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Grand Junction Housing Affordability Report

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ABOUT THE AUTHOR

Steven L. Byers, Ph.D. is the senior economist with 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

Common Sense Institute is a non-partisan research organization dedicated to the protection and promotion of Colorado's and Arizona's economies. CSI is at the forefront of important discussions concerning the future of free enterprise in Colorado and Arizona and aims to have an impact on the issues that matter most to Coloradans and Arizonans.

CSI's mission is to examine the fiscal impacts of policies, initiatives, and proposed laws so that Coloradans and Arizonans are educated and informed on issues impacting their lives. CSI employs rigorous research techniques and dynamic modeling to evaluate the potential impact of these measures on the Colorado and Arizona economies and individual opportunity.

Common Sense Institute was founded in 2010 originally as Common Sense Policy Roundtable. CSI's founders were a concerned group of business and community leaders who observed that divisive partisanship was overwhelming policymaking and believed that sound economic analysis could help Coloradans make fact-based and *common sense* decisions.

TEAMS & FELLOWS STATEMENT

CSI is committed to independent, in-depth research that examines the impacts of policies, initiatives, and proposed laws so Coloradans and Arizonans 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 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 guided by data-driven research and evidence.

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GRAND JUNCTION HOUSING AFFORDABILITY REPORT

Since 2005, an estimated 11,040 people have moved to Grand Junction. Over the same period, the average priced home has risen 91%, from \$206,196 to \$394,056, as of December 2022. Increased demand for housing and lagging development have created a shortage of housing and a tight housing market. Recent increases in mortgage rates have reduced affordability for those looking to purchase a home. Although higher mortgage rates tend to reduce demand for homes and provide some relief in terms of availability, permitting for new housing units is tapering off and actual home completions are likely to decline as builders respond to a slowing economy. Without an increase in construction of new housing at all price levels, Grand Junction will continue have a housing supply shortage.

This report analyzes housing affordability trends and estimates whether there is a deficit or surplus of housing units in Grand Junction as defined by the area within the city limits. It does not include surrounding cities or towns that are in Mesa County. This study encompasses the period 2001 to 2022. The data sources used in this report and its most recent availability include: the American Community Survey (2021), the National Association of Homebuilders (2020), S&P CoreLogic Case-Shiller Home Price Indices (3rd Quarter 2022), Zillow (November 2022), and the Colorado State Demography Office (2022). The housing deficit/surplus in 2022 is estimated using forecasts of population and average household sizes. It is important to note that the housing unit deficit/surplus estimates may change with each new U.S. Census data release.

KEY FINDINGS

- **The housing deficit in Grand Junction in 2022 was in the range of 897 to 2,413 units. To meet population growth by 2028 and close the housing deficit, between 3,200 and 4,700 housing units will need to be built.**
- **Due to elevated housing prices and rising interest rates, the affordability of purchasing a home in Grand Junction is at an all-time low.** In just the past 8 years, the cost (purchase price plus mortgage interest) of purchasing a home has increased by 87%. A large part of that increase has occurred over the last three years
- **Household incomes have not kept pace with rising housing costs.** Between November 2015 and November 2022, the average hourly wage increased 32% from \$19.37 to \$25.95. However, due to the rapidly increasing cost of housing, the number of hours of work required to cover the mortgage payment on a median priced house increased from 51 hours to 99 hours, a 95% increase, as seen in Table 4.
- **Between 526 and 779 permits are needed annually through 2028 to close the housing supply deficit in Grand Junction and meet the demands of future population growth.** Projected permitting for new housing in 2022 started off well, but it is tapering off as home builders reassess the demand for housing in a higher interest rate environment. Over the period 2006 to 2021, the average annual permitted units issued was 306 per year. This historical average is 39% to 58% of the needed permits to close the deficit and meet new housing demand by 2028.
- **Current levels of permitting for new housing may not be enough.** Based on permit data through November 2022, Grand Junction has issued 325 permits, which, is not enough to close the deficit plus new housing demand by 2028 under the low estimate of needed permits but is insufficient under the high estimate. Recent reports

indicate that the homebuilding market may be contracting. To avoid a collapse of new home building similar to the one that followed the last recession, permitting must remain at elevated levels for the next several years.

