OCTOBER 2023

Update to the Indianapolis Metropolitan Area Housing Affordability Report:

The Data on Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Putnam, & Shelby Counties

Author: Steven L. Byers, Ph.D.

About the Author

Steven Byers, Ph.D. is the senior economist at the Common Sense Institute. Steven's Experience as an economist spans twenty-three years, including work at federal regulatory agencies (SEC, CFTC, PCAOB) and quantitative economic analysis supporting international trade litigation cases brought before the U.S. International Trade Commission.

About Common Sense Institute

Founded in 2010, **Common Sense Institute** (CSI) is a non-partisan research organization dedicated to the protection and promotion of our economy. As a leading voice for free enterprise, CSI's mission is to examine the fiscal impacts of policies and educate voters on issues that impact their lives.

CSI's founders were a concerned group of business and community leaders who observed that divisive partisanship was overwhelming policy-making and believed that sound economic analysis could help people make fact-based and common sense decisions.

CSI has built a reputation as a credible, non-partisan resource. CSI's quantitative analysis and research have played a critical role in public policy debates on a range of issues., With over 1,000 media hits in 2022, CSI is making a major impact in Colorado, Arizona, Indiana, and around the country.

Teams & Fellows Statement

CSI is committed to independent, in-depth research that examines the impacts of policies, initiatives, and proposed laws so that Coloradans are educated and informed on issues impacting their lives. CSI's commitment to institutional independence is rooted in the individual independence of our researchers, economists, and fellows. At the core of CSI's mission is a belief in the power of the free enterprise system. Our work explores ideas that protect and promote jobs and the economy, and the CSI team and fellows take part in this pursuit with academic freedom. Our team's work is informed by data-driven research and evidence. The views and opinions of fellows do not reflect the institutional views of CSI. CSI operates independently of any political party and does not take positions.

Table of Contents

Introduction

This report is an update to CSI's January 2023 report titled "Indianapolis Metropolitan Area Housing Affordability Report: The Data on Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Putnam, and Shelby Counties."[i] This study examines the state of Indianapolis' housing market in terms of two issues: supply and affordability.

This report utilizes housing data from 2005 through July 2023. It estimates, based on permitting data through July 2023, the 2023 year-end housing unit deficits/surpluses in the following Indianapolis metro-area counties: Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Putnam, and Shelby. Sources used to create the estimates include: the American Community Survey (2021), the U.S. Department of Housing and Urban Development (July 2023), the National Association of Homebuilders (2020), Zillow (July 2023), and the Indiana Business Research Center (2022). CSI estimated 2022 housing deficits/surpluses using forecasts of county populations, average household sizes, and permitting data. It is important to note that the housing unit deficit/surplus estimates may change upon each new data update or release. The Appendices provides supporting data for each of the ten counties in this study.

Key Findings

- **The Indianapolis Homebuyer Misery Index peaked in October of 2022 at 162.16, an increase of 61% since July 2020, then decreased by 3.4% through July 2023 before rising again to 160.38 in July.**
- **Homebuilder confidence has begun to fall after June 2023 reversing its upward trend since December 2022.** The National Association of Home Builders/Wells Fargo Housing Market Index (HMI) is based on a monthly survey of NAHB members designed to take the pulse of the single-family housing. The index ranges between 0 (lowest confidence) and 100 (highest confidence). As of July 2023, the HMI for the Midwest region is 38—lower than in the northeast (48), the south (49), and the west (42).[ii]
- **Due to elevated prices and rising interest rates, the affordability of purchasing a home in the Indianapolis metro area is near its lowest point in more than 15 years.** In just the past 8 years, the cost of purchasing an average-price home has increased by between 72% and 105%; since January 2023, average affordability has decreased by 4% (see **Figures 12 and 13**).
- **Household incomes have not kept pace with rising housing costs.** Between December 2015 and July 2023, the average hourly wage increased by 31.4% from $23.00 to $30.22. Due to the rapidly increasing cost of housing, however, the number of hours of work required to cover the median mortgage payment increased from 30 hours (about one and a quarter days) to 61.5 hours (about two and a half days)—a 105% increase (see Figure 16).
- **Over the last 8 years, affordability has fallen the most in Marion and Madison Counties: by 105% and 104%, respectively.**
- **Home prices are higher than the U.S. average in Boone County (110% higher) and Hamilton County (121% higher).**

Issue 1: Supply

OVERALL MARKET PERSPECTIVE – INDIANAPOLIS METRO AREA HOUSING SUPPLY SHORTAGE IN 2022

The Indianapolis metro area has failed to build enough housing to keep pace with demand. Standard housing market reports, like those developed by the National Association of REALTORS®, track inventory based on homes listed for sale. What those reports do not capture is the total stock of homes needed to maintain a healthy housing market. A healthy housing market is one that has sufficient inventory to maintain efficient vacancy rates, prevent overcrowding and cost burdening, and accommodate demolitions and replacements over time.

CSI estimates the numbers of homes in ten counties in and around the Indianapolis metro area needed to establish a healthy housing market under two scenarios. Each scenario is intended to measure the difference between the actual number of homes in a county and the number of homes needed to maintain a healthy supply for the local population.

Scenario 1 calculates a housing deficit or surplus based on a low estimate of homes held off the market for purchase by the local population.

Scenario 2 calculates a housing deficit or surplus based on a high estimate of homes held off the market.

Housing units and households – Each scenario uses estimates of housing units and households from both the U.S. Census Bureau's American Community Survey (ACS) and the Indiana Business Research Center. We adjust the housing units by removing those that are considered uninhabitable by virtue of having no kitchen or plumbing.

Homes held off the market – Total homes held off the market is the number of existing housing units not available for purchase. The figure includes estimates of second-home counts at the county level released by the National Association of Homebuilders and of uninhabitable homes from the American Community Survey. **Figure 1** shows the range of NAHB estimates of the shares of housing stocks allocated to second homes. All counties other than Putnam have between 0% and 4.99% of the housing stock allocated to second homes. Putnam county has a range of 5% to 10%.

Figure 1 – NAHB Estimates of Second Homes Percentage

NAHB Estimates of 2020 Percent of Housing Stock Allocated to Second Homes										
	Boone	Hamilton	Hancock	Hendricks	Johnson	Madison	Marion	Morgan	Putnam	Shelby
Low	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
High	4.99%	4.99%	4.99%	4.99%	4.99%	4.99%	4.99%	4.99%	10%	4.99%

Desired ratio of total units to local population – This study assumes that a healthy housing market supplies at least 1.1 housing units per household. This value is derived from historic average vacancy rate data and was the basis for a housing supply report done for the state of Oregon.[iii] **Figure 2** shows a forecast of populations and numbers of households in 2028 and 2033.

Figure 2 – Population and Household Forecast

Change in Population and Household by County in 2028 and 2033				
	Population		Households	
	2028	2033	2028	2033
Indianapolis Metro Area	113,382	208,567	43,266	79,364
Boone	7,643	13,807	2,940	5,312
Hamilton	45,185	87,080	16,768	32,315
Hancock	4,961	9,598	1,986	3,842
Hendricks	16,300	32,420	5,986	11,906
Johnson	11,015	20,586	4,166	7,786
Madison	-2,798	-5,387	-1,156	2,225
Marion	30,094	49,353	12,201	20,010
Morgan	902	1,302	335	484
Putnam	-230	-355	-84	-130
Shelby	310	164	122	65

Using the scenarios described above, the housing unit deficit in 2022 is estimated to have been between 18,852 and 61,328 units. **Figure 3** presents summary results for the ten counties in the Indianapolis metro area considered in this study. CSI will continue to monitor new data as it becomes available and will amend the estimates and methodology as required.

Figure 3 – Housing Deficit/Surplus through December 2022

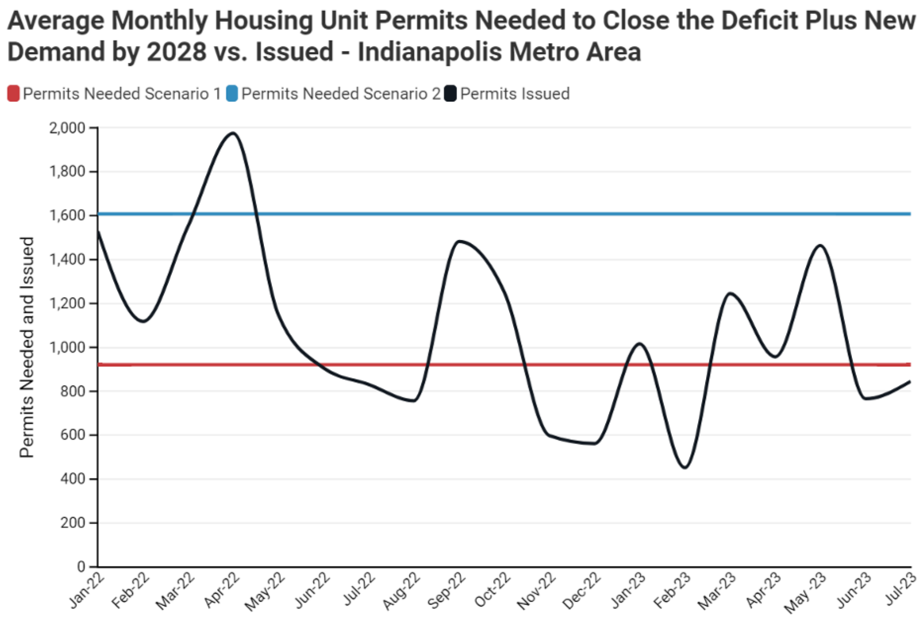
Housing Deficit/Surplus through December 2022							
		Housing Deficit Rank in 2022 Relative to the Indianapolis Counties		Housing Deficit/Surplus in 2022		Deficit/Surplus as a Percent of 2022 Existing Stock of Housing Units	
Region	Adjusted Housing Stock 2022	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2
Indianapolis Metro Area	902,688			-18,852	-61,328	2.1%	6.8%
Boone	29,501	6	5	-1,970	-3,442	6.7%	11.7%
Hamilton	144,531	8	9	-4,027	-11,240	2.8%	7.8%
Hancock	34,100	7	6	-2,252	-3,954	6.6%	11.6%
Hendricks	67,818	10	8	-5,671	-9,055	8.4%	13.4%
Johnson	65,079	9	7	-4,059	-7,307	6.2%	11.2%
Madison	58,847	4	4	-323	-3,259	0.5%	5.5%
Marion	438,284	1	10	2,294	-19,576	-0.5%	4.5%
Morgan	29,867	2	3	274	-1,217	-0.9%	4.1%
Putnam	15,167	5	2	-412	-1,168	2.7%	7.7%
Shelby	19,494	3	1	-137	-1,109	0.7%	5.7%

PERMITTING SUMMARY

- **Permitting is on track to close the gap by 2028** - If permitting continues at the rate experienced over the first seven months of 2023, the housing deficit in the Indianapolis metro area will decrease by between 21.2% and 21.6% by the end of 2023. For the deficit to be erased by 2028, the average yearly decrease must be at least 16.7%.
- **Average monthly permitting in the Indianapolis metro area has dropped 23% from 1,143 in 2022 to 964 as of July 2023** – Assuming this is the monthly rate through the end of the year, this results in 11,568 permits, which is enough to reduce the housing supply deficit under scenario 1 where 11,050 per year re required. Under scenario 2, this is not enough permits issued in that 19,301 required annual permits necessary to close the housing deficit plus meet new demand for housing by the end of 2028. See **Figure 4.**
- **Since 2012, in the Indianapolis metro area, 70% of permits were for single-family housing units.** 30% of permits were for multi-family structures and 27.2% of those were for units in 5-plus-unit multi-family structures.

- **In Madison County, 100% of permits issued between 2022 and 2023 were for single-family housing units.**
- **Based on permitting through July 2023, Marion County is running the largest deficit of housing unit permits.** In 2023, its housing permit deficit is 2,800 units (see **Figure 6**).

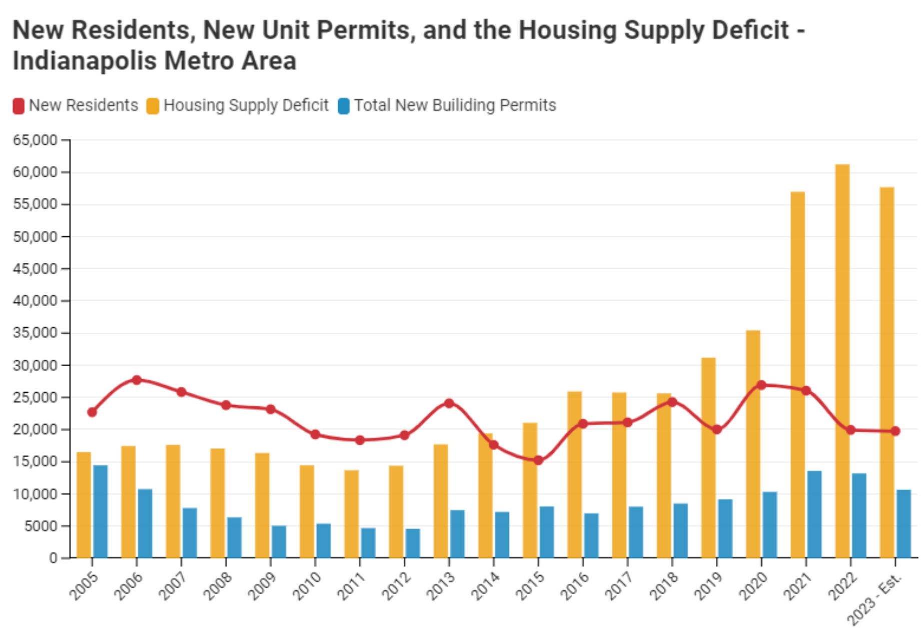
Figure 4 – Average Monthly Permitting in the Indianapolis Metro Area



BUILDING PERMITS AND THE HOUSING SUPPLY DEFICIT

If permitting over the next 5 months continues at the same rate of 843 as it exhibited between January and July 2023, the housing deficit will decrease (see **Figure 5**). The Indianapolis metro area is estimated to grow by nearly 20,000 new residents, which is equivalent to 7,500 new households, and issue nearly 11,563 permits in 2023. This will reduce its housing deficit by 21.6% under scenario 2.

Figure 5 – Building Permits, New Residents, and the Housing Deficit/Surplus



Sources: National Association of Homebuilders, Indiana Business Research Center, U.S. Census Bureau ACS

To erase the metro area deficit and meet new population-driven demand for housing by 2028, an additional 66,299 to 115,803 permitted units are required (11,050 to 19,301 per year). CSI tracks building unit permits by county on a quarterly basis to evaluate whether the level of issuance is sufficient to close the existing housing deficit and meet new demand for housing. **Figure 6** shows these estimates for each of the ten counties included in this study. The annual permit deficits/surpluses in scenarios 1 and 2 are based on annualized 2023 permits through July 2023.

Figure 6 – Permits Required to Close the Housing Deficit Plus New Demand by 2028

Permits Required to Close the 2022 Deficit and Meet New Housing Demand in Select Counties in 2028

Region	Number of Permits Required to Close the Deficit Plus New Demand for Housing in Deficit Counties by 2028		Permits Issued per Year in Deficit Counties	Annual Deficit/Surplus in Permitted Units Issued in Deficit Counties (Permits Through July are Annualized)	
	Scenario 1	Scenario 2	2023 (through July)	2023 Scenario 1	2023 Scenario 2
Indianapolis Metro Area	66,299	115,803	6,745	(1,174)	(7,737)
Boone	5,698	7,309	473	(139)	(407)
Hamilton	22,472	29,684	2394	359	(843)
Hancock	4,629	6,404	225	(386)	(682)
Hendricks	12,256	15,640	851	(584)	(1,148)
Johnson	9,094	12,511	854	(52)	(621)
Madison	(2,856)	5,986	128	695	(778)
Marion	11,127	32,998	1575	846	(2,800)
Morgan	101	1,687	159	256	(9)
Putnam	529	1,782	56	8	(201)
Shelby	393	1,801	30	(14)	(249)

Scenario 1 uses the NAHB low estimate of the share of homes held off the market.
Scenario 2 uses the NAHB high estimate of the share of homes held off the market.

To erase the estimated statewide deficit and meet new population-driven demand for housing by 2033, an additional 107,676 to 153,639 permitted units are required in total, equating to 9,789 to 13,967 per year (see **Figure 7**). Closing the deficit and meeting new housing demand by 2033 requires fewer permits per year than does closing the deficit by 2028 because it extends the process by an additional five years. The annual permit deficits/surpluses in scenarios 1 and 2 are based on annualized 2023 permits through July 2023.

Figure 7 – Permits Required to Close the Housing Deficit Plus New Demand by 2033

Permits Required to Close the 2022 Deficit and Meet New Housing Demand in Select Counties in 2033

Region	Number of Permits Required to Close the Deficit Plus New Demand for Housing in Deficit Counties by 2033		Permits Issued per Year in Deficit Counties	Annual Deficit/Surplus in Permitted Units Issued in Deficit Counties (Permits Through July are Annualized)	
	Scenario 1	Scenario 2	2023 (through April)	2023 Scenario 1	2023 Scenario 2
Indianapolis Metro Area	107,676	153,639	6,745	(476)	(2,508)
Boone	8,553	10,165	473	33	(113)
Hamilton	39,574	46,786	2394	506	(149)
Hancock	6,759	8,534	225	(229)	(390)
Hendricks	18,767	22,152	851	(247)	(555)
Johnson	13,284	16,702	854	256	(54)
Madison	(6,398)	2,444	128	801	(3)
Marion	19,717	41,587	1575	908	(1,081)
Morgan	275	1,861	159	248	103
Putnam	445	1,699	56	56	(58)
Shelby	301	1,709	30	24	(104)

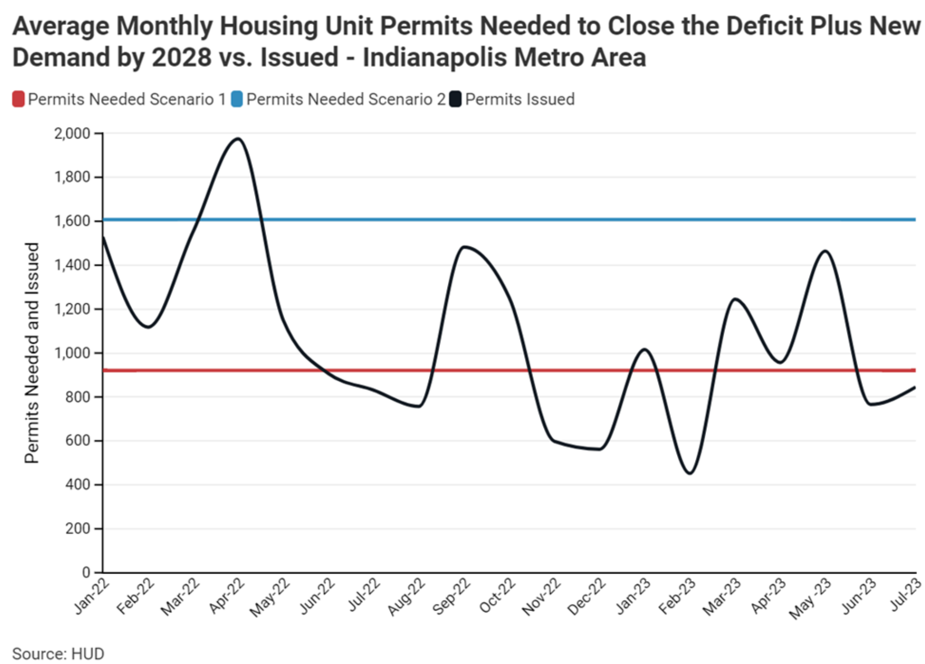
Scenario 1 uses the NAHB low estimate of the share of homes held off the market.
Scenario 2 uses the NAHB high estimate of the share of homes held off the market

Under scenario 1, based on the permitted unit data through July 2023, five counties, Hamilton, Madison, Marion, Morgan, and Putnam are on track to issue enough permitted units to close the 2022 housing deficit and meet new housing demand by 2028. Under scenario 2, no counties are issuing enough permits.

