

Housing Affordability in Lewis and Clark County

October 2021

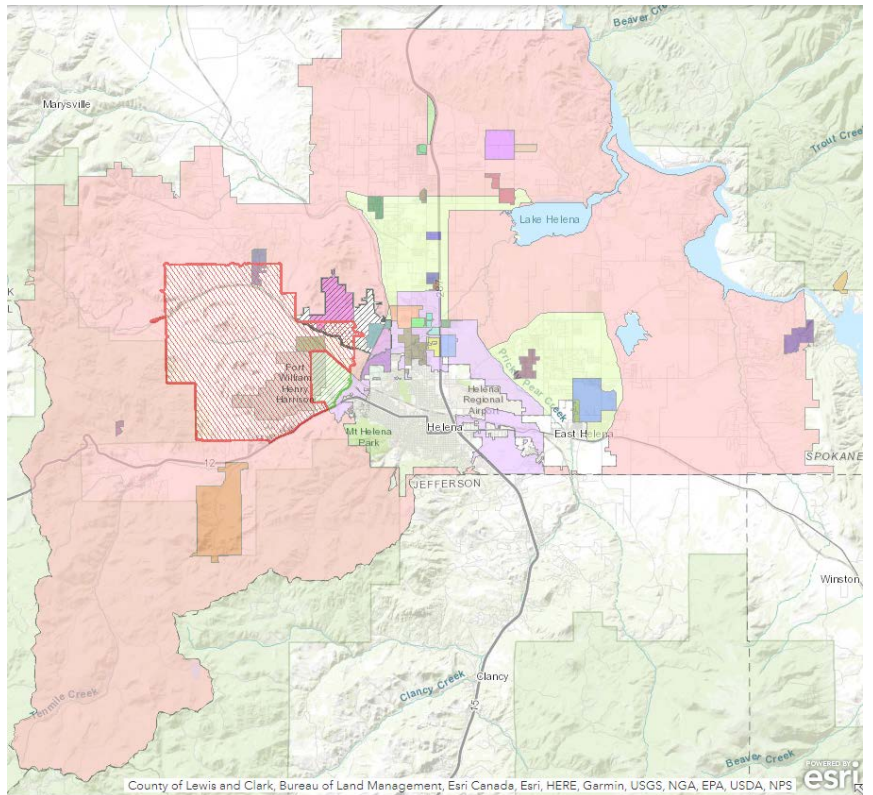
Prepared for

Helena Association of REALTORS®

by

Bureau of Business and Economic Research

University of Montana



**BUREAU OF BUSINESS AND
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Acknowledgments

The University of Montana Bureau of Business and Economic Research (BBER) prepared this report for the Helena Association of Realtors. The authors are Derek Sheehan and Patrick Barkey. The BBER would like to acknowledge the assistance of George Harris. Additionally, we are most grateful to Derek Close and the Montana Regional Multiple Listing Service, who provided data for this report. All errors or omissions are our own.

1. Introduction

This report details the findings of an analysis of the factors and trends that impact the affordability of residential housing in Lewis and Clark County, Montana, home of the state capital, Helena. Like many urbanized areas in the mountain west, Lewis and Clark County has experienced growth in its economy and population, placing pressure on housing markets and pushing prices up faster than household income growth for much of the last decade. To foster a better understanding of the forces producing this outcome and inform the discussion on policies and decisions that could meaningfully affect affordability in the near future, we report on three fundamental aspects of local housing affordability.

The first is an assessment of the current state of affordability in the County, emphasizing the rural portion of the County that overlaps with the area affected by the ten-acre minimum lot size restriction. A policy recently enacted by the county for residential development outside the city of Helena. Then, using information from the U.S. Census and elsewhere on median household incomes, mortgage and financing costs, and the sales price of owner-occupied housing, we have constructed an affordability index using the well-established methods developed by the National Association of REALTORS. Finally, repeating this process over several years, we can learn how affordability locally has changed over time.

Future affordability will depend on many factors, one of which is housing demand. Using projections made by the Montana Census and Economic Information Center and the BBER's forecasting model, we present growth projections for the number of households in Lewis and Clark County overall and the non-Helena area extending to 2030.

The third component of this research is motivated by the Lewis and Clark County's Zoning and Planning Board's passing of a minimum lot size of 10 acres for new residential development in the Rural Residential Mixed-Use District outside the city of Helena. To assess how this policy might impact the cost of new housing units, we report on published research that has addressed the impacts of minimum lot size restrictions in other parts of the United States.

Key Findings

As described in detail in this report, we find that:

- Housing affordability has been declining in the non-Helena area within Lewis and Clark County, affected by the minimum lot size restriction and the broader County market.
- Population growth increased in the non-Helena area of the County by 11.3% over the 2014 to 2019 period. In contrast, the urban/ suburban areas within and adjacent to the cities of Helena and East Helena grew by 3.4%.
- Without zoning regulation, we project 444 households in the non-Helena area affected by the minimum lot size restriction by 2030.
- A one to two acres increase in the minimum lot size in other parts of the U.S. has reduced the number of residential building permits filed by 40% and the probability of residential land conversion by 4.4 to 6.4 percent.
- Minimum lot size restrictions in other parts of the country have raised housing prices by 7 to 9 percent, with longer run estimates of the price impacts growing to as high as 20%.
- Minimum lot size restrictions raised single-family home prices in nearby jurisdictions by 5 %, as people chose to move into unregulated markets.

