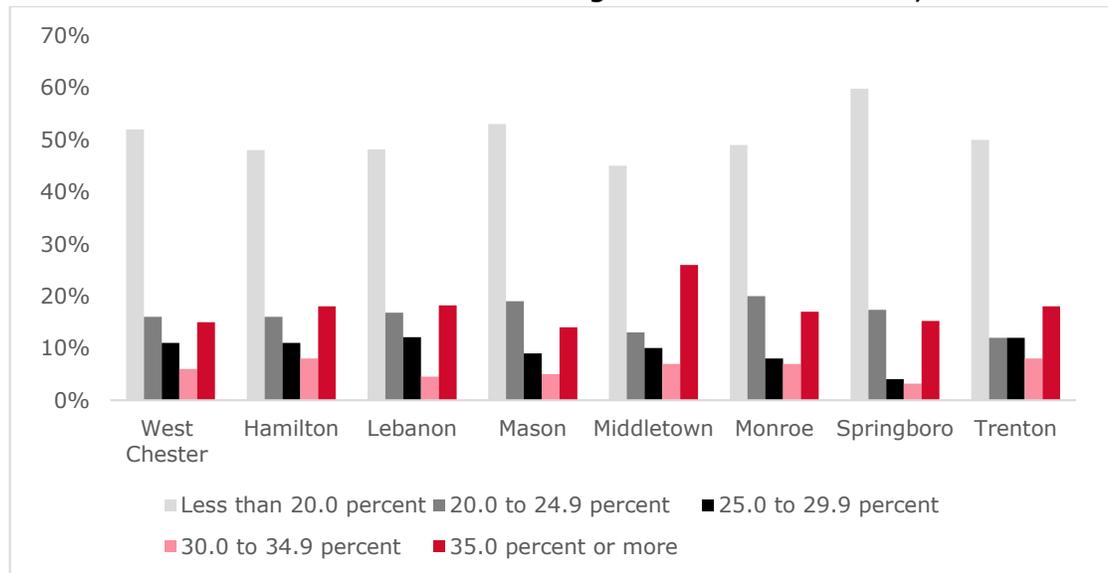
Source: Economics Center analysis using data from the US Bureau of Labor Statistics (2009-2016), the Board of Governors of the Federal Reserve System (2009-2016), and the US Census Bureau (2009-2016).

Thus, one of the main signals of the vulnerability of a community’s housing market in the event of a potential economic downturn is the prevalence of mortgages whose values constitute a high percentage of homeowners’ incomes. Given the City’s rapid growth during the 2000s, it is unsurprising that, during the early 2010s and across sample communities, Monroe had one of the highest rates of homeowners with a mortgage who were spending 30 percent or more of their income on housing costs. As shown in **Figure 8** and **Figure 9**, this rate dropped considerably in 2015 and 2016 – likely a byproduct of much flatter growth in population and the housing stock in the 2010s and an increase in median length of homeownership. Moreover, in light of the concurrence of Monroe’s significant growth and the national housing boom during the 2000s, it is noteworthy that, relative to most of the other sample communities, Monroe exhibited economic resilience during and following the Great Recession in terms of unemployment, housing values, and household income.

Despite Monroe’s relatively rapid housing growth since 2000, overall the City’s homeowners with mortgages are on solid footing in terms of housing expenditures’ share of household income.

Figure 10 further indicates that Monroe homeowners with a mortgage are not excessively leveraged due to homeownership, when compared to the other sample communities. As of 2016, 17 percent of Monroe homeowners with a mortgage reported selected owner costs totaling 35 percent or more of household income, and 24 percent of homeowners with a mortgage reported selected owner costs totaling 30 percent or more of household income. These figures are higher than those of the three highest-income communities in the sample but lower than those of Middletown, Hamilton, and Trenton. Meanwhile, Monroe ranked third among sample communities in terms of the percent of homeowners with a mortgage reporting selected owner costs totaling less than 25 percent of household income, just ahead of West Chester. Overall, Monroe’s homeowners with a mortgage appear to be on good footing in terms of housing costs relative to the community sample as a whole, particularly considering that both its population and housing stock experienced the greatest growth among sample communities from 2000 to 2016.

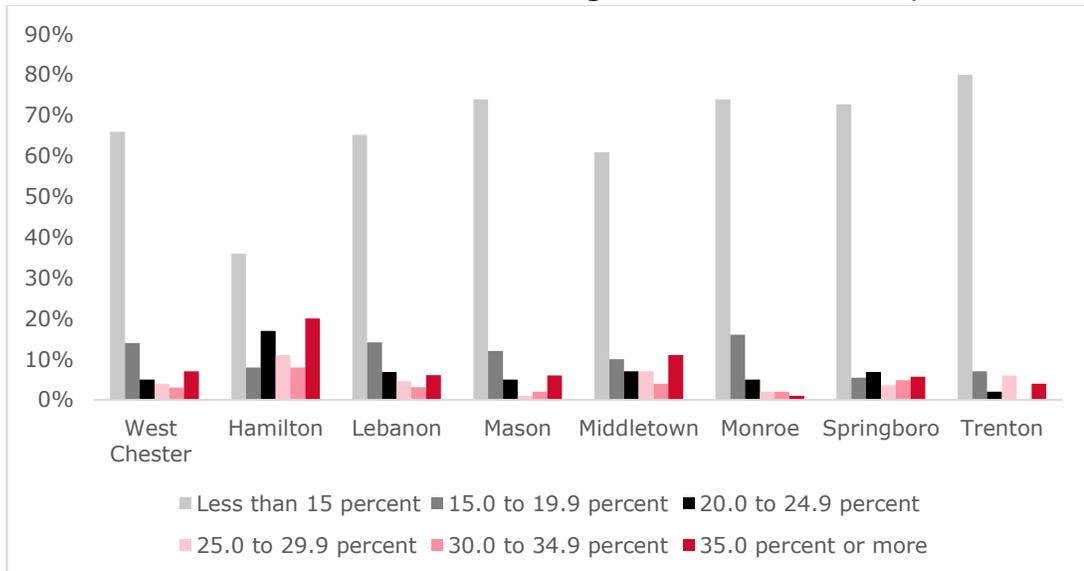
Figure 10. Distribution of Owner-Occupied Housing Units with a Mortgage by Selected Owner Costs as a Percentage of Household Income, 2016



Source: Economics Center analysis using data from the US Census Bureau (2016).

Relative to the other sample communities as a whole, housing costs among Monroe’s homeowners without a mortgage are low. As shown in **Figure 11**, 74 percent of this cohort reported in 2016 that selected owner costs constitute less than 15 percent of household income. This figure was higher only among Trenton homeowners without a mortgage (80%) and slightly lower among equivalent cohorts in Mason and Springboro (73% each). Even more telling is that, of the eight sample communities, Monroe had the lowest percentage of homeowners without a mortgage with selected owner costs of 25 percent or more of household income (5%), as well as the lowest percentage of homeowners in this cohort with selected owner costs of 35 percent or more of household income (1%). These under-leveraged homeowners have a greater proportion of their income to increase their housing price-range or to spend on amenities.

Figure 11. Distribution of Owner-Occupied Housing Units without a Mortgage by Selected Owner Costs as a Percentage of Household Income, 2016

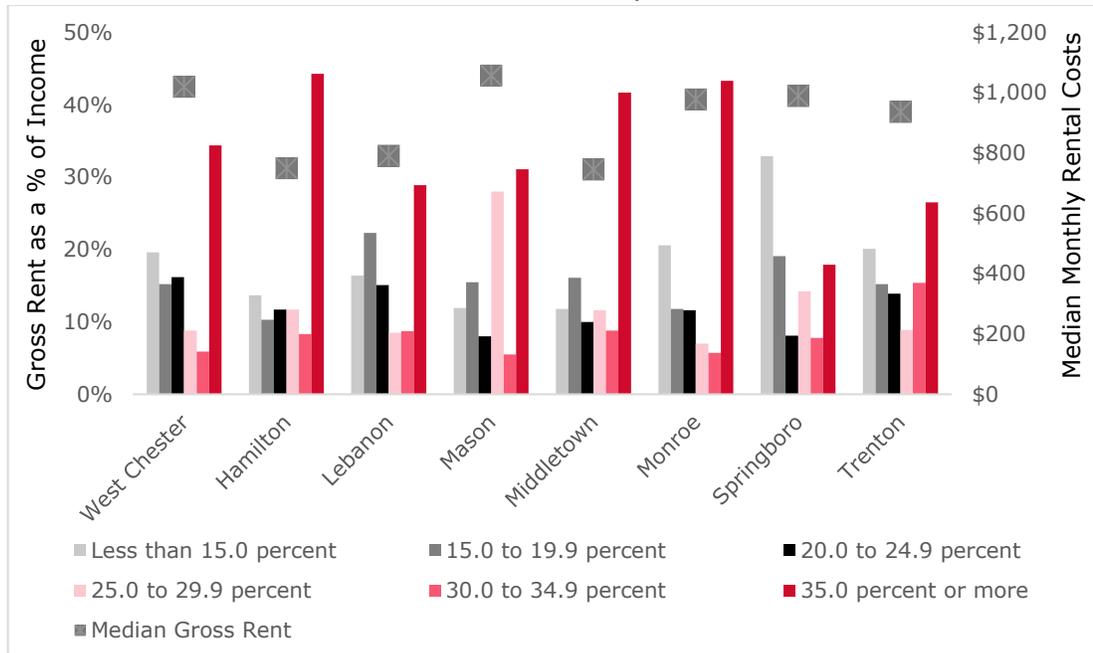


Source: Economics Center analysis using data from the US Census Bureau (2016).

One of the consequences of the housing crisis was a pronounced and sustained rise in the percentage of U.S. households renting their homes. From 2006 to 2016, the share of U.S. households renting their home increased from 31 percent to 37 percent, and young adults are among the demographic groups among which rental rates have risen the most.¹⁵ As of 2016, renters accounted for 25 percent of occupied housing units in Monroe. Notably, of the eight sample communities, Monroe was home to the highest proportion (43%) of renters whose gross rent represented 35 percent or more of household income in 2016, as shown in **Figure 12**, with this group of renters accounting for approximately 10 percent of all occupied housing units in the City. Notwithstanding the upwardly biasing effect on this measure of the large number of Monroe Crossings apartments with low income restrictions, this suggests that Monroe would be susceptible to large numbers of rental vacancies in the event of an economic downturn and, specifically, significant job losses among Monroe’s renters. However, job losses suffered by renters and resulting spikes in rental vacancies have a more muted and less direct impact on mortgage delinquency than job losses endured by homeowners with mortgages.

¹⁵ Pew Research Center, 2017.

Figure 12. Distribution of Rental Units by Gross Rent¹⁶ as a Percentage of Household Income, 2016



Source: Economics Center analysis using data from the US Census Bureau (2016).

Availability of Amenities

Although the local under-leveraged homeowners have a greater proportion of their income to spend on amenities, Monroe generally lags behind the other sample communities with respect to the availability and prevalence of amenities that offer convenience, entertainment, and recreational opportunities. As noted in the qualitative analysis section of this report, a group of Monroe’s stakeholders identified a lack of certain amenities as a relative disadvantage in the City’s ability to attract young professionals and individuals or families looking for higher-priced homes. **Table 24** identifies how heavily concentrated various amenities are within each of the eight sample communities. Due to the presence of the Cincinnati Premium Outlets, Monroe offers vastly more clothing and shoe stores per 10,000 residents than the other communities. With Kroger as its only grocery store, however, Monroe is at a significant deficit to the other communities in this category. Monroe also offers fewer dining options per 10,000 residents than all other sample communities except Trenton (including no full-service national restaurant chain), and many of Monroe’s dining establishments are located in and around the Cincinnati Premium Outlets, on the east side of Interstate 75 and removed from the City’s population centers. Also absent from Monroe’s cultural and recreational offerings are museums, historical sites, and golf courses.

¹⁶ According to the U.S. Census Bureau, gross rent includes the contract rent plus the estimated average monthly cost of utilities (electricity, Gas, and water and sewer) and fuels if these are paid by the renter.

Table 24. Establishments & Services by Retail and Service Category per 10,000 Residents

	Hamilton	Lebanon	Mason	Middletown	Monroe	Springboro	Trenton	West Chester
Grocery, Liquor Stores	8.0	5.8	4.1	5.4	0.7	8.3	4.8	3.4
Health/Personal Care Stores	4.0	4.4	3.4	3.3	5.2	6.1	2.4	2.9
Clothing/Shoe Stores	1.9	2.9	4.1	1.0	37.6	2.2	0.0	1.0
Sporting Goods/Hobby Stores	1.8	2.4	2.8	0.0	1.5	1.7	0.0	1.1
Dept. & General Merch. Stores	2.9	2.9	1.2	2.9	0.7	1.7	1.6	1.4
Other Retail Stores	17.7	22.9	16.2	12.8	17.0	14.5	4.0	11.2
Performing Arts/ Museums/Hist. Sites	0.8	0.5	0.6	0.2	0.0	0.6	0.0	0.3
Restaurants/Drinking Places	24.7	23.9	39.7	20.6	19.9	35.6	11.2	23.6
Beauty Salons	3.1	3.9	4.7	2.9	2.2	7.2	4.0	3.4
Fitness & Rec. Sports Centers	1.3	3.9	3.1	1.2	2.2	2.8	2.4	2.4
Golf Courses/ Country Clubs	0.2	1.0	0.3	1.0	0.0	2.8	0.0	0.3

Source: Economics Center analysis using data from Butler County Auditor and Warren County Auditor (2018).