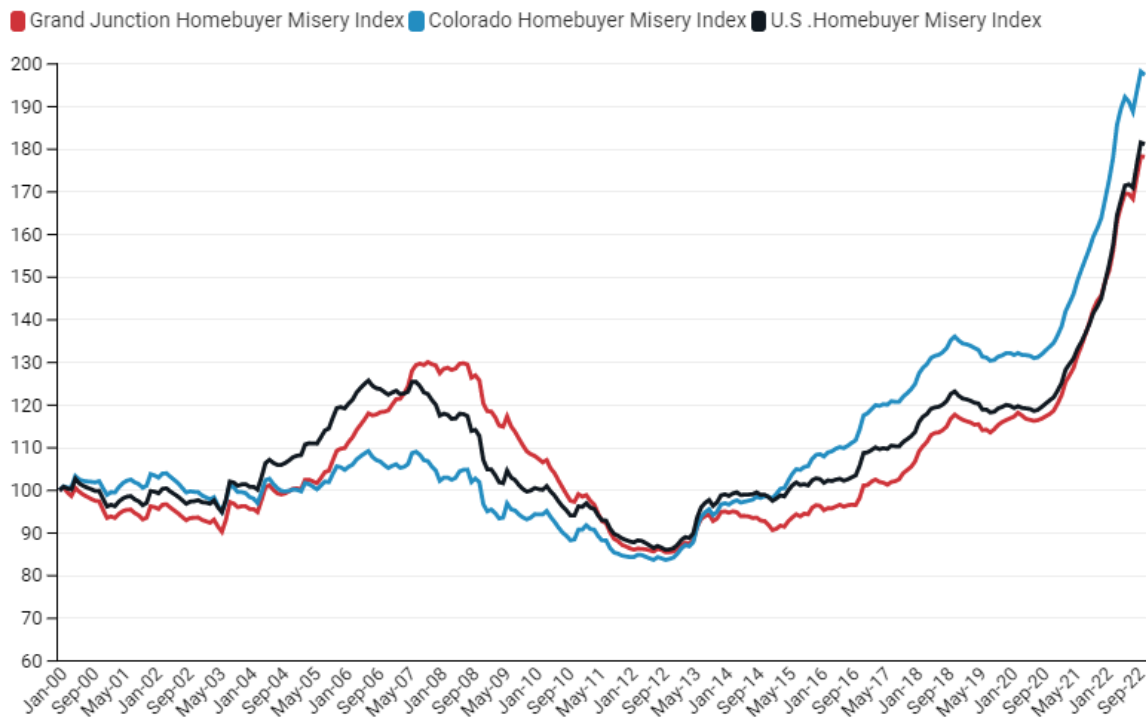
- **The passage of HB 22-1362 and mandating electrification of homes and businesses will reduce affordability.** Based on a study of the cost of residential electrification done by Black Hills Energy, the public utility for Rocky Ford, CO, the combined cost of “behind-the-meter” expenses and new electric utility infrastructure needed to fully electrify all residential housing in Grand Junction would range between \$32,000 and \$37,000 per existing unit, for a total estimated cost to all current Grand Junction residents in the range of \$860 million to \$1 billion.
- **The total cost per existing unit of full electrification of Grand Junction homes would cost between 56% to 65% of median household income (\$64,055).**
- **Homebuilder confidence has declined by 75% since a recent high in November 2020.** The National Association of Home Builders/Wells Fargo Housing Market Index for the Western region has fallen for nine straight months, indicating a possible decrease in the rate of new housing creation go forward.

DECLINING AFFORDABILITY AS MEASURED BY THE HOMEBUYER MISERY INDEX

The “Grand Junction Homebuyer Misery Index”, as developed by the [Common Sense Institute](#)ⁱ, captures the impact of housing prices and mortgage rates on the affordability of purchasing a new home. The Homebuyer Misery Indices are based on 30-year mortgage rates and Zillow home prices.

The Homebuyer Misery Index converts mortgage rates into an indexed value with 2000 as its base year. The mortgage rate index is then added to the Zillow price index and normalized. The following graph shows the Grand Junction Homebuyer Misery Index, the Colorado Homebuyer Misery Index, and the U.S. Homebuyer Misery Index. The Grand Junction Index is below the Colorado and U.S. Homebuyer Misery Index after 2013. The substantial increase from 2012 to the end of 2020 was primarily a function of home prices increasing. Beginning in 2021, home prices in Grand Junction rose dramatically and mortgage rates more than doubled by November 2022; consequently, the cost to purchase an average-price home in Grand Junction went up by 106% from 2012 to 2022. In the last two months of 2022, the misery indices declined as home prices and mortgage rates fell. The graph of the Grand Junction Homebuyer Misery Index is useful for evaluating and comparing trends to the Colorado and U.S. Homebuyer Index, but to determine the degree to which a region became more or less affordable relative to others, the change in the indices must be calculated between two points in time as is shown in in **Table 1**.

Grand Junction, CO Homebuyer Misery Index



Source: Zillow, S&P Case-Shiller, and St. Louis Federal Reserve Bank (FRED)

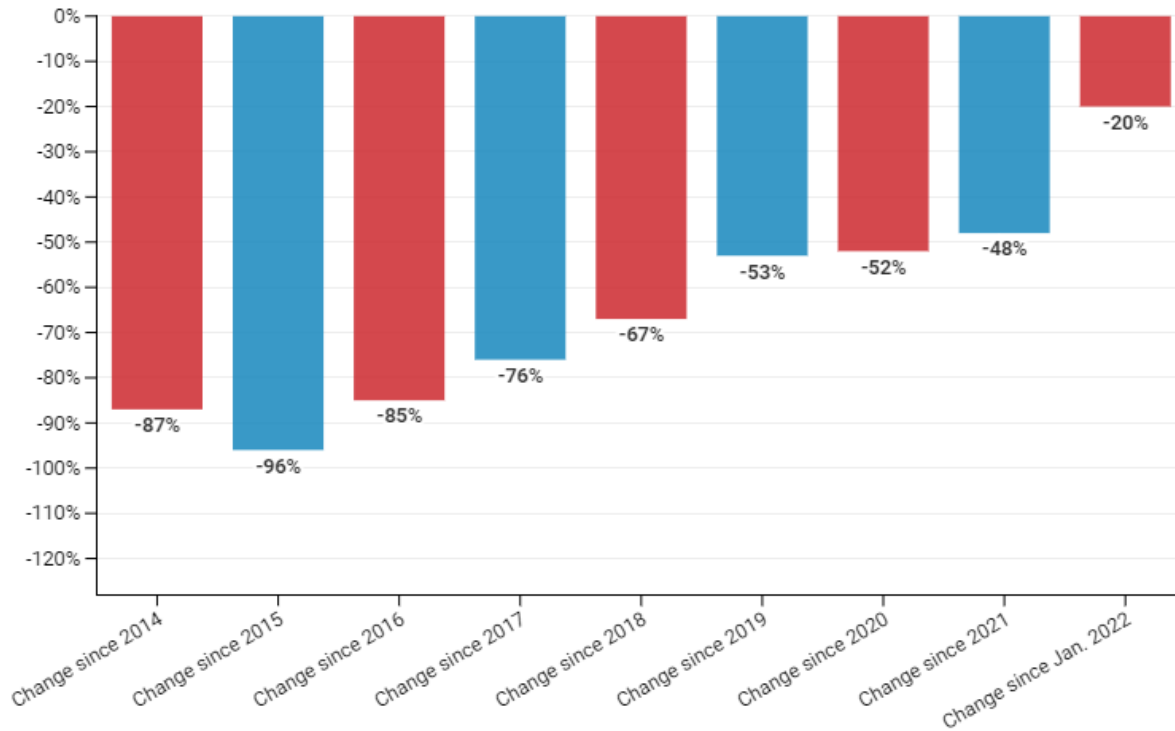
The change in home affordability, based on the Grand Junction Homebuyer Misery Index, has declined in Grand Junction by 87% since January 2014 and was lower than Colorado till 2015. Relative to the U.S., the change in affordability has been worse from 2014 through 2021. In 2022, Grand Junction was slightly more affordable than the U.S. overall. **Table 1** shows the decline in affordability for Grand Junction, Colorado, and the U.S. from January 2014 to January 2022 relative to December 2022.

