# The Web of Housing Solutions:

## Finance and Policy Considerations to Improve Housing Access and Affordability in Arizona

Prepared for:

WEST & SOUTHEAST REALTORS® of the VALLEY

WeSERV

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# Introduction

This report was prepared by Rounds Consulting Group ("RCG") for the West & SouthEast REALTORS® of the Valley ("WeSERV"). The objective of the analysis is to provide insight into both financial and public policy solutions that will help to address the current lack of access to housing among low- and middle-income wage earners in the state.

The following WeSERV analysis is intended to supplement, not supplant, the work already completed by various groups in the state as well as the research conducted at the direction of a legislative committee. These previously completed reports provide a number of recommendations related to reducing government inefficiencies that may be negatively impacting housing affordability and should be further examined.

This analysis supplements the previous research by including a more detailed review of national and local housing affordability trends including the macroeconomic influences currently impacting housing affordability. This analysis outlines select public and private sector solutions, for further review and consideration, as they relate to improving housing access in the state.

The targeted individuals in this research include those that are currently homeless, low-income wage earners, those that require entry-level/basic workforce housing, and even middle-class families that may be struggling to access housing at an affordable level.

WeSERV is a member-driven, not-for-profit professional association of REALTORS® that exists to serve and provide resources and education to members in efforts to foster community and business growth. The association, led by an elected Board of Directors along with committee volunteers comprised of WeSERV members, works with the member service team to create a community of successful REALTORS® dedicated to high standards, protecting private property rights, and effectively influencing public policy.

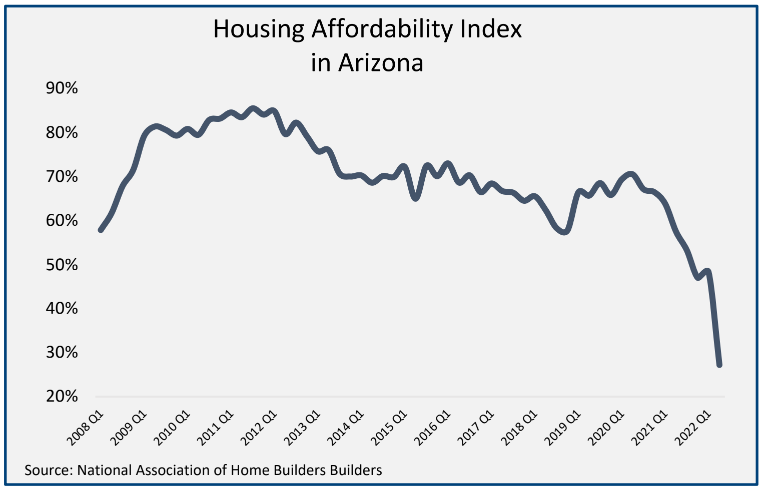
# Executive Summary

Housing affordability is closely connected to a number of economic issues, such as poverty, homelessness, lower levels of educational attainment, and limited access to healthcare, among others.

***Historically, housing affordability was primarily considered a socio-economic issue that negatively impacts economic mobility. However, the scale of the housing affordability problem has now made it an economic development issue.*** Addressing housing affordability is crucial for the well-being of individuals and communities and for the overall health of the economy.

The demand for housing in Arizona has increased in recent years due to strong population and employment growth as well as a result of the consequences of the COVID-19 recession (i.e., significant government stimulus and spending as well as prolonged low interest rates).

The supply of housing has not kept up with demand due to labor shortages, supply chain issues, and other construction constraints. In some cases, government inefficiencies have added to the housing shortage.




According to the National Association of Home Builders ("NAHB"), the housing affordability index, which measures the share of available homes in an area that are considered to be "affordable" was 27.2%, as of Q2 2022. In other words, only 27.2% of homes in Arizona were affordable to median-income wage-earning households, compared to 70.5% of homes being affordable pre-COVID.

***While this is a report related to Arizona housing issues, the current housing affordability crisis is a concern of the nation as a whole.***

***COVID-19 policy actions at the national, state, and local levels of government exacerbated many of the housing affordability issues.***

***If a solution is to be offered, proposed policy actions must also come from all levels of government in partnership with the private sector.***

The following summarizes the key findings/considerations of the report, the financial impact of housing affordability issues, and the research conducted on select tools and constraints related to providing aid to low-income and entry-level home buyers. Encouraging and/or incentivizing developers to build rental and for-sale homes for the workforce and low-income wage earners in Arizona is a needed part of the discussion.

# Economic Considerations – General Market Conditions

- The topic of housing affordability and availability has shifted from being considered a social, health and welfare policy topic into a critical economic development concern. Advances in Arizona's ability to attract high value-added businesses at the rate experienced during the past decade is at risk, primarily due to shortages in workforce supply and a lack of workforce housing.

- For context, if housing affordability problems in Arizona persist longer than what is being experienced by its economic development competitors, and housing remains disproportionately expensive locally, the rate of job growth in the state will slow, lower wages will be realized, and fewer business relocations and expansions will occur.

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***Not all of the current housing affordability problems are due to local regulatory factors. There are a number of economic imbalances contributing to the current state of the market.***

***One can assume that housing for the homeless and households with very low earned incomes will not be built at any point in the business cycle. In these cases, incentives are required.***

***However, economic conditions combined with local regulations indeed impact construction activity when external macroeconomic factors are less influential.***

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- The COVID-19 pandemic caused widespread disruptions to the national and global supply chain. This led to shortages in construction materials (e.g., lumber, asphalt, concrete, paint, appliances, etc.), delays in the delivery of such goods, and an increase in the cost of transportation. As a result, the cost to construct housing rose rapidly, putting upward pressure on home prices and limiting the development of lower-priced entry level homes.

- Imbalances in the housing market were exacerbated by the federal government reacting to the pandemic with significant stimulus spending, prolonged near zero percent interest rates, and a policy of increasing money circulating throughout the economy. This led to further upward pressure on home prices as investor home purchases increased and potential homebuyers (particularly higher income individuals that were not impacted by the recession in addition to corporate investors) seized on the opportunity of inexpensive capital to upgrade their housing situation, buy second homes, and purchase homes as investments.

- The federal government's policy on mortgage and rental forbearance also strained mortgage banks and rental property owners due to no or delayed payments. Many mortgage servicers began to go out of business in 2020 and rental owners sold their properties to escape financial problems due to reduced or no rental income. In 2020 and 2021, many distressed rental housing owners chose to sell their rental properties to owner-occupant buyers, thereby further depleting the available rental inventory.

- Furthermore, population growth fueled by relocations to Arizona (for economic/employment reasons) put additional pressure on local housing demand, increasing the price to buy or rent a home. This added to the "underbuilding" of housing that occurred, and was temporarily needed, after the Great Recession of 2008.

- While the previous reports list a number of potential issues related to how housing construction is impacted by local government procedures, the listed macroeconomic factors affected housing affordability in Arizona and around the country.

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***To some extent, this will prove to be a transitory condition. Therefore, care must be taken in implementing new public policies that are only based on a certain point in the business cycle.***

***In addition to the recommendations contained in previous reports, a set of more holistic recommendations related to improving government and private sector efficiency needs to be examined.***

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## Financial Considerations – Impact of Housing Access & Affordability

- Rising housing costs have already caused a shift in household spending. For example, in the Greater Phoenix region, housing accounted for approximately 30.0% of a household's annual expenditures as of 2005. That percentage has increased to 34.3% in 2022. This shift in spending will eventually have an adverse effect on the financial stability, educational attainment, and physical/mental health of individuals and families as they have fewer resources to spend on their wellbeing.

- ***Lower-income wage earners are disproportionately affected by rising housing costs as they spend a higher percentage of their income on housing.*** For example, as of 2021, the lowest 20th percentile of wage-earning households (i.e., households earning $19,400 or less a year) spent approximately 42% of their income on housing. Middle-income earning households (i.e., households earning between $19,401 and $87,599) spent 36% of their income on housing, and the highest 20th percentile (households earning $87,600 or more a year) spent only 30% of their income on housing.

- A report published by the National Low Income Housing Coalition ("NLIHC") estimated that a shortage of affordable housing costs the U.S. economy about $2.0T a year. If we apply the same percentage of economic losses to the state's economy, the housing issues in Arizona would result in approximately $35.6B in lost economic activity each year.

- ***Using a state level economic impact model, the economic losses related to housing affordability gaps would sum to a decline of more than 291,000 jobs, a loss of $14.1B in labor income, and a loss of $1.9B in state and local tax revenues annually.***

- The aforementioned economic losses included in the NLIHC report may be overstated. However, even if 25% of the calculated losses were realized, the state would still lose nearly $500M in state and local tax revenues every year.