Some counties with housing deficits are consistently issuing enough annual new building unit permits to address local deficits and future housing needs, but these surplus permits do not help alleviate deficits in other counties. In many counties where there are housing deficits, not enough new building unit permits are being issued to cover current deficits let alone new housing demand. Should this continue, the housing supply deficit will continue to grow. This conclusion assumes that surplus houses in one county cannot be moved to counties with deficits and households will not relocate from deficit counties to surplus counties.

Figure 8 shows the average number of housing unit permits in deficit counties required to close the deficit by 2028 under both scenarios and the numbers of monthly permits issued so far. Under scenario 1, enough permits have been issued in seven months in 2022 to cover the housing deficit and meet new demand for housing by 2028. In 2023, through July, there have been sufficient rates of permitting in 3 months: January, March, and April. Under scenario 2, insufficient permits have been issued in any month. The number of permits issued in deficit counties varies between scenario 1 and 2 because more counties have supply deficits under scenario 2.

Figure 8 – Average Monthly Housing Permits Needed versus Issued



TYPES OF PERMITS ISSUED

Figure 9 shows the number of housing unit permits issued in total and by type for the Indianapolis metro area from 2012 through July 2023. Annual permitted units issued has increased from 5,026 in 2012 by 173% to 13,710 in 2022. The share of permitted single-family units issued has fallen from 80% in 2012 to 63% in 2022. The share of permits for multi-family structures has increased from 20% in 2012 to 37% in 2022. 35% of all permitted units are for structures with five or more units. Through July 2023, 6.745 permits have been issued and the mix of permits is 58.6% single-family and 41.4% multi-family.

The numbers of annual permits issued from 2012 through July 2023 by county and type are shown in the Appendices. ***Note: Percentages in multi-family subcategories may not always add up to stated multi-family totals due to rounding.***

Figure 9 – Types of Permits Issued

Indianapolis Metro Area Permits Issued by Percentage of Type Issued						
Year	Total Units	Units in Single-Family Structures	Units in All Multi-Family Structures	Units in 2-unit Multi-Family Structures	Units in 3- and 4-unit Multi-Family Structures	Units in 5+ Unit Multi-Family Structures
2012	5,026	80%	20%	1%	3%	16%
2013	8,196	62%	38%	2%	1%	35%
2014	7,958	62%	38%	1%	2%	35%
2015	8,687	59%	41%	1%	1%	39%
2016	7,728	75%	25%	3%	1%	21%
2017	9,000	74%	26%	2%	0%	24%
2018	8,810	82%	18%	1%	0%	17%
2019	9,652	73%	27%	1%	1%	25%
2020	10,938	76%	24%	2%	1%	20%
2021	13,363	75%	25%	2%	1%	22%
2022	13,710	63%	37%	1.3%	0.06%	35.2%
2023 – July	6,745	58.6%	41.4%	1.2%	1.1%	39.1%
Total 2012 – July 2023	106,665	70.2%	29.8%	1.7%	0.9%	27.2%

FORECAST OF THE CHANGE IN THE INDIANAPOLIS METRO AREA HOUSING SUPPLY SHORTAGE IN 2023

CSI previously estimated the housing shortage at the end of 2022; this is the basis for this report's estimates of permitting required to close the deficit and meet new demand for housing (see **Figure 3**). To gauge how the housing market has changed since 2022, CSI also estimated the deficit/surplus at the end of 2023 (**Figure 10**). The estimate annualizes the 6,745 permits issued through July 2023 to a total of 11,563 forecasted permits in 2023 under the assumption that every permit will result in a housing unit in 2023. The results indicate that the housing deficit for the Indianapolis area will decrease by 21.2% under scenario 1 and 21.6% under scenario 2. In 2023, under scenario 1, eight counties' housing deficits will decrease and two (Marion's, and Morgan's) will increase. Under scenario 2, the deficit in all counties will decline.

Figure 10 – Estimate of 2023 Year-end Housing Supply Deficit/Surplus

Forecasted Housing Supply Deficit/Surplus at the End of 2023							
	Change in Population 2022-2023	Change in Households 2022-2023	Permits through April 2023	2023 Housing Deficit/ Surplus (Scenario 1)	2023 Housing Deficit/ Surplus (Scenario 2)	% Change in the Deficit 2022 to 2023 (Scenario 1)	% Change in the Deficit 2022 to 2023 (Scenario 2)
Indianapolis Metro Area	19,758	7,576	6,745	(14,851)	(48,107)	-21.2%	-21.6%
Boone	1,303	501	473	(1,592)	(2,456)	-19.2%	-28.6%
Hamilton	7,252	2,691	2,394	(2,468)	(6,602)	-38.7%	-41.3%
Hancock	774	310	225	(2,109)	(3,522)	-6.3%	-10.9%
Hendricks	2,532	930	851	(5,113)	(7,403)	-9.8%	-18.2%
Johnson	1,844	698	854	(3,283)	(5,432)	-19.1%	-25.7%
Madison	-515	-213	128	117	(2,655)	-136.1%	-18.5%
Marion	6,383	2,588	1,575	2,454	(17,391)	7.0%	-11.2%
Morgan	170	63	159	493	(793)	80.1%	-34.8%
Putnam	-70	-26	56	(285)	(970)	-30.8%	-17.0%
Shelby	85	33	30	52	(882)	-138.3%	-20.5%

HOUSING DEFICIT SUMMARY

- **Based on permitting data through July 2023, the housing deficit will decrease by 21.2% to 21.6% for the Indianapolis Metro Area.**
- **The deficit will increase in Marion and Morgan County under scenario 1.**
- **Shortage of housing by value in each county** – a comparison of a resident's ability to afford a mortgage based on income and the value distribution of the local housing stock show that:
  - **Boone** – Fewer homes worth between $200,000 and $500,000 need to be built and more homes worth over $500,000 need to be built.
  - **Hamilton** – Fewer homes worth between $200,000 and $500,000 need to be built and more homes worth less than $150,000 or more than $500,000 need to be built.
  - **Hancock** – Fewer homes worth between $150,000 and $500,000 and more homes worth more than $500,000 need to be built.
  - **Hendricks** – Fewer homes worth between $200,000 and $500,000 and more homes worth between $50,000 and $100,000, less than $100,000, or more than $500,000 need to be built.

- **Johnson** – Fewer homes worth between $200,000K and $500,000 and more homes worth more than $500,000 need to be built.
- **Madison** – More homes worth more than $200,000 need to be built.
- **Marion** – More homes worth between $50,000 and $100,000 or more than $500,000 need to be built.
- **Morgan** – Fewer homes worth between $100,000 and $300,000 and more homes worth more than $500,000 need to be built.
- **Putnam** – Fewer homes worth between $50,000 and $200,000 and more homes worth more than $500,000 need to be built.
- **Shelby** – Fewer homes worth between $50,000 and $150,000 and more homes worth more than $500,000 need to be built.

- **A full explanation of mortgage affordability and the value of the housing stock can be found on pages 21–23 of this study.**

Issue 2: Affordability

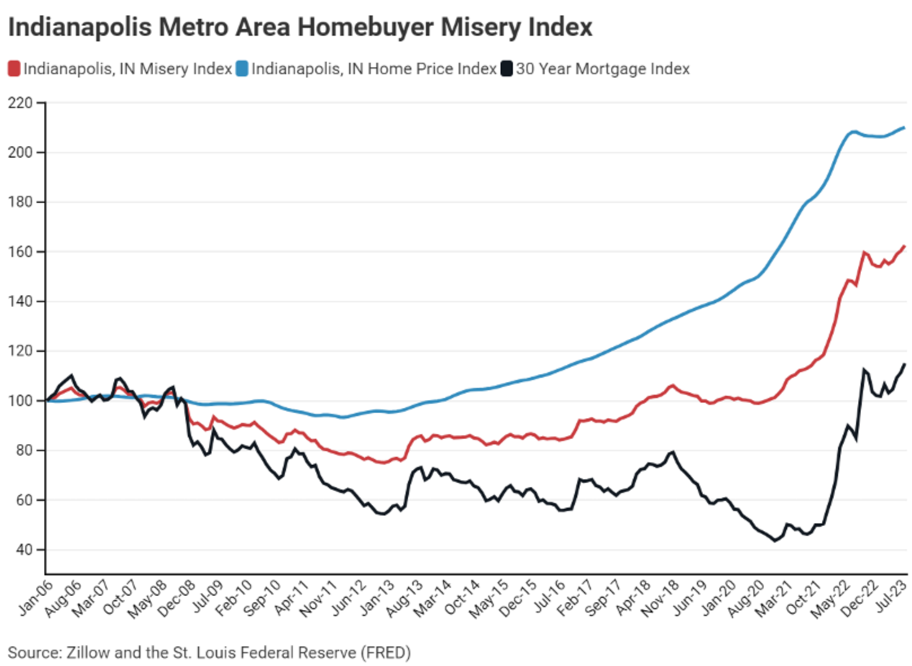
OVERALL MARKET AFFORDABILITY IN THE INDIANAPOLIS AREA AS MEASURED BY THE HOMEBUYER MISERY INDEX

The Indianapolis Metro Area Homebuyer Misery Index, developed by the Common Sense Institute, captures the impact of housing prices and mortgage rates on the affordability of new homes. The Index is based on 30-year mortgage rates and Zillow home prices.

The mortgage rates are converted into an index with 2006 as its base year, which is the earliest year of data provided by Zillow. The mortgage rate index is then added to the Zillow home price index and normalized. **Figure 11** shows the Indianapolis Metro Area Homebuyer Misery Index (red line). The Index initially peaked in October of 2022 at 162.16, an increase of 61% since July 2020, and then fell by 3.4% through April 2023 before rising through July. This recent increase is primarily due to mortgage rates (black line) rising to 7% and home prices (blue line) continuing to rise.

Separate graphs of each county's Homebuyer Misery Index compared to the national Homebuyer Misery Index and the Case-Shiller Index for the Indianapolis MSA can be found in the Appendix. The county indices measure changes in affordability for each county in isolation, not relative to regional affordability. Home prices are highest in Hamilton and lowest in Shelby, for example, but the largest change in affordability has occurred

Figure 11 Indianapolis Metro Area Homebuyer Misery Index



in Madison County. The significant increase in the index value over the last two-and-a-half years reflects a large decrease in home affordability. The graphs are useful for evaluating and comparing trends in each county to each other and the U.S., but not for determining the degree to which counties became more or less affordable relative to each other. **Figure 12**, below, serves that second purpose.

In Marion County, since January 2014, the cost to purchase an average-price home rose by 105%. Home affordability has declined much more rapidly than the U.S. average in all ten counties since 2014, but most of the decline has come after 2020. Since January of this year, home prices have increased slightly, and affordability has continued to worsen despite mortgage rates moderating. Since 2014, Madison County experienced the largest change in affordability in the Indianapolis Metro Area.

Figure 12 – Percentage Change in Misery Index by County

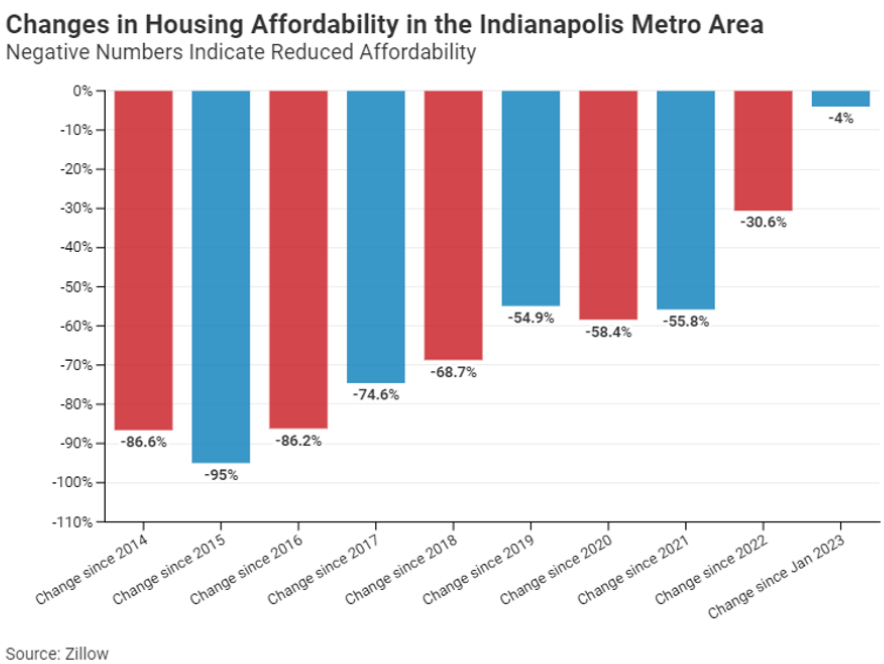
Percent Change in Housing Affordability by County in July 2023 Relative to January of Years 2014–2023 Based on the Misery Index – Indianapolis Metro Area

% Change as of April 2023 Since:	Boone County	Hamilton County	Hancock County	Hendricks County	Johnson County	Madison County	Marion County	Morgan County	Putnam County	Shelby County	United States
Jan 2014	-74.1%	-72.6%	-77.7%	-79.0%	-83.4%	-104.3%	-104.9%	-78.0%	-77.8%	-82.0%	-21.0%
Jan 2015	-82.8%	-81.1%	-87.8%	-88.8%	-92.9%	-114.3%	-108.5%	-87.8%	-88.7%	-89.9%	-37.5%
Jan 2016	-75.0%	-72.8%	-80.1%	-80.3%	-84.4%	-103.6%	-98.3%	-80.1%	-82.8%	-81.9%	-41.4%
Jan 2017	-64.8%	-64.2%	-69.5%	-70.0%	-73.6%	-91.6%	-83.5%	-70.2%	-70.9%	-70.9%	-41.9%
Jan 2018	-61.8%	-61.6%	-65.0%	-66.1%	-68.2%	-81.0%	-74.5%	-65.3%	-65.3%	-65.9%	-47.7%
Jan 2019	-50.4%	-50.8%	-53.1%	-53.6%	-55.0%	-65.1%	-57.7%	-53.3%	-53.8%	-54.0%	-39.2%
Jan 2020	-53.7%	-57.0%	-56.9%	-57.3%	-58.6%	-65.3%	-59.2%	-58.8%	-57.8%	-58.7%	-41.1%
Jan 2021	-56.0%	-57.3%	-55.3%	-56.4%	-56.0%	-57.7%	-54.7%	-54.5%	-56.8%	-55.6%	-46.1%
Jan 2022	-31.6%	-32.0%	-31.1%	-31.6%	-30.2%	-32.9%	-29.5%	-31.4%	-31.7%	-32.1%	-31.8%
Jan 2023	-4.4%	-4.6%	-4.1%	-4.2%	-3.7%	-6.0%	-3.5%	-4.4%	-5.3%	-4.8%	-5.4%

AFFORDABILITY TRENDS

Figure 13 shows the Indianapolis metro area's average affordability changes since each year after 2013 through April 2023. Nearly two-thirds of the change since 2014 has occurred after January 2020. Since January 2023, affordability has decreased by 4.0%.

Figure 13 – Change in Affordability in the Indianapolis Area



HOME PRICES

See **Figure 14**. Home prices in the 10-county metro area have continued to increase. In mid-2022, home price growth in the Indianapolis metro area began to taper off before rising again beginning in April 2023.

Figure 14 – Indianapolis Metro Area Home Prices by County

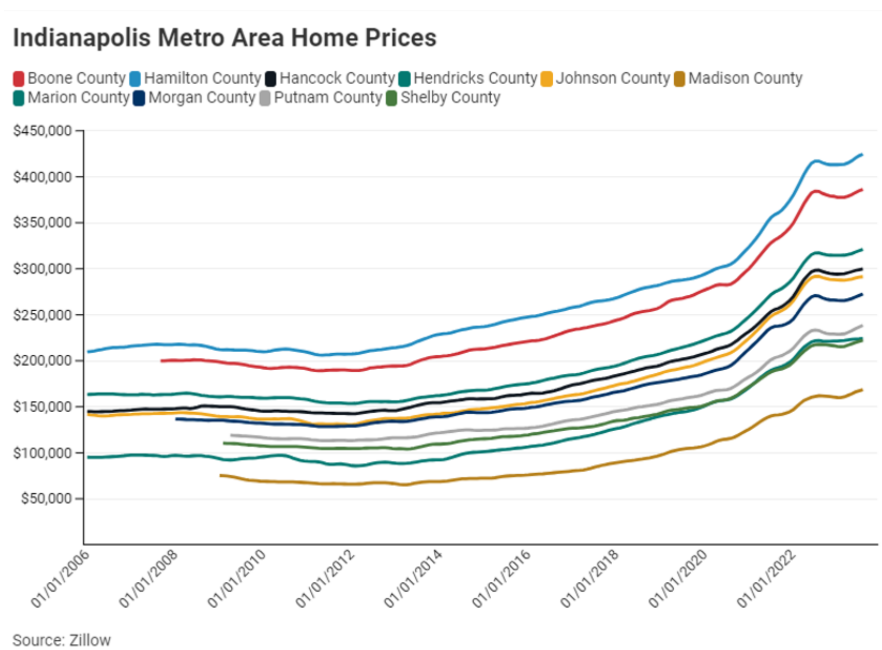


Figure 15 shows the average home prices in the ten counties in this study and the U.S. overall. Among the metro counties, Hamilton is ranked 1st (highest average price) and Madison 10th (lowest average price). The housing surplus/deficit estimates in this report reflect that residents who cannot afford housing units in their counties of residence can neither afford them in more expensive counties.

Figure 15 – Average Home Prices Ranked and Percent of U.S. Average

July 2023 Home Prices Ranked and Percentage of U.S. Average Home Price

Region	Average Home Price	Rank	% Of U.S. Average
Boone	$384,790.14	2	110.5%
Hamilton	$422,805.70	1	121.4%
Hancock	$299,011.15	4	85.9%
Hendricks	$319,613.28	3	91.8%
Johnson	$290,887.23	5	83.6%
Madison	$167,364.26	10	48.1%
Marion	$223,907.19	8	64.3%
Morgan	$270,943.08	6	77.8%
Putnam	$236,624.75	7	68%
Shelby	$221,051.71	9	63.5%
U.S.	$384,790.14		

HOURS OF WORK NEEDED TO AFFORD A HOME MORTGAGE

To measure the impact decreased affordability on the average homeowner in the Indianapolis metro area, CSI calculated the number of hours that one would have to work while earning the average hourly wage in December from 2013 to July 2023 to cover the monthly mortgage payments shown in **Figure 16**. Over just the last 19 months, driven primarily by the increase in mortgage rates, an additional 25 hours of work per month has become necessary to cover the mortgage on a newly purchased average-price home.

