



PENNSYLVANIA **COMPREHENSIVE** **HOUSING STUDY**

Pennsylvania Housing Finance Agency

MARCH 2024

	Table of Contents
3	INTRODUCTION
5	STATEWIDE TRENDS
5	DEMOGRAPHIC TRENDS
16	HOUSING STOCK
24	HOUSING PRICES AND RENTS
26	HOUSING FINANCE
32	HOUSING AFFORDABILITY AND INSTABILITY
38	HOUSING ASSISTANCE
44	COVID-19 AND HOUSING
46	SPECIAL TOPICS SUMMARIES
48	APPENDIX: DATA AND METHODS

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About the Pennsylvania Comprehensive Housing Study (2024)

The Pennsylvania Housing Finance Agency (PHFA) commissioned the Housing Initiative at the University of Pennsylvania (HIP) to conduct the Pennsylvania Comprehensive Housing Study (2024). The goal of this study is to guide PHFA in their understanding of housing trends in various parts of the Commonwealth. A secondary goal is for housing professionals across the state to use these data and analyses to inform local, regional, and statewide housing policies and programs. Finally, this report fulfills PHFA's statutory responsibility to regularly analyze and report on housing conditions and trends.

Housing conditions and trends continue to evolve, though, and a report is a static medium. Thus, we have also developed an interactive dashboard that shows current housing trends across Pennsylvania counties, accessible at https://housinginitiative.shinyapps.io/PHFA_Housing_Dashboard/.

The report covers the following topics:

- **Chapter 1: Demographic Trends** highlights important sociodemographic considerations that shape housing demand and preferences.
- **Chapter 2: Housing Stock** summarizes key characteristics of housing in the Commonwealth, including age of the building, building type, and condition of the housing.
- **Chapter 3: Housing Prices and Rents** identifies trends in housing costs for homeowners and renters.
- **Chapter 4: Housing Finance** shares information on households' access to mortgage loans and the kind of mortgages that homeowners have taken out by income and race/ethnicity.
- **Chapter 5: Housing Affordability and Instability** describes what housing instability and affordability look like in the Commonwealth.
- **Chapter 6: Housing Assistance** provides an overview of programs that help to address housing instability and key issues in these programs.
- **Chapter 7: COVID-19 Housing Issues** explains how the COVID-19 pandemic and its economic fallout impacted housing issues.
- **Chapter 8: Special Topics** summarizes four topics that are especially meaningful and timely for Pennsylvania communities: (1) **Manufactured Housing**; (2) **Rural Housing**; (3) **Broadband Access**; and (4) **Lead Pipe Infrastructure**.
- The **Appendix** lists our data sources and a selection of key terms.

About Pennsylvania Housing Finance Agency

The Pennsylvania Housing Finance Agency (PHFA) works to provide affordable homeownership and rental apartment options for older adults, low- and moderate-income families, and people with special housing needs. Through its carefully managed [mortgage programs and investments in multifamily housing developments](#), as well as funding provided for community development projects, PHFA also promotes economic development across the state. Since its creation by the legislature in 1972, PHFA has generated more than \$17.1 billion of funding for more than 192,816 single-family home mortgage loans, helped fund the construction of 103,328 rental units, distributed approximately \$239 million to support local housing initiatives, and saved the homes of more than 50,660 families from foreclosure.¹ PHFA programs and operations are funded primarily by the sale of securities and from fees paid by program users, not by public tax dollars. The Agency is governed by a 14-member board.

¹ These figures were last updated on April 4, 2023.

About Housing Initiative at Penn

Housing Initiative at Penn (HIP) is a research center at the University of Pennsylvania Weitzman School of Design. Its mission is to achieve more effective and equitable housing policy at the local, state, and federal levels through empirical research, program evaluation, the facilitation of honest and inclusive planning processes, and the development of networks and partnerships to advance housing strategies and goals. HIP has emerged as a national leader in developing housing plans and evaluating housing and urban policy programs and interventions.

Chapter 1: Demographic Trends

Several key demographic trends affect the demand for housing in Pennsylvania: the slight growth in population statewide despite population loss in over 60% of all counties; the aging of households; and the growing share of individuals with a disability. While incomes generally grew, the mean annual wage of the most common occupations ranges from \$29,460 to \$44,850 and falls short of fair market rent for a two-bedroom home (\$49,109).¹

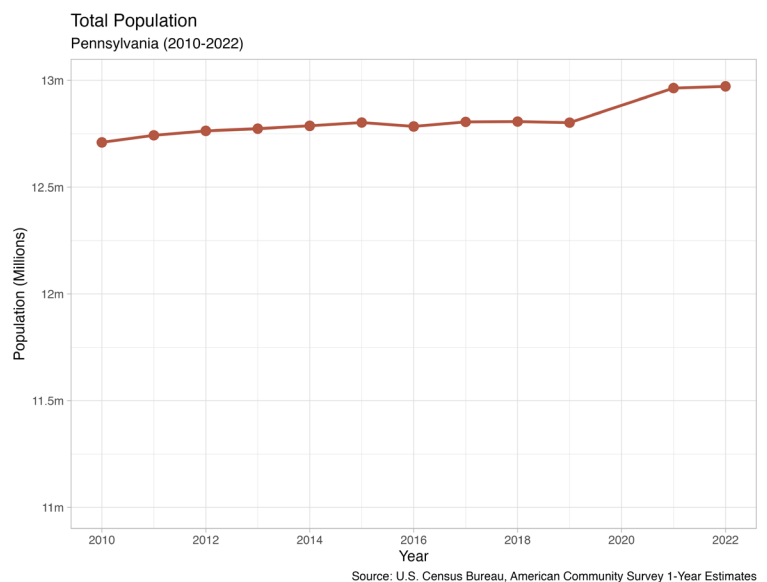
¹ National Low Income Housing Coalition, “Out of Reach 2023,” <https://nlihc.org/oor>.

Population

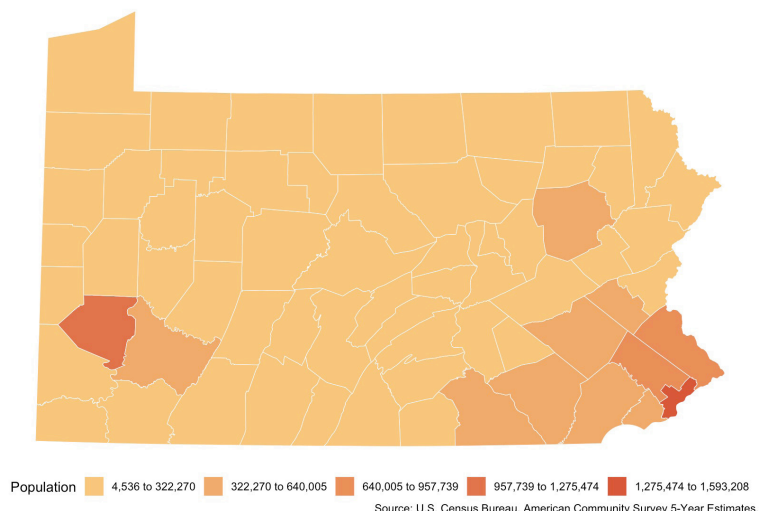
Pennsylvania’s population was nearly 13 million as of 2022, which is a 2.0% increase and a net increase of 262,378 residents since 2010. Annual population growth was slow between 2010 and 2019 (0.7%), but then increased between 2019 and 2022 by 1.3%. Note that 2020 data is excluded through: due to the emergency of the COVID-19 pandemic, 2020 data is considered experimental. This growth is relatively modest, making Pennsylvania the 40th of all states in population growth. The population in Pennsylvania is concentrated near the state’s two largest cities, Philadelphia and Pittsburgh.

Population growth is not evenly distributed across the state. The largest absolute increases in population over the last decade have occurred in Philadelphia and the nearby suburban counties of Montgomery, Chester, and Lancaster. Meanwhile, the largest percentage increases have occurred in those counties as well as a few slightly less populated counties: Cumberland, Lebanon, Lehigh, and Dauphin.

A majority of counties in the state (40 of 67), however, saw a decline in population. In particular, many rural counties experienced drastic declines, including Cameron, which lost 13% of its population; Susquehanna, which lost 11%; and Sullivan and Venango, which each lost 9%. The largest absolute declines were in Cambria (-11,478), Westmoreland (-11,427), and Fayette (-10,390). These counties are all concentrated west and north of the Allegheny Mountains.



Population in Pennsylvania Counties in 2022



Population (Continued)

Several factors contribute to the population trends. Pennsylvania's birth rate has been slowing down since 2010: while there were 11.3 births per 1,000 people in 2010, there were only 10.0 births per 1,000 people in 2022.² The death rate reached a new high during the pandemic: in the years leading up to the pandemic, the age-adjusted death rate vacillated between 750 to 777 age-adjusted deaths per 100,000 people, but peaked in 2020 at 866 age-adjusted deaths per 100,000. Overall, births exceeded deaths in 2019 before the pandemic (134,830 births compared to 134,010 deaths),³ but deaths exceeded births during the pandemic (132,099 compared to 155,120, for instance, in June 2022).

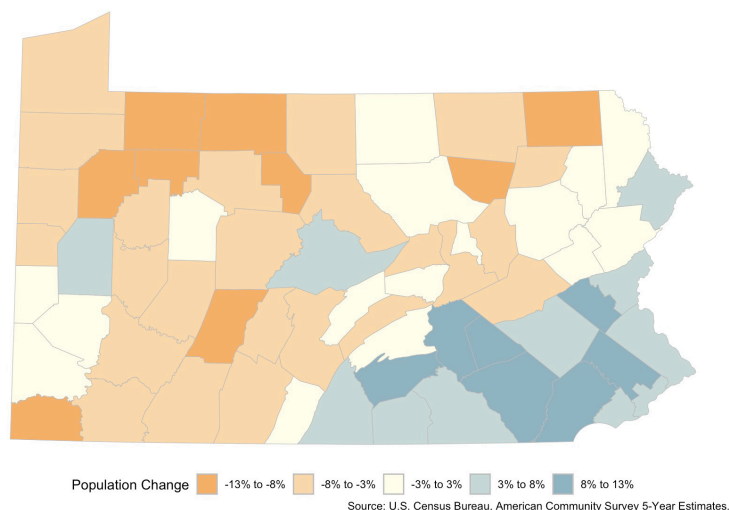
Domestic out-migration outpaced in-migration. Domestic out-migration increased dramatically between 2010 and 2016: in 2010, a net 1,700 residents left the state, but that increased to a net peak of a 50,400 residents leaving in 2016. In the remaining years of the decade, more domestic residents left than entered. At the height of the COVID-19 pandemic, domestic migration patterns shifted dramatically. More domestic residents entered the state than left. However, domestic migration patterns have since returned to pre-pandemic trends, with more residents leaving than entering (-40,000).