Table 1- Percent Change in Housing Affordability for Grand Junction, Colorado, and the U.S.			
% Change as of Dec. 2022 Since:	Grand Junction	Colorado	United States
Jan 2014	-87%	-104%	-83%
Jan 2015	-96%	-101%	-86%
Jan 2016	-85%	-82%	-76%
Jan 2017	-76%	-67%	-66%
Jan 2018	-67%	-58%	-59%
Jan 2019	-53%	-47%	-49%
Jan 2020	-52%	-49%	-51%
Jan 2021	-48%	-45%	-47%
Jan 2022	-20%	-17%	-22%

The following graph shows the average change in affordability in Grand Junction. Half of the change has occurred since January 2020 and 45% since the beginning of 2021.

Changes in Housing Affordability in Grand Junction

Negative Numbers Indicate Reduced Affordability



Source: Zillow

The Wall Street Journal and Realtor.com began producing their Emerging Housing Markets Index in spring 2021 and has now published 6 quarterly estimates. The index identifies the top metro areas for home buyers seeking an appreciating housing market, strong local economies, and appealing lifestyle amenities. Three hundred of the most populous core-based statistical areas as measured by the U.S. Census Bureau are evaluated using two main areas: real-estate markets (50%) and economic health (50%). It utilizes 11 key indicators that are weighted and summed to create a single measure: real-estate supply (16.6%), real-estate demand (16.6%), medium home listing price trend (16.6%), unemployment (6.25%), wages (6.25%), regional price parities (6.25%), amenities (6.25%), small businesses (6.25%), and property taxes (6.25%).ⁱⁱ

Table 2 shows the rankings of the Grand Junction core-based statistical areas relative to all three hundred most populous areas included in the index. This index provides some perspective that while housing affordability is near record lows, as of the latest data, fall 2022, Grand Junction is not viewed as attractive a locale compared to Colorado Springs, Fort Collins, and Boulder for future price appreciation. However, in comparison to the 299 other MSA's

that are in the Emerging Housing Market Index, Grand Junction is among the top 15% of locations in the Fall of 2022 (with an index value of 43) that offer potential for future prices to rise and offers substantial other quality of life amenities and economic factors.

Table 2 - Wall Street Journal/Realtor.com Emerging Housing Markets Index, Ranked Relative to 300 Metropolitan Statistical Areas

	Spring 2021	Summer 2021	Fall 2021	Spring 2022	Summer 2022	Fall 2022
Colorado Springs	32	14	11	25	20	14
Boulder	31	46	20	6	14	33
Denver-Aurora-Lakewood	115	88	59	52	66	38
Grand Junction	60	39	90	126	50	43
Fort Collins	96	68	24	8	11	47
Pueblo	86	55	83	102	78	98
Greeley	153	140	93	108	113	168

This table is ranked by comparison to 300 of the most populous metro areas in the U.S. Colorado metro areas that were ranked in the top ten in any given year are highlighted in orange. The index identifies the top metro areas for home buyers seeking an appreciating housing market, a strong local economy and appealing lifestyle amenities.

Table 3 shows the relative rank of other major MSA’s in Colorado. Though prices in Grand Junction are historically high, among the other MSA’s in Colorado, it is generally considered to be average among the top Colorado MSA’s for future home price appreciation.

Table 3 – Wall Street Journal/Realtor.com Emerging Housing Markets Index, Ranked Relative to Colorado Metropolitan Statistical Areas