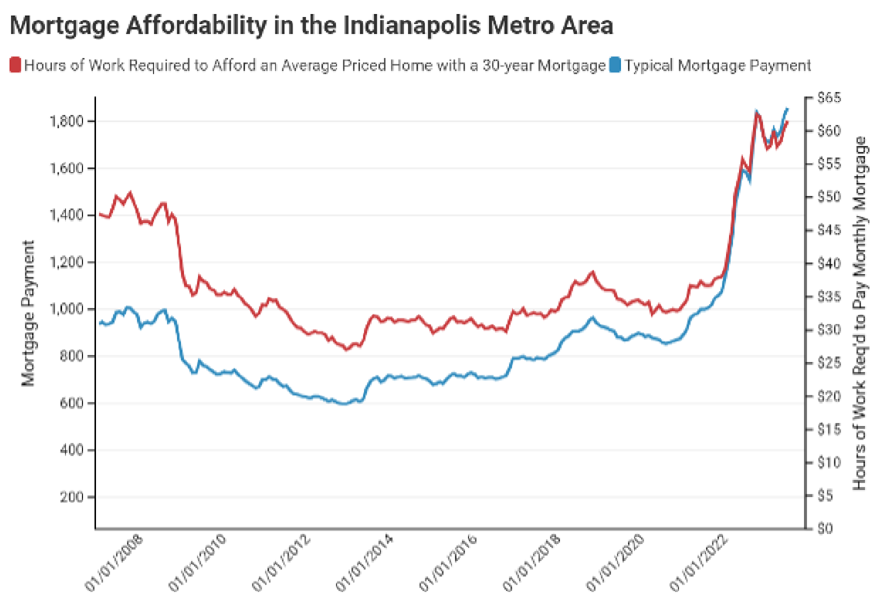
Figure 16 – Hours of Work Needed to Afford a Home Mortgage Monthly Payment

Indianapolis Metro Area Home Prices, Mortgage Rates, Monthly Payment, Wage Rates, and Hours Required to Cover Monthly Mortgage Payment						
Date	**Average Home Price**	**30-Year Mortgage Rate**	**Mortgage Payment**	**Average Wage Rate**	**Hours of Work at the Average Wage Rate Required to Cover Mortgage Payment**	**% Annual Change in Hours of Work Required**
Dec 2013	$134,288	4.46%	$677	$22.53	30.05	
Dec 2014	$141,168	3.86%	$663	$22.71	28.88	-2.90%
Dec 2015	$144,155	3.96%	$685	$23.00	29.53	2.10%
Dec 2016	$152,359	4.20%	$745	$24.15	29.65	3.60%
Dec 2017	$162,952	3.95%	$773	$24.84	31.32	0.90%
Dec 2018	$176,452	4.64%	$909	$25.26	37.13	15.60%
Dec 2019	$185,447	3.72%	$856	$26.04	32.83	-8.70%
Dec 2020	$204,925	2.68%	$829	$26.46	31.23	-4.70%
Dec 2021	$244,530	3.10%	$1,044	$28.23	36.6	18.10%
Dec 2022	$274,276	6.36%	$1,709	$29.34	58.17	57.30%
July 2023	$283,700	6.84%	$1,857	$30.22	61.45	5.64%

Source: Federal Reserve Bank of St. Louis (FRED)

Figure 17 shows the evolution of monthly mortgage payments on an average-price home and the required hours of work necessary to cover the payment. Required hours fluctuated around 28 from January 2007 until the summer of 2020, after which they increased dramatically as home prices rose. Beginning in the spring of 2022, mortgage rates have increased as the Federal Reserve addresses inflation. Since the start of the pandemic in December 2019, the hours of work required to afford a mortgage on an average-price home increased by 88% from 33 hours to 62 hours (about two and a half days) in July 2023.

Figure 17 – Evolution of Mortgage Affordability in the Indianapolis Area



Source: Zillow, Federal Reserve Bank of St. Louis, and CSI Calculations

HOUSEHOLD INCOME VS. VALUE OF HOUSING STOCK

To address affordability the distribution of the stock of housing needs to be valued (priced) so that it reflects the distribution of household income. New homes must be built that residents can afford. CSI developed a method to assess whether the stock of housing matches the household income profile. Some basic assumptions include, households do not have any assets that can be used to purchase a home other than the 20% down payment to avoid mortgage insurance, households will purchase the most house they can afford (they will secure the largest mortgage they can qualify for), and new home buyers have the same household income distribution as current residents. Note Boone County is presented for illustrative purposes, and the other county data can be found in the appendices.

The U.S. Census provides data on the distribution, in discrete buckets, of the housing stock by the value owner occupied homes by county, as shown in **Figure 18**.

Figure 18 – Distribution of Owner Occupied Housing by Value

Distribution of Housing Stock by Value

Owner-occupied units	Boone County – Value of Owner Occupied Units
Less than $50,000	0.57%
$50,000 to $99,999	5.62%
$100,000 to $149,999	7.11%
$150,000 to $199,999	10.71%
$200,000 to $299,999	21.61%
$300,000 to $499,999	29.19%
$500,000 to $999,999	21.91%
$1,000,000 or more	3.29%

The U.S. Census also provides data on the distribution, in discrete buckets, of household income by county, see **Figure 19**.

Figure 19 – Household Income Distribution

Distribution of Household Income

	Boone County – Value of Owner Occupied Units
Total Units	28,048
Less than $10,000	2.30%
$10,000 to $14,999	2.40%
$15,000 to $24,999	3.30%
$25,000 to $34,999	8.30%
$35,000 to $49,999	5.60%
$50,000 to $74,999	13.50%
$75,000 to $99,999	15.20%
$100,000 to $149,999	17.70%
$150,000 to $199,999	13.30%
$200,000 or more	18.40%

Next the distribution of household income is converted into a distribution of household mortgage affordability by calculating the size of mortgage a household income can finance. The mortgage capacity is calculated by taking 28 percent (typical lending mortgage lending threshold) of monthly income as the value of the monthly mortgage payment, and the current 30-year mortgage rate of 6.71% to calculate the present value of the mortgage, see **Figure 20**.

Figure 20 – Household Mortgage Capacity

Household Mortgage Capacity				
Household Income	**Annual Income**	**Monthly Income**	**Mortgage Capacity (28% Rule)**	**Household Mortgage Capacity Distribution**
Less than $10,000	$10,000.00	$833.33	$36,122.99	2.30%
$10,000 to $14,999	$15,000.00	$1,250.00	$54,184.48	2.40%
$15,000 to $24,999	$25,000.00	$2,083.33	$90,307.46	3.30%
$25,000 to $34,999	$35,000.00	$2,916.67	$126,430.45	8.30%
$35,000 to $49,999	$50,000.00	$4,166.67	$180,614.93	5.60%
$50,000 to $74,999	$75,000.00	$6,250.00	$270,922.39	13.50%
$75,000 to $99,999	$100,000.00	$8,333.33	$361,229.85	15.20%
$100,000 to $149,999	$150,000.00	$12,500	$541,844.78	17.70%
$150,000 to $199,999	$200,000.00	$16,666.67	$722,459.71	13.30%
$200,000 or more	$250,000.00	$20,833.33	$903,074.64	18.40%

Next the household mortgage capacity is distribution is mapped into the distribution for the value of owner occupied units as shown in **Figure 21**. These two distributions are overlaid graphically as shown in **Figure 22**.

Figure 21 – Distribution of Housing Stock by Value and Distribution of Household Mortgage Capacity

Distribution of Housing Stock by Value and Household Mortgage Capacity – Boone County		
Owner-occupied units	**Boone County - Value of Owner Occupied Units**	**Boone County Mortgage – Capacity**
Less than $50,000	0.57%	2.30%
$50,000 to $99,999	5.62%	5.70%
$100,000 to $149,999	7.11%	8.30%
$150,000 to $199,999	10.71%	5.60%
$200,000 to $299,999	21.61%	13.50%
$300,000 to $499,999	29.19%	15.20%
$500,000 to $999,999	21.91%	31.00%
$1,000,000 or more	3.29%	18.40%

Comparison of the two distributions shown in **Figure 22** shows that the distribution of homes valued between $200,000 and $500,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $200,000 to $500,000 price range need to be built. The distribution of homes valued at $150 or less closely matches the household mortgage capacity. The percentage of homes valued at $500,000 and up is far less than the percentage of household having the capacity to qualify for a mortgage to purchase them.

Figure 22 – Graph of the Distribution of Housing Stock by Value and Household Mortgage Capacity for Boone County

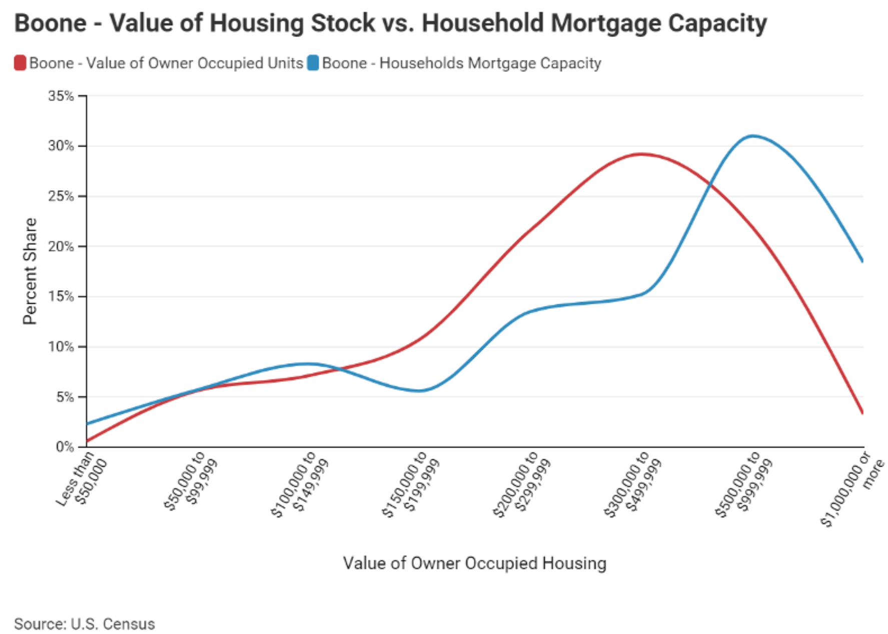


Figure 23 – Graph of the Distribution of Housing Stock by Value and Distribution of Household Mortgage Capacity for the Combined Indianapolis Area

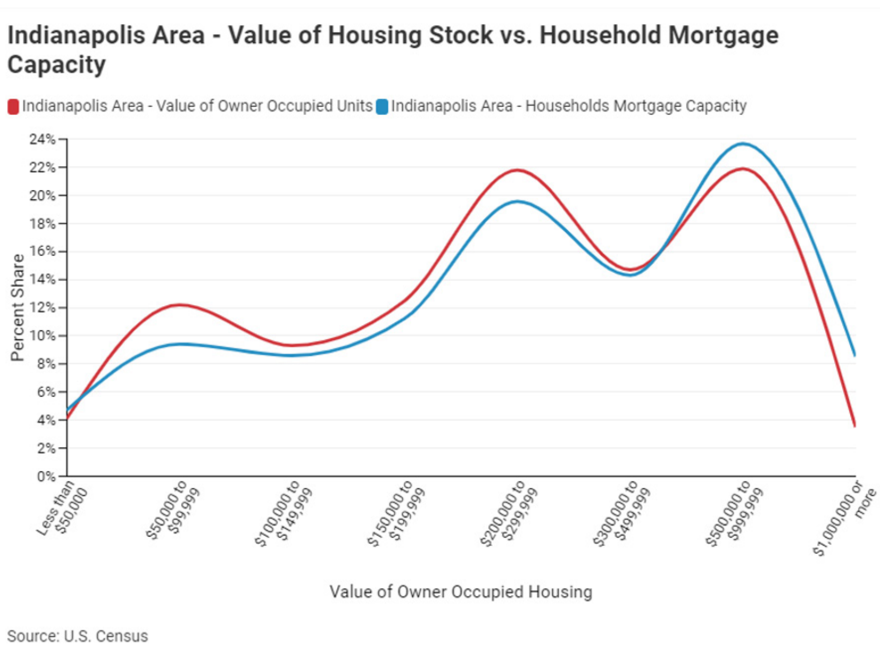


Figure 23 shows the combined distributions for the ten counties in this study. **Figure 23** indicates that for the combined ten counties in this study the distribution of the value of owner occupied homes approximates the distribution of household mortgage capacity. Thus, for the Indianapolis area overall, new homes at all price levels need to be built to close a housing supply deficit. At the county level this is not the case as can be seen in the Appendix, **Figures 26-75**.

Mortgage Rates and Home Starts

As shown in **Figure 24**, as mortgage rates (blue line) have increased since March 2022, many home builders have been re-evaluating their plans for new housing. The August Housing Market Index for the Midwest (HMI) (red line) released by the National Association of Homebuilders, which reflects builder confidence in the market for newly built single-family homes, fell for 12 straight months as mortgage rates increased, beginning in January 2022 through December 2022.v From January to June 2023 the HMI reversed course and rose 42% indicating an increase in homebuilder confidence. However, since June the HMI fell and is now 42, a level not seen since 2012 other than in 2020.

Figure 24 – NAHB/Wells Fargo Housing Market Index (HIM) & Mortgage Rates

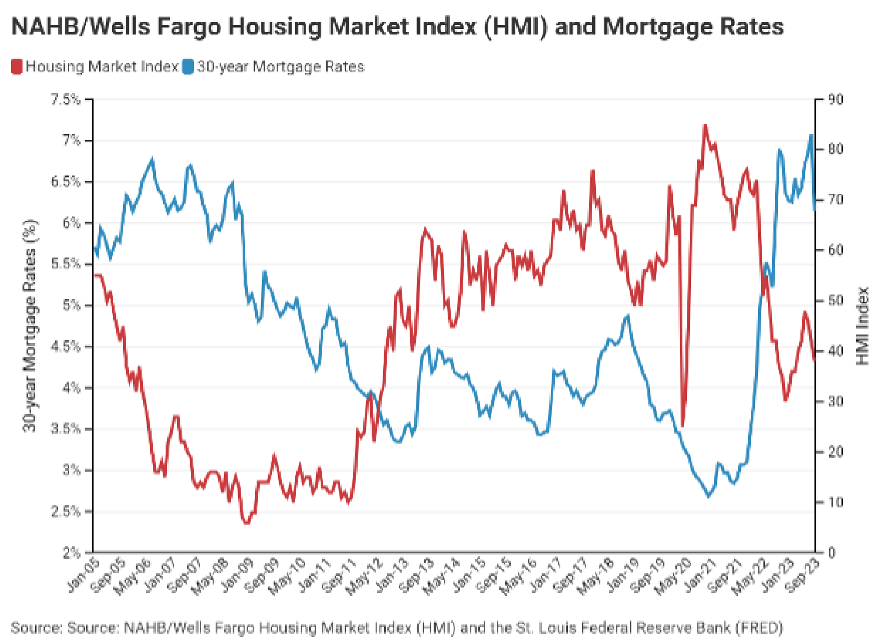
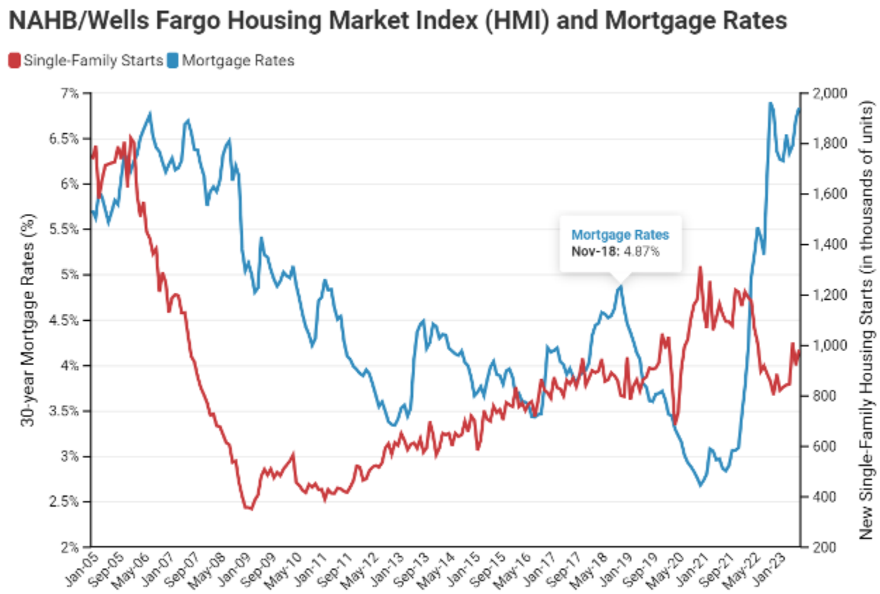


Figure 25 shows single-family housing starts (red line) and 30-year mortgage rates (blue line). In the aftermath of the 2007 financial crisis, new single family housing starts peaked in December 2020 and have mostly decreased since. The increased mortgage rates have moderated demand for new housing and homebuilders have responded accordingly.

If homebuyers begin to think that a new higher interest rate environment is here to stay going forward, they will likely respond by demanding more new housing, although because of higher financing costs, they may reduce the size and change the composition of they want to purchase.

The housing deficit remains and, if builders reduce annual production, which looks increasingly likely based on the HMI, it will not decrease. If population growth continues as forecasted, absent sufficient new housing units, the deficit will grow. Developers might consider changes to the mixture of housing they build, transition to building higher-density and less expensive housing so that the deficit can be erased even in a high interest rate environment.

Figure 25 – New Single-Family Housing Starts & Mortgage Rates



Source: Source: NAHB/Wells Fargo Housing Market Index (HMI) and the St. Louis Federal Reserve Bank (FRED)

Background and How to Find the Study

The Common Sense Institute (CSI) performed research on nine counties in the Indianapolis Metro Area evaluating the evolution of prices in the housing market, the supply of housing relative to demand for housing to determine if there are deficits or surpluses, looked at permitting to determine if it is sufficient to close any supply deficits, and examined the distribution of housing values versus household mortgage capacity.

This report can also be found on the CSI website at the following address: www.commonsenseinstituteus.org.

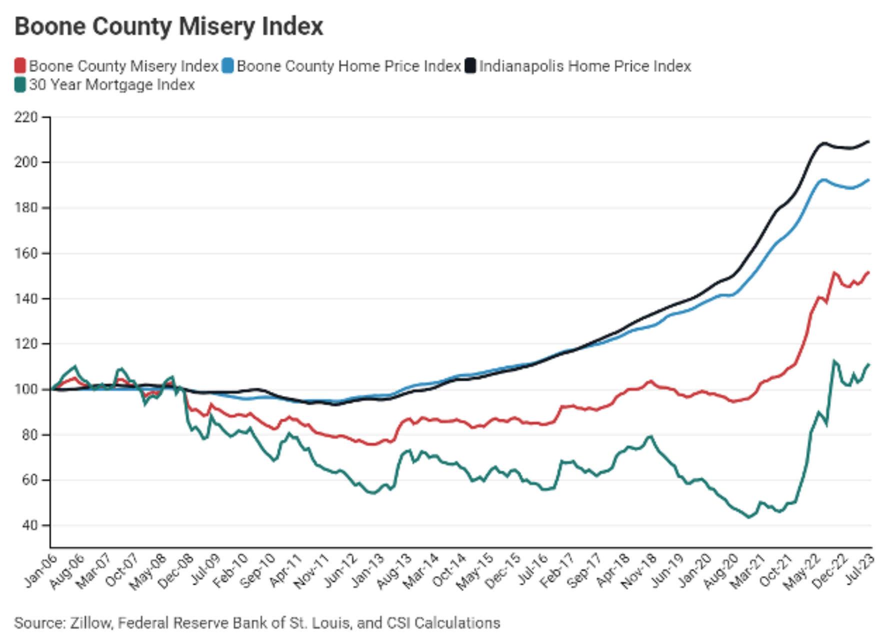
Founded in 2010, Common Sense Institute (CSI) is a non-partisan research organization dedicated to the protection and promotion of our economy. As a leading voice for free enterprise, CSI's mission is to examine the fiscal impacts of policies and educate voters on issues that impact their lives.