Monroe also is positioned disadvantageously relative to most of the other sample communities in terms of park acreage¹⁷ and associated amenities. As shown in **Table 25**, Monroe has far fewer acres of parkland than the six more highly populated communities in the sample and far fewer acres per 10,000 residents than Springboro, Lebanon, Hamilton, West Chester, and Mason.

Table 25. Parks and Park Acreage by Community

	Hamilton	Lebanon	Mason	Middletown	Monroe	Springboro	Trenton	West Chester
Parks	36	9	7	26	4	8	2	5
Total Park Acreage	919	350	291	309	84	407	68	708
Park Acreage per 10,000 Residents	148	170	91	64	62	226	55	114
Fishing in City/County Park	Yes	No	Yes	Yes	No	No	No	Yes

Source: Economics Center analysis using data from Butler County Auditor and Warren County Auditor (2018).

¹⁷ This analysis does not include the recently acquired 55 acres under development as Monroe Bicentennial Commons.

Sample Communities' Housing Stocks: A Closer Look

Section Highlights

- Among sample communities, Monroe claimed the most home sales as a percentage of households nearly every year from 2000 to 2016. This measure was particularly high for Monroe during the early- and mid-2000s, when the City was rapidly growing both its population and its housing stock.
- Median single-family home prices were highest in Mason, West Chester, Lebanon, and Springboro from 2000 to 2016, with median prices substantially higher in Monroe than Trenton, Hamilton, and Middletown.
- Nearly two-thirds of single-family home sales in Monroe from 2013 to June 2018 fell in the \$150,000-\$199,999 price range, and only eight percent of homes sold for \$250,000 or more. Lebanon and Hamilton, two communities with lower median household income than Monroe, claimed higher proportions of single-family home sales in the \$300,000 and above range over this time period.
- Overall, more recently built homes in Monroe have higher assessed values than those constructed in the early 2000s. The current median assessed value of a home built in Monroe in 2015 is 43 percent higher than that of a home built in 2001. However, a far smaller portion of recently built homes in Monroe have assessed values of \$300,000 or higher than most sample communities.
- From 2000 to 2016, newly built homes in Monroe exhibited considerably less variation in terms of current assessed value than newly built homes across the community sample as a whole. Put differently, historically there has been relatively little variation in the values of homes built in Monroe.

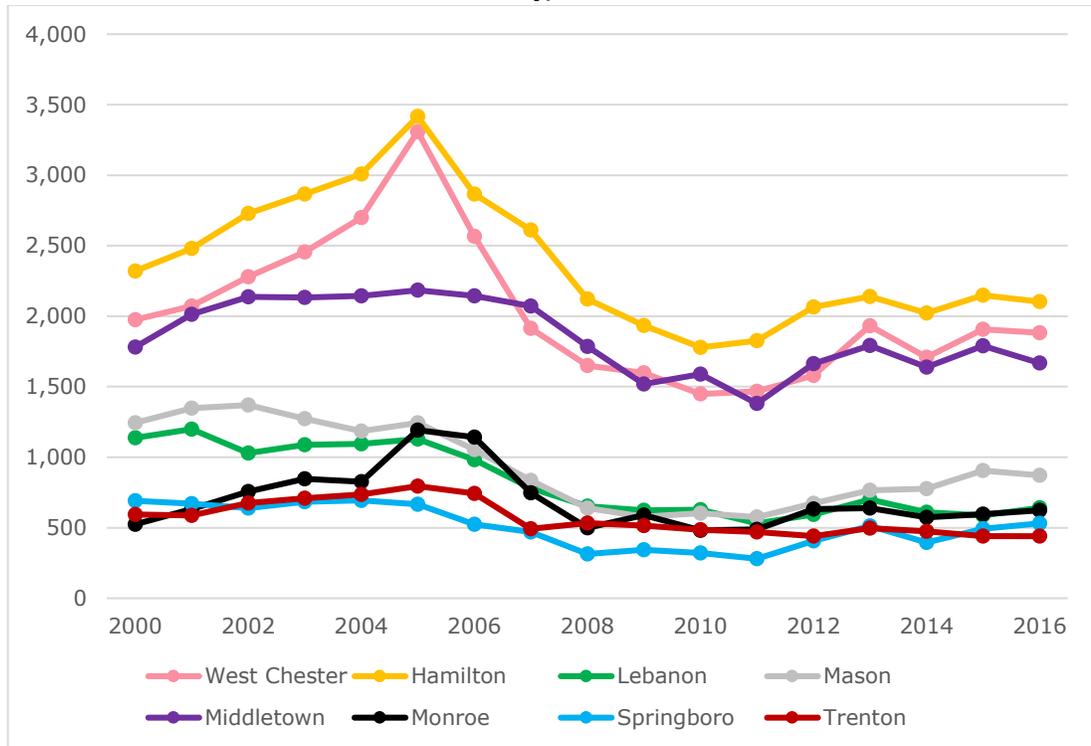
The Economics Center analyzed data from the Warren County Auditor and Butler County Auditor specific to single-to-three-family homes and condominiums to gain a more comprehensive perspective on housing trends within Monroe relative to the other sample communities. Overall, the data reinforce that Monroe's market was highly active in terms of volume of transactions and new builds relative to existing number of households but that, compared to the housing stocks of the community sample as a whole, new builds in Monroe have exhibited less variation in terms of assessed value and square footage.

Among sample communities, Monroe claimed the most home sales as a percentage of households nearly every year from 2000 to 2016.

Total sales of single-to-three family homes¹⁸ and condominiums from 2000 to 2016 were highest in the three most highly populated sample communities: Hamilton, West Chester, and Middletown (see **Figure 13**). The three communities that experienced the most discernable spikes in home sales during the mid-2000s – West Chester, Hamilton, and Monroe – also saw the greatest percent declines in sales during the subsequent housing crisis. Despite being the least- or second-least populated community of the eight sample communities from 2000 to 2016, Monroe maintained total sales on par with or greater than those in Lebanon (from 2005 onward), Trenton, and Springboro.

¹⁸ A three family home, also known as a triplex, is a single structure with three separate housing units.

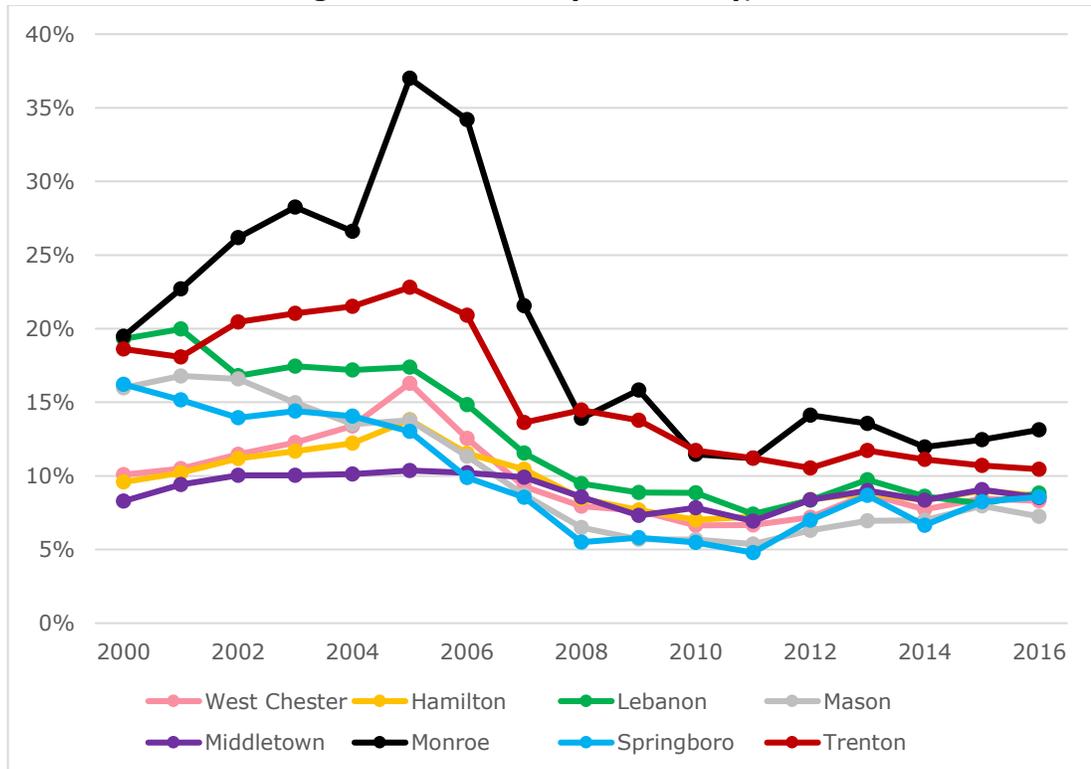
Figure 13. Sales of Single-to-Three-Family Homes and Condominiums by Community, 2000-2016



Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

Monroe’s housing market was very active compared to those of the other sample communities when the communities’ home sales are considered in relation to number of households. As shown in **Figure 14**, Monroe claimed the most home sales as a percentage of households each year from 2000 to 2016 except 2008 and 2010. This measure was particularly high for Monroe during the early- and mid-2000s, when the City was rapidly growing both its population and its housing stock. In general, home sales as a percentage of households are higher across the 17 years among those communities with smaller populations. As with total home sales, sales as a percentage of households peaked in the early-to-mid-2000s across most sample communities, declined during the housing crisis of the late 2000s, and then generally leveled off in recent years.

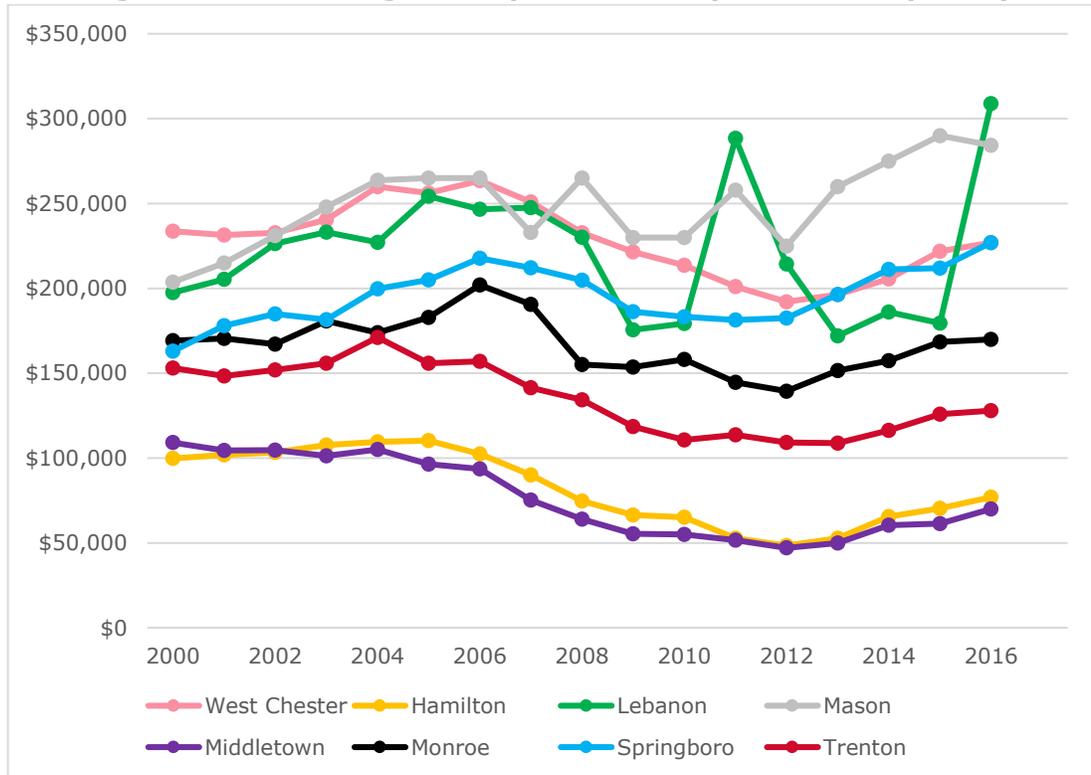
Figure 14. Sales of Single-to-Three-Family Homes and Condominiums as Percentage of Households by Community, 2000-2016



Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

Median inflation-adjusted (in 2016 dollars) single-family home prices from 2000 to 2016 are generally consistent with median housing unit values (see **Table 18**). As shown in **Figure 15**, home prices dropped considerably across sample communities in the late 2000s but began to rebound around 2013. Median single-family home prices have been highest in Mason, West Chester, Lebanon, and Springboro, with median prices substantially higher in Monroe than Trenton, Hamilton, and Middletown. The inflation-adjusted median single-family home price in Monroe recovered to the 2000 level in 2016, after peaking at nearly \$202,000 in 2006 and reaching a recent historical low point of less than \$140,000 in 2012.