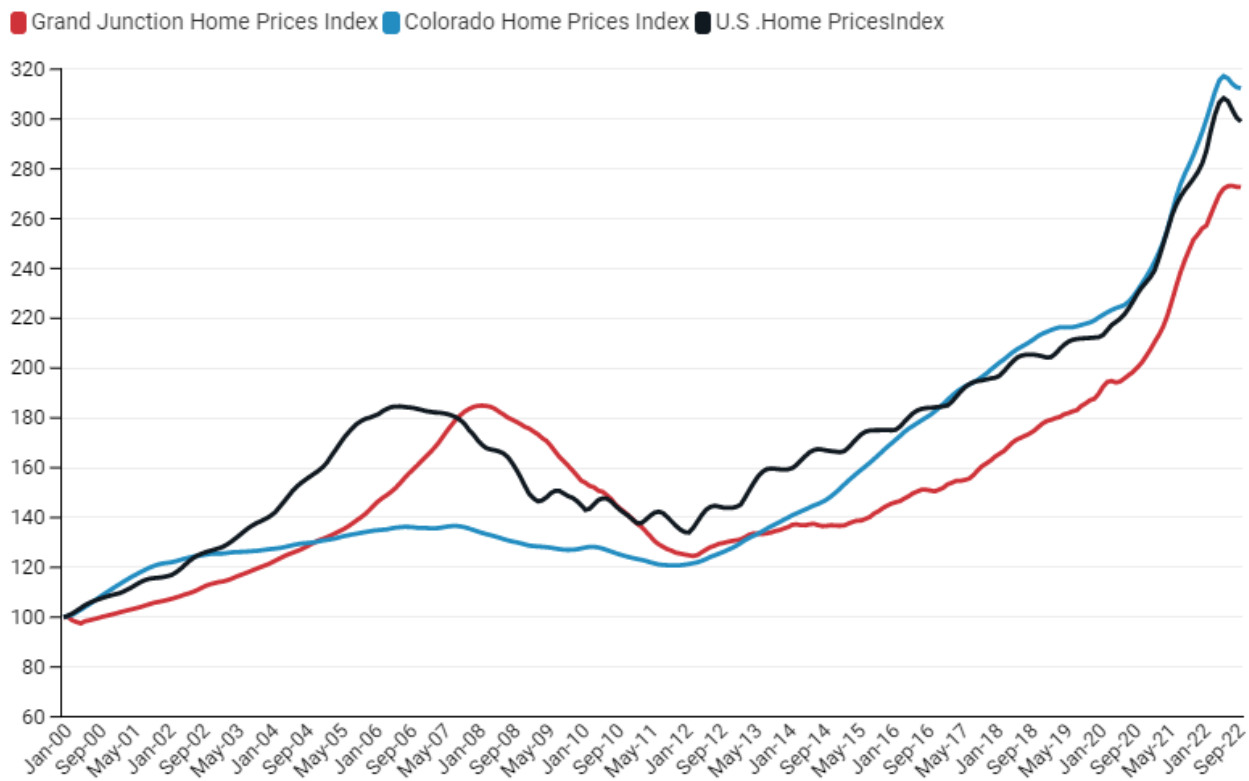
	Spring 2021	Summer 2021	Fall 2021	Spring 2022	Summer 2022	Fall 2022
Colorado Springs	2	1	1	3	3	1
Boulder	1	3	2	1	2	2
Denver-Aurora-Lakewood	6	6	4	4	5	3
Grand Junction	3	2	6	7	4	4
Fort Collins	5	5	3	2	1	5
Pueblo	4	4	5	5	6	6
Greeley	7	7	7	6	7	7

This table is ranked by comparison to 7 of the most populous metro areas in Colorado. The index identifies the top metro areas for home buyers seeking an appreciating housing market, a strong local economy and appealing lifestyle amenities.

HOME PRICES

The following graph shows home price indices for Grand Junction, Colorado, and the U.S. Home prices in Grand Junction increased 106% since 2012 and 45% from the beginning of the Covid-19 pandemic through December 2022. Since mid-2022, home prices in Grand Junction have begun to taper off, falling 1% since June 2022. Nationally, home prices increased 44% from the beginning of the Covid-19 pandemic through October 2022 and have declined 0.3% since May 2022.

Grand Junction Home Price Index



Source: Zillow, and S&P Case-Shiller

HOURS OF WORK NEEDED TO AFFORD A HOME MORTGAGE

To measure the impact on the average homeowner in Grand Junction, Common Sense Institute calculated the number of hours that one would have to work while earning the average hourly wage in November of each year from 2013 to 2022 to cover the monthly mortgage payments shown in **Table 4**. Over just the last 12 months, driven primarily by the increase in mortgage rates, an additional 36 hours of work per month has become necessary to cover the mortgage on a newly purchased average priced home.

Table 4 – Grand Junction 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	Hour of Work at the Average Wage Rate Required to Cover Mortgage Payment	% Annual Change in Hours of Work Required
Nov-2013	\$194,386	4.26%	\$957	\$18.91	51	N/A
Nov-2014	\$197,226	4.00%	\$941	\$19.48	48	-4.5%
Nov-2015	\$207,190	3.94%	\$982	\$19.37	51	4.9%
Nov-2016	\$216,827	3.77%	\$1,007	\$19.07	53	4.1%
Nov-2017	\$233,018	3.92%	\$1,102	\$20.28	54	2.9%
Nov-2018	\$253,950	4.87%	\$1,343	\$20.93	64	18.0%
Nov-2019	\$269,490	3.70%	\$1,240	\$21.75	57	-11.2%
Nov-2020	\$291,216	2.77%	\$1,191	\$23.18	51	-9.8%
Nov-2021	\$362,363	3.07%	\$1,541	\$24.42	63	22.8%
Nov-2022	\$394,056	6.81%	\$2,570	\$25.95	99	57.0%

Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MORTGAGE30US>, Colorado - May 2021 OEWS State Occupational Employment and Wage Estimates (bls.gov).

The graph below 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 50 from January 2007 until the summer of 2020, after which, they increased dramatically as home prices increased. Beginning in the spring of 2022, mortgage rates have increased as the Federal Reserve addresses inflation, having a dramatic impact on the cost of purchasing a home.

Since the start of the pandemic the hours of work required to afford a mortgage on an average priced home increased 74% from 57 hours to 99 hours.

Mortgage Affordability in Grand Junction

Hours of Work Required to Afford a Typical 3-year Mortgage Payment

■ Typical Mortgage Payment ■ Hours of Work Required to Afford a Typical 30-year Mortgage Payment



Source: St. Louis Federal Reserve Bank Source: St. Louis Federal Reserve Bank

GRAND JUNCTION HOUSING SUPPLY SHORTAGE

Grand Junction 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.

CSI estimates the number of homes needed in Grand Junction to achieve a healthy housing market under two scenarios. Each scenario is intended to measure the difference between the actual number of homes in a county relative to the number of homes needed to maintain a more stable market for the local population. The first scenario averages the values of a housing deficit or surplus based on the low estimate of homes held off the market for purchase by the local population. The second scenario averages the values of a housing deficit or surplus based on the high estimate of homes held off the market for purchase by the local population.

Housing units and households – Each scenario uses both the estimate of housing units and households from U.S. Census Bureau’s American Community Survey (ACS) and the Colorado State Demography Office. We adjust the housing units by removing those considered uninhabitable by virtue of having no kitchen or lacking plumbing facilities.