CSI has built a reputation as a credible, non-partisan resource. CSI's quantitative analysis and research have played a critical role in public policy debates on a range of issues. To learn more, visit www.commonsenseinstituteus.org.

APPENDIX - BOONE COUNTY

Since 2014, affordability in Boone County has declined 78% as the average home price increased 110% and mortgage rates have reached their highest level in 20 years, see **Figure 26**.

Figure 26 – Boone County Misery Index



As of the end of 2022, Boone county is estimated to have a housing supply deficit as high as 3,442 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 27**.

Figure 27 - Boone County New Residents, Permits, and the Housing Supply Deficit

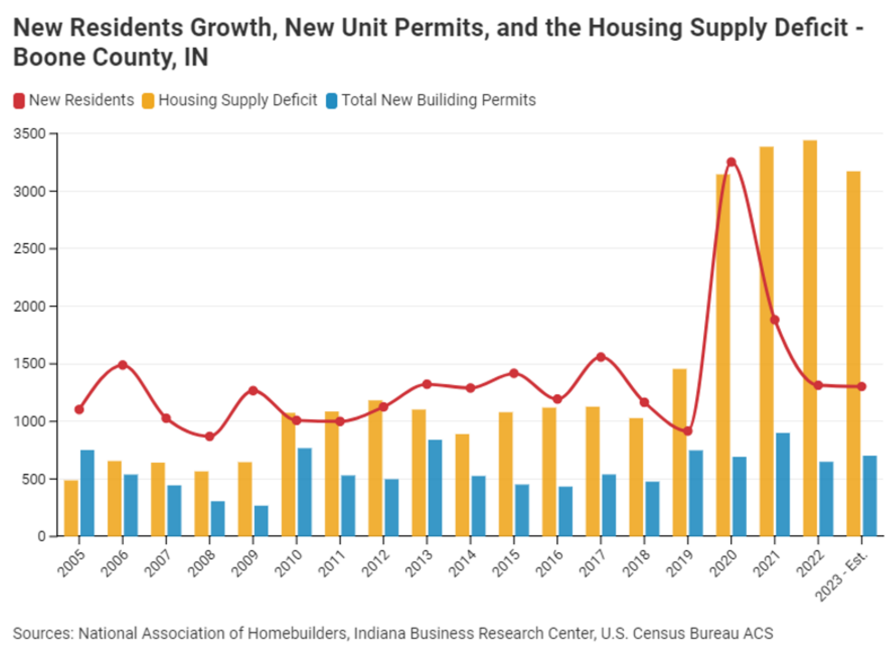


Figure 28 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Boone County is not sufficient to close the deficit and meet new demand for housing by 2028. Eighty-four percent of all permits issued in the last 12 years are for single family homes, see **Figure 29**.

Figure 28 – Boone County Average Monthly Permits Needed versus Actual

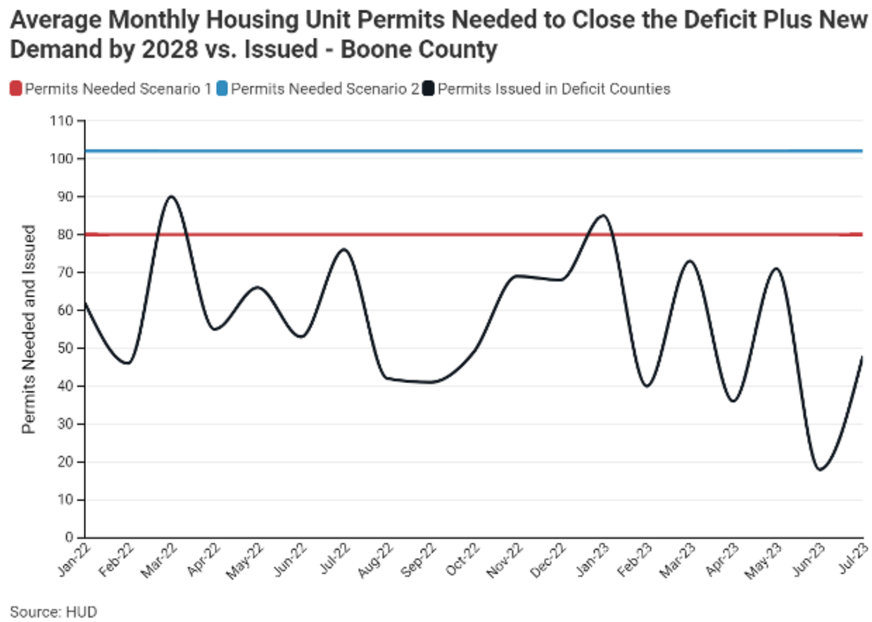
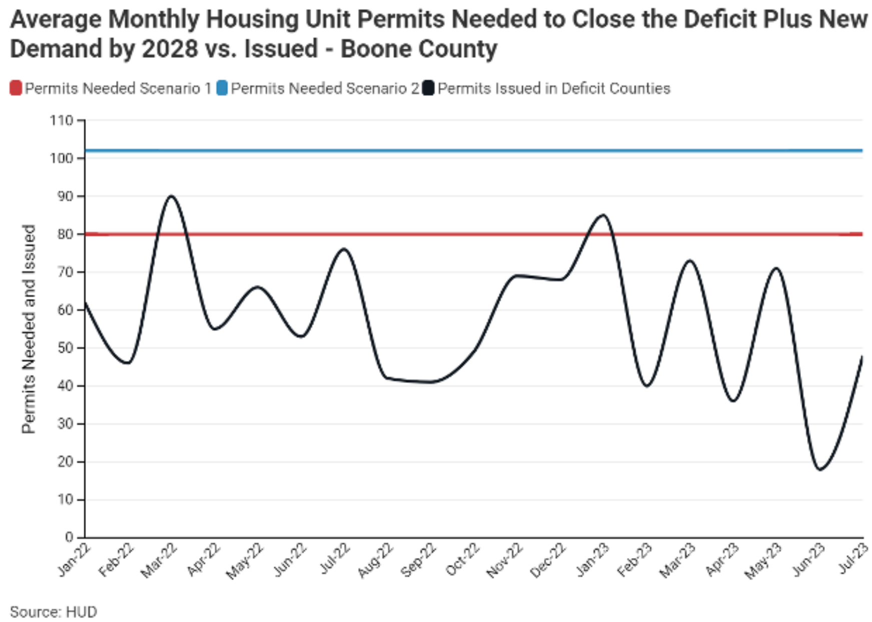


Figure 29 - Boone County Types of Permits Issued

Boone County - Permits by Percentage of Type Issued												
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Total 2012 -2023**
Total Units	840	526	451	433	539	477	748	692	900	717	473	7,294
% of Units in Single-Family Struc-tures	58%	81%	86%	96%	78%	99%	68%	97%	88%	100%	100%	84.1%
% of Units in All Multi-Family Structures	42%	19%	14%	4%	22%	1%	32%	3%	12%	0%	0%	15.9%
% of Units in 2-unit Multi-Family Structures	10%	1%	4%	4%	9%	1%	3%	3%	1%	0%	0%	3.3%
% of Units in 3- and 4-unit Multi-Family Structures	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.2%
% of Units in 5+ Unit Multi-Family Structures	32%	16%	9%	0%	13%	0%	29%	0%	12%	0%	0%	12.5%

Figure 30 and the corresponding table below, shows that the distribution of homes in Boone County valued between $200,000 and $500,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $200,000 to $500,000 price range need to be built. The distribution of homes valued at $150,000 or less closely matches the household mortgage capacity. The percentage of homes valued at $500,000 and up is far less than the percentage of household having the capacity to qualify for a mortgage to purchase them.

Figure 30 – Boone County – Value of Housing Stock vs. Household Mortgage Capacity

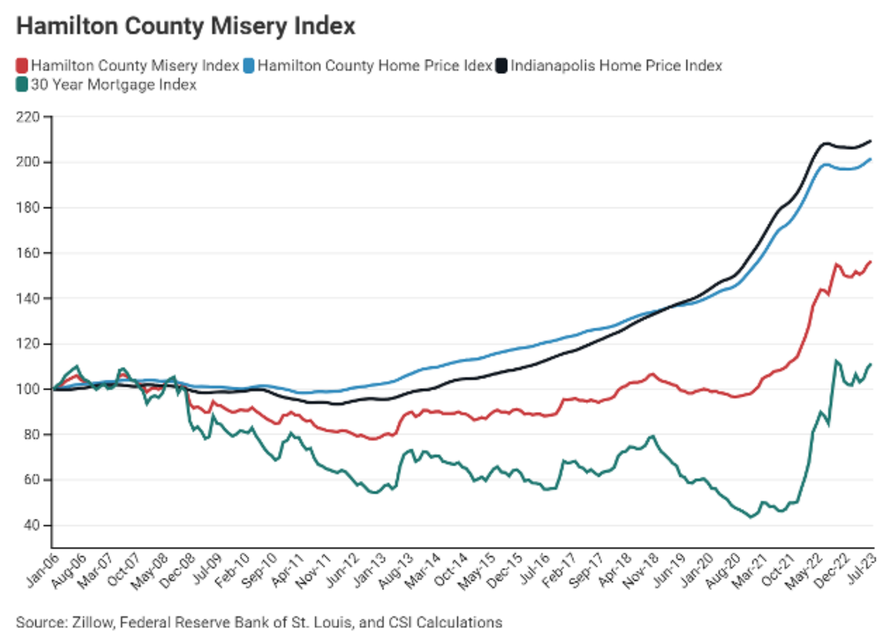


Distribution of Housing Stock by Value and Household Mortgage Capacity – Boone County		
Owner-occupied units	**Boone County - Value of Owner Occupied Units**	**Boone County Mortgage – Capacity**
Less than $50,000	0.57%	2.30%
$50,000 to $99,999	5.62%	5.70%
$100,000 to $149,999	7.11%	8.30%
$150,000 to $199,999	10.71%	5.60%
$200,000 to $299,999	21.61%	13.50%
$300,000 to $499,999	29.19%	15.20%
$500,000 to $999,999	21.91%	31.00%
$1,000,000 or more	3.29%	18.40%

APPENDIX - HAMILTON COUNTY

Since 2014, affordability in Hamilton County has declined 73.6% as the average home price increased 81.3% and mortgage rates have reached their highest level in 20 years, see **Figure 31**.

Figure 31 – Hamilton County Misery Index



As of the end of 2022, Hamilton County is estimated to have a housing supply deficit as high as 11,240 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 32**.

Figure 32 – Hamilton County New Residents, Permits, and the Housing Supply Deficit

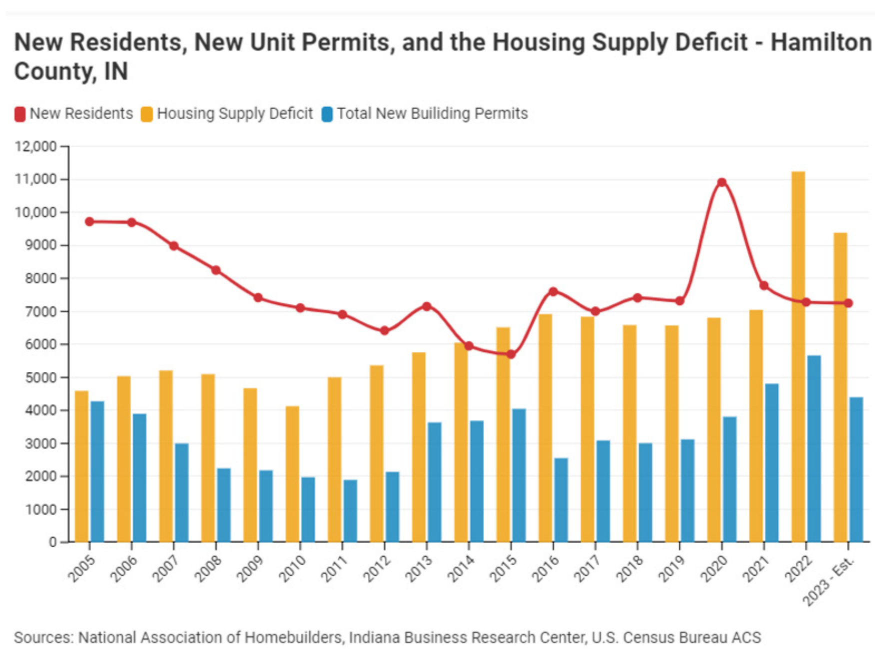


Figure 32 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Hamilton County is not sufficient to close the deficit and meet new demand for housing by 2028. Sixty-eight percent of all permits issued in the last 12 years are for single family homes, see **Figure 33**.

Figure 33 – Hamilton County Average Monthly Permits Needed versus Actual

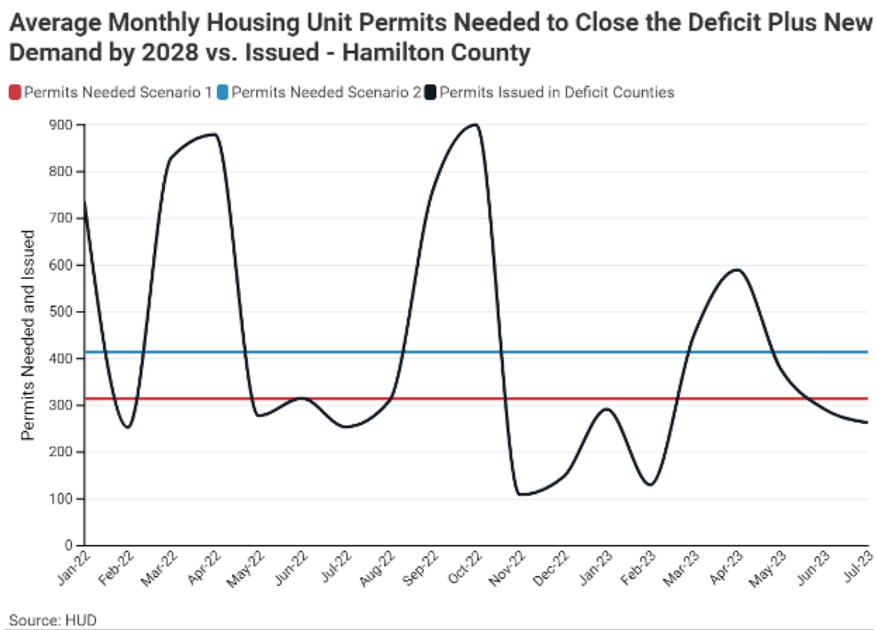
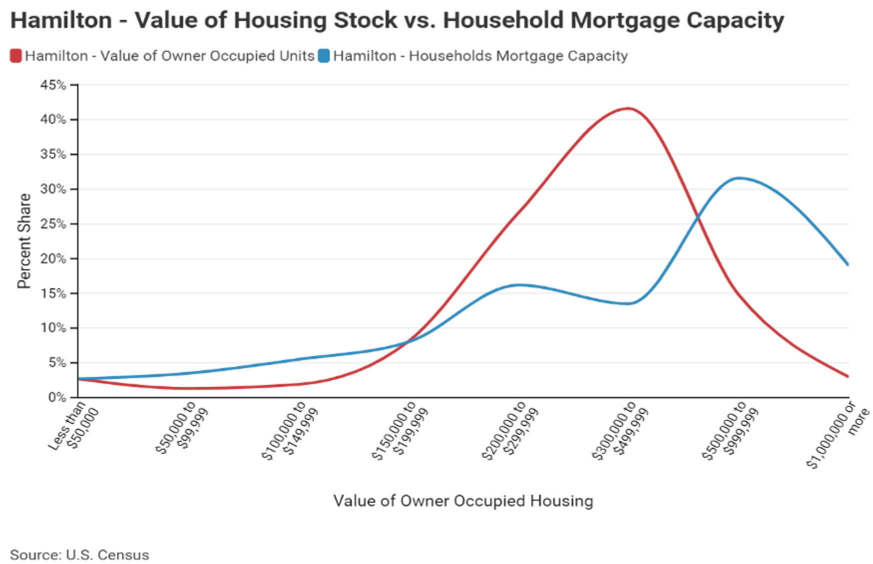


Figure 34 - Hamilton County Types of Permits Issued

Hamilton County - Permits by Percentage of Type Issued												
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total 2012 -2023
Total Units	3,635	3,684	4,047	2,553	3,089	3,005	3,122	3,807	4,806	5,678	2,394	42,091
% of Units in Single-Family Structures	56%	50%	47%	85%	80%	90%	77%	67%	72%	52.9%	67.8%	66.1%
% of Units in All Multi-Family Structures	44%	50%	53%	15%	20%	10%	23%	33%	28%	47.1%	32.2%	33.9%
% of Units in 2-unit Multi-Family Structures	1%	0%	1%	2%	0%	0%	1%	2%	3%	0.7%	2.3%	1.1%
% of Units in 3- and 4-unit Multi-Family Structures	0%	2%	1%	3%	1%	0%	1%	1%	1%	1.0%	0.4%	1.1%
% of Units in 5+ Unit Multi-Family Structures	43%	47%	51%	10%	20%	10%	22%	30%	25%	45.4%	29.5%	31.7%

Figure 34 and the corresponding table below, shows that the distribution of homes in Hamilton County valued between $200,000 and $500,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $200,000 to $500,000 price range need to be built. The distribution of homes valued at $150,000 or less is less than the household mortgage capacity, more homes in this range need to be built. The percentage of homes valued at $500,000 and up is far less than the percentage of household having the capacity to qualify for a mortgage to purchase them.

Figure 35 – Hamilton County – Value of Housing Stock vs. Household Mortgage Capacity

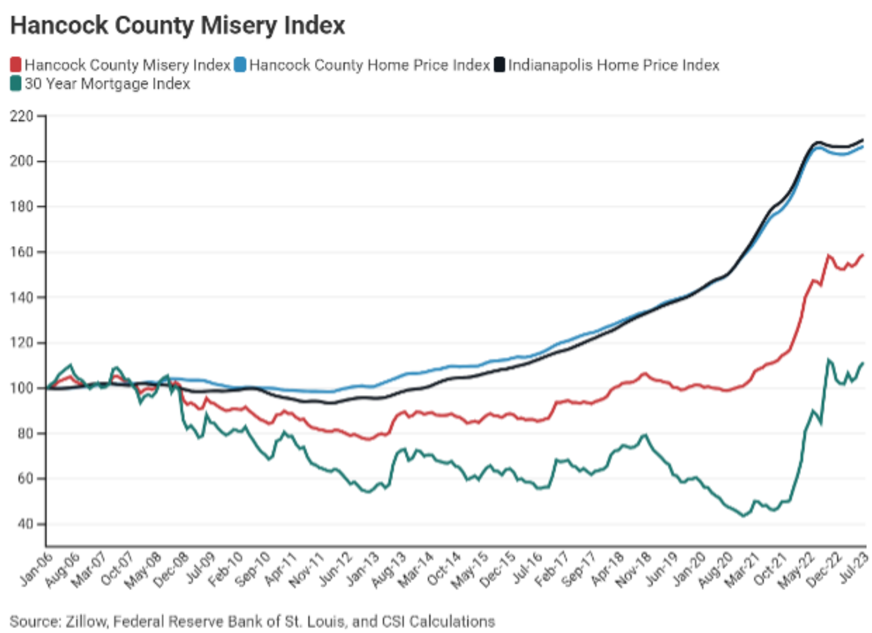


Distribution of Housing Stock by Value and Household Mortgage Capacity – Hamilton County		
Owner-occupied units	**Hamilton County - Value of Owner Occupied Units**	**Hamilton County Mortgage – Capacity**
Less than $50,000	2.69%	2.70%
$50,000 to $99,999	1.32%	3.50%
$100,000 to $149,999	1.90%	5.50%
$150,000 to $199,999	8.09%	8.00%
$200,000 to $299,999	26.60%	16.20%
$300,000 to $499,999	41.62%	13.50%
$500,000 to $999,999	14.81%	31.60%
$1,000,000 or more	2.97%	19.00%

APPENDIX - HANCOCK COUNTY

Since 2014, affordability in Hancock County has declined 77.7% as the average home price increased 94% and mortgage rates have reached their highest level in 20 years, see **Figure 36**.