Figure 15. Median Single-Family Home Price by Year of Sale (2016\$)

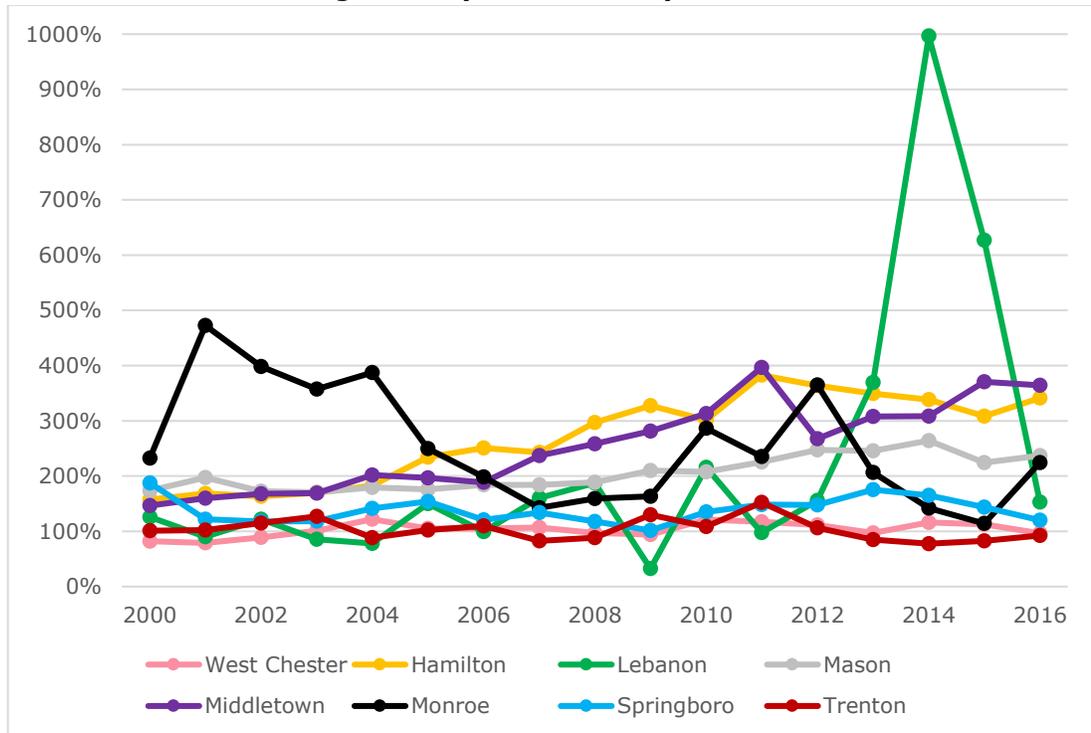


Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

The Economics Center analyzed how closely clustered single-family home prices were across sample communities from 2000 to 2017, as this provides insight into how diverse housing stocks are in terms of value. **Figure 16** illustrates the percent difference between the upper 20 percent and lower 20 percent bounds of single-family home prices by year of sale for each of the eight sample communities. The percent difference between the upper 20 percent and lower 20 percent bounds of single-family home prices was greatest in Monroe from 2000 to 2005, suggesting that the large number of new builds in Monroe in the early 2000s were considerably higher priced than the existing housing stock. This measure has been much smaller in recent years for Monroe, reaching recent historical lows in 2014 and 2015.

Recently built homes in Monroe exhibit a high degree of homogeneity in terms of median assessed value and livable square footage relative to the community sample as a whole.

Figure 16. Difference between Upper 20 Percent and Lower 20 Percent Bounds of Single-Family Home Price by Year of Sale



Note: The upper 20 percent bound and lower 20 percent bound of single-family homes sold in Lebanon in 2014 were \$327,900 and \$44,900, respectively.

Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

Perhaps more telling of the homogeneity of Monroe’s housing stock is the narrow distribution of recent home sale prices in the City relative to several sample communities. As shown in **Table 26**, 64 percent of single-family home sales in Monroe from 2013 to June 2018 fell in the \$150,000-\$199,999 price range, and only eight percent of homes sold for \$250,000 or more. Meanwhile, high occupancy rates and large numbers of total sales since 2013 of single-family homes with sale prices of at least \$300,000 in Mason, West Chester, Springboro, and Lebanon signal the presence of a robust local market for homes in the \$300k-plus range. Even Hamilton, where median family income is far below that of Monroe, experienced both a higher proportion and larger numbers of sales of single-family homes priced at \$250,000 and above from 2013 through June 2018.

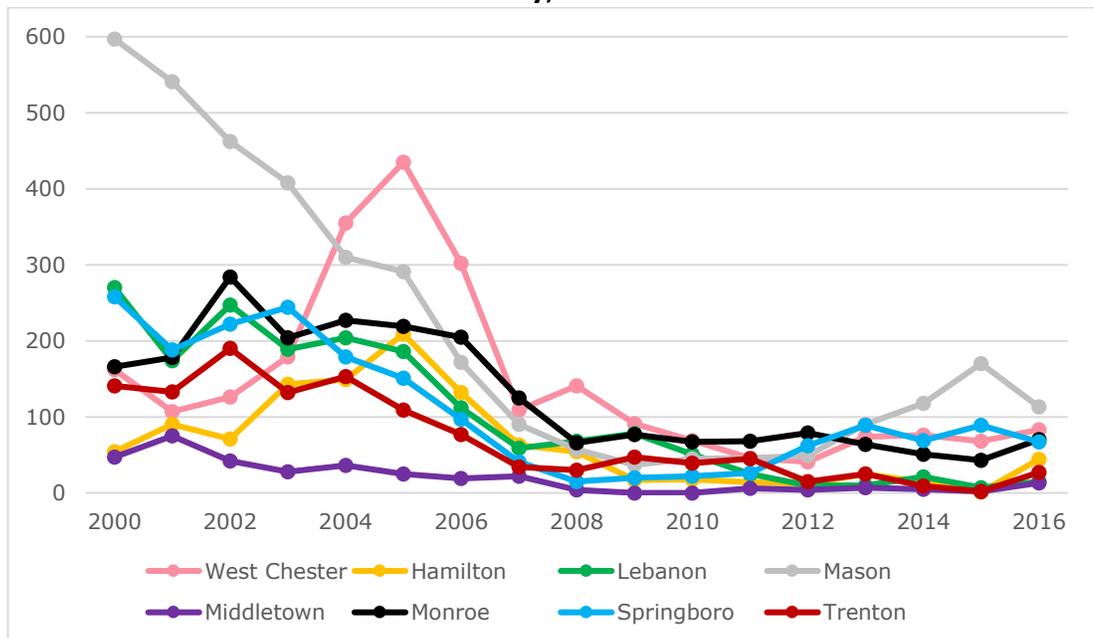
Table 26. Distribution of Sales of Single-Family Homes by Price Range, 2013- June 2018

Community	\$50- \$149k	\$150- \$199k	\$200- \$249k	\$250- \$299k	\$300- \$399k	\$400- \$599k	\$600k+	Total Sales
Hamilton	19%	36%	18%	9%	8%	7%	2%	3,786
Lebanon	39%	36%	14%	5%	6%	1%	0%	1,757
Mason	24%	15%	7%	8%	23%	17%	6%	3,186
Middletown	28%	70%	1%	0%	0%	0%	0%	9,048
Monroe	17%	64%	11%	6%	2%	0%	0%	3,186
Springboro	21%	22%	22%	15%	15%	4%	0%	2,239
Trenton	43%	56%	1%	0%	0%	0%	0%	2,476
West Chester	12%	49%	14%	10%	7%	6%	1%	8,349

Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

Analysis of the number of new builds of single-to-three-family homes from 2000 to 2016 indicates that new home construction in Monroe has declined considerably since the early and mid-2000s (see **Figure 17**). After exceeding 150 each year from 2000 to 2006, new builds in Monroe reached a recent historical low point in 2015 at 43 and was less than 80 each year from 2008 to 2016. While all sample communities experienced sharp drops in new home builds in the late 2000s, West Chester, Mason, and Springboro – the three sample communities with the highest median household incomes – exhibited more pronounced recoveries than the other sample communities from 2012 onward in terms of growth in number of new home builds.

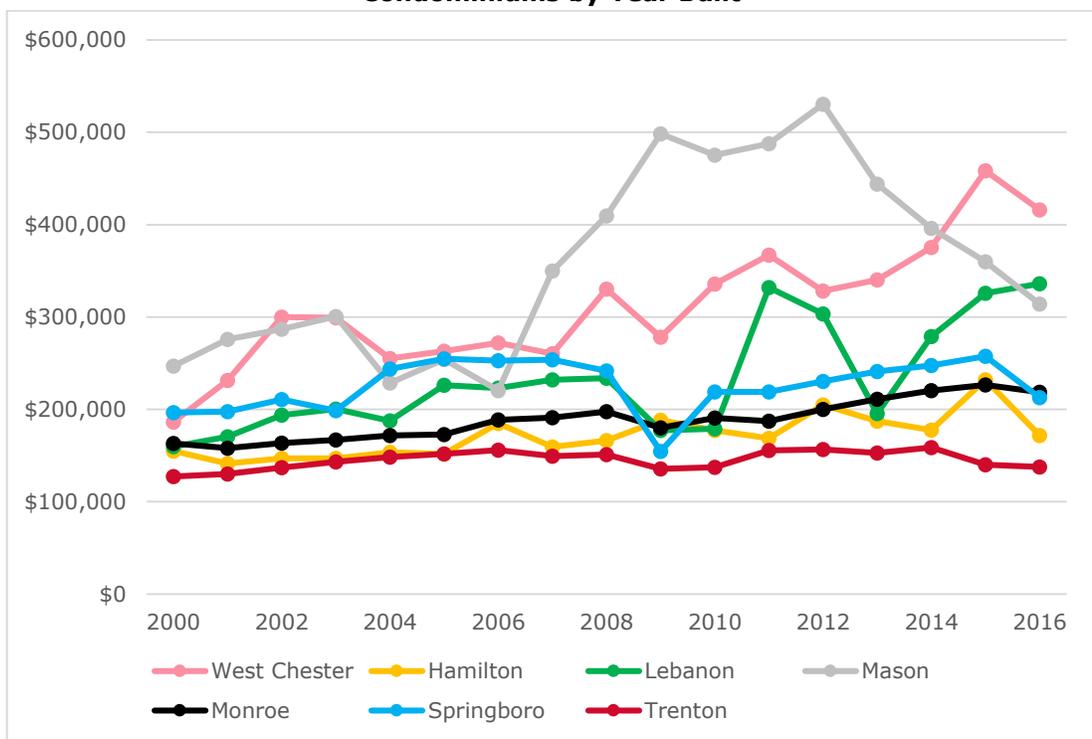
Figure 17. New Builds of Single-to-Three-Family Homes and Condominiums by Community, 2000-2016



Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

Examination of current assessed values of single-to-three-family homes and condominiums indicates that, overall, more recently built homes in Monroe have higher assessed values than those constructed in the early 2000s. As shown in **Figure 18**, the current median assessed value of a home built in Monroe in 2015 is 43 percent higher than that of a home built in 2001. West Chester and Lebanon also exhibit overall upward trends in current assessed value of homes built from 2000 to 2016, albeit with more year-over-year variation than Monroe. The spike in median assessed value of homes built in Mason during the housing crisis signals that the small number of homes built in Mason from 2008 to 2012 (relative to preceding and more recent levels) generally comprised higher-value homes. In other words, the housing crisis decimated demand for homes constituting mid-value, mid-priced new builds in Mason, but demand persisted for higher-priced homes among wealthier households. Current assessed values of homes built in Lebanon since 2011 also tend to be significantly higher than assessed values of older homes, but fewer than 100 new homes were built in Lebanon each year from 2012 to 2016.

