COLORADO FUTURES CENTER

Housing Affordability Update

Summer 2023 | Focusing on Where the Need is Greatest

Acknowledgement

Thank you to the Colorado Health Foundation for their generous support of this research.

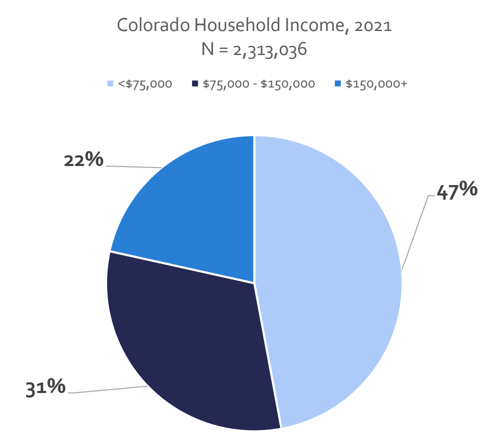
The Colorado Health Foundation™

Almost half of Colorado households have incomes of less than $75,000. Housing policy must not forget them.

In Colorado, conversations about housing affordability are occurring daily. And for good reason. Since 1990, the ratio of an index of house prices to an index of income has almost doubled, with the major runup beginning in the wake of the Great Recession and accelerating during the COVID pandemic. However, as this housing affordability update shows, recent evidence is for a housing market slowly returning to relative health.

Most housing analysts consider a housing market healthy when vacancy rates hover around 5 percent, allowing for the necessary inventory and churn to accommodate movers and entrants into the market. Our analysis shows the Colorado and Denver metro markets recovering from the Great Recession supply constraints and approaching 5 percent vacancy just as COVID hit, seizing the market and resulting in soaring prices. The largest increases in the history of the Case-Shiller Housing Price Index for Denver occurred during and in the immediate aftermath of the pandemic.

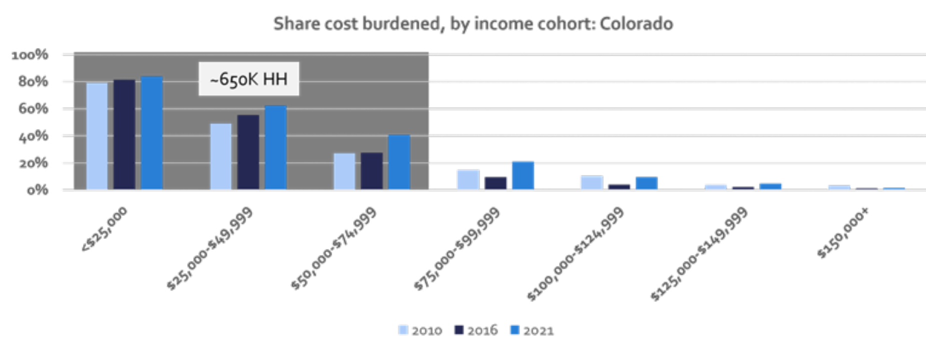
Of late, however, with the reopening of the post-pandemic economy and the continuing increase in supply of housing units, the market is showing signs of normalizing. Housing price increases have at the least significantly moderated and in many submarkets are in the process of correcting. And, in our models, estimated vacancy rates continue and are projected to remain over 5 percent. This should ease the challenge for many households, particularly those earning twice the median income. This analysis shows that, in most markets, a household income of twice the median (just under $165,000 statewide) supports between 80 and 90 percent of the housing inventory by assessor value.



For households at the median or below, however, the affordability challenge remains acute. In 2021, 47 percent of Colorado households had incomes of $75,000 or less and housing options for those households are far more limited.

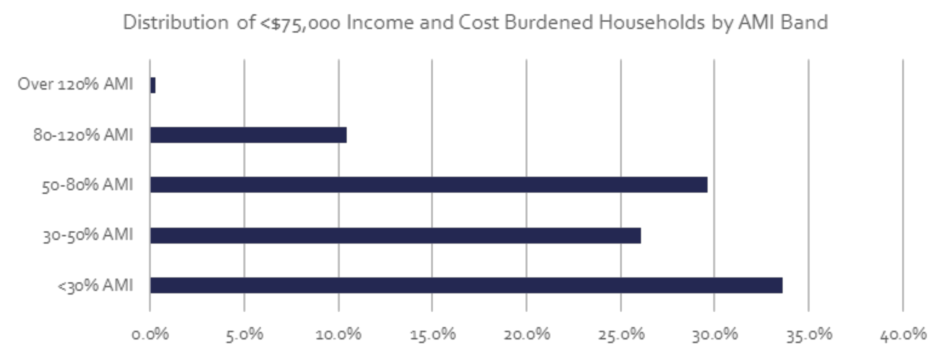
Source: IPUMS USA, University of Minnesota, www.ipums.org, 2021.

Small and medium multi-family units, often a significant source of housing for lower income households, have seen negligent production in a Denver metro market that in the second half of the 2010s largely produced large multi-family developments. The significant lack of options for households earning $75,000 or less has left approximately 650,000 households statewide facing significant levels of housing cost burden, costing the Colorado economy approximately **$5.6 billion in foregone spending** (just over $8,600 per household). For lower income households, the cost-burdened profile has deteriorated since 2010.



Source: CFC analysis of IPUMS USA, University of Minnesota, www.ipums.org, 2010-2021.

This housing affordability update serves a dual purpose. It provides a much-needed update to the data assessing the contribution of the various factors affecting affordability. Housing affordability has always been and will remain a multi-faceted challenge with factors such as land, materials, labor and consumer preference, among others, all contributing. This update to the factor study demonstrates the relative impact of myriad factors contributing to unaffordability. More importantly, it redirects attention to the 47 percent of Colorado households attempting to afford housing on household income of $75,000 or less. As Colorado continues to address its affordability challenge, these households must be front and center in all housing policy.

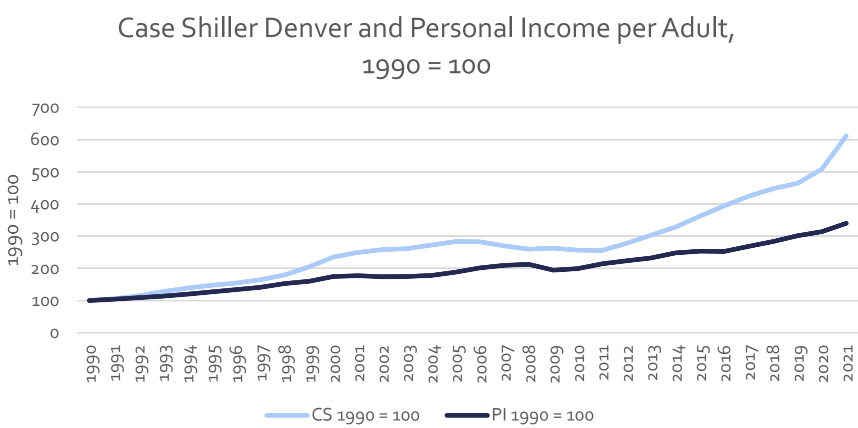


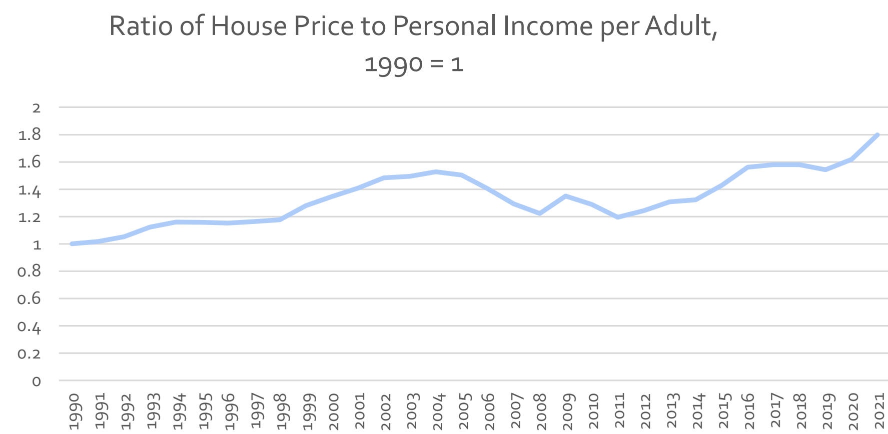
Source: CFC analysis of ACS PUMS 2021 and HUD income limits.

HOUSING ECONOMY

Some answers…

The housing affordability challenge in Colorado is well-documented, and for good reason. As measured by the Case-Shiller Housing Price Index for CO-Denver (the only Case-Shiller measure for Colorado) housing prices indexed to 1990 rose to 1.8 times per adult personal income for the region, also indexed to 1990. From 1990 to 2021, housing prices, as measured by Case-Shiller, grew at a compound annual growth rate of 6%. Over that same period, per adult personal income grew at a compound annual rate of 4%. On average, housing price appreciation outstripped income growth by a factor of 1.5 and the ratio of housing prices relative to personal income per adult Coloradan has nearly doubled.





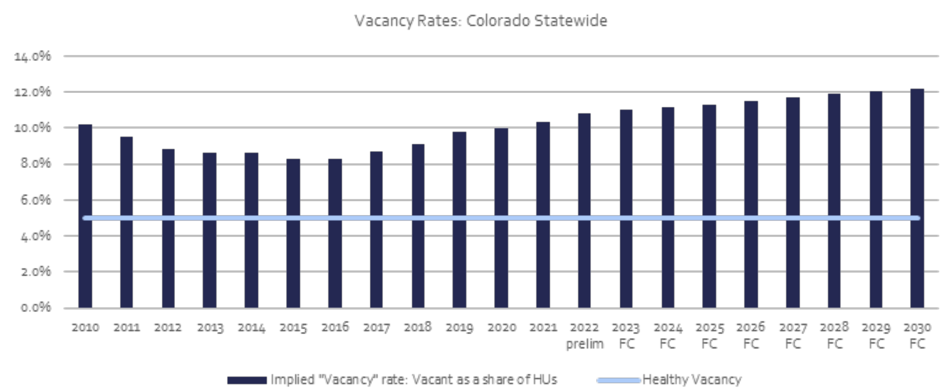
Sources: BEA (Denver and Boulder MSAs), Colorado State Demography Office (SDO), and S&P Dow Jones Indices LLC, S&P/Case-Shiller CO-Denver Home Price Index [DNXRSA], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DNXRSA, February 28, 2023.

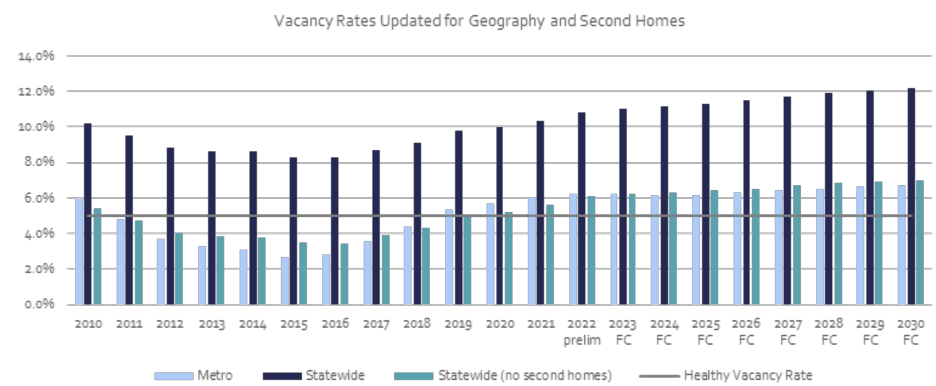
The question is not whether housing did become increasingly unaffordable. The data clearly confirm that it did. The question is why? As reported in our previous [factor work](), the answer is complex, multi-faceted and cannot be explained by a single factor alone (more on the other factors later in this report). That fact remains. However, the assessment in this update is even more complex – mainly because the high-level supply and demand numbers strongly suggest that the affordability challenge should not be as acute as it has been – and perhaps that the imbalance between price and earnings appreciation too is somewhat unjustified by the high-level market data alone. Why do we assert this?

HOUSING ECONOMY

Some answers...

Most housing market experts suggest that a healthy market is one for which vacancy rates run between three and five percent. This level of vacancy will vary for owner occupied and rental property, but a rate in the three to five percent range generally allows for enough inventory to support a healthy churn. By this standard, and without adjusting for specifics of Colorado housing markets such as geography and the prevalence of second homes, the Colorado statewide market appears to have been in healthy surplus since 2010. Since 2010 overall vacancies far exceeded five percent and are forecast to remain there.





Sources: Census, SDO

However, the specifics of the housing market matter. Colorado is a state with a high propensity of second homes, particularly in the resort areas. And geographically, the urbanized Denver metro area has different economic characteristics than the eastern plains, the western slope or the resort communities. Adjusting for geography and second homes, a different picture emerges; one that more strongly supports the well-publicized affordability pressure.

