Homeownership for Colorado Teachers

Affording the American Dream

A REPORT BY
KEYSTONE POLICY CENTER

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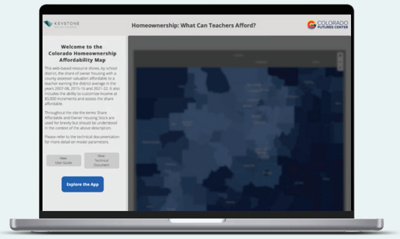
Summary



To see if homeownership is affordable for teachers and other professionals in your community, access our ***Colorado Homeownership Affordability Map***

From 2020 to 2021 home prices in Colorado increased nearly 20%,[1] elevating an already important question about who can afford to be a homeowner in the state, and where. This project explores whether teachers in Colorado can afford to buy a home in the district in which they teach. Despite increasing average salaries for teachers, less than 20% of homes in the state are valued at a price that is affordable for teachers earning the average salary in the school district in which they work.[2] There is also variability across the state. Districts along the front range and in mountain communities—where over 80% of teachers live—tended to have the smallest share of homes affordable for teachers. In districts in the San Luis Valley, Pueblo and Raton Basin, and the Eastern Plains, a larger share of homes were affordable for teachers earning the average salary in their school district. Yet even some districts in these regions face affordability challenges. While this project does not engage with the question of housing availability—another challenge in Colorado—this does highlight a systemic challenge, where teachers, and other middle-income earners, are unable to afford to purchase a home in many communities across the state even in areas where salaries have increased in recent years.

[1] Colorado Association of Realtors. "Statewide Report Single Family and Townhouse-Condo December 2021." As of August 1, 2022: https://car-co.stats.showingtime.com/docs/mmi/2021-12/x/Statewide?src=page
[2] The universe of homes included in this analysis is non-mobile homes available for owner occupancy.

Introduction

Homeownership is an important vehicle for strengthening financial security and building wealth. Owning a home is associated with financial stability, and may help individuals and families weather shocks. For example, during the pandemic, nearly 40% of renters said they were finding it difficult to get by financially, or just getting by, compared to only 15% of homeowners.[3] Homeownership is also the most significant financial asset for most Americans, making up between 50-70% of net wealth for Americans in the three middle income quintiles.[4]

After WWII a booming economy, a burgeoning home construction sector, and federal investments in mortgage support enabled more families to buy into what quickly became a symbol of the American Dream: a single-family home.[5] While the pathway to owning a house was neither accessible nor equitable for many Americans – particularly communities of color who experienced discrimination and outright exclusion from the policies and programs – homeownership grew in postwar America.[6] While the homeownership rate has largely stagnated around 65%, with an increase and subsequent drop in the wake of the subprime mortgage crisis of 2008, owning a home remains an important household investment. [7]

This project explores how affordable this pathway is for school teachers in Colorado. K-12 educators instruct students in their academic and emotional development, serve as one of the strongest connections between schools and families, and are amongst the most trusted professionals in their communities.[8] Whether they can afford to purchase a home in the district in which they teach is important, and influences the appeal and sustainability of the profession. This is critical as Colorado seeks to recruit and retain teachers, and diversify the teaching workforce. Indeed, over the past five years, 14% to 17% of teachers left their positions at the end of each school year, and in 2021, 13% of all teaching positions that needed to be hired were filled by a "shortage mechanism" like hiring long-term substitutes, retired educators, and emergency authorization candidates.[9,10] It is also particularly timely in Colorado, a state that has seen a nearly 20% increase in home prices in the last year alone.[11]

50-70%

of net wealth for American middle income earners is homeownership.

20%

increase in Colorado home prices in 2021

[3] Board of Governors of the Federal Reserve System, 2020. Survey of Household Economics and Decisionmaking, data files. Last updated May 17, 2021. As of June 3, 2022: https://www.federalreserve.gov/consumerscommunities/shed_data.htm
[4] Scheutz, Jenny, 2020. "Rethinking homeownership incentives to improve household financial and shrink the racial wealth gap." Brookings Institution. As of June 3, 2022: https://www.brookings.edu/research/rethinking-homeownership-incentives-to-improve-household-financial-security-and-shrink-the-racial-wealth-gap/
[5] Chambers, Matthew, Carlos Garriga, and Don Schlagenhauf, 2014. "Did Housing Policies Cause the Postwar Boom in Home Ownership?" In White, Snowden and Fishback (Eds.) Housing and Mortgage Markets in Historical Perspective (pp. 351–385). National Bureau of Economic Research. As of June 15, 2022: https://www.nber.org/system/files/chapters/c12802/c12802.pdf
[6] Rothstein, Richard, 2017. *The Color of Law: A forgotten history of how our government segregated America.* New York, NY: W.W. Norton & Company Inc.
[7] See U.S. Census Bureau, Historical Census of Housing Tables: Homeownership Rates. As of June 1, 2022: https://www.census.gov/data/tables/time-series/dec/coh-owner.html, and U.S. Census Bureau, Homeownership Rate in the United States [RSAHORUSQ156S], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/RSAHORUSQ156S, June 21, 2022.
[8] Gallup, Honestly/Ethics in Professions. As of June 21, 2022: https://news.gallup.com/poll/1654/Honesty-Ethics-Professions.aspx
[9] Data accessed from Colorado Department of Education, School/District Staff Statistics. As of June 20, 2022: https://www.cde.state.co.us/cdereval/staffcurrent
[10] Colorado Department of Education, "Colorado's Educator Shortage: Survey Results for the 2020-21 School Year." As of June 26, 2022: https://www.cde.state.co.us/educatortalent/2020-21educatorshortagesurvey-summary
[11] Colorado Association of Realtors. "Statewide Report Single Family and Townhouse-Condo December 2021." As of August 1, 2022: https://car-co.stats.showingtime.com/docs/mmi/2021-12/x/Statewide?src=page

