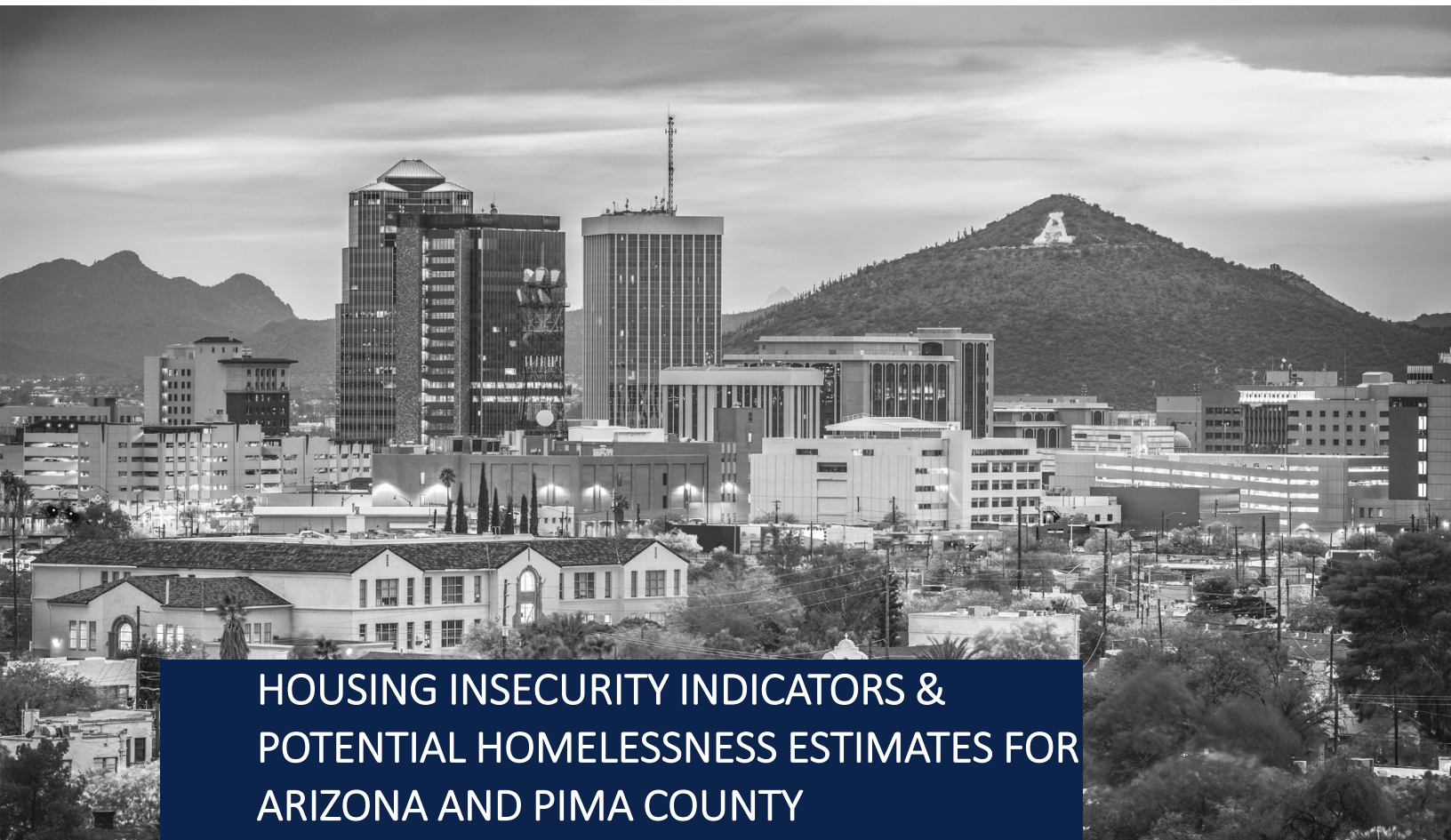




THE UNIVERSITY OF ARIZONA
COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES

Southwest Institute for Research on Women



HOUSING INSECURITY INDICATORS & POTENTIAL HOMELESSNESS ESTIMATES FOR ARIZONA AND PIMA COUNTY

Updated with Week 60 Census Household Pulse
Survey Data – September 13th 2023

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CONTENTS

Introduction	4
Indicators of the Scope of the Problem: Did Not Pay Rent Last Month	5
Indicators of the Scope of the Problem: Not Currently Caught Up On Rent	5
Indicators of the Scope of the Problem: Not Caught Up On Mortgage Payments	6
Indicators of the Scope of the Problem: Likelihood of Leaving Due to Eviction Among Arizona Renters Not Caught Up on Rent	7
Indicators of the Scope of the Problem: Months Behind on Rent and Rental Assistance	8
Indicators of the Scope of the Problem: Increasing Rents	8
Indicators of the Scope of the Problem: Tucson Rental Vacancy Rate	11
Indicators of the Scope of the Problem: Pressure to Move	11
Indicators of the Scope of the Problem: Energy Use	12
Indicators of the Scope of the Problem: Leaving Due to Foreclosure Among Arizona Mortgage Holders Not Caught Up on Payments	12
Indicators of the Scope of the Problem: Estimates of Rental Shortfall– ARIZONA	13
Indicators of the Scope of the Problem: Estimates of Rental Shortfall– PIMA COUNTY	14
Indicators of the Scope of the Problem: Volume of Calls to 211 in Pima County	15
Eviction Filings and Writs Issued	16
Homelessness	19
The Road Ahead	22
Income Disparities	25
Racial/Ethnic Disparities	27
Disparities by Ability	30
Appendix: National Equity Atlas Rent Debt Methodology	31

INTRODUCTION

This most recent survey wave contains multiple good signs and a concerning lack of improvement in particular areas. The positive macroeconomic situation has continued to hold steadily at both the national and state levels. The unemployment rate in Arizona, 3.6% in July, remains below historical averages. In the previous survey wave, collected June 28th-July 10th 2023, the proportion of non-current renters in Arizona was 9.3%. In the most recent survey, conducted July 26th- August 7th 2023, this proportion rose to 11.9%. While the proportion not current on rent payments increased, the proportion of these non-current renters viewing eviction in the next two months as “very likely” fell to 3.7%. This is down from 12% in the previous survey wave and one of the lowest proportions on this metric observed to date. The proportion viewing eviction as “somewhat likely” also fell to 30% of non-current renters, down from 55% in the previous survey wave. While these improvements are welcome news, *housing insecurity among Arizona renters remains stubbornly high despite historically low unemployment* (and contrasts with the comparatively strong financial position of Arizona mortgage holders). Rising rents and inflation are likely the central drivers of this disconnect, especially for households with limitations on their ability to benefit from the strong labor market. Lower-income and BIPOC Arizona households remain disproportionately likely to report being not current on their rent payments and finding it very difficult to meet usual expenses.

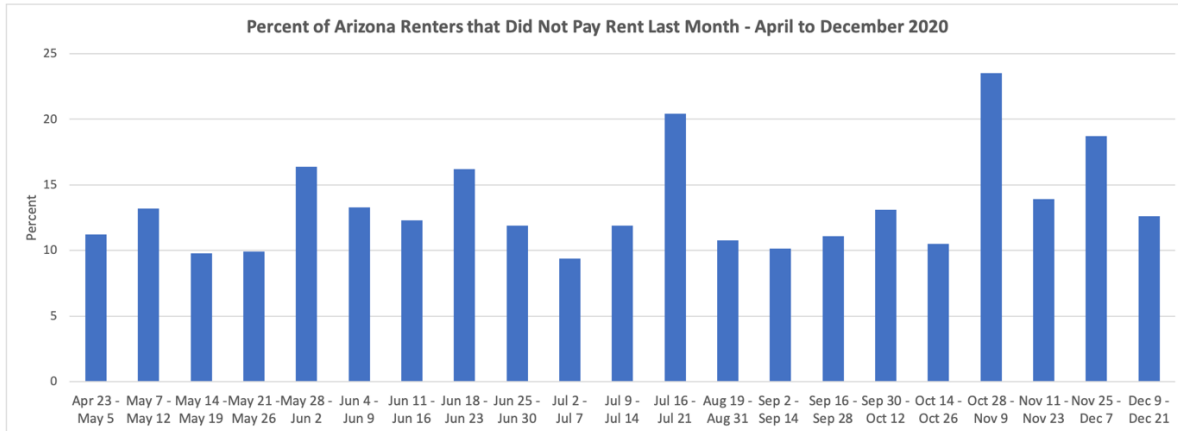
On the positive side, mortgage holders in Arizona continue to be in a strong financial position relative to renters. Only 3.5% reported being not current on mortgage payments (down modestly from 5.4% in the previous survey). Among these non-current mortgage holders concern about the likelihood of foreclosure in the next two months is near the lowest levels observed in these surveys to date. Further good news is that since, roughly, February of 2023, counts of calls to 211 from Pima County indicate a *substantial decrease* in calls related to housing and shelter, utilities, and food requests in the last 5 months. That said, most of these metrics registered small increases relative to these declines in August.

There is disappointing news to report on rents. In the fall of 2022 Tucson rent prices began decreasing on average, albeit very modestly. In the last few months all three summary metrics of rent prices in Tucson have registered upticks in median/average rent prices. This is terrible news, but we need to wait to see if this is a trend or a just modest variation over time. There is unambiguous good news in the rental vacancy rate, which has been trending upwards since the end of 2021, and hit an 8-year high in the 2nd quarter of 2023. 60% of all Arizona respondents reported they had not experienced pressure to move in the last 6 months. 8% of Arizona households reported reducing or not paying expenses for basic household necessities (such as medicine or food) “almost every month” in the last 12 months in order to pay an energy bill. Only 53% of households reported “never” being in this situation.

In January 2023 we observed the largest monthly count of eviction filings in Pima County since the onset of the pandemic, and in August the count of evictions was only 6% lower than this high with 1160 eviction filings. *Eviction filings continue to hold steady despite the strong economy and the relative slowing of rent price increases over the past year.* Monthly counts of the number of people entering the Homeless Management Information System (HMIS) in Maricopa County indicate a continuing increase in the number of people experiencing homelessness in recent months. Nationwide, individuals reporting that they have serious disabilities continue to be disproportionately likely to report being behind on rent payments.