- The current housing affordability problem in Arizona (and across the nation) will likely get worse without reasoned policy from all levels of government based on market impacts and the wellbeing of the individual. ***Consider the following: The state as a whole has an estimated 40,000 to 80,000 shortage of housing units. Without intervention, the state's strong economic growth position could be weakened.***

- Using a separate approach to calculate the potential for economic losses in the state, RCG calculated the following: The aggressive marketing of the state and utilization of efficient economic development programs has incrementally increased the rate of annual job growth in Arizona.

- Overall, it has been estimated that the aggressive efforts by state and local policymakers with the support of the economic development community has added between 0.2 and 0.4 percentage points to the state's historical employment growth rate.

- Housing affordability has become a consideration in business location and expansion decisions because a lack of affordability affects a number of other economic attributes such as educational attainment, workforce availability, health and welfare status, etc. Therefore, ***it is estimated that a portion of the recent employment gains that have been realized in Arizona could be lost.***

- ***A very modest 0.2 percentage point decline in forecasted job growth would translate into $1.5B in foregone tax collections at the state, county, and individual community levels over the next ten years.*** The purpose of this calculation is to not only show that small changes in the rate of job growth have significant economic and fiscal consequences, but also the extent to which the state should be willing to contribute resources in order to avoid any declines in the recent job growth trend.

## Key Policy Topic – Feasibility of Product Conversion for the Homeless

- There are a limited number of affordable housing units and options available for the homeless population and very low-income wage earners. Local governments and the private sector in conjunction with health and welfare professionals have a responsibility to assist in addressing the underlying mental health, physical health, financial health, and job skills gap needs that lead to homelessness.

- There are numerous government homeless projects in the state that are not paired with supporting services such as mental health care and, as a result, are not fully effective.

- Simply converting motels or other short-term rental housing establishments into homeless shelters further depletes the housing availability for those looking for low-cost and temporary housing (e.g., people displaced by a natural disaster, travel nurses, truckers, vacationers, newly located employees, etc.), and negatively impacts the real estate values of nearby buildings.

- Properly designed homeless shelters can provide a vital service for individuals experiencing homelessness by offering a safe place to sleep _and_ have access to basic healthcare and supportive necessities. It is important to note that converted shelters are a temporary solution, rather than a long-term solution to ending homelessness.

- In addition, a portion of the homeless population is without proper shelter due to economic factors. An increase in entry-level housing across the region will help reduce homelessness among lower- and middle-class wage-earning households. In these cases, homelessness is a temporary economic issue and the private sector simply being able to supply affordable units is a simple solution.

- This individual housing topic is an example of the unintended consequences of projects that are not fully considered and the opportunity costs are not calculated. While the conversion of motels and other short-term rentals into homeless shelters appears to be a justifiable government incentive, in reality it provides lower quality services to the chronically homeless and negatively impacts the housing supply for other members of society that are in need of temporary housing due to economic factors. Instead, a more in-depth review of this issue needs to be explored.

## Various Tools to Consider Related to Housing

Over the years, various techniques and tools have been developed by both public and private sector organizations in an attempt to address the issue of housing access and affordability. These include publicly funded government programs as well as techniques utilized by the private sector to facilitate residential development.

***A number of effective techniques and tools have been identified including land lease tools, reduced or waived permitting and development fees, tax incentives, non-HOA subdivisions, updated construction materials/techniques, government housing purchase programs, and down payment assistance, among others. A select few are described below.***

- Property Tax Limit on Redevelopment: One local city is designing for policymakers' consideration a program where city property taxes in distressed areas are "frozen" at current levels for a certain period of time for the development of high-density housing. For example, a multi-family project replacing a deteriorated retail site. The concept would allow for more infill development to occur with no added cost since the new housing development would not have occurred less the incentive.

- Land Lease Tool: The land lease tool is a method utilized by both individual and large investors in which a person becomes the owner of a house or building, but rents the land from the landowner. It is often less expensive and, based on the terms of the land lease, can be a step towards acquiring full ownership of the home.

- Individual Development Account ("IDA"): An IDA is a savings incentive program designed to enable low-income wage earners to save towards homeownership. Typically, IDAs are offered by either non-profits or public sources; and supplement the savings of low-income wage earners with matching funds from private sector sponsors, donations, or government programs. Eligibility varies but, in general, there are maximum income thresholds, require savings contributions to come from "earned income," and require financial literacy courses, among others.

- Government Financing and Buyer Incentives: Programs that offer grants, down-payment assistance, tax credits, closing cost assistance, and government-backed mortgage assistance, among others, can help qualified individuals purchase a home.

- Government Housing Purchase Programs: Local municipalities may create home buying programs in which government organizations purchase distressed homes and then sell those homes to individuals that meet specific requirements. For example, the Good Neighbor Next Door Program, administered and funded by HUD, allows HUD to sell their foreclosed homes for those in particular professions (such as teachers, law enforcement, first responders, etc.) to purchase.

- Down Payment Assistance, Silent Seconds and Buyer Tax Credits: Down payment assistance programs involve providing forgivable grants, low-interest loans, and income tax credits to incentivize qualifying individuals (i.e., first-time homebuyers, buyers from low-income areas, or specific population groups, etc.) to purchase a house.

Note: Special care must be taken in order to make sure that any new policy measures do not cause harm through unintended consequences. This will be a challenge given the complexity of the housing affordability issue.

***Several constraints to housing development have also been identified. Among these are local government restrictions, high construction costs, financing, and community resistance. A select few are described below.***

- Limited or no Accessory Dwelling Units ("ADUs"): An ADU is an additional residential dwelling unit that is located on the same lot as an existing residence or business. Attached or detached ADUs have the ability to ease limited housing options by allowing for two or three households to reside on one parcel of land or allowing job providers to build temporary housing for the employees. However, some municipalities and counties have restricted ADUs.

- Permitting and Fees: Housing developers have conveyed that local zoning is a barrier to multi-family housing development because the majority of the land in local municipalities is zoned as single-family housing. Furthermore, viable sites for multi-family development along major arterial roads are zoned for commercial development. The process of rezoning for multi-family use varies by city, typically requires public hearings, is timely, and puts the project at risk of losing funding.

- NIMBY: Additionally, during the rezoning process, developers and city officials will receive community pushback on multi-family and affordable housing projects. According to developers, this is the key barrier to high-density housing development in Arizona. The concerns of the community are typically related to a "not in my back yard" (NIMBY) mentality when multi-family projects are inappropriately placed.

- Properly Incentivizing: The goal of these tools should be to incentivize entry-level buyers and incentivize developers to build affordable rental and for-sale housing projects by streamlining the permitting processes, reducing the cost to construct projects, and reducing the cost of homeownership by providing down payment assistance, building non-homeowner association

("HOA") communities, and using other mechanisms to reduce the overall cost of construction and ownership.

## Additional Considerations

***In addition to the tools and constraints identified in the report, a set of holistic recommendations related to improving government and private sector efficiency needs to be examined.*** Furthermore, the following bullet point list is an example of other topics that should be researched and considered.

Areas in need of further discussion include:

- Short-term rentals and their place in the economy.

- Other financing mechanisms that are available to aid potential home buyers and renters (for example economic displacement relocation assistance, voucher programs, etc.).

- Construction financing mechanisms to incentivize developers of entry-level and affordable housing projects such as Tax Increment Financing ("TIF"), bond issuance, etc.

- Economic-based general plans and zoning reviews.

- Guidance related to the most efficient means of reviewing zoning changes.

## Concluding Remarks

Improving access to affordable housing requires consideration of government regulations, incentives, and macroeconomic variables, among other factors. ***While many have considered a solution to be a simple list of recommendations, it is more accurately described as a "web" of solutions.***

Multiple recommendations exist; some with simple solutions and some with more complex formats. In select cases a proposal can exist in isolation; however, to truly improve on something as important as access to affordable housing the opportunity costs must be considered, as well as how one recommendation may negatively impact another.

***A final recommendation is that the full array of suggestions from the previously completed multiple reports be considered, and a more complete "package" of solutions be drafted and implemented.***

# Housing Market and Economic Conditions

There are a number of factors contributing to current housing affordability issues. The majority of which are the result of the ongoing impact of the COVID-19 recession. This coupled with a demand and supply imbalance throughout has led to an increase in the price of housing, making it difficult for some Arizonans to afford to buy or rent a home.

The COVID-19 pandemic led to widespread temporary business closures and supply chain issues. The federal government overreacted with excessive stimulus spending, prolonged near zero percent interest rates, and flooded the economy with money through increased bond-buying.

These macroeconomic issues and excessive government spending not only contributed to inflationary problems, but also encouraged heightened investor activity in Arizona and many higher-income households upgraded their homes or purchased secondary homes depleting the housing inventory. This, in conjunction with an increase in migration to the state, explains why Arizona realized a larger increase in housing costs than other parts of the United States.