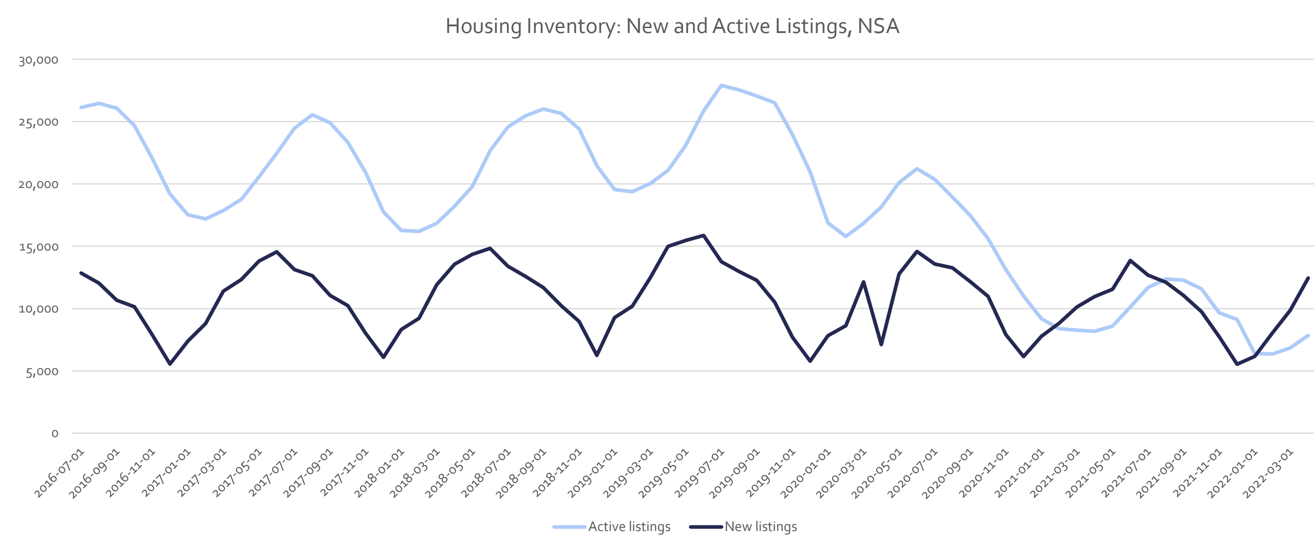
Once adjusting for second homes, statewide vacancies sustained a seven-year period below the five percent healthy vacancy level, returning to just above the five percent level just before the COVID pandemic (more on COVID's impact later). And, adjusting for second homes makes the statewide pattern of vacancy track closely with the Denver metro region which also sustained almost a full decade of lower than healthy vacancy with only a recent estimated return to five percent vacancy. Nevertheless, for most of the 2010s, tight supply coupled with COVID distortions go a far way in explaining affordability challenges.

HOUSING ECONOMY

Enter the COVID pandemic

As we previously documented, the Colorado housing economy suffered a long hangover from the Great Recession. As the pre-2008 surplus housing was absorbed, housing became increasingly scarce in the mid-2010s. And, just as vacancy rates began to return to the healthy range, COVID hit and distorted markets in a variety of ways. Most prominent of the distortions was with respect to market churn.

For housing markets to function effectively, there must be sufficient inventory offered for sale. Historically the relationship between new and active listings remained relatively constant. However, that relationship broke significantly during the COVID pandemic. While new listings largely continued on trend with only a temporary break of trend during the early COVID shutdown, active listings plummeted. There is increasing data evidence to support the anecdotal stories of bidding wars and homes selling in hours. It seems COVID created a bit of a frenzy, with perhaps a perception, albeit perhaps not a reality, of limited options.

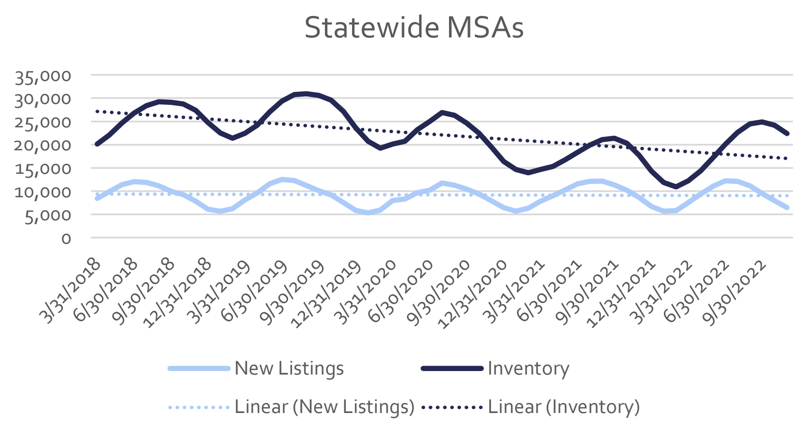


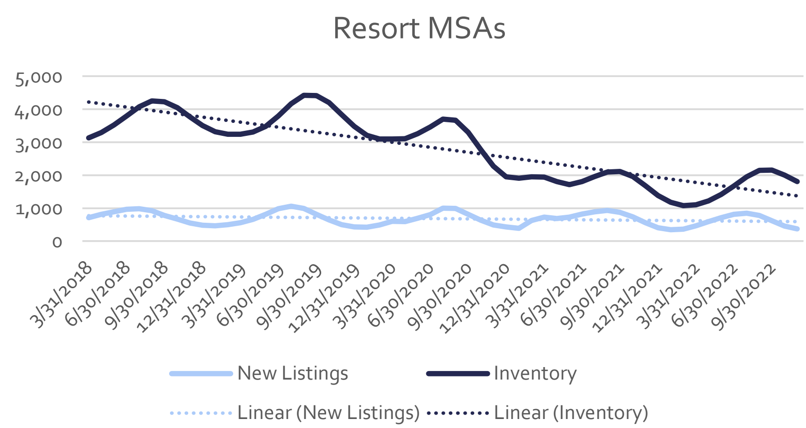
Source: Federal Reserve Economic Data (FRED). Housing Inventory, Active and New Listings, not seasonally adjusted

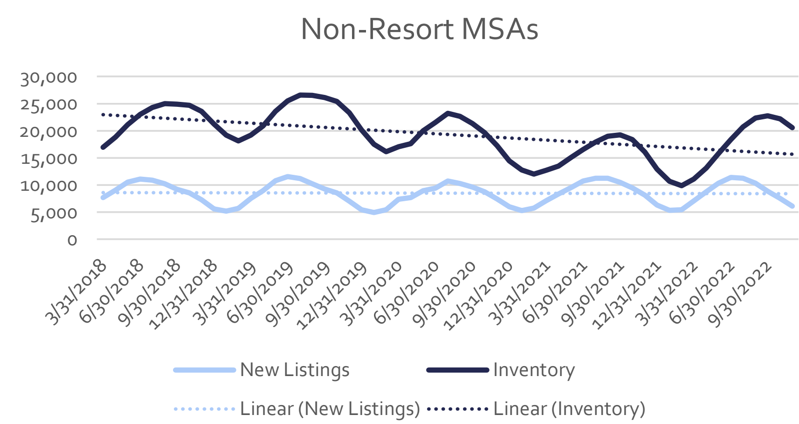
Enter the COVID pandemic

Data from Zillow provide a slightly different yet similar view of the COVID distortion, with segmentation to regional markets. The figures below show a consistent story with new listings continuing on trend through the COVID pandemic but inventory (a slightly different concept than active listings above) declining, most significantly in the resort areas.

Source: Zillow

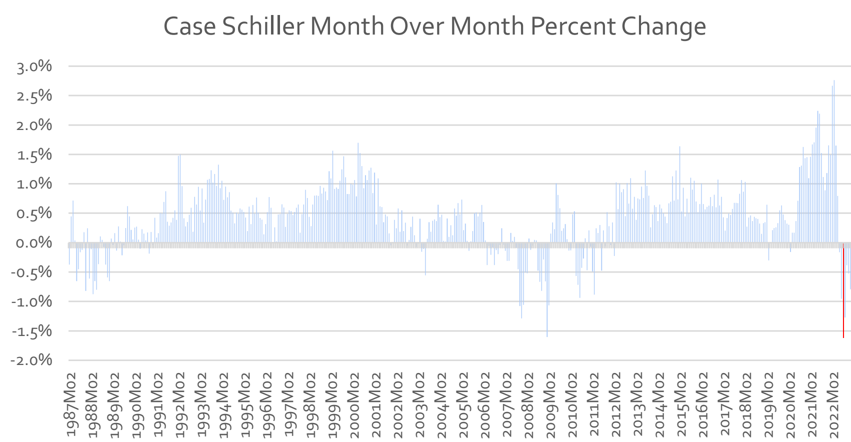


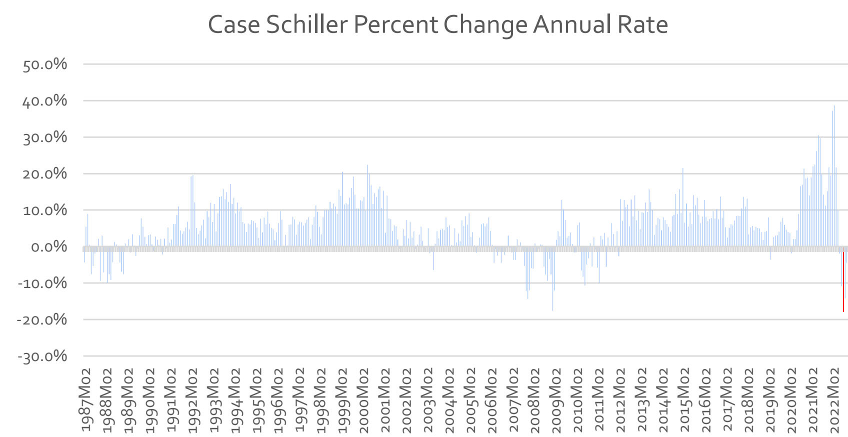




Enter the COVID pandemic

Regardless of the source, the data support a significant behavioral change among buyers during COVID. This behavioral change goes a long way toward explaining the exacerbation of the affordability challenges during the pandemic yet is unlikely to be a permanent change. In fact, the latest house price data from Case-Schiller for Denver show that in August, 2022 the Denver housing market sustained the second largest month over month and annual rate declines since the 1987 inception of the index. Only during the Great Recession was there a month with a larger month over month decline. And, while COVID era annual home price increases were the largest in history of the index, the subsequent months of year over year annual decreases also is among the most prolonged. Only of late have prices again begun to rise and at a far more modest rate.





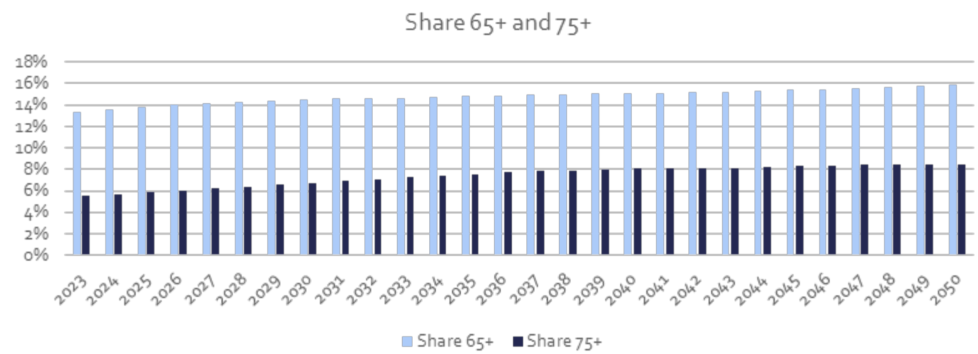
Source: S&P Dow Jones Indices LLC, S&P/Case-Shiller CO-Denver Home Price Index [DNXRSA], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DNXRSA, February 28, 2023.

While it remains to be seen whether the COVID era impacts to housing will endure, there are other dynamics, largely independent of the pandemic, that likely will impact affordability.

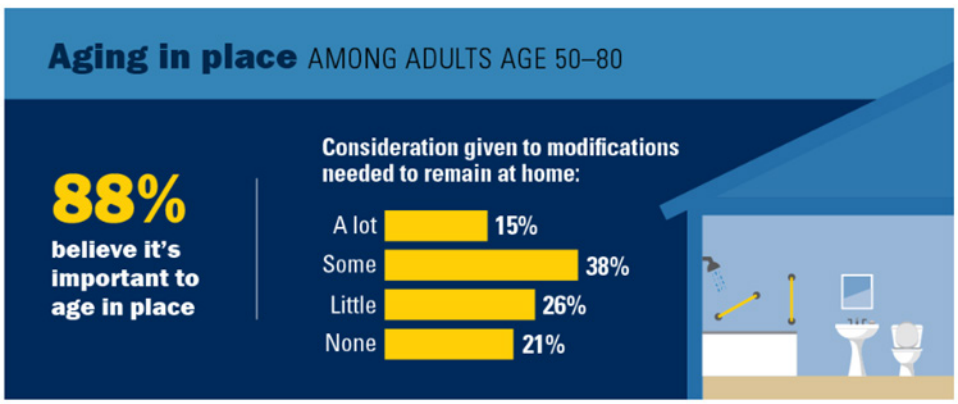
In no particular order, they are…

Aging

Perhaps the biggest wild card in Colorado housing market dynamics is aging. According to the Colorado State Demographer, the share of Coloradans aged 65 and 75 and over is projected to continue to increase from a current 13.3 percent and 5.5 percent, respectively, in 2023 to 15.9 percent and 8.5 percent, respectively, in 2050.