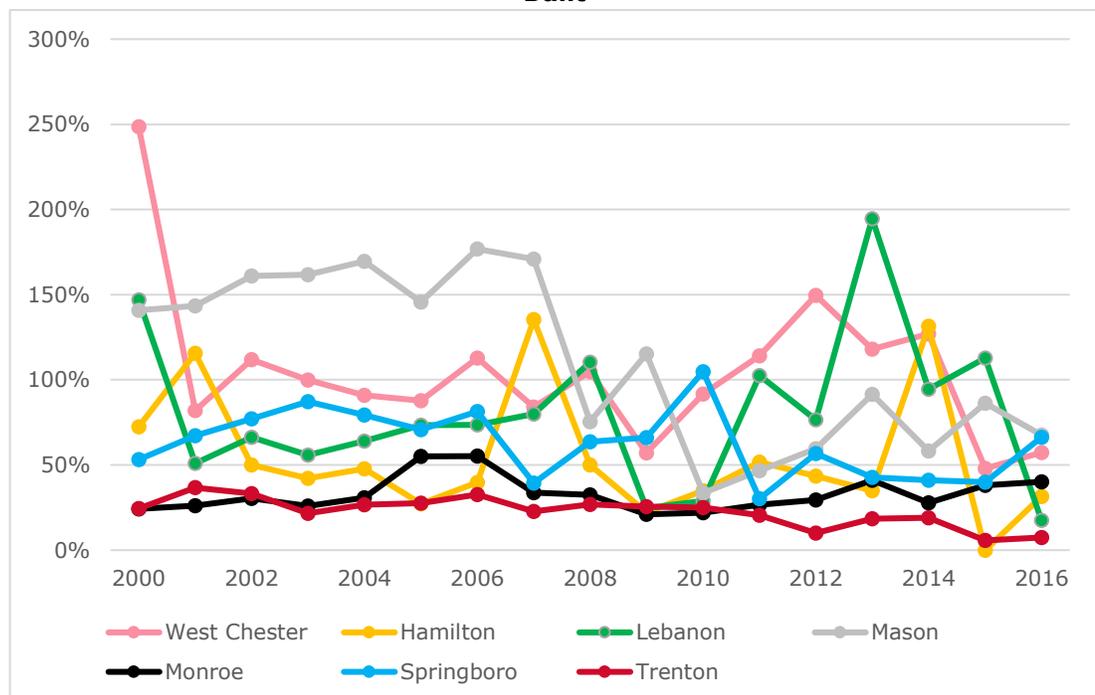
Figure 18. Current Median Assessed Value of Single-to-Three-Family Homes and Condominiums by Year Built



Note: Middletown is excluded because of low volumes of new builds from 2008 to present.
 Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

From 2000 to 2016, newly built homes in Monroe and Trenton exhibited considerably less variation in terms of current assessed value than newly built homes across the community sample as a whole. In other words, there tends to be relatively little variation in the values of homes built in Monroe and Trenton. This is exhibited in **Figure 19**, which shows the percent difference in assessed values of homes representing the 80th percentile and 20th percentile of assessed values of new home builds by community for each year from 2000 to 2016. Assessed values of the middle 60 percent of homes (when ordered according to assessed value) are much more tightly grouped overall for Monroe and Trenton than the other five sample communities.

Figure 19. Difference between Upper 20 Percent and Lower 20 Percent Bounds of Assessed Value of One-to-Three-Family Homes and Condominiums by Year Built



Note: Middletown is excluded because of anomalous variation in assessed values of new builds due to low volumes of new builds from 2008 to present.

Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

A closer examination of the assessed value of single-family homes built in the sample communities from 2013 to 2016 indicates that newer builds in Monroe overall are boosting the City’s median home value but that higher-priced homes constitute a far smaller share of recently built housing stock in Monroe than in most sample communities. As shown in **Table 27**, at least three-quarters of single-family homes built in West Chester and Mason between 2013 and 2016 have assessed values of \$300,000 or higher. More notably, 31 percent of single-family homes (265 homes) constructed in Hamilton – a city with far lower median household income than Monroe – from 2013 to 2016 have assessed values of at least \$300,000. Moreover, such homes constituted 45 percent of new single-family home builds from 2013 to 2016 in Lebanon, where median household income is significantly lower than Monroe.

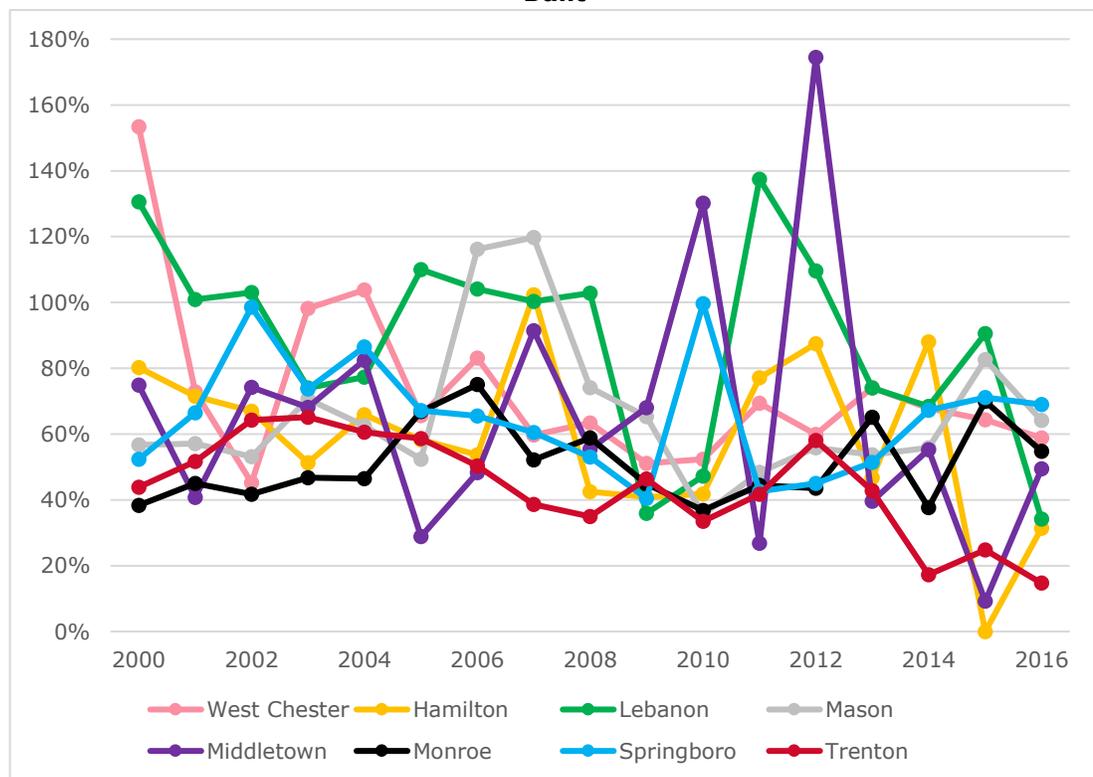
Table 27. Distribution of Current Assessed Value of Single-Family Homes Built from 2013 to 2016

Community	\$50- \$149k	\$150- \$199k	\$200- \$249k	\$250- \$299k	\$300- \$399k	\$400- \$599k	\$600k +	Total Builds
Hamilton	4%	25%	26%	12%	14%	15%	2%	836
Lebanon	0%	26%	11%	6%	45%	8%	4%	53
Mason	0%	1%	7%	8%	39%	33%	13%	504
Middletown	48%	33%	8%	10%	3%	0%	0%	40
Monroe	2%	26%	47%	19%	4%	1%	0%	228
Springboro	2%	11%	24%	30%	27%	6%	0%	271
Trenton	65%	35%	0%	0%	0%	0%	0%	63
West Chester	0%	3%	18%	4%	20%	45%	10%	300

Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

Analysis of newly built single-to-three-family homes and condominiums indicates that Monroe’s newly constructed housing stock has tended to vary less in terms of livable square footage than new housing stock across the community sample as a whole. As shown in **Figure 20**, the middle 60 percent of new builds in Monroe (when ordered according to livable square footage) were more tightly grouped overall in terms of square footage than those of the other sample communities, except Trenton, from 2000 to 2016. However, the percent difference between the upper 20 percent and lower 20 percent bounds of square footage of Monroe’s new builds did spike upward somewhat in 2013 and 2015, possibly signaling a trend of growing variation in the City’s new builds.

Figure 20. Difference between Upper 20 Percent and Lower 20 Percent Bounds of Square Footage of One-to-Three-Family Homes and Condominiums by Year Built



Note: Middletown is excluded because of low volumes of new builds from 2008 to present.
 Source: Economics Center analysis of data from the Butler County Auditor and Warren County Auditor.

Monroe Local Schools Enrollment Projection

Section Highlights

- Enrollment in the Monroe Local School District increased by 88 percent from 2000 to 2017. With total enrollment of 2,763 students in the 2017-2018 school year, the School District has reached capacity and needs additional space to accommodate enrollment growth.
- Enrollment projections, which remove the capacity constraint (thereby assuming no limitations on growth), suggest that 1,272 more students will be enrolled in Monroe Local Schools in the 2027-2028 school year than the 2017-2018 school year. This represents a 46 percent increase in enrollment from 2017-2018 levels.
- In the absence of additional student capacity within Monroe Local Schools, families with school-age children or couples planning to have children will be deterred from moving to Monroe. The Economics Center considers the enrollment capacity issue a significant constraint to population and housing growth.

Similarly to the population of Monroe, the Monroe Local School District has experienced substantial growth since 2000,¹⁹ with total enrollment increasing by 88 percent from 2000 to 2017. Of the previous 18 year-over-year changes in enrollment, changes have been positive for all but four years. This near doubling of enrollment has resulted in the School District reaching enrollment capacity and in need of an additional building to accommodate any further growth.

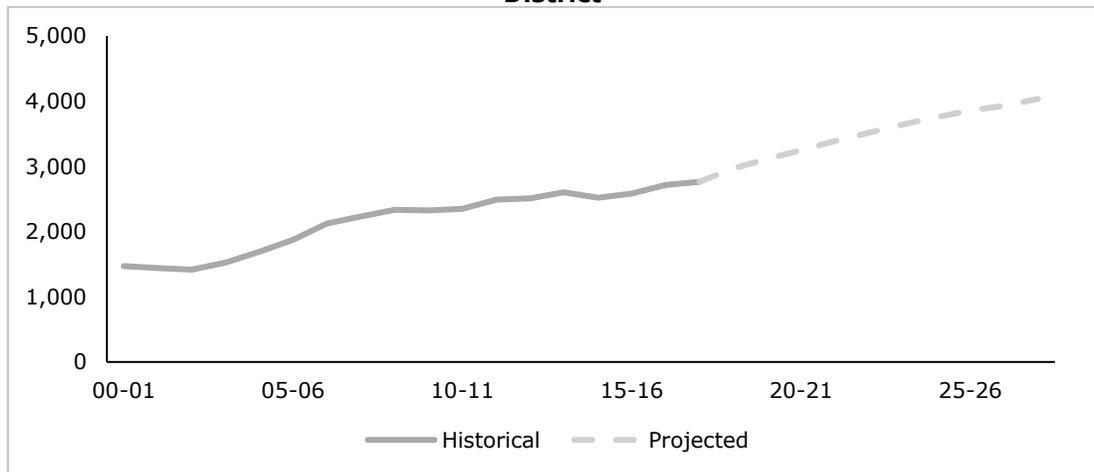
The Economics Center prepared a ten-year enrollment projection to assist the City of Monroe and the Monroe Local School District in decisionmaking and planning. Specifically, the enrollment forecast dually constitutes a projection of how many children likely would be added to the school system assuming no space constraint and provides insight into the volume of families for whom moving to (or remaining in) Monroe would be untenable or undesirable in the event of a lack of expansion of enrollment capacity.²⁰

¹⁹ The calendar year 2000 corresponds to the 2000-2001 school year.

²⁰ Projections indicate what will happen under a particular set of circumstances, as opposed to forecasts, which describe that which is most likely to happen. This means that, though the school district may see changes in population growth rates, this projection relies on the assumption that current population and enrollment trends will continue.

The enrollment projection relies primarily on school district enrollment data obtained from the Ohio Department of Education. Additional data on population dynamics and residential building permits were gathered from the Ohio Department of Health and US Census Bureau. This enrollment projection assumes that all changes in migration that may affect enrollment are effectively captured in the current rates of change for residential building permits. The Economics Center also compared its student enrollment projections through the 2017-2028 school year for the Monroe Local School District to those generated by the Ohio School Facilities Commission (OSFC). The latter projections indicate that total enrollment will increase by an average of 127 students per school year, a far lower average increase than that yielded by the Economics Center’s projections. OSFC projections suggest not only smaller absolute increases in year-over-year enrollment than Economics Center projections, but, unlike the latter, show year-over-year enrollment declines following the 2023-2024 school year. Regardless of the divergence of the two projections, both signal that enrollment will greatly exceed enrollment capacity of the Monroe Local School District’s existing buildings every school year through 2027-2028. This will continue to act as a deterrent to families with (or intending to have) school-aged children who are considering moving to the City of Monroe. As shown in **Figure 21**, enrollment projections indicates that the Monroe Local School District will continue to experience growth in total enrollment over the ten-years, with growth from 2017 through 2028 expected to total approximately 46 percent, or approximately four percent annually.

Figure 21: Historical and Projected Total Enrollment, Monroe Local School District



Source: Economics Center calculations using data from the Ohio Department of Education (2000-2018).