## Strong Demand for Housing in Arizona

For more than a decade Arizona has performed exceptionally well in several economic growth categories, including employment and population growth. The growth of the state has largely been concentrated in the Phoenix-Mesa-Chandler Metropolitan Statistical Area ("Phoenix MSA"), which has been among the fastest growing regions.

The Phoenix MSA encompasses all of Maricopa County and Pinal County and is approximately 14,600 square miles. The Phoenix MSA, often referred to as the Valley of the Sun or the Valley, is home to approximately 68% of the state's population, according to the 2021 estimates from the Arizona Office of Economic Opportunity ("OEO").

The combination of a friendly regulatory environment, low cost of doing business, and large talent pool have attracted hundreds of businesses to expand and locate operations in the Phoenix MSA. These business relocations and expansions have strengthened and enhanced employment growth throughout the state.

Since 2011, employment in Arizona and the Phoenix MSA has grown at an average rate of 2.1% and 2.6% per year, respectively. This compares to the national average employment growth of 1.3% per year since 2011 (see Figure 1). The strong employment growth is expected to continue in Arizona over the next decade.

The Arizona Office of Economic Opportunity estimates that employment in Arizona will increase by 23.8% by 2030 or approximately 2.2% per year, slightly exceeding the annual growth of the previous 10 years. This compares to the national employment level which is projected to grow at an average rate of 0.5% annually.

The influx of businesses expanding and locating to Arizona has been a primary driver of strong population growth. Each year, tens of thousands of people move to the state seeking job opportunities. As a result, the state has been one of the fastest growing regions in the nation over the past decade.

In 2021, there were 7.3M residents living in Arizona, according to the OEO. This represented a 1.5% increase from 2020. Since 2011, the population has grown at an average rate of 1.3% per year. This compares to the national population which increased by 0.97% from 2020 to 2021 and has grown at an average annual rate of 0.6% since 2011 (see Figure 2).

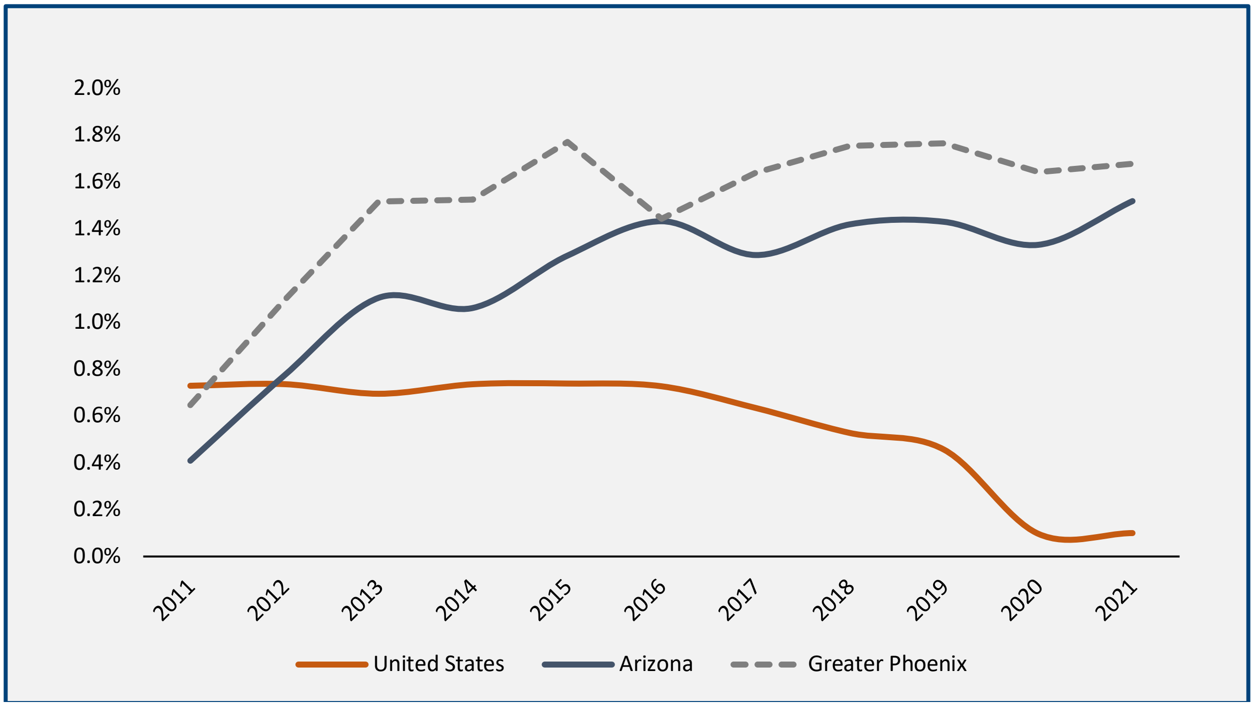
The OEO estimated that Arizona's population will grow at an average rate of 1.3% per year for the next 10 years, maintaining the growth from the previous 10 years. This estimate may prove to be conservative considering that employment growth is expected to grow at a faster rate in the next decade relative to the previous decade.

The projected employment and population growth across the state emphasize the need to address existing supply and demand imbalances related to housing availability.

**Figure 1: Annual Employment Change in the Arizona and U.S.**


Note: Data through December 2022
Source: Arizona Office of Economic Opportunity; U.S. Bureau of Labor Statistics

**Figure 2: Annual Population Change in the Arizona and U.S.**

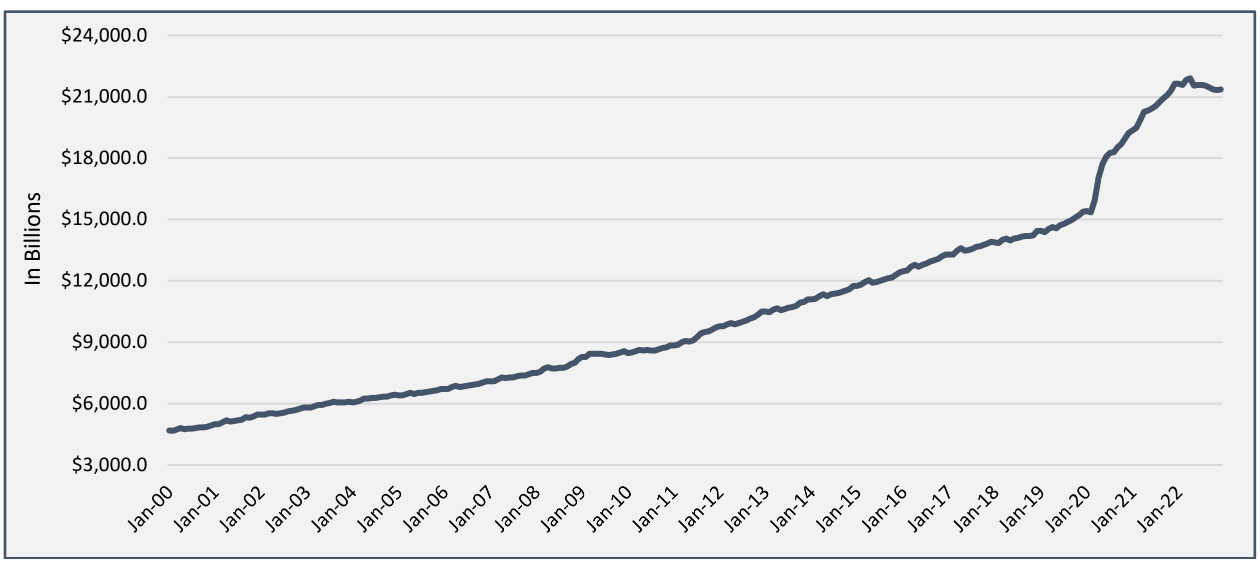



Source: Arizona Office of Economic Opportunity; U.S. Census Bureau

## Macroeconomic Influences on Housing Affordability

During the COVID-19 recession, in an attempt to stimulate the economy, the federal government kept interest rates at near historically low levels and began to increase the money supply by distributing stimulus payments and buying bonds (see Figure 3 and 4).

**Figure 3: U.S. Money Supply (as measured by M2)**




Note: The M2 is a broad measure of the money supply in the U.S. that includes cash, checking deposits, and easily-convertible near money (i.e., savings deposits, money market securities, and other assets that can quickly be converted into cash).
Source: U.S. Federal Reserve; Data through December 2022.

**Figure 4: U.S. 30-Year Fixed Rate Mortgage Average**


Source: Freddie Mac; Data through December 2022.