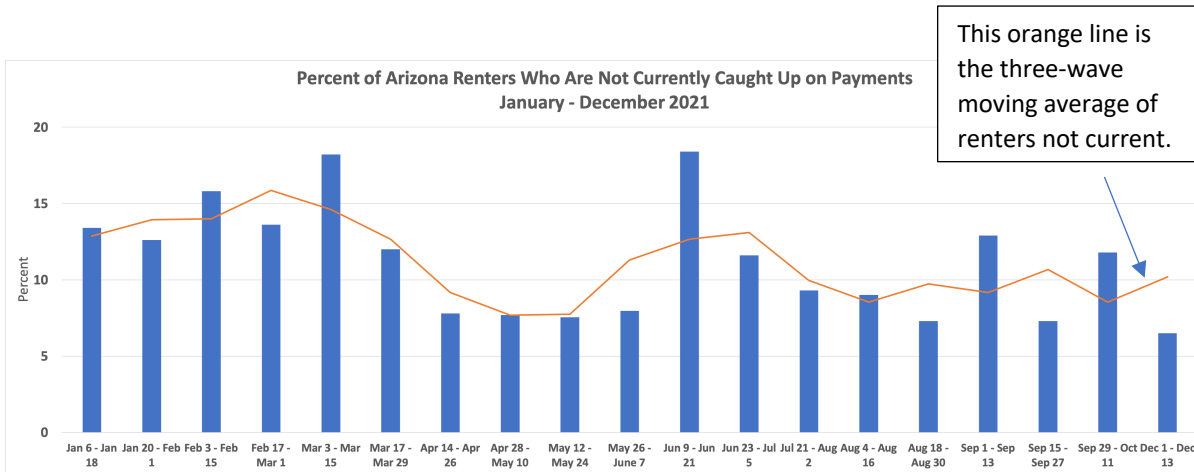


Indicators of the Scope of the Problem: Did Not Pay Rent Last Month

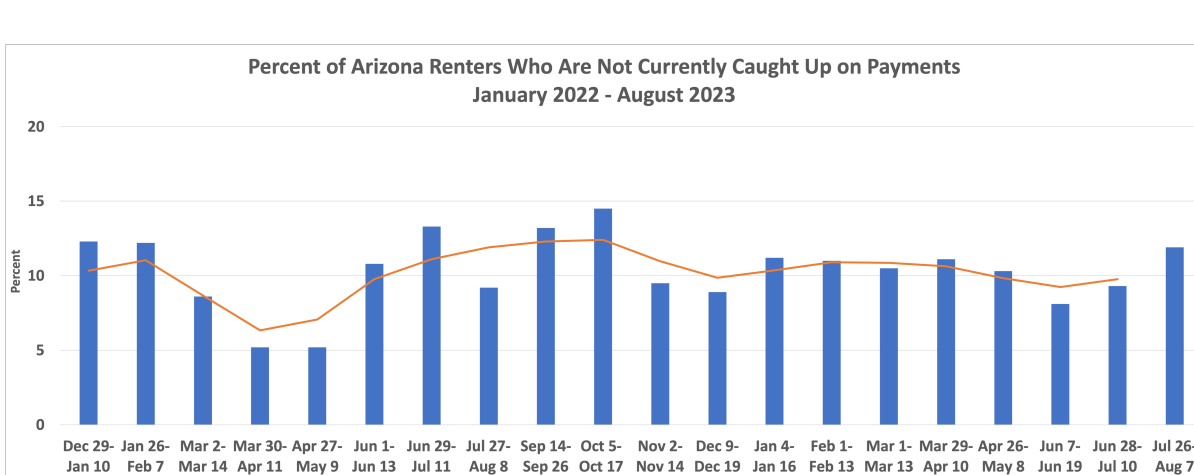


Source: Census Household Pulse Surveys Weeks 1-21

Indicators of the Scope of the Problem: Not Currently Caught Up On Rent



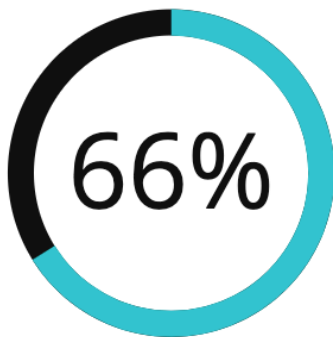
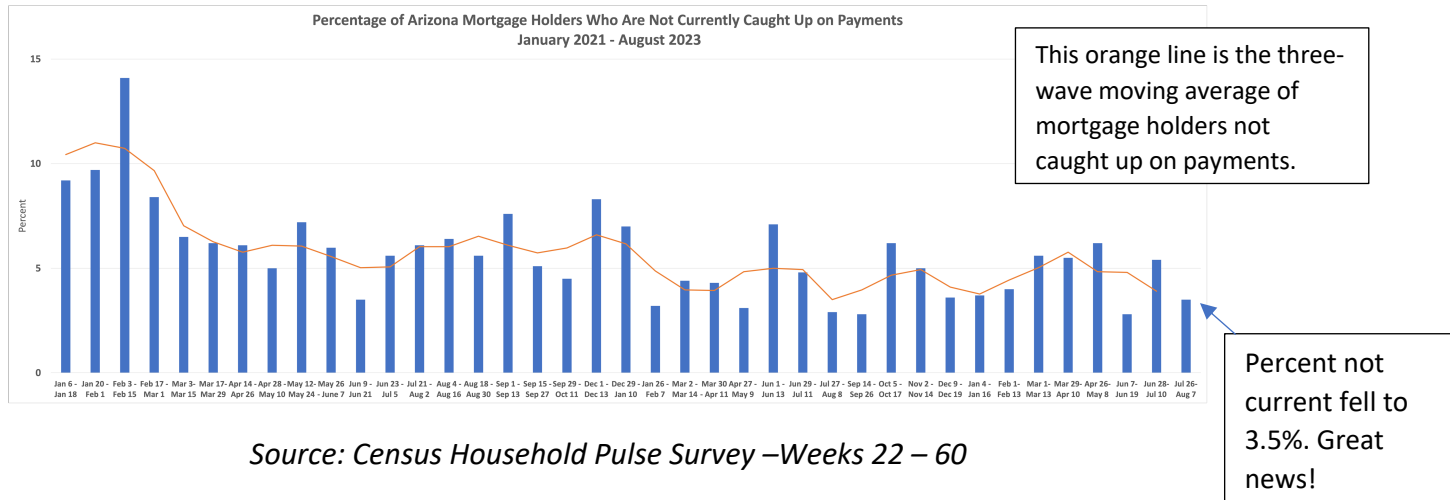
This orange line is the three-wave moving average of renters not current.



The % not current on rent rose to 11.9% (9.3% last wave). This is more elevated than one might expect given low unemployment.

Source: Census Household Pulse Survey –Weeks 22 – 60

Indicators of the Scope of the Problem: Not Caught Up On Mortgage Payments



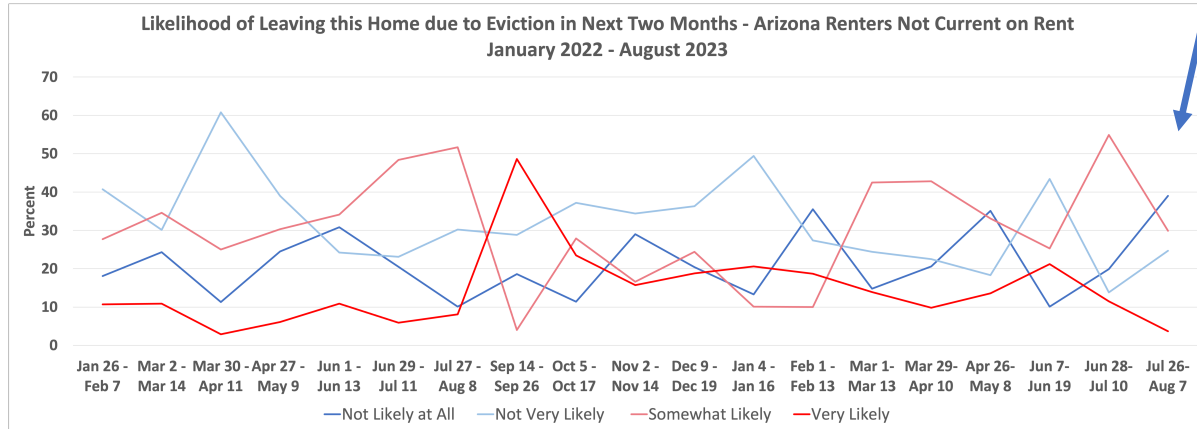
Homeownership Rate in Arizona in 2022

Source: U.S. Census Bureau



Indicators of the Scope of the Problem: Likelihood of Leaving Due to Eviction Among Arizona Renters Not Caught Up on Rent

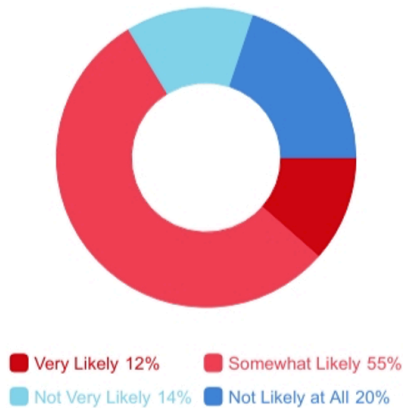
The trends in the graph below are based on questions only asked of Arizona renters not caught up on their rent: **11.9% of all AZ renter households – July 26th- August 7th 2023.**



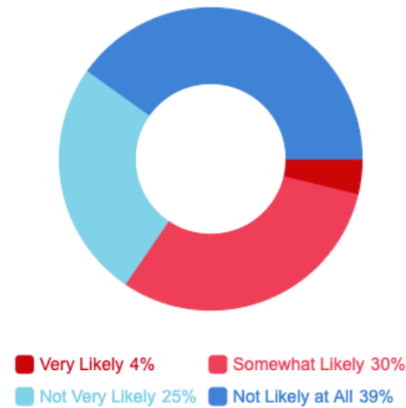
The proportion of non-current AZ renters seeing eviction as either “very” or “somewhat likely” decreased substantially in this most recent wave. Great news!

Source: Census Household Pulse Survey –Weeks 41 – 60

Likelihood of Leaving this Home due to Eviction in Next 2 Months
Arizona Renters Not Current on Rent - Jun 28 - Jul 10, 2023

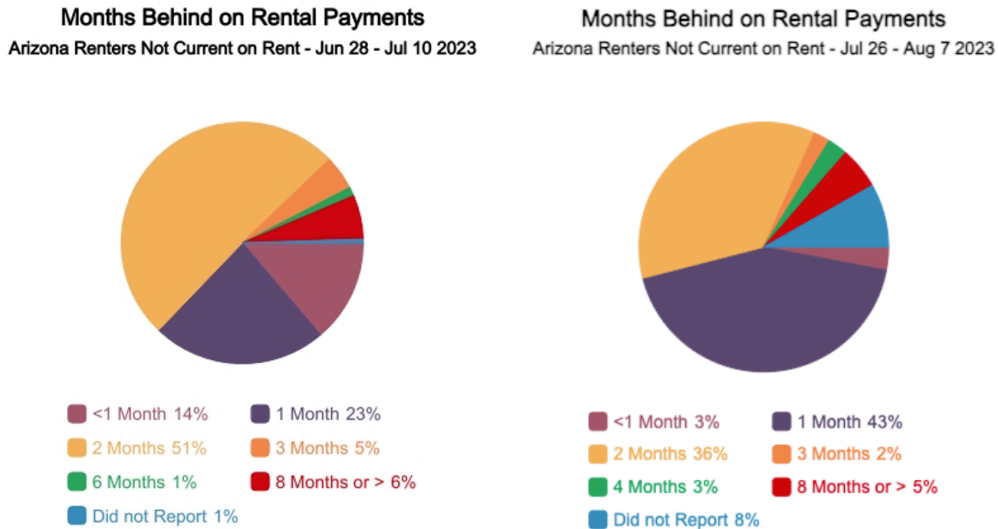


Likelihood of Leaving this Home due to Eviction in Next 2 Months
Arizona Renters Not Current on Rent - Jul 26 - Aug 7, 2023



Indicators of the Scope of the Problem: Months Behind on Rent and Rental Assistance

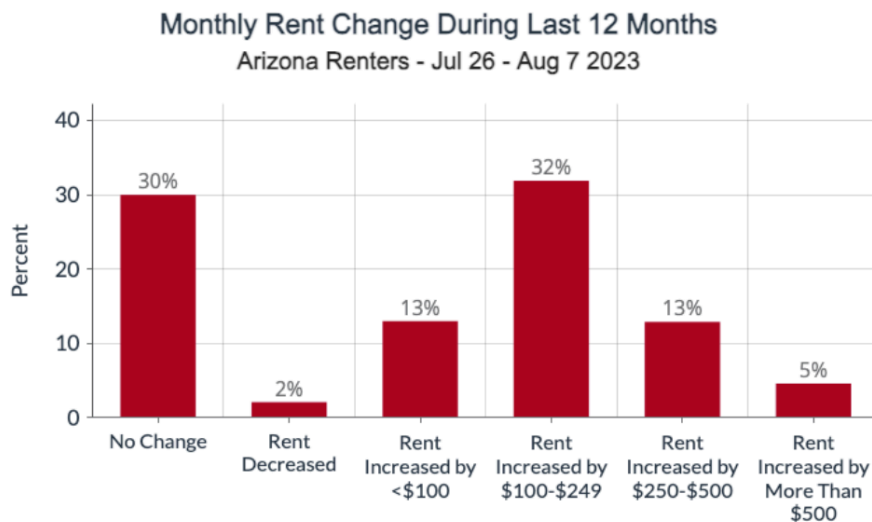
The following graph display responses to questions only asked of Arizona renters not caught up on their rent: **11.9% of all AZ renter households – July 26th- August 7th 2023.**



This survey indicates that, among Arizona renters who are behind on their rent, 46%, are only behind on their payments 1 month or less. The proportion of non-current renters 2 months behind on rent fell from 51% last wave to 36% this wave.

Indicators of the Scope of the Problem: Increasing Rents

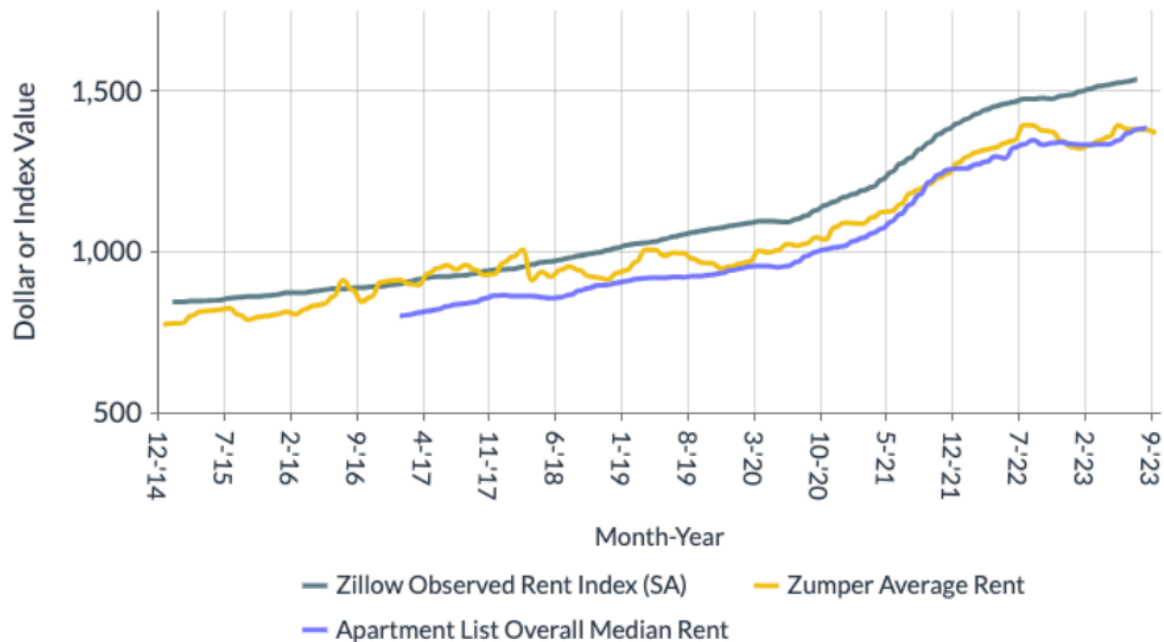
The Census Household Pulse survey asks renter-occupied households whether their monthly rent has changed in the past 12 months. 68% of Arizona renters reported an increase in their monthly rent in the last year and 50% reported an increase of \$100 or more. This indicates that most renters are being directly impacted by rising rent prices in Arizona.



Unfortunately, we see some concerning signals in the rent data. By some measures, rents in Tucson were either flat or declining very modestly starting last Fall. This is likely a direct, but downstream, impact of recent increases in interest rates pursued by the Federal Reserve to combat inflation. However, in just the last few months all three average/median rent metrics for Tucson have captured small increases, albeit modest, in local rents. The chart below displays recent trends in average or median rents as measured by various real-estate marketplace companies. Average or median rents have risen 34-43% in Tucson between June of 2020 and June 2023. And while these summary measures are informative, they don't provide a grounded real dollar sense of that is happening with rents (as people don't rent an average or median apartment). In the next graph below, data from Zumper provides average rents in Tucson by unit size in current dollars (not adjusted for inflation). The cost of rent in Tucson between July 2020 and July 2023 (in current nominal dollars) rose: 29% for studios, 36% for 1-bedroom units, 43% for 2-bedroom units, 29% for 3-bedroom units, and 39% for 4-bedroom units. Adjusting for inflation, the cost of rent over this same period rose: 10% for studios, 15% for 1-bedroom units, 22% for 2-bedroom units, 9% for 3-bedroom units, and 18% for 4-bedroom units.