About this study

This study was conducted by the Bureau of Business and Economic Research at the University of Montana (BBER). It was supported by the Helena Association of Realtors. All conclusions of this report are those of the BBER.

About the Bureau of Business and Economic Research

The Bureau of Business and Economic Research (BBER) is the preeminent business research organization in the state of Montana. Founded in 1948 as the research arm of the University of Montana's School of Business Administration. The Bureau's mission statement states, "The purpose of the Bureau is to serve the general public, as well as people in business, labor, and government, by providing an understanding of the environment in which Montanans live and work." BBER has since grown to become one of the most sought-after sources of information and analysis on the Montana economy. The Bureau has published the Montana Business Quarterly, an award-winning business periodical, since 1962, and has conducted the Montana Economic Outlook Seminars, a half-day program on the economic outlook presented in 10 cities states wide, on an annual basis since 1976.

2. Housing Affordability Trends

This report seeks to inform the discussion on housing affordability by examining overall trends in median sales prices for single-family homes, median household income and establish a measure of the ability of residents to afford homes where they live. This report calculates a housing affordability index (HAI) using the National Association of Realtor’s methodology outlined in the Appendix. HAI measures whether or not a typical family within an area can qualify for a mortgage loan on a typical house, given interest rates for that respective year. Typical is defined as the median for both single-family home sale prices and self-reported household income.

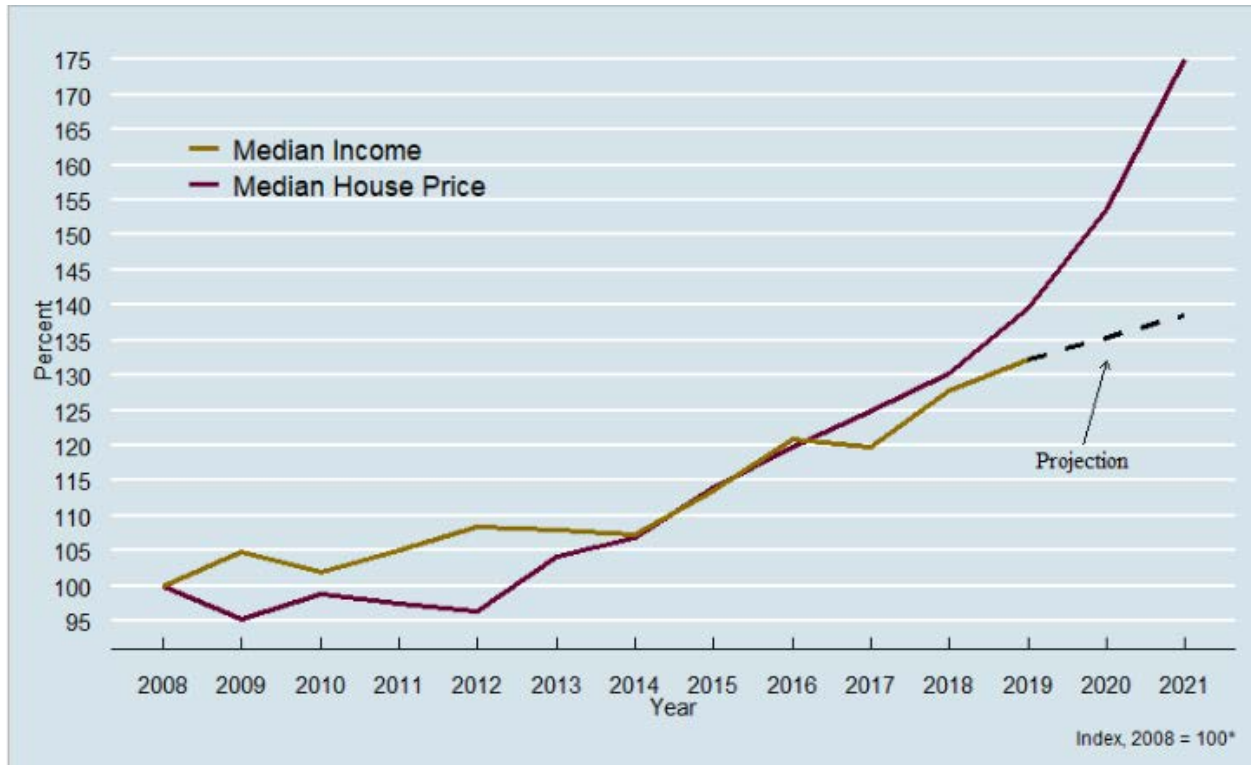
We offer a description of housing affordability for two distinct geographies – the entire County and the portion of the county that overlaps with Rural-Residential Zoning, referred to as the “non-Helena area”. Data for the County as a whole are more complete but include the cities of Helena and East Helena, which are not subject to the zoning ordinance mandating a minimum lot size of 10 acres. The non-Helena area of the County, as we shall see, conforms more closely to the geographic footprint of the ordinance but has more limitations in terms of available data. For these and other reasons, we present information on both geographies.