This put upwards pressure on housing prices as high-income individuals and potential homebuyers (that were waiting for ideal market conditions) seized on the opportunity to buy homes. Large Investors also took advantage of the situation purchasing thousands of homes as rental properties bringing inventory levels to historic lows.

Disruptions to the national and global supply chain also had a significant impact on rising housing costs. The COVID-19 pandemic had a significant impact on global supply chains. Many countries implemented lockdowns and restrictions on movement, which disrupted the flow of goods and materials. This led to shortages of certain products, delays in the delivery of goods, increased demand for certain types of products, and an increase in the cost of transportation.

As a result of material shortages and supply chain disruptions, the cost of goods and materials for housing products has fluctuated significantly over the last few years. Consider how the price of lumber has wavered since the start of the COVID-19 pandemic. Before the pandemic, lumber costs approximately $300 per 1,000 board feet (based on lumber futures traded on the Chicago Mercantile Exchange).

The price of lumber skyrocketed to over $1,600 per 1,000 board feet in May of 2021 and then plunged to approximately $430 in August of 2021. Currently, as of January 2023, the price of lumber stabilized around $350 per 1,000 board feet.

The cost of other commodities also increased due to shortages, including asphalt, concrete, paint, and appliances, among others. The volatility of the prices of construction materials makes predicting the cost to build a home difficult and drives up the costs to build. As a result, developers have focused on high-end products where the profit margin is higher and can absorb the volatile price changes.

# Arizona Housing Supply Shortage

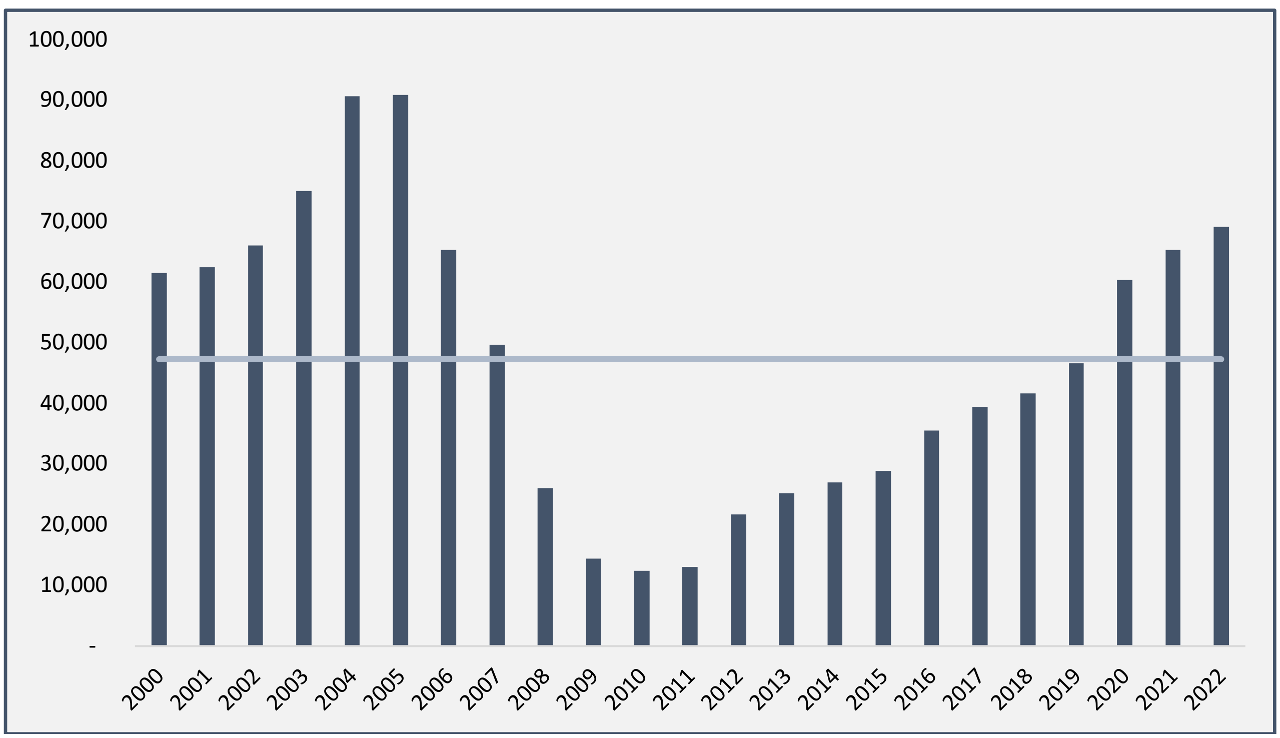
The conditions of the existing housing inventory are primarily the result of market forces that originate back to the Great Recession of 2008. These market forces were exacerbated by the COVID-19 recession.

The Great Recession in 2008 significantly impacted the state's housing market with home values dropping more than 50% in Maricopa County (from peak to trough) and statewide building permit issuance declining from a high of 90,900 units in 2005 to a low of 12,400 units in 2010 (see Figure 5). The housing market crash also resulted in developers being forced into bankruptcy and nearly halting the construction of new homes for a prolonged period.

Despite the slowdown in residential construction, the Arizona economy began thriving in the years following the Great Recession. As a result of this growth, a large influx of people began locating to the region in search of job opportunities and the housing supply struggled to keep up. This influx of population intensified in 2019 and going into 2020. Since there was already an insufficient supply of housing, home prices began to rapidly increase.

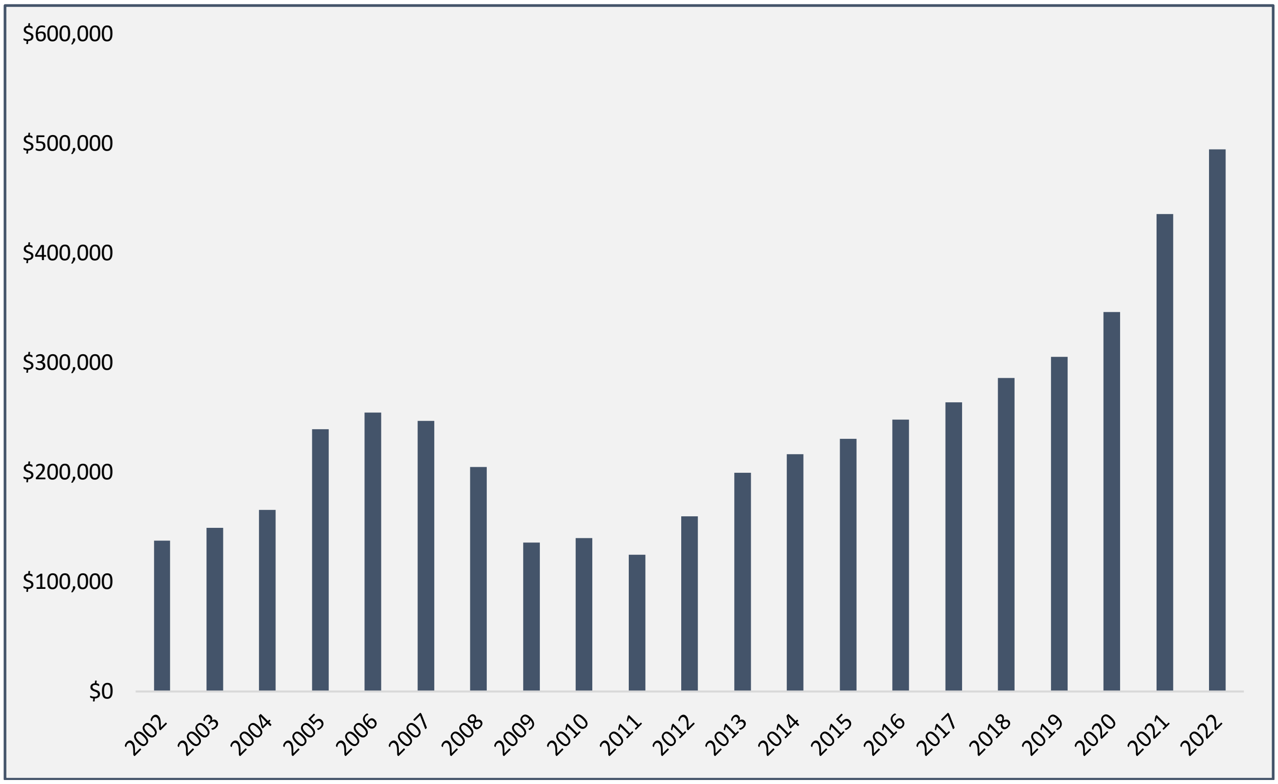
Prior to the COVID-19 pandemic, the median price of a single-family home sold in Maricopa County was $305,700 in 2019. The median price of homes sold in Maricopa County increased 13.3% to $346,500 in 2020, 25.9% to $436,400 in 2021, and 13.5% to $495,200 in 2022 (see Figure 6).