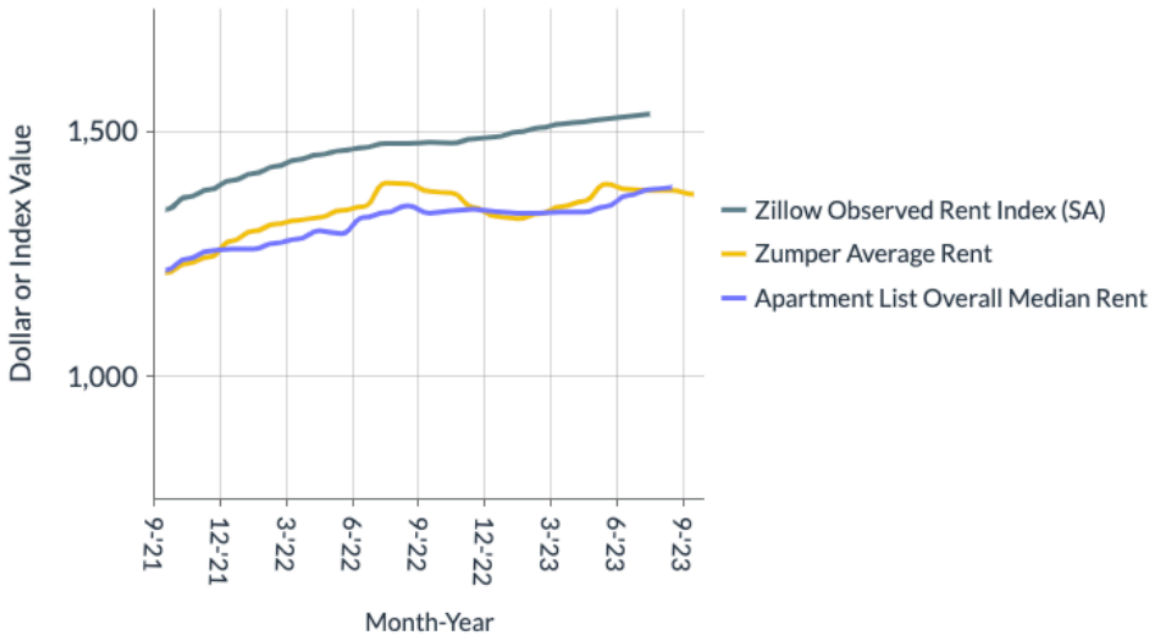
Tucson Rent Prices

Average/Median Rent Price Indicators: Dec-2014 - Sept-2023



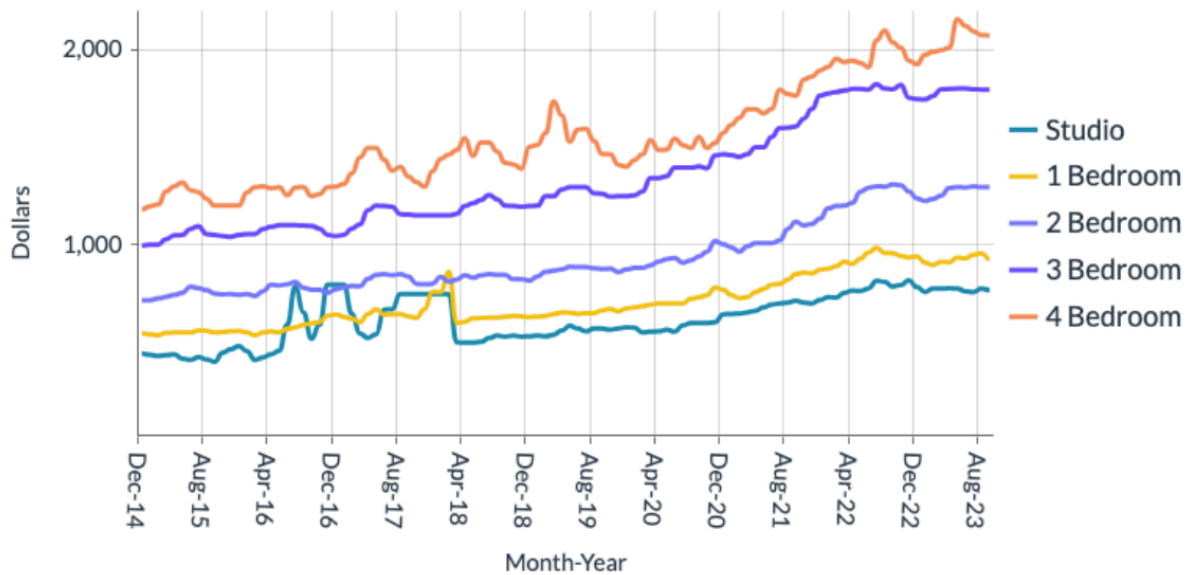
Tucson Rent Prices

Average/Median Rent Price Indicators: Sept 2021 - Sept 2023

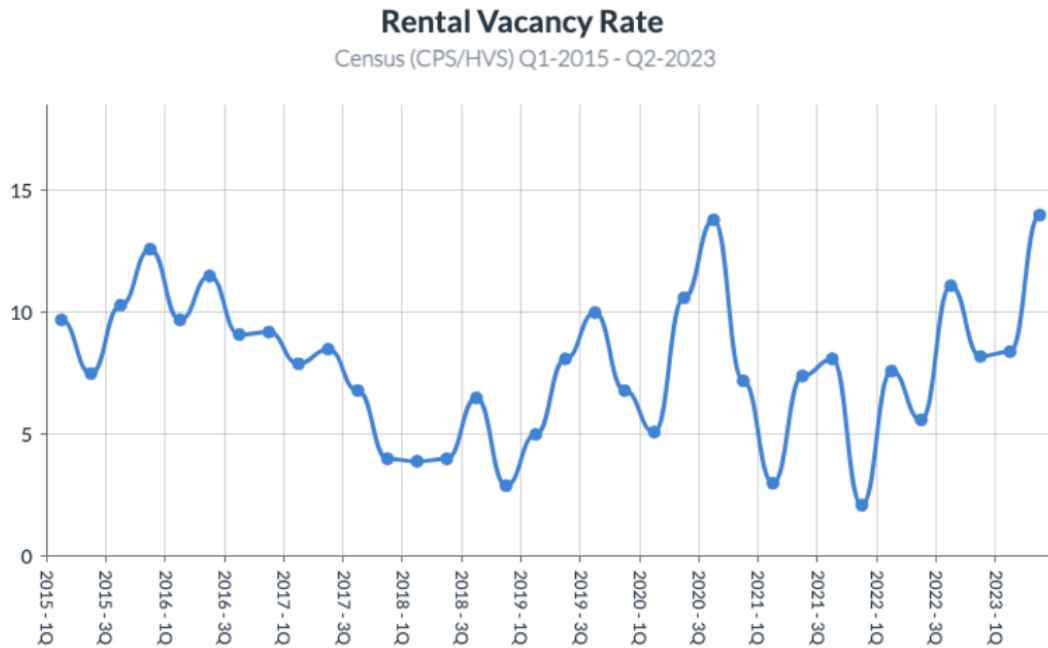


Tucson Median Rent by Unit Size

Zumper Data - Dec 2014 - Sept 2023



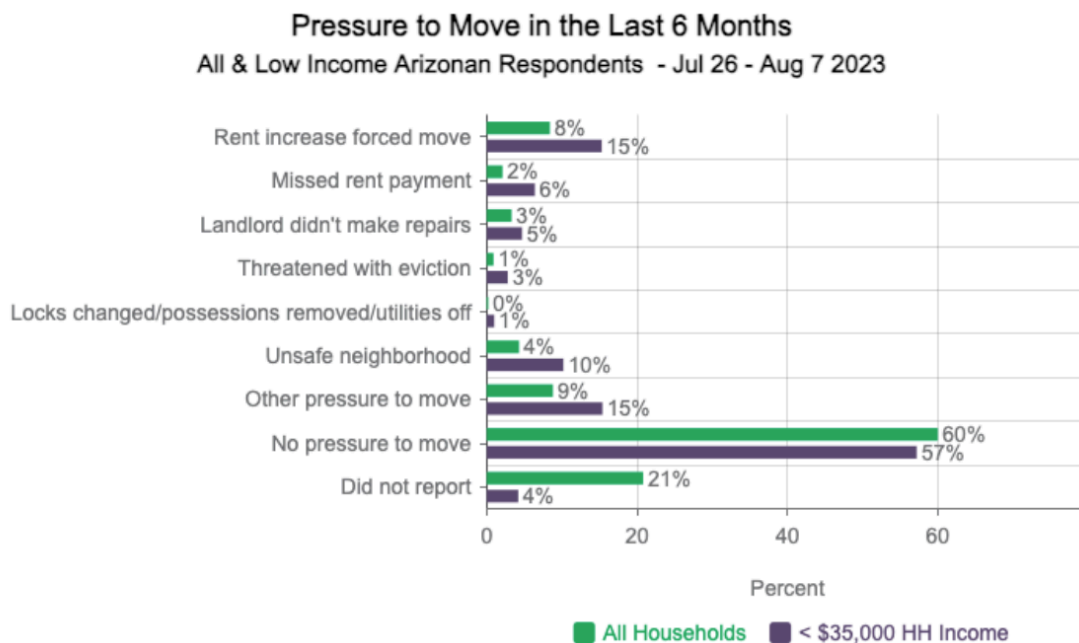
Indicators of the Scope of the Problem: Tucson Rental Vacancy Rate



Source: U.S. Census <https://www.census.gov/housing/hvs/data/rates.htm>

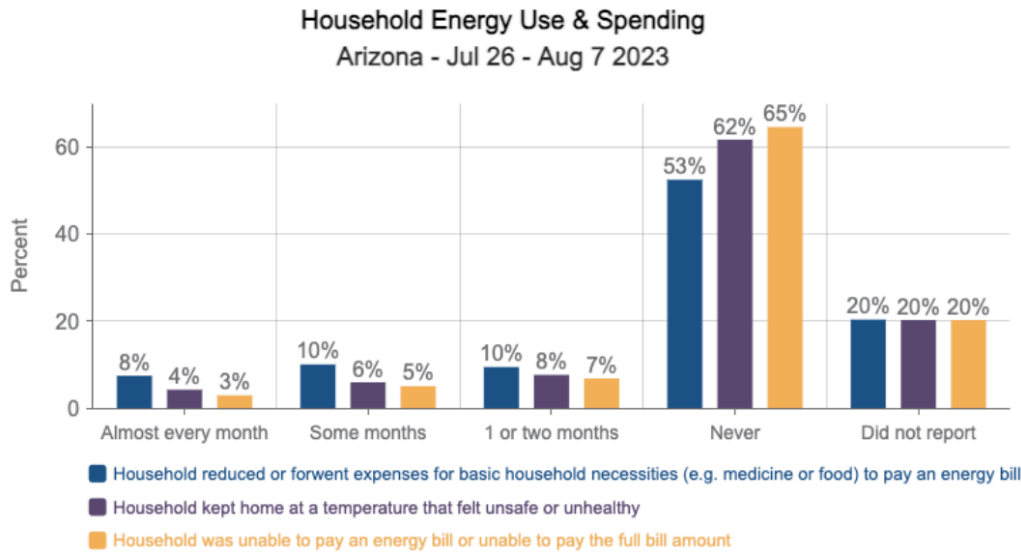
Indicators of the Scope of the Problem: Pressure to Move

The Census added a new question to the Household Pulse Survey asking all adult respondents if they have experienced pressure to move in the last 6 months. Respondents were allowed to select multiple responses so the total of percentages does not sum to 100%. 60% of all Arizona respondents reported they had not experienced pressure to move in the last 6 months.



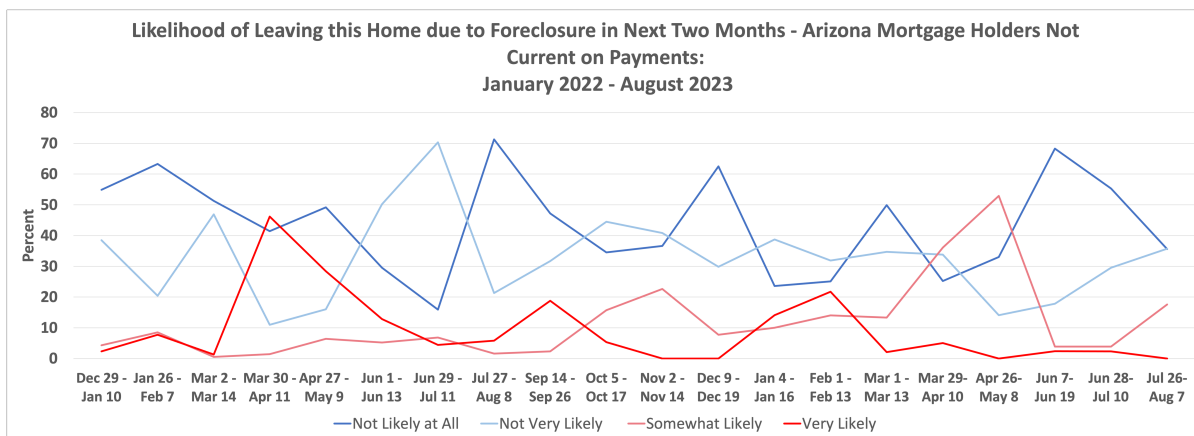
Indicators of the Scope of the Problem: Energy Use

The Census also added a new question asking all adult respondents about their energy use in the past 12 months. 8% of Arizona households reported reducing or not paying expenses for basic household necessities (such as medicine or food) “almost every month” in order to pay an energy bill. Only 53% of households reported “never” being in this situation.



Indicators of the Scope of the Problem: Leaving Due to Foreclosure Among Arizona Mortgage Holders Not Caught Up on Payments

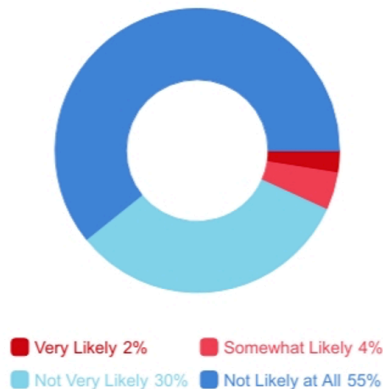
The trends in the graph below are based on questions only asked of Arizona mortgage holders not caught up on their payments: **3.5% of all AZ mortgage holding households – July 26th- August 7th 2023.**



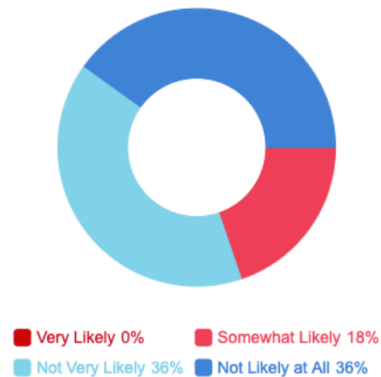
The two most recent survey waves captured the lowest levels of concerns about foreclosure among non-current mortgage holders found in this survey to date. Great news!