The Approach to Measuring Housing Affordability for Teachers

This project evaluates the proportion of housing within a school district that is affordable for teachers earning the average salary within that district. This first required the research team to define a teacher's earnings that would be available for a home purchase. We use the school district's average salary to estimate the average annual earnings of a teacher within the district. While this may not be inclusive of all income that teachers earn, it *is* reflective of their compensation from the school district. This is of particular concern given the project's interest in understanding the relationship between a teacher's pay, and their ability to purchase a home where they teach. Additionally, because teacher pay is generally linked to their own experience and education level, higher average salaries can reflect teacher demographics more than the pay scale. Our data cannot account for this variation. That said, average teacher salary is still a reasonable estimate of earnings for the *average* teacher in the district, regardless of whether the local workforce skews younger or older. (By average teacher, we mean a teacher with average characteristics like education credentials and experience; we do not imply or connote effectiveness). Finally, data availability limits the alternatives, as the Colorado Department of Education does not report salary information based on teacher demographics or their position on the salary ladder.

Next, we estimate an affordability threshold– the maximum value of a home that a teacher could purchase. The affordability threshold ensures that a teacher's monthly housing costs would not exceed 30% of their annualized monthly pay, the rate at which they would be considered housing cost burdened. To calculate the estimate, we take the average teacher salary within the district, and assume a 20% down payment and loan for the remaining 80% of the price of the home with the prevailing 30-year fixed rate mortgage, local property taxes, insurance, and utility costs. While we recognize that a 20% down payment is a significant challenge for many, in this model we assume that the teacher can pay the 20% down payment. (See Appendix A for methodology). Taken together, these provide an estimate of the top end of a teacher's budget for a house within the school district, what we call the Estimated Affordability Threshold.

We then evaluate the number and share of non-rental housing units within school districts that are valued at or below the Estimated Affordability Threshold, and thus are affordable to teachers earning the average salary in the district. Critically, this measure looks at only the affordability of units given the assumptions of the project; it does not indicate either accessibility or availability. This measure does not consider whether there is low housing stock in the district, or whether units are currently available for sale. Instead, it provides an assessment of whether, and to what extent, homeownership is affordable for the average teacher within the community.

Finally, we determine how the Estimated Affordability Threshold, and subsequently the number and share of units that are affordable to teachers, changes as teacher salaries increase or decrease. This analysis can be used to understand affordability for teachers earning above or below the average teacher salary, or for other residents. The analysis highlights the extent to which changes in earnings could affect the affordability of homeownership for teachers or others in the community. The utility of this analysis extends beyond the education sector, and enables exploration of the relationship between wages and housing affordability.

For a more detailed explanation of the data and methods of the project, see Appendix A.

Findings

TEACHER SALARIES

In the wake of the 2008 recession, average teacher salaries in Colorado stagnated around $50,000 until 2015-16, when salaries started to increase (see Figure 1). Over the past seven years, average teacher salaries have increased nearly 25%, a rate that was similar to the increase seen in Colorado broadly where average salaries for all workers increased by 23% over the same time frame.[12,13] In 2021-22 the average teacher salary in Colorado was just over $60,000. This increase has largely been driven by teachers in metro area districts that employ many teachers and have seen an increase in salary for the average teacher.[14] The increase in average salaries also coincided with a reduction in budget stabilization factor.[15] Yet this statewide average, which is

COMMUNITY SPOTLIGHT

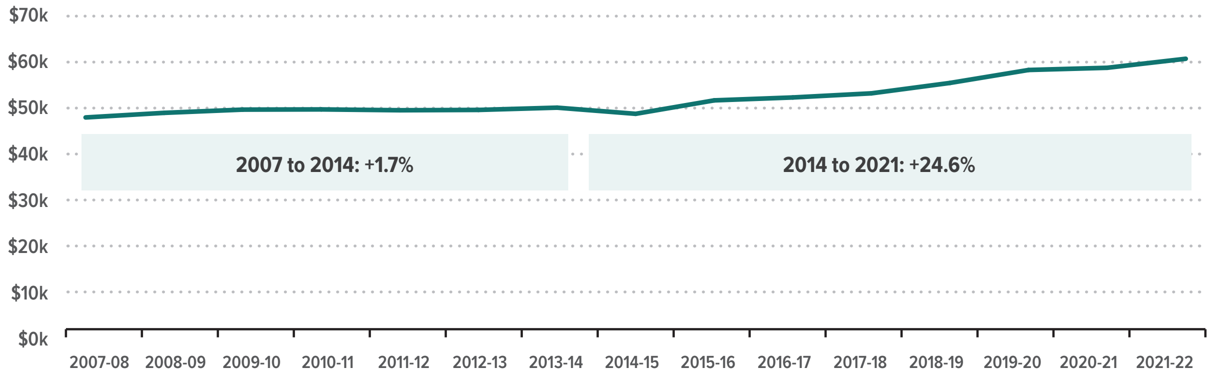
St. Vrain Valley Schools

St. Vrain serves communities both along the Boulder-Denver corridor and the northern front range including communities like Broomfield and Longmont that have experienced significant growth in the past decade. Average teacher salaries have increased since 2015 from $53,000 to about $65,000 during the 2021-22 school year. Yet housing affordability dropped dramatically in the last half decade, falling from 46% affordable on the average teacher salary in 2015, to less than 10% in 2021. This despite a 13% increase in the total supply of homes in the district over the same time period. These communities, which have absorbed much of the growth of the Denver-Boulder metropolitan area, are dramatically less affordable to teachers working in the local district.