Figure 36 – Hancock County Misery Index



As of the end of 2022, Hancock County is estimated to have a housing supply deficit as high as 3,954 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 37**.

Figure 37 – Hancock County New Residents, Permits, and the Housing Supply Deficit

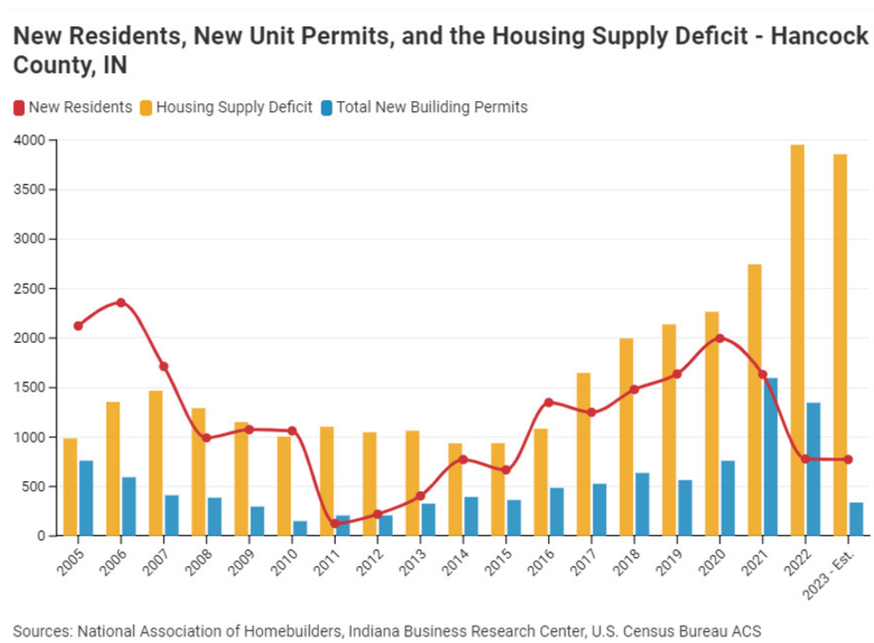


Figure 38 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Hancock County is not sufficient to close the deficit and meet new demand for housing by 2028. Eighty-six percent of all permits issued in the last 12 years are for single family homes, see **Figure 39**.

Figure 38 – Hancock County Average Monthly Permits Needed versus Actual

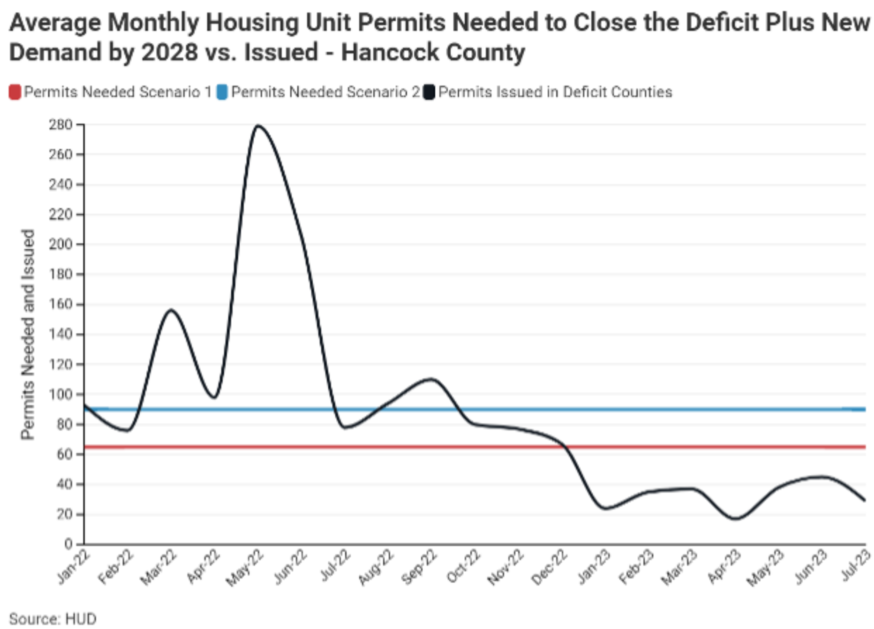
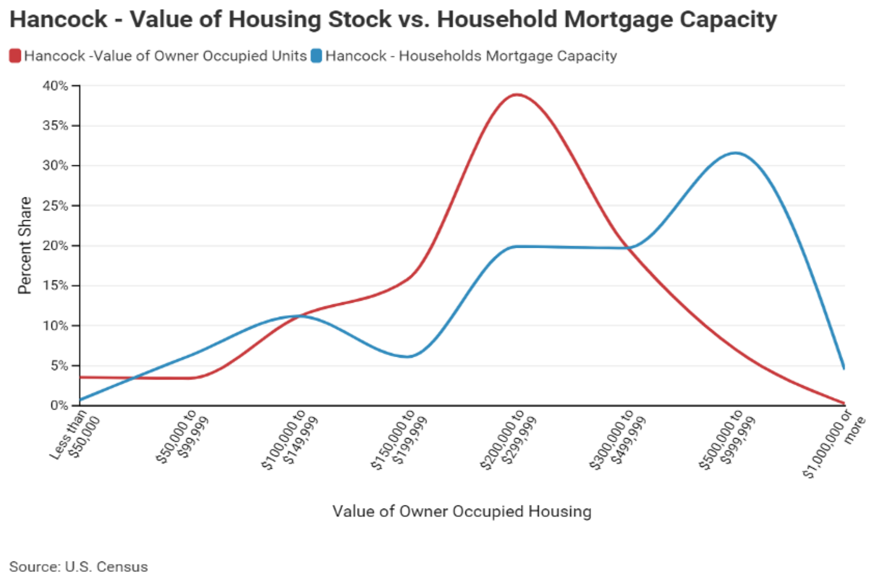


Figure 39 - Hancock County Types of Permits Issued

Hancock County - Permits by Percentage of Type Issued												
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total 2012 -2023
Total Units	327	395	365	487	528	638	566	761	1,597	1,414	225	7,512
% of Units in Single-Family Structures	83%	97%	99%	84%	89%	96%	99%	98%	72%	75.3%	100%	85.9%
% of Units in All Multi-Family Structures	17%	3%	1%	16%	11%	4%	1%	2%	28%	24.7%	0%	14.1%
% of Units in 2-unit Multi-Family Structures	1%	1%	1%	1%	1%	1%	1%	2%	2%	1.4%	0%	1.3%
% of Units in 3- and 4-unit Multi-Family Structures	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%
% of Units in 5+ Unit Multi-Family Structures	13%	0%	0%	16%	10%	4%	0%	0%	26%	23.3%	0%	12.5%

Figure 40 and the corresponding table below, shows that the distribution of homes in Hancock County valued between $200,000 and $500,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $150,000 to $500,000 price range need to be built. The distribution of homes valued at $150,000 or less is less than the household mortgage capacity, more homes in this range need to be built. The percentage of homes valued at $500,000 to $1,000,000 is far less than the percentage of household having the capacity to qualify for a mortgage to purchase them and therefore, more homes could be built in this range .

Figure 40 – Hancock County – Value of Housing Stock vs. Household Mortgage Capacity

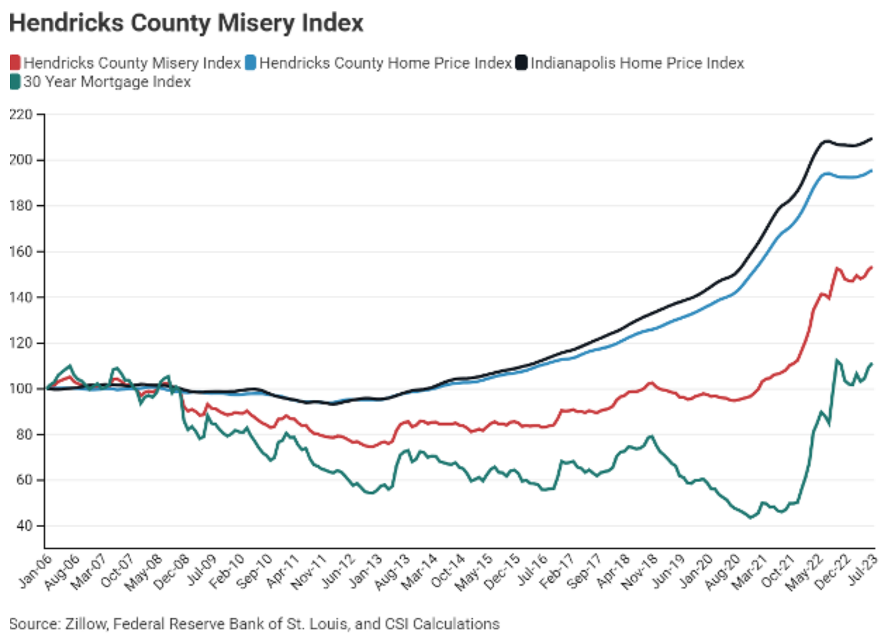


Distribution of Housing Stock by Value and Household Mortgage Capacity – Hancock County		
Owner-occupied units	**Hancock County - Value of Owner Occupied Units**	**Hancock County Mortgage – Capacity**
Less than $50,000	3.55%	0.70%
$50,000 to $99,999	3.42%	6.20%
$100,000 to $149,999	11.11%	11.20%
$150,000 to $199,999	15.77%	6.10%
$200,000 to $299,999	38.89%	19.90%
$300,000 to $499,999	19.96%	19.70%
$500,000 to $999,999	7.04%	31.60%
$1,000,000 or more	0.26%	4.50%

APPENDIX - HENDRICKS COUNTY

Since 2014, affordability in Hendricks County has declined 79% as the average home price increased 97% and mortgage rates have reached their highest level in 20 years, see **Figure 41**.

Figure 41 – Hendricks County Misery Index



As of the end of 2022, Hendricks County is estimated to have a housing supply deficit as high as 9,055 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 42**.

Figure 42 – Hendricks County New Residents, Permits, and the Housing Supply Deficit

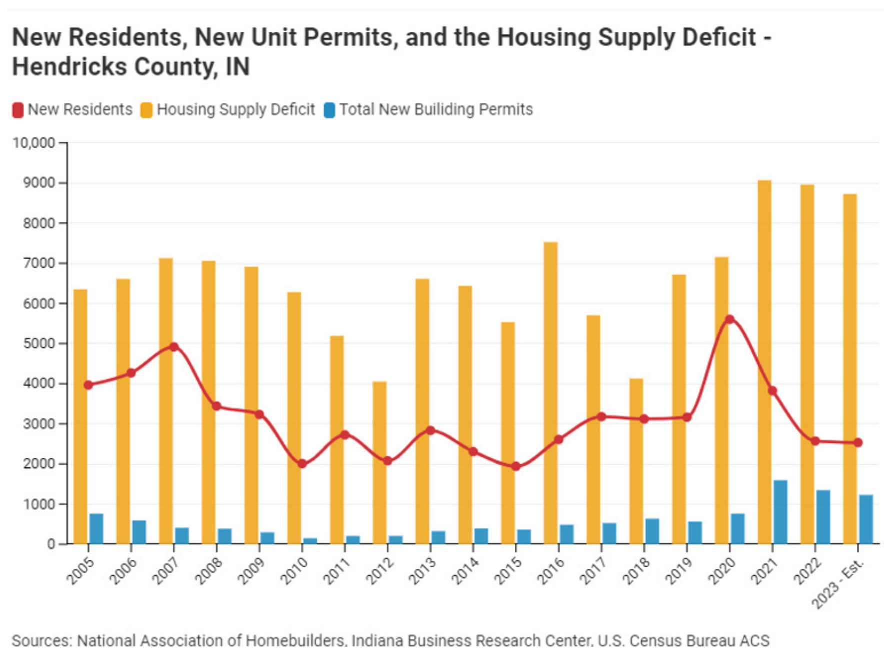


Figure 43 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Hendricks County is not sufficient to close the deficit and meet new demand for housing by 2028. Eighty percent of all permits issued in the last 12 years are for single family homes, see **Figure 44**.

Figure 43 – Hendricks County Average Monthly Permits Needed versus Actual

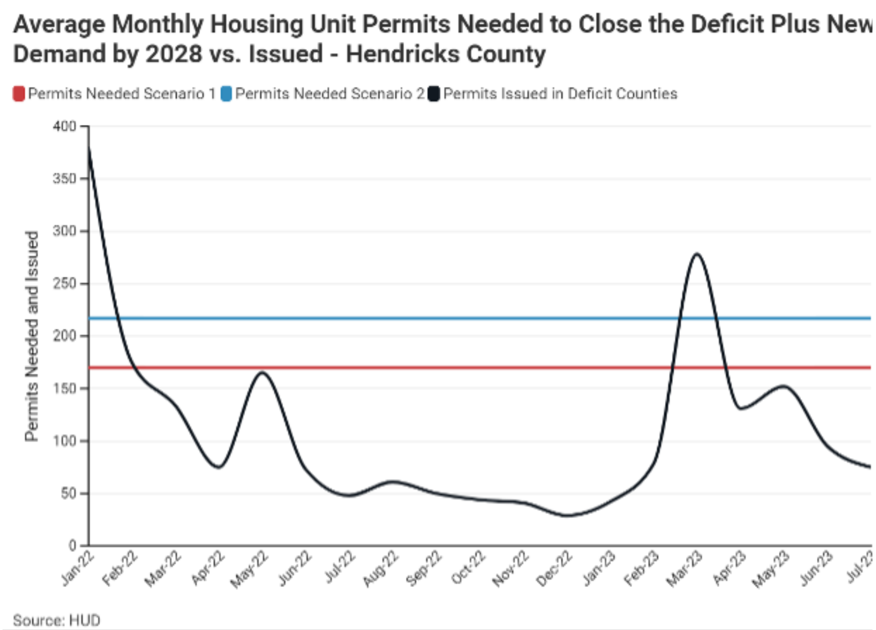
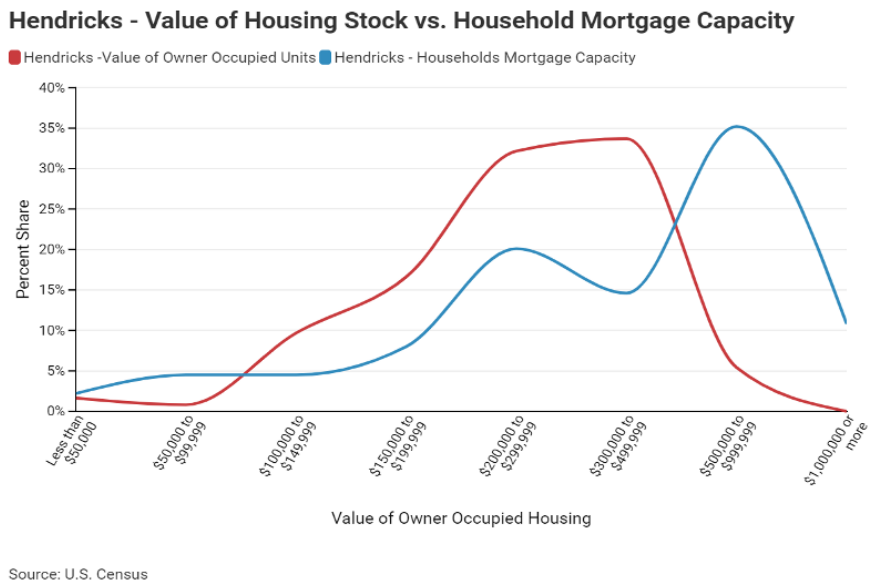


Figure 44 - Hendricks County Types of Permits Issued

Hendricks County - Permits by Percentage of Type Issued												
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Total 2012 -2023**
Total Units	1,039	1,145	999	1,232	1,504	935	1,053	1,371	1,370	1,275	851	13,420
% of Units in Single-Family Struc-tures	67%	61%	75%	73%	74%	96%	83%	98%	99%	78.0%	64.7%	79.9%
% of Units in All Multi-Family Structures	33%	39%	25%	27%	26%	4%	17%	2%	1%	22.0%	35.3%	20.1%
% of Units in 2-unit Multi-Family Structures	1%	3%	0%	2%	2%	1%	2%	0%	1%	2.2%	2.6%	1.4%
% of Units in 3- and 4-unit Multi-Family Structures	2%	1%	1%	0%	1%	0%	1%	1%	0%	0%	2.8%	0.8%
% of Units in 5+ Unit Multi-Family Structures	31%	36%	24%	25%	23%	3%	14%	1%	0%	19.8%	29.8%	17.9%

Figure 45 and the corresponding table below, shows that the distribution of homes in Hendricks County valued between $200,000 and $500,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $200,000 to $500,000 price range need to be built. The distribution of homes valued at $100,000 or less is less than the household mortgage capacity, more homes in this range need to be built. The percentage of homes valued at $500,000 and up is far less than the percentage of household having the capacity to qualify for a mortgage to purchase them.

Figure 45 – Hendricks County – Value of Housing Stock vs. Household Mortgage Capacity

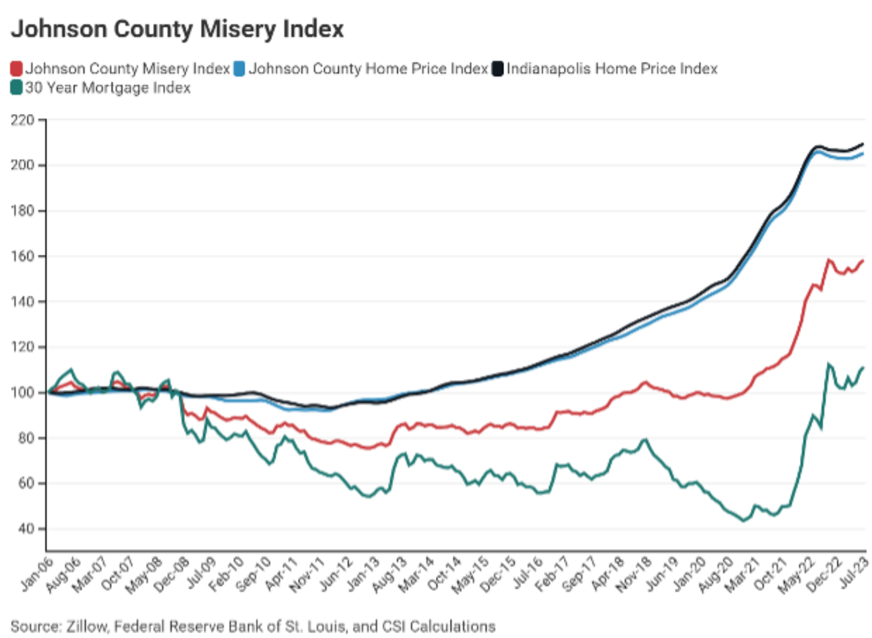


Distribution of Housing Stock by Value and Household Mortgage Capacity – Hendricks County		
Owner-occupied units	**Hancock County - Value of Owner Occupied Units**	**Hancock County Mortgage – Capacity**
Less than $50,000	1.64%	2.20%
$50,000 to $99,999	0.81%	4.50%
$100,000 to $149,999	9.68%	4.50%
$150,000 to $199,999	16.61%	8.00%
$200,000 to $299,999	32.16%	20.10%
$300,000 to $499,999	33.69%	14.60%
$500,000 to $999,999	5.41%	35.20%
$1,000,000 or more	0.00%	10.80%

APPENDIX - JOHNSON COUNTY

Since 2014, affordability in Johnson County has declined 83.4% as the average home price increased 104.3% and mortgage rates have reached their highest level in 20 years, see **Figure 46**.