Meanwhile, international in-migration has contributed to the number of residents in the state. International migration increased from 5,700 in 2010 to a peak of nearly 39,000 in 2016. During pandemic years, international in-migration rates decreased but they have nearly bounced back to pre-pandemic levels: in 2022, the state's population grew by nearly 27,000 international residents. Combined, international and domestic migration patterns contributed to a slight increase in population of over 30,000 residents between 2010 and 2022.

² Centers for Disease Control and Prevention, CDC WONDER (Atlanta: U.S. Department of Health and Human Services, 2023), <https://wonder.cdc.gov/>.

³ U.S. Census Bureau Population Estimates Program, State Population Totals and Components of Change: Vintage 2022, <https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html>.

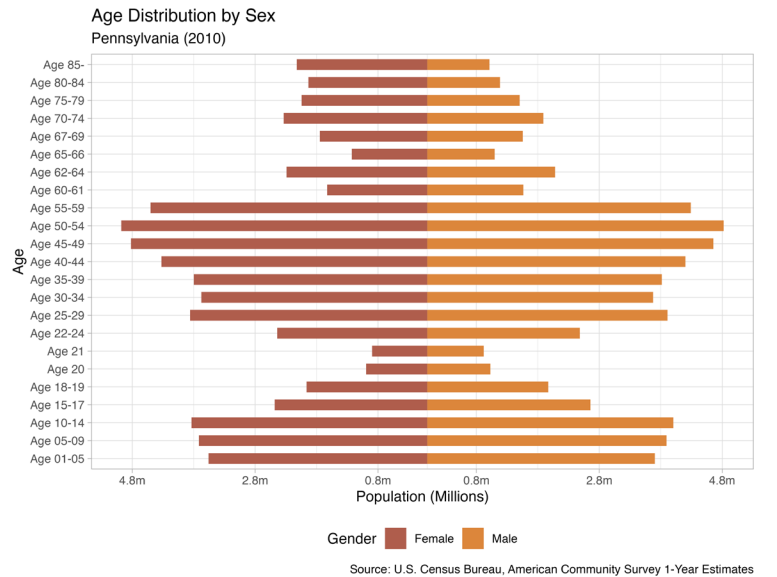
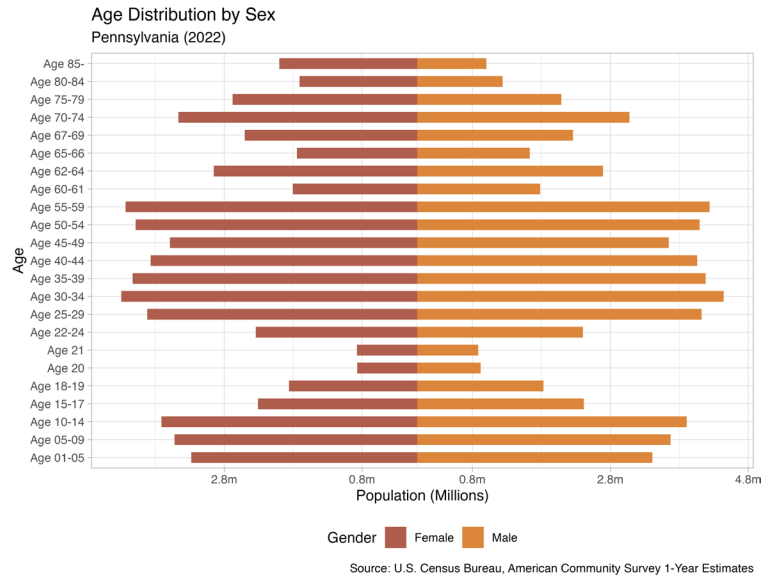
Population Change in Pennsylvania Counties, 2010-2022



Age, Sex, and Race

One of the most important demographic trends shaping housing in Pennsylvania is aging. The two butterfly plots shown here illustrate how residents are aging, with greater than 550,000 more Pennsylvanians entering the 65 and older category since 2010. Fewer Pennsylvanians entered middle age or ages 45 to 64 (-252,000), while the younger adult population (those aged 18 to 44) grew by 103,000 and the number of children under 18 decreased by 163,000 between 2010 and 2022. In fact, the state, tied with Connecticut, has the seventh highest median age at 40.9, with 20% of its population aged 65 years and older.

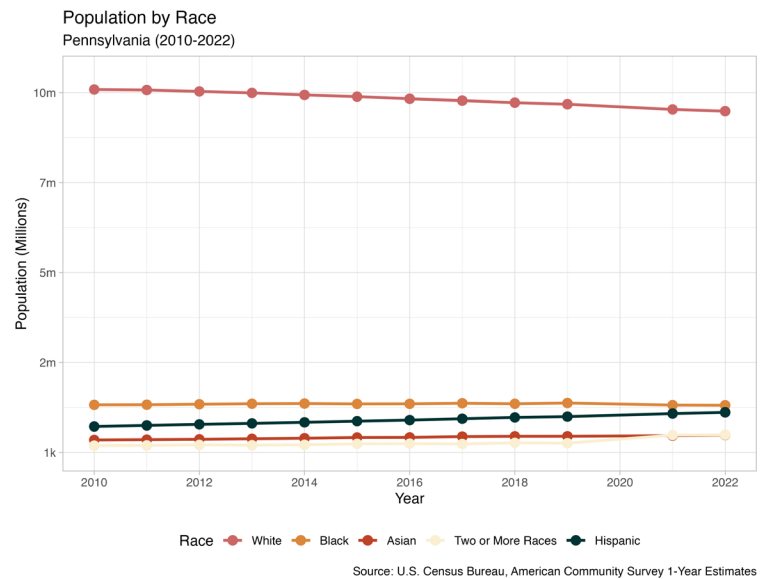
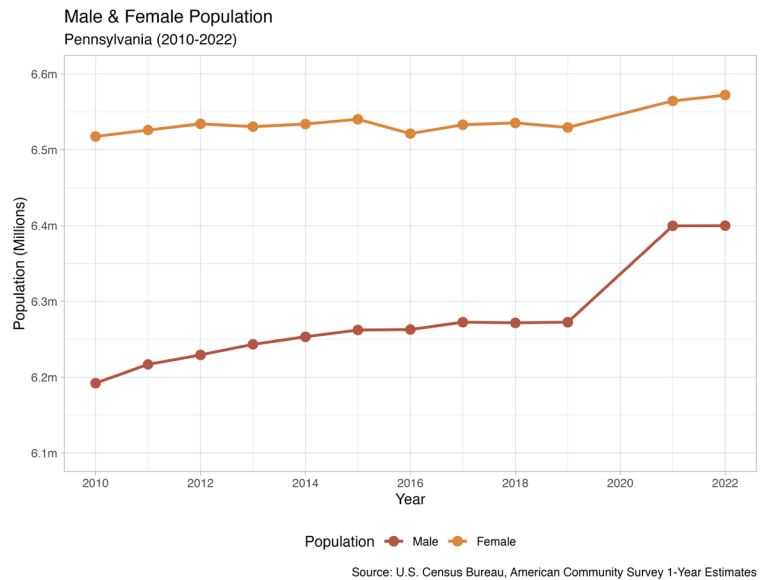
These trends have crucial implications for housing, since different age groups consume housing differently. In Pennsylvania, as of 2022, rates of homeownership were much lower among younger householders (at 47% among 25-to-34-year-olds, for example) than among middle-aged and elderly households (at 76% among 45-to-54-year-olds and rising to a peak of 80% among 65-to-74-year-olds). Younger householders (aged 15 to 34) and elderly householders (aged 65 and older) are both much more likely to live in nonfamily households, which include one-person households and households made up of people who are unrelated, than are householders aged 35 to 64 (49% and 47%, respectively, compared to 28%). But elderly people heading nonfamily households tend to live alone (94%), whereas younger residents in this group live alone only 58% of the time and are more likely to live in households with other unrelated people. The shift in Pennsylvania towards more elderly households has important implications for housing needs in the state, such as a need for more housing units that can accommodate single older adults and age-related disabilities, or, alternatively, programs to support modifications to existing homes to make them more accessible.



Age, Sex, and Race (Continued)

As is typical nationwide, female Pennsylvanians tend to outlive male Pennsylvanians, leading to a larger overall female population (slightly under 6.6 million) than male population (6.4 million).

Pennsylvania's population continues to diversify in terms of race and ethnicity. The total white population has decreased from slightly more than 10 million in 2010 to just under 9.5 million in 2022, while those identifying as Hispanic, Asian, or two or more races have each grown (by approximately 394,000; 140,000; and 304,000, respectively). The total Black population increased slightly between 2010 and 2019 but decreased in 2021 and 2022, resulting in a loss in population (-12,000) between 2010 and 2022.