[12] Author's calculations based on data from the Colorado Department of Education School and District Staff Statistics.
[13] Author's calculations based on data from the U.S. Bureau of Labor Occupational Employment and Wage Statistics. As of June 28, 2022: https://www.bls.gov/oes/tables.htm
[14] As noted earlier, higher average salaries could reflect either a change in the demographics of the workforce (teachers with more experience and more education tend to earn more on salary scales), or an increase in pay across experience and education levels, or a combination of both.
[15] The Budget Stabilization Factor (previously, the Negative Factor) is a mechanism that proportionally reduces the amount of state funding districts receive through the School Finance Act below statutory requirements. Created in response to lower revenue in the wake of the 2008 financial crisis, the Budget Stabilization factor, the factor is still used to adjust down the amount of state funding districts receive from the required funding level stipulated in Amendment 23. In a separate analysis, the authors find that average teacher salaries tended to increase in response to decreases in the Budget Stabilization Factor. For more information about the Colorado School Finance, including the Budget Stabilization Factor, see: Colorado Legislative Council Staff, 2021. 2021 School Finance in Colorado. Research Publication No. 758. As of June 26, 2022: https://leg.colorado.gov/sites/default/files/final_-_2021_booklet.pdf

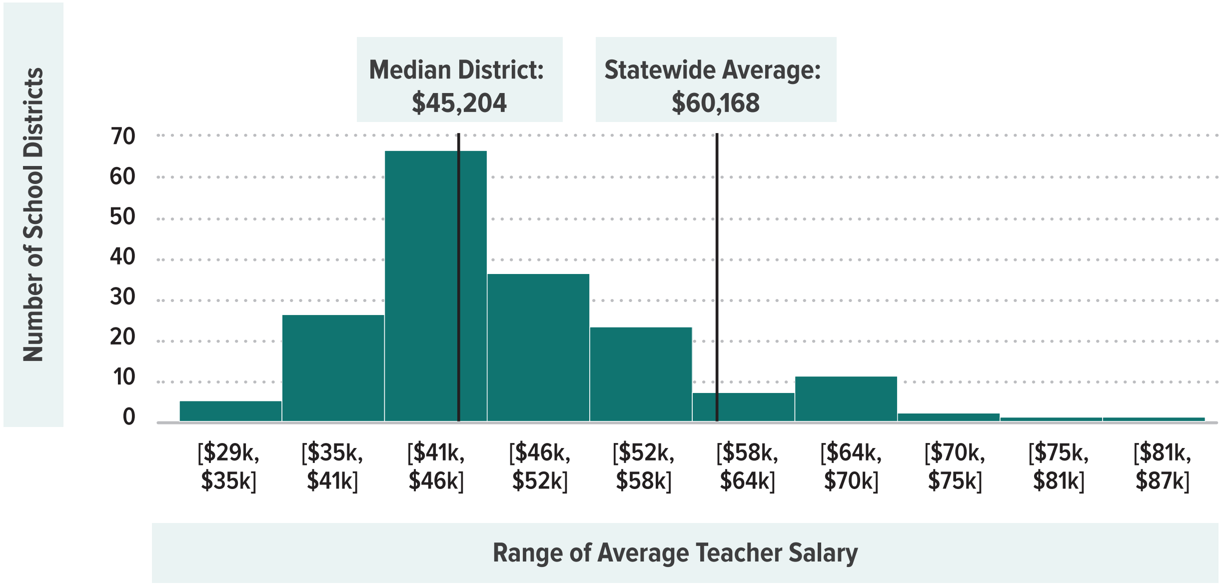
based on the salaries of all teachers across the state, blurs the experience of teachers outside of the largest districts. While 18 districts pay an average teacher salary at or above the statewide average, 160 districts pay less than that salary. Figure 2 shows that most districts have an average salary well below the statewide average teacher salary. Indeed, the median district paid an average teacher salary of approximately $45,000 in 2020-21.

Figure 1.
Statewide Average Teacher Salary in Colorado Public Schools Over Time (District-Run and Charter)



Source: Colorado Department of Education

Figure 2.
Distribution of Colorado School Districts by Average Teacher Salary (School Year 2021-2022)

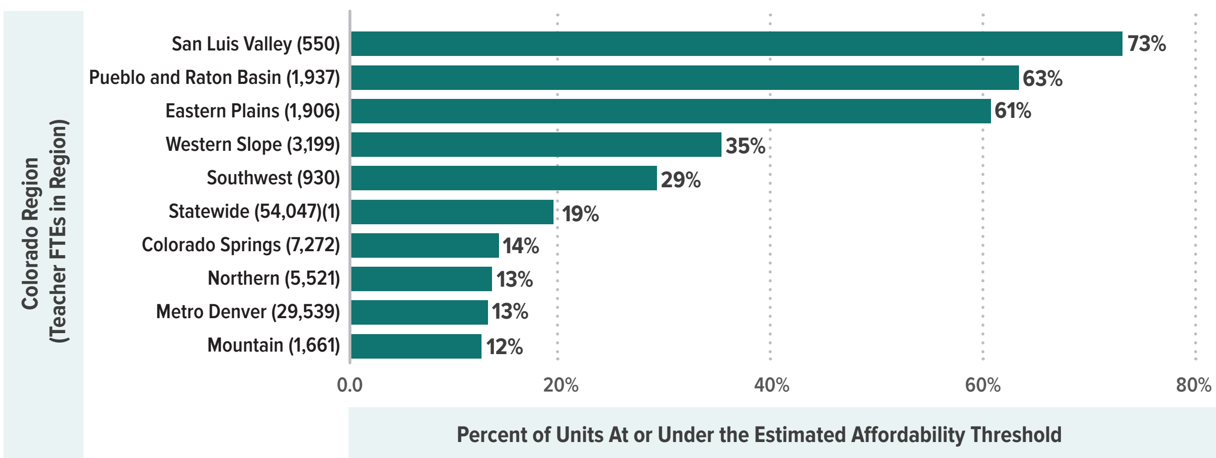


Source: Colorado Department of Education

HOUSING AFFORDABILITY FOR TEACHERS

This project deems homeownership “affordable” for teachers if their monthly housing costs, inclusive of the mortgage payment, property taxes, insurance and utilities are equal to or less than 30% of their pre-tax monthly earnings. Statewide in 2021, out of nearly 1.9 million homes in the state,[16] less than 20% in total were valued at a price that was at or below the Estimated Affordability Threshold specific to the district, and would be affordable for the teacher earning the average salary for the district in the particular school district where the home is located. Figure 3 shows the share of local housing affordable by region. The regions that were least affordable included Mountain, Metro Denver, Northern Colorado, and Colorado Springs area school districts, where over 80% of Colorado’s 54,000 educators live.[17, 18] Yet there are parts of the state, shown in Figure 3, that are far more affordable for teachers, including the San Luis Valley, the Pueblo and Raton Basin Region, and the Eastern Plains. Teachers in 36 school districts across the state live in communities where 90% of the housing units would be affordable for the teacher earning the average salary for the district. Yet teachers in districts along the front range and in mountain resort communities face acute affordability constraints. Teachers in 24 school districts live in communities where less than 10% of the housing units are affordable for the teacher earning the average salary for the district.