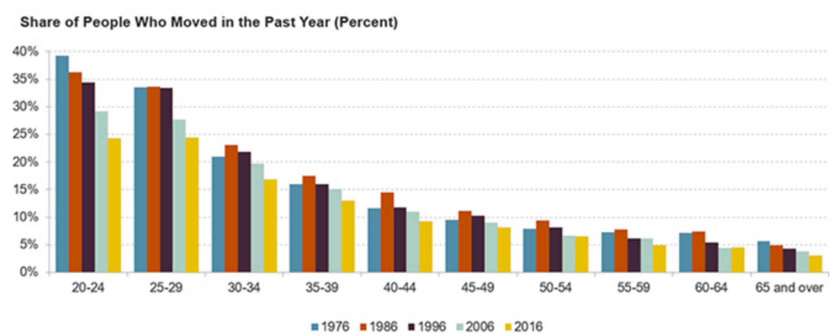


Source: SDO



As Coloradans age and increase in share of the population, their housing choices increasingly will impact housing markets, perhaps in uncertain and offsetting ways. Increasingly, older Americans are expressing a desire to age in place. A recent (April, 2022) report from the University of Michigan Institute for Healthcare Policy and Innovation[1], 88 percent of adults aged 50-80 believe it is important to age in place, yet only one in three report a house that has the necessary features to do so.

1 https://www.healthyagingpoll.org/reports-more/report/older-adults-preparedness-age-place#:~:text=Home%20features,19%25%20said%20it%20does%20not.

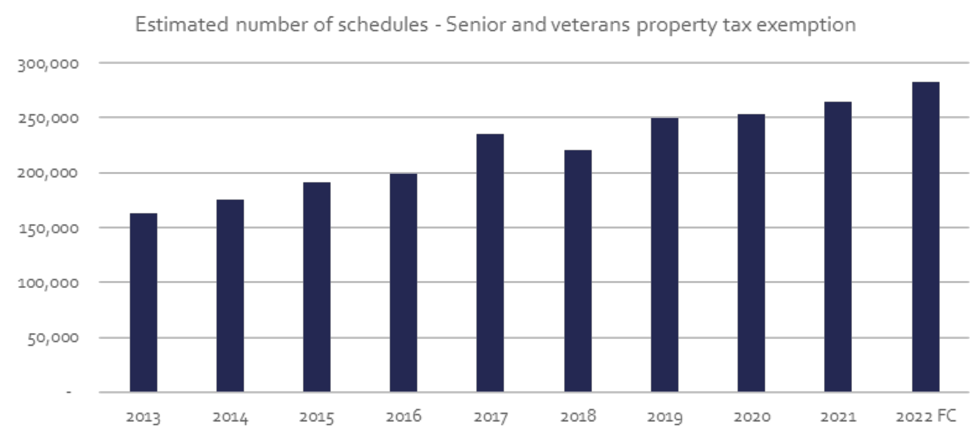


Notes: Person-level data for persons 1+ years old. Excludes group quarters and imputed values from 1996-2016.

Source: JCHS tabulations of US Census Bureau, Current Population Surveys via IPUMS-CPS, University of Minnesota.

This finding is consistent with data from the Joint Center for Housing Studies[2] that clearly demonstrate that those in the 65 and over age cohort have the lowest propensity to move.

In Colorado, the decision is further complicated by the old age and veterans" homestead exemption. Under Colorado law, homeowners aged 65 or over who have lived in their residence for at least 10 consecutive years are eligible for an exemption of 50 percent of the first $200,000 of value from the local property tax. The operative requirement is the duration of residence. While it is not possible to ascertain all that goes into a housing decision, it is reasonable to assume that a portion of Colorado's 65 plus population is remaining in a current residence in order to take advantage of the tax exemption. Our analysis suggests that the number of recipients of the exemption statewide has increased by almost 75 percent over the past decade.

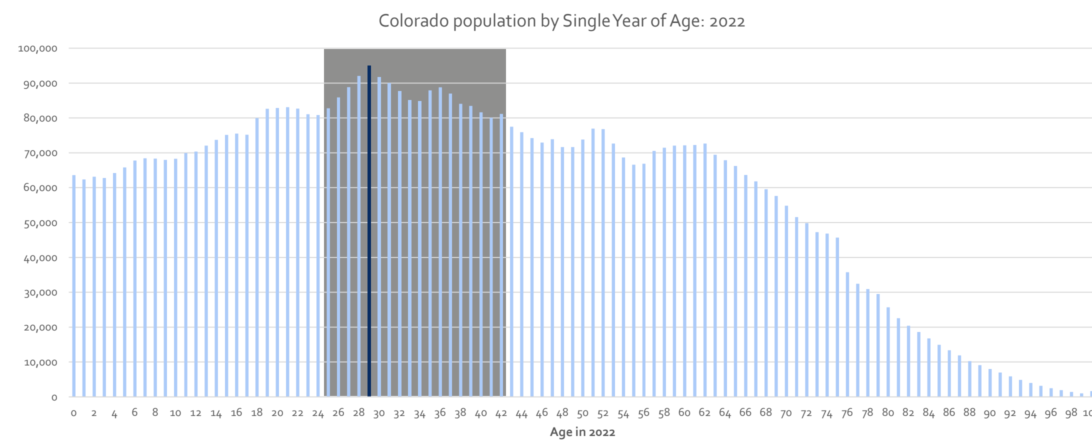


Source: CFC estimate from State of Colorado fiscal data

2 https://www.jchs.harvard.edu/blog/who-is-moving-and-why-seven-questions-about-residential-mobility

Millennials

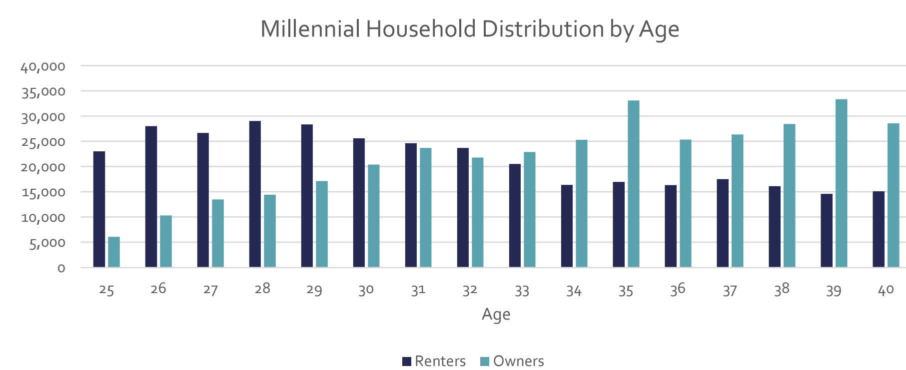
Older Coloradans are not the only cohort whose housing decisions likely will have significant impacts on affordability. As of 2022, millennials were the largest generation in the state and are increasingly approaching the age of 36, the typical age of first-time homebuyers.[3] As of 2022, the largest single year of age cohort in Colorado was 29. In the next decade, these Coloradans will increasingly approach the years of homebuying. Their decisions concerning home ownership could have profound impacts on demand.



Source: SDO

Currently just over half of the Millennials in Colorado are homeowners. Compared to the generations preceding them, Millennial rate of home ownership is significantly lower. The table and graph show the breakdown of owner and renter households, by generation and age.

Generation	Total	Owner	Share	Renter	Share
Greatest	176,764	142,343	80.5%	34,421	19.5%
Boomer	703,608	571,647	81.2%	131,961	18.8%
X	637,552	472,509	74.1%	165,043	25.9%
Millennial	**693,056**	**350,645**	**50.6%**	**342,411**	**49.4%**
Z	102,056	13,812	13.5%	88,244	86.5%
Total	2,313,036	1,550,956	67.1%	762,080	32.9%



Source: CFC analysis of ACS PUMS, 2021

3 National Association of Realtors. https://www.nar.realtor/newsroom/nar-finds-share-of-first-time-home-buyers-smaller-older-than-ever-before

HOUSING ECONOMY

...more questions

As an illustrative example, if Millennials were to age into home ownership at just under 79 percent, the average ownership rate of the preceding generations, that would create a demand for just over 194,000 owner-occupied units. The median income of current Millennial renter households is $62,000, which would afford them a house valued at or below $257,100 (with the following assumptions of 80% down, 30 year loan at 6.85%, insurance and property tax at the state average mill levy). This equates to approximately **1 in 5** units being affordable statewide. While housing markets statewide appear to be correcting, there remains a significant mismatch between the cohorts of potential buyers and inventory affordable at their buying capacity.

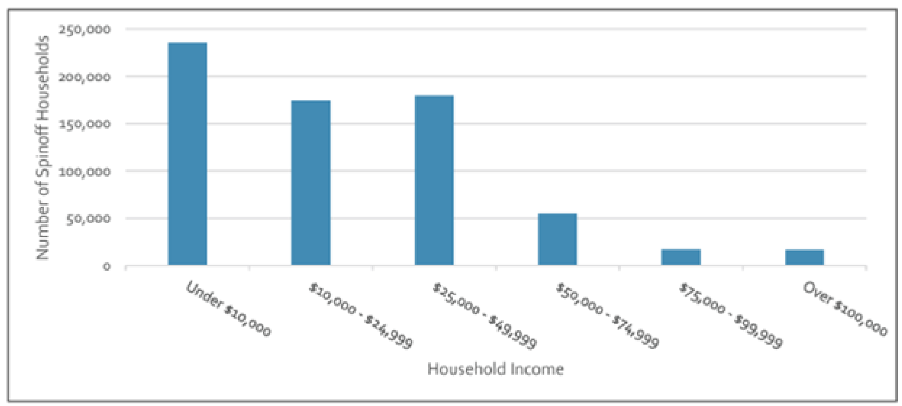
Doubling Up

Doubled up households are a hidden and unpredictable source of hidden housing demand. As we have previously documented, doubled-up households in Colorado have increased from one in five in 2006 to three out of every 10 households in 2019. The 2019 estimate is that approximately 680,000 potentially unique households are "hidden" inside of primary Colorado households. While a significant portion of these secondary households are extremely low income and likely would require permanently Affordable housing, if even a small share of the currently doubled-up were to opt to undouble, they could significantly affect housing demand and thus affordability.

Income profile of secondary households in currently doubled-up households

THE HIDDEN DEMAND FOR HOUSING:
A CLOSER LOOK AT THE SPINOFF HOUSEHOLDS

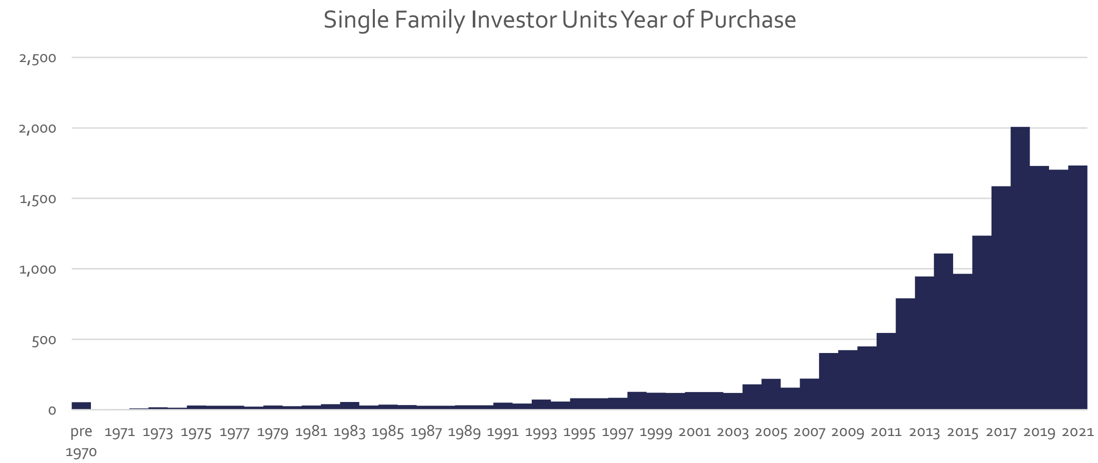
Spinoff households represent the majority of the hidden or masked demand for housing. They are disproportionately single person, headed by a person 44 years old or younger, low or very low income, and highly concentrated along the Front Range.



Source: Colorado Futures Center

Presence of investors

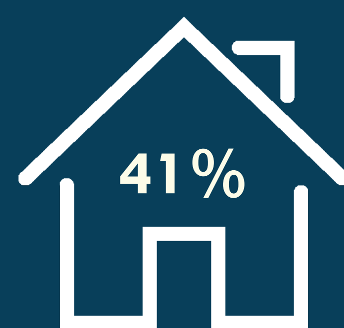
In the Denver metro area, the propensity of investor ownership of otherwise "owner-occupiable" housing has increased significantly. While this form of ownership does not reduce the overall supply of housing, it does serve to convert units that otherwise would be available for sale into rental units. By further reducing supply of units potentially for sale, the increasing presence of investors is serving as one factor in the affordability challenges for purchasers, particularly first-time starter-home purchasers.



Source: CFC property database of county assessor records

As of the end of 2021, in the Denver metro region 18,100 single family properties were owned by an investor-type entity.[4] Of those properties, three out of four were purchased by investors since 2012 and almost half were purchased since 2017.