**Figure 5: Number of Residential Building Permits Issued in Arizona**




Note: Gray bar represents the long-run average.
Source: U.S. Census Bureau

**Figure 6: Median Price of a Single-Family Home Sold in Maricopa County**




Source: Arizona Regional Multiple Listing Service

The demand for housing intensified along with the influx in population starting in 2019. This led to sharp declines in the number of active listings in Arizona while prices were increasing (see Figure 7). A decline in the number of active listings and a consistent increase in home prices indicate demand was outpacing supply.

As of December 2022, the median sales price of a residential home in Arizona was $411,000. Since 2012, the median residential sale price in Arizona increased at an average rate of 11.7% per year. This compared to the nationwide average of 8.5% over the same time frame.

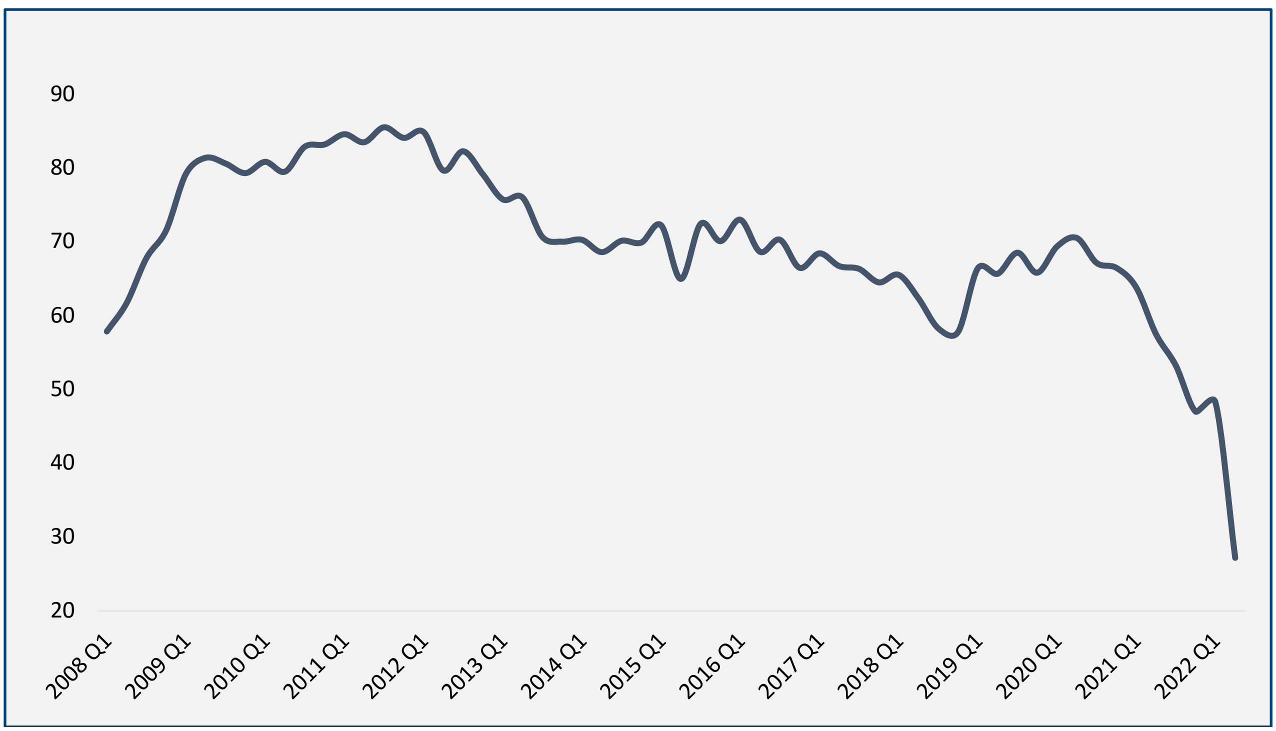
These unique circumstances have raised home prices to the point of becoming unattainable for many households, particularly those low- and middle-income wage-earners. According to the National Association of Home Builders ("NAHB"), the housing affordability index, which measures the share of available homes in an area that are affordable to a household earning the median income, was 27.2%, as of Q2 2022 (see Figure 8). This represents a 52.7% percent decline from a year ago.

In other words, households earning the median income were able to afford approximately 27.2% of the available homes in Arizona. This compared to 57.5% of the homes a year prior and 65.7% of the homes in Q2 2019.

### Figure 7: Median Sale Price and Active Listings of Residential Housing in Arizona


Source: Redfin; Data through December 2022.

### Figure 8: Housing Affordability Index in Arizona




Source: National Association of Home Builders

## Monetizing the Arizona Housing Shortage

The estimates for the housing shortage in Arizona vary from one study to the next because there is no single definition of "shortage." However, reasonable approaches to the calculation have been documented.

One study completed by the Common Sense Institute ("CSI") includes a review of changes in the number of persons per household and then calculates how many additional units would be needed to return the ratio to the historical trend.[1] The CSI analysis identifies a wide potential range for the shortage, but emphasizes a mid-point of approximately 96,000 units.

Another study produced by Up for Growth estimates the current housing shortage in Arizona at more than 120,000 units.[2] The focus of this study was on returning the current percentage of vacant housing units to the long-term trend.

If all of the housing related ratios are considered, and if ranges are included for what is considered optimal for affordability and household composition, the statewide housing unit shortage likely ranges between 40,000 units and 80,000 units.

Without reasoned policy intervention from all levels of government to address the housing shortage, the rate of forecasted job growth in Arizona could decline. The aggressive marketing of the state and utilization of efficient economic development programs has incrementally increased the rate of annual job growth.

Overall, it has been estimated that the aggressive efforts by state and local policymakers with the support of the economic development community has added between 0.2 and 0.4 percentage points to the state's historical employment growth rate.

Housing affordability has become a consideration in business location and expansion decisions because a lack of affordability affects a number of other economic attributes such as educational attainment, workforce availability, health and welfare status, etc. Therefore, it is estimated that a portion of the recent employment gains that have been realized in Arizona could be lost.

*Without reasoned policy intervention from all levels of government, Arizona's projected economic growth could be weakened due to the housing shortage.*

For some context, a very modest 0.2 percentage point decline in forecasted job growth would translate into $1.5B in foregone tax collections at the state, county, and individual community levels over the next ten years.

The purpose of this calculation is to not only show that small changes in the rate of job growth have significant economic and fiscal consequences, but also the extent to which the state should be willing to contribute resources in order to avoid any declines in the recent job growth trend.

[1] *Arizona Housing Affordability Update: July 2022*. Common Sense Institute. https://commonsenseinstituteaz.org/wp-content/uploads/2022/07/CSI_AZ_HOUSING_REPORT_JULY2022_FINAL.pdf
[2] *2022 Housing Underproduction in the U.S.* Up For Growth. https://upforgrowth.org/apply-the-vision/housing-underproduction/

# Financial Impact of Housing Affordability

Research has identified that rising housing costs have caused a shift in household spending. For example, in the Greater Phoenix region, housing accounted for approximately 30.0% of a household's annual expenditures according to estimates from the U.S. Bureau of Labor Statistics ("BLS"). That percentage has increased to 34.3% in 2022 (see Table 1).

This shift in spending has an adverse effect on the financial stability, educational attainment, and physical/mental health of individuals and families as they have fewer resources to spend on their well-being. For example, households facing housing instability are more likely to experience anxiety, depression, or other mental health concerns.

It should also be noted that throughout 2022 inflation spiked significantly. As of November 2022, the U.S. Consumer Price Index ("CPI") has risen 7.1% over the prior 12 months according to the BLS (the Bureau of Labor Statistics). This combined with marginal increases in wages has put further pressure on housing affordability.

| Table 1: Annual Household Expenditures – Phoenix MSA | | | |
|---|---|---|---|
| Category | 2005 % of Annual Expenditures | 2010 % of Annual Expenditures | 2022 % of Annual Expenditures |
| **Housing** | **30.0%** | **33.6%** | **34.3%** |
| Transportation | 21.5% | 16.3% | 23.0% |
| Food | 13.1% | 13.4% | 10.5% |
| Healthcare | 5.9% | 6.1% | 7.7% |
| Entertainment | 4.8% | 6.3% | 3.8% |
| Apparel | 3.8% | 4.9% | 2.4% |
| Education | 1.5% | 0.6% | 1.4% |
| Other | 19.4% | 18.8% | 16.9% |

Source: U.S. Bureau of Labor Statistics

It is important to analyze annual expenditures by income level in order to determine exactly who is being affected by the rising costs of housing. Analyzing households by income level and how these wage-earning households spend their income, will help determine who is most affected by housing affordability and what areas of spending are being adjusted to accommodate for rising housing costs.