Figure 3.
Share of Local Housing Affordable for the Teacher Earning the School District’s Average Salary, by Region (School Year 2021-22)



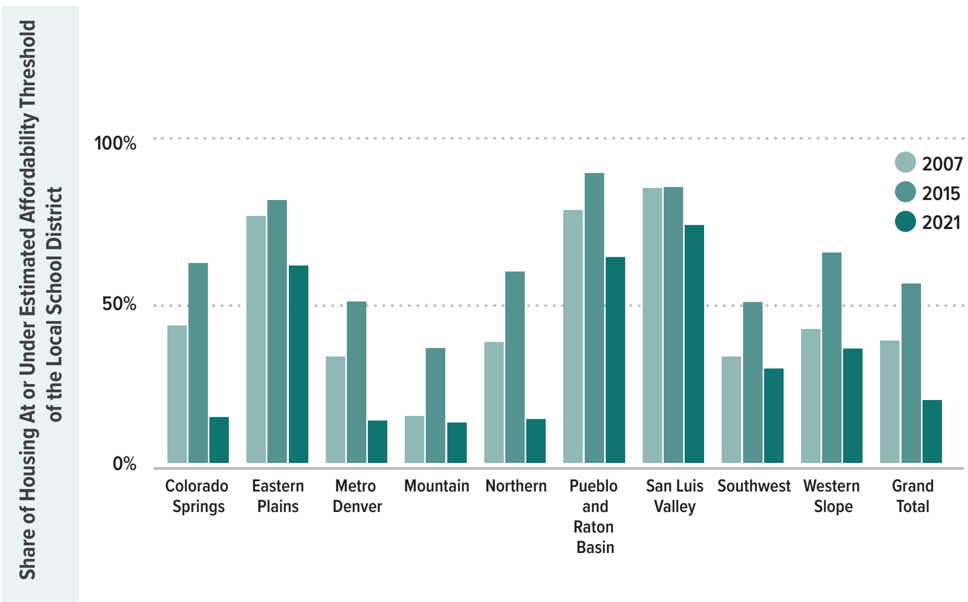
Source: Colorado Futures Center. See Appendix A for calculations details.

Note: Statewide teachers include all FTE, including teachers employed by schools for whom we did not have salary data that could be connected to a geographic location, and are therefore excluded from our analysis. These include teachers working in schools authorized by the Charter School Institute (CSI), and teachers employed by Boards of Cooperative Educational Services (BOCES).

[16] The universe of homes included in this analysis is non-mobile homes available for owner occupancy.
[17] This report uses Colorado’s Economic Regions, as defined by the Colorado Legislative Council Staff and Office of State Planning and Budgeting. Find more information about Colorado’s Economic Regions at https://leg.colorado.gov/agencies/legislative-council-staff/colorados-economy (As of June 27, 2022).
[18] Author’s calculations, based on data from Colorado Department of Education School/District Staff Statistics 2021-2022: https://www.cde.state.co.us/cdereval/staffcurrent (As of June 27, 2020).

Due to rising home prices, affordability has recently become tighter across the state (Figure 4). In 2007, before the foreclosure and ensuing financial crisis, 38% of homes across the state were valued at or below the Estimated Affordability Threshold in the local school district. This proportion increased in the wake of the foreclosure crisis when interest rates dropped, and statewide in 2015 55% of all houses would have been affordable to the teacher earning the average salary for the district within the local school district. The regions that have seen the most dramatic drop in affordability from 2007 to 2021 are Colorado Springs (28 point decrease in share of houses valued at or below the local Estimated Affordability Threshold), Northern Colorado (24 point decrease) and Metro Denver (20 point decrease).

Figure 4.
Share of Local Housing Affordable for the Teacher Earning the School District's Average Salary Over Time



Source: Colorado Futures Center. See Appendix A for calculations details.

COMMUNITY SPOTLIGHT

Summit County Schools

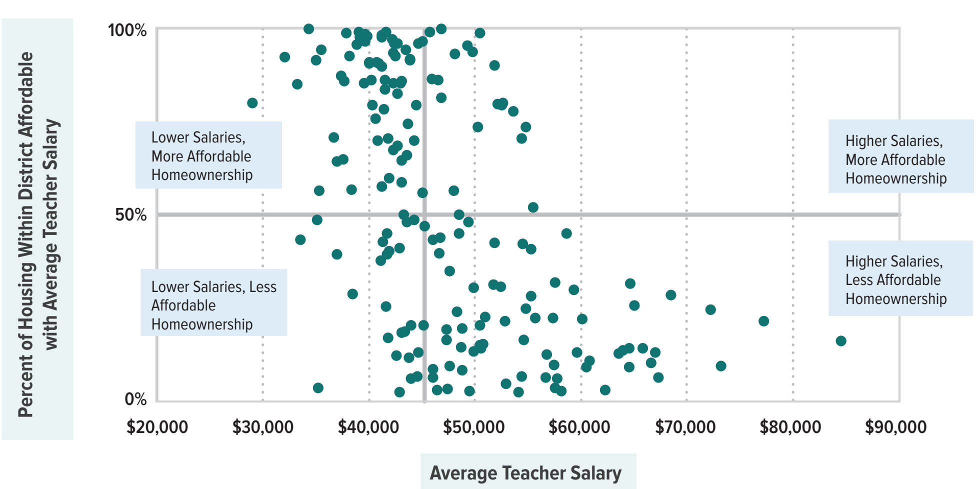
In 2007, housing that was affordable for the teacher earning the average salary for the district in the resort community of Summit County was almost nonexistent. With a salary of $51,000, the district average, only 114 units in the district were valued at price that a home purchase would have cost 30% or less of a teacher's pre-tax monthly earnings. This represented less than 1% of all housing in the district. In the intervening decade and a half, the district raised its average teacher salary to $67,000. At this salary, in the current housing market, only 6.5% of houses are affordable. Increasing salaries helped make homeownership more accessible in the community from a starting line of almost zero, but affordability concerns are still high, and homes are broadly unaffordable even with higher wages.