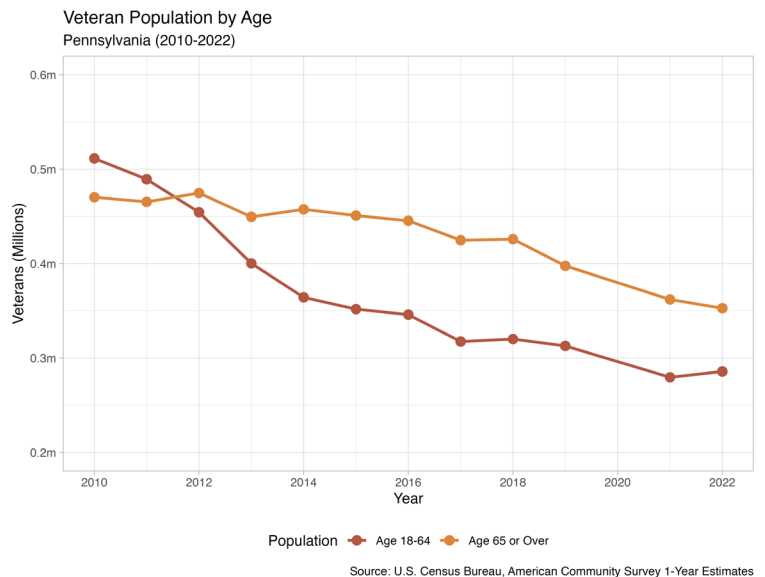
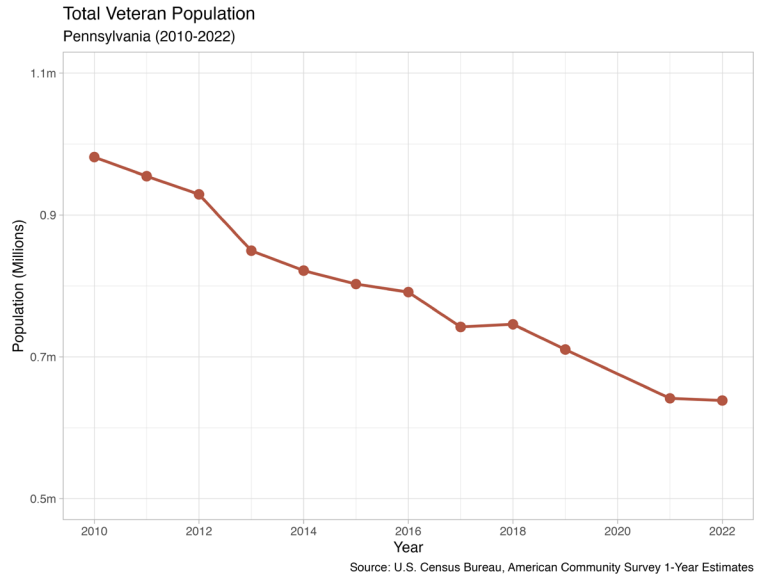
Veterans

Pennsylvania's veteran population has steadily fallen, with about 638,000 veterans in 2022 compared to nearly 982,000 in 2010. Veterans make up larger percentages of the population in rural counties. The highest concentration of veterans in any Pennsylvania county is in Armstrong County, followed by Franklin and Somerset Counties.

Since 2012, veterans aged 65 and older have outnumbered younger veterans; the gap is now over 82,000. In terms of period of military service, Vietnam War veterans are by far the largest group (36%). The second largest groups (20% and 20%) are younger; they are made up of two groups of Gulf War veterans, those who served between 1990 until September 11, 2001 and those who served after September 11, 2001. Note that the Census includes only current civilians in the "veteran" category; any soldiers who have served in a previous conflict but are still in active service are excluded.

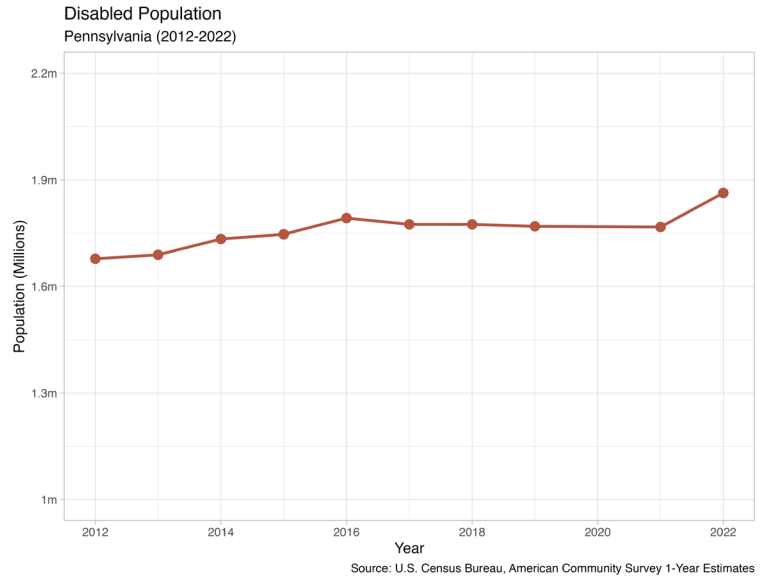
Importantly, a growing percentage of veterans live with a disability related to their service; the largest growth has been among those with severe disabilities. As of 2021, about 21% of Pennsylvania veterans have a service-connected disability, and 39% of these have a severe disability. In 2012 (the earliest year for which these data are available), only 11% of veterans had a service-connected disability, and only 19% of these had a severe disability.

Pennsylvanian veterans' median income is somewhat higher (\$46,046) as of 2022 than nonveterans' (\$38,462) and veterans are less likely to be living in poverty than nonveterans (7% versus 11%). Among veterans that do live below the poverty line, though, a higher share have a disability (44%), compared to the nonveteran population in poverty (32%).



Disability

According to the Office of the Surgeon General and the Office on Disability, “when limitations related to a medical condition arise and begin to have a negative effect on essential life functions, such as walking, talking, seeing, hearing, or working, [...] a person is said to have a disability.”⁴ Some people with disabilities may have unique needs in their living arrangements, such as ramps or other home modifications, or may not be able to work and need to rely on disability benefits and other assistance. The Pennsylvania population living with a disability has increased by approximately 185,000 people, or 11%, since the U.S. Census Bureau started measuring disability in 2012. The population living with a disability is now over 1.86 million people, or nearly 15% of the state population. Older adults are more likely to have a disability: nearly a third (32%) of Pennsylvanians aged 65 and older have a disability. The number of people living with a disability notably increased by nearly 96,000 between 2021 and 2022. This increase has largely been driven by a growth in young adults (aged 18 to 34) experiencing hearing, cognitive, and independent living difficulties and adults aged 65 to 74 experiencing self-care and cognitive difficulties.

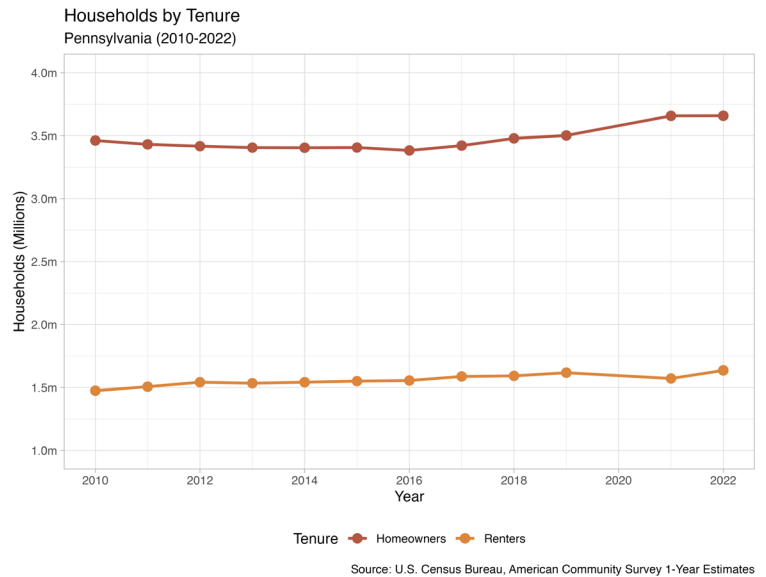
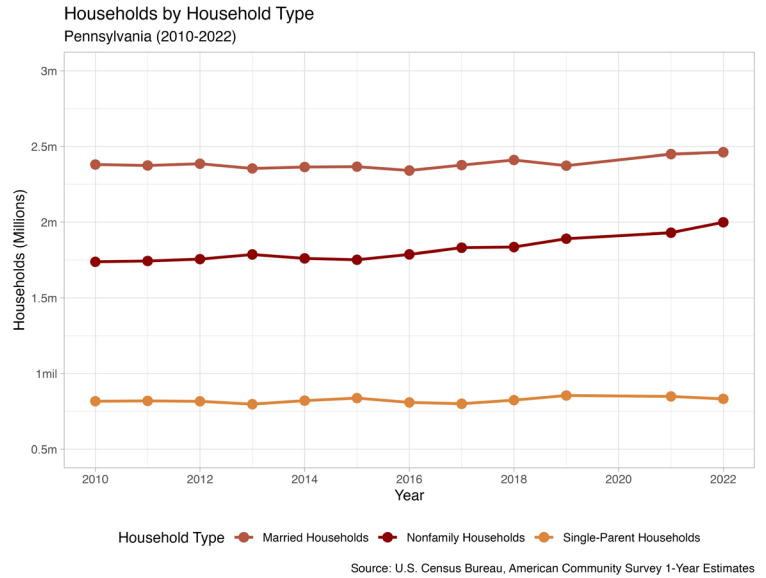


⁴ U.S. Department of Health and Human Services, The Surgeon General's Call To Action To Improve the Health and Wellness of Persons with Disabilities (US Department of Health and Human Services, Office of the Surgeon General, 2005), <https://www.ncbi.nlm.nih.gov/books/NBK44671/>.

Households and Tenure

Overall changes in household type reflect shifting age demographics. Recent years have seen an uptick in the number of nonfamily households, which are one-person households and households made up of people who are unrelated. The number of nonfamily households has grown by more than 260,000 to a 2022 total of nearly 2 million. In addition, the number of households with a single-parent has risen by just under 16,000 since 2010, for a total of about 832,000 in the Commonwealth in 2022.