Homes held off the market – Total homes held off the market reflect existing housing units not available for purchase by the local population. The estimate includes a range of second homes at the county level released by the National Association of Homebuilders,ⁱⁱⁱ along with an estimate of uninhabitable homes from ACS. Grand Junction has between 0% and 4.99% of the housing stock allocated to second homes.

Desired ratio of total units to local population – To estimate the target number of housing units, the value of 1.1 housing units per household is used to represent a healthy market. This value is derived from the historic average ratio of vacancy rates for the U.S. and was the basis for a housing supply report done for the state of Oregon.^{iv} **Table 5** shows the forecasted change in population and the number of households in 2028 and 2033.

Table 5 – Grand Junction - Change in Population and Household by county, in 2028 and 2033				
	Population		Households	
	2028	2033	2028	2033
Grand Junction	5,360	11,461	2,261	4,835

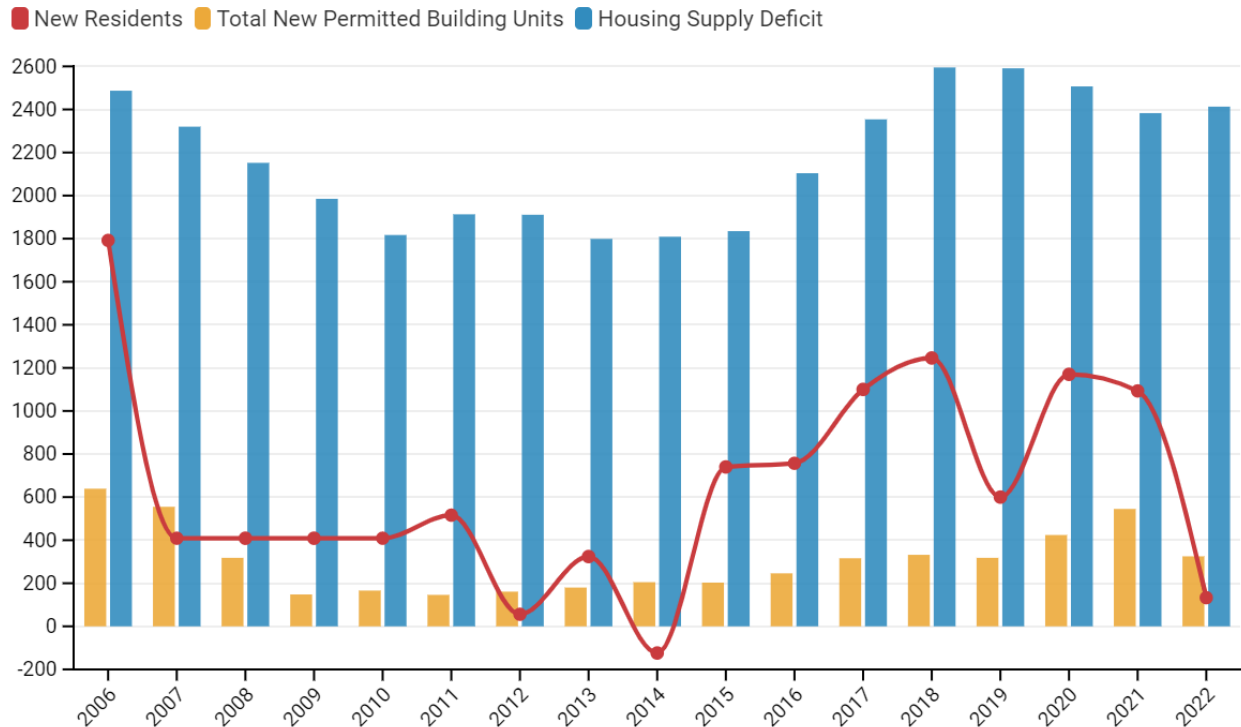
Using the scenarios discussed above, the deficit in housing units in 2022 is estimated to have been between 897 and 2,413 units. These deficits represent 2.9% and 7.9% of the existing housing stock in Grand Junction. **Table 6** presents summary results Grand Junction considered in this study. CSI will continue to monitor new data as it becomes available and will amend the estimates and methodology as required.

Table 6 – Grand Junction - Housing Deficit/Surplus in 2022					
Region	Housing Stock 2022	Housing Deficit/Surplus in 2022		Deficit/Surplus as a Percent of 2022 Existing Stock of Housing Units	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Grand Junction	30,377	(897)	(2,413)	2.95%	7.94%
Scenario 1 uses the NAHB low estimate of the percent of homes held-off-market Scenario 2 uses the NAHB high estimate of the percent of homes held-off-market					

BUILDING PERMITS AND THE HOUSING SUPPLY DEFICIT

As shown in the following graph, new residents continued to arrive in Grand Junction with the exception of 2014, and the housing supply deficit fluctuated from 2006 through 2022 but remained approximately the same in 2022 as in 2006. Annual permitting steadily rose after 2009, but not enough to reduce the supply deficit.

Grand Junction - Population Growth, New Unit Permits, and the Housing Supply Deficit



Sources: National Association of Homebuilders, Colorado State Demography Office, U.S. Census Bureau ACS

To erase the estimated deficit in 2022 and meet new population-driven demand for housing by 2028, an additional 3,158 to 4,674 permitted units will be needed in total, equivalent to 526 to 779 permitted units per year, see **Table 7**. CSI is tracking 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 as the population grows.

Table 7 - Permits Required to Close the 2022 Deficit and New Housing Demand in Grand Junction in 2028

Region	Number of Permits Required to Close the Deficit Plus New Demand for Housing in Grand Junction by 2028		Permits Issued per Year in Grand Junction	Deficit/Surplus in Permitted Units Issued in Grand Junction	
	Scenario 1	Scenario 2	2022 (November)	2022 Scenario 1	2022 Scenario 2
Grand Junction, CO	3,158	4,674	325	(201)	(454)

Scenario 1 uses the NAHB low estimate of the percent of homes held-off-market
 Scenario 2 uses the NAHB high estimate of the percent of homes held-off-market

To erase the estimated statewide deficit and meet new population-driven demand for housing by 2033, an additional 5,732 to 7,248 permitted units are required in total, equivalent to 521 to 659 per year, See **Table 8**. Closing the deficit and meeting new housing demand by 2033 requires fewer permits per year than does closing the deficit by 2028, because filling the 2022 housing deficit is spread out over an additional five years.