Share of investor-owned single-family homes that reasonably could qualify as starter/first home purchases



Assumptions:

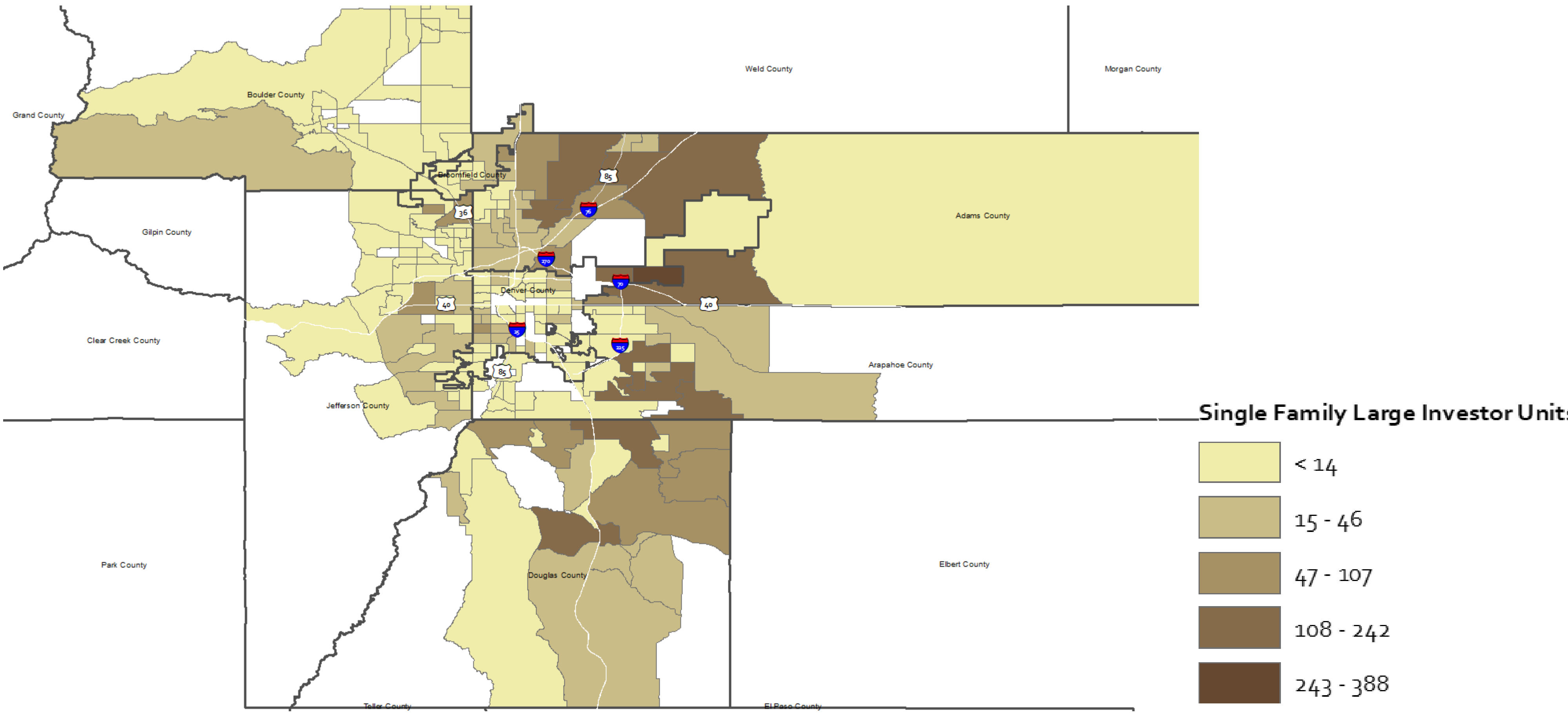
Regional median household income ~$90,000

Affordable home value ~$367,500

4 Investor entity types were identified as limited liability entities as well as corporations, partnerships, and related company structures.

...more questions

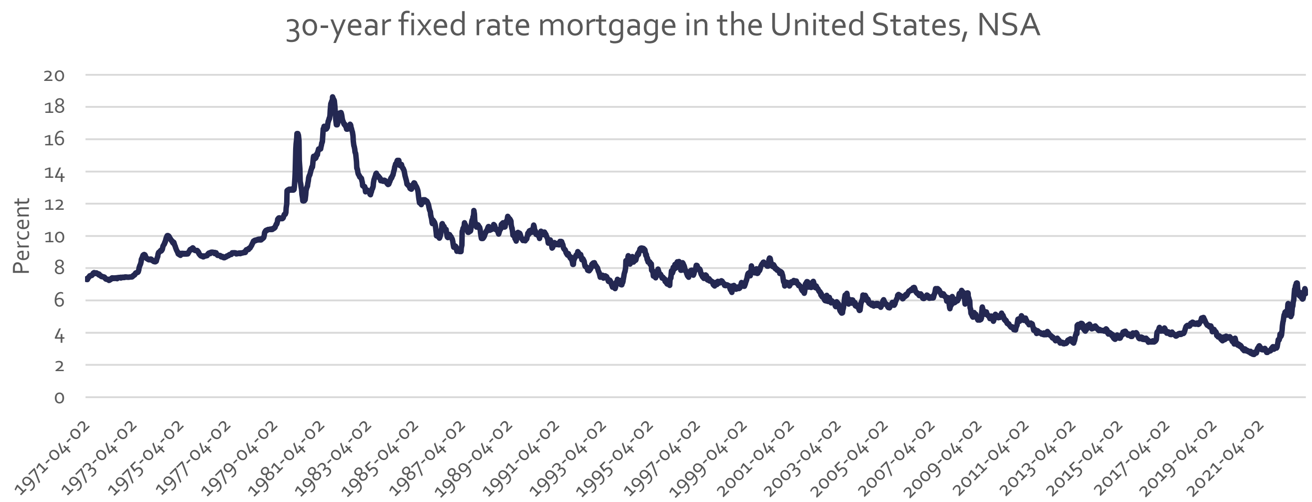
Geographically, the units held by large investors (those with a portfolio of greater than 30 units) are concentrated in the east and southeast parts of the region.



Source: CFC property database of county assessor records

The impact of increased mortgage interest rates.

By historical standards, mortgage interest rates are not exceptionally high. However, that does not negate the impact of the recent increase in rates. On average, the US average 30-year fixed rate mortgage, most recently at 6.35 percent has more than doubled since its recent low of 3.05 percent at the end of 2021. The impact on affordability is well documented. Using these illustrative rates, the monthly principal and interest payment on a median priced home in Colorado (~$530,000) would increase by almost 50 percent, adding over $1,000 to the monthly payment.



Source: 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, June 1, 2023.

Less well understood is the important impact on housing for sale inventory and churn. There is increasing evidence that the more than doubling of interest rates is serving as an additional factor (along with aging) to affix households in place. It is reasonable to assume that an existing three percent mortgage is serving as a significant factor in the decision to relocate. More households are likely to remain in place in order to not have to finance a subsequent purchase at twice the rate. To the extent that the increase in mortgage rates also is serving to reduce churn and inventory available for sale, housing prices will remain elevated and fail to adjust for the impact of the increased borrowing costs.

HOUSING ECONOMY

Some answers. More questions.

Housing affordability became an even increasing challenge during and just after the COVID pandemic. The pandemic's impact on churn is increasingly evident as markets begin to normalize in the wake of the height of the pandemic. It is reasonable to conclude that the impacts on churn, specifically the significant decline in continuing inventory that far outstripped that of new listings, placed dramatic upward pressure on prices. This dynamic lends a strong explanation to the exacerbation of the affordability challenges of recent years.

However, data are beginning to suggest that the overall supply-demand equation in the housing market is returning to relative health. While the potential impacts on demand, such as those of millennial buyers and currently doubled-up households remain unknown, the return to calculated vacancy rates in the five percent range portends a healthier market.

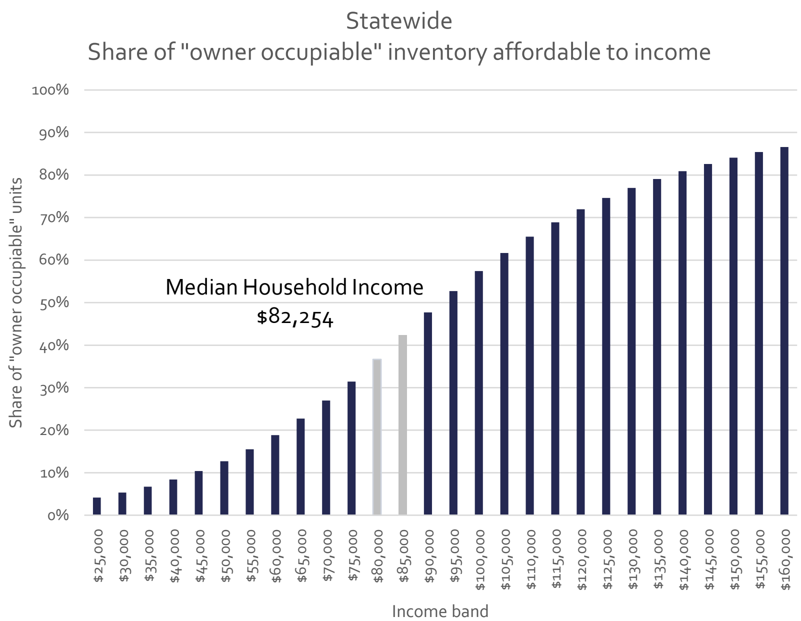
Yet even if the overall supply is ample, in markets with not enough churn prices will remain elevated. Healthy markets require enough inventory to preclude buyers from placing upward pressure on prices. As Colorado and the United States enter the baby boomer generational transition, aging in place becomes a wild card in the impact on housing churn. Coupled with local tax policy and mortgage markets that further incent homeowners to remain in place, churn rather than supply is likely to be the driver of affordability in the next few years. And with prices as elevated as they are, our 2022 research found that housing values would have to decline on average 32 percent statewide to return to 2015 levels of affordability, a period that only seems affordable in retrospect. With declines in excess of 30 percent unlikely, affordability is poised to remain a challenge, particularly for the segment of the market with the most significant income constraints.

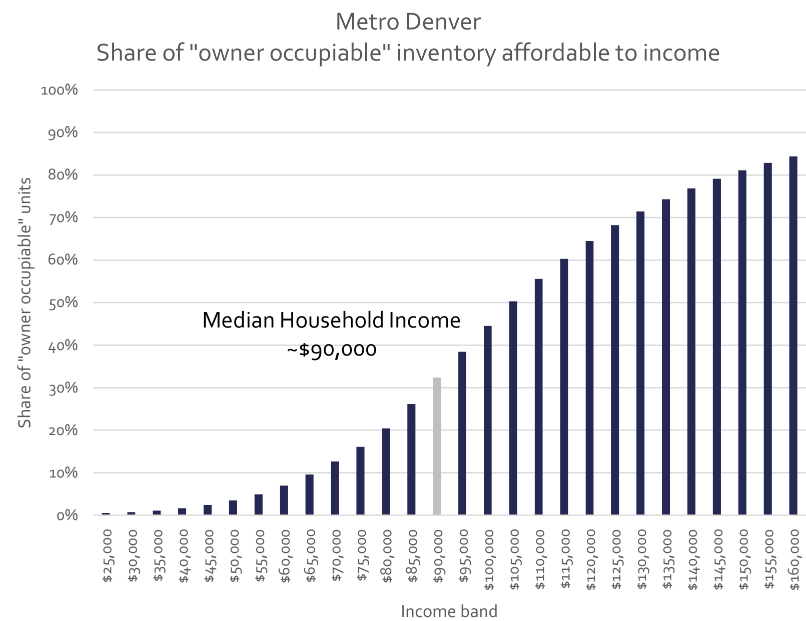
FOCUS ON THE NEED

Affording housing with income of $75,000 or less

Of late much of the focus of housing affordability challenges, including our previous collaboration with the Keystone Policy Center, has been on middle income earners such as teachers. This well documented challenge has merit, but is most acute under one very specific circumstance; when the middle income earner is in a one earner household. Even with the recent rise in interest rates, the majority of housing in Colorado, by valuation, is affordable to a household with two earners at the median.

Statewide, approximately 85 percent of the housing, by value, is affordable to a household earning two median incomes and regionally that share varies from the middle 80 percent in Denver to just under 100 percent in Pueblo. Take away one of those median incomes and housing affordability becomes a far more acute challenge. It is important to note that existing inventory and inventory available for sale are different, especially in times of limited churn, and that homeowners face additional costs such as those for HOAs that are not factored into the calculations reflected in the graphics that follow. Nevertheless, with more than one median income in the household, the affordability challenge becomes





FOCUS ON THE NEED

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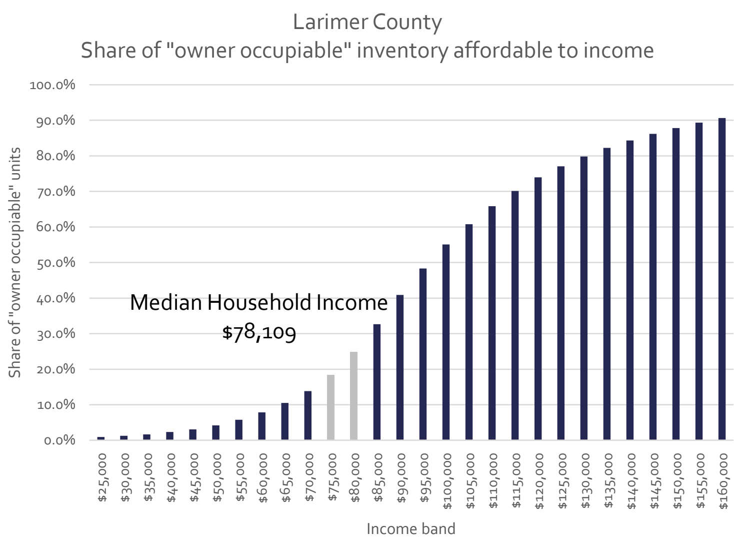