Figure 46 – Johnson County Misery Index



As of the end of 2022, Johnson County is estimated to have a housing supply deficit as high as 7,307 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 47**.

Figure 47 – Johnson County New Residents, Permits, and the Housing Supply Deficit

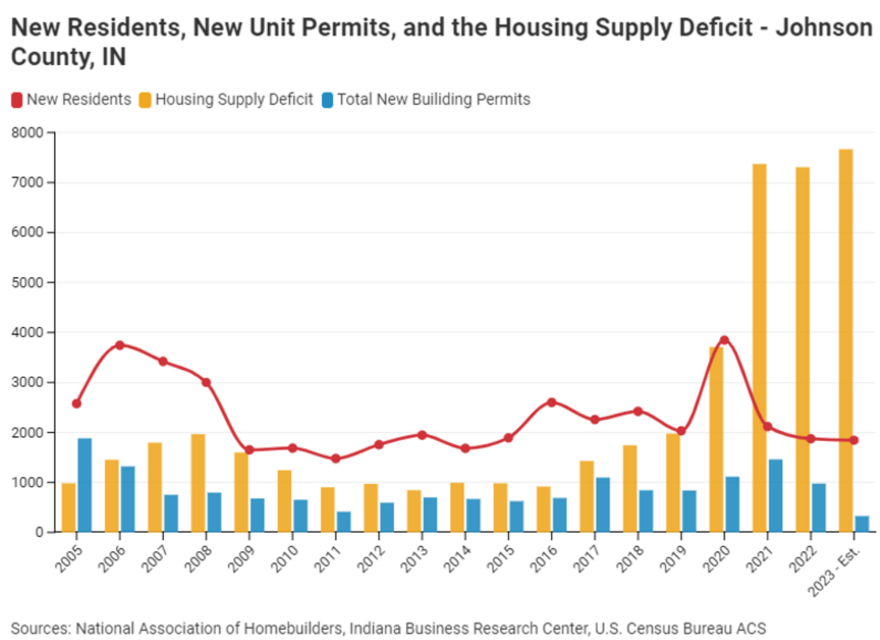


Figure 48 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Johnson County is not sufficient to close the deficit and meet new demand for housing by 2028. Eighty-two percent of all permits issued in the last 12 years are for single family homes, see **Figure 49**.

Figure 48 – Johnson County Average Monthly Permits Needed versus Actual

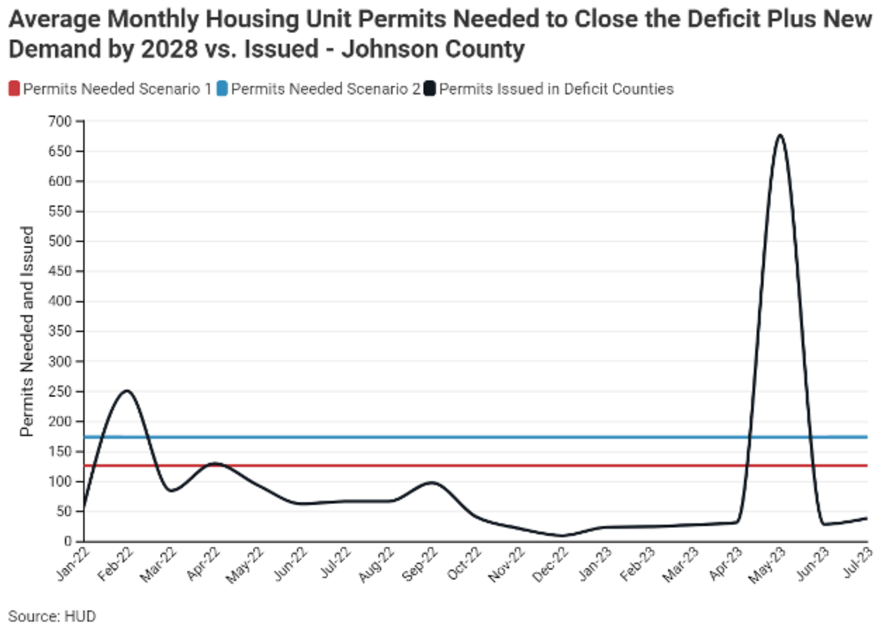
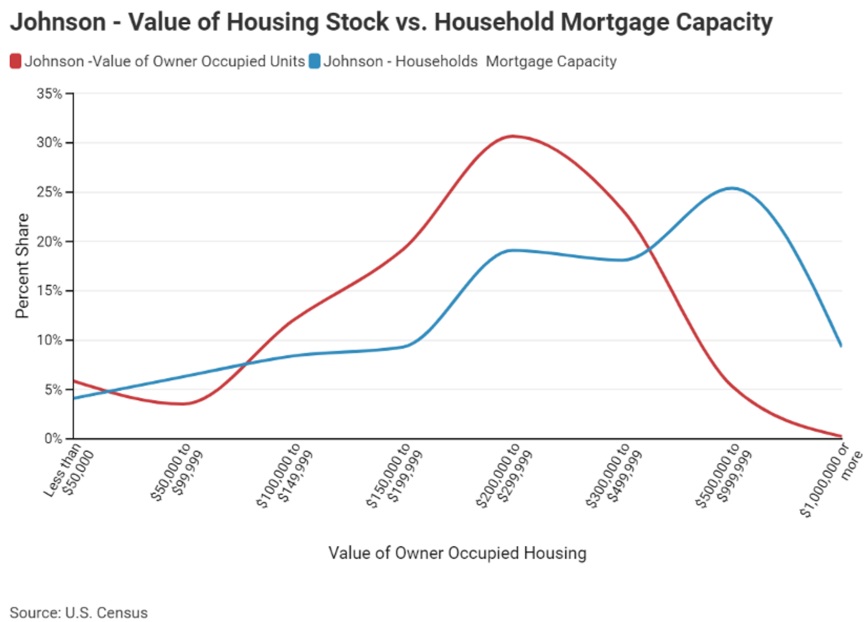


Figure 49 – Johnson County Types of Permits Issued

Johnson County - Permits by Percentage of Type Issued												
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total 2012 -2023
Total Units	698	668	624	688	1097	843	839	1114	1,460	987	854	10,466
% of Units in Single-Family Structures	92%	99%	97%	97%	73%	100%	97%	87%	75%	74.9%	25.5%	81.9%
% of Units in All Multi-Family Structures	8%	1%	3%	3%	27%	0%	3%	13%	25%	25.1%	74.5%	18.1%
% of Units in 2-unit Multi-Family Structures	4%	1%	3%	3%	1%	0%	2%	4%	3%	3.0%	0.2%	2.3%
% of Units in 3- and 4-unit Multi-Family Structures	1%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0.8%
% of Units in 5+ Unit Multi-Family Structures	3%	0%	0%	0%	25%	0%	0%	9%	22%	22.1%	74.2%	15%

Figure 50 and the corresponding table below, shows that the distribution of homes in Johnson County valued between $150,000 and $500,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $150,000 to $500,000 price range need to be built. The distribution of homes valued at $100,000 or less is less than the household mortgage capacity, more homes in this range need to be built. The percentage of homes valued at $500,000 and up is far less than the percentage of household having the capacity to qualify for a mortgage to purchase them.

Figure 50 – Johnson County – Value of Housing Stock vs. Household Mortgage Capacity

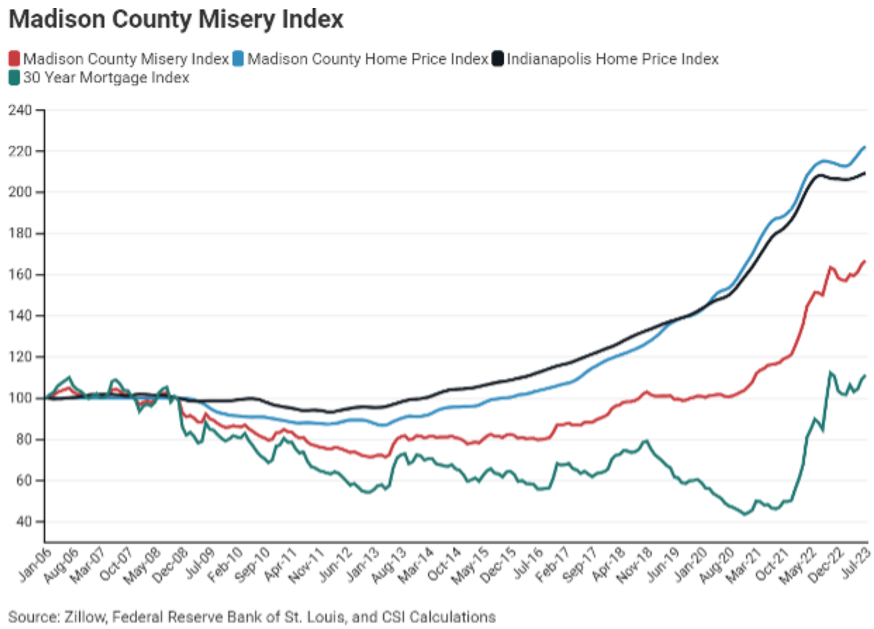


Distribution of Housing Stock by Value and Household Mortgage Capacity – Johnson County		
Owner-occupied units	**Johnson County - Value of Owner Occupied Units**	**Johnson County Mortgage – Capacity**
Less than $50,000	5.87%	4.10%
$50,000 to $99,999	3.52%	6.30%
$100,000 to $149,999	12.00%	8.40%
$150,000 to $199,999	19.17%	9.30%
$200,000 to $299,999	30.66%	19.10%
$300,000 to $499,999	23.22%	18.10%
$500,000 to $999,999	5.33%	25.40%
$1,000,000 or more	0.24%	9.30%

APPENDIX - MADISON COUNTY

Since 2014, affordability in Madison County has declined 104.3% as the average home price increased 143.8% and mortgage rates have reached their highest level in 20 years, see **Figure 51**.

Figure 51 – Madison County Misery Index



As of the end of 2022, Madison County is estimated to have a housing supply deficit as high as 3,259 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 52**.

Figure 52 – Madison County New Residents, Permits, and the Housing Supply Deficit

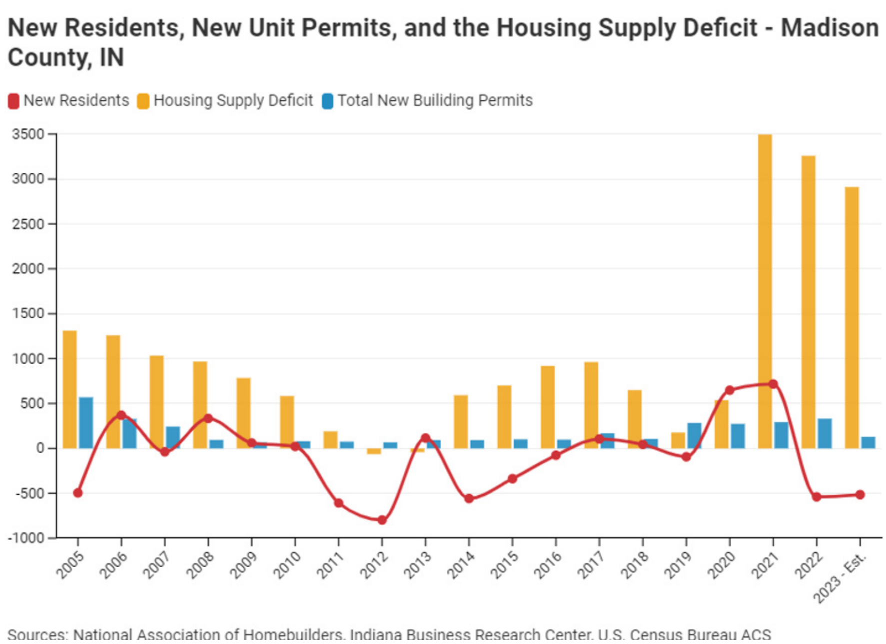


Figure 53 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting has been sufficient to close the deficit and meet new demand under scenario 1. Permitting in Madison County is not sufficient to close the deficit and meet new demand for housing by 2028 under scenario two. Ninety-three percent of all permits issued in the last 12 years are for single family homes, see **Figure 54**.

Figure 53 – Madison County Average Monthly Permits Needed versus Actual

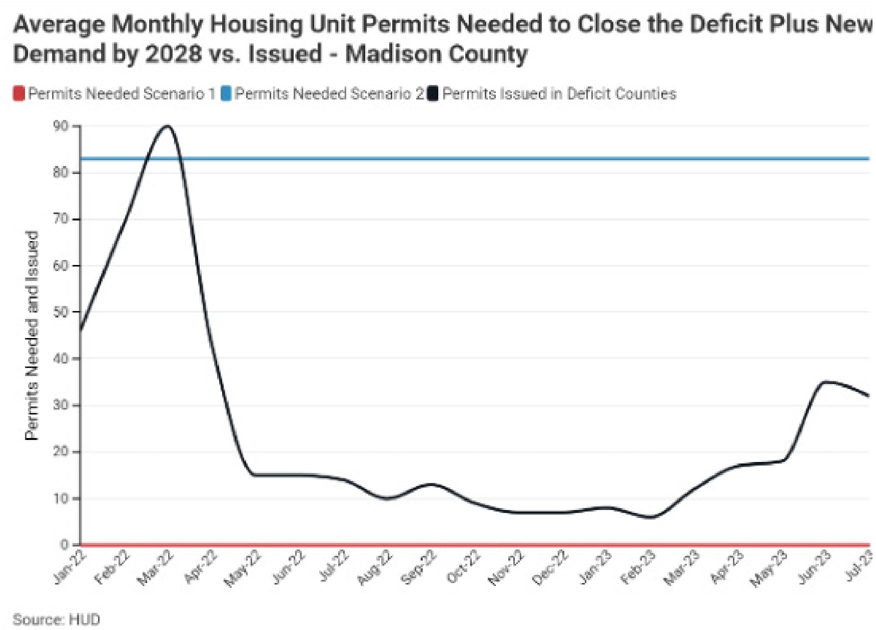
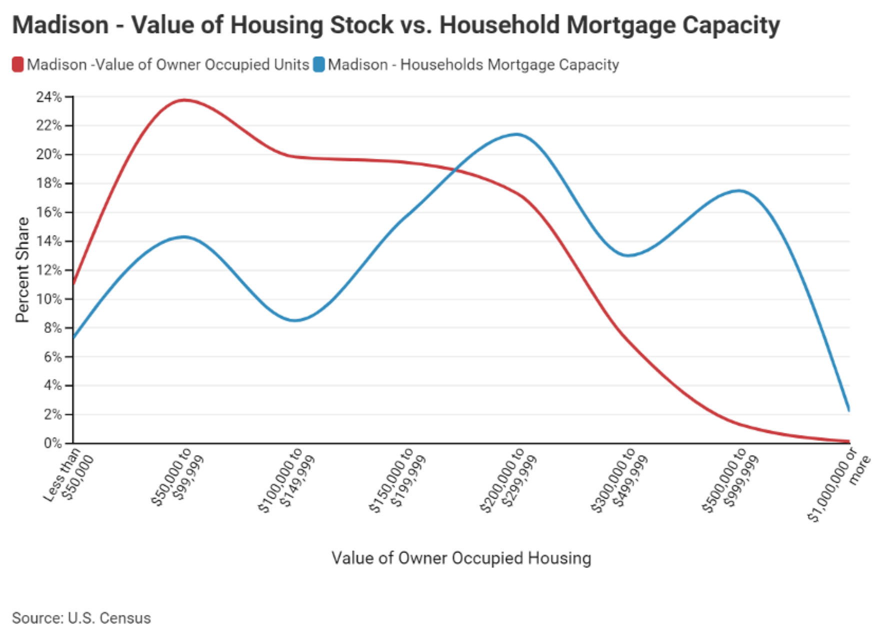


Figure 54 – Madison County Types of Permits Issued

Madison County - Permits by Percentage of Type Issued												
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total 2012 -2023
Total Units	93	92	101	98	169	106	284	274	293	338	128	2,044
% of Units in Single-Family Struc-tures	100%	96%	91%	89%	64%	96%	80%	99%	98%	100%	100%	92.5%
% of Units in All Multi-Family Structures	0%	4%	9%	11%	36%	4%	20%	1%	2%	0%	0%	7.5%
% of Units in 2-unit Multi-Family Structures	0%	4%	6%	2%	0%	4%	3%	1%	2%	0%	0%	1.7%
% of Units in 3- and 4-unit Multi-Family Structures	0%	0%	3%	0%	0%	0%	3%	0%	0%	0%	0%	0.5%
% of Units in 5+ Unit Multi-Family Structures	0%	0%	0%	9%	36%	0%	14%	0%	0%	0%	0%	5.3%

Figure 55 and the corresponding table below ,shows that the distribution of homes in Madison County valued between $100,000 and $200,000 is different than the distribution of the percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $100,000 to $200,000 price range need to be built. The distribution of homes valued at $500,000 to $1,000,000 is less than the household mortgage capacity, more homes in this range need to be built.