Source: Census Household Pulse Survey – Weeks 41 – 60

Likelihood of Leaving this Home due to Foreclosure
in Next Two Months - Arizona Mortgage Holders - Jun 28 - Jul 10 2023



Likelihood of Leaving this Home due to Foreclosure
in Next Two Months - Arizona Mortgage Holders - Jul 26 - Aug 7 2023



Indicators of the Scope of the Problem: Estimates of Rental Shortfall– ARIZONA

Estimates of the number of individuals behind on rent and the size of their rental debts (at both the state and county level) have been made available in the *National Equity Atlas* data tool. This tool is produced by PolicyLink and the USC Equity Research Institute. The methodology used to produce these estimates is provided in the appendix to this report. These estimates rely on Census Household Pulse survey data and the estimates below are based on the data collected as a part of Wave 57 of the survey conducted April 26th – May 8th 2023.

National Equity Atlas – Estimates based on Wave 57 of the Census HPS

Estimated Number of Arizona Households Behind on Rent	Estimated Total Rental Debt Statewide	Estimated Rental Debt per Household
85,000	\$100.2 million	\$1,200

These estimates are based on Wave 57 data of the Census Household Pulse Survey. The Census Household Pulse Survey asks if renting households are current on their rent. In the most recent wave of the survey, Week 60 conducted July 26th–August 7th 2023, 11.9% of Arizona renter households reported not being current on their rent payments. There were 912,033 renter-occupied units in Arizona in 2021, according to a Census American Community Survey (1-year) estimate.

11.9% of 912,033 = 108,532 AZ renter households who are not current on their rent payments.

Not all, and perhaps only a minority, of households reporting that they are not current on rent payments will actually experience an eviction. These households were then asked about their perception of how likely it is that they will have to leave their home due to eviction in the next two

months. 3.7% of these households that are not current on their rent reported being “very likely” to be evicted, while another 29.9% said this is “somewhat likely”.

3.7% of 108,532 = 4,016 AZ renter households who think it is “very likely” that they will be evicted in the next two months.

33.6% of 108,532 = 36,467 AZ renter households who think it is either “somewhat likely” or “very likely” that they will be evicted in the next two months.

Indicators of the Scope of the Problem: Estimates of Rental Shortfall– PIMA COUNTY

The *National Equity Atlas* data tool also provides county level estimates. The estimates below are also based on the data collected as a part of Wave 57 of the Census Household Pulse survey conducted April 26th – May 8th 2023.

National Equity Atlas – Estimates based on Wave 57 of the Census HPS

Estimated Number of Pima County Households Behind on Rent	Estimated Total Rental Debt Countywide	Estimated Rental Debt per Household
12,610	\$12.0 million	\$900

These estimates are based on Wave 57 data of the Census Household Pulse Survey. The Census Household Pulse Survey asks if renting households are current on their rent. In the most recent wave of the survey, Week 60 conducted July 26th – August 7th 2023, 11.9% of Arizona renter households reported not being current on their rent payments. There were 153,168 renter-occupied units in Pima County in 2021, according to a Census American Community Survey (1-year) estimate.

11.9% of 153,168 = 18,227 Pima County renter households who are not current on their rent payments.

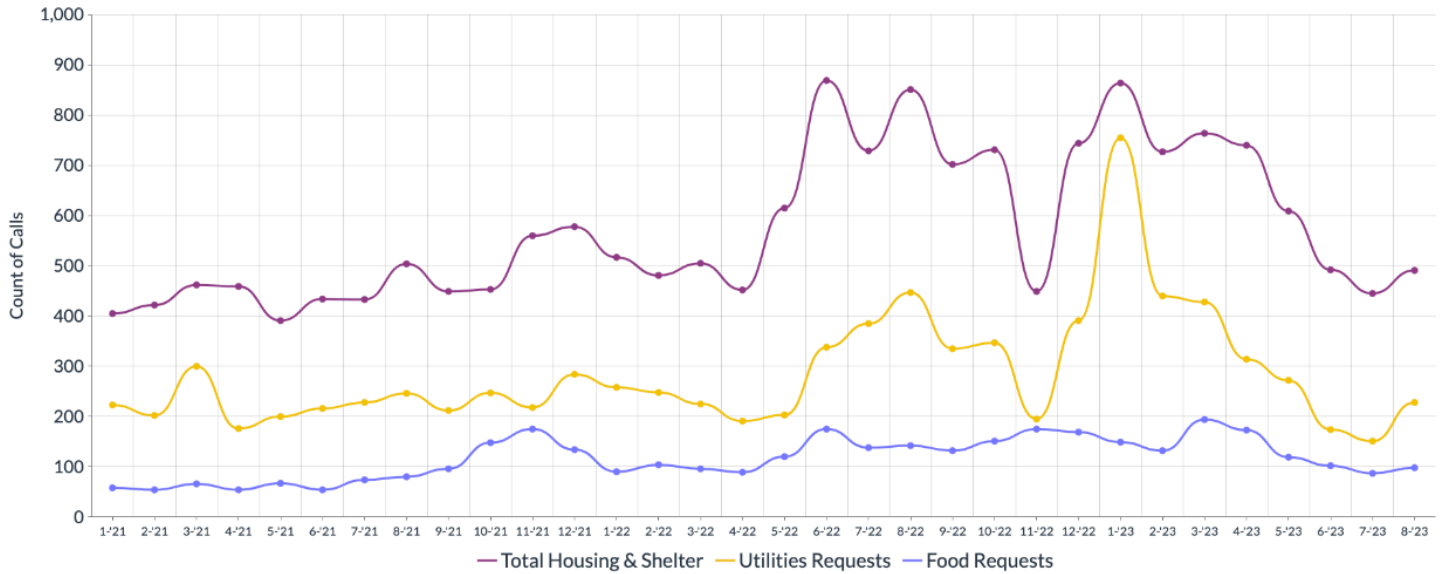
Not all, and perhaps only a minority, of households reporting that they are not current on rent payments will actually experience an eviction. These households were then asked about their perception of how likely it is that they will have to leave their home due to eviction in the next two months. 3.7% of these households that are not current on their rent reported being “very likely” to be evicted, while another 29.9% said this is “somewhat likely”.

3.7% of 18,227 = 674 Pima County renter households who think it is “very likely” that they will be evicted in the next two months.

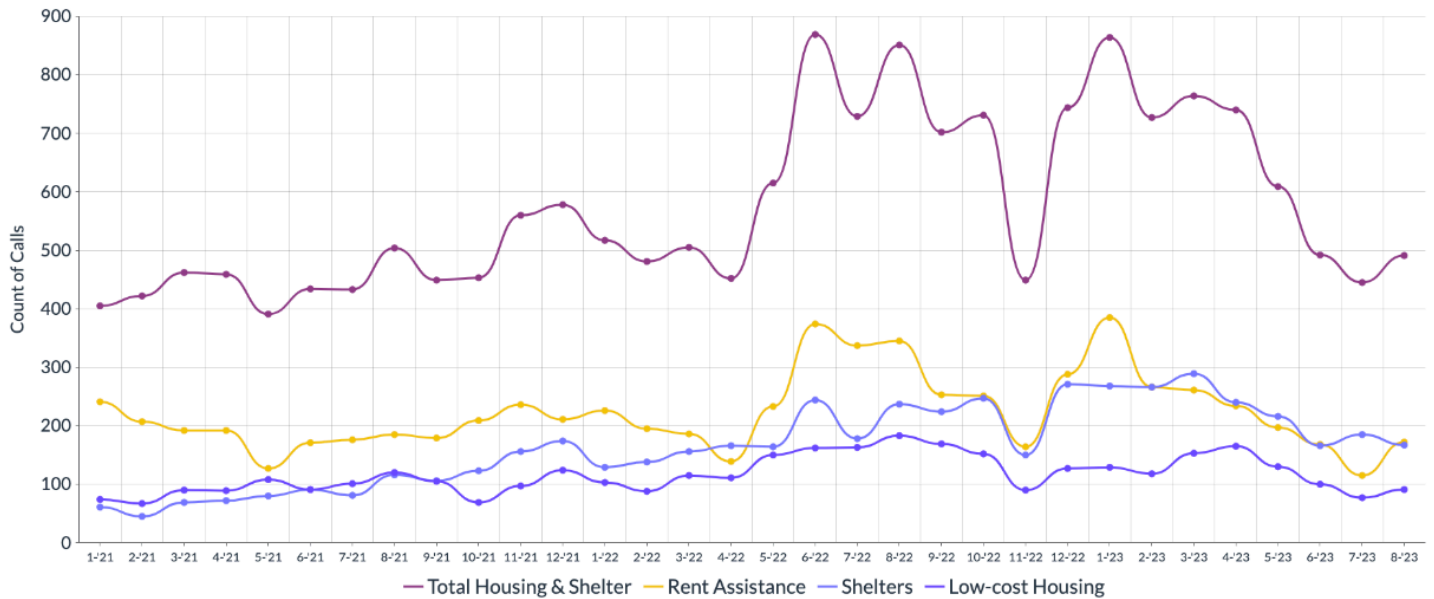
33.6% of 18,227 = 6,124 Pima County renter households who think it is either “somewhat likely” or “very likely” that they will be evicted in the next two months.