Housing Affordability Trends in Lewis and Clark County

There are two fundamental drivers of housing affordability in any market – prices and incomes. Additionally, since single-family homes are typically purchased on credit, financial factors such as mortgage rates also play a role.

Two parts of affordability in Lewis and Clark County are the financial capacity of households and the market price of single-family homes. As shown in *Figure 1*, the growth in median single-family prices has been significantly faster than the growth in median income in recent years. Overall, from 2009 to 2019, the average annual growth rate of home prices, 4.5%, was 1.7 times the growth in household median income, 2.6%.

Figure 1: Median Income and Median House Sale Price, Lewis and Clark County, 2008-2021



Source: Montana Department of Revenue and U.S. Census Bureau

In the last two years, the growth in housing prices in Lewis and Clark County has been 9.2% in 2020 and 12.2% in the first half of 2021. These have been the highest increases experienced in the market for the last 13 years. The strong growth in home prices relative to income growth has produced a housing market with declining affordability.

We can formalize this with the use of a specific affordability measure. The Housing Affordability Index (HAI) measures overall affordability that blends the separate factors affecting the affordability of owner-occupied housing into a simple measure. HAI was first developed by the National Association of Realtors and has been extensively applied by organizations, including the U.S. Department of Housing and Urban Development (HUD).

The construction of the HAI computes the monthly housing payment for the median-priced home in any given community, under the assumption of a 20 percent down payment and a conventional, 30-year mortgage financed at the market rates prevailing at the time of the loan. It then compares this payment’s magnitude to the median-earning household’s monthly cash income in the same community.

Households that must devote more than 30 percent of their income to pay for housing are said to be housing stressed. To Provide a conservative measure of affordability, HAI is set to 100 if 25 percent of monthly median income just equals the monthly payment on a conventionally financed, median-priced home. Therefore, values of the HAI above 100 reflect more affordable markets, and declines in the HAI depict situations of falling affordability.

Figure 2: Housing Affordability Index, Lewis and Clark County, 2008-2021



Source: Montana Department of Revenue, U.S. Census Bureau, and Federal Housing Authority (FHA).

Affordability has been declining in Lewis and Clark County since 2012, as shown in *Figure 2*. At its high point in 2012, the median household had 165% of the income required to qualify for a median-priced home. In 2019 the median household had 130% of the necessary income. Since income data are not available for years after 2019, the Figure shows projected HAI for 2020 and 2021 using a projection of County median income based on historical growth. As can be seen, the projected HAI for the most recent years shows an acceleration of the affordability declines of the last decade for these years.

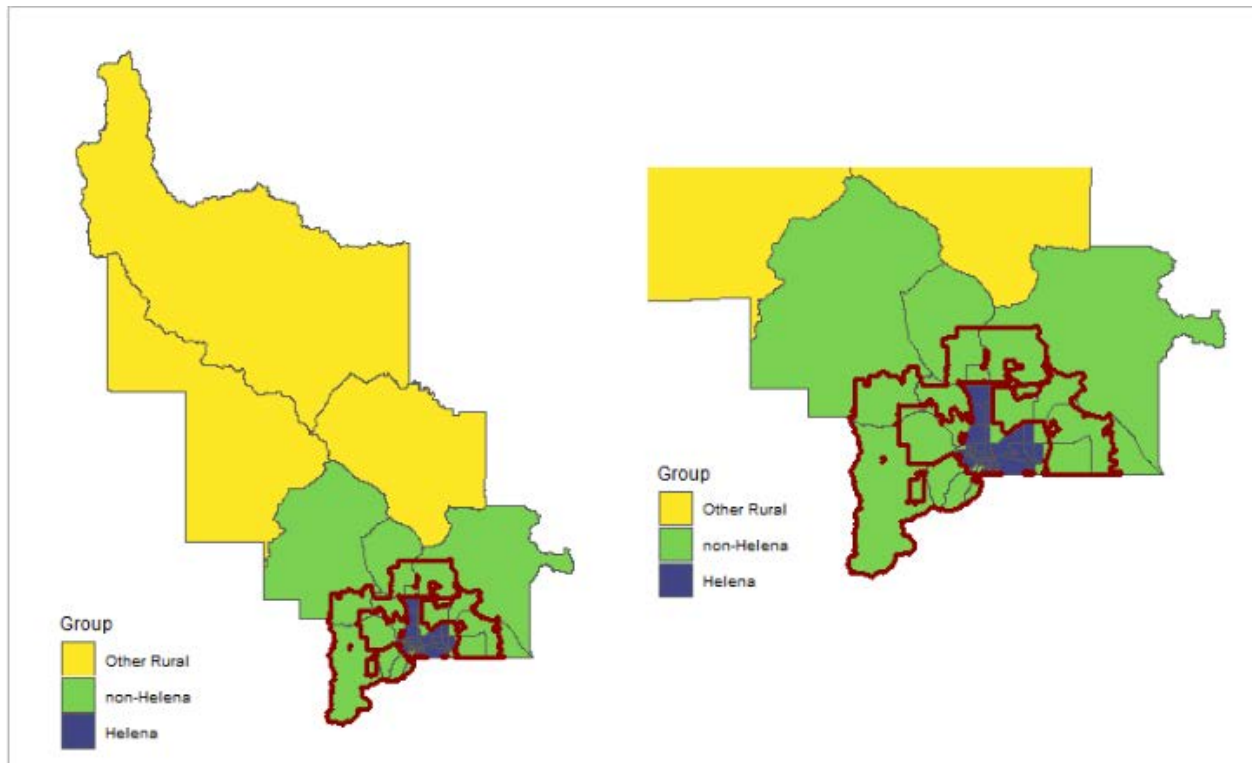
Housing Affordability Trends Outside the City of Helena