Figure 55 – Madison County – Value of Housing Stock vs. Household Mortgage Capacity

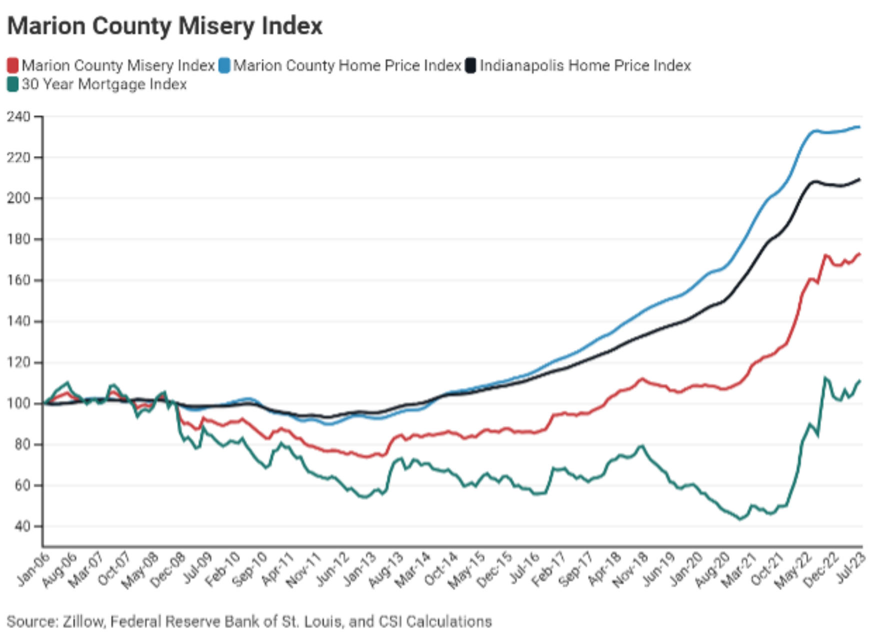


Distribution of Housing Stock by Value and Household Mortgage Capacity – Madison County		
Owner-occupied units	**Madison County - Value of Owner Occupied Units**	**Madison County Mortgage – Capacity**
Less than $50,000	11.02%	7.30%
$50,000 to $99,999	23.78%	14.30%
$100,000 to $149,999	19.84%	8.50%
$150,000 to $199,999	19.46%	15.70%
$200,000 to $299,999	17.32%	21.40%
$300,000 to $499,999	7.11%	13.00%
$500,000 to $999,999	1.34%	17.50%
$1,000,000 or more	0.13%	2.20%

APPENDIX - MARION COUNTY

Since 2014, affordability in Marion County has declined 99% as the average home price increased 65% and mortgage rates have reached their highest level in 20 years, see **Figure 56**.

Figure 56 – Marion County Misery Index



As of the end of 2022, Marion County is estimated to have a housing supply deficit as high as 19,576 units, the largest of the ten counties in this study. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 57**.

Figure 57 – Marion County New Residents, Permits, and the Housing Supply Deficit

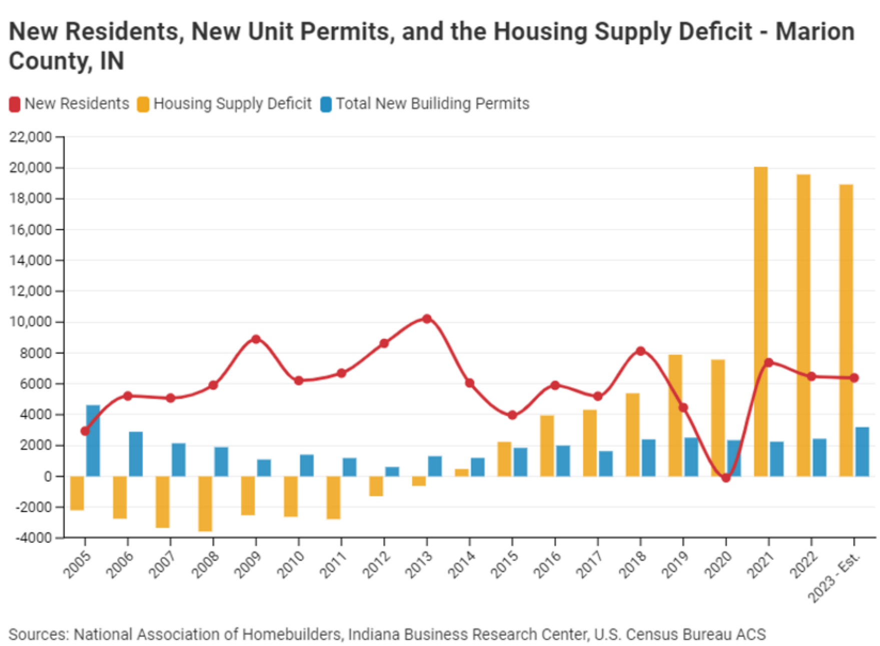


Figure 58 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Marion County has been sufficient on average to close the deficit and meet new demand under scenario 1. Permitting in Marion County is not sufficient to close the deficit and meet new demand for housing by 2028 under scenario two. Fifty percent of all permits issued in the last 12 years are for single family homes, see **Figure 59**.

Figure 58 – Marion County Average Monthly Permits Needed versus Actual

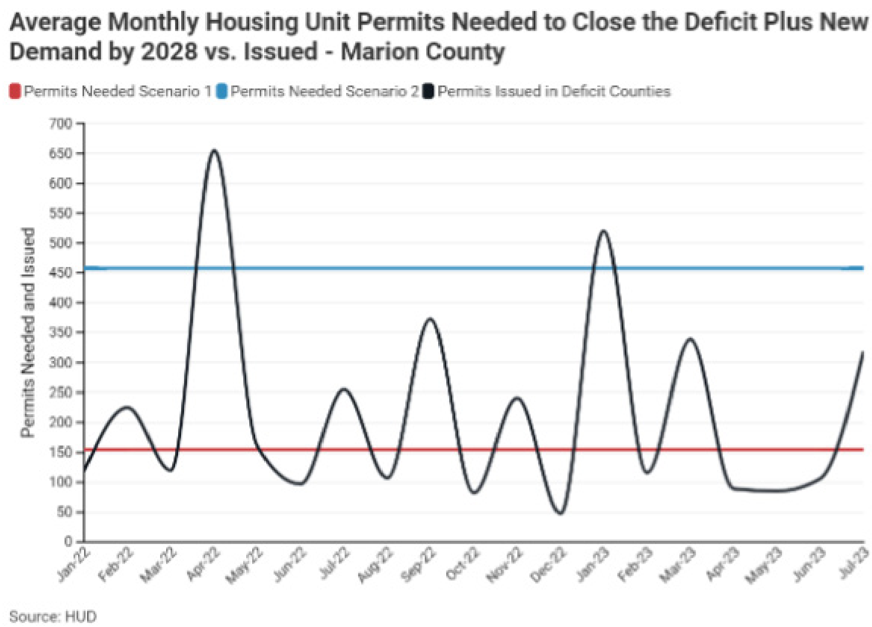
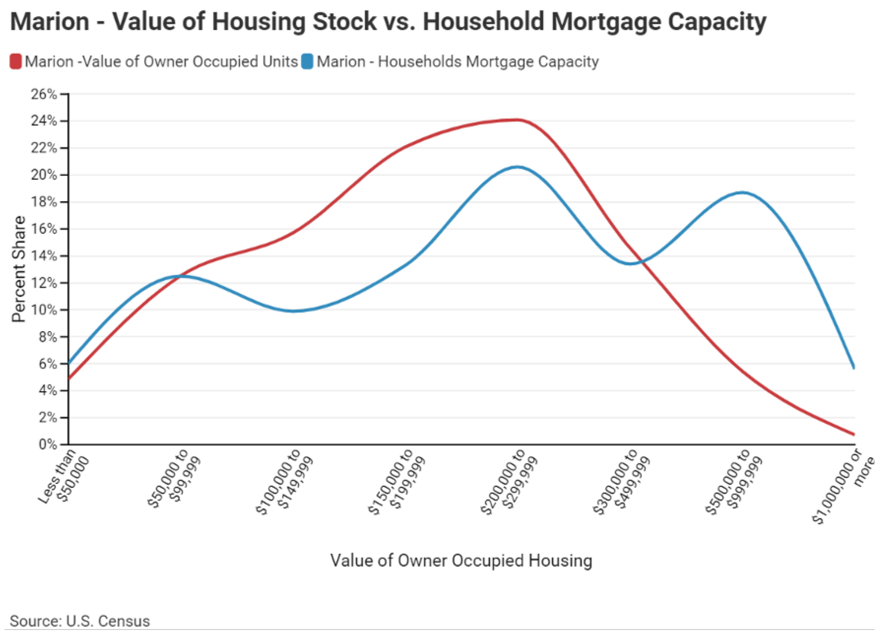


Figure 59 – Madison County Types of Permits Issued

Madison County - Permits by Percentage of Type Issued											
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Total 2012 -2023**
Total Units	1,309	1,195	1,846	1,995	1,632	2,398	2,508	2,344	2,251	2,483	1,575	22,140
% of Units in Single-Family Structures	49%	54%	44%	46%	60%	50%	49%	52%	57%	47.7%	31.0%	50.2%
% of Units in All Multi-Family Structures	51%	46%	56%	54%	40%	50%	51%	48%	43%	52.3%	69.0%	49.8%
% of Units in 2-unit Multi-Family Structures	2%	3%	2%	4%	2%	3%	1%	1%	4%	1.9%	0.3%	2.2%
% of Units in 3- and 4-unit Multi-Family Structures	1%	1%	1%	0%	0%	0%	1%	4%	1%	0.8%	2.7%	1.2%
% of Units in 5+ Unit Multi-Family Structures	49%	42%	53%	49%	37%	47%	49%	43%	39%	49.7%	66.0%	46.4%

Figure 60 and the corresponding table below, shows that the distribution of homes in Marion County valued between $100,000 and $150,000 as well as between $500,000 and $1,000,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $100,000 to $150,000 and $500,000 to $1,000,000 price range need to be built.

Figure 60 – Marion County – Value of Housing Stock vs. Household Mortgage Capacity

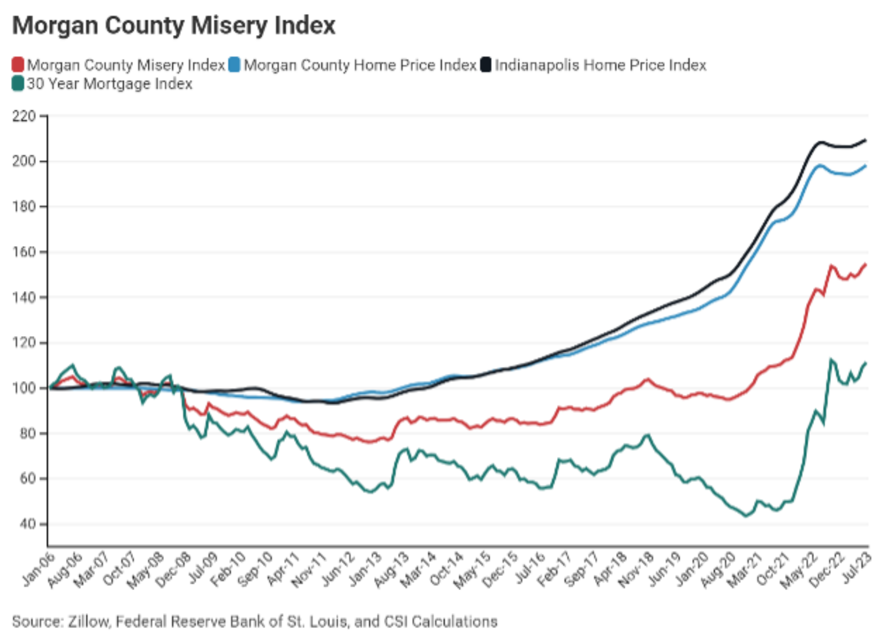


Distribution of Housing Stock by Value and Household Mortgage Capacity – Marion County		
Owner-occupied units	**Marion County - Value of Owner Occupied Units**	**Marion County Mortgage – Capacity**
Less than $50,000	4.85%	6.00%
$50,000 to $99,999	12.52%	12.50%
$100,000 to $149,999	15.70%	9.90%
$150,000 to $199,999	22.08%	13.30%
$200,000 to $299,999	24.09%	20.60%
$300,000 to $499,999	14.59%	13.40%
$500,000 to $999,999	5.44%	18.70%
$1,000,000 or more	0.73%	5.60%

APPENDIX - MORGAN COUNTY

Since 2014, affordability in Morgan County has declined 78% as the average home price increased 94.8% and mortgage rates have reached their highest level in 20 years, see **Figure 61**.

Figure 61 – Morgan County Misery Index



As of the end of 2022, Morgan County is estimated to have a housing supply deficit as high as 1,217 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 62**.

Figure 62 – Morgan County New Residents, Permits, and the Housing Supply Deficit

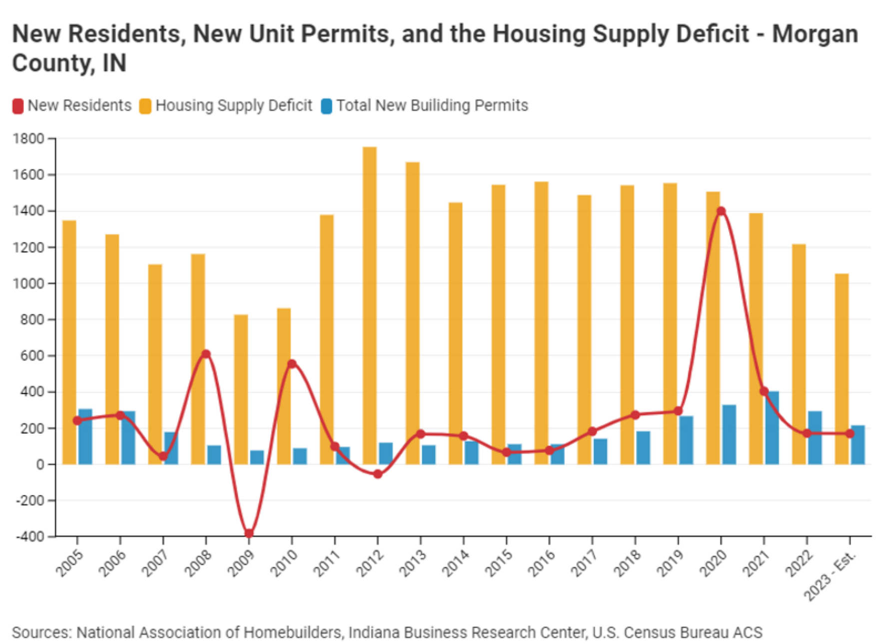


Figure 63 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Morgan County has been sufficient on average to close the deficit and meet new demand under scenario 1. Permitting in Morgan County is not sufficient to close the deficit and meet new demand for housing by 2028 under scenario two. Ninety-eight percent of all permits issued in the last 12 years are for single family homes, see **Figure 64**.

Figure 63 – Morgan County Average Monthly Permits Needed versus Actual

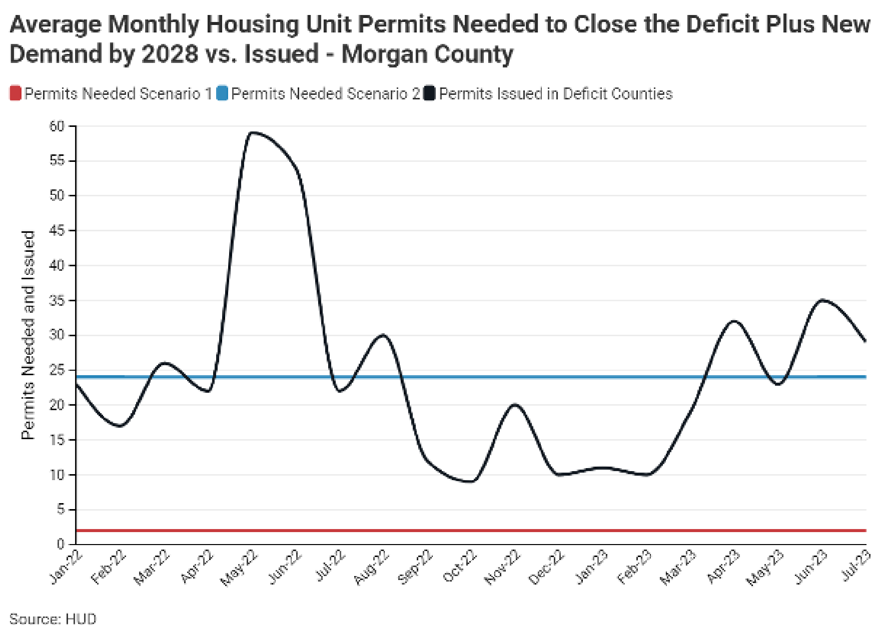
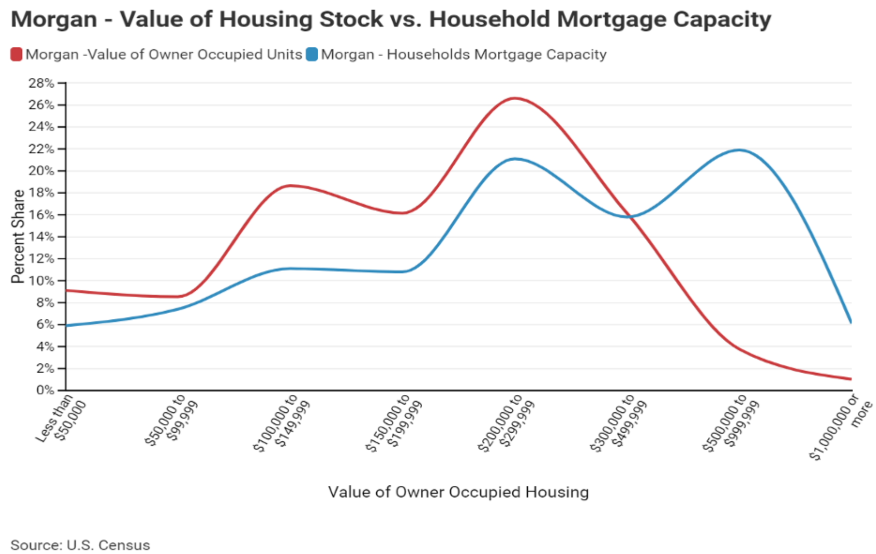


Figure 64 - Morgan County Types of Permits Issued

Morgan County - Permits by Percentage of Type Issued												
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Total 2012 -2023**
Total Units	106	129	112	112	142	183	267	329	404	304	159	2,367
% of Units in Single-Family Structures	96%	98%	98%	100%	100%	95%	98%	97%	97%	99.3%	100.0%	97.6%
% of Units in All Multi-Family Structures	4%	2%	2%	0%	0%	5%	2%	3%	3%	0.7%	0.6%	2.4%
% of Units in 2-unit Multi-Family Structures	4%	2%	2%	0%	0%	5%	2%	3%	3%	0.7%	0.%	2.0%
% of Units in 3- and 4-unit Multi-Family Structures	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.0%	0%	0.3%
% of Units in 5+ Unit Multi-Family Structures	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.0%	0%	0%

Figure 65 and the corresponding table below, shows that the distribution of homes in Morgan County valued between $100,000 and $150,000 as well as between $500,000 and $1,000,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $100,000 to $500,000 need to be built and more homes in the $500,000 to $1,000,000 price range need to be built.