Indicators of the Scope of the Problem: Volume of Calls to 211 in Pima County

Count of Pima County 211 Calls by Month & Reason for Call
Jan 2021 - Aug 2023

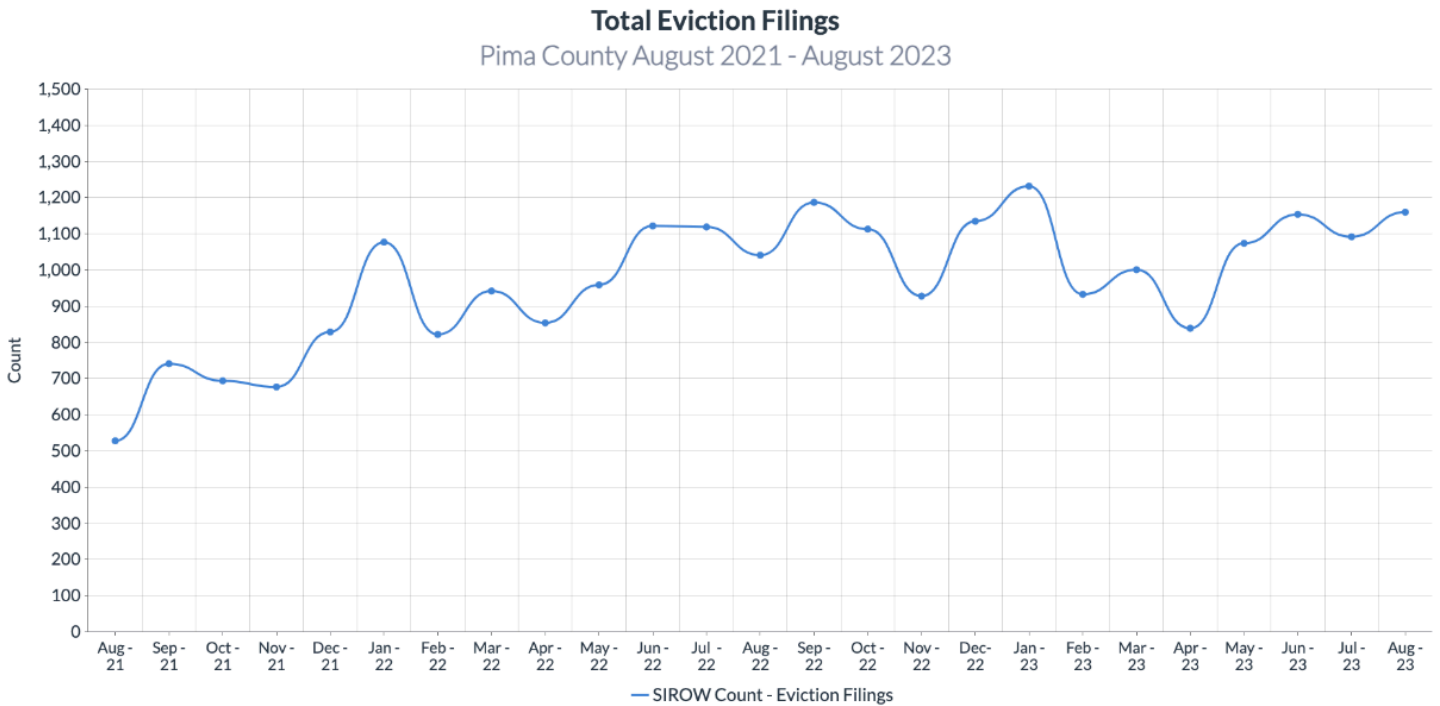


Count of Pima County 211 Housing & Shelter Calls by Month
Jan 2021 - Aug 2023



Eviction Filings and Writs Issued

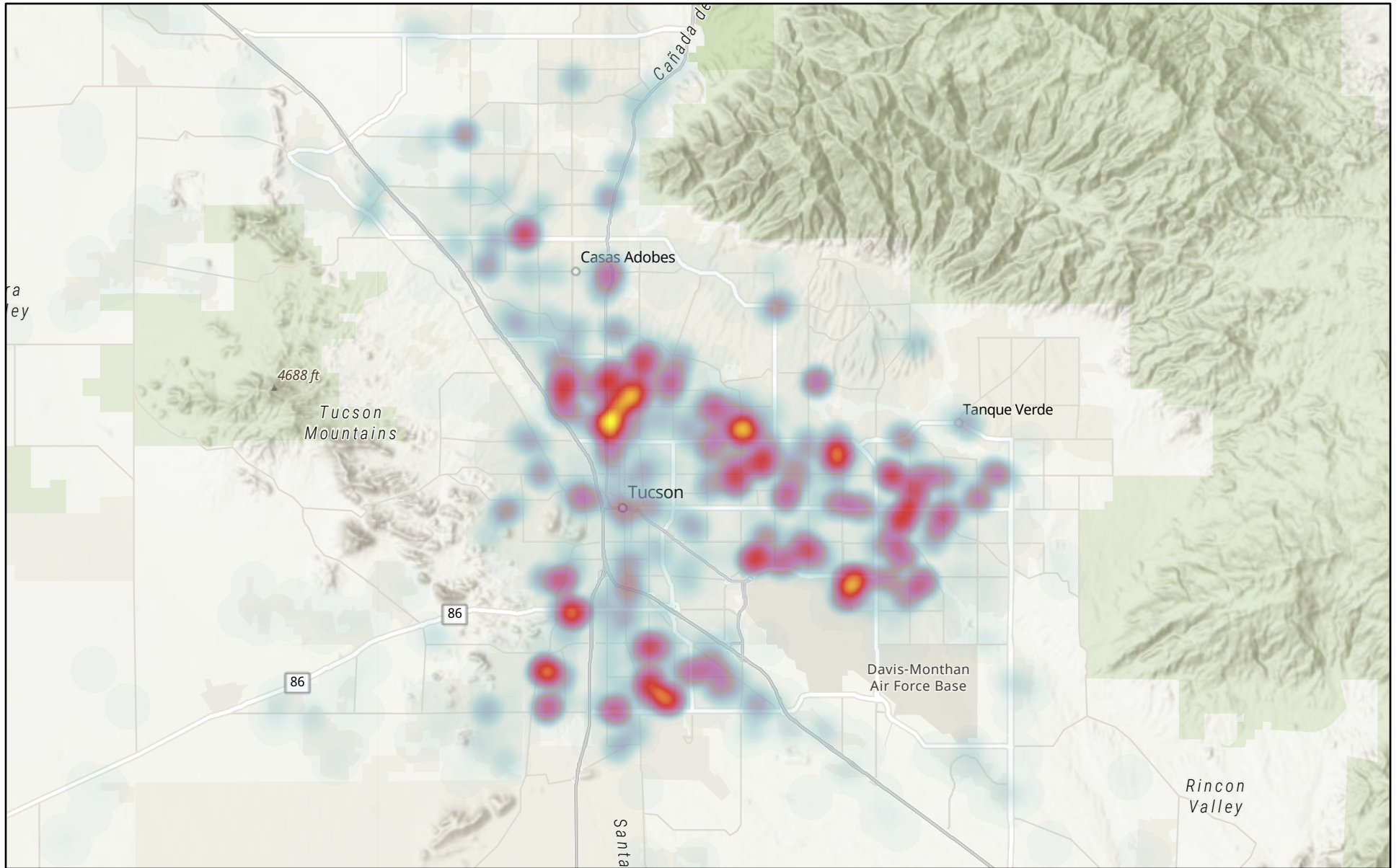
The Supreme Court allowed a lower court decision to end the CDC’s extension of the eviction moratorium on the evening of August 26th 2021. Below the total count of eviction filings and writs issued in Pima County is provided for August 2021 to August 2023, by month. Eviction filings rose, on average, between April of 2022 and January of 2023, with January having the largest monthly count of evictions. The count in January of this year was the highest we have seen post-moratorium in Pima County, and this count was only 6% lower than this peak at 1160 evictions county-wide in August. *Eviction filings continue to hold steady despite the strong economy and the relative slowing of rent price increases over the past year.*



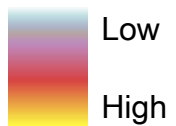
Source: Pima County Consolidated Justice Court



Pima County Eviction Case Filings: Sept 2022 - Aug 2023 Heat Map (n=12900)



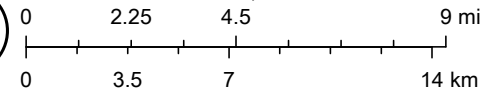
9/13/2023



World Hillshade

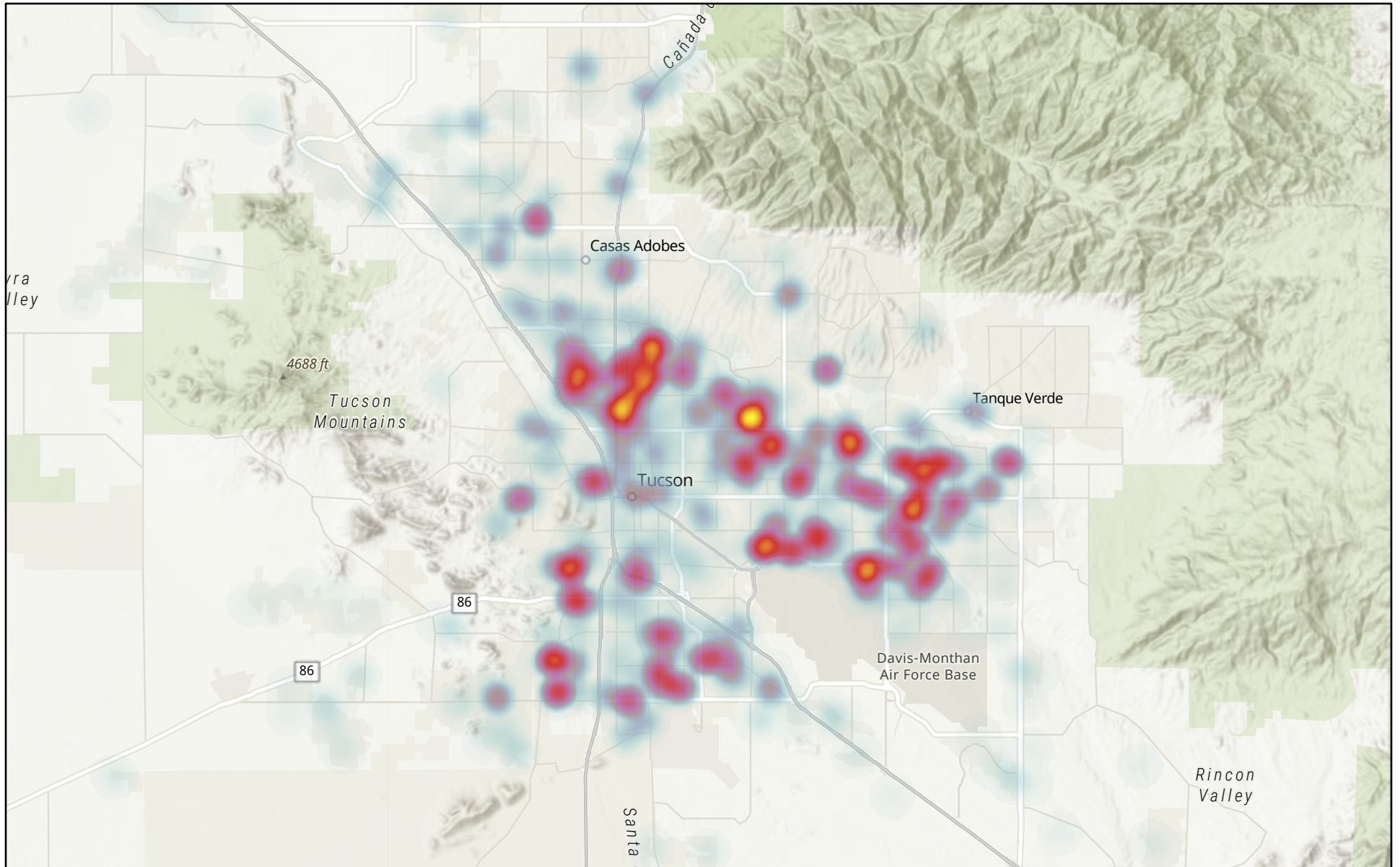


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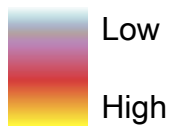


Esri, NASA, NGA, USGS, CONANP, Esri, HERE, Garmin, Foursquare, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA,

Pima County Eviction Case Filings: June 2023 - August 2023 Heat Map (n=3472)



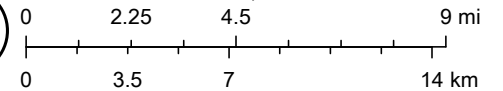
9/13/2023



World Hillshade



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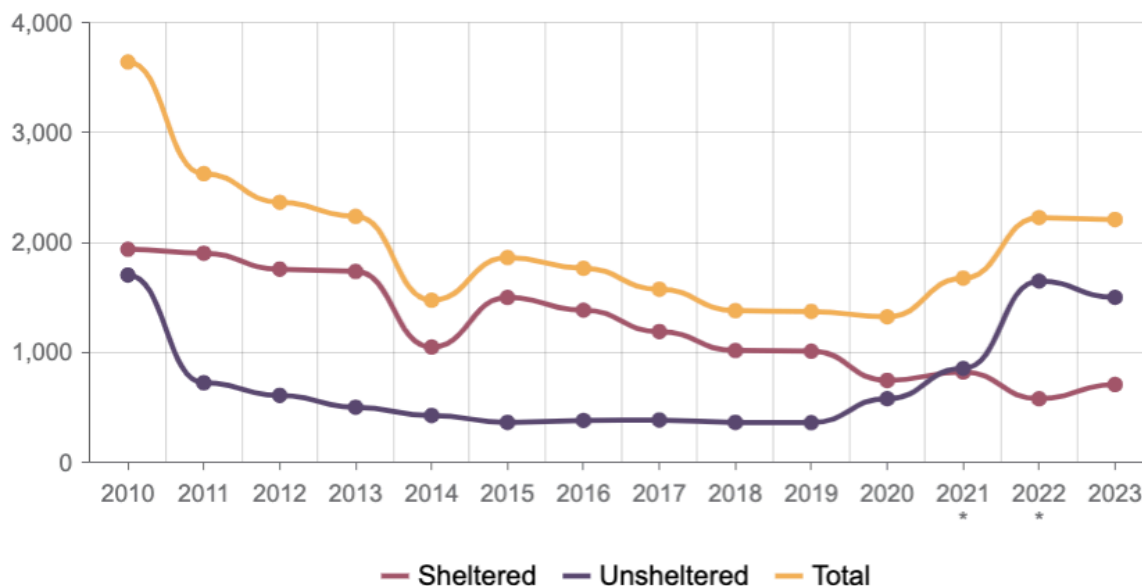


Esri, NASA, NGA, USGS, CONANP, Esri, HERE, Garmin, Foursquare, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA,

Homelessness

The chart below displays trends in sheltered, unsheltered, and total homelessness for Pima County as captured in the annual Point in Time (PIT) counts for the years 2010-2023. The number of people experiencing homelessness in Pima County has increased substantially since 2020. The usual “street count” portion of the PIT, which surveys individuals experiencing unsheltered homelessness, was cancelled in both 2021 and 2022 due to the pandemic. We now have the 2023 PIT results which can be compared to the last “normal” pre-pandemic PIT count in 2020. Between January 2020 and January 2023 the total count of people experiencing homelessness, as captured by the PIT count, increased 67%. There is one important caveat to mention which is that the methodology of the 2023 PIT count allowed interviewers to count folks who they observed experiencing homelessness but did not actually interview. The inclusion of these observed-but-not-interviewed folks allows the count to be higher than would be the case with previous PIT methodology. That said, this methodology change likely accounts for only a small proportion of the overall observed increase.

Total Count of Individuals Experiencing Homelessness
January PIT Counts for Tucson/Pima County CoC 2010-2023

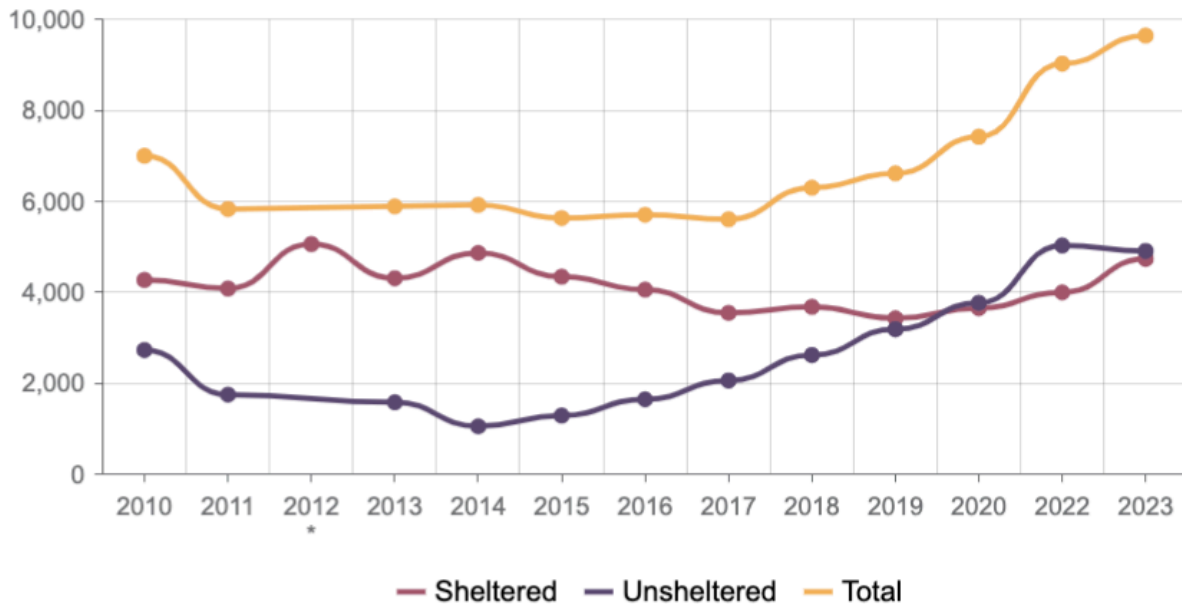


*Unsheltered counts were estimated in 2021-2022 (using different techniques) due to the ongoing pandemic. Since the methodology used to generate these counts changed considerably between 2020, 2021, and 2022, an unknown portion of increases in these years are likely a result of changes in methodology.

Compared to 2020, the number of people experiencing sheltered homelessness decrease by 5% (from 745 to 708), while the count of folks experiencing unsheltered homelessness grew 159% (from 579 to 1501).

Maricopa County has experienced similar increases. The graph below displays trends in the counts of people experiencing homelessness in Maricopa County, which experienced a 30% increase in the total number of people experiencing homelessness between 2020 and 2023. However, in Maricopa the increase in the number of people experiencing sheltered and unsheltered homelessness both increased by 30% between 2020 and 2023.