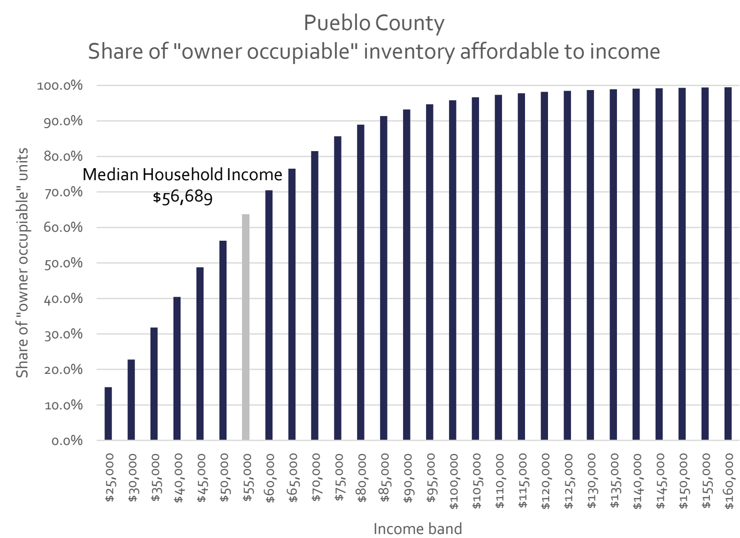

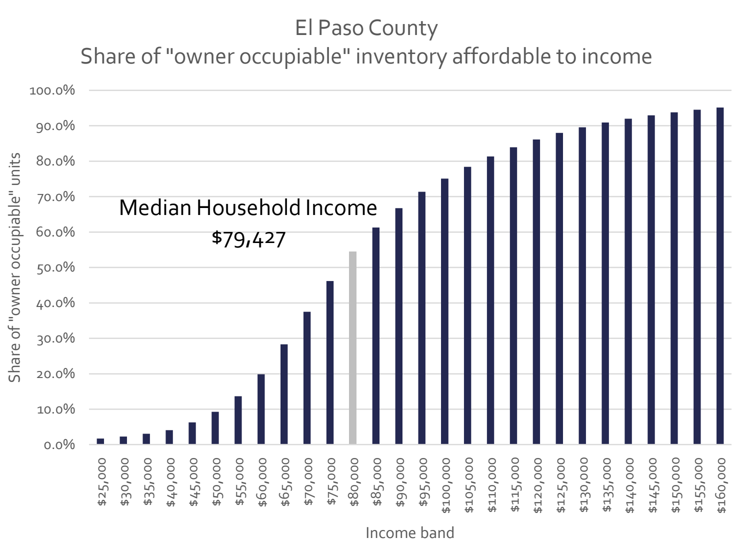

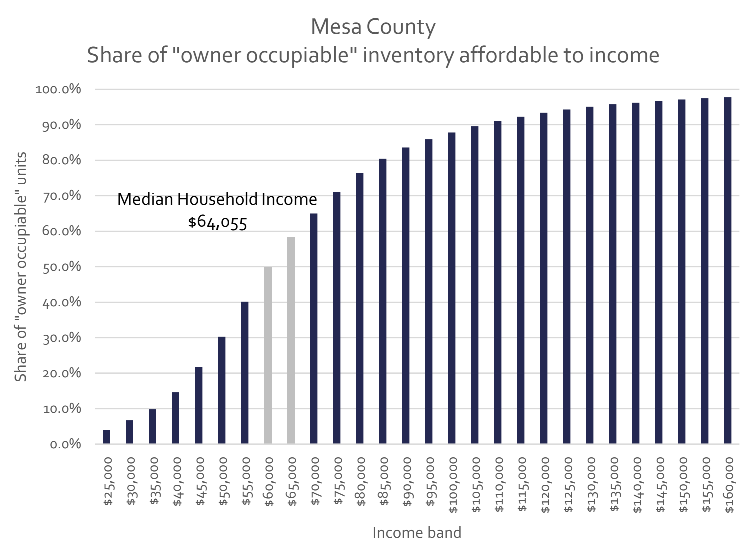

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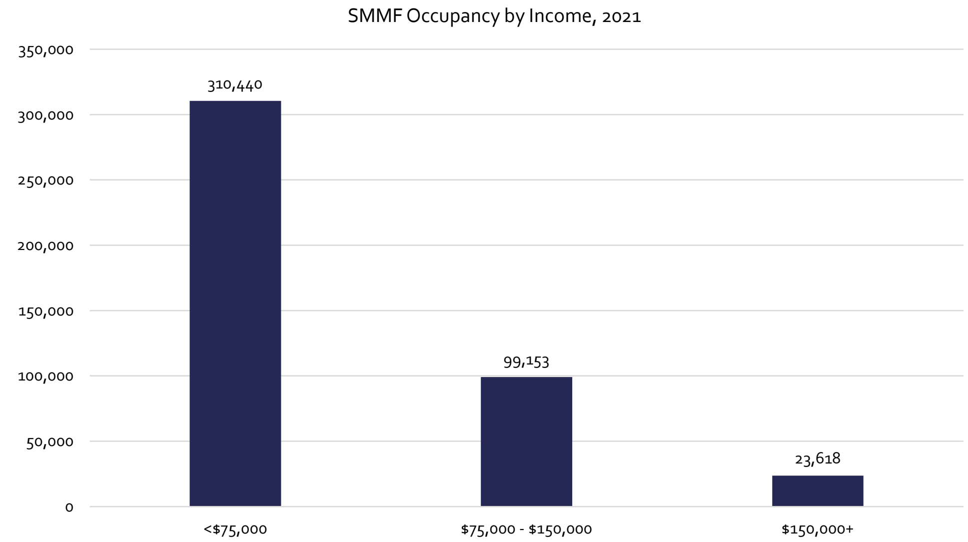
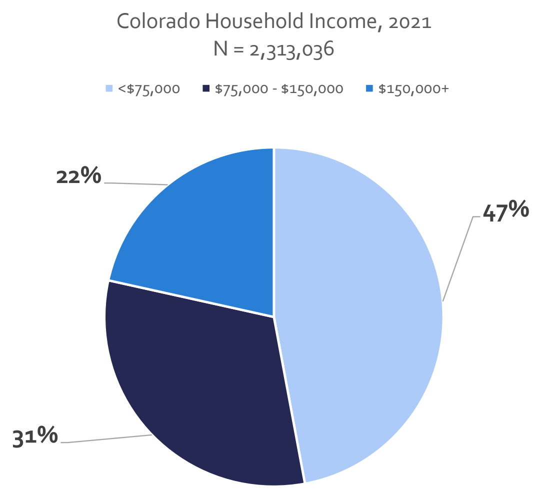
notably less acute.

Compounding the challenge for those earning closest to or below the median and without a second income supporting the household, the rate of production of small and medium multi-family units (SMMF), the most common source of naturally occurring affordable housing, has not increased (and most recently decreased). In 2021, more than 70 percent of all regional SMMF units served as housing for those earning $75,000 and less.



Source: American Community Survey 2021

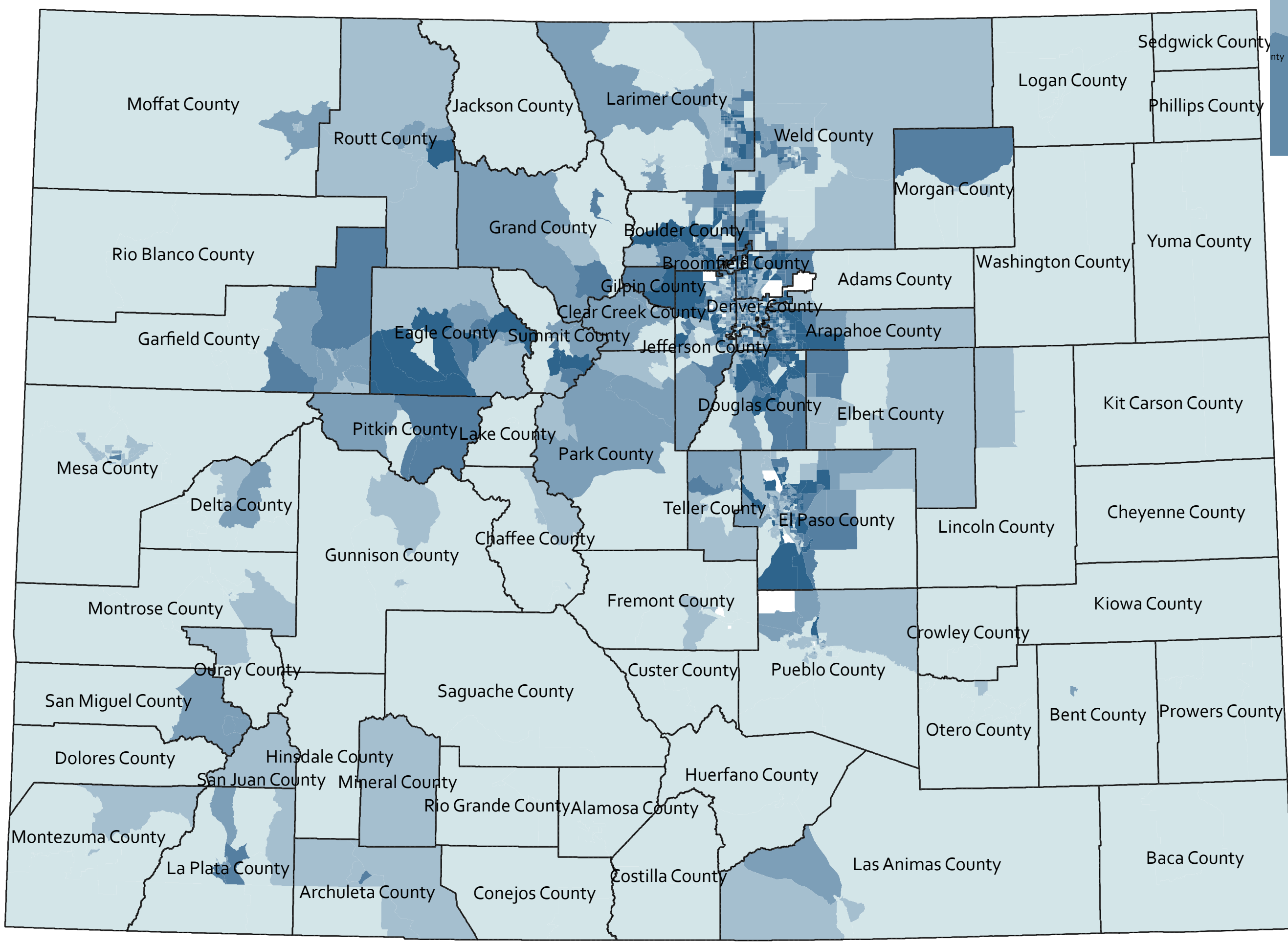


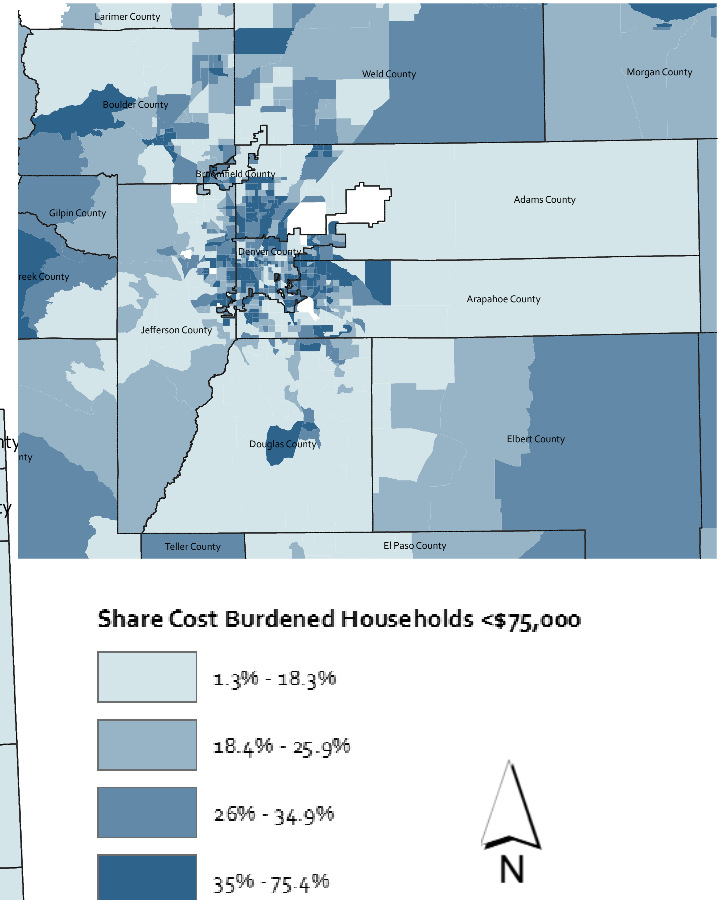
And with households earning $75,000 or less representing almost half of all Colorado households, there is increasing evidence that the gap between housing supply and demand for households in this earning cohort is widening.

The spatial distribution of these households is displayed on the following map.