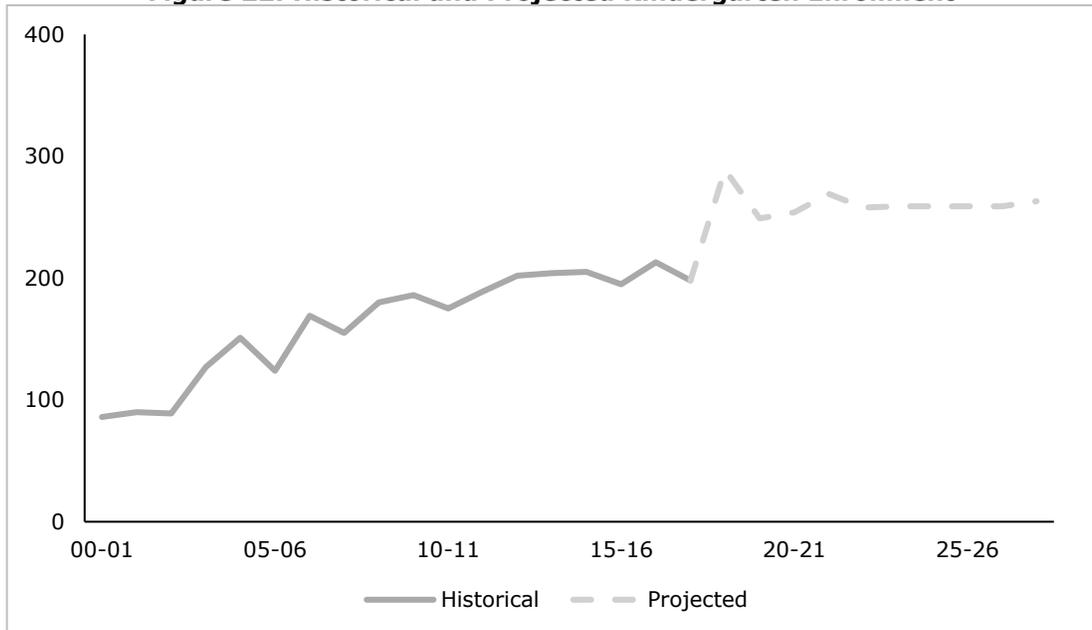
Table 28: Projected Enrollment by Grade

Grade	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28
P	49	55	58	58	57	57	57	57	58	58	58
K	198	289	249	254	269	258	259	259	259	259	263
1	211	213	310	268	272	289	278	278	278	278	279
2	220	222	225	324	281	286	304	292	292	293	293
3	218	229	231	234	336	292	297	315	303	303	304
4	249	225	236	239	242	345	300	306	324	312	313
5	230	260	236	247	250	253	359	313	319	338	326
6	218	240	271	246	258	261	265	373	326	332	352
7	219	231	254	286	260	273	276	279	392	344	350
8	228	220	232	255	286	261	274	277	281	392	344
9	217	237	229	241	264	297	271	284	287	291	404
10	220	220	239	232	244	267	299	274	287	290	294
11	156	179	179	194	188	198	217	242	222	233	236
12	130	147	168	168	183	177	186	204	228	209	219
Total	2,763	2,967	3,117	3,246	3,390	3,514	3,642	3,753	3,856	3,932	4,035

Source: Economics Center calculations using data from the Ohio Department of Education (2000-2018).

Total enrollment projections depend heavily on kindergarten enrollment estimates. Kindergarten enrollment has generally increased since 2000, with 130 percent growth from 2000 to 2017. Kindergarten enrollment is also projected to grow through the ten-year projection period, with total growth from 2017 to 2028 expected to reach approximately 33 percent, or approximately three percent annually. To project kindergarten enrollment, the Economics Center chose to use birth data from five years prior, as kindergarten enrollment tends to fluctuate along with fertility rates. For example, the spike in 2018 of projected kindergarten enrollment in **Figure 22** corresponds with an increase of the fertility rate from six percent in 2012 to nine percent in 2013.

Figure 22: Historical and Projected Kindergarten Enrollment



Source: Economics Center calculations using data from the Ohio Department of Education (2000-2018).

Methodology

To project future enrollment for the Monroe Local School District, the Economics Center employed the cohort survival method. This method relies on past data regarding student enrollment and the key drivers of population change. Generally the cohort survival method relies on two major components, the grade progression ratio (GPR), and a projection of future kindergarten and preschool students. Mathematically, the formula for projected enrollment of a grade level in a given year is:

$$E_{i,y} = [E_{g,y-i}] * [(GPR_i) * (GPR_{i-1}) * ... * (GPR_{g+1})]$$

Where E_i describes enrollment in grade i , for year y , and g represents the grade in which the appropriate cohort is currently enrolled. GPR_i describes the five year average grade progression ratio to grade i from grade $(i-1)$. The grade progression ratio is defined as:

$$GPR_i = \left[\sum_{n=0}^4 E_{i,y-n} / E_{i-1,y-n-1} \right] / 5$$

Where n represents the vector of prior years, across which an average GPR is calculated. The grade progression ratios rely on five year historical averages of enrollment data. There is some debate over which method of projection is ideal for the kindergarten and preschool populations. The Economics Center elected to calculate these populations using birth data because grade progression ratios are inaccurate at these levels of enrollment. Thus, the kindergarten population for a given year is calculated with the following formula, where W represents the average ratio of recent kindergarten enrollment to births from five years prior.

$$E_{k,y} = B_{y-5} * W$$

For the preschool population, birth data from three and four years prior to enrollment is used. The formula is given as:

$$E_{p,y} = (B_{y-3} + B_{y-4}) * V$$

Where V represents the average ratio of recent preschool enrollment to births from three and four years prior. Because kindergarten and preschool enrollment projections rely on birth data, estimating the future births during the projection period was necessary. The Economics Center used information about the current female population, female survival rates, and fertility rates to estimate future births.

Projected enrollment was then adjusted to account for the additional new students enrolled resulting from residential building permits. Using the average of historical changes in quantity of building permits, building permits during the projection period were estimated. Given the historical data, only single-family homes were necessary to estimate. A yield factor of 0.7 was applied to the estimated future building permits.²¹ The result was the total new students to be added to the enrollment projections in a given year. These new students were distributed to each grade based on the historical distribution of students.

²¹ The yield factor of 0.7 is a benchmark derived from "Enrollment Projection Methodologies", published by Berk & Associates for the Office of Superintendent of Public Instruction in 2008.

Qualitative Analysis: Housing Issues and Trends

Section Highlights

- Real estate experts and major employers in Monroe (stakeholders) characterized the City as a tight-knit community with excellent City services, ideal accessibility to medical services, as well as both Cincinnati and Dayton, and a school system that offers students a personalized educational experience that they will not find at larger surrounding school districts.
- Stakeholders noted that demand has remained strong for the single-family homes constructed in Monroe over the last several years. They cautioned, however, that the recently built housing stock is highly homogenous and is failing to meet the demand of many individuals who are employed in the City, as well as higher-income individuals and families who would be more likely to move to Monroe if a wider range of housing options were available.
- Stakeholders identified three types of housing units that represent opportunities for continued population growth in Monroe, with the first two expanding the tax base without adding significantly to the School District's need for expanded enrollment capacity:
 1. Higher-priced multi-unit structures, such as those recently constructed in Mason and West Chester, that would meet demand of young professionals; and
 2. Higher-end single-family homes (\$400,000 or higher) that would appeal to higher-income households who currently move to communities such as Mason and West Chester.
 3. Affordable apartments that would meet housing demand of the many healthcare, retail, warehousing, and other lower-income employees working in the City;
- Stakeholders cautioned that the addition of dining and retail amenities closer to the more densely populated areas of Monroe are prerequisites to attracting millennials and higher-income households. They added that the City should be aggressive in enticing amenities such as a national restaurant chain.
- Renting-by-choice is a growing trend, both nationally and in sample communities, among young professionals with high incomes and empty nesters to whom the convenience of apartment living is appealing.
- Luxury apartments constitute significant portions of all new housing units built in both Mason and West Chester from 2010 to 2017. These luxury apartment properties have enjoyed high occupancy rates and attract high-income households.

Economics Center staff convened a series of discussions with real estate experts and other major employers within the City of Monroe regarding the opportunities and challenges facing the City as it considers future housing development.²² These discussions complemented the quantitative data analysis that informs the majority of this study with primarily qualitative data that provided a more comprehensive and nuanced understanding of the relationship between housing supply and demand in the City.

The Economics Center also held telephone conversations with managers of recently built luxury apartment complexes in sample communities, as well as Liberty Township, to gain a better understanding of how the communities are meeting the housing demand of growing numbers of renters-by-choice. Topics discussed included demographics of renters, occupancy rates, and the primary reasons for residents' decision to rent instead of own.

Monroe Community Overview

Stakeholders consistently noted that Monroe is a desirable place to live in terms of the accessibility it offers to both Cincinnati and Dayton, the excellence of its City services, access to hospitals and other medical services, and – as a distinguishing characteristic – how tight-knit the community is. Stakeholders specifically cited the City's police and fire services as particularly responsive and the City Manager as committed to promoting the success of Monroe's businesses. Stakeholders also agreed that the school system not only offers its students an excellent education, but that it is smaller than surrounding school districts and, as a result, provides for a more personalized educational experience for students. Stakeholders further indicated that Monroe successfully retained its close-knit feel amidst residential expansion during the 2000s (as well as more recent growth) and that most residents would support additional residential growth if it contributes positively to the community.

Challenges and Opportunities

The discussions yielded several insights regarding relationships between historical and existing housing supply, existing and potential demand, employment growth within Monroe, and the role of amenities. Multiple stakeholders from distinct conversations mentioned the high degree of homogeneity of the City's newer housing stock: single-family homes sold for between \$200,000 and \$300,000 have comprised nearly all housing units constructed over the last several years. According to these individuals, demand has proven strong for these homes, but this type of housing alone is failing to meet the demand of individuals currently employed by businesses located within the City and others who would otherwise choose to live in Monroe.

Stakeholders indicated that strong demand exists for housing both above and below the upper and lower bounds of the existing housing market price range in Monroe. Put differently, an expansion of housing offerings – in terms of both price and type – would more fully meet demand and provide for sustained population growth. At the upper end of the potential housing market, higher-end homes in the \$400,000 range (or higher) are not available in Monroe for individuals in higher-income positions who work in or near the

²² Appendix D is a list of stakeholders who participated in roundtable discussions and interviews with Economics Center staff.

City or for current residents with more modest incomes but who are in a position to move up from a starter home to a larger, more expensive home. When deciding where to live, the higher-earning homeowners typically move to communities such as Mason and West Chester – communities in which higher-end housing is available. At the other end of Monroe’s potential housing market, affordable housing options do not exist in Monroe for the thousands of employees working in or near Monroe in entry-level positions in Healthcare, Warehousing, Retail Sales, and other fields. These individuals are forced to find housing options in other communities when they may otherwise prefer to live in Monroe. Notably, the lack of more affordable housing options puts Monroe at a disadvantage relative to other communities with respect to the attraction and retention of entry-level healthcare employees, as ample employment and living options are available to these individuals in nearby communities.

Stakeholders pointed out Monroe’s long-standing aversion to multi-family housing, including apartments, but suggested that age-targeted, multi-family housing options exist that could help mitigate the perceived potential negative consequences of multi-family housing. Multiple stakeholders posited that younger professionals (i.e. “millennials”), including singles and young couples, prefer to live in higher-end apartments or attached townhomes over single-family homes. Thus, according to the stakeholders, the construction of higher-end multi-unit structures, such as those recently built in Deerfield Township and West Chester Township, would both expand the tax base by attracting young professionals and empty nesters with disposable income and avoid the addition of large numbers of children to the school system. Moreover, multiple stakeholders suggested that the introduction of more affordable apartments, while meeting housing demand of the many local entry-level employees, would not necessarily beget a higher crime rate if they were well-managed. They also noted that single-family homes in the range of \$200,000 could sell in larger volumes in Monroe than the stock of single-family homes currently being constructed.

Among the primary constraints to sustained residential development and population growth in Monroe noted by stakeholders are the lack of additional enrollment capacity of the school system and the City’s limited amenities. Without the addition of a school building, respondents agreed, development would need to be limited to high-end single-family homes and higher-end apartments targeting high-income households (who would expand the tax base without adding significantly to school district enrollment totals) and young professionals with no children. Stakeholders also frequently noted that the City needs to add restaurant and shopping amenities near its population centers to ensure sustained housing demand and population growth. According to the stakeholders, these amenities, such as national restaurant chains, are particularly important to buyers of high-end homes and young professionals. One stakeholder noted that the recent construction of high-end apartments in West Chester has been accompanied by the substantial addition of amenities, while several others opined that the City needs to more aggressive in enticing these types of amenities.

Luxury Apartments

Renting-by-choice is becoming increasingly popular nationally among young professionals and empty nesters for whom renting represents convenience, freedom from a long-term housing commitment, and, for both homeowners and communities, protection from the

negative financial impacts of another potential housing bubble burst. For communities, increasing higher-end apartments' share of total housing units can make them less susceptible to large numbers of defaults, as a smaller portions of residents hold mortgages. According to Natalie Campisi of Bankrate.com, average rents are comparable to average mortgage payments, but apartment living is more convenient for people who might move or change careers in the near future.²³ Robert Pinnegar, president and CEO of the National Apartment Association, credits the increased popularity of renting to the stronger sense of community that it can offer and freedom from home maintenance responsibilities.²⁴

Several sample communities, including Mason, West Chester, and Lebanon, as well as Liberty Township, have successfully added luxury apartment complexes to their housing stocks in recent years. Of the 1,184 and 1,113 housing units that Mason and West Chester added to their respective housing stocks from 2010 to 2017, luxury apartment units accounted for 43 percent (482 units) and 49 percent (580 units), respectively. That these two communities have maintained high occupancy rates across their housing stocks as a whole amid the rapid expansion of multi-unit housing yields two key takeaways: the introduction or prevalence of multi-unit housing need not be correlated with declines to a community's property values, median income, or overall occupancy rate; and multi-unit housing is an increasingly important component of the housing portfolios of communities that wish to attract high-paid young professionals and empty nesters.