In our examination of housing affordability trends outside of Helena and East Helena city limits, we make use of (i) household income information for block areas as defined by the U.S. Census Bureau (Gemignani 2011), and (ii) housing price information based on single-family home sales from the Montana Regional Multiple Listing Service. We have constructed a geographical area that conforms as closely as possible to the area of the County impacted by the minimum lot size restriction for residential property enacted by the Helena Valley Planning Area Regulations (*Helena Valley Zoning Regulations 2020*).

The portion of the County impacted by the lot size restriction is (i) zoned rural residential and (ii) not within the boundaries of Helena or East Helena. The portion of the County not impacted is shown either in blue or yellow in *Figure 3* below. The blue refers to either cities or adjacent areas that are zoned urban or suburban residential. The yellow portions of the map represent rural areas of the County that are not subject to the ordinance on lot size.

The green shaded areas of the map in *Figure 3* (with a larger view in the right map) are Census block areas that are at least partly impacted by the minimum lot restriction zoned “rural residential.” The geographic footprint of the restriction is the area outlined in red, which can be seen to contain voids of various sizes and has boundaries that do not correspond to Census block areas. As an approximation, we use the Census block areas shaded green in *Figure 3* as our definition of “non-Helena Lewis and Clark County” or “non-Helena area” for purposes of this discussion.

Figure 3: Lewis and Clark County Census Block Areas and Rural Residential Footprint



Source: U.S. Census Bureau and Lewis and Clark County/ City of Helena

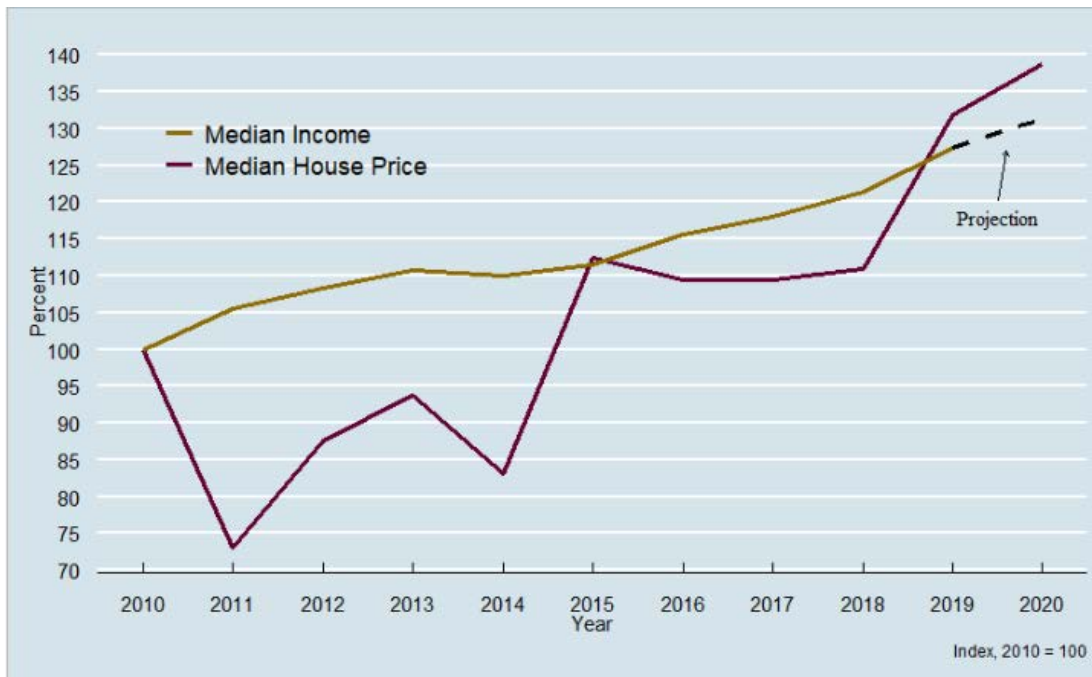
Price and income data for this non-Helena area shown in *Table 1* and graphed in *Figure 4* also reveal housing growth outpacing incomes towards the end of the last decade. Single-family home prices are more volatile due to lower sales volumes recorded in the MLS than for the County. Median household income has changed more gradually, with the weakest growth occurring in 2013-15. Using a projection of median income based on historic trends, the data show that housing prices grew by just under 40 percent over the decade, while income grew at slightly over 30 percent.

Table 1: Housing Prices and Income in non-Helena Lewis and Clark County.