Source: American Community Survey 2021

Share of cost burdened households with incomes less than $75,000



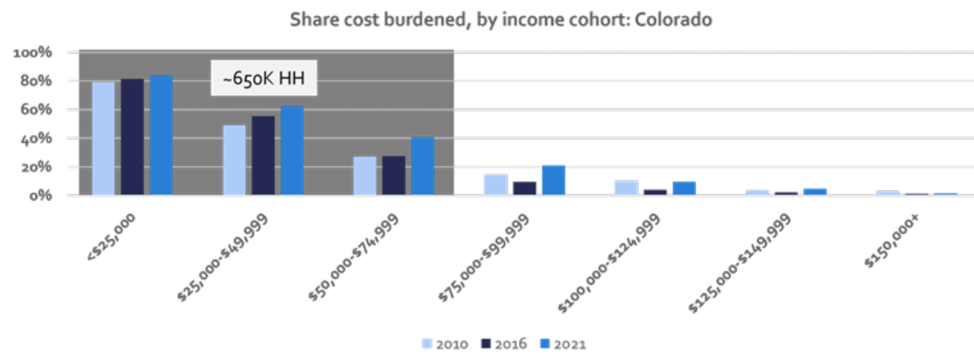


Source: American Community Survey

FOCUS ON THE NEED

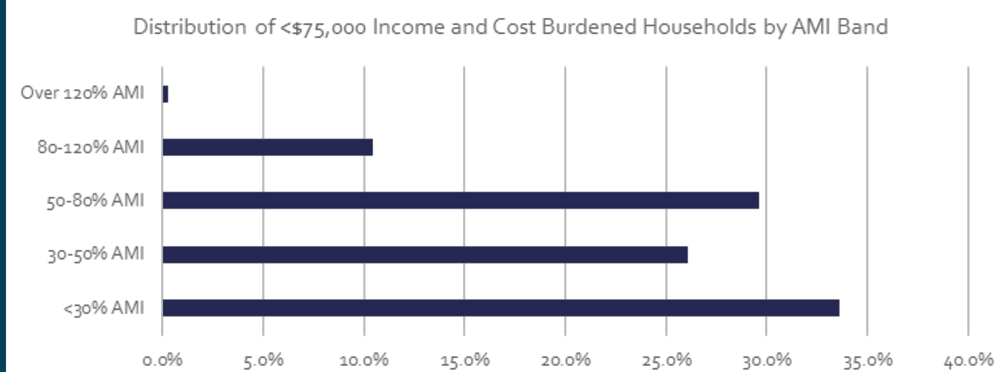
Affording housing with income of $75,000 or less

The most recent data show that the majority of the cost burdened households in Colorado have income of $75,000 or less. Specifically, the 650,000 cost burdened Colorado households with income of less than $75,000 are the overwhelming majority (86 percent) of all cost burdened households statewide. Importantly for the Colorado economy, the excess housing spending (above 30 percent of income) from these 86 percent of households is estimated at $5.6 billion in 2021. This approximately $8,600 of foregone spending per household is an economic drag that affects all Coloradans.



Source: CFC analysis of ACS PUMS, 2010, 2016, 2021

The majority of Colorado's cost burdened households have household incomes less than $75,000

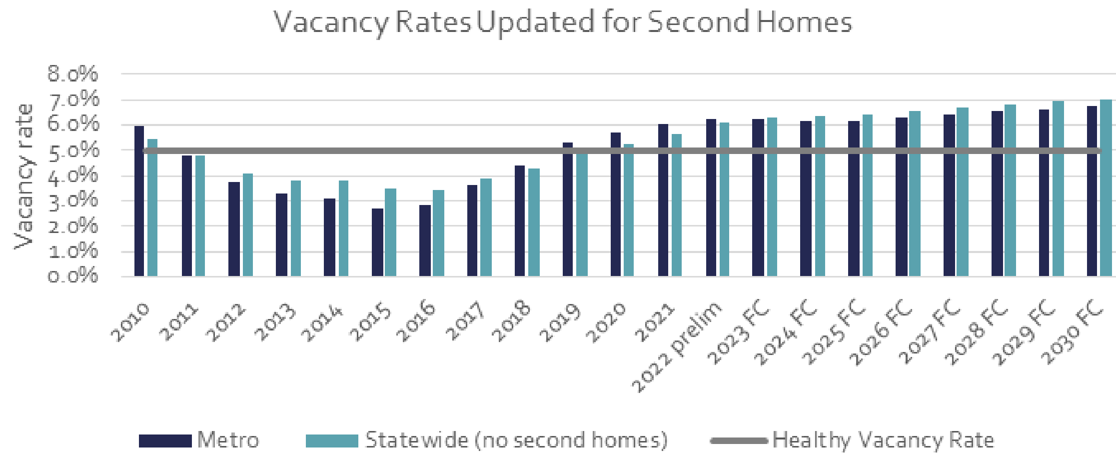


Source: CFC analysis of ACS PUMS 2021 and HUD income limits.

ADDRESSING THE AFFORDABILITY CHALLENGE

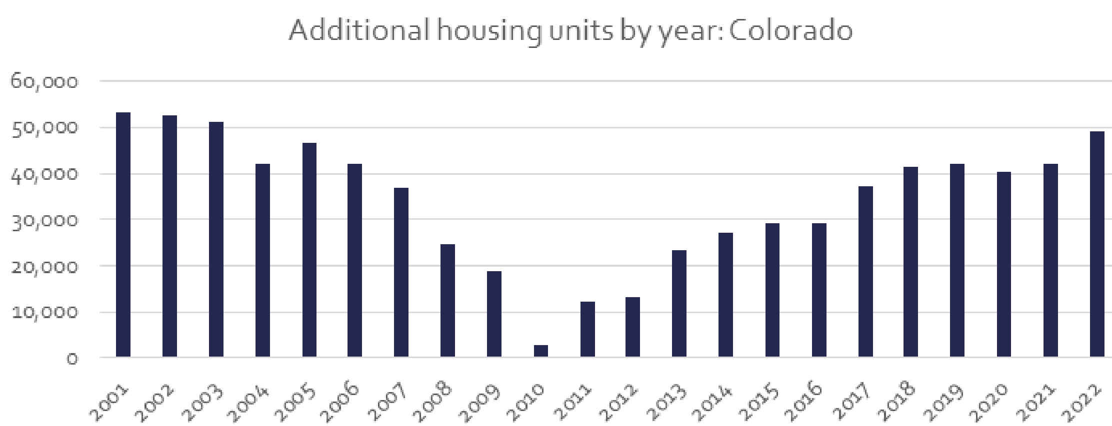
It is supply, but...

In the wake of the Great Recession, Colorado's affordability challenge rightfully was characterized as a supply challenge. For much of the decade of the 2010s, Colorado's housing market was operating with less than healthy vacancy rates, driving up prices and shutting many out of stable housing opportunities. However, by the end of the decade vacancy rates returned to the healthy level of five percent and are projected to remain there through to 2030.



Source: SDO

Even with the COVID disruptions, the Department of Local Affairs reports that Colorado added just over 215,000 housing units in the five years since 2018. Previous to 2018, it took the state just under 10 years to produce about the same number of units.



Source: SDO

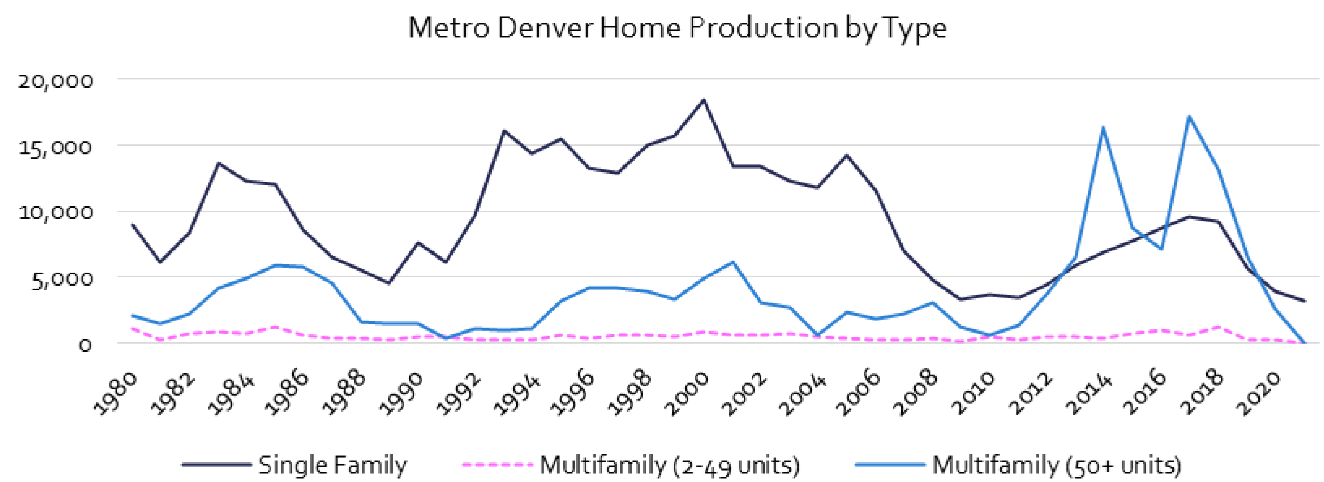
ADDRESSING THE AFFORDABILITY CHALLENGE

It is supply, but...

With the additional production and the return to healthy levels of vacancy, Colorado's housing affordability challenges are no longer explained simply by supply. Many segments of the market should be returning to health. However, the problem that once simply was supply has been replaced with one better characterized as mismatch of supply. New units exist, augmenting the previously existing supply, but they increasingly diverge from those either attainable or appropriate for the Coloradans most in need of stable housing options.

Colorado's housing cost burdened challenges exist predominately in the 47 percent of households earning less than $75,000. Who are these households? In 2021, Colorado had just over 660,000 households earning under $75,000 and also housing cost burdened. Of those cost burdened households, more than half (54 percent) were two person households or larger. Of those two person households, 45 percent of them (just over 160,000 households) housed at least one child under the age of 18. Overall, just over 24 percent (almost one out of every four) cost-burdened households with incomes under $75,000 contains a child. However, the new housing supply is increasingly unattainable or inappropriate for these households.

In the Denver metro region, historically single-family home production outstripped multi-family. Between the years 1980 and 2012, there was not one year in which multi-family outproduced single family, and for the majority of years the rate of production of each was not even close. However, from 2013 to 2019, six of seven years saw the new multi-family units outnumber single-family. In three of those years (2014, 2017, and 2018) the gap between multi-family and single family was significant. Only recently has the balance shifted back toward single-family production. But the shift resulted in a significant impact on the households with children earning less than $75,000. Since 2012 the region has produced a third more multifamily units than single family units, pressuring the single-family inventory and resulting in prices often unattainable for many households.

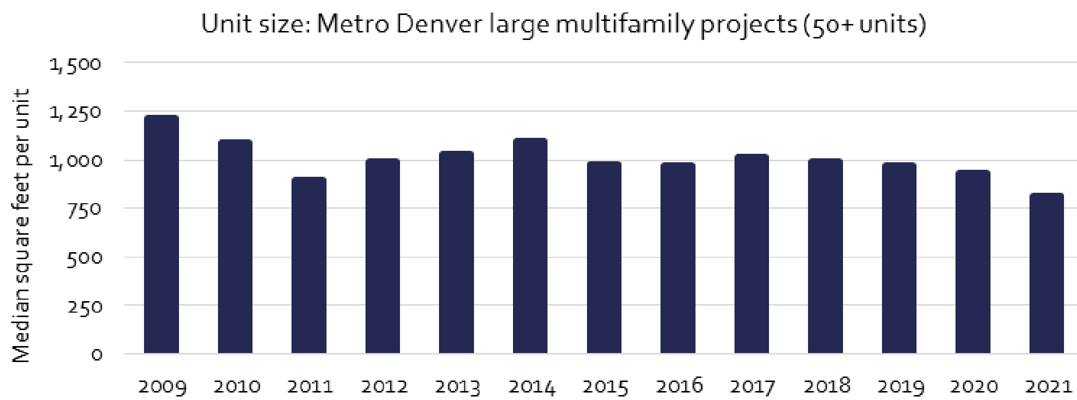


Source: CFC property database of county assessor records

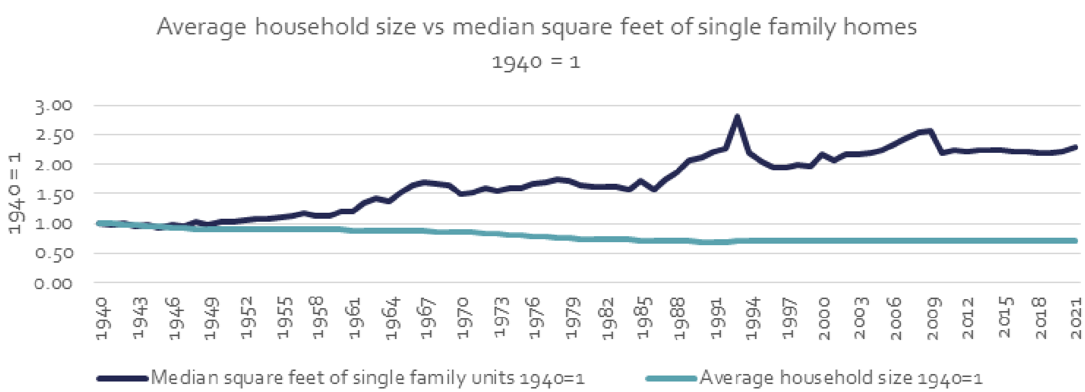
ADDRESSING THE AFFORDABILITY CHALLENGE

It is supply, but...

Further compounding the affordability challenge, the additional supply of units did not alleviate price pressure. Instead, according to Zillow, rents in the Denver metro region almost doubled between 2011 and 2023. And, while median square footage of new multi-family units has fluctuated over the past decade, the general trend is toward smaller units. The combined profile of smaller more expensive units suggests that the new multi-family development is skewed toward luxury, amenity rich apartments, largely both unattainable and inappropriate for the cost-burdened households facing the steepest affordability challenges.