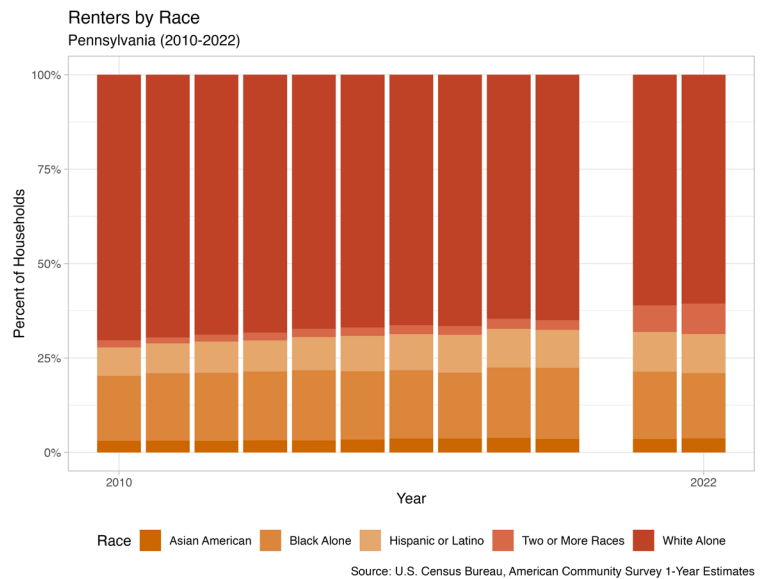
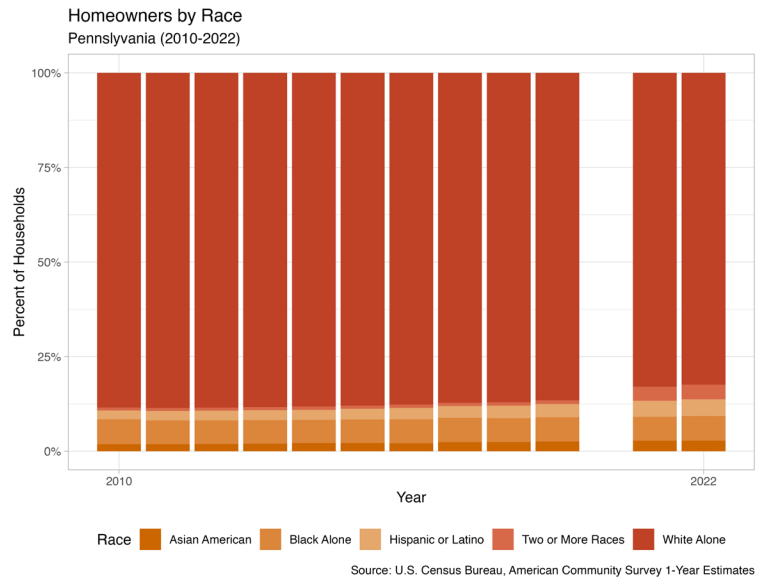
While the overall number of homeownership households dipped to a low of 3.38 million in 2016, it has since recovered to 3.66 million. Meanwhile, the renter population has steadily grown, adding nearly 162,000 renter households and reaching a peak of 1.64 million in 2022. Given these trends, that means the proportion of owners to renters decreased continuously through 2017, but has since grown. As a result, owner households continue to outnumber renter households by more than two to one.



Households and Tenure (Continued)

Homeowners in Pennsylvania remain overwhelmingly white and non-Hispanic, though some ethno-racial groups have seen growth in homeownership since 2010. Homeownership among heads of household identifying as two or more races grew by nearly 119,000 households. In addition, Hispanic homeownership has grown by nearly 82,000 households; Asian homeownership by nearly 40,000 households; and Black homeownership by 13,000 households. Homeownership rates for Hispanic, multiracial, and Asian households also grew (6%, 5%, and 4%, respectively). However, Black homeownership rates decreased by 2%, suggesting that homeownership grew but not proportional to the growth in the number of Black households. The largest increase in tenure by age group has been among owner householders aged 65 to 74 (235,000) while the largest decrease has been among owner householders aged 45 to 54 (-168,000).

Renters are considerably more diverse and growing still more so. The largest increases in the number of renter households have been among Pennsylvanians identifying as two or more races, with nearly 109,000 new renter households (385%) since 2010, followed by Hispanic Pennsylvanians (65,000 new renter households since 2010 (59%)), followed by Black Pennsylvanians (40,000 new renter households, or 16%), and Asian Pennsylvanians (18,000 new renter households, or 39%). The renter population is younger than the owner population, with a third of renter households headed by individuals 34 and younger, compared to only 11% of homeowner households in that age group in 2022. At the other end of the age spectrum, 21% of renter households are headed by those aged 65 and older, compared to 33% of owner households.

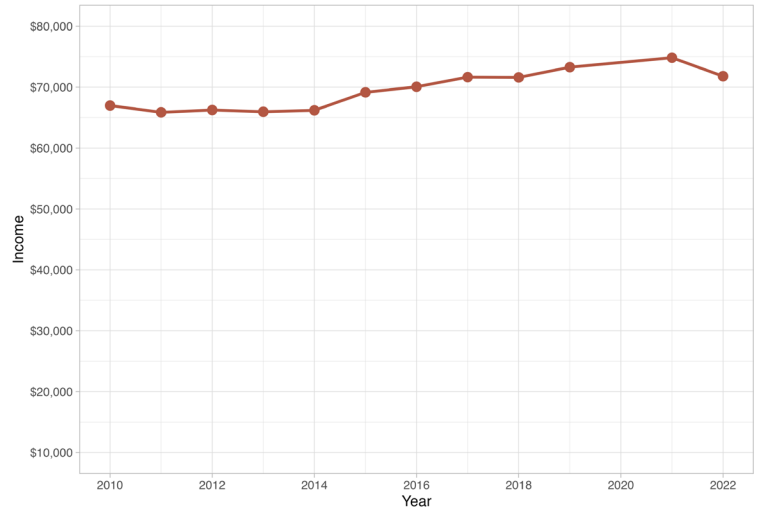


Income

Real income for the median Pennsylvania household rose steadily between 2013 and 2021 (in 2022 dollars). As of 2022, the median household income is \$71,798. This is slightly lower than the median household income nationwide in 2021 (\$74,836), but substantially lower than that of several neighboring states, including Maryland (\$94,991), Delaware (\$82,174), New York (\$79,557), and New Jersey (\$96,346).

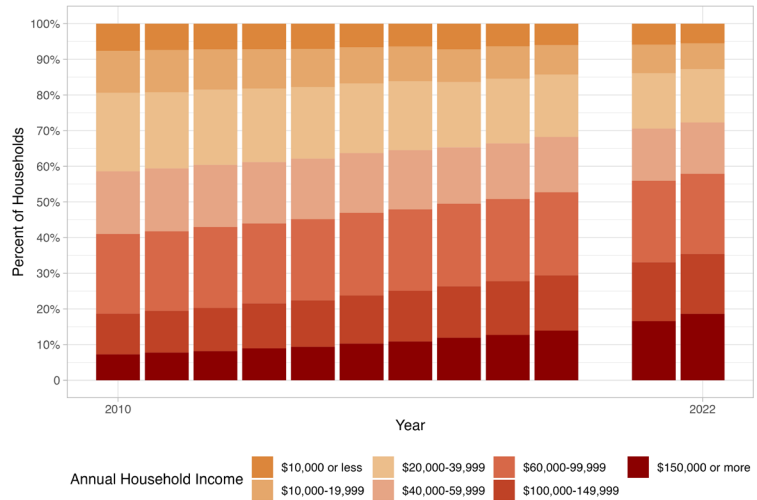
The increase in median household income has been driven by declines in the number of households in the lowest-income categories and slightly larger increases in high-income categories per year, not adjusting for inflation. For example, while the number of households earning less than \$20,000 a year has fallen by nearly 460,000 between 2010 and 2022, the number of households earning more than \$150,000 has grown by nearly 630,000. The Gini Index, which measures income inequality, has increased slightly, from 0.46 to 0.48. Notably, the median homeownership household has more than double the income of the median renter household (\$88,448 versus \$43,709).

Median Household Income (in 2022 dollars)
Pennsylvania (2010-2022)



Source: U.S. Census Bureau, American Community Survey 1-Year Estimates

Households by Annual Household Income Bands
Pennsylvania (2010-2022)



Source: U.S. Census Bureau, American Community Survey 1-Year Estimates

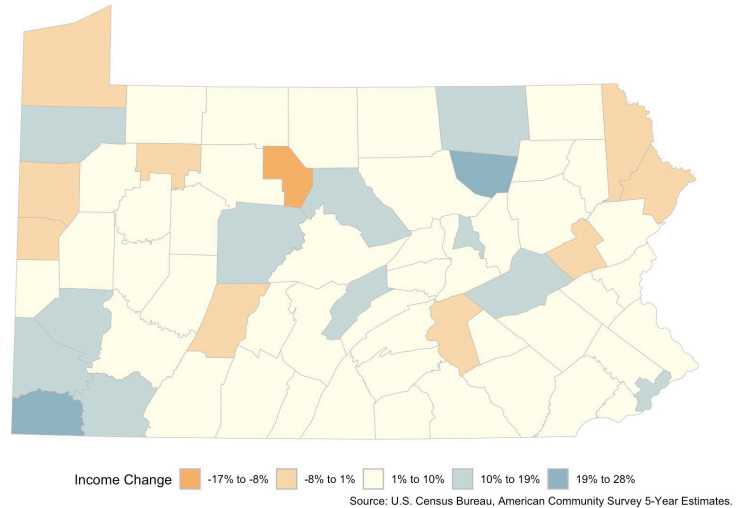
Income (Continued)

Most counties in the state (59 of 67) saw a real increase in median household income since 2010. The largest dollar and percentage increase was in Sullivan County (\$13,647, or 28%). Cameron County experienced the greatest decline in real income (-\$9,170, or -17%); Wayne and Forest Counties also experienced declines in real income (-\$3,178, or -5%, and -\$1,580, or -3%, respectively). The remaining counties had small declines of under \$1,000.

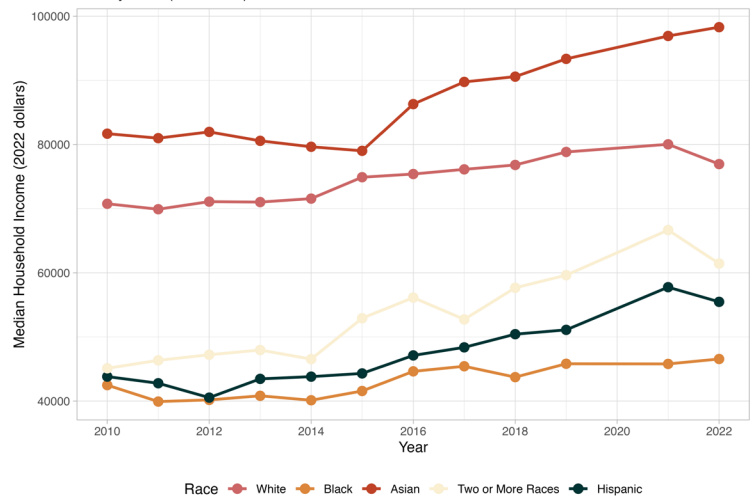
The highest-income counties (Chester, Montgomery, Bucks, and Delaware) all saw income increase modestly. Philadelphia was among those with a larger absolute and percentage increase (\$8,272, or 17%), but median household income remained low at only \$57,537. Further, income inequality worsened in Philadelphia: the Gini index rose from 0.49 to 0.51, the worst for any county in Pennsylvania and worse than almost every state in the nation.