The properties that the Economics Center focused on are Palmera and The Grandstone in Mason, Savoy at the Streets of West Chester and Springs at West Chester in West Chester, and Liberty Center Apartments in Liberty Township. Each of these properties contains at least 120 units, with one- and two-bedroom units accounting for the vast majority of units across the properties. Occupancy rates vary from 95 percent to 98 percent across the properties, with even higher leasing rates, and rents range from \$1,050 per month to \$2,295 per month. Attributes of these properties are provided in greater detail in **Table 29**.

Property managers indicated that, while residency is available to anyone who qualifies, young professionals and empty nesters comprise most applicants and residents. At Liberty Center Apartments, which offers mostly one- and two-bedroom units, only four percent of households have school-age children. Median income of renters of Liberty Center Apartments is \$90,000, and units are rented by a mix of one- and two-income households. The property managers stated that, for both the young professionals and empty nesters, walkability to dining and retail amenities and availability of onsite amenities such as swimming pools and fitness centers are among the most appealing characteristics of luxury apartment living to residents. The property managers also cited the convenience of not having to maintain a property, availability of maintenance staff, nearby availability natural amenities, the apartments' high-end finishes, and proximity to natural amenities and places of employment as common drivers of the popularity of their respective properties. Property managers also stated that, while some residents work

²³ Campisi, Natalie. "Rent vs. buy: Millennials take a different path to homeownership." *Bankrate.com*. September 10, 2018.

²⁴ Pinnegar, Robert. "Forget owning, renting is becoming the end game for many millennials and baby boomers." *The Washington Post*. May 8, 2018.

within a 10-15 minute drive of their place of work, others commute up to 45 minutes or more.

Table 29. Characteristics of Sample of Recently Built Luxury Apartment Properties

Attribute	Palmera Apartments	The Grandstone	Savoy at Streets of West Chester	Springs at West Chester	Liberty Center Apartments
Community	Mason	Mason	West Chester Township	West Chester Township	Liberty Township
Year Online	2011	2015	2015	2017	2016
Units	360	122	272	308	238
Floor Plans	1, 2, & 3 BR	1 & 2 BR	1 & 2 BR	1, 2, & 3 BR	1, 2, & 3 BR
Rent	\$1,058 - \$2,035	\$1,050 - \$2,295	\$1,283 - \$1,823	\$1,106 - \$1,944	\$1,100 - \$2,000
Occupancy Rate	98%	96%	96%	95%	96%
Assessed Value	\$31,415,710	\$10,805,200	\$21,681,310	\$24,130,380	\$16,639,810
Value per Unit	\$87,266	\$88,567	\$79,711	\$78,345	\$69,915

Source: Property websites, discussions with property managers, and Auditors of Butler County and Warren County.

Growth Opportunities and Conclusions

Key findings of prior sections of this report indicate that opportunities exist for Monroe to expand its housing stock over the next 10 years through approaches that diverge from longstanding development trends in the City. Specifically, Monroe is able to compete with nearby communities in the single-family home market over \$300,000 and up to \$400,000 or \$450,000. In addition, Monroe could expand its tax base and population, without significantly adding to enrollment pressures in the school system, by constructing a luxury apartment property with onsite amenities.

To summarize, the confluence of the following economic conditions and housing trends support the viability of higher-end single-family homes and luxury apartments in Monroe:

- Strong growth projections for jobs paying \$70,000 and above and that are located within a 30-minute commute of Monroe imply that demand for single-family homes priced in the \$300,000-\$400,000 range will persist at least through the early 2020s. This job growth is concentrated in the area comprising a 15-minute drive from Monroe.
- Average commuting times among working residents of Monroe and other sample communities range from more than 20 minutes to just under 30 minutes, so high-paid workers at large regional employers would be willing to commute to work from Monroe if the City’s housing supply matched their demand. In addition, Monroe’s location between Cincinnati and Dayton positions it well for two-income households with an earner in each city.
- At least three-quarters of single-family homes built in West Chester and Mason between 2013 and 2016 have assessed values of \$300,000 or higher, and proportionally far fewer homes with assessed values of at least \$300,000 were

constructed over this time period in Monroe than in Lebanon or Hamilton. Median household incomes are far lower in the latter two communities than Monroe.

- According to 2016 American Community Survey 5-Year estimates, a higher portion of Monroe households (49%) than Lebanon households (36%) have incomes of at least \$75,000. Monroe also compares favorably to West Chester (54%) with respect to this measure. In addition, Monroe homeowners who have a mortgage spend less of their income on average than homeowners in most other sample communities. This signals that some current homeowners in Monroe could afford more expensive housing.
- High occupancy rates and robust sales since 2013 of single-family homes with sale prices of at least \$300,000 in Mason, West Chester, Springboro, Lebanon, and even Hamilton signal the presence of a robust local market for homes in the \$300,000-plus range.
- Recently constructed luxury apartment properties in sample communities represent successful residential expansion in terms of occupancy rates, income and property tax generation, and addition of local amenities.

Scenarios for Growth

The Economics Center compared the variable impacts on population and housing growth, as well as contributions to and demands on City finances, of four growth scenarios:

Scenario 1. Status Quo

Under this scenario, residential growth patterns observed in Monroe from 2013 to 2016 continue through 2028. In essence, growth in this scenario consists almost entirely of the addition of single-family homes with assessed values between \$150,000 and \$300,000.

Scenario 2. Peer Community Growth in Monroe

In this scenario, housing growth in Monroe through 2028 reflects weighted growth trends witnessed from 2013 to 2016 across five peer communities: Hamilton, Lebanon, Mason, Springboro, and West Chester. The five-year (2013-2016) weighted growth rates for various combinations of housing types and ranges of assessed values are applied to Monroe's existing housing stock.

Scenario 3. High-End Single-Family Homes

An overall weighted housing unit growth rate of the five peer communities used in Scenario 2 is applied to Monroe's current number of housing units to project total growth, but this growth is limited to single-family homes with assessed values of \$300,000 or higher. Peer communities' weighted housing growth rate again reflects 2013-2016 growth, and the projection timeframe is 2019-2028.

Scenario 4. High-End Single-Family Homes and Luxury Apartments

In this scenario, half of ten-year growth in Monroe through 2028 takes the form of high-end single-family homes (i.e. growth in high-end single-family homes in Scenario 4 is half that of Scenario 3), while luxury apartments comprise the other half of new housing units.

Numerous assumptions and calculations informed the development of the growth projections presented below. The analysis used average housing unit assessed values for

each combination of housing type and assessed value category. Average assessed values used in Scenario 1 were specific to Monroe’s single-family homes constructed from 2013 to 2016, while average values for Scenarios 2-4 were calculated using assessed values of housing units constructed over the same five-year period in the five peer community sample. Calculations for income tax and property tax revenues accruing to the City from luxury apartments were based on a range of rents that reflect actual rents of the luxury apartment properties profiled in **Table 29**. Additional assumptions and values critical to the projection of growth, revenue, and cost implications for each scenario are presented in **Table 30**.

Table 30. Growth Scenario Analysis Assumptions and Values

Input	Value
Home down payment as share of total home price	15%
Mortgage loan interest rate	5.0%
PMI rate	0.5%
Monthly mortgage payment share of monthly household income	Ranges from 19% to 24%
Average monthly rent for luxury apartments	\$1,050 - \$2,295
Gross rent as share of monthly household income	18%
Adults per house or condo	2
Children per house or condo	1
Adults per luxury apartment	1.75
Children per 100 apartments	10
Annual cost of emergency services per single-family home or condo	\$773
Annual cost of emergency services per apartment	\$699
Personal earnings tax rate	2.0% ²⁵
Commercial earnings tax rate	2.0%
Property tax assessment rate	35%
Monroe municipal residential effective property tax rate	8.51 mills
Monroe municipal commercial effective property tax rate	9.06 mills

Note: The range of monthly mortgage payments as a share of monthly household income reflects data from sample communities and is higher for lower value properties than higher value properties. Source: Economics Center analysis of data from Auditors of Butler County and Warren County, apartment property websites, apartment property managers, City of Monroe 2017 Comprehensive Annual Financial Report, City of Monroe Development Department.

²⁵ The earnings tax revenue estimates assume that the City collects 22 percent of the maximum share of earnings from Monroe residents. This 22 percent figure is based on the ratio of total household earnings of Monroe residents in 2016 to Residential Income Tax collections by the City of \$1,334,809 in FY 2017.

Housing growth in the form of the addition of \$300k+ single-family homes and/or luxury apartments would generate higher income and property tax revenues and incur lower emergency services costs than continued growth in single-family homes in the \$200k-\$250k range.

The four scenarios yield vastly different growth projections in terms of both volume and type of housing unit coming online in Monroe over the next 10 years. As shown in **Table 31**, projected total housing unit growth ranges from 187 units (Scenario 2) to 456 units (Scenario 1), with 334 new units each projected for Scenario 3 and Scenario 4. Nearly all the projected growth in Scenario 1 and Scenario 2 is concentrated in single-family homes with assessed values under \$300,000, while all projected growth in Scenario 3 and Scenario 4 is in single-family homes with assessed values of at least \$300,000 and, in the case of Scenario 4, luxury apartment units. That the largest number of new units would come online under Scenario 1 reflects the fact that recent (2013-2016) housing unit growth has been higher in Monroe than across the five-community sample as a whole.

Table 31. Projected 10-Year Growth in Monroe by Housing Unit Type and Assessed Value Range by Scenario

Scenario	SF \$50- \$149k	SF \$150- \$199k	SF \$200- \$249k	SF \$250- \$299k	SF \$300- \$399k	SF \$400- \$599k	SF \$600k +	Apt Units	Total New Units
1	8	120	214	88	20	6	0	0	456
2	8	78	70	17	7	3	0	0	187*
3	0	0	0	0	200	101	33	0	334
4	0	0	0	0	100	51	17	167	334

*Note: In Scenario 2, Monroe also is projected to add three condominiums and one unit in a multi-unit complex in addition to 183 single-family units. These additional units are excluded from the analysis. Rows may not sum to totals due to rounding.

Source: Economics Center analysis of data from Auditors of Butler County and Warren County, apartment property websites, apartment property managers, City of Monroe 2017 Comprehensive Annual Financial Report, City of Monroe Development Department.

Economics Center projections suggest that disparities in volume and type of housing unit growth across the four scenarios would also impact Monroe in disparate ways in terms of the magnitude and composition (adults versus children) of population growth, income and property tax revenues, and costs to the City of additional demand for police and fire/EMS services. Scenario 1 (maintain the status quo) would yield the greatest population growth, including growth in the number of school-age children, but would generate less combined earnings and property tax than Scenario 3 and would incur higher costs of services than Scenario 3 and Scenario 4. Despite adding approximately 550 more residents than Scenario 4, Scenario 1 will generate lower combined earnings and property tax revenue than Scenario 4 if luxury apartment rents average approximately \$1,300 per month or more. Critically, Scenarios 3 and 4 would also meet housing demand of current residents who are looking to move to larger homes in Monroe. The existing housing stock – and the projected housing stock under Scenario 1 – would fail to meet this demand and would likely result in the departure of these residents to neighboring communities with larger volumes of higher-end homes.

Table 32. Projected Attributes of Growth by Scenario

Scenario	Single-Family Homes/Apt Units	New Residents	Adults/Children	Income Tax	Property Tax	Fire/EMS & Police Costs
1	456/0	1,368	912/456	\$184,783	\$308,080	\$352,513
2	183/0	558	372/186	\$70,435	\$120,143	\$141,469
3	334/0	1,002	668/334	\$249,101	\$428,690	\$258,200
4	167/167	810	626/184	\$218,025 - \$328,859	\$244,421 - \$284,084	\$245,892

Source: Economics Center analysis of data from Auditors of Butler County and Warren County, apartment property websites, apartment property managers, City of Monroe 2017 Comprehensive Annual Financial Report, City of Monroe Police Department.

Conclusion: Challenges and Opportunities for Growth

The story of the City of Monroe since 2000 is one highlighted by tremendous growth in population, housing units, and jobs located within the City, as well as a marked decline in residents' average age through the addition of hundreds of young families. Monroe weathered the economic turbulence of the Great Recession far more successfully than several nearby communities, almost doubling its population and housing stock and exhibiting resilience with respect to retention of median household income, median home values, and occupancy rates. Other key indicators of a community's economic health – labor force participation and unemployment rates, share of residents receiving public assistance, average earnings and employment mix by industry of its residents, expenditures on housing costs as a share of income, etc. – all point to an economy on solid economic footing. Further, employment projections suggest that, of the many thousands of jobs paying \$50,000 per year or more that will be added within a 30-minute commute of Monroe through 2028, nearly two-thirds will be within a much smaller 15-minute driving radius of the City.

Against this backdrop of economic resilience and optimism, Monroe's housing growth over the past decade has slowed considerably from growth seen in the early and mid-2000s and has been characterized by a distinct lack of diversity in terms of both type of structure, price, and value of new builds. Three-quarters of the growth in Monroe's housing stock from 2000 to 2016 occurred before 2011, and, since 2008, single-family homes have comprised 100 percent of new residential builds in the City. Meanwhile, employment data indicate that many of the employees of Monroe's businesses commute to the City from elsewhere, suggesting that Monroe's existing housing stock is failing to meet the housing demand of many people working in or near Monroe. In addition, the City faces two key constraints to sustained housing growth: a school system already at enrollment capacity and, relative to nearby communities, a lack of availability or prevalence of amenities associated with entertainment, convenience, and recreation.