Source: CFC property database of county assessor records



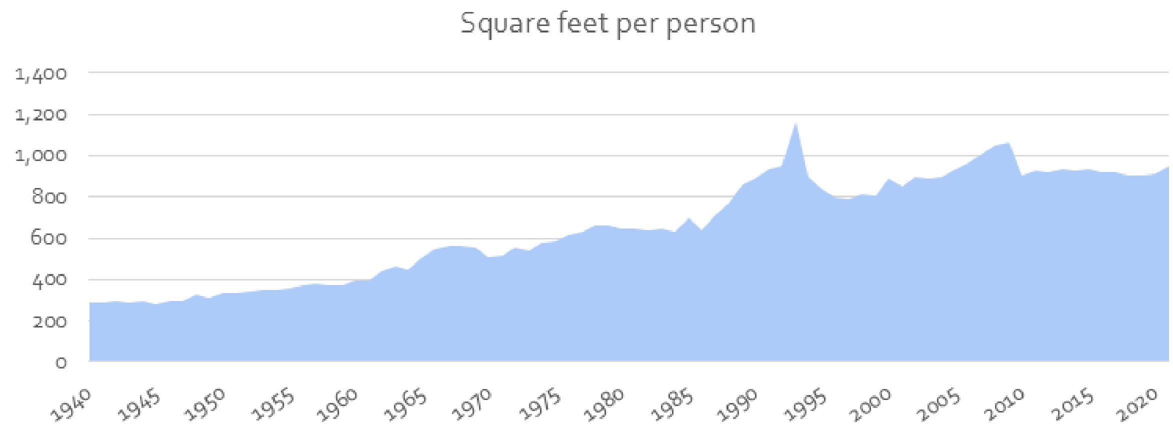
Source: CFC property database of county assessor records

At the same time the new construction shifted toward multi-family, single-family production did recover from its post Great recession lows. But again, the affordability story rests in the type of supply, not simply the top-level numbers. Following a long-term trend since the end of the Second World War, the median square footage of a single-family home in the Denver metro region is now two and a quarter times larger than in the middle of the last century. There have been periods when that trend temporarily reset, most recently in the years following the Great Recession, but of late the size of new production is drifting upwards again.

ADDRESSING THE AFFORDABILITY CHALLENGE

It is supply, but…

This is all happening during a long-term trend of smaller household sizes, resulting in a current average square feet per person of just under 950 square feet, three and a quarter times the square feet per person in the immediate post war.

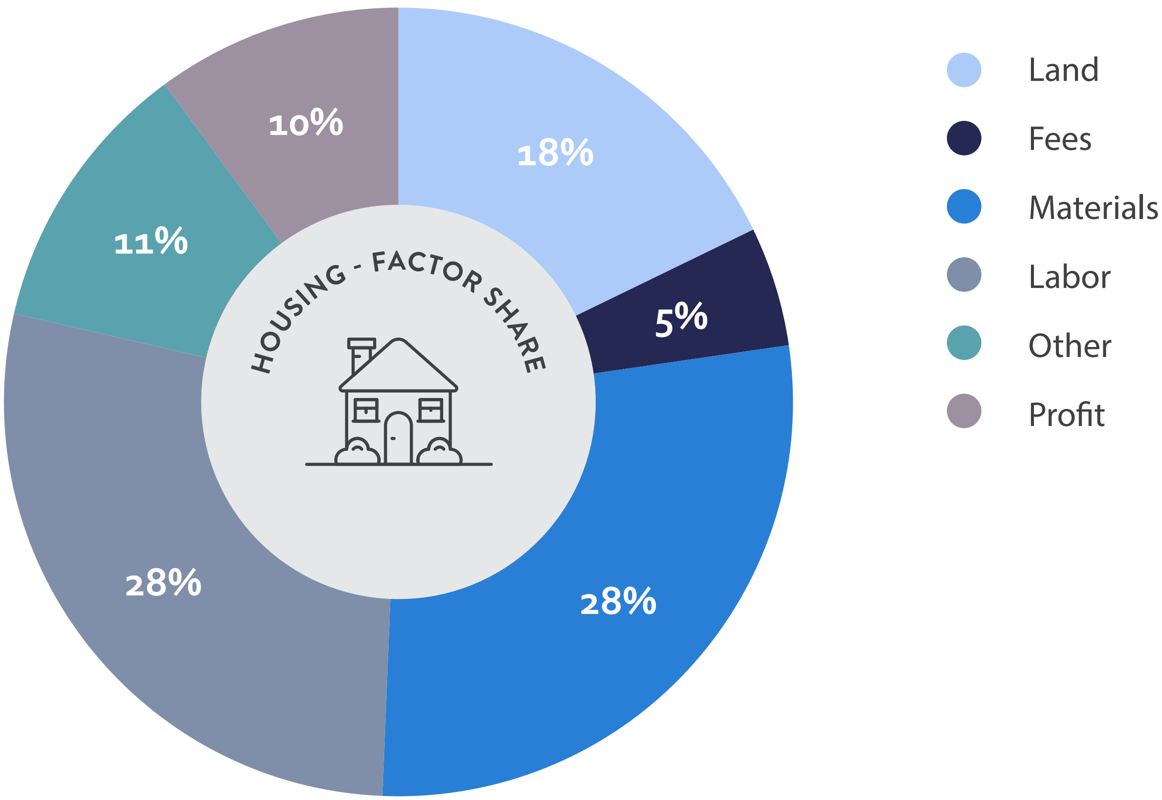


Source: CFC property database of county assessor records

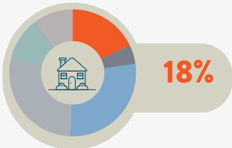
As multi-family units become more expensive and smaller, single-family units are becoming larger. This is resulting in an exacerbating mismatch between housing stock and units both attainable and appropriate for the cost-burdened households, particularly the households with children. No wonder then that when an attainable unit becomes available, there is increased price pressure. Increasingly, units that are **attainable, appropriate, and available** are perceived as rare occurrences – creating a unicorn effect. For housing policy to be effective, it must address this mismatch, better understanding what the cost-burdened households need and want and ultimately eliminating the unicorn effect.

Land, labor and materials

While the overall market conditions are most determinant of the final price of housing, the underlying cost structure has a significant impact on supply and ultimately the dynamics of housing markets. In combination, **land, labor and materials** account for approximately three quarters of the total cost of a house. To large extent, those prices are determined by markets that local homebuilders cannot influence. However, efforts targeted toward improving productivity and providing more consumer choice, particularly with respect to a range of finishes and overall unit size, have potential to alleviate some of the affordability challenges.



Source: National Association of Homebuilders (NAHB) 2022 Cost of Constructing a Home



LAND REPRESENTS 18%

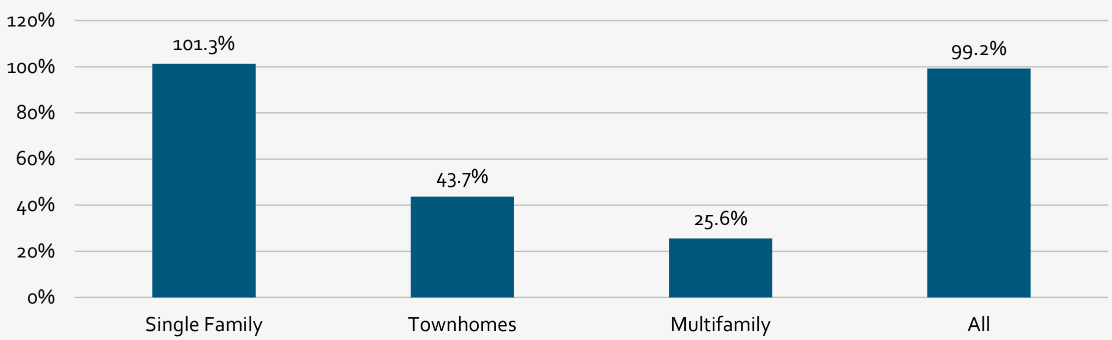
OF COSTS FOR CONSTRUCTING A SINGLE-FAMILY HOME

Source: CFC analysis of property database

15 years

Of land avaialble in metro Denver to accommodate maximum household growth (through 2030) plus 5% to accommodate vacancy.

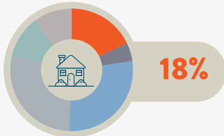
Median Developable Land Valuation Change
7 County Denver Region (2010 - 2021)



Land

Availability of land zoned for residential development effectively acts as the development runway, allowing developers or builders to proceed quickly to construction. This "use-by-right" inventory avoids the heavy regulatory process of re-entitlement or rezoning, thereby reducing costs, including time and money, on a project. Our analysis shows, in metro Denver, the current amount of land zoned for residential development would carry fifteen years of the maximum forecasted household growth, assuming no additional land would be rezoned. This latest analysis is in stark contrast to the previous findings in 2018 of five years of land available and might be partially due to fiscal changes which allow sales tax collection at the delivery address rather than a retail outlet.

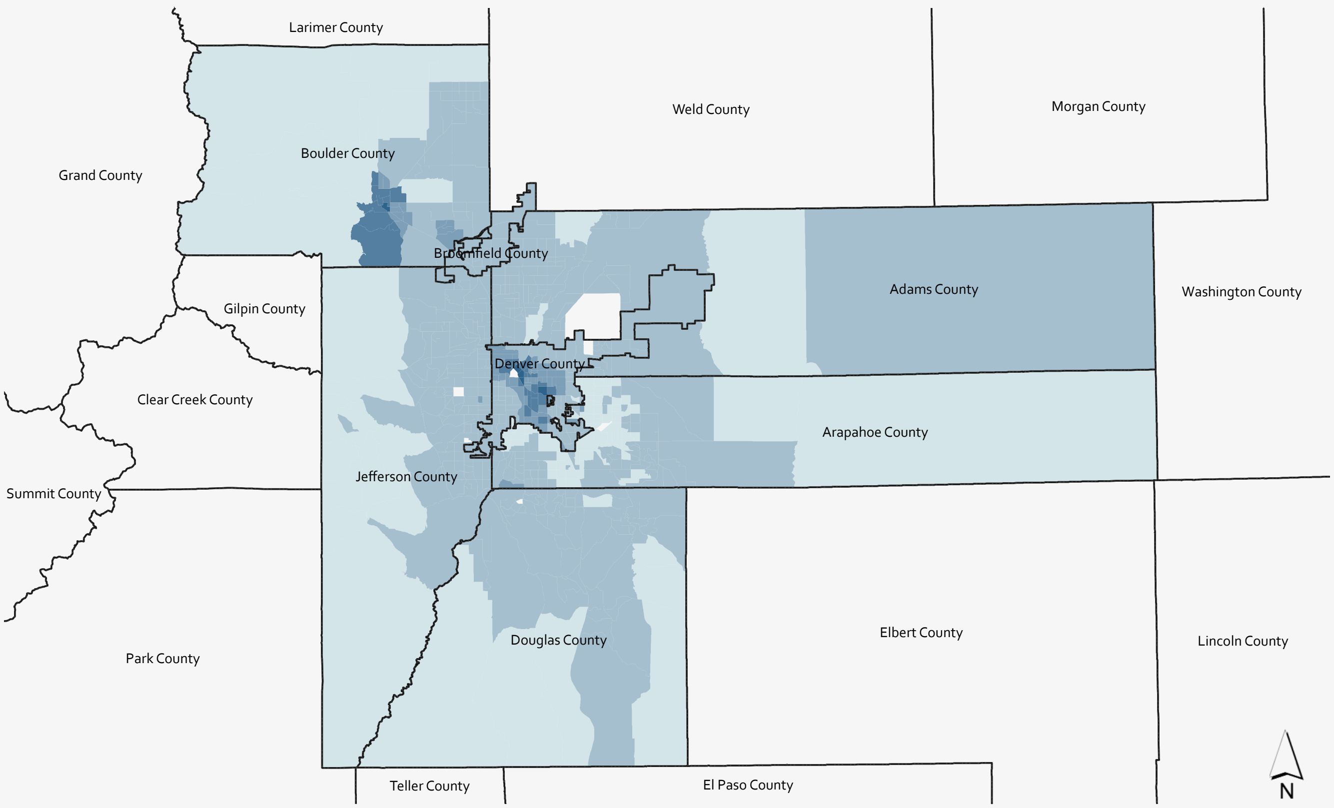
Even with the significant increases in land available for residential development the region saw land values double over the last decade. Between 2010 and 2017, as the economy was recovering from the Great Recession, median land values increased by approximately 25 percent. This longer time horizon suggests a significant acceleration in the latter part of the 2010s. With the market still integrating the additional land available for devleopment, it's possible this acceleration will slow.



LAND REPRESENTS 18%

OF COSTS FOR CONSTRUCTING A SINGLE-FAMILY HOME

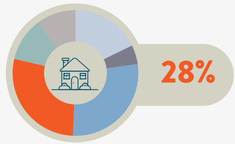
Source: CFC analysis of property database



Land cont.

This map shows the median land valuation in the region in 2021. For context, the $6.65 per square foot value bounding the lowest range is the average finished lot cost in 2022 according to the National Association of Home Builders (NAHB).