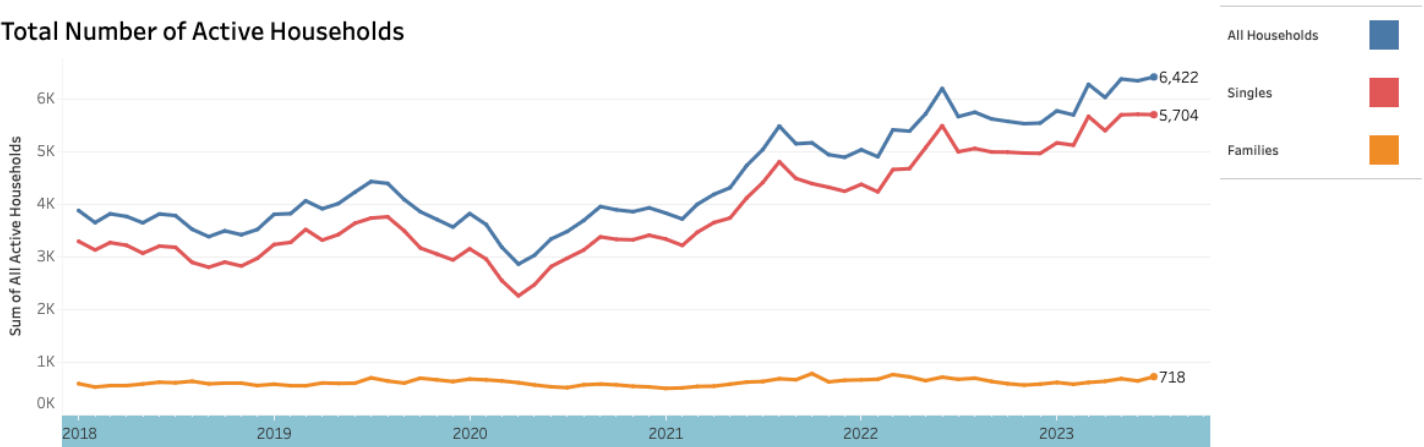
Total Count of Individuals Experiencing Homelessness January PIT Counts for Maricopa County CoC 2010-2023



*The PIT count was not conducted in 2021 due to the pandemic, and the unsheltered count was not reported in 2012.

These trends are based on data collection efforts that were most recently conducted in January of 2023. What has unfolded in regards to homelessness since then? While data is not currently available on a sub-annual basis to track changes in the count of people experiencing homelessness in Pima County, figures from Maricopa’s HMIS data indicate a further 15% increase in the total number of persons experiencing homelessness in Maricopa County between January 2023 and July of this year. Information from the “balance of state” (“BOS” which is all of Arizona less Pima and Maricopa counties) indicates an 12% increase in households experiencing homelessness over the same time period (January-July 2023).

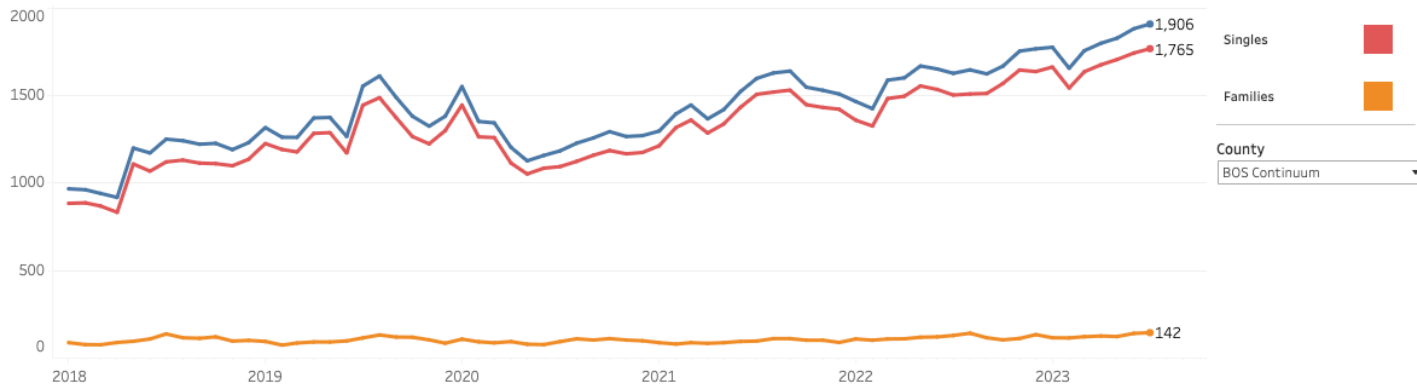
Total Number of Active Households



Source: HMIS AZ – Solari Crisis and Human Services

<https://public.tableau.com/app/profile/hmisaz/viz/MaricopaSystemFlowDashboard/Information>

Total Number of Active Households

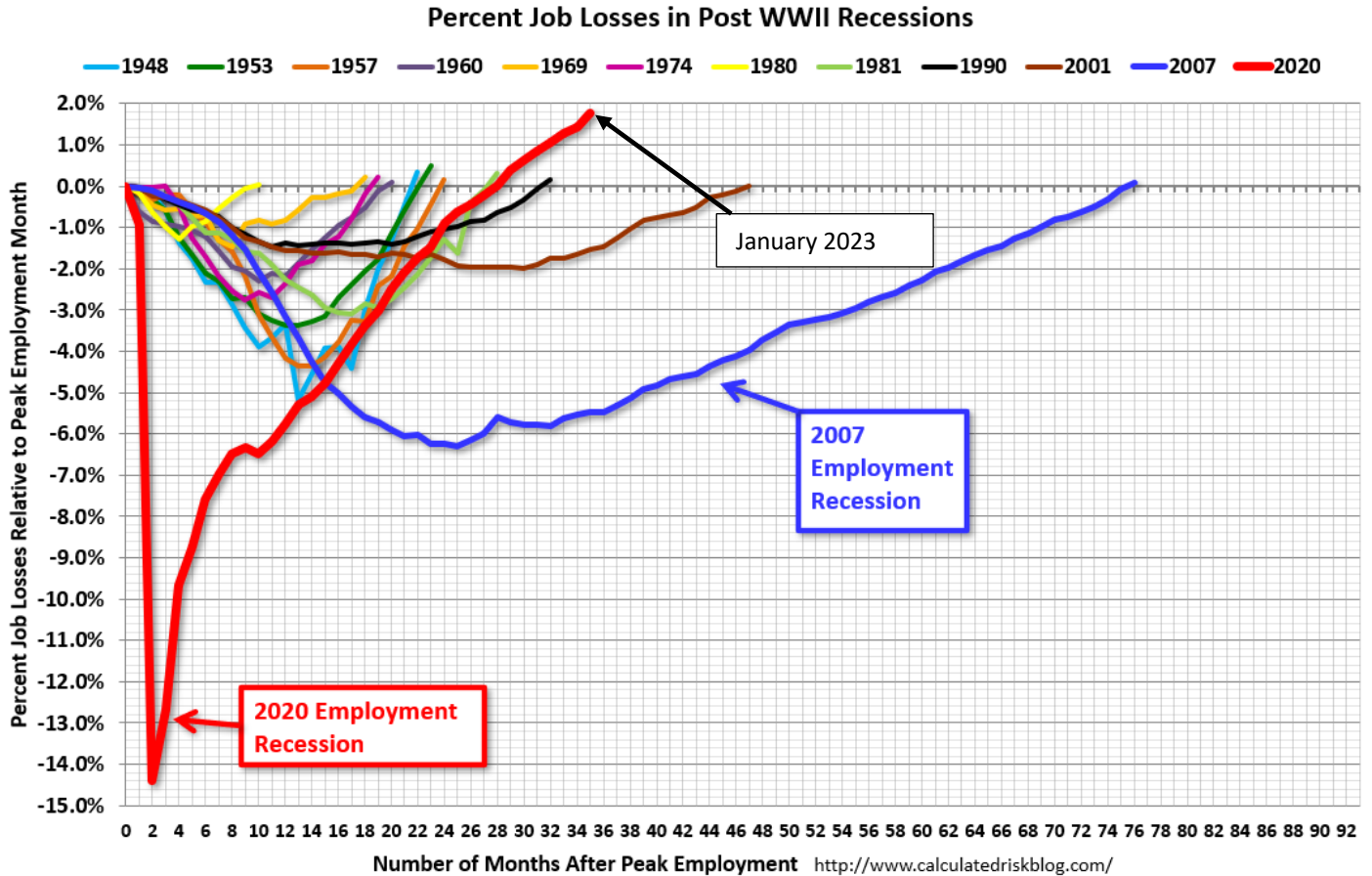


Source: HMIS AZ – Solari Crisis and Human Services



The Road Ahead

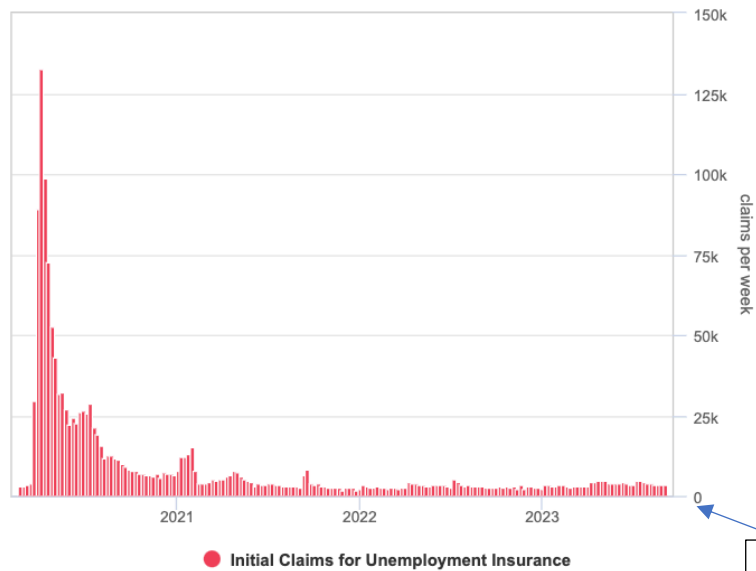
We are currently experiencing continuing job growth at both the national and state level. In the medium-term, most economists are expecting that recent interest rate increases by the Federal Reserve are likely to cool (or reverse) this rate of growth. The households at high risk of experiencing a housing disruption in the coming months remain disproportionately lower income, households of color, and households with members with disabilities. I remain concerned about the likelihood of homelessness among those households that experience housing disruptions, especially as renters renew leases at much higher rates, the affordable housing stock continues to shrink, and considering the fact that not everyone can take advantage of the strong labor market.



Source: Calculated Risk Finance & Economics



Arizona Initial Claims for Unemployment Insurance



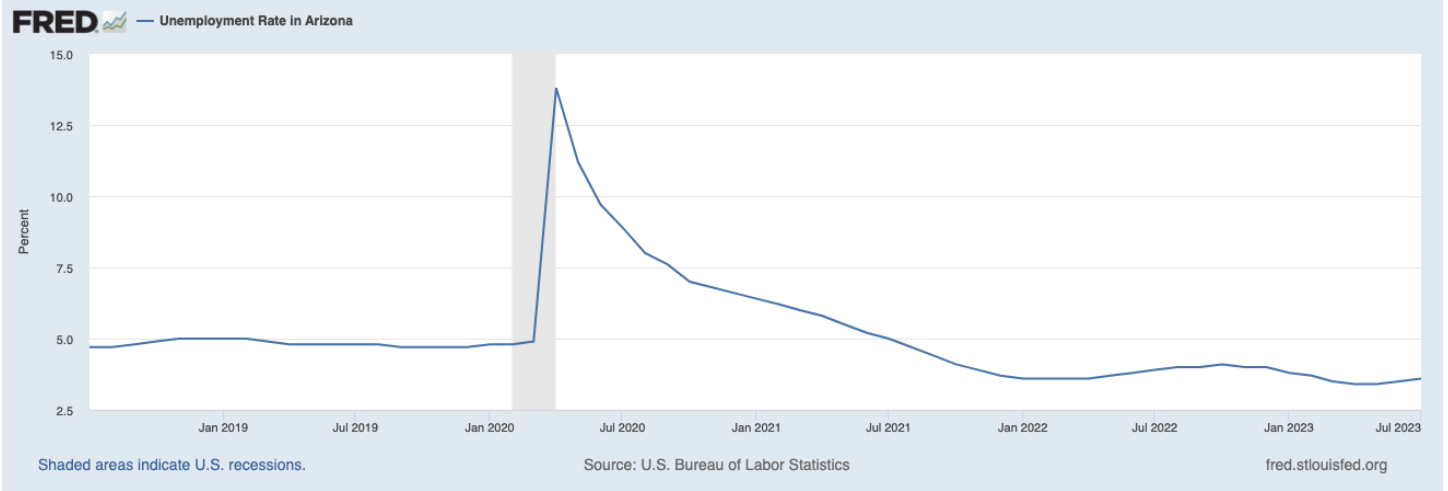
Source: UA Economic and Business Resource Center

Week of Sept 2nd

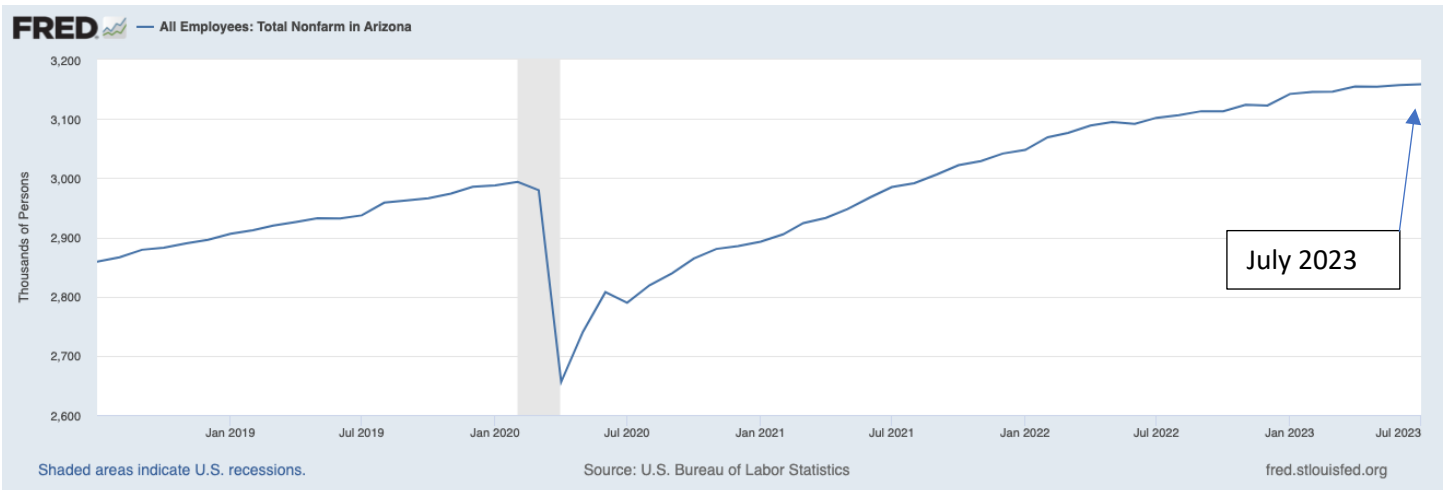
Arizona Unemployment Rate July 2022 – July 2023 (Seasonally Adjusted)