YEAR	# SOLD	MEDIAN SOLD PRICE	MEDIAN HOUSEHOLD INCOME
2010	31	\$160,000	\$51,480
2011	37	\$116,900	\$54,300
2012	41	\$140,000	\$55,730
2013	47	\$150,000	\$57,010
2014	37	\$133,000	\$55,590
2015	60	\$180,000	\$57,420
2016	58	\$175,000	\$59,510
2017	81	\$175,000	\$60,780
2018	72	\$177,469	\$62,470
2019	50	\$211,000	\$65,590
2020	91	\$222,000	\$67,550*

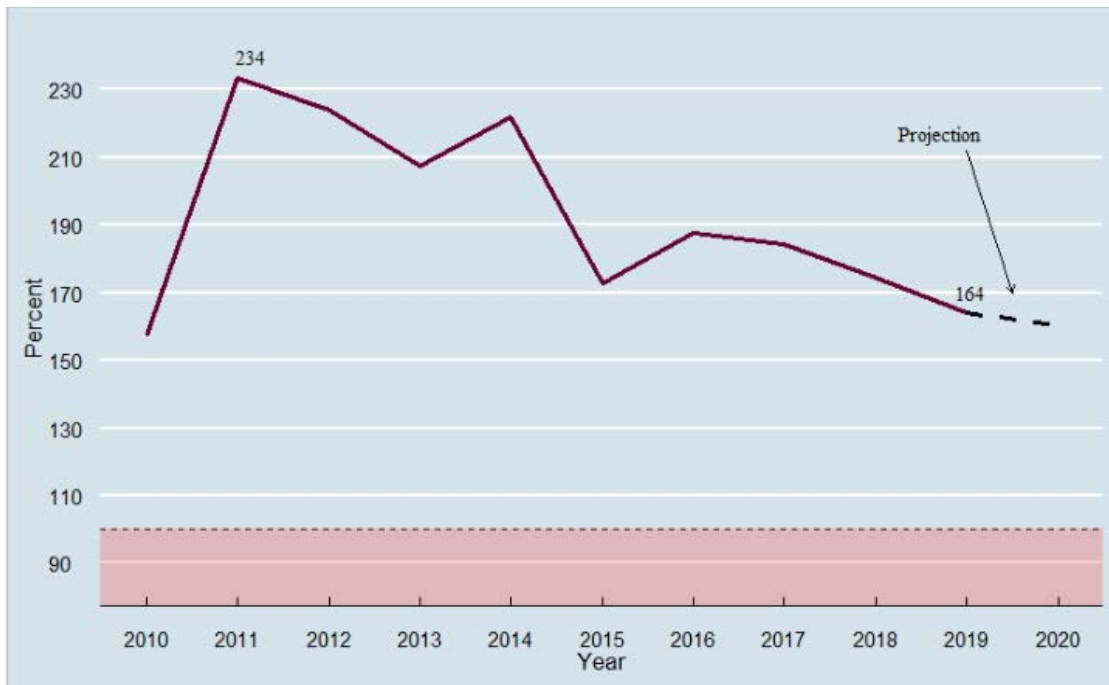
Source: Montana Regional Multiple Listing Service (MLS) and U.S. Census Bureau

Figure 4: Median Income and Median House Sale Price, non-Helena Lewis and Clark County.



Source: Realtor Multiple Listing Service (MLS) and U.S. Census Bureau

Figure 5: Housing Affordability Index, non-Helena Lewis and Clark County



Source: Montana Regional Multiple Listing Service (MLS), U.S. Census Bureau, and Federal Housing Agency.

The Housing Affordability Index (HAI) for the non-Helena area exposed to the minimum lot size restriction is generally higher than the overall County, indicating that single-family homes are more affordable in this part of the County. However, as shown in *Figure 5*, affordability has declined significantly. From a high point of 234 in 2011, just after the housing price declines of the Great Recession, the HAI has steadily fallen, standing at 164 for the year 2019. Using the income projection for the year 2020, affordability continued to fall for that year as well.

Key findings

Thus, we find that,

- The sales prices of single-family homes grew faster than median incomes in both the County and non-Helena areas. Growth rates were 1.5% faster in Lewis and Clark County and 2% faster in non-Helena Lewis and Clark County.
- As measured by the housing affordability index (HAI), housing affordability has decreased since about 2012. The declines were -35 points for Lewis and Clark County and -70 points for non-Helena Lewis and Clark County.

3. Household Growth Projections

Population Trends

Population growth is a primary driver of housing demand. Consequently, demand is an important determinate of housing prices. Using U.S. Census block groups, we can see how population growth, and hence housing demand, vary within the county. Using the geographies depicted in *Figure 3*, we describe how the population has changed for these areas from 2014 to 2019 in *Table 2*.