The high degree of homogeneity of Monroe's new residential construction since 2000 contrasts sharply with the more diversified residential portfolios of Mason and West Chester, two communities that boast higher median home values and household incomes than Monroe. Specifically, both Mason and West Chester have complemented single-family home construction with the addition of multi-unit housing structures, with Mason focusing on new builds with two to 19 units. Both of these communities also offer much larger volumes of higher-end single-family homes (i.e. homes that sell for \$400,000 or more) than Monroe and are enjoying high occupancy rates in high-volume luxury apartment properties that have come online during the 2010s. The economic success that Mason and West Chester have sustained amidst diversified housing stock expansions (in terms of housing unit type) further signals disequilibrium between the relatively limited supply of Monroe's housing market and housing demand of people living and working in and around Monroe. Moreover, Lebanon and Hamilton – both cities with lower median household income than Monroe – have expanded their housing stocks in recent years to a much greater degree than Monroe through the addition of single-family homes with assessed values of \$300,000 or more.

In light of the disequilibrium being perpetuated by the continued lack of diversity of housing type of Monroe's new residential builds, as well as Monroe's school enrollment

capacity issue and the prevailing and projected economic conditions in and around the City, the Economics Center suggests that Monroe consider promoting the construction of higher-end multi-unit housing and higher-end single-family homes as it plans for future population and housing growth. Significant demand exists for higher-end luxury apartments among young professionals and empty nesters who prefer the freedom that renting affords, and both groups are likely to expand the tax base without stressing enrollment further. Similarly, higher-end homes will expand Monroe's tax base but are unlikely to attract large volumes of families with school-age children. Both higher-end single-family homes and luxury apartments would offer greater expansion of the tax base and incur proportionately lower costs of City services than the continued addition of single-family homes with assessed values between \$200,000 and \$250,000. Lower-priced multi-unit housing would meet demand of the many people employed in lower-wage positions in Monroe, but this type of housing would expand the tax base less than the other two options and would be more likely to place additional pressure on enrollment capacity. As a prerequisite to securing demand for higher-end single-family homes and luxury apartment units, Monroe should emphasize the attraction of dining, recreation, and other convenience-related amenities that residents value having nearby.

Appendix A: Detailed Housing Cost Tables

Table 33. Distribution of Owner-Occupied Housing Units with a Mortgage by Selected Owner Costs as a Percentage of Household Income, 2016

	Less than 20.0 Percent	20.0 to 24.9 Percent	25.0 to 29.9 Percent	30.0 to 34.9 Percent	35.0 Percent or more
<i>Butler County</i>	49%	17%	10%	6%	17%
Hamilton	48%	16%	11%	8%	18%
Middletown	45%	13%	10%	7%	26%
Monroe	49%	20%	8%	7%	17%
Trenton	50%	12%	12%	8%	18%
West Chester	52%	16%	11%	6%	15%
<i>Warren County</i>	50%	18%	11%	5%	16%
Lebanon	48%	17%	12%	5%	18%
Mason	53%	19%	9%	5%	14%
Springboro	60%	17%	4%	3%	15%
<i>Hamilton County</i>	49%	15%	10%	7%	20%

Source: Economics Center calculations using data from the US Census Bureau (2000-2016).

Table 34. Distribution of Owner-Occupied Housing Units without a Mortgage by Selected Owner Costs as a Percentage of Household Income, 2016

	Less than 15.0 percent	15.0 to 19.9 percent	20.0 to 24.9 percent	25.0 to 29.9 percent	30.0 to 34.9 percent	35.0 percent or more
<i>Butler County</i>	66%	12%	6%	4%	2%	9%
Hamilton	36%	8%	17%	11%	8%	20%
Middletown	61%	10%	7%	7%	4%	11%
Monroe	74%	16%	5%	2%	2%	1%
Trenton	80%	7%	2%	6%	0%	4%
West Chester	66%	14%	5%	4%	3%	7%
<i>Warren County</i>	66%	13%	7%	4%	3%	7%
Lebanon	65%	14%	7%	5%	3%	6%
Mason	74%	12%	5%	1%	2%	6%
Springboro	73%	5%	7%	4%	5%	6%
<i>Hamilton County</i>	61%	11%	8%	5%	3%	11%

Source: Economics Center calculations using data from the US Census Bureau (2000-2016).

Table 35. Distribution of Rental Units by Gross Rent as a Percentage of Household Income, 2016

	Less than 15.0 percent	15.0 to 19.9 percent	20.0 to 24.9 percent	25.0 to 29.9 percent	30.0 to 34.9 percent	35.0 percent or more	Median Gross Rent
<i>Butler County</i>	14%	15%	13%	11%	8%	40%	\$823
Hamilton	20%	10%	21%	14%	10%	24%	\$749
Middletown	12%	16%	10%	12%	9%	42%	\$745
Monroe	21%	12%	12%	7%	6%	43%	\$977
Trenton	20%	15%	14%	9%	15%	27%	\$936
West Chester	20%	15%	16%	9%	6%	34%	\$1,019
<i>Warren County</i>	17%	18%	12%	15%	8%	30%	\$957
Lebanon	16%	22%	15%	9%	9%	29%	\$790
Mason	12%	15%	8%	28%	6%	31%	\$1,056
Springboro	33%	19%	8%	14%	8%	18%	\$989
<i>Hamilton County</i>	14%	13%	12%	11%	9%	41%	\$725

Source: Economics Center calculations using data from the US Census Bureau (2000-2016).

Appendix B: Employment Profiles of Communities North of Monroe

Considerable differences also exist between the industrial mix of employment in Monroe and those of Beavercreek and Kettering, two communities that, along with Springboro, are situated near the City of Dayton and within a 30-minute drive of Monroe. As shown in **Table 36**, Kettering claims the highest ratio of employment to population of the four communities (0.7), followed by Monroe (0.5), Springboro (0.4), and Beavercreek (0.3). Relative to the three other communities, Monroe is proportionally over-represented in the Construction, Transportation and Warehousing, and Wholesale Trade Sectors. Retail employment comprises relatively large proportions of the jobs in both Monroe and Beavercreek, which is home to the Mall at Fairfield Commons. Monroe is relatively under-represented in the Educational Services; Finance and Insurance, Healthcare and Social Assistance; and Professional, Scientific, and Technical Services Sectors, with the latter comprising a much higher share of the workforce in Beavercreek than the other three communities. Three in 10 jobs in Kettering, site of the Kettering Medical Center, fall within the Healthcare and Social Assistance Sector, with another 10 percent – more than three times the next largest share of the other three communities – in Finance and Insurance. Meanwhile, Springboro has the largest proportional representation in Manufacturing and Educational Services among the four communities.

Table 36. Total Employment and Share of Employment by Sector and Community in which Job Is Located (2017): Additional Communities near Dayton

	Monroe	Beavercreek	Kettering	Springboro
Total Employment	6,661	19,740	21,547	7,574
2016 Population	13,552	62,259	32,025	17,978
Ratio of Employment to Population	0.5	0.3	0.7	0.4
Sector	Share of Employment within Community			
Accommod. & Food Services	7%	19%	7%	15%
Admin./Support & Waste Mgmt.	4%	2%	11%	3%
Construction	11%	2%	2%	5%
Educational Services	4%	6%	8%	9%
Finance & Insurance	1%	3%	10%	3%
Healthcare & Social Assistance	7%	14%	30%	9%
Management	<1%	4%	1%	<1%
Manufacturing	12%	2%	4%	17%
Prof., Sci., and Tech. Svc.	1%	15%	2%	6%
Retail Trade	20%	22%	8%	11%
Transportation & Warehousing	15%	<1%	<1%	3%
Wholesale Trade	10%	2%	2%	7%
Other Sectors	10%	8%	13%	12%

Source: Economics Center analysis using data from the US Census Bureau (2016) and Ohio Department of Job and Family Services (2017).

Some notable disparities also exist across the four communities in terms of average annual earnings per job by sector. Monroe boasts the highest average annual earnings among the four communities in the Construction, Educational Services, and Wholesale Trade Sectors but lags considerably behind the other three communities in the Healthcare and Social Assistance Sector (see **Table 37**). Of the four communities, Beavercreek claims the highest average annual earnings in the Finance and Insurance; Management; and Professional, Scientific, and Technical Services Sectors, while, on average, jobs in Healthcare and Social Assistance pay the most in Kettering. Average earnings are highest in Springboro in the relatively low-paying Administrative and Support and Waste Management and Retail Trade sectors. In light of Springboro’s high median household income and median housing unit value, it is likely that many individuals employed in these two sectors in Springboro commute for their jobs from other communities.

Table 37. Average Annual Earnings per Job by Sector and Community in which Job Is Located (2017): Additional Communities near Dayton

	Monroe	Beavercreek	Kettering	Springboro
Accommod. & Food Svc.	\$16,691	\$17,178	\$16,465	\$15,993
Admin./Support & Waste Mgmt.	\$27,307	\$27,743	\$27,041	\$31,412
Construction	\$71,142	\$44,956	\$47,639	\$57,601
Educational Services	\$49,720	\$46,258	\$39,072	\$40,030
Finance & Insurance	\$34,224	\$73,727	\$61,865	\$58,544
Healthcare & Social Assistance	\$30,739	\$43,750	\$56,210	\$42,689
Management	\$55,406	\$69,144	\$36,993	\$39,628
Manufacturing	\$49,279	\$59,370	\$55,135	\$52,441
Prof., Sci., and Tech. Svc.	\$53,443	\$85,520	\$46,534	\$59,601
Retail Trade	\$21,165	\$22,467	\$24,029	\$28,533
Transportation & Warehousing	\$36,732	\$40,464	\$17,257	\$41,575
Wholesale Trade	\$81,652	\$69,247	\$63,077	\$69,681
Other Sectors	\$56,727	\$36,451	\$36,077	\$29,452

Source: Economics Center analysis using data from Ohio Department of Job and Family Services (2017).

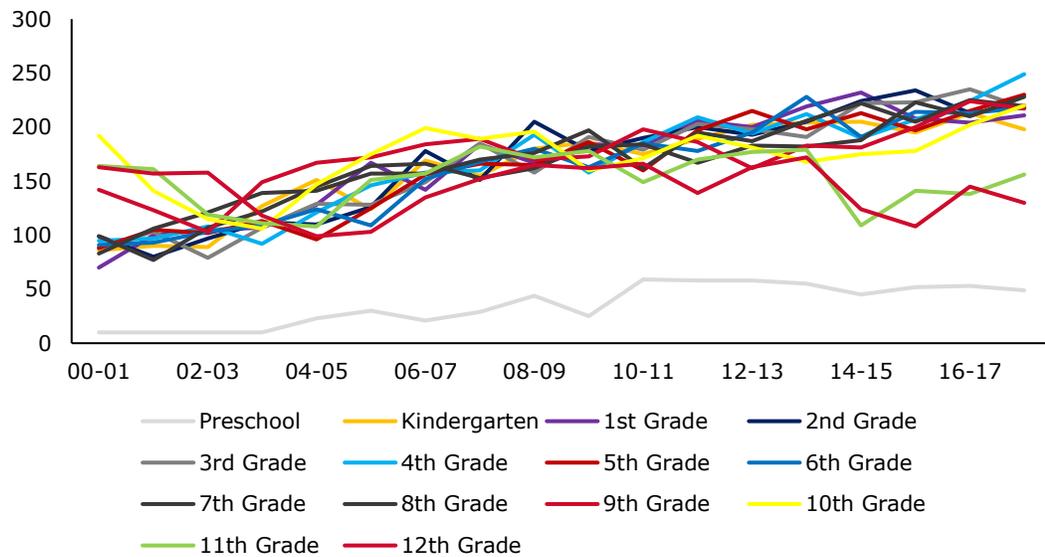
Appendix C: Detailed Enrollment Forecast Results

Table 38: Historical Enrollment by Grade

Grade	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
P	10	10	10	23	30	21	29	44	25	59	58	58	55	45	52	53	49
K	90	89	127	151	124	169	155	180	186	175	189	202	204	205	195	213	198
1	100	105	107	128	167	142	184	167	184	183	206	200	219	232	208	204	211
2	80	97	112	110	126	178	151	205	178	190	200	193	205	224	234	213	220
3	103	79	107	129	128	149	185	158	191	179	203	198	191	222	223	235	218
4	97	108	92	121	146	158	160	193	158	186	209	194	212	190	207	224	249
5	105	102	113	96	125	156	166	165	186	160	197	215	198	213	197	215	230
6	93	103	109	124	109	152	168	180	163	185	178	195	228	191	214	213	218
7	106	121	139	141	157	157	170	176	197	162	195	187	206	222	205	225	219
8	77	107	122	145	164	166	153	162	182	184	167	183	182	188	223	210	228
9	123	103	149	167	172	184	189	170	173	198	186	162	183	181	200	224	217
10	141	115	106	147	175	199	189	196	160	171	192	181	168	175	178	202	220
11	161	119	111	108	151	157	182	172	178	149	170	177	179	109	141	138	156
12	157	158	118	99	103	135	152	165	162	166	139	163	172	124	108	145	130
Total	1,443	1,416	1,522	1,689	1,877	2,123	2,233	2,333	2,323	2,347	2,489	2,508	2,602	2,521	2,585	2,714	2,763