[16] The universe of homes included in this analysis is non-mobile homes available for owner occupancy.
[17] This report uses Colorado's Economic Regions, as defined by the Colorado Legislative Council Staff and Office of State Planning and Budgeting. Find more information about Colorado's Economic Regions at https://leg.colorado.gov/agencies/legislative-council-staff/colorados-economy (As of June 27, 2022).
[18] Author's calculations, based on data from Colorado Department of Education School/District Staff Statistics 2021-2022: https://www.cde.state.co.us/cdereval/staffcurrent (As of June 27, 2020).

THE RELATIONSHIP BETWEEN SALARY AND HOUSING AFFORDABILITY

This project begs the question of whether higher salaries are related to whether teachers can afford to buy a home in the community in which they teach. There is not a strong association between average salaries and districts with more housing affordable at that salary. In fact, there is a slight negative relationship between average salary and local housing affordability at that salary – indicating that housing prices are well out of reach in many communities across the state, even those where teachers are compensated with relatively higher wages (Figure 5). Figure 6 shows the ranges of average teacher salaries in different regions, and Figure 7 shows the range of the share of houses affordable to teachers in districts within the region. The parts of the state with scarce housing affordable to the average teacher also generally have higher wages. Even within regions, there are few parts of the state where higher salaries are associated with better access to affordable homeownership. This is not to say that higher salaries are not a tool to address affordability, but rather that salaries have not kept pace with home prices in many school districts. Appendix B provides additional regional analysis of the relationship between average salary and the share of houses in the district that are affordable at that salary.

Figure 5.
Homeownership Affordability for Colorado Teachers, by District (School Year 2021-22)



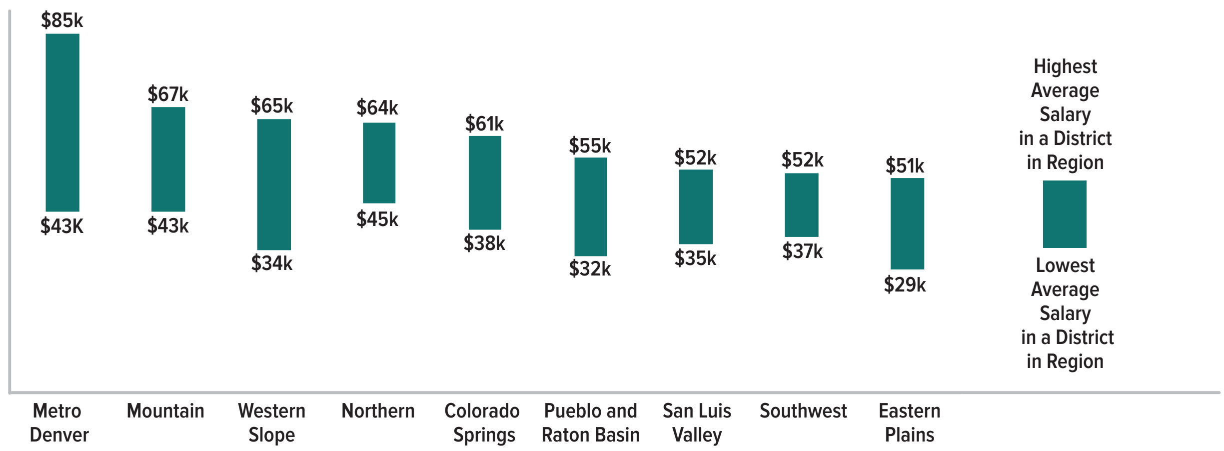
Source: Author's calculations based on data from Colorado Futures Center and Colorado Department of Education.

COMMUNITY SPOTLIGHT

Peetz Plateau Schools

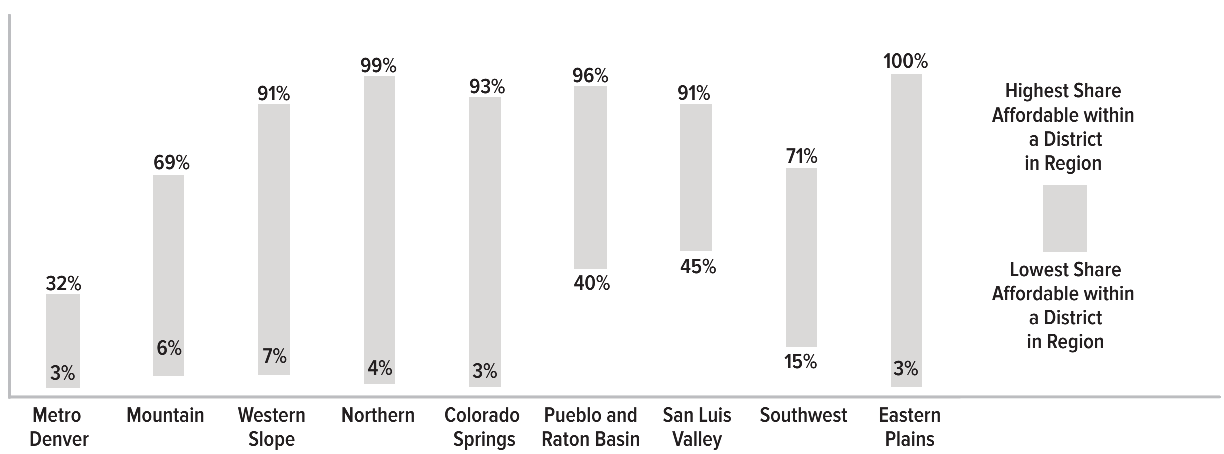
Peetz Plateau Schools is a small district on the northern edge of the state. It serves 160 students, and employs about 17 full time teachers. Houses in the district are mostly affordable for the teacher earning the average salary. In 2007 nearly 97% of units were affordable on a $35,000 annual salary. In 2021, affordability has declined but is still high with 76% of units affordable on a $41,000 annual salary. Yet this represents about 80 units. This limited supply could contribute to a housing crunch, even if most of the supply is in fact affordable.