Income continues to be very unequally distributed by race and ethnicity in Pennsylvania, with the median Asian household earning over \$98,000 in 2022, followed by white households at about \$77,000, Hispanic households at \$55,000, and Black households at only \$47,000. The greatest real income growth since 2010 has actually occurred among households headed by individuals identifying as multi-racial (\$16,000, 36%), followed by Hispanic households (\$12,000, 27%) and Asian households (\$17,000, 20%). By comparison, Black Pennsylvanians have seen their real income grow much less than other demographic groups, growing only by \$4,000 or 10%, for the median household.

Change in Median Household Income in Pennsylvania Counties, 2010-2022 (in 2022 dollars)



Median Household Income by Race
Pennsylvania (2010-2022)



Source: U.S. Census Bureau, American Community Survey 1-Year Estimates

Employment and Wages

Of Pennsylvania's civilian population aged 16 and older, 62.8% are in the labor force, actively employed, or seeking employment. The suburbs of Philadelphia have the highest rates of labor force participation (67-68% in Bucks, Chester, and Montgomery Counties), while Forest, Greene, and Union Counties have the lowest rates (25%, 47%, and 49%, respectively). Of Pennsylvanians in the labor force, 4.3% are unemployed, which is similar to the national rate of unemployment (4.3%). Philadelphia, Cameron, and Pike Counties faced the highest unemployment rates (8-9%), while Snyder, Montour, and Juniata Counties had the lowest unemployment rates (below 3%). The Commonwealth faced lower levels of unemployment compared to its neighbors in New York and New Jersey (5.1% and 5.0%), but higher rates of unemployment compared to Maryland and Ohio (4.0% and 3.7%). Monthly unemployment rates indicate additional drops in unemployment; by August 2023, Pennsylvania had reached a record low in its unemployment rate, at 3.5%.⁵

The COVID-19 pandemic negatively impacted the number of jobs in Pennsylvania, but the job market has slowly rebounded since. In February 2020, Pennsylvania had nearly 6.1 million nonfarm jobs; that dropped by April 2020 to a low of just under 5.0 million jobs. By September 2020, the Commonwealth had recovered 600,000 jobs, but struggled to surpass 6.0 million jobs until July 2022. By July 2023, the number of jobs met the level reached immediately prior to the pandemic (nearly 6.1 million jobs).

The most common occupations are in office and administrative support, transportation and material moving, sales, and food preparation and serving. These types of occupations make up nearly 40% of all jobs in the Commonwealth.⁶ Renters in Pennsylvania need to have an

⁵ U.S. Bureau of Labor Statistics, "Economy at a Glance: Pennsylvania," <https://www.bls.gov/eag/eag.pa.htm>

⁶ U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Statistics: May 2022 State Occupational Employment and Wage Estimates in Pennsylvania," https://www.bls.gov/oes/current/oes_pa.htm.

Total Nonfarm Jobs in Pennsylvania by Industry, July 2023

Industries	Jobs (in thousands)
Education & Health Services	1,313.7
Trade, Transportation, and Utilities	1,160.7
Professional & Business Services	870.8
Government	688.4
Manufacturing	567.5
Leisure & Hospitality	566.9
Financial Activities	340.2
Construction	264.4
Other Services	256.3
Information	96.5
Mining and Logging	23.3
Total Nonfarm Jobs	6,148.7

Source: U.S. Bureau of Labor Statistics

income of at least \$49,109 to affordably rent a two-bedroom home at fair market rent,⁷ yet the mean annual wage of the most common occupations ranges from \$29,460 to \$44,850. The next most common occupations are in healthcare practitioners and management, with annual mean wages of \$89,820 and \$126,450, respectively, and make up another 13% of all jobs in the Commonwealth.⁸

In July 2023, the education and health services; trade, transportation, and utilities; and the professional and business services industries contributed the greatest number of jobs in the Commonwealth, while mining and logging contributed the fewest.⁹

⁷ National Low Income Housing Coalition, "Out of Reach 2023," <https://nlihc.org/orr>.

⁸ U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Statistics: May 2022 State Occupational Employment and Wage Estimates in Pennsylvania," https://www.bls.gov/oes/current/oes_pa.htm.

⁹ U.S. Bureau of Labor Statistics, "Economy at a Glance: Pennsylvania," <https://www.bls.gov/eag/eag.pa.htm>.

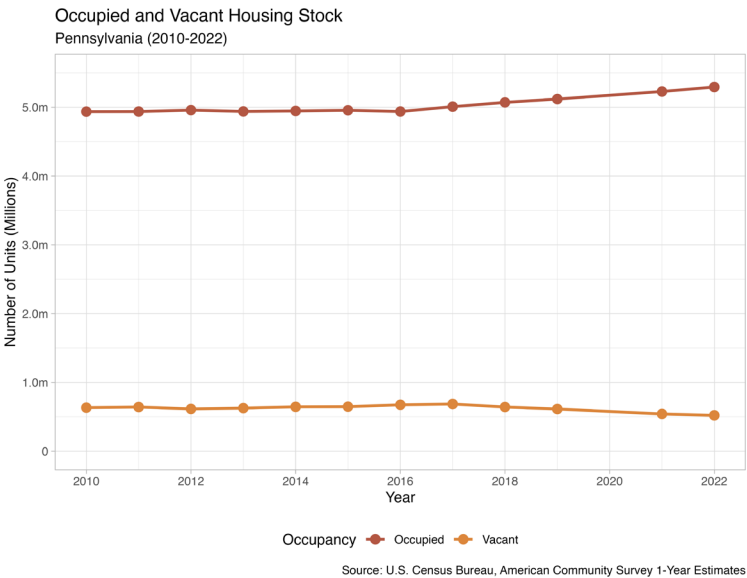
Chapter 2: Housing Stock

Statewide, the housing stock has grown and vacancy rates have decreased slightly. Homes in Pennsylvania are among the oldest in the nation and continue to age. A small subset of housing units in the Commonwealth are in moderately or severely inadequate condition, with holes in the floors or roofs, failing plumbing and heating systems, pest and mold infestations, and broken windows.

Occupancy/Vacancy

As of 2022, there were more than 5.8 million housing units in Pennsylvania, an increase of 4% since 2010. Of these, approximately 5.3 million units are occupied: 69% by homeowners and 31% by renter households. The remaining 521,126 units are vacant. Vacancy levels in the past decade remained similar, between 11-12%, decreasing in 2022 to 9%. The absolute number of vacant units has decreased by about 112,000 units, even as the overall housing stock has grown.

Unsurprisingly, Pennsylvania’s housing stock, especially rental housing, remains concentrated in the most populated areas of the state, in Philadelphia, counties in the southeast, and Pittsburgh (Allegheny County). Between 2010 and 2022, nearly half of Pennsylvania counties experienced modest increases in the total number of occupied housing units. Centre County saw a 10% increase in the amount of owner-occupied units, while Forest and Susquehanna Counties saw decreases greater than 10%. Another 28 counties saw modest increases, and the remainder saw modest declines. Meanwhile, the number of renter-occupied units increased in more than half of Pennsylvania counties. While Philadelphia, Allegheny, and Montgomery Counties added the greatest number of renter-occupied units (over 58,000, 18,000, and 14,100, respectively), Carbon and Northampton Counties, both of which have a small rental stock, saw the greatest increase by percentage (29% and 27%, respectively). Philadelphia and



Occupancy/Vacancy Continued

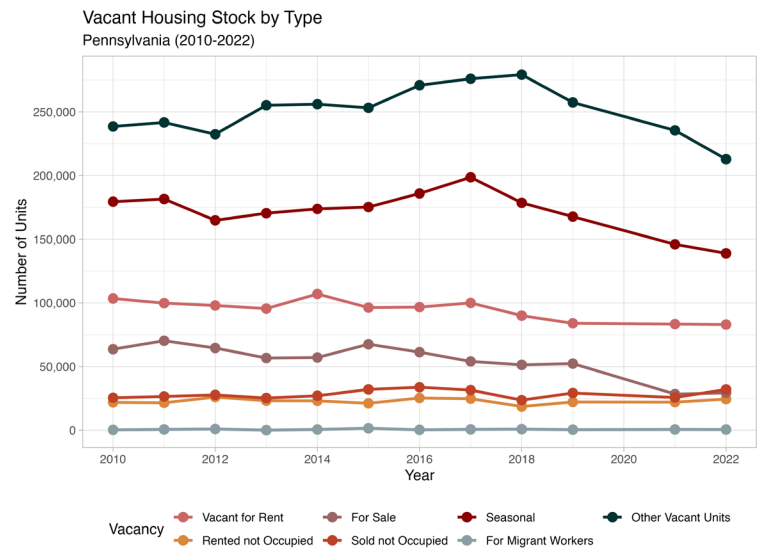
Selected Housing Metrics in 10 Pennsylvania Counties with the Greatest and Fewest Housing Units, 2022

County	Total Occupied Units	Share Ownership	Share Rentership	Total Vacant Units
Philadelphia	730,630	52%	38%	71,501
Allegheny	602,734	65%	35%	57,097
Montgomery	346,692	72%	28%	17,012
Bucks	255,599	78%	22%	8,765
Delaware	229,039	69%	31%	13,206
Cameron	2,210	71%	29%	1,746
Sullivan	2,462	85%	15%	3,157
Forest	1,844	83%	17%	5,201
Fulton	6,126	77%	23%	993
Montour	7,633	70%	30%	463

Source: U.S. Census Bureau 5-Year American Community Survey Estimates, 2017-2022

Pittsburgh are home to the largest number of vacant units (more than 74,000 and 55,000 units, respectively), though Forest County, Sullivan County, and Potter County have the highest vacancy rates in the state.