Table 2: Population and 5-year Growth in Helena Urban and Suburban Area, non-Helena, and other Rural Areas

AREA	POPULATION 2014	POPULATION 2019	5 YEAR CHANGE (%)
HELENA	43,199	44,677	+3.4%
NON-HELENA	18,806	20,934	+11.3%
OTHER RURAL	2,349	2,194	-6.6%
LEWIS AND CLARK COUNTY	64,772	67,805	+4.7%

Source: U.S. Census Bureau

From 2014 to 2019, the non-Helena area rose 11.3%, while the Helena urban and suburban areas rose just 3.4%, a significant growth disparity. Thus, the growth in the demand for housing in the non-Helena region affected by the ten-acre minimum lot size restriction has grown faster relative to the Helena urban and suburban areas in the last five years.

The individual circumstances and preferences factor into where households choose to live. Prices and the types of housing available are also important factors

Table 3: 2019 Population and the Percentage of Total County Population.

AREA	POPULATION 2019	% POPULATION
HELENA	44,677	65.9%
NON-HELENA	20,934	30.9%
OTHER RURAL	2,194	3.2%
LEWIS AND CLARK COUNTY	67,805	100%

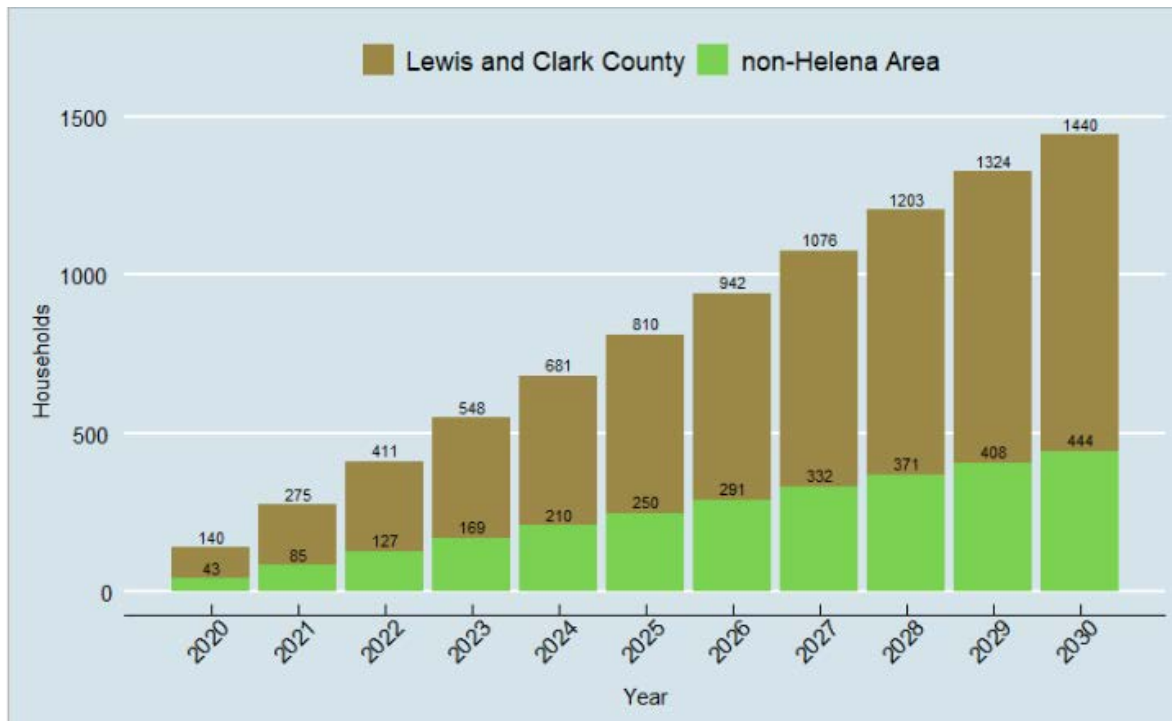
Source: U.S. Census Bureau

In 2019, 34.1% of residents within Lewis and Clark County lived in the non-Helena area, and 65.9% residents lived in urban/ suburban regions around Helena as shown in *Table 3*.

Household Formation Projections

The County's demand for housing reflects rising household formation. Household formation is based on natural population growth and net migration. Therefore, we develop projections using the Montana Census and Economic Information Center and BBER's forecasting model. We forecast the cumulative net new households extending to 2030, providing an informative benchmark for the additional number of housing units demanded. *Figure 6* depicts the projected number of households expected to be added at the end of the decade. Thus, the projections show the number of households potentially entering the housing market in the coming years.

Figure 6: Net New Households, Cumulative Total, 2020-2030



Source: U.S. Census Bureau, Montana Census and Economic Information Center, and Bureau of Business and Economic Research

The total number of households is expected to increase for both the County and the non-Helena area. However, this occurs at a decreasing rate, in 2020, the addition of 140 households, and from 2029 to 2030 the addition of 116 households. Over the full projection, 2020-2030, we expect a net formation of 1440 households within the County. Of these, 444 are projected to settle within the non-Helena area affected by the 10- acre minimum lot size restriction, shown in green in *Figure 3*. If this settlement pattern continues, additional pressure will settle on the existing and future housing supply. Therefore, this projection expects a need for an additional 1440 housing units in the County and 444 in the non-Helena area. This demand will filter into both the owner-occupied and rental sides of the market.