Arizona Unemployment Rate July 2018 - July 2023 (Seasonally Adjusted)



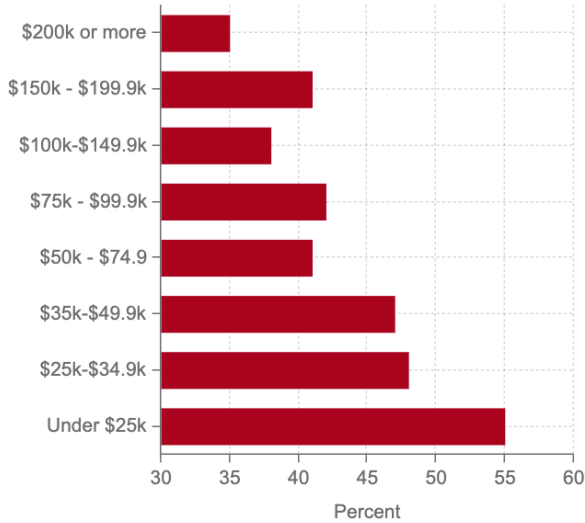
Total Nonfarm Employment Arizona



Income Disparities

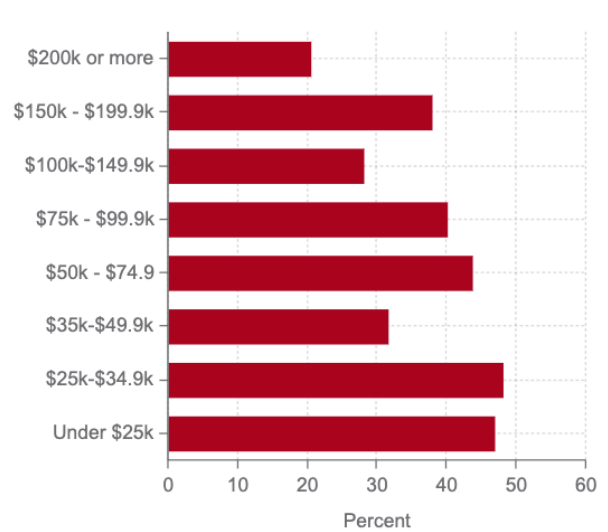
The COVID-19 recession has been uniquely unequal in its impacts, hitting lower income workers and households particularly hard. Worse, the recovery from these disproportionate impacts has also been skewed towards those with more resources, resulting in the so-called “K”-shaped recovery.

Household Experienced Loss of Employment Income Since March 13, 2020 - ARIZONA



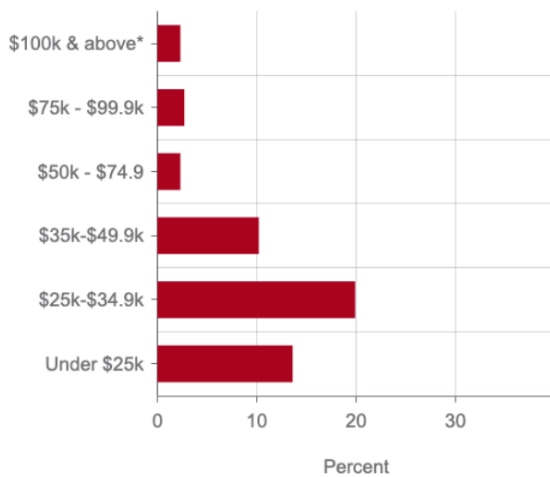
Source: Census HPS Week 14 –Sept 2nd- 14th 2020

Household Experienced Loss of Employment Income Since March 13, 2020 - ARIZONA



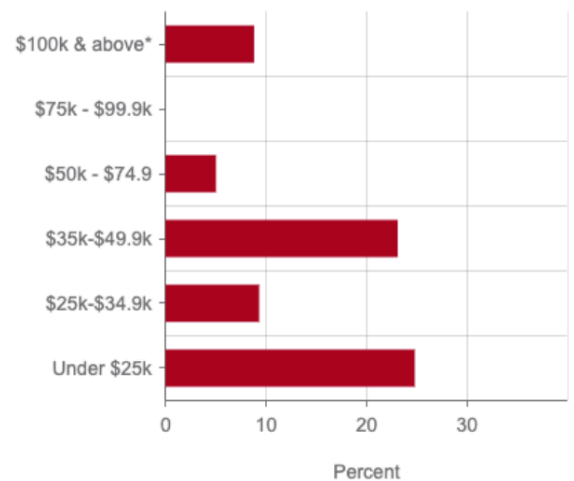
Census HPS Week 27 –March 17th– 29th 2021

Renter Households Not Current on Rent by Income ARIZONA Renter Households - Jun 28 - Jul 10th 2023



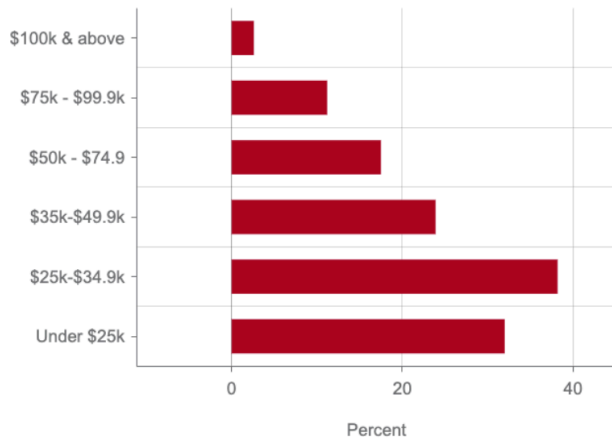
Source: Census HPS Week 59 –Jun 28 –Jul 10th 2023.

Renter Households Not Current on Rent by Income ARIZONA Renter Households - Jul 26 - Aug 7th 2023

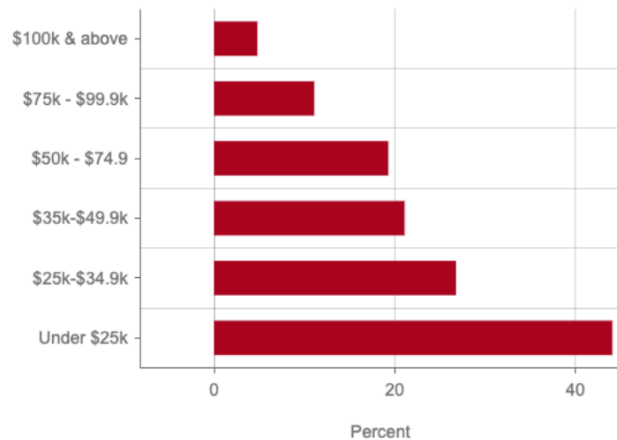


Census HPS Week 60 –Jul 26 –Aug 7th 2023.

Households Finding it Very Difficult to Meet Usual Expenses
ARIZONA Households by Income - Jun 28 - Jul 10 2023



Households Finding it Very Difficult to Meet Usual Expenses
ARIZONA Households by Income - Jul 26 - Aug 7 2023



Source: Census Household Pulse Survey –Week 59

Census Household Pulse Survey –Week 60

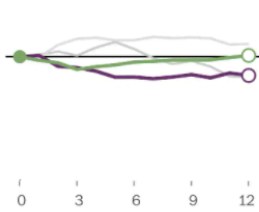
The coronavirus crisis is different

Job growth (or loss) since each recession began, based on weekly earnings

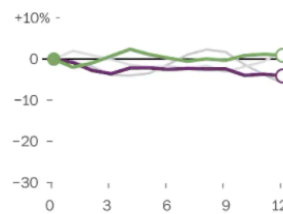
1990 recession



2001 recession



2008 recession



Coronavirus crisis



Notes: Based on a three-month average to show the trend in volatile data.
Source: Labor Department via IPUMS, with methodology assistance from Ernie Tedeschi of Evercore ISI
THE WASHINGTON POST

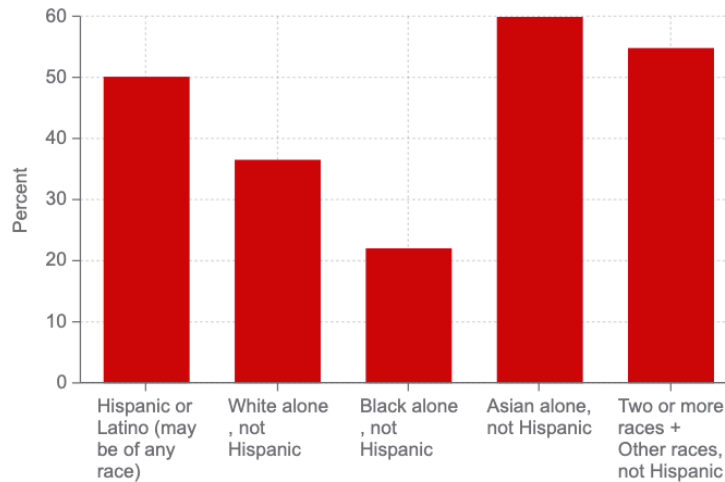
Source: Long et al. "The covid-19 recession is the most unequal in modern history." Washington Post. Sept 30 2020.

Consequently, lower-income households are at particularly high risk of housing insecurity and homelessness during this economic recovery.

Racial/Ethnic Disparities

The current recession is also disproportionately impacting individuals and communities of color, trends evident in both losses of employment income and housing insecurity.

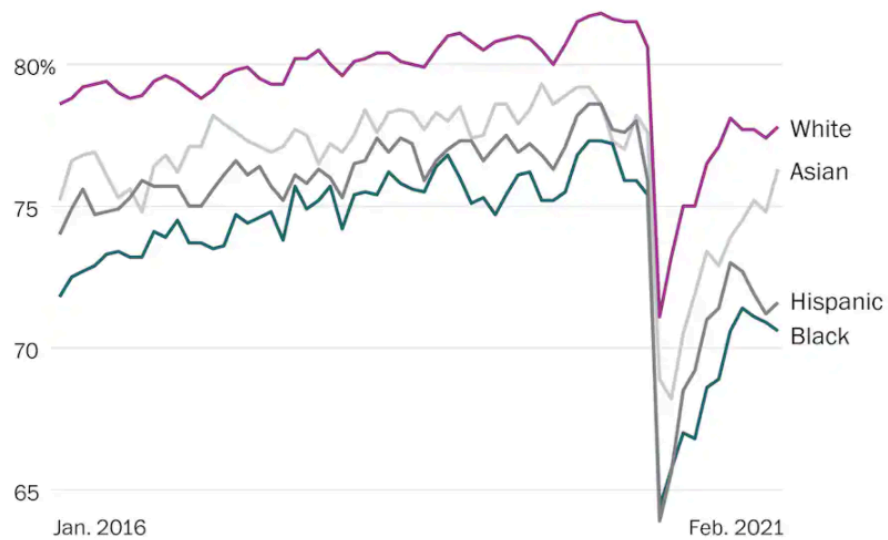
**Experienced Loss of Employment Income Since March 13, 2020
ARIZONA by Race/Ethnicity**



Source: Census Household Pulse Survey –Week 26 – March 3rd – 15th 2021

Share of prime-age adults who have jobs

Employment-population ratio of those 25-54 years old by race or ethnicity



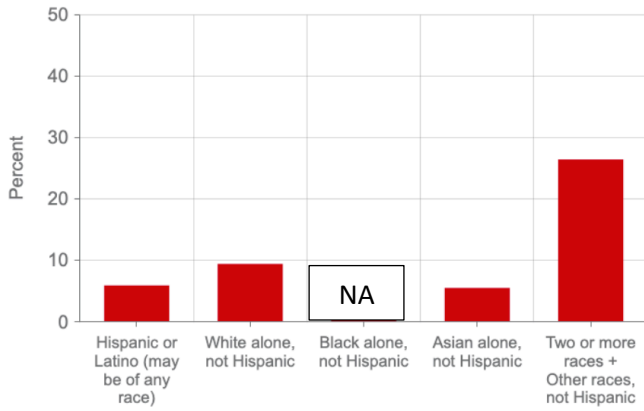
Source: Labor Department

THE WASHINGTON POST

Source: Siegel, R. "The soft underbelly to a looming economic boom: Millions will miss out." *Washington Post*. March 30 2021.