Statista Research identified that in 2021 the lowest 20$^{th}$ percentile of households (i.e., households earning $19,400 or less) spent approximately 42% of their income on housing, 14% on transportation, 16% on food, 2% on personal insurance, and pensions, 10% on healthcare, 5% on entertainment, 3% cash contributions, and 3% on apparel and services (see Table 2).

In 2021, middle-income households spent 36% of their income on housing, 19% on transportation, 13% on food, 9% on personal insurance and pensions, 9% on healthcare, 5% on entertainment, and 3% on apparel and services. Lastly, the highest 20$^{th}$ percentile of households (i.e., households earning $87,600 or more) spent 30% of their income on housing, 15% on transportation, 11% on food, 18% on personal insurance and pensions, 7% on healthcare, 6% on entertainment, 5% cash contributions, and 3% on apparel and services in 2021.

| Table 2: Annual Household Expenditures by Category and Income – 2021 | | | |
|---|---|---|---|
| Category | Lowest 20th Percentile | Middle-Income | Highest 20th Percentile |
| **Housing** | **42.0%** | **36.0%** | **30.0%** |
| Transportation | 14.0% | 19.0% | 15.0% |
| Food | 16.0% | 13.0% | 11.0% |
| Insurance & Retirement | 2.0% | 9.0% | 18.0% |
| Healthcare | 10.0% | 9.0% | 7.0% |
| Entertainment | 5.0% | 5.0% | 6.0% |
| Apparel | 3.0% | 3.0% | 5.0% |
| Other | 3.0% | 3.0% | 3.0% |

Source: Statista Research; U.S. Bureau of Labor Statistics

The U.S. Department of Housing and Urban Development ("HUD") identifies households that spend more than 30% of their income on housing to be considered "cost-burdened." Wealthier families may have enough disposable income to choose to spend over 30% of their income on housing without feeling the same burden, but low- and middle-income wage-earning households lack this flexibility.

Housing affordability and stability have a direct and indirect impact on the health of individuals. Living in low-quality housing or unstable housing is associated with poorer health, arthritis, hypertension, stress-related disease, substance abuse, and psychological distress, among others (Housing as a determinant of health equity: A Conceptual Model, 2019).

Spending a disproportionate amount of income on housing indirectly affects health by draining financial resources that could have been used for necessary-health services, health insurance, health savings accounts, medications, healthy foods, and child development resources.

Elements of housing instability include being behind on rent or mortgage payments, homelessness, eviction, foreclosure, and overcrowding. The mortgage delinquency rate is currently at 3.64%, its lowest point since the survey began in 1979.

A major reason why the mortgage delinquency rate is at historical lows is because of the government's response to the COVID-19 pandemic. The Coronavirus Aid, Relief, and Economic Recovery ("CARES") Act, which congress passed in March of 2020 allowed homeowners with federally backed mortgages to enter forbearance for one-year penalty-free if they were unable to make payments due to pandemic-related issues.

Although the low rate suggests that servicers have been able to assist delinquent borrowers to find alternatives (such as loan payment deferral, curing, cash-for-keys, etc.) to foreclosure, various servicers are no longer in business due to market and financial issues. Meaning that COVID-19 policies may have delayed an increase in distressed properties, but there is a possibility of changes forthcoming.

## Additional Issues Related to Housing Affordability and Deterioration

Low-income wage earners will sometimes "double up" and overcrowd homes in an attempt to address the high cost of housing. Overcrowding is linked to creating physical illnesses and psychological distress within a household. It causes mental health issues, behavioral issues, and affects children's educational outcomes. Particularly, overcrowding in a home causes a strong negative effect on children and their health and education (Swope and Hernandez, 2019). However, multi-generational or sibling households may provide a positive alternative.

Low-income wage-earning households experience higher rates of housing inadequacies such as harmful living conditions in deteriorating houses, with outdated infrastructure, and poor maintenance. These individuals are also more likely to be living in homes that are energy inefficient. These homes have higher utility costs as they are more difficult to heat and cool – leading to further increases in unaffordability.

The inability to properly maintain thermal comfort can also negatively affect residents' health. Thermal control regulation can interfere with the body's ability to thermoregulate (Liddell, C. 2015). This can lead to a range of health concerns including high blood pressure and respiratory conditions (Swope, C. and Hernández, D. 2019).

Lead is another environmental concern some face, it is highly toxic and has significant and irreversible adverse health effects. Lead exposure is found more commonly among lower-socioeconomic individuals and neighborhoods. Another example would be in-home access to reliable and safe drinking water free of any contaminants such as heavy metals or bacteria.

Several mitigation strategies can be implemented by local governments to assist with renovating deteriorating homes for individuals who cannot afford to make repairs themselves. Existing programs that offer repair grants are targeted at very low-income residents, as defined by HUD, and have strict guidelines. However, moderate wage earners (such as entry-level workers and other lower-income wage earners) do not qualify for such programs. A reassessment of these qualifications for improvement grants and other programs should be considered.

## Monetizing the Financial Impact of Housing Affordability

For perspective on the adverse effects of housing affordability issues, an Arizona-based economic model was utilized to quantify the impacts. The model estimates the direct and multiplier impacts in terms of *economic output* (i.e., total economic activity similar to Gross Domestic Product or GDP), *job creation*, *labor income* (i.e., the total employee-earned income), and *tax revenues*. The model's methodology is described in the Appendix.

According to the National Low Income Housing Coalition ("NLIHC"), a shortage of affordable and entry-level housing costs the U.S. economy about $2.0T a year in lower wages and productivity.[3] Attainable housing enables individuals to participate in workforce development programs and advance their educational attainment. This leads to higher earnings and productivity increases result in economic output gains (i.e., GDP growth).

Utilizing Arizona's ratio of total and per capita GDP as well as estimates on the housing shortage compared to that of the entire U.S., the aforementioned $2.0T trillion in lower wages and production translates to approximately $35.6B in lower wages and GDP in Arizona. In other words, if the national statistics are applied to Arizona, the housing issues throughout the state are costing Arizona about $35.6B in lost economic activity each year.

[3] *Why Do Affordable Homes Matter?* 2022. National Low Income Coalition. https://nlihc.org/explore-issues/why-we-care

From an income perspective, Arizonans have approximately $14.1B less in personal income per year due to housing issues. This is equivalent to a loss of approximately $4,600 in annual wages per worker every year throughout the state.

The estimated loss in economic activity can also be converted to lost jobs. As households spend their income in the local economy, they create local jobs. If households have more income to spend, they create additional jobs. On the other hand, if households have less income to spend, the state is losing out on potential jobs. The number of potential jobs lost due to housing affordability issues is equal to 291,000.

The lost economic opportunities resulting from housing issues result in a loss of approximately $1.1B in state tax revenues annually. This includes the tax revenues generated by income taxes and sales taxes, among others. Local governments (i.e., counties and cities) are losing out on approximately $856.0M in tax revenues generated by sales taxes, property taxes, and other local taxes.

*Using a state-level economic impact model, the estimated economic losses resulting from housing issues would sum to a decline of more than 291,000 jobs, a loss of $14.1B in labor income, and a loss of $1.9B in state and local tax revenues annually.*

The aforementioned economic losses included in the NLIHC report may be overstated. However, even if 25% of the calculated losses were realized, the state would still lose nearly $500M in state and local tax revenues every year.

**Figure 9: Annual Economic and Fiscal Impact Losses due to Housing Affordability Issues**

| 291,000 Job Losses | $14.1 Billion Lost Income | $35.6 Billion Lost Economic Output | $1.9 Billion Lost Tax Revenues |
|---|---|---|---|
| The total number of persons working full-time. | The total employee-earned wages. | The total economic activity. | The total state and local tax revenue collections. |

Source: IMPLAN; Rounds Consulting Group, Inc.
Note: Estimates based on the report published by the National Low Income Housing Coalition.

# Feasibility of Product Conversion for Homeless

The research identified that there are numerous government homeless projects involving the conversion of motels/hotels with small kitchens or kitchenettes into housing for the homeless throughout the Greater Phoenix region.

For example, the City of Tempe approved a project to purchase a 40-room motel off Apache Boulevard and turn it into transitional housing. The Arizona Department of Housing and the City of Phoenix purchased the former Phoenix Inn along Interstate 17 and Northern Avenue and is converting it into a homeless shelter for seniors. Other examples also exist in Mesa, Phoenix, and throughout the Valley.

The conversion of short-term rental ("STR") motels/hotels into temporary housing for the homeless impacts the already strained housing availability. It further depletes the housing availability for those looking for temporary housing and negatively impacts the real estate values of nearby buildings. This is further increasing the housing shortage leading to higher rental rates and home prices.