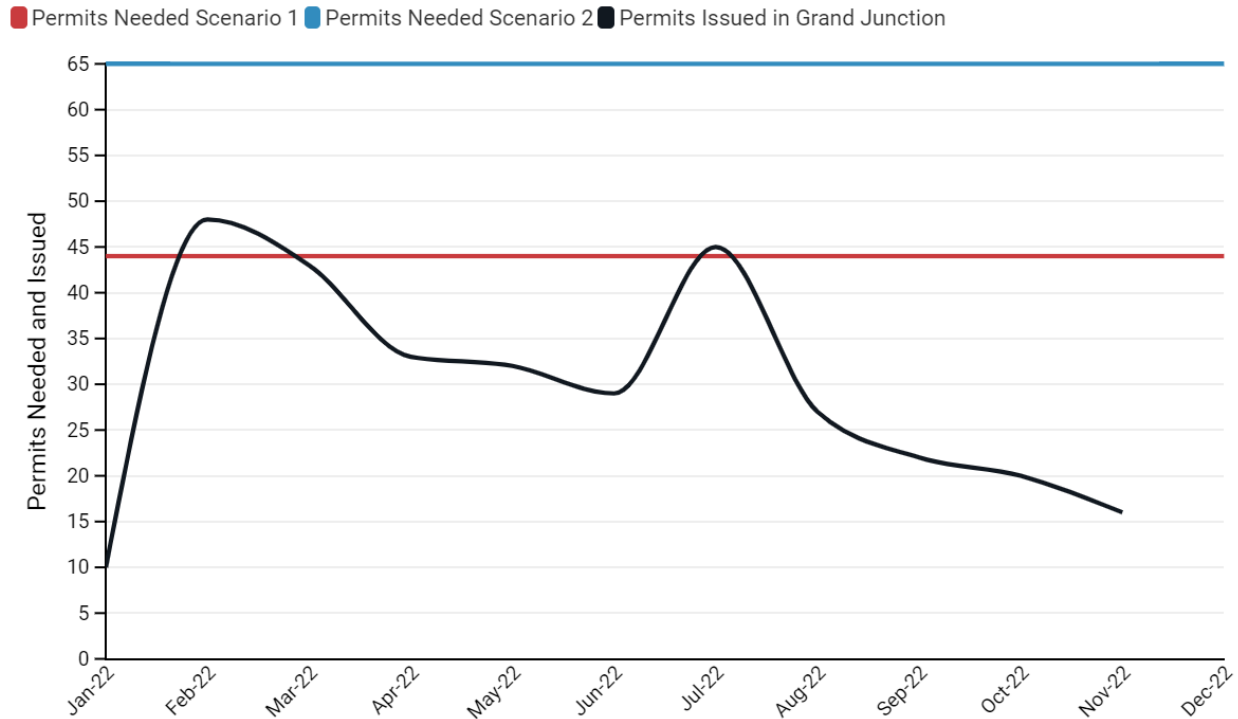
Table 8 - Permits Required to Close the 2022 Deficit and New Housing Demand in Grand Junction in 2033

Region	Number of Permits Required to Close the Deficit Plus New Demand for Housing in Grand Junction by 2033		Permits Issued per Year in Grand Junction	Deficit/Surplus in Permitted Units Issued in Grand Junction	
	Scenario 1	Scenario 2	2022 (November)	2022 Scenario 1	2022 Scenario 2
Grand Junction	5,732	7,248	325	(196)	(334)

Scenario 1 uses the NAHB low estimate of the percent of homes held-off-market
 Scenario 2 uses the NAHB high estimate of the percent of homes held-off-market

The following graph shows the number of monthly housing unit permits needed to close the deficit by 2028 for 2 scenarios, and the number of permits issued monthly through November 2022. The red line shows the average monthly required permits to close the 2022 deficit and meet new housing demand by 2028 for scenario 1. The blue line is for scenario 2. In scenario 1, enough permits have been issued in two months over the first eleven months of 2022 to cover the housing deficit and meet new demand for housing by 2028. In scenario 2, there has been an insufficient number of permits issued in the past eleven months to cover the housing deficit and new housing demand by 2028. At the moment, permitting is trending down as high interest rates are dampening demand for housing and builders are applying for fewer permits.

Grand Junction - Average Monthly Housing Unit Permits Needed to Close the Deficit Plus New Demand by 2028 vs. Issued



Source: U.S. Department of Housing and Urban Development and CSI Calculations

TYPES OF PERMITS ISSUED

Table 9 shows the number of housing unit permits issued in total, and the percentage of each type, issued from 2012 through November 2022. Annual permitted units issued have increased from 161 in 2012 by 102% to 325 in 2022. The percentage share of permitted units issued has gone from 90% single-family in 2012 to 83% in 2022. The percentage permits for multi-family structures have increased from 10% in 2012 to 17% in 2022 with the majority of multi-unit structures occurring in the 5-plus unit multi-family structures.