The American Community Survey (ACS) offers some additional detail on the key contributors to vacancies. Nearly 139,000 units (27% of all vacant units) were vacant because the unit was for seasonal, recreational, or occasional use. Another 83,000 units (16%) sat vacant while the owner looked for a renter; another 29,000 (6%) were for sale. In 2022, nearly 41% of units are categorized as “other vacant.” This category includes homes that are held vacant, are being repaired, are foreclosed on or face other legal proceedings, are abandoned, or are used as storage space. This means that the majority of the housing stock that is vacant is off the market in some form, temporarily or indefinitely.

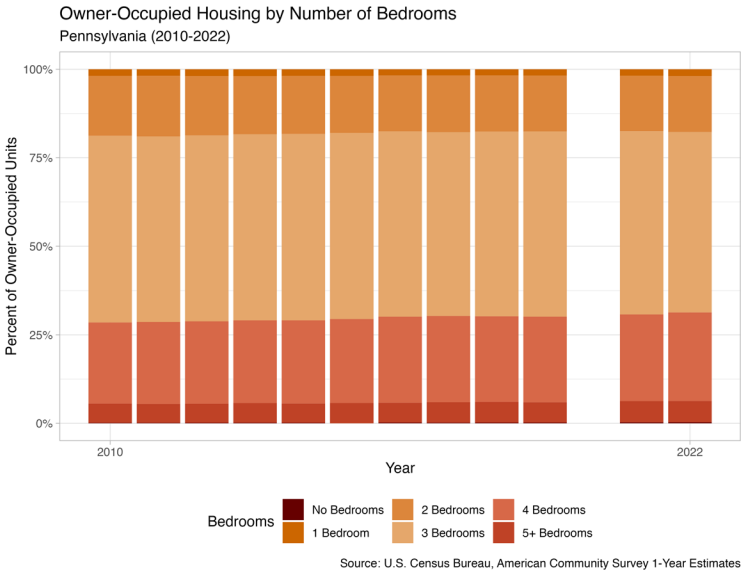
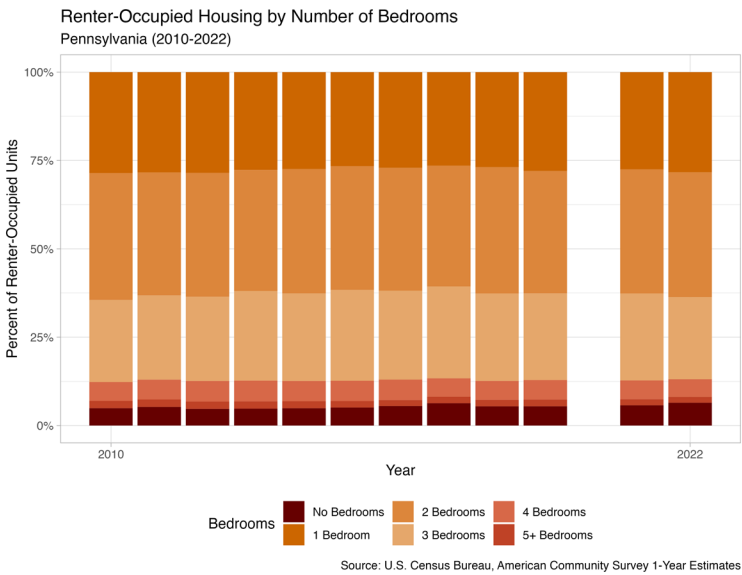
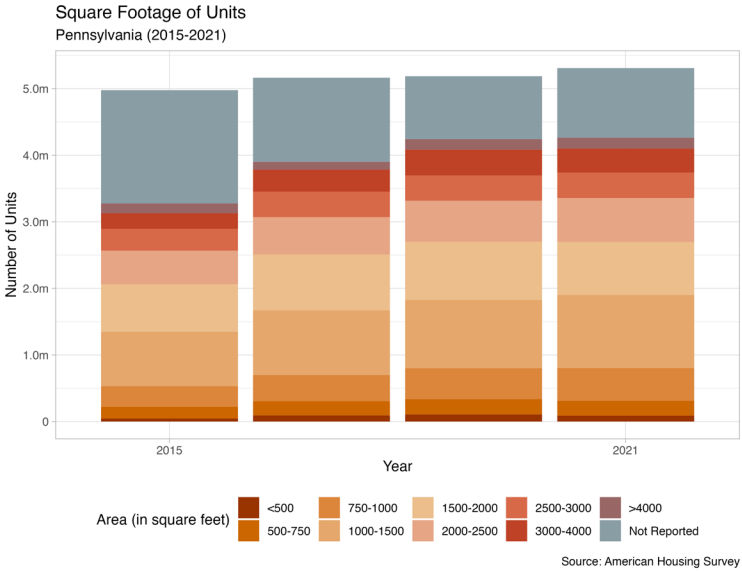


Unit Size

The ACS provides important, but limited, information on housing stock and quality—the American Housing Survey (AHS), administered every other year, provides more details on a variety of housing unit characteristics. In 2021, the AHS estimated that Pennsylvania has 5,770,600 housing units. Of the 4,262,900 units for which square footage were estimated, 19% were smaller than 1,000 square feet, 26% were 1,000-1,500 square feet, 19% were 1,500-2,000 square feet, and 37% were larger than 2,000 square feet. Overall, 55% of homes are larger than 1,500 square feet, the national median in the 2021 AHS.

Most owner-occupied units (67%) have either two or three bedrooms. Very few (2%) have only one bedroom, while 31% have four or even five bedrooms. The number of bedrooms in owner-occupied homes has changed slightly since 2010, with the share of four- and five-bedroom homes increasing from 28% to 31% of the owner-occupied stock, and the share of two- and three-bedroom homes decreasing from 70% to 67%.

Compared to owner-occupied housing stock, a far larger share of renter-occupied housing stock have no bedrooms, making them studios, (6%) or only one bedroom (28%). Two- and three-bedroom units make up 35% and 23% of the occupied rental stock, respectively. While the absolute number of rental units has increased in all categories except for five or more bedrooms, studios have increased most as a percentage of the rental stock, from about 4% in 2010 to 6% in 2022.

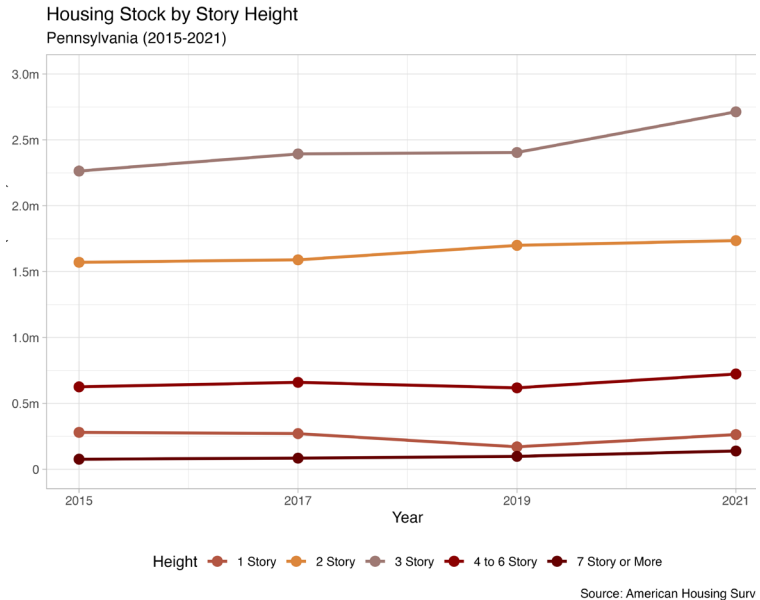
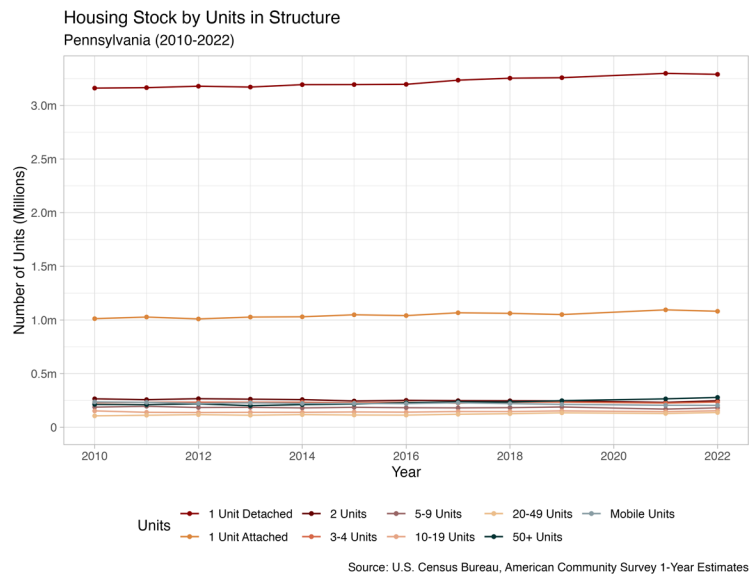


Building Type

Single-family detached homes continue to be the predominant type of housing in Pennsylvania. There are about 3.30 million such homes as of 2022, making up 57% of all units. The rest of the housing stock is made up, in order of prevalence, of attached single-family homes (1.1 million, or 19%); units in large apartment buildings of 10 or more units (nearly 571,000, or 10%); units in duplexes (248,000, or 4%); units in tri- and fourplexes (235,000, or 4%); mobile homes (208,000, or 4%); and units in small apartment buildings of five to nine units (182,000 or 3%). Within the Commonwealth, mobile homes make up the largest shares of the housing stock in Greene, Tioga, and Forest Counties (16-18% in each) and are more common in rural counties in the north and west.

This composition is very similar to 2010, when 3.16 million single-family detached homes also made up 57% of the housing stock. Perhaps the most notable change has been an absolute decrease in the number of mobile homes (-29,520), though their share of the housing stock remains similar. Also declining in absolute and relative terms are units in duplexes. There are 17,000 fewer duplexes than in 2010, and their share of the overall housing stock has fallen slightly from 5%.