Note: For preschool enrollment of less than ten, ten was used for calculation purposes.
 Source: Ohio Department of Education

Figure 23: Historical Enrollment by Grade Level



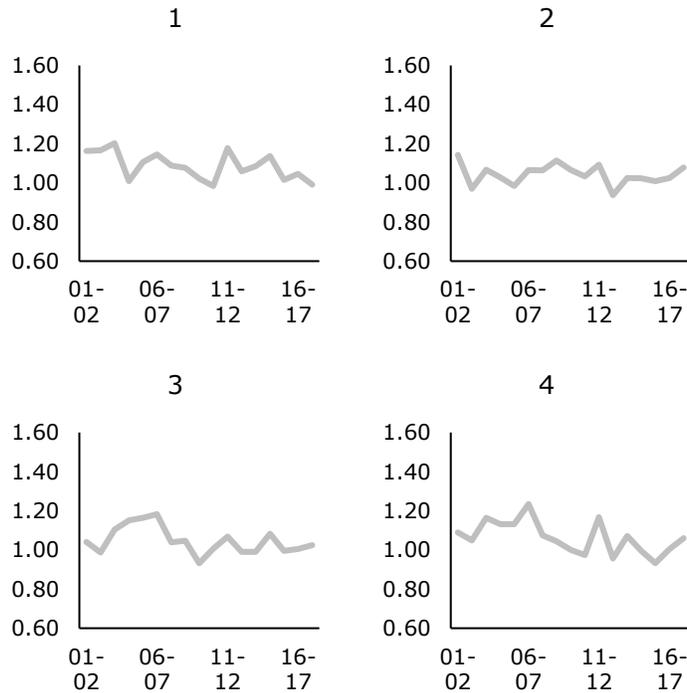
Source: Ohio Department of Education

Table 39: Historical Grade Progression Ratios by Grade

Grade	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
1	1.16	1.17	1.20	1.01	1.11	1.15	1.09	1.08	1.02	0.98	1.18	1.06	1.08	1.14	1.01	1.05	0.99
2	1.14	0.97	1.07	1.03	0.98	1.07	1.06	1.11	1.07	1.03	1.09	0.94	1.03	1.02	1.01	1.02	1.08
3	1.04	0.99	1.10	1.15	1.16	1.18	1.04	1.05	0.93	1.01	1.07	0.99	0.99	1.08	1.00	1.00	1.02
4	1.09	1.05	1.16	1.13	1.13	1.23	1.07	1.04	1.00	0.97	1.17	0.96	1.07	0.99	0.93	1.00	1.06
5	1.11	1.05	1.05	1.04	1.03	1.07	1.05	1.03	0.96	1.01	1.06	1.03	1.02	1.00	1.04	1.04	1.03
6	1.06	0.98	1.07	1.10	1.14	1.22	1.08	1.08	0.99	0.99	1.11	0.99	1.06	0.96	1.00	1.08	1.01
7	1.16	1.30	1.35	1.29	1.27	1.44	1.12	1.05	1.09	0.99	1.05	1.05	1.06	0.97	1.07	1.05	1.03
8	0.93	1.01	1.01	1.04	1.16	1.06	0.97	0.95	1.03	0.93	1.03	0.94	0.97	0.91	1.00	1.02	1.01
9	1.24	1.34	1.39	1.37	1.19	1.12	1.14	1.11	1.07	1.09	1.01	0.97	1.00	0.99	1.06	1.00	1.03
10	0.99	0.93	1.03	0.99	1.05	1.16	1.03	1.04	0.94	0.99	0.97	0.97	1.04	0.96	0.98	1.01	0.98
11	0.84	0.84	0.97	1.02	1.03	0.90	0.91	0.91	0.91	0.93	0.99	0.92	0.99	0.65	0.81	0.78	0.77
12	0.96	0.98	0.99	0.89	0.95	0.89	0.97	0.91	0.94	0.93	0.93	0.96	0.97	0.69	0.99	1.03	0.94

Source: Ohio Department of Education

Figure 24: Historical Grade Progression Ratios by Grade



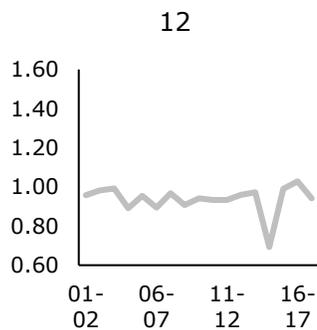
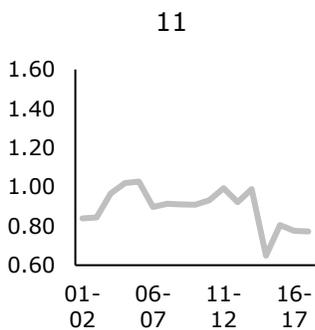
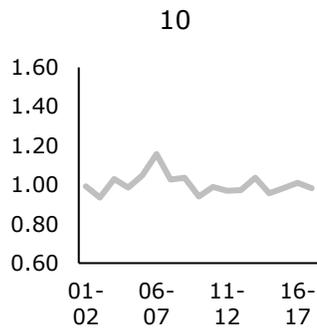
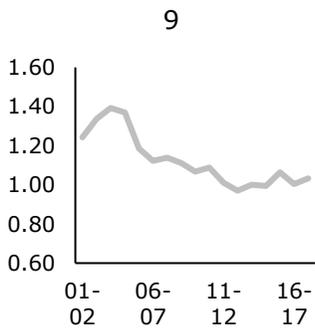
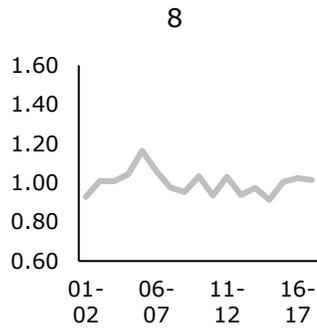
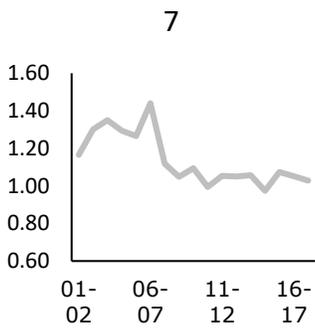
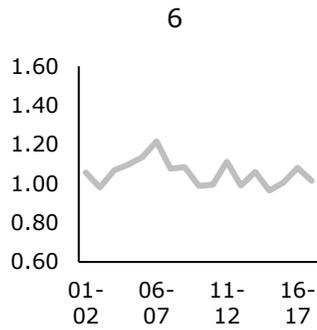
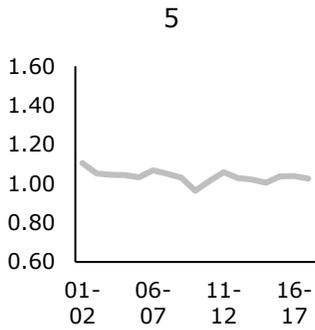
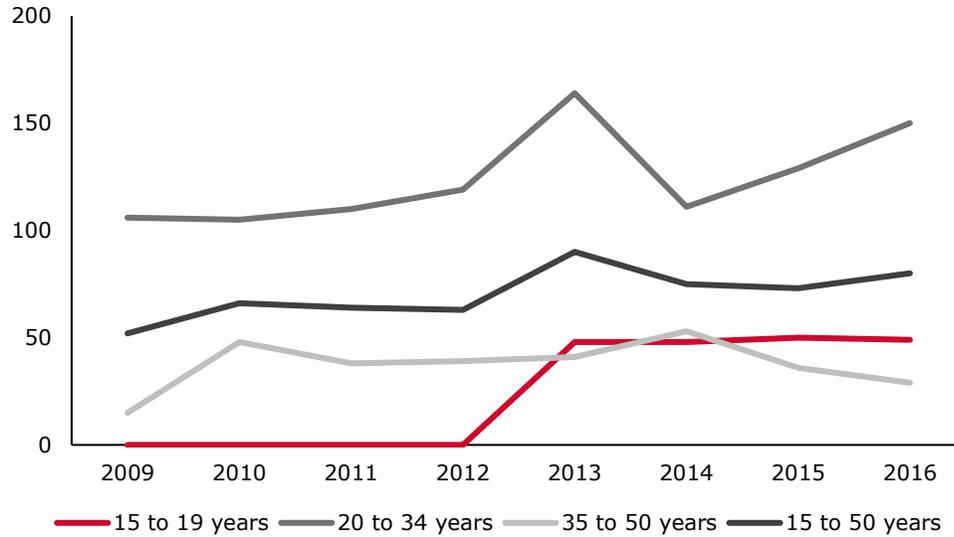
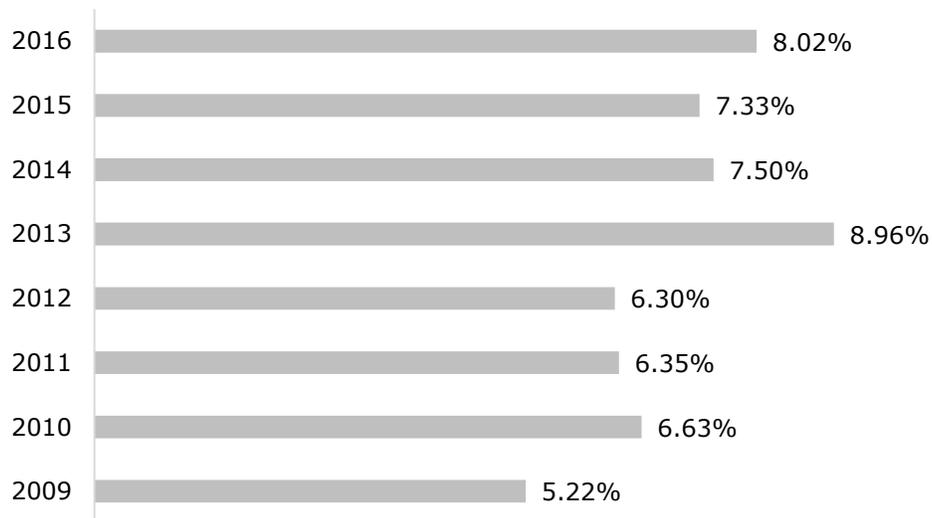


Figure 25: Births per 1,000 Women



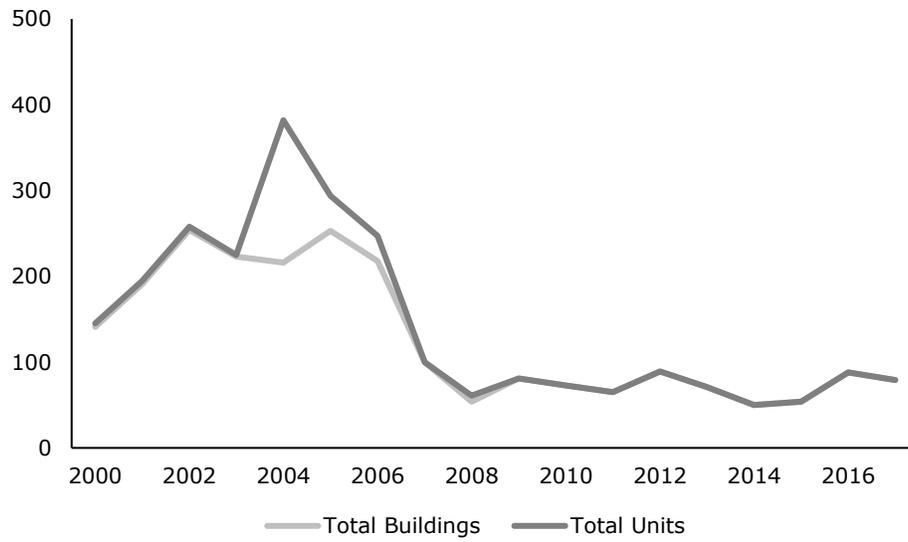
Source: US Census Bureau, American Community Survey

Figure 26: Fertility Rates by Year (Ages 15-50)



Source: US Census Bureau, American Community Survey

Figure 27: Historical Building Permits



Source: US Census Bureau, Building Permits Survey

Appendix D: List of Roundtable Participants

Table 40: City of Monroe Comprehensive Housing Study Roundtable Participants

Name	Title	Organization
Dr. Phil Cagwin	Superintendent (retired)	Monroe Local Schools
Desiree Davis	Division Mgr, Cincinnati Area	Ryan Homes
Stan Kappers	Director	Ohio Living/Mount Pleasant
Dick Lange	General Manager	Joe Morgan Honda
Jody Long	Curriculum Director	Monroe Local Schools
Rick Pearce	President and CEO	Chamber of Commerce of Middletown, Monroe, and Trenton
Lenny Robinson	President	Robinson, Inc Commercial Real Estate
Harry Thomas, Jr.	President	Monroe Crossings, Inc.