Key Findings

Thus, we find that,

- Over the past five years, the population within the non-Helena areas increased 11.3%, and within the Helena urban and suburban areas, just 3.4%.
- Roughly 31% of the County lives in the rural non-Helena areas surrounding the city of Helena.
- We project 1440 new households for the County, and 444 new households within the non-Helena area, by 2030.

4. The Impact of Minimum Lot Size Restrictions

Minimum lot sizes are regulations used by local governments to restrict urban development in undeveloped areas. By requiring that residential house lots be greater than a specified size, these policies decrease population density and the supply of housing units in the regulated area, making parcels scarcer within the regulated area.

We reviewed twenty-two papers addressing the impacts of zoning regulations on communities across the United States, all found in the *References* section of this report. We highlight six relevant articles that estimate how minimum lot size restrictions impact building permits, residential land use, and residential sales prices. This research suggests that minimum lot size restrictions can impact costs in neighboring jurisdictions. Since the ten-acre minimum lots size within the Helena Valley Zoning Regulations only covers the Rural Residential Mixed-Use Zone and not the broader county neighboring jurisdictions not subject to ten-acre minimums could feel market pressures on single-family housing.

Impacts on Housing Supply

Three papers examined minimum lot size restrictions' direct impacts on housing supply.

The impact of large-lot zoning and open space acquisition on home building in rural communities (Gottlieb et al. 2009) – *Rural New Jersey*

- The authors collected data on 83 municipalities in the New Jersey Highlands from 1996 to 2002 using residential building permits and overall land consumption as a measure of new homebuilding.
- A minimum lot size of less than 4 acres increases the expected building permits, but a minimum lot size of greater than 10 acres leads to fewer expected building permits. At 10 acres, building permits declined by approximately 28 annually for each municipality.

The causes and consequences of land use regulation: Evidence from Greater Boston (Glaeser and Ward 2009) - *Suburban Boston*

- The authors analyzed 187 municipalities in eastern Massachusetts from 1980 to 2002 using building permits to measure new single-family construction.
- With an increase from a one-acre to a two-acre minimum lot size, single-family building permits decreased by 40%.

- Concludes that minimum lot size restrictions are the most substantial regulatory barrier to new construction.

A fixed effects logit model of rural land conversion and zoning (Carrión-Flores and Irwin 2017) - Rural Ohio

- This paper published in the Annals of Regional Science analyzed 17,886 rural parcels near Cleveland, Ohio, from 1990 to 2008.
- The authors calculate the probability of residential land use conversion as a measure of residential development.
- Uses a binary measure of minimum lot size restriction for if the parcel is subject to minimum lot size restriction or not at a given time.
- Parcels subject to minimum lot size restrictions are between 4.4% and 6.4% less likely to be converted to residential land use.

Table 4: Summary Table of the impacts of the minimum lot size restriction on housing supply.

AREA STUDIED	DENSITY	MINIMUM LOT SIZE	FINDINGS	SOURCES
NEW JERSEY	Rural	Greater than 4 acres.	Minimum lot sizes greater than 10 acres lead to 28 fewer permits each year.	Paul D. Gottlieb 2009
GREATER BOSTON AREA	Suburban	Minimum lot .23 to 1.61 acres	An increase from a one-acre to a two-acre minimum lot size, single-family building permits decreased by 40%.	Bryce A. Ward, Edward L. Glaser 2009
OHIO	Rural	Varies	Rural parcels subject to minimum lot size restrictions are between 4.4 and 6.4% less likely to be converted to residential land use.	Carmen Carrion Flores, Elena G. Irwin 2017

Impacts on Housing Prices

This section summarizes three published papers on the impacts of the minimum lot size restriction on housing costs. An issue commonly raised in this literature is zoning itself is a signal of increased housing demand within an area. Since communities that feel a need to enact zoning regulations are likely facing increased housing demand, it is challenging to disentangle price impacts caused by regulation from impacts of growing market demand. A small body of literature finds a positive relationship between regulated lot size and housing costs; as minimum lot size increases, the cost of housing increases (Quigley 2005). The adage “correlation does not mean causation” is warranted for those results but all point towards rising housing costs. This short review excludes those results, highlighting the most recent and rigorous research.

The effect of land use regulation on housing and land prices (Ihlanfeldt 2007) - Suburban Florida

- This article published in the *Journal of Urban Economics* analyzes 68,079 sales transactions across 112 Florida jurisdictions and 25 counties from 2000 to 2002.
- Calculates a regulatory index, including minimum lot size restrictions, to estimate price impacts on single-family homes from changes in this index.
- A one-unit increase in the regulatory index increases single-family home prices by 7.7% and decreases land price-per-acre by 14%.
- Concludes that housing affordability will depend on the number of competing jurisdictions within the broader housing market.

The causes and consequences of land use regulation: Evidence from Greater Boston (Glaeser and Ward 2009)- Suburban Boston

- This article published in the *Journal of Urban Economics* analyzes 187 municipalities in eastern Massachusetts from 1980 to 2002, using single-family sale prices to measure housing costs in a municipality.
- An increase in minimum lot size did not have a significant impact on housing prices.
- Authors concludes that it is unclear whether minimum lot size restrictions impact town or region-level prices.