Figure 6.
Range of Average Teacher Salaries by School Districts in Colorado Regions (School Year 2021-2022)



Source: Colorado Department of Education.

Figure 7.
Range of Share of Homes Affordable to the Teacher Earning the Average Salary by School Districts in Colorado Regions (School Year 2021-2022)



Source: Colorado Futures Center. See Appendix A for calculations details.

INTEREST RATES

In the wake of the foreclosure crisis, some communities across the state saw home price appreciation, and other pockets saw declines. More importantly for affordability, interest rates dropped dramatically. Mortgage interest costs thus also dropped. This significantly impacted the affordability of homeownership, and housing became far more accessible for teachers in many communities across the state in the mid-2010s, despite increased house prices and/or the limited average wage growth in many districts. This is a particularly important finding, as, at the time of publication, the Federal Reserve is actively increasing interest rates to slow current inflation.[19] In the early spring of 2022, the interest rate on a new 30-year fixed rate mortgage was hovering just over 5% (the assumption made in our model of 2021-2022 local housing affordability was 5.14%), approximately 2.2 points higher than a year prior.[20] This trend will directly impact the affordability of new home purchases, and, if home prices do not decrease in turn, further limit the ability of teachers to afford homeownership in their communities.

While it is currently unknown how high mortgage rates will climb or where they will stabilize, it is likely that rates will remain higher than they have been in the recent past. The housing market tends to adjust to increased mortgage rates: as mortgage rates increase, the price of the house itself declines to bring the total costs that buyers pay to a new equilibrium.

We look at implications for homeownership affordability if mortgage rates were to rise to 6.5%. We use data from our model on district average pay for teachers in 2021-22, and calculate the amount by which home prices would need to drop for teachers to be able to afford the same share of houses they were able to in 2015, given a 6.5% mortgage rate. We find that prices would need to drop significantly, and beyond a level they are likely to do so to maintain the same share of affordability at the current average salary. Figure 8 shows the results of this analysis in four school districts, which are also spotlighted in this report to provide examples of homeownership affordability across the state. For example, in the St. Vrain School District, if interest rates were to rise to 6.5%, it would take a drop in housing values of approximately 40% for the share of housing affordable to the average paid teacher (in 2022) to be the same as the share affordable in 2015.

COMMUNITY SPOTLIGHT

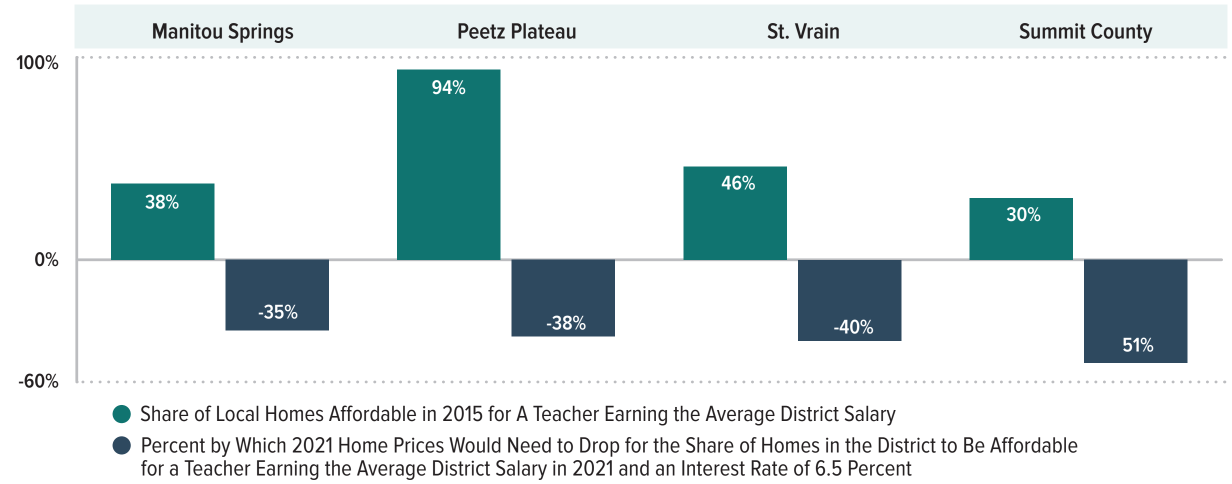
Manitou Springs

Manitou Springs, a district serving about 1,500 students west of Colorado Springs has not been able to keep pace with rising homeownership costs. Between 2015 and 2021, the district's average salary for teachers increased 32%. Over the same time, the share of houses that were affordable in the district at the average salary dropped 56%. In 2021, a teacher earning the average salary could afford to purchase 17% of the homes in the district.

[19] Board of Governors of the Federal Reserve System, 2022. Implementation Note Issued June 15, 2022: Decisions Regarding Monetary Policy Implementation. As of June 20, 2022: https://www.federalreserve.gov/newsevents/pressreleases/monetary20220615a1.htm#:~:text=The%20Board%20of%20Governors%20of,%2C%20effective%20June%2016%2C%202022.

[20] Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis. As of June 26, 2022: https://fred.stlouisfed.org/series/MORTGAGE30US

Figure 8.
How Much Would Home Prices Need to Drop for Teachers Earning the Average Salary in Their District to Afford the Same Share of Homes As They Could in 2015?