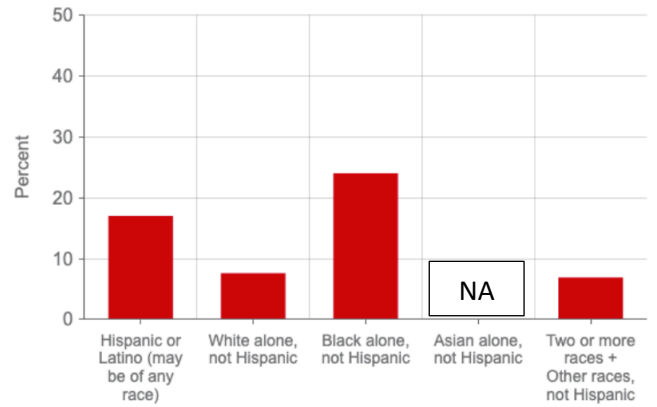


Percent Not Current on Rent by Race/Ethnicity
ARIZONA Renter Households - Jun 28 - Jul 10 2023



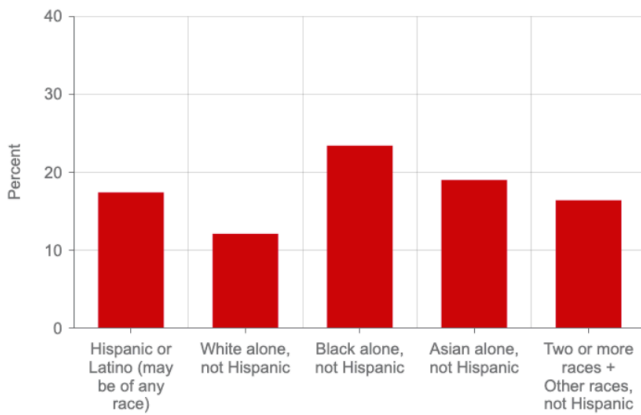
Source: Census Household Pulse Survey –Week 59

Percent Not Current on Rent by Race/Ethnicity
ARIZONA Renter Households - Jul 26 - Aug 7 2023



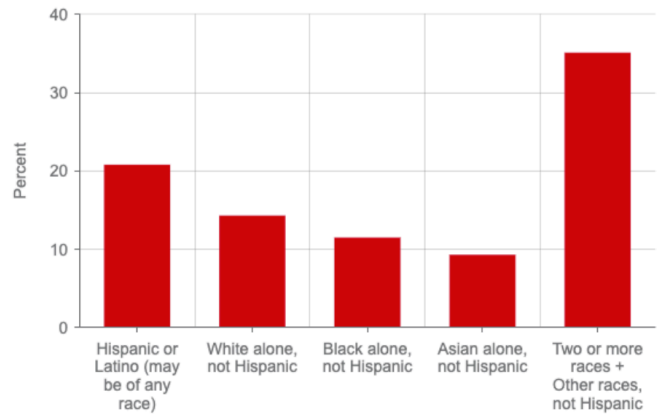
Census Household Pulse Survey –Week 60

"Very Difficult" to Pay Usual Expenses in Last Week
Arizona Renter Households - Jun 28 - Jul 10th 2023



Source: Census Household Pulse Survey –Week 59

"Very Difficult" to Pay Usual Expenses in Last Week
Arizona Renter Households - Jul 26 - Aug 7th 2023



Census Household Pulse Survey –Week 60

Those behind on rent are overwhelmingly low-income households who experienced job and income losses during the pandemic.

Characteristics of Renters Behind on Rent, Arizona

People of Color



Low Income



Unemployed



Households with Children

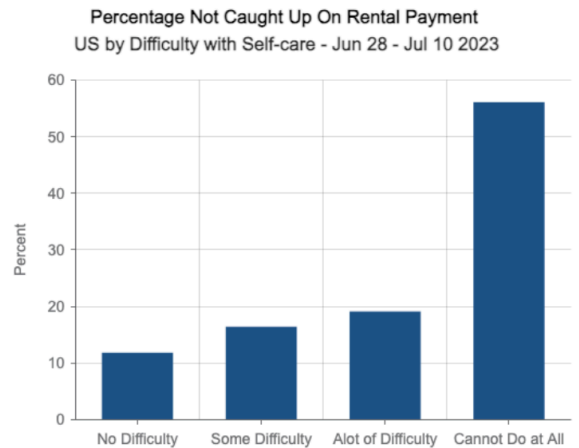
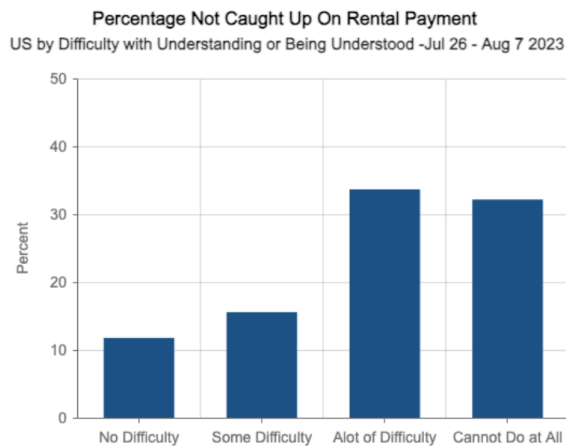
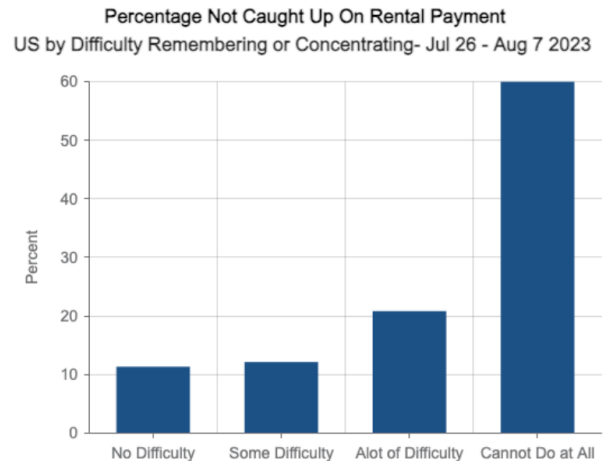
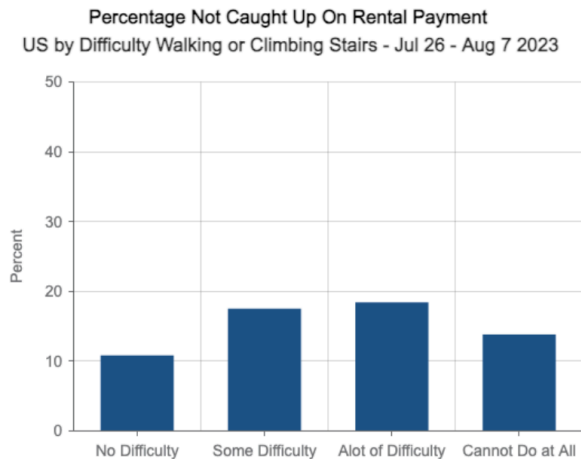
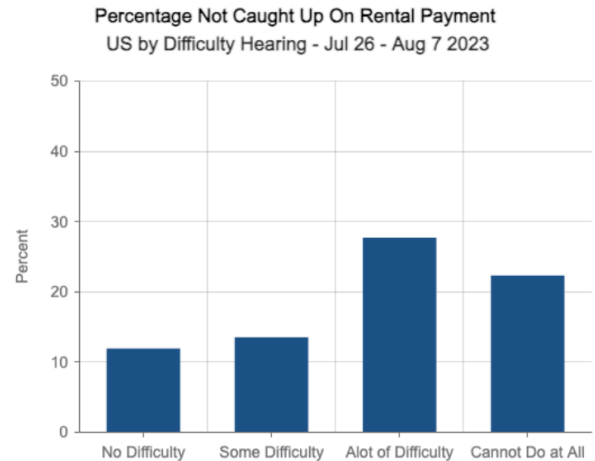
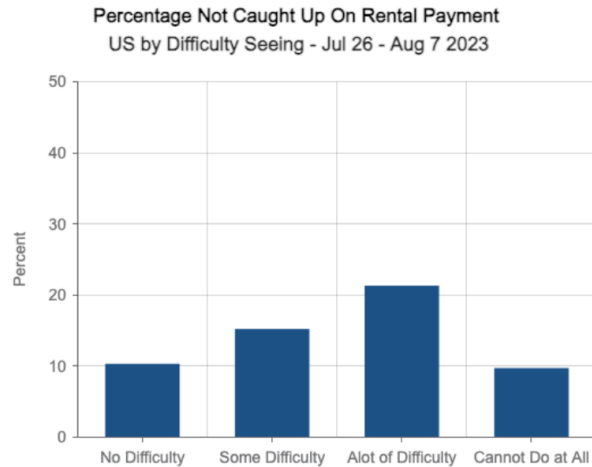


Source: National Equity Atlas – Estimates based on Wave 57 of the Census HPS (Apr 26 – May 8th 2023)



Disparities by Ability

Across the categories of ability/disability tracked in the Census Household Pulse Survey (difficulty seeing, hearing, remembering or concentrating, and walking or climbing stairs, etc.) substantially higher percentages of individuals with difficulties in these areas reporting being not current on their rent payments. These data are for the United States at large, as the state-level subpopulations are too small to measure reliability at the state level.



Appendix: National Equity Atlas Rent Debt Methodology¹

This document describes our current methodology for estimating the number of renter households behind on rent and the total and per household rent debt for the United States and selected counties, regions, and states, as presented in the Rent Debt Dashboard.

Our estimates use the share of households behind on rent from the Census Household Pulse survey and the median contract rent paid by households from the American Community Survey, both broken down by income bracket, to determine the total amount of monthly rent owed by households behind on rent. We then multiply these monthly figures by the average number of months that households are in arrears to estimate total rent debt. We assume that approximately 25 percent of behind households are one month behind, 28 percent are two months behind, 12.5 percent are three months behind, and 5.5 percent have not paid for the entire pandemic. We use three data sources:

1. Household rent and income data from the 5-year 2019 American Community Survey (ACS) summary file and microdata.
2. Data on late payment of rent from the U.S. Census Bureau's Household Pulse Survey for states and the 15 largest metros. The Pulse survey is updated every two weeks.
3. Distribution of rent arrears estimates derived from the University of Southern California's Center for Economic and Social Research's "[Understanding Coronavirus in America](#)" panel survey, which has been collected between April 2020 and March 2021.

The process and data are further described below:

Household Pulse Survey data is filtered to include only renting households paying a non-zero rent in the most recent survey wave. Those households are assigned a rent status based on their response to the survey question: "Is this household currently caught up on rent payments?." The percentage of households in rent arrears – the "behind rate" – is calculated by household income category and by geography. Households are initially grouped into three income categories: those with an annual income less than \$50,000, those with an annual income between \$50,000 and \$100,000, and those with an annual income greater than \$100,000. Pulse estimates are available for all 50 states and for the 15 largest metropolitan regions in the US. For geographies where regional data are available, we use regional estimates of behind rates; for geographies where regional data are not available, we use statewide estimates of behind rates. If the unweighted count of observations for a given income category within a metropolitan region falls below 100 in the most recent Pulse survey wave, statewide behind rates are used for households in that income category in that metropolitan region instead. If unweighted counts of statewide observations fall below 100 for either of the top two income categories but the two categories combined have more than 100 observations, a single rate is used for both of the categories. If unweighted counts of statewide observations fall below 100 for the top two income categories combined or for the lowest income category, a single behind rate is used for all households in the state. If a state has fewer than 100 unweighted observations, national behind rates are used and rent debt estimates are not calculated for that state.

The estimates of the percent of households behind on rent by income bracket are necessarily broad, in geographic terms, given data availability in the Household Pulse Survey. However, to estimate monthly rent debt for households that are behind, they are applied to estimates of median monthly contract rent by income bracket that are geographically specific (i.e. based on the same cities and counties for which the rent debt estimates are ultimately

¹ Source: <https://nationalequityatlas.org/rentdebtmethodology>



reported). We use median rent (rather than mean rent) based on the assumption that renters who are behind on rent are likely to have lower monthly rent than the average for each income bracket. Estimating median monthly contract rent by income bracket was straightforward for states, regions, and larger cities and counties as they could be drawn directly from the ACS microdata. For smaller cities and counties not identified in the ACS microdata, however, we developed an approach that relied primarily on the ACS summary file with some inputs from the microdata.

Specifically, we drew information from Table B25122 of the ACS summary file on the number of households by income bracket gross rent bracket and utilized a Pareto interpolation procedure to estimate median monthly gross rent for each of the aforementioned income brackets in each geography. This procedure required an upper bound for the top gross rent category (\$2,000 or more), which is not provided in Table B25122. To adjust our estimate to reflect median contract rent (rather than median gross rent, which includes the cost of utilities), we also needed an adjustment ratio to apply to our resulting Pareto estimates.

We estimated these data inputs for each of the smaller city and county geographies using ACS microdata for the Public Use Microdata Area (PUMA) or PUMAs they intersect. This was accomplished using population-based crosswalks we developed between 2010 PUMAs and 2010 counties, and between 2010 PUMAs and 2010 census-defined places (which include all cities), by taking a population-weighted average of the PUMA-level measures for each smaller city and county geography. Following this approach, we estimated the maximum gross rent, median gross rent, and median contract rent for overall and for each income bracket. The estimated maximum gross rent is inputted into the Pareto interpolation procedure to estimate median gross rent by income bracket for each of the smaller city and county geographies. Those initial estimates were then adjusted to reflect median contract rent by multiplying by the ratio of median contract to gross rent from the PUMA-based estimates. The approach seeks to utilize as much geographically-specific information from the ACS summary file as possible and substitutes in less geographically-specific information from the ACS microdata as necessary.

We assume that differences between reported rents from the 2019 5-year ACS (which reflect a 2015-2019 average expressed in inflation-adjusted 2019 dollar values) and 2020 actual rents are negligible for households that have not moved in 2020, as those households were likely locked into pre-pandemic leases and/or month-by-month agreements with fixed/stable rents. The total amount of monthly rent owed by behind households is then calculated by multiplying estimated median monthly rent for each income category by the number of Pulse households in that income category and summing those values for each geography (city or county). Regional and statewide estimates are produced by

summing estimates from their constituent county geographies. These figures are converted to total rent debt by adjusting based on our estimate that households were, on average, 3.75 months in arrears. There is no source of data on the distribution of rent arrears among behind households, so we estimated this distribution based on the University of Southern California (USC) [“Understanding Coronavirus in America” panel survey](#) from April 2020 through March 2021. Restricting the sample to renter households that were recorded at some point during each of the twelve months from April 2020 to March 2021 and determining a household’s behind status in each month based on their response closest to the end of the month, we measure how many months each household reports not paying their rent. Using this method, we found that approximately 25 percent of behind households are one month behind on rent, 28 percent are two months behind, 12.5 percent are three months behind, and 5.5 percent have not paid for the entire pandemic.

These estimates do not take into account the requirement of the California eviction moratorium passed in August 2020 (AB 3088) that Covid-19-affected tenants must pay 25 percent of rent accrued between September 1, 2020 and January 31, 2021 by January 31, 2021 to be protected from eviction. This incentive likely decreases the amount of arrears.