The AHS also measures the number of stories in the structure of each housing unit. Most common are homes in two- and three-story structures which, as of 2021, make up 31% and 49% of the housing stock (or 1.7 million and 2.7 million housing units), respectively. These are followed by homes in four- to six-story structures (13%, or 0.7 million units), one-story structures (5%, or 0.3 million units), and structures of seven or more stories (2%, or 0.1 million units).

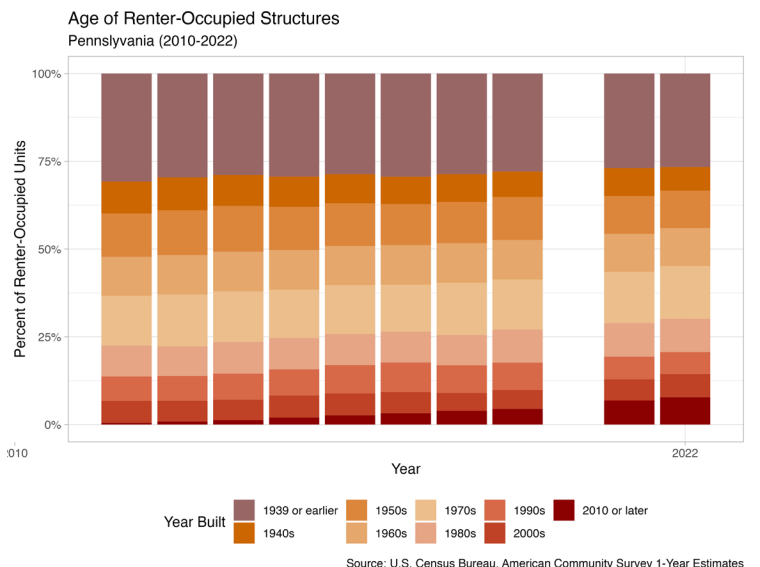
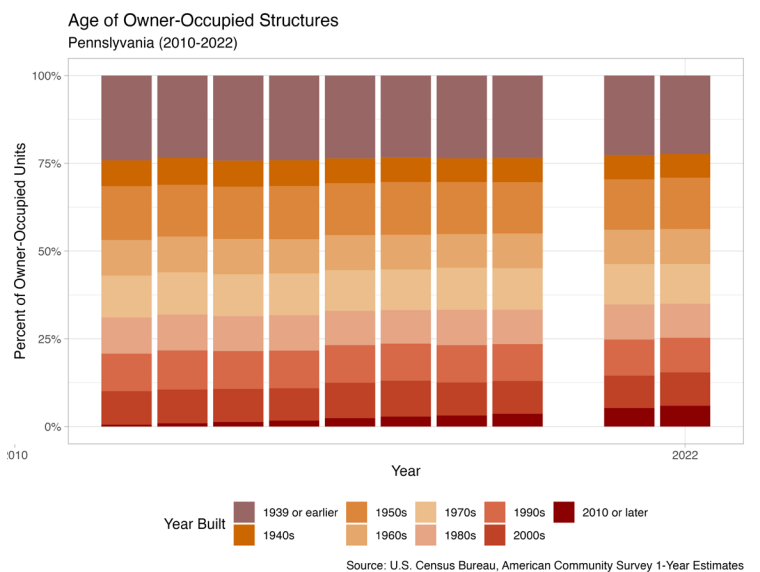
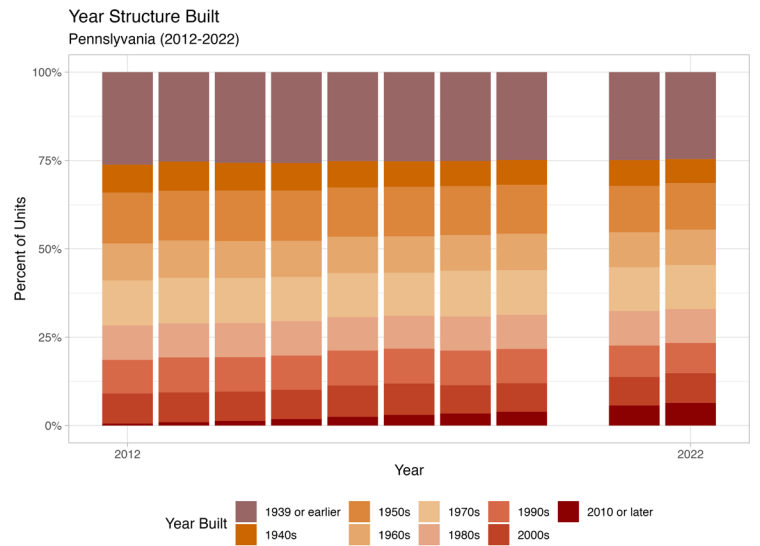


Building Age

The median age of housing in Pennsylvania, as of 2022, is 57 years old. This means Pennsylvania has some of the oldest housing stock in the country. The only states with older structures are New York, (63); Massachusetts (58); and Rhode Island (61). As of 2022, a quarter of occupied housing units in Pennsylvania are structures that were built before 1940. Since 2010, though, the number of occupied units in this category has fallen by nearly 103,000 units. The number of 1940s units in use has also decreased in absolute terms (-77,821). Meanwhile, over 374,000 units have come online since the year 2010 and 15% of all occupied units were built in 2000 or later.

Philadelphia and Schuylkill Counties are home to the oldest housing in the state, with median construction years of 1949 and 1944, respectively, compared to the statewide median of 1964. Pike, Monroe, and Chester Counties on the far eastern end of the state have the newest housing stocks; in each, the median year built is in the 1980s.

Rental units tend to be somewhat older; compared to owner-occupied units, a slightly larger share were built before 1940 and a slightly smaller share have been built since 2000. ACS estimates show that, in general, the older a rental unit is, the lower its gross monthly rent is likely to be. Units in structures built in 2020 or later had a median rent of \$1,703 in 2022 and units in structures built in the 2010s had a median rent of \$1,581. Meanwhile, units built in the 1950s, 1940s, and before 1940 all had median rents of less than \$1,100 (\$1,097, \$1,004, and \$1,059, respectively).

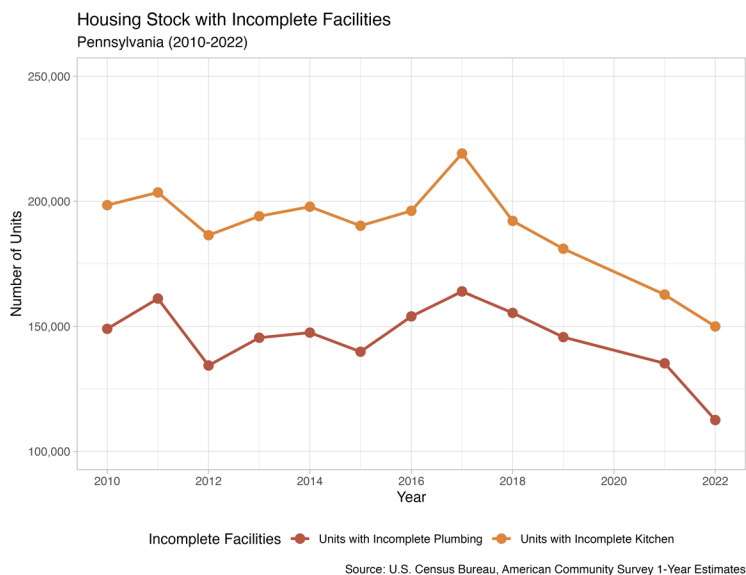


Housing Quality

There is a lack of high-quality data about housing conditions and repair needs is lacking. One estimate of repair needs comes from the American Housing Survey. As of the 2021 American Housing Survey, 69,100 units (1.1%) were found to be “severely inadequate” and 234,700 units (4.4%) were “moderately inadequate.” Homes are classified as severely inadequate if they lack hot or cold water or a full bathroom, lack functioning heating equipment, lack electricity, have exposed wiring, or have at least five maintenance problems such as water leaks, holes in the floor, or a rat infestation. Moderately inadequate units have three or four maintenance problems or lack a kitchen sink, working refrigerator, cooking equipment, or consistently functioning toilets.

Other indicators of housing quality come from demand and outstanding need in existing weatherization and home repair programs. For instance, the Department of Energy’s Weatherization Assistance Program does not allow funds to be spent on houses that have serious health or safety problems. In 2021, Regional Housing Legal Services (RHLS) found that ACTION Housing in Western Pennsylvania turns away 10-15% of applicants for weatherization assistance because of this requirement. RHLS also reports that home repair programs across the state are oversubscribed, with waiting lists in the thousands in Philadelphia and hundreds in Pittsburgh. And in the 2021 round of funding via Pennsylvania Housing Affordability Rehabilitation and Enhancement (PHARE), PHFA received 119 applications for home repair programs, requesting a total of \$40.6 million to repair an estimated 1,600 homes.¹⁰

¹⁰ Regional Housing Legal Services. “Pennsylvania Home Repair Program: The Need for a Statewide Home Repair Program to Respond to the Negative Impacts Arising from the COVID-19 Pandemic.” <https://pahra.org/wp-content/uploads/2021/04/Home-Repair-Program.pdf>



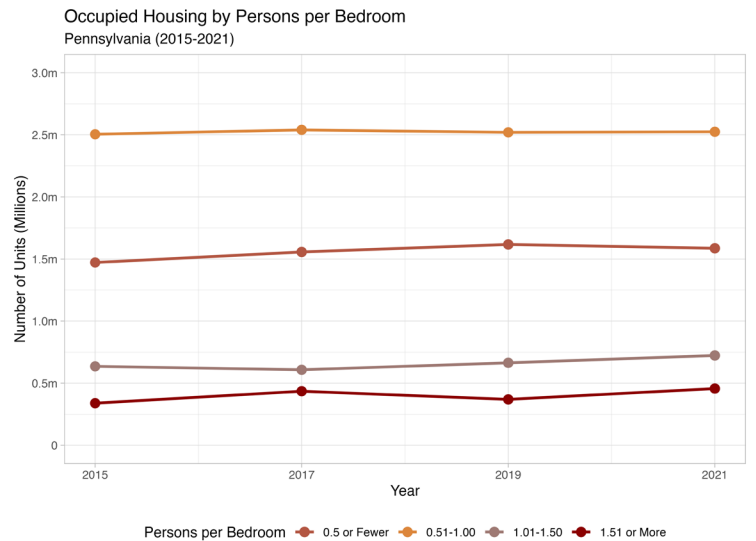
Finally, the ACS asks a series of questions about plumbing and kitchen facilities, specifically whether the housing unit has both hot and cold running water, a bathtub or shower, a sink with a faucet, a stove or range, and a refrigerator. As of 2022, the number of housing units in Pennsylvania lacking complete plumbing facilities based on these questions is estimated to be nearly 113,000, or 2% of all units. But the number of occupied units lacking complete plumbing facilities is only 18,128, or 0.3%. The number of housing units in Pennsylvania lacking complete kitchen facilities is estimated to be nearly 150,000, or 3% of all units. The number of occupied units lacking complete kitchen facilities is 43,664 or 0.8%. Rates of plumbing incompleteness and kitchen incompleteness are higher among rental units (0.5% and 1.8%) than among owner-occupied ones (0.3% and 0.4%). The total number of units with incomplete plumbing facilities is slightly lower as of 2022 than it was in 2010, as is the number with incomplete kitchens.