Table 9– Grand Junction - Permits by Percentage of Type Issued

	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	161	90%	10%	4%	1%	5%
2013	180	100%	0%	0%	0%	0%
2014	205	90%	10%	2%	0%	8%
2015	203	91%	9%	0%	0%	9%
2016	246	83%	17%	2%	0%	15%
2017	316	87%	13%	2%	1%	10%
2018	332	99%	1%	1%	0%	0%
2019	318	82%	18%	2%	0%	17%
2020	424	77%	23%	2%	0%	21%
2021	545	72%	28%	1%	1%	26%
2022	325	83%	17%	1%	0%	16%
2012-2022	3255	85%	15%	1%	0%	14%

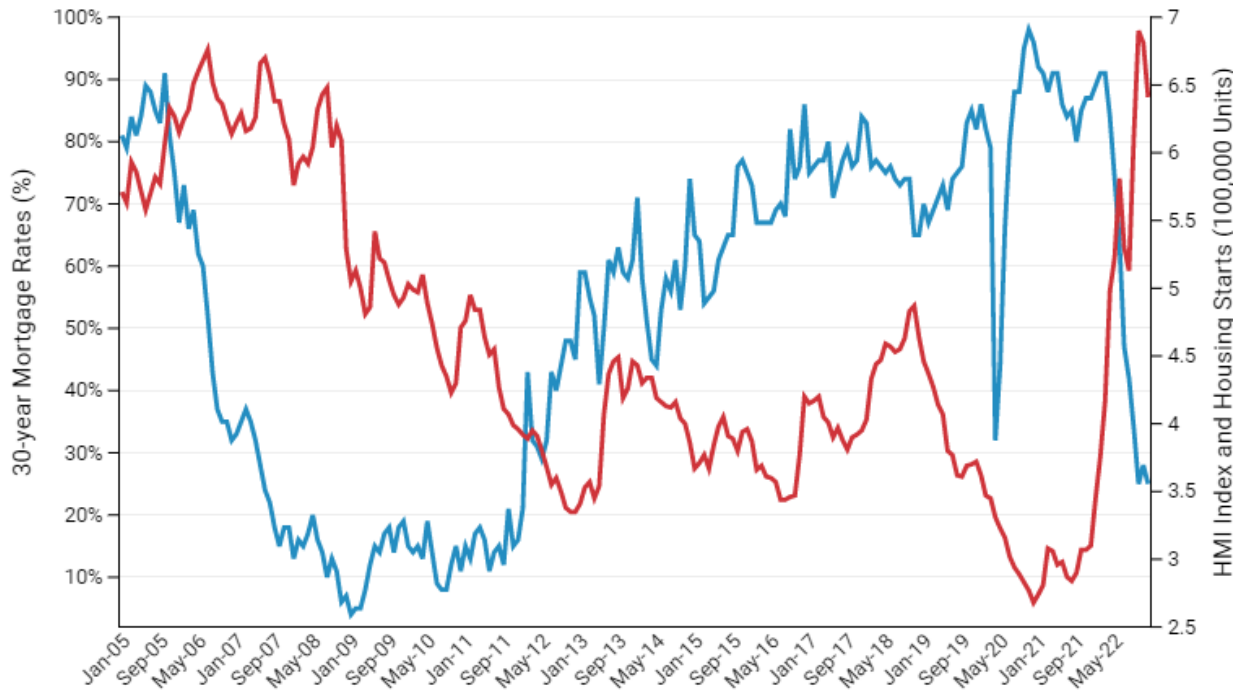
HIGHER MORTGAGE RATES AND HOMEBUILDER CONFIDENCE

As shown in the following graph, as mortgage rates (red line) have increased since March 2022, demand for housing has begun to taper off and, in response, many home builders are re-evaluating their plans for new housing. The December Housing Market Index (HMI) (blue line) released by the National Association of Homebuilders, which reflects builder confidence in the market for newly built single-family homes, fell for the 10th straight month to the lowest point since April 2020.^v

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

NAHB/Wells Fargo Housing Market Index (HMI), New Single-Family Starts and Mortgage Rates

■ 30-Year Mortgage Rate ■ NAHB/Wells Fargo HMI - West



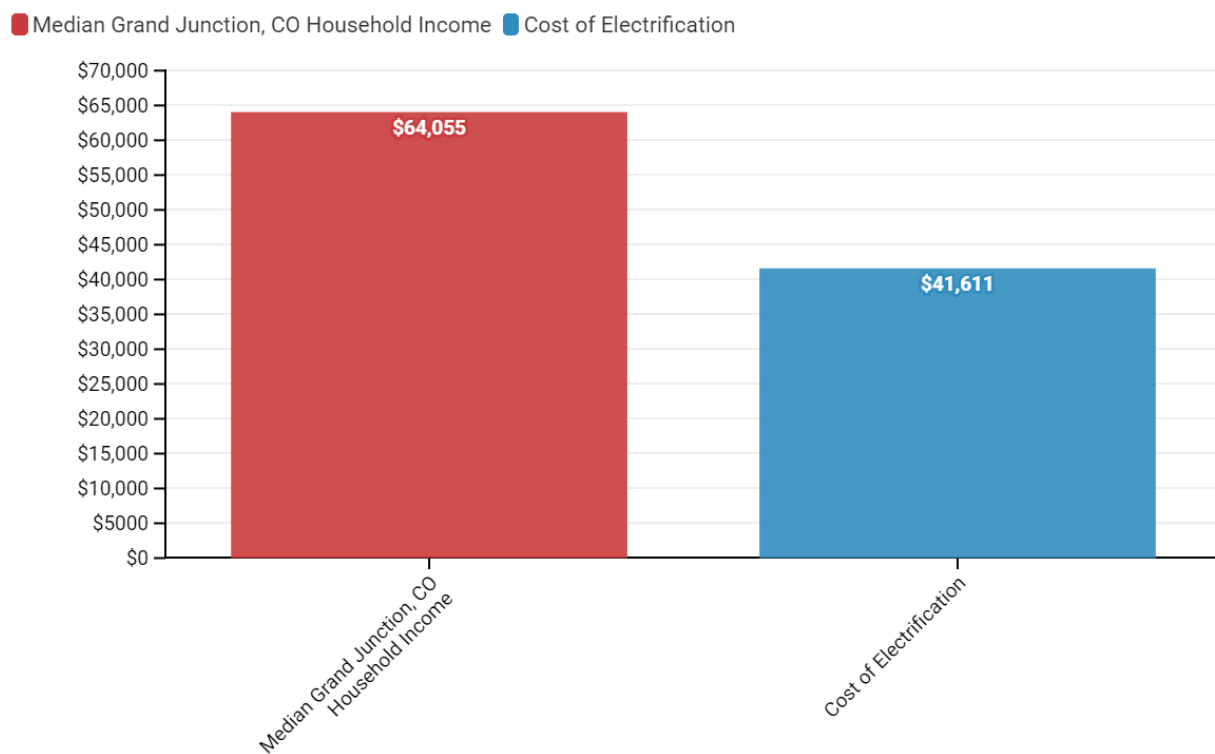
Source: NAHB/Wells Fargo Housing Market Index (MNI) and the St. Louis Federal Reserve Bank (FRED)