Figure 65 – Morgan County – Value of Housing Stock vs. Household Mortgage Capacity

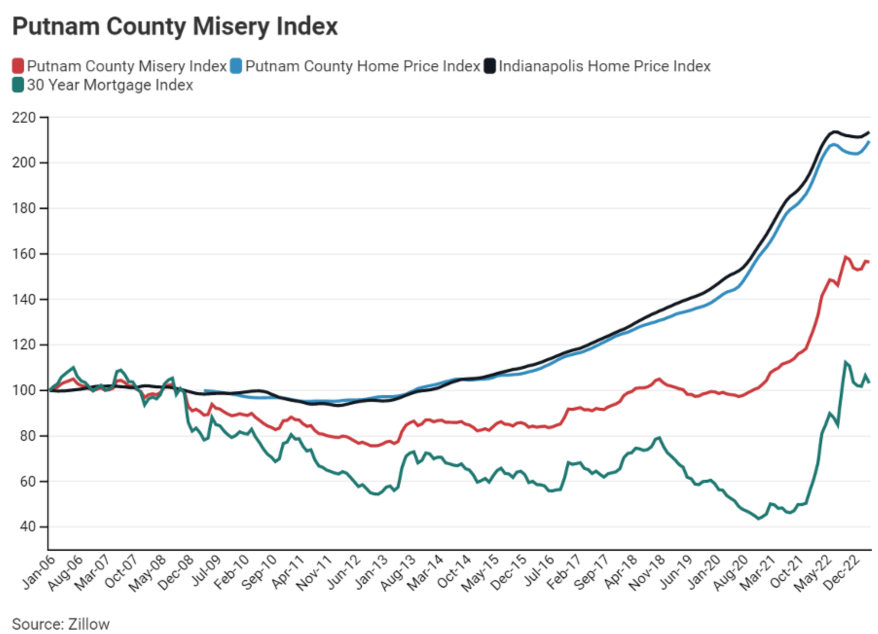


Distribution of Housing Stock by Value and Household Mortgage Capacity – Morgan County		
Owner-occupied units	Morgan County - Value of Owner Occupied Units	Morgan County Mortgage – Capacity
Less than $50,000	9.12%	5.90%
$50,000 to $99,999	8.54%	7.40%
$100,000 to $149,999	18.65%	11.10%
$150,000 to $199,999	16.15%	10.80%
$200,000 to $299,999	26.62%	21.10%
$300,000 to $499,999	16.14%	15.80%
$500,000 to $999,999	3.76%	21.90%
$1,000,000 or more	1.02%	6.10%

APPENDIX - PUTNAM COUNTY

Since 2014, affordability in Putnam County has declined 77.8% as the average home price increased 94.3% and mortgage rates have reached their highest level in 20 years, see **Figure 66**.

Figure 66 – Putnam County Misery Index



As of the end of 2022, Putnam County is estimated to have a housing supply deficit as high as 1,168 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 67**.

Figure 67 – Putnam County New Residents, Permits, and the Housing Supply Deficit

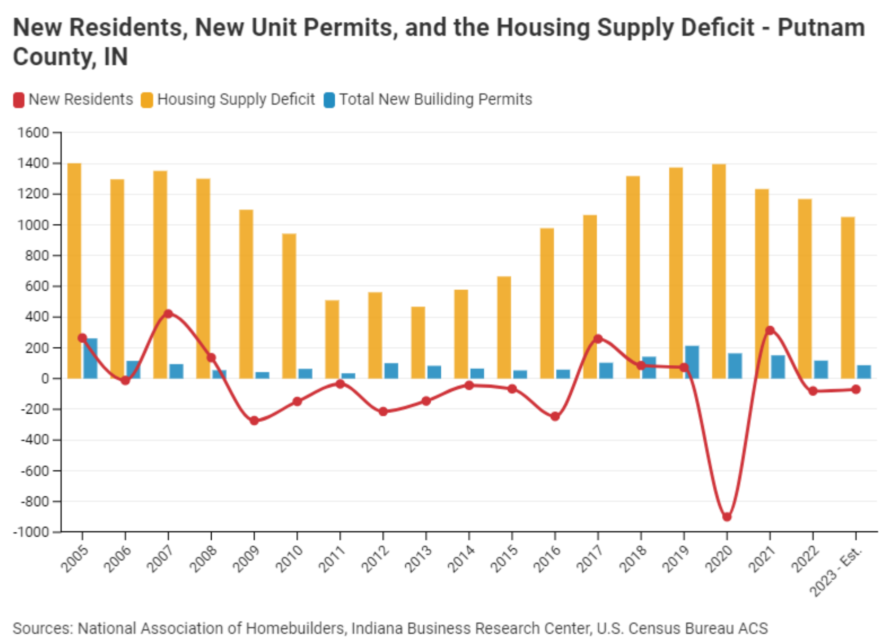


Figure 68 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, 5.0% of housing units are second homes (red line), and 10% of homes are second homes (blue line). Permitting in Putnam County has been sufficient on average to close the deficit and meet new demand under scenario 1. Permitting in Putnam County is not sufficient to close the deficit and meet new demand for housing by 2028 under scenario two. Eighty-one percent of all permits issued in the last 12 years are for single family homes, see **Figure 69**.

Figure 68 – Putnam County Average Monthly Permits Needed versus Actual

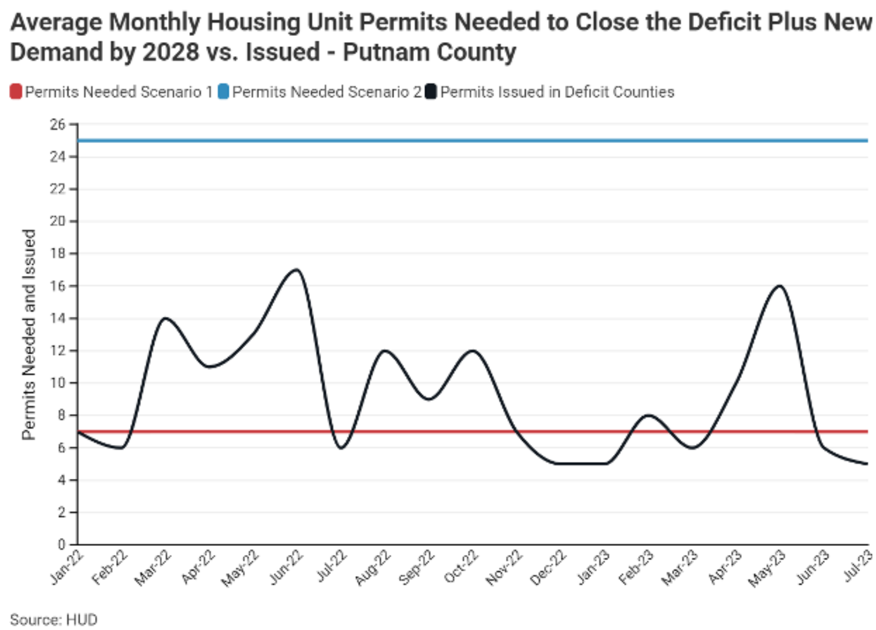
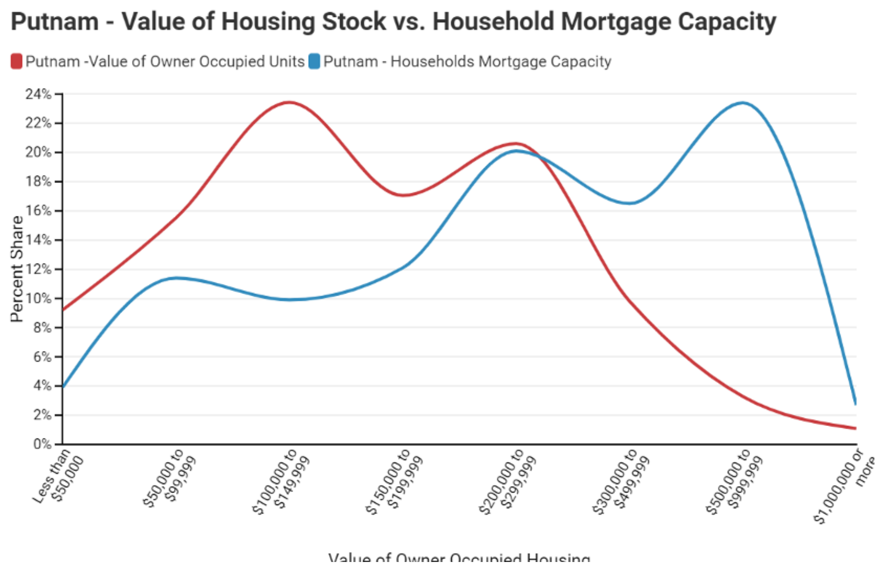


Figure 69 - Putnam County Types of Permits Issued

Putnam County - Permits by Percentage of Type Issued												
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Total 2012 -2023**
Total Units	83	65	53	58	103	142	213	164	151	122	56	1,310
% of Units in Single-Family Structures	59%	54%	96%	90%	88%	99%	57%	100%	96%	100%	100%	80.9%
% of Units in All Multi-Family Structures	41%	46%	4%	10%	12%	1%	43%	0%	4%	0%	0%	19.1%
% of Units in 2-unit Multi-Family Structures	2%	0%	4%	10%	12%	1%	0%	0%	4%	0%	0%	2.3%
% of Units in 3- and 4-unit Multi-Family Structures	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%
% of Units in 5+ Unit Multi-Family Structures	34%	46%	0%	0%	0%	0%	43%	0%	0%	0%	0%	16.5%

Figure 70 and the corresponding table below, shows that the distribution of homes in Putnam County valued between $100,000 and $150,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $100,000 to $150,000 price range need to be built. The distribution of homes valued between $500,000 and $1,000,000 is less than the household mortgage capacity, more homes in this range need to be built.

Figure 70 – Putnam County – Value of Housing Stock vs. Household Mortgage Capacity

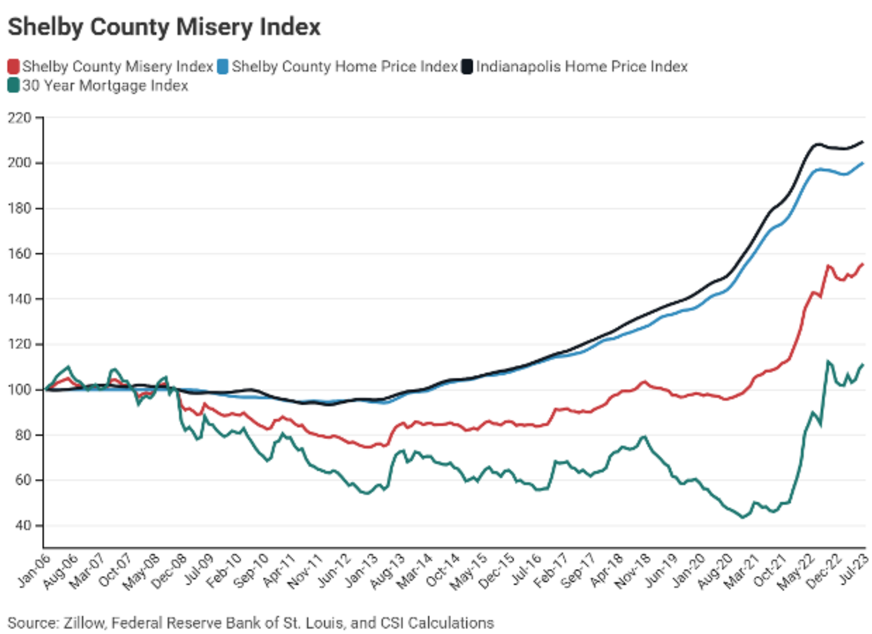


Distribution of Housing Stock by Value and Household Mortgage Capacity – Putnam County		
Owner-occupied units	**Putnam County - Value of Owner Occupied Units**	**Putnam County Mortgage – Capacity**
Less than $50,000	9.21%	3.90%
$50,000 to $99,999	15.52%	11.40%
$100,000 to $149,999	23.43%	9.90%
$150,000 to $199,999	17.05%	12.10%
$200,000 to $299,999	20.61%	20.10%
$300,000 to $499,999	9.81%	16.50%
$500,000 to $999,999	3.28%	23.40%
$1,000,000 or more	1.09%	2.70%

APPENDIX - SHELBY COUNTY

Since 2014, affordability in Shelby County has declined 82% as the average home price increased 102.1% and mortgage rates have reached their highest level in 20 years, see **Figure 71**.

Figure 71 – Shelby County Misery Index



As of the end of 2022, Shelby County is estimated to have a housing supply deficit as high as 1,109 units. The deficit has accumulated over time as new permitting did not keep up with new residents, see **Figure 72**.

Figure 72- Shelby County New Residents, Permits, and the Housing Supply Deficit

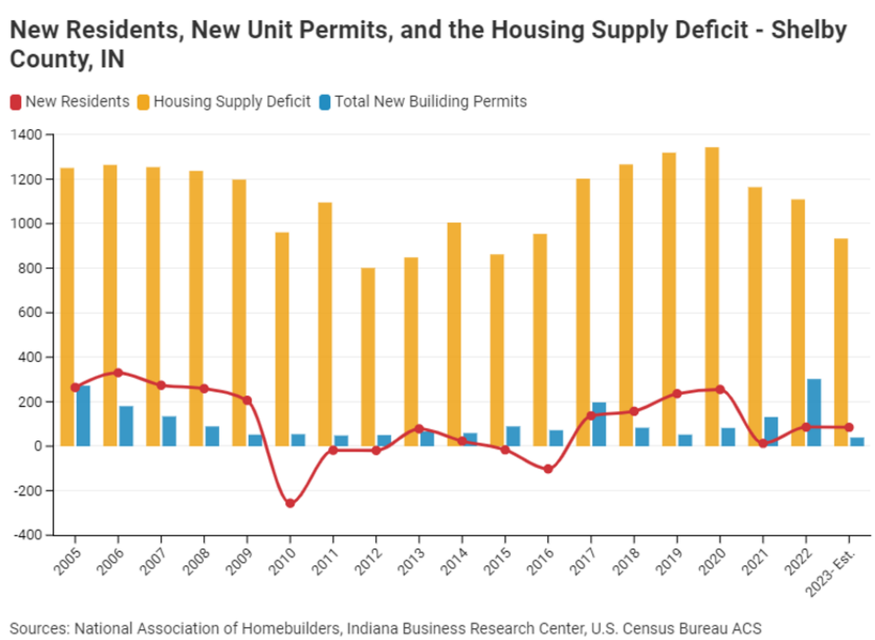


Figure 73 shows permitting activity since January 2022 and the required monthly permits to close the deficit under two scenarios, no second homes (red line), and 4.99% of homes are second homes (blue line). Permitting in Shelby County has been sufficient on average to close the deficit and meet new demand under scenario 1. Permitting in Shelby County is not sufficient to close the deficit and meet new demand for housing by 2028 under scenario two. Sixty-five percent of all permits issued in the last 12 years are for single family homes, see **Figure 74**.

Figure 73 – Shelby County Average Monthly Permits Needed versus Actual

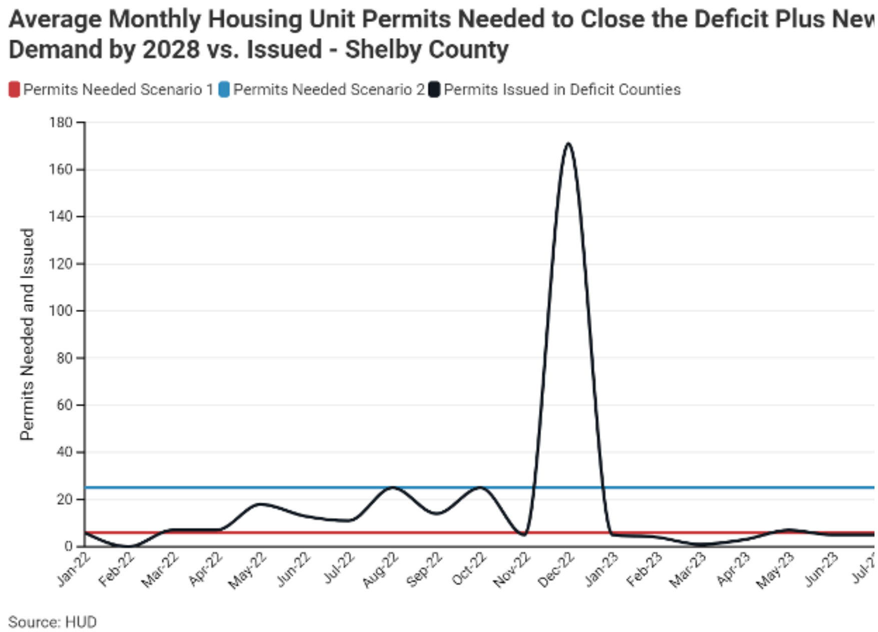
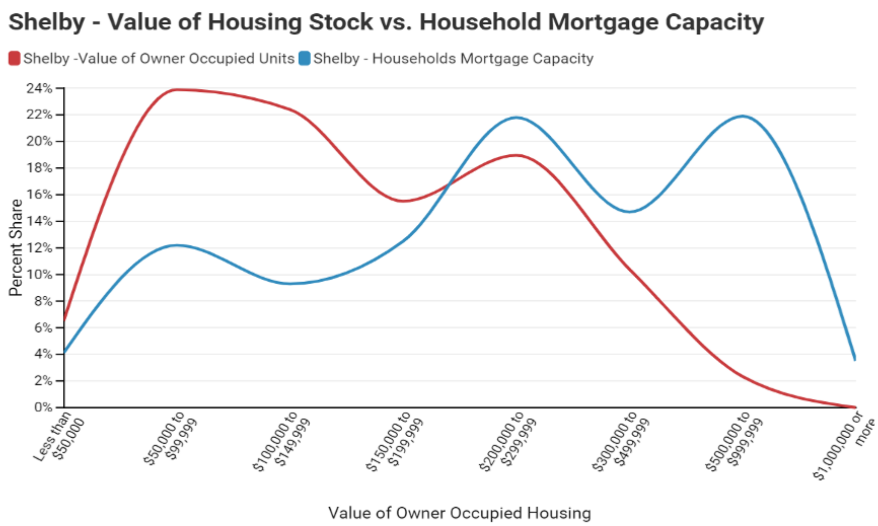


Figure 74 - Shelby County Types of Permits Issued

Shelby County - Permits by Percentage of Type Issued												
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total 2012 -2023
Total Units	66	59	89	72	197	83	52	82	131	302	30	1,213
% of Units in Single-Family Structures	65%	66%	55%	86%	39%	100%	100%	100%	94%	40.4%	100%	65.4%
% of Units in All Multi-Family Structures	35%	34%	45%	14%	61%	0%	0%	0%	6%	59.6%	0%	34.6%
% of Units in 2-unit Multi-Family Structures	0%	7%	0%	14%	0%	0%	0%	0%	0%	4%	0%	2.1%
% of Units in 3- and 4-unit Multi-Family Structures	35%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	4.1%
% of Units in 5+ Unit Multi-Family Structures	0%	27%	45%	0%	61%	0%	0%	0%	0%	55.6%	0%	28.4%

Figure 75 and the corresponding table below, shows that the distribution of homes in Shelby County valued between $50,000 and $150,000 is different than the distribution of percentage of households that have the capacity to qualify for a mortgage to purchase them. Therefore, fewer homes in the $50,000 to $150,000 price range need to be built. The distribution of homes valued between $500,000 and $1,000,000 is less than the household mortgage capacity, more homes in this range need to be built.

Figure 75 – Shelby County – Value of Housing Stock vs. Household Mortgage Capacity



Distr1bution of Housing Stock by Value and Household Mortgage Capacity – Shelby County		
Owner-occupied units	**Shelby County - Value of Owner Occupied Units**	**Shelby County Mortgage – Capacity**
Less than $50,000	6.51%	4.10%
$50,000 to $99,999	23.89%	12.20%
$100,000 to $149,999	22.40%	9.30%
$150,000 to $199,999	15.51%	12.50%
$200,000 to $299,999	18.96%	21.80%
$300,000 to $499,999	10.39%	14.70%
$500,000 to $999,999	2.33%	21.90%
$1,000,000 or more	0.00%	3.50%

REFERENCES

i. Indianapolis Metropolitan Area Housing Affordability Report: The Data on Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Putnam, and Shelby Counties | Common Sense Institute (commonsenseinstituteco.org) https://commonsenseinstituteco.org/indianapolis-metropolitan-area-housing-affordability/

ii. https://www.nahb.org/news-and-economics/housing-economics/indices/housing-market-index

iii. Implementing a Regional Housing Needs Methodology in Oregon: Approach, Results, and Initial Recommendations. August 2020. ECONorthwest.