Source: Colorado Futures Center.

Next Steps and Conclusion

This project, while focused on teachers, raises the question about how affordable homeownership is in Colorado for a range of professions. Supply and accessibility constraints aside, teachers are largely priced out of homeownership in most communities in the state. This story is relevant for other middle-income earners in the state. The average (mean) wage in Colorado in 2020 was just under $61,000 – about $2,600 above the mean teacher salary that year. The median wage in Colorado in 2020 was about $47,000, about $2,000 above the salary that the median school district pays.[21] Thus, other workers find themselves in the same position as teachers, unable to afford to purchase a home in many Colorado communities.

Unfortunately there is no simple solution. Done in a vacuum, raising all wages will not fully solve affordability challenges. However, the status quo is clearly untenable, if indeed the state values homeownership as an important pathway to financial security and wealth generation. Now is the time for the state and communities to come together, and grapple with whether and how to build pathways to homeownership for teachers and middle-income earners. We present a series of non-exhaustive questions that communities could discuss including:

- **Which local community members and organizations can help design local homeownership solutions?** Addressing homeownership affordability is complex. Developing partnerships throughout the community will support more responsive and collaborative solutions.
- **Can communities alleviate the pressure of interest rates on homeownership?** This report shows that higher interest rates make homeownership less affordable for teachers earning the average salary. While some programs support potential home buyers at the point of sale by offering down payment assistance, there is an opportunity to think about how other costs – like mortgage interest—can be addressed to increase affordability of homeownership.

[21] U.S. Bureau of Labor Occupational Employment and Wage Statistics. As of June 28, 2022: https://www.bls.gov/oes/tables.htm

- **Can school districts leverage their land, property, or capital resources to increase supply of houses affordable to teachers?** Districts are often significant property holders in their communities, and some communities simply do not have enough affordable homes. While some communities have explored using district land or resources to support affordable rental units, few have taken the step to build pathways to affordable homeownership for staff.
- **How can solutions focused on homeownership affordability complement efforts to increase rental access and affordability?** Several communities across the state have invested in rental properties for teachers and other middle-income workers. While this is important to ensure access to housing broadly, for the reasons enumerated in this report, it is equally critical to confront and provide pathways for homeownership affordability.
- **What programs exist that districts and communities can tap into to increase homeownership affordability?** Federal tax credits like Low-Income Housing Tax Credit (LIHTC) may provide financing mechanisms that districts and communities can take advantage of to increase the supply of homes. Programs in other states may provide blueprints for solutions local communities can adopt.
- **How do challenges of homeownership affordability affect not only teachers, but other members of the community including families of students in the district?** Teachers are not the only school district employees or community members facing affordability challenges. Some families enrolled in the local schools may face even larger hurdles in affording homes. Some approaches to homeownership affordability can address challenges faced community-wide, not solely those faced by teachers.

As a state, Colorado can develop strategies to broaden access to homeownership. Otherwise, homeownership will increasingly be a path for only the wealthiest in communities, cutting off a valuable pathway for most.

APPENDIX A: Data and Methods

This report shows, by school district, the share of housing affordable to a teacher earning the district average in the years 2007-08, 2015-16 and 2021-22. It is built with the following set of assumptions:

- The only earnings contributing to the capacity to afford housing is the teacher salary. Average salary by district from Colorado Department of Education at https://www.cde.state.co.us/cdereval/staffcurrent. The district average salary is for all schools including charters.
- Housing data from Colorado Legislative Council abstract project. Valuations are assessor valuation and not sales prices and the affordable share is of the existing housing stock available for ownership but not necessarily available for sale in the model year. For this analysis rental units and mobile homes are excluded because complete monthly cost data are not available.
- A house is considered affordable if the monthly house payment is 30% or less than monthly pre-tax income.
- Monthly house payment includes the following components:
  - – Principal and interest
  - – Property taxes
  - – Insurance
  - – Utilities
- Principal and interest payments calculated based on a conforming 30-year loan with 20% down at the prevailing interest rates. Interest rates from FreddieMac at http://www.freddiemac.com/pmms/pmms30.html. This analysis used the average of the two calendar year annuals, the 2021-22 value averages 2021 with January of 2022 (see table below for specific value assumptions).
- Valuation for property taxes calculated using the assessed value adjusted by the appropriate residential assessment rate. Property taxes calculated using the average of the average county mill levies for the counties containing the school districts (see table below for specific value assumptions).
- Insurance is assumed to be $3.50 per thousand dollars of value in the current year. See https://www.sapling.com/6826700/estimate-property-insurance. Previous years are adjusted by CPI (see table below for specific value assumptions).
- Utilities assumed to be 3.5% of income. See https://www.nrdc.org/experts/khalil-shahyd/study-highlights-energy-burden-households-and-how-energy-efficiency-can-help.

The following table summarizes the parameters used in the model

	2007-08	2015-16	2021-22
Interest rate	6.2%	3.8%	5.1%
Insurance per thousand dollars of value	$2.73	$3.08	$3.50
Residential Assessment Rate	7.96%	7.96%	7.15%
Utilities - percent of monthly income	3.50%	3.50%	3.50%

APPENDIX B: Additional Analyses

Appendix Figures 1-9. The relationship between average teacher salaries and share of houses in the district affordable with the average salary, by region (School Year 2021-22).