COST OF PROPOSED ELECTRIFICATION OF HOMES AND BUSINESSES

During the 2022 legislative session, the General Assembly passed HB22-1362 and the Governor signed it into law on June 2, 2022. It requires the adoption of model code language that would achieve energy performance “equivalent [to] or better” than the 2021 International Energy Conservation Code (IECC). It also requires the development of an electric and solar ready code and a model green code by a newly established Energy Code Board convened by the Colorado Energy Office (CEO) and the Department of Local Affairs (DOLA). The legislation goes further than earlier legislation passed in 2019 (HB19-1260) which required local jurisdictions to adopt one of the three most recent versions of the IECC at a minimum upon updating any other building codes. Thus, the passage of HB 22-1362, represents a larger energy efficiency hurdle for new buildings in the state. Upon the passage of HB22-1362, the state departed from local home rule governance policies that characterize housing development in the state of Colorado. By doing so, the state has declared that energy conservation in the built environment supersedes local preferences and standards. In contrast to a uniform statewide building code which focuses on the safety and integrity of structures, the state has dedicated its policy priorities to energy conservation and stretch codes that emphasize energy efficiency, will pave the way for full electrification of buildings.

In September 2020, Black Hills Energy provided an estimate of the costs of electrification for customers within Rocky Ford, CO. Their analysis is for the total cost of electrification for residential units, which includes the cost of the infrastructure to provide the electricity to all housing units, new appliance costs, and behind-the-meter-costs (cost of wiring, breakers, outlets, etc. inside the house), which are costs to be covered by the customer individually. The analysis found that the total cost to electrify all 1,543 housing units in Rocky Ford would be \$53.8 billion—\$37,131 per housing unit. CSI extended the results of the Rocky Ford study to all 24,035 housing units in Grand Junction that do not use electricity for heating and cooking under the assumption that the 6,342 housing units that currently use electricity for heating and cooking would not have to be retrofitted. The cost of electrification per housing unit in Grand Junction is estimated to be \$41,611. This is equivalent to 65% of the median household income of \$64,055. The estimated per unit cost is higher for Grand Junction due to the much larger amount of infrastructure required to generate and deliver the electricity to residents.

The Cost of Electrifying an Average Housing Unit is 65% of Grand Junction's Median Household Income



The total cost to electrify all 24,035 housing units that are not currently using electricity for heating and cooking ranges between \$860 million and \$1 billion (see **Table 10**).

**Table 10 - Cost of Residential Electrification
(Rocky Ford and Grand Junction)**

	Rocky Ford	Grand Junction
Number of Residential Units Switching to Full Electrification	1,450	24,035
Total Utility Infrastructure Costs – Low	\$19.1K	\$22.8K
Total Utility Infrastructure Costs – Mid	\$19.1K	\$22.9K
Total Utility Infrastructure Costs – High	\$22.2K	\$26.5K
Total Behind the Meter Costs – Low	\$13.0K	\$13.1K
Total Behind the Meter Costs – Mid	\$14.0K	\$14.1K
Total Behind the Meter Costs – High	\$15.0K	\$15.1K
Total Electrification Cost – Low	\$32.1K	\$35.9K
Total Electrification Cost – Mid	\$33.2K	\$37.0K
Total Electrification Cost – High	\$37.1K	\$41.6K
Total Cost Community – Low	\$46.6M	\$0.86B
Total Cost Community – Mid	\$48.1M	\$0.89B
Total Cost Community – High	\$53.8M	\$1.00B

Source: Alternative Fuel Analysis – Preliminary Study of Electrification of Customers within Rocky Ford, Colorado. Sept 2020, Black Hills Energy, and CSI Calculations

GOING FORWARD

Grand Junction is no longer a sleepy town on Colorado’s western slope, as the population has increased by 20% since 2005. At the same time, the supply of new housing has not kept pace and there exists a housing supply deficit ranging between 897 and 2,413 units. To close the existing deficit by 2028 and meet new demand for housing, 526 to 779 housing unit permits need to be issued per year.

Addressing affordability requires issuing an adequate number of housing units permits to close the deficit and meet future housing demand, changes to zoning, increasing the mix of housing types permitted so that more housing can be offered at affordable price points, and setting realistic and cost-conscious goals for transition to clean and renewable energy so that they do not overburden homeowners.

ⁱ <https://commonsenseinstituteco.org/>

ⁱⁱ https://www.wsj.com/articles/see-the-full-rankings-for-wsj-realtor-coms-summer-emerging-housing-markets-index-11658779946?mod=article_relatedinline

ⁱⁱⁱ The Nation’s Stock of Second Homes, Zhao, Na., May 2013, National Association of Home Builders

^{iv} Implementing a Regional Housing Needs Methodology in Oregon: Approach, Results, and Initial Recommendations. August 2020. ECONorthwest.

^v <https://www.nahb.org/news-and-economics/press-releases/2022/07/builder-confidence-plunges-as-affordability-woes-mount>