Specifically, the following groups of individuals/households were identified as being adversely affected by the conversation of short-term motels/hotels into housing for the homeless:

- Incoming or Entry-Level Employees: With rental and housing shortages, incoming or entry-level employees are unable to secure STR accommodations while looking for a long-term housing solution. This could discourage businesses from locating to the state if their employees cannot afford housing or if housing is not available.

- Military: Newly transferred military need STR accommodations since they are not able to secure long-term housing with only a few days or weeks' notice.

- Veterans & Active Duty: Those injured and requiring health services at a Veterans Affairs ("VA") hospital or clinic may need to rent a nearby home so they can access the VA or other health services. Families visiting wounded service members may also need STRs in order to be a part of their loved one's recovery.

- Long & Medium Haul Truckers: These workers may need affordable STR accommodations in order to rest between hauls.

- New Homeowners/Renovators: Those waiting for their home to close or to be completed may not be able to sign a long-term lease at an apartment/single-family residence, but rather need an affordable STR solution.

- Vacationers: Moderate-income vacationers/snowbirds are prevalent, and without affordable STR hotels or motels, these vacationers cannot come.

- Lower Income Wage Earners: Individuals and families who are lower income wage earners, but earn more than government programs allow, may need furnished hotel and motel facilities in order to move with their work or to be housed as they complete education or training.

- Others: Miscellaneous other relevant groups such as people displaced because of natural disasters, medical professionals (e.g., travel nurses), elderly or disabled family members, medical rehab, cancer care, technology, and engineering professionals, etc.

Homeless shelters can provide a vital service for individuals experiencing homelessness by offering a safe place to sleep and access to basic necessities such as food and clothing. However, it's important to note that shelters are a temporary solution, rather than a long-term solution to ending homelessness.

There are several reasons why shelters alone may not be successful in ending homelessness. One reason is that homeless shelters do not address the underlying issues that contribute to a person becoming homeless in the first place.

For example, many people experience homelessness because of a lack of affordable/entry-level housing, unemployment, mental/physical health, substance abuse, or a lack of support from family and friends. Until these underlying issues are addressed, it can be difficult for individuals to maintain stable housing even if they are able to access a shelter.

Shelters themselves may not provide an ideal condition for people. The overcrowded and noisy environment, lack of privacy, and limited access to services and support can make it hard for people to find stability and begin addressing their underlying issues.

Therefore, it is important to note that ending homelessness requires a multifaceted approach that includes not only providing shelter and other basic necessities, but also addressing the underlying issues that contribute to homelessness and providing long-term housing and support services to help individuals maintain stable housing.

This includes policies and programs to increase the availability of affordable and entry-level housing, job training programs, mental health and substance abuse treatment, and financial assistance and case management services. Examples of such programs include the programs administrated by the Salvation Army, Goodwill, and Father Joe's Villages.

# Various Tools/Constraints to Housing Affordability

Over the years, various techniques and tools have been developed by both public and private sector organizations in an attempt to address the issue of housing affordability. These include both publicly funded government programs as well as techniques utilized by the private sector to facilitate residential availability.

***A select number of these techniques are highlighted below. While this is not an exhaustive list, the list represents a core collection of private sector tools that help meet the entry-level housing needs of the community that should be considered by state, regional and local housing authorities in areas where housing affordability threatens to hinder future economic development.***

## Inventory of the Tools & Techniques Related to Housing Affordability

**Property Tax Limit on Redevelopment:** One local city is designing for policymakers' consideration a program where city property taxes in distressed areas are "frozen" at current levels for a certain period of time for the development of high-density housing. For example, a multi-family project replacing a deteriorated retail site. The concept would allow for more infill development to occur with no added cost since the new housing development would not have occurred less the incentive.

**Land Lease Tool:** The land lease tool is a technique utilized by individuals and large investors and occurs when a person owns a house or building while leasing the land from the owner. It is usually less costly and depending on the land lease, can become a tool toward full fee simple home ownership. For additional context, consider the following example.

When purchasing a home, the physical structure as well as the land is commonly included in the purchase. However, when housing market conditions prohibit a large share of potential homebuyers (e.g., first-time buyers, etc.) and have few, if any, entry-level housing units; the option of land leases provides individuals with more affordable options since the land may represent 33% or more of the property value.

The new owner of the house enters into a long-term lease agreement with the original owner, generally a 99-year lease. Should the home buyer decide to sell, the land lease would transfer to the next buyer with the house selling at a discount relative to the prevailing market price. The previous home buyer would then receive all proceeds from the sale of the structure, including any appreciation that has occurred as a result of local market conditions.

Additionally, the seller will be provided a stream of income through the land lease with no maintenance or tenant responsibilities.

**Individual Development Account ("IDA"):** An IDA is a savings incentive program that can be offered by either a state-funded Temporary Assistance for Needy Families ("TANF") program or a 501c3 non-profit organization, although not every state currently offers these programs.

Typically, IDAs are offered by either non-profits or public sources; and supplement the savings of low-income wage earners with matching funds from private sector sponsors, donations, or government programs. Eligibility varies but, in general, there are maximum income thresholds, require savings contributions to come from "earned income," and require financial literacy courses, among others.

When buying a home, people with a steady income and little to no debt can afford a house 2.5 to 3 times their income as a general rule of thumb. Differing price ranges based on circumstance can be determined by the participant's agent or lender.

Loans for home purchases can come from different types of lenders:

- Mortgage Bankers: Bankers have funds to loan and will decide the type of properties they will lend on, the loan amounts they will lend, and the terms and conditions of the loan.
- Mortgage Brokers: Act as a facilitator between investors with money to lend and buyers who need a loan to buy a house. Brokers represent the investor and will search for what meets a buyer's needs.
- Private Money: Individuals will, sometimes, loan out their own money to people who want to buy real estate. These individuals will choose the circumstances in which they will lend their money and what type of loan they are comfortable making.

Currently, most home loans under $350,000 are federally backed by government agencies such as the Federal Housing Administration ("FHA"), Veterans Affairs ("VA"), United States Department of Agriculture ("USDA"), Fannie Mae, and Freddie Mac. These loans typically require a minimum down payment of between 3.5% and 10%.

Conventional mortgage lenders generally require mortgage insurance when homebuyers make a down payment on a home that is less than 20%. Examples of this insurance include private mortgage insurance ("PMI") or mortgage insurance premiums ("MIP") and typically cost between 0.1% and 2% of the loan amount per year.

Most buyers with less than a 20% down payment will be required by the lender to maintain an escrow account. In addition to the principal and interest paid on the loan, the buyer will be required to deposit an additional payment with a portion of the property taxes and homeowner's insurance. Occasionally, the lender will also require homeowner association ("HOA") fees to be deposited into the escrow account.

The example below illustrates the payment mechanisms:

- House Purchase Price: $350,000
- Down Payment (3.5% FHA loan): $12,250
- Loan Amount: $337,750

With an interest rate of 6.7% for 30 years, the principal and interest payment would be about $2,200 per month. As discussed previously, there will be additional costs when a buyer uses less than 20.0% of the purchase price as a down payment.

These additional costs include mortgage insurance premiums (0.5%), property taxes and homeowners' insurance. In this example, the mortgage insurance premium payments would equal $140 a month for 133 months, property tax payments would equal $200 a month, and monthly home insurance would equal about $85 a month.

Therefore, in total, the monthly payment would be more than $2,600 and then $2,460 after 133 months. IDAs can provide homebuyers with aid to make a down payment equal to or above 20%; thereby reducing the cost of homeownership.

**Limited or no Accessory Dwelling Units ("ADUs"):** An ADU is an additional residential dwelling unit that is located on the same lot as an existing residence or business. ADUs have traditionally eased housing pressures when there is a lack of affordable housing or limited housing options.

Internal, attached, and detached ADUs have the ability to increase housing affordability while creating a larger range of housing options within a neighborhood. ADUs with adequate square footage can allow for two or three families to reside on one parcel of land or allow job providers to build temporary housing for the employees. Consequently, with their ability to ease housing affordability and options, many cities have supported ADUs in planning and zoning regulations.

Some municipalities and counties have limited ADU sizes (e.g., to a maximum of 500 square feet) or do not permit them at all. These regulations have included limits to the size of allowable ADUs without consideration for parcel size. For example, we have seen the same sized ADU be allowed on both a 7,000 square foot ("sq. ft.") lot and a 2-acre parcel of land.

Limiting the size and number of ADUs without consideration of parcel size restricts their usage and practicality. Similarly, regulations that do not allow a kitchen or kitchenette in the ADU limit the unit's usefulness, particularly when an elderly or young adult family member is residing in it.