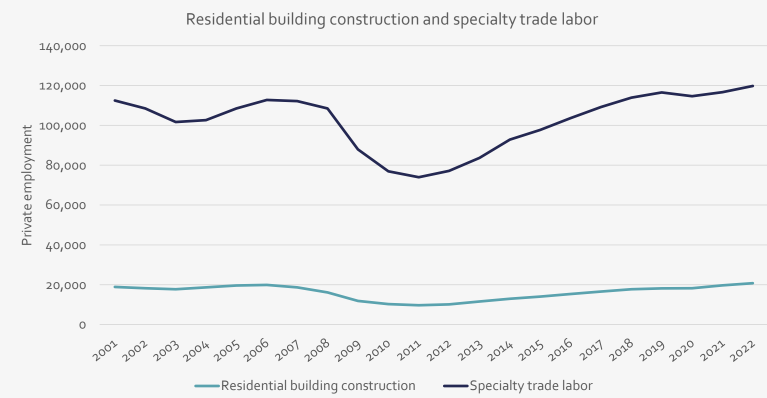
A significant portion of the core Denver region has median land values above the national average. Since land accounts for almost one fifth of the overall cost of housing, Denver's land values are a contributor to housing unaffordability relative to the nation.

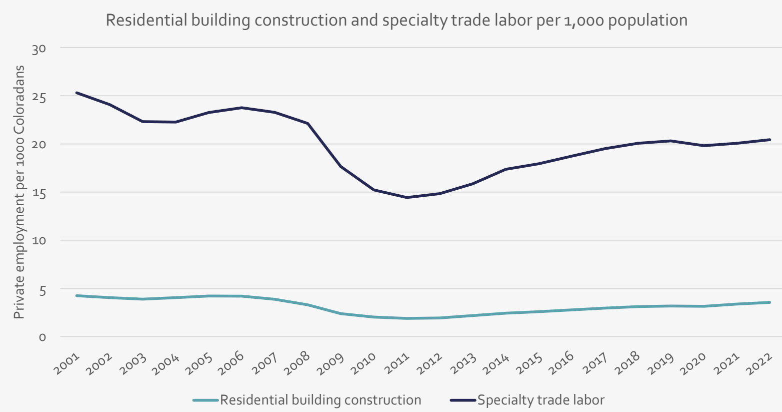


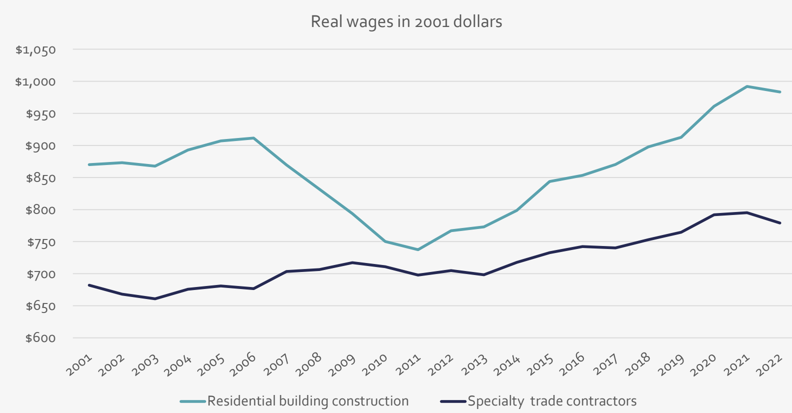
LABOR REPRESENTS 28%

OF COSTS FOR CONSTRUCTING A SINGLE-FAMILY HOME

Source: BLS, SDO





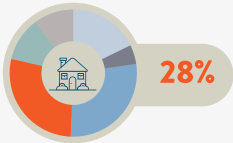


Labor

In the wake of the Great Recession, Colorado experienced a hollowing out of the labor pool for residential construction. However, with economic recovery, the labor supply began to return to pre-recession levels and currently is at a more than 20 year high.

However, Colorado also is a larger place. The labor pool, when stated per 1,000 population, has not yet recovered to levels from 2001. Yet, it is far healthier than during and in the immediate wake of the Great Recession. COVID disruptions did not have enduring impacts on residential construction labor.

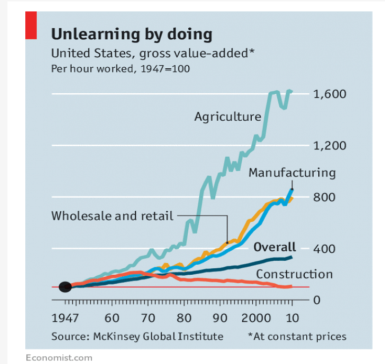
Somewhat counterintuitively, as the labor supply returned to health it was accompanied by increases in real wages. Coming off the Great Recession the recovery in real wages was to be expected as the economy recovered. The longer trajectory shows that real wages for construction workers did not reach the early 2000s level until just before COVID when the pandemic and the related labor movements continued to exert upward pressure on wages. Of late, some wage gains have retreated, yet real construction wages are at their highest inflation adjusted rate since 2001.



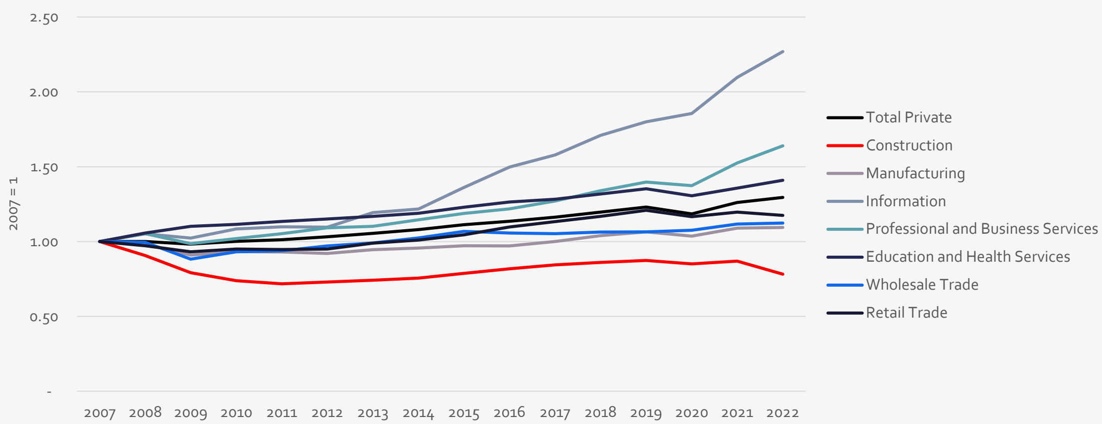
LABOR REPRESENTS 28%

OF COSTS FOR CONSTRUCTING A SINGLE-FAMILY HOME

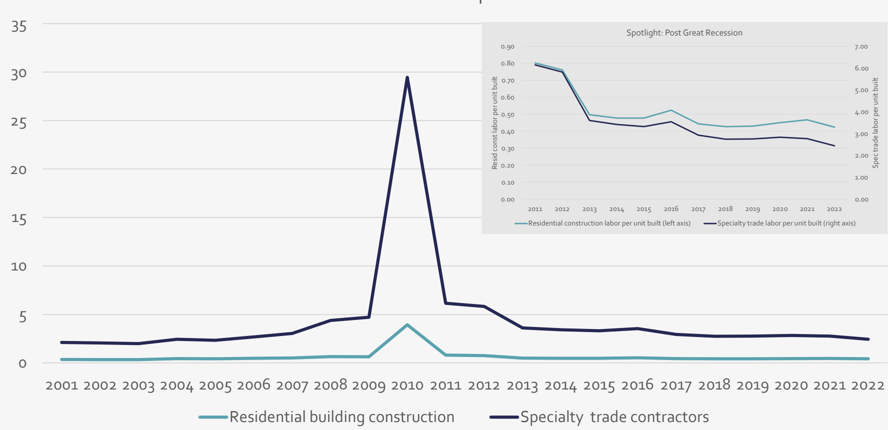
Source: BEA, BLS, SDO



U.S. Index of Real Gross Value (millions of 2012 chained dollars) added per Hour Worked



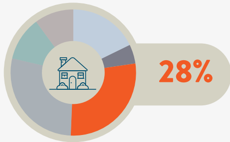
Construction labor per unit built



Productivity

Since the publication of the original factor study and the subsequent convening of the Housing Innovator Roundtable, Colorado increasingly is recognizing and discussing the productivity issues related to construction. And for good reason. Instead of becoming more productive, the latest data show construction declining even further in labor productivity, continuing a long term downward trend that began at the end of the Second World War. The conversations about alternative methods of construction, particularly modular build, are increasingly important. As most other industries have capitalized on technological advancements and other enhancements to productivity, construction continues to demonstrate a failure to capitalize.

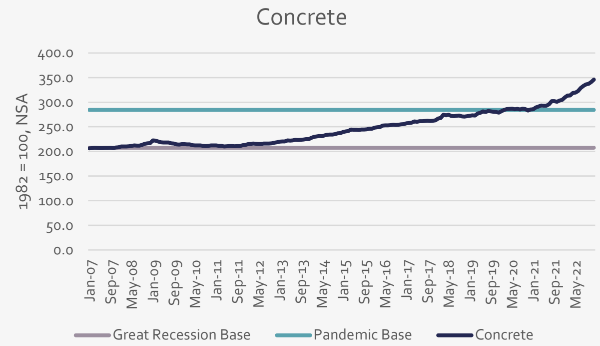
There is a slight good news story, however. During the Great Recession, the ratio of construction labor to units built skyrocketed in Colorado. This is most likely because employers attempted to keep their workforce employed even as they significantly reduced their output due to lack of demand. With economic recovery and the recent increases in unit production, that ratio has returned to levels enjoyed in the early 2000s. In Colorado, there is far less slack in labor productivity than there was in the middle 2010s, yet in an industry that remains overall unable to harness industry level productivity gains. A key component of addressing the affordability challenge remains the opportunity for construction to use labor far more productively in the future.



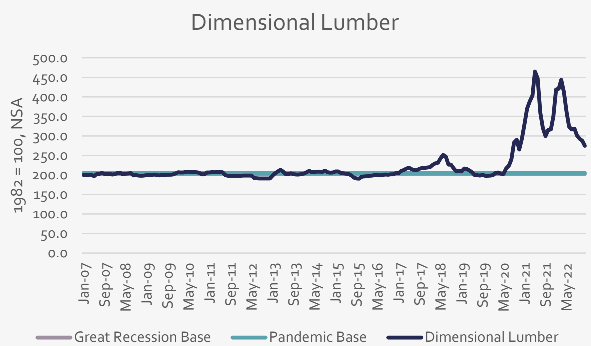
MATERIALS REPRESENT 28%

OF COSTS FOR CONSTRUCTING A SINGLE-FAMILY HOME

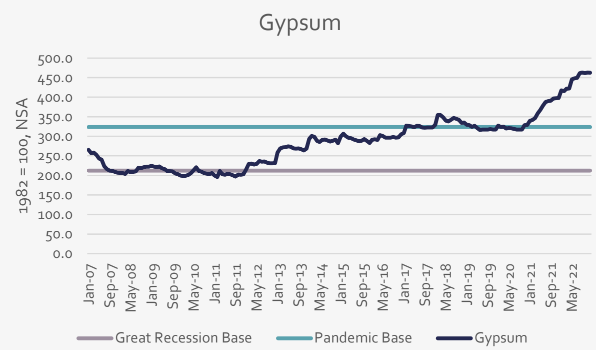
Source: BLS



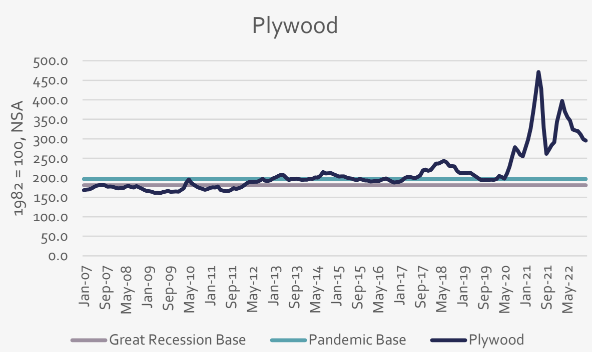
Pre-Great Recession +67%
Pre-COVID +21%



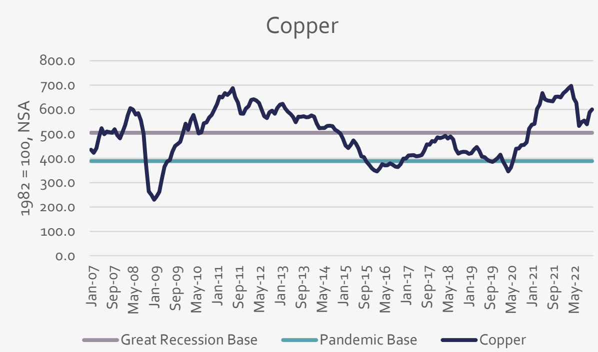
Pre-Great Recession +35%
Pre-COVID +34%



Pre-Great Recession +118%
Pre-COVID +43%



Pre-Great Recession +63%
Pre-COVID +50%



Pre-Great Recession +19%
Pre-COVID +55%

Materials

Constructing a housing unit requires a set of base materials that are consistent across most housing types. Typically these are concrete for the foundation, wood for framing walls and roofs, plywood for sub-flooring and roof underlayment, gypsum for interior wall surfaces, and copper for plumbing, among others. Any fluctuation in the pricing of these materials has a direct impact on the overall cost of the housing unit.

With respect to housing affordability, the most enduring impact from COVID was the supply chain disruption. For all major base materials current prices remain between 21 and 55 percent above their COVID baseline. While some of them, such as dimensional lumber and plywood are showing signs of abating, others particularly concrete and gypsum, continue on an upward trend. These increases in material costs have real bearing on current and potential affordability.

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