Housing Quality Continued

Common measures of crowding in housing include persons per room and persons per bedroom. These are imperfect measures; they do not account for the differences in room sizes, or other characteristics of the housing unit. Nevertheless, research has found relationships between overcrowding using these metrics and the spread of communicable diseases, poor mental health, child maltreatment, and lower academic achievement among children. These negative impacts appear at more than 1.5 persons per room or more than 2 persons per bedroom.¹¹

In 2022, according to ACS estimates, few housing units in Pennsylvania had more than 1.5 persons per room (nearly 32,000 units, or about 0.6% of all units). While a small share of units have crowding overall, the ACS estimates suggest that the number of Pennsylvania housing units with more than 1.5 persons per room has increased (by nearly 15,000 units) since 2010. Estimates from the AHS suggest that crowding is more prevalent, with the share of units with more than 1.5 persons per bedroom fluctuating over time—from 6.8% in 2015 up to 8.4% in 2017, back down to 7.1% in 2019, and back up to 8.6% in 2021.

According to the ACS, while overcrowding is not common, it was more frequent in rental units than in owner-occupied homes: nearly 24,000 rental units had more than 1.5 occupants per room (still only 1.4% of all rentals), compared to just over 8,000 ownership units (0.2% of all owner-occupied units). Households headed by American Indian/Alaskan Native, Asian, and Hispanic householders were much more likely to have more than one occupant per room (11%, 7%, and 5%, respectively, compared to 1% among households headed by a non-Hispanic white householder).



¹¹ Keven S. Blake, Rebecca L. Kellerson, and Aleksandra Simic, Measuring Overcrowding in Housing (U.S. Department of Housing and Urban Development Office of Policy Development and Research, 2007), https://www.huduser.gov/publications/pdf/measuring_overcrowding_in_hsg.pdf.

New Construction

New Privately-Owned Housing Units Permitted in the State of Pennsylvania, 2010-2022

Year	Total Residential Buildings Permitted	Total Housing Units Permitted	Percentage of Units Permitted by Type of Structure			
			Single-Family	Two-Unit Buildings	Three- and Four-Unit Buildings	Five-Unit Buildings
2010	17,372	19,740	86%	3%	2%	10%
2011	12,265	14,967	79%	3%	3%	15%
2012	14,068	18,796	71%	2%	4%	22%
2013	16,182	21,650	72%	2%	3%	23%
2014	17,027	25,108	65%	2%	3%	30%
2015	15,990	22,854	67%	1%	3%	28%
2016	17,134	23,303	71%	2%	4%	24%
2017	16,422	22,584	70%	2%	4%	24%
2018	16,114	23,325	66%	2%	4%	28%
2019	15,734	23,539	63%	3%	4%	30%
2020	16,843	25,706	62%	3%	4%	31%
2021	20,342	47,894	39%	2%	3%	56%
2022	19,084	28,008	65%	2%	3%	30%

Source: U.S. Census Bureau Building Permit Survey

According to the U.S. Census Bureau's Building Permit Survey, Pennsylvania localities awarded permits for 28,008 housing units in 19,084 new privately-owned residential buildings in 2022. The majority of units permitted were for single family units (65%). The remaining units were permitted in five-plus-unit buildings (30%); three- to four-unit buildings (3%); and two-unit buildings (2%).

Between 2010 and 2022, the annual number of new housing units permitted fluctuated between a low of about 15,000 in 2011 and a high of 47,894 in 2021. Historically, this is not a high level of new construction; before the housing bust in 2007, it was unusual to see fewer than 40,000 new units permitted per year and 2021 saw a return to these levels. The year 2021 also stands out because the majority of the units were in apartment buildings with five or more units (56%); typically, the majority of units are for single-family homes. This share of permitting

occurring in apartment buildings has not been seen since the inception of the Building Permit Survey; the closest Pennsylvania has gotten is in the late 1960s and early 1970s, when the share of units permitted in five-plus-unit apartment buildings ranged between 41 and 48%.

In 2022, the most permits for new residential buildings were issued in Montgomery (2,009), Chester (1,552), and Allegheny (1,185) Counties. Fewer than 20 new residential buildings were permitted in Sullivan and Forest Counties, while Cameron County permitted zero new homes. Proportional to the overall number of households, Adams, Butler, and Cumberland Counties permitted the most new residential buildings, awarding between 9 and 10 permits per 1,000 existing households. By contrast, Philadelphia awarded only 1.3 permits per 1,000 existing households, one of the lowest permitting rates in the state.

Chapter 3: Housing Prices and Rent

Housing costs have decreased for owners yet increased for renters. Median gross rent increased by 8% since 2010 (adjusting for inflation), and now consumes 29% of the median household's income. This is due to an erosion of low-cost rental units. These trends suggest that very important affordability issues are emerging across the Pennsylvania housing market; these issues are further explored in subsequent sections.

Housing Prices

The U.S. Census Bureau publishes regional contract price data for new single-family home starts as part of the annual Characteristics of New Housing report. State-level data is not available, but Pennsylvania is likely similar to the New England region, which is discussed here. In 2022, 17,000 new single-family homes were constructed in the New England region, compared to a low of approximately 11,000 new homes constructed in 2011 and 2012. Forty-four percent of these homes have a contract price of \$500,00 or above. The share of new homes with contract prices of \$500,000 or more has steadily increased since 2002 (4%), and markedly jumped since 2019 (25%). Meanwhile, the share of units in every price range below \$200,000 has decreased since 2002.

In addition to increasingly expensive new homes, values are increasing for all homes. According to the American Housing Survey, the median home was valued at \$241,000 in 2021 compared to \$180,366, adjusted for inflation, in 2015. The Zillow Home Value Index provides additional context: in January 2023, the typical home cost \$254,753, compared to \$157,948 in 2010. Growth in the value of the typical home was especially concentrated between January 2020 and January 2023. Between January 2010 and January 2015, the typical home value dropped slightly (-2.4%) to \$154,093. Thereafter, the typical home price grew substantially. Between January 2015 and January 2020, the typical home price grew by 22% to \$188,254. Growth accelerated further between January 2020 and January 2023 and

the typical home value increased by 35% (or by \$66,499) to \$254,753.¹² Skyrocketing home prices and relatively high mortgage rates make homeownership difficult to access for renter households.

Current homeowners had slightly lower inflation-adjusted monthly housing costs in 2022 (\$1,150) than in 2010 (\$1,181). Housing costs consume only 15% of household income for the median owner-occupant household; owner-occupant households with a mortgage devote a higher share of their income to housing costs (18%) compared to those without a mortgage (11%). The share of households with a mortgage that are cost-burdened, or are spending 30% or more of their income on housing costs, has steadily fallen since 2010: households with a mortgage are less likely to be cost-burdened in 2022 than in 2010 (24% compared to 33%). Further, a slightly smaller share of households are taking out a second mortgage or home equity loan today than in 2010, and a larger share of owner-occupants (nearly 42%) have no mortgage at all. This may be due to the loss of lower-income homeowners during the subprime mortgage crisis as well as the aging of homeowners, who continue to age in place after their mortgage has been paid off.

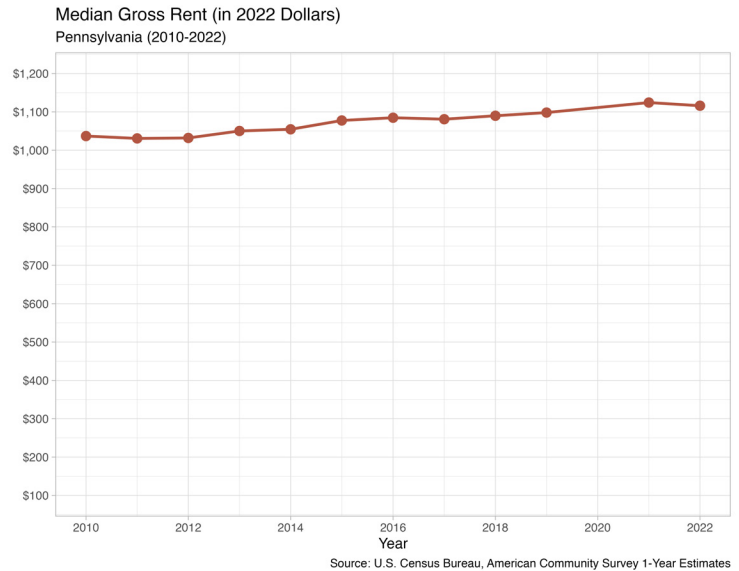
12 "Housing Data: Zillow Home Value Index," Zillow, accessed March 22, 2024, <https://www.zillow.com/research/data/>.

Rents

Rents in Pennsylvania are rising in real terms. Median gross rent in 2022 was \$1,116, compared to \$1,036 in 2010, adjusting for inflation. Data from Apartment List suggests that renters looking for apartments today may find median rents that are even higher. In January 2022, for instance, median rent was \$1,214 and rose to \$1,251 by January 2024.¹³ The supply of low-cost rental units is shrinking proportionally to the supply of rental units. In 2010, 25% of rental units (over 340,000 units) rented for below \$750