Local governments should consider altering zoning ordinances that preclude or limit a commercial property owner from building ADUs. Allowing job providers with vacant land to build temporary housing for their employees will help maintain jobs, house individuals and provide time for the housing supply to adjust.

**Housing Materials/Design Restrictions:** Housing materials and community design restrictions have been around for several decades. Zoning codes in many cities and towns throughout the nation have included various design-related restrictions in order to shape the aesthetics of a particular area, entice population growth among certain demographics, preserve the character of an area or region, and enhance the marketing appeal of a city/town to enhance tourism activity.

However, strict restrictions can exacerbate entry-level housing affordability concerns by raising costs, limiting the number of options available to buyers, and exclude certain population groups, among others. The National Association of Home Builders ("NAHB") provided several examples of common design standards used throughout the nation. These include:

- Prohibiting or limiting the use of cost-effective and easily maintained exterior materials such as vinyl siding and metal.
- Requiring specific and often expensive materials for siding and fences.
- Dictating the amount of relief and surface dedicated to windows beyond what is required for ingress and egress, and the number of architectural details on the roof.

There are many other design standards and restrictions imposed by local municipalities. While such can be utilized to enhance the livability of an area, they often hinder residential development and prolong entry-level housing affordability concerns.

For example, a survey conducted by the NAHB revealed that in communities where design requirements exist, 85.0% of survey respondents claimed that the design standards caused an increase in construction (i.e., material and labor) costs and 67.0% of the respondents said that the restrictions caused the builder to raise their prices.[4] These cost increases are in addition to rising prices that occur as a result of broader market forces.

In addition to artificially increasing home prices, material and design restrictions can prohibit the use of emerging materials, techniques and designs that enhance efficiency. Utilizing innovative materials and modern construction techniques can result in reduced costs and faster completion times which will help alleviate housing supply and demand imbalances.

**Permitting and Fees:** Municipal permitting regulations and other development related fees (i.e., impact fees) can either draw builders and developers or deter them. Permitting processes can often be burdensome, cause delays, and increase development costs. These costs are often passed onto the homebuyer/renter in the form of higher home prices and higher rents.

Furthermore, cumbersome permitting processes and excessive fees impact entry-level affordable or subsidized housing development disproportionally more than “market-rate” residential development. Cities throughout Arizona are working on solutions to housing affordability issues by implementing programs to waive certain permits and fees to incentivize affordable housing projects.

For example, the City of Glendale is considering a community fee waiver and grant program which would allow up to 100% of community development fees to be waived or rebated for affordable housing developments. The developments would need to maintain affordability for 30 years under the guidelines of the Arizona Department of Housing (“ADOH”).

The Glendale program would also incentivize investments in affordable housing by providing grants to developers. This would complement the existing Low-Income Housing Tax Credit (“LIHTC”) available through ADOH.

However, there is no current aid for entry-level housing and the product is limited due to excessive costs to construct, local zoning rules and delays.

**Land Use Development Ordinance (“LDO”):** LDOs contain regulations for the use and development of real estate in a particular state, city, or county. A common method of LDOs can be seen with zoning laws which are used by a county, city or town to control property development. Despite these regulations, often, one type of housing product is developed by most builders and oversaturates the housing supply.

With this consideration in mind, cities, towns, and counties can utilize LDOs to promote the development of a variety of housing products that meet the community housing needs and desires in the near and long term.

[4] National Association of Home Builders, Residential Design Standards: How Stringent Regulations Restrict Affordability and Choice. (https://www.nahb.org/-/media/NAHB/advocacy/docs/industry-issues/land-use-101/state-local-affordability/residential-design-standards-072020.pdf)

**Government Financing and Buyer Incentives:** Government-backed home purchasing and financing programs are designed to help qualified individuals purchase a home. These programs offer grants, down-payment assistance, tax credits, closing cost assistance, and government-backed mortgage assistance (e.g., FHA, Fannie Mae, Freddie Mac, etc.), among other incentives.

However, the distressed real estate policies of these agencies and programs often give preference to large investors or housing non-profit organizations (i.e., 501c3 organizations). This means that qualified individuals may not be chosen to purchase a distressed house, even if their offer is for more money with a higher down payment. Agency preference rules targeting housing organizations mean individual buyers become discouraged and, in some cases, leave the market.

**Government Housing Purchase Programs:** In an effort to provide workforce entry-level housing, local municipalities may create home buying programs in which government organizations purchase distressed homes and then sell those homes to individuals that meet specific requirements.

For example, the Good Neighbor Next Door Program ("GNND") is administered and funded by HUD. This program allows HUD to reserve their foreclosed homes for those with particular professions (e.g., teachers, law enforcement, first responders, etc.) to purchase. In order to qualify for the GNND program, the structure must be a single-family detached, repossessed home in a qualified revitalization area, as defined by HUD.

While this program can address housing affordability by increasing homeownership opportunities, it can be problematic under certain circumstances. A problem with the GNND program is that frequently the officer, teacher or other first responder does not feel comfortable in the neighborhoods where the houses are located.

**Down Payment Assistance, Silent Seconds and Buyer Tax Credits:** These tools are used by local, state and federal governments to incentivize qualifying individuals (i.e., first-time homebuyers, buyers from low-income areas, or specific population groups, etc.) to purchase a house.

Down payment assistance programs involve providing forgivable grants, low-interest loans, and income tax credits to buyers of homes in the United States. First-time buyers or low-income individuals are often not financially able to meet the 20% down payment requirement. Programs that help relieve some of the financial burdens on these individuals drastically increase the housing options that are attainable to the qualified individual.

Buyers who are unable to provide even a 3% down payment to qualify for a government backed loan may qualify to purchase if they also accept one of these special programs. Because the special program provides the down payment, the buyer is frequently overburdened by housing debt.

Should the buyer experience an unfortunate economic downturn, they may struggle to remain in the home for the program's designated time period. If a buyer ceases to occupy for the prescribed period of time, they will be responsible for fees, the original loan amount and interest. For some this becomes a multi-year burden and limits future housing choices.

# Appendix

## Economic Impact Methodology

An economic impact model provides a quantifiable method to estimate the economic activity of a particular activity in a given area. Impacts can be used to measure existing activity and to measure potential expansions/contractions of an area's economy resulting from changes in economic activity. Typically, the level of economic effects resulting from the activity is estimated in terms of *output*, *labor income*, and *employment*. This increased activity also generates additional state and local tax revenues.

- ***Output** captures the broader level of economic activity, or the total value of goods and services produced in the region, similar to how statistics like gross domestic product (GDP) capture economic volume in individual states and across the country.*

- ***Labor income**, a component of output, represents aggregated employee-earned income and wages. The labor income component is used to measure the total change in income throughout the economy due to economic or business activity.*

- ***Employment** is the total number of full-time (or equivalent) jobs created in the economy on an annualized basis.*

The economic effects occurring as a direct consequence of the initial activity create additional activity in the regional economy. This relationship is known as the "multiplier" or "ripple" effect. The basis for multiplier effects is the interdependencies between industries, how one industry impacts other sectors, and the cycle of spending and re-spending within the regional economy.

An input-output model is used to generate these multipliers. These multipliers quantify relationships among industries and estimate the extent that the area being analyzed can capture sales, earnings, and job impacts within the region.

Input-output models measure impacts based on their source. *Direct* effects are the result of the initial activity being analyzed. The multiplier effects, or secondary effects, are measured as either *indirect* or *induced*. These are defined as:

**Direct Impacts -**

- The initial and immidiate change to the economy as a result of a new development or business activities.

**Indirect Impacts -**

- Generated for the supply chain businesses as a result of the increased demand from the new development or business activities.

**Induced Impacts -**

- Increased consumer spending in the local economy as a result of the wages earned from those employed at the new development and the supply chain businesses.

**Total Economic Impact -**

- The sum of the direct, indirect and induced impacts.

The RCG custom economic impact model partly employs this input-output model methodology and uses Arizona-specific IMPLAN multipliers. The model is further customized to capture dynamic economic impacts that typical input-output models do not capture.

## Fiscal Impact Methodology

Fiscal impact models provide estimates for the government revenues that are generated by a particular project, policy, business, development, or activity in a given area. Typically, fiscal impacts examine revenues that are likely to result from a project or activity and are determined by the study area's tax structure.

In general, the types of government taxes analyzed include sales taxes, excise taxes, lease taxes, income taxes, and property taxes. The type of activities subject to these taxes include payroll, retail sales, utility use, leases, and construction, to name a few.

Fiscal impacts are categorized similar to economic impacts and are broken down at the direct, indirect, and induced levels in which they are created.

The RCG fiscal impact model employs this methodology.