The impact of minimum lot size regulations on house prices in Eastern Massachusetts (Zabel and Dalton 2011) - Suburban Boston

- This article published in *Regional Science and Urban Economics* analyzes the same 187 municipalities as above from 1987 to 2006 using single-family home transactions to measure housing costs. In addition, this analysis looks at changes in regulations over time on changes in prices to elicit causal effects.
- A one-acre increase in minimum lot size from 0 acres increases single-family home prices by between 5 and 10%, 7 to 9 years after the change and 10-12 years after the change, respectively. Thus, indicating that price impacts increase over time.

This report summarizes the evidence by area studied, density category, minimum lot size, and the authors' findings in *Table 5*.

Table 5: Summary of the impacts of minimum lot size restriction on housing costs.

AREA STUDIED	DENSITY CATEGORY	MINIMUM LOT SIZE	FINDINGS	SOURCES
FLORIDA	Suburban	Restrictiveness Index (includes variation in minimum lot size)	A one-unit increase in the regulatory index increases single-family home prices by 7.7% and reduces the land price-per-acre by 14%.	(Ihlanfeldt 2007)
GREATER BOSTON AREA	Suburban	Minimum lot .23 to 1.61 acres	Positive or no effect on housing prices.	(Edward Glaser Bryce Ward, & 2009)
GREATER BOSTON AREA	Suburban	.25 to 1.75 acres	A one-acre increase in minimum lot size increases single-family home prices by 9.2%.	(Zabel and Dalton 2011)

Impacts on Housing Prices in Neighboring Jurisdictions

Finally, there is evidence for the theory that a minimum lot size restriction may shift regional demand from the regulated area into nearby unregulated communities. Of the studies summarized in *Table 5*, only the suburban greater Boston area could not conclude any effect on housing prices. Authors speculated that given close substitutes, housing supply constraints would not affect housing prices. This is consistent with economic theory, which expects homebuilders in a regulated market will instead build homes within the broader unregulated regional market. Jeffery and Zabel (2011) examine the same region to strengthen the credibility of the previous paper’s conclusions and include estimates of spillover effects in nearby towns. They find significant price increases across towns, increasing single-family home prices in nearby jurisdictions by 5%.

Key Findings

Thus, the literature indicates,

- Minimum lot size restrictions in other parts of the country have reduced the number of residential building permits filed by as high as 40% and reduces the chance land will be converted to residential land uses by 4.4 to 6.4%
- Minimum lot size restrictions in other parts of the country raised housing prices by 7 and 9%, and estimates of the effect over time reach as high as 20%.
- Minimum lot size restrictions raised prices in nearby jurisdictions by 5%, as people may move into homes built in unregulated markets.

6. Conclusion

This report illustrated the factors and trends in residential housing affordability in Lewis and Clark county and explored household formation as a benchmark for future housing demand. These efforts inform the dialogue and decisions surrounding the Helena Valley Zoning Regulations passed in November 2020. The last part of this research focused on the ten-acre minimum lot size restriction to assess the impact of similar policies on other parts of the United States.

First, this report showed that for the better part of the last decade, housing affordability has declined due to residential housing costs rising faster than the financial capacity of households both county-wide and focusing on the non-Helena area.

We provided household formation projections, a significant factor in the future housing demand in the County and sub-County areas. Projections expect Lewis and Clark County will add 810 households from 2020 to 2025 and 1440 households from 2020 to 2030, meaningfully affecting affordability in the near future as new households will place additional pressure on the supply of housing units, continuing to push up prices faster than household financial capacity.

Lastly, this report summarized the most recent research on minimum lot sizes in other parts of the U.S. Here we found that minimum lot size requirements reduced the number of residential building permits, the probability of residential land use and significantly impacted single-family home prices in regulated areas by 4.6% to 20%. Home prices nearby regulated areas are also affected by this regulation, raising adjacent unregulated markets by an estimated 5%. Here we conclude that regulations are local, but growth is often a regional phenomenon.

Lewis and Clark County, over the better part of the decade, has not seen gains in affordability. Future declines in affordability may result from home prices outpacing income growth and increasing household formation. But additionally, the likely impact of ten-acre minimum lot size restrictions on the housing supply may further exasperate the growing affordability problem in Lewis and Clark County and neighboring jurisdictions.

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Appendix

Housing Affordability Index (HAI) Methodology

Expected monthly payments assume 20% down where *Median Sale Price* * 0.8 is the loan amount multiplied by the interest payment to obtain the principal and interest payment.

$$\text{Monthly Payment} = \text{Median Sale Price} * .8 * \left(\frac{\frac{IR}{12}}{1 - \left(\frac{1}{\left(1 + \frac{IR}{12}\right)^{360}} \right)} \right)$$

To obtain a measure of the amount of income required to qualify for a loan for the median house, this is multiplied by 4, assumes 25% of income spent on housing, and multiplied by 12 to obtain an annual estimate of necessary qualifying income.

$$\text{Qualifying Income} = \text{Monthly Payment} * 4 * 12$$

The housing affordability index is the median household income for a given year divided by the necessary qualifying income for that same year.

$$\text{Housing Affordability Index} = \left(\frac{\text{Median Household Income}}{\text{Qualifying Income}} \right) * 100$$