Figure 1. Housing Affordability for Teachers
Colorado Springs Region

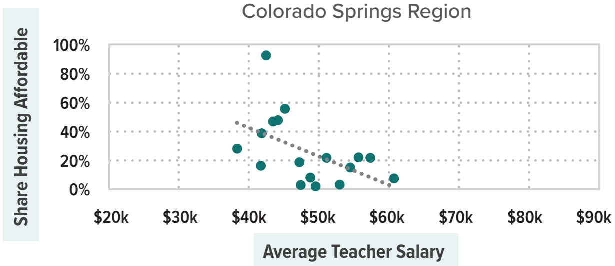


Figure 2. Housing Affordability for Teachers
Eastern Plains Region

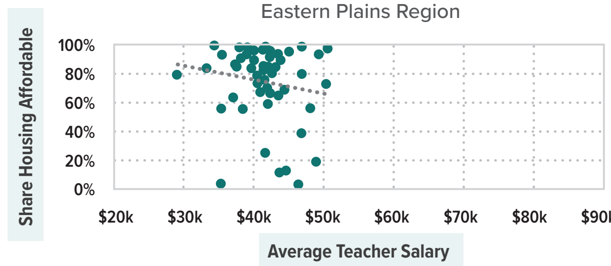


Figure 3. Housing Affordability for Teachers
Metro Denver Region

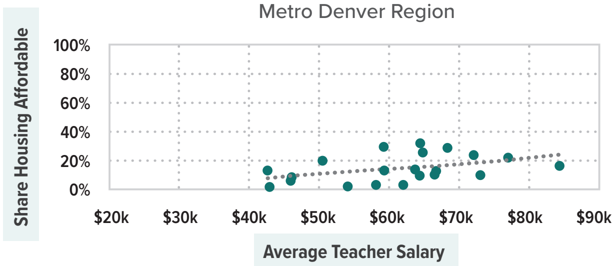


Figure 4. Housing Affordability for Teachers
Mountain Region

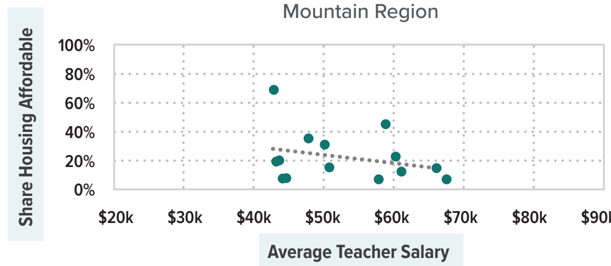


Figure 5. Housing Affordability for Teachers
Northern Region

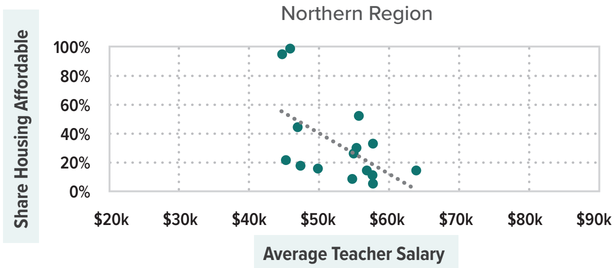


Figure 6. Housing Affordability for Teachers
Pueblo and Raton Basin Region

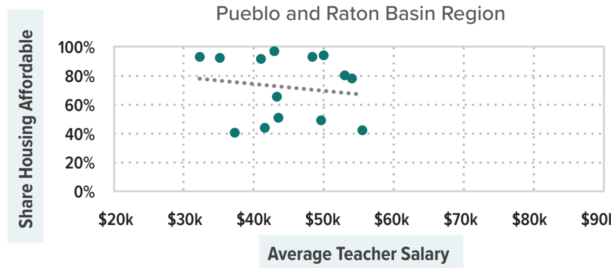


Figure 7. Housing Affordability for Teachers
San Luis Valley Region

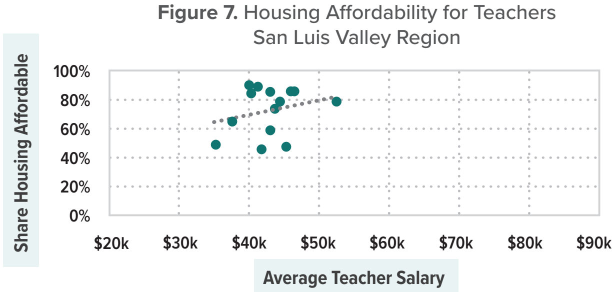


Figure 8. Housing Affordability for Teachers
Southwest Region

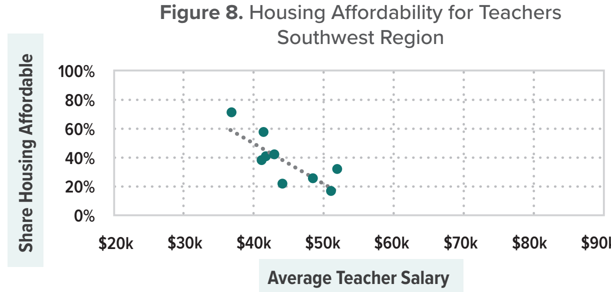
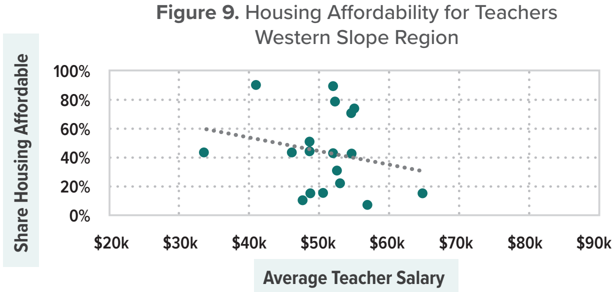


Figure 9. Housing Affordability for Teachers
Western Slope Region



Source: Author's calculations based on data from Colorado Futures Center and Colorado Department of Education.

Acknowledgments

This report was supported by the Keystone Policy Center, with **Van Schoales** as the Keystone lead for the work. The report was co-authored by **Lisa Berdie** and **Maya Lagana**.

Thank you to **Phyllis Resnick** and **Jennifer Newcomer** at the Colorado Futures Center for providing the modeling and calculations for the affordability models and for their input on the analysis. See the accompanying website to this report for the affordability calculations for all districts in Colorado.

Jason Evans at Wellidek created the Colorado Homeownership Affordability Map website and geographic visualizations.

Report design was provided by **3 Story Design**.

The Keystone Policy Center is grateful for the generous financial support from the **Gates Family Foundation** and the **Walton Family Foundation** for the research and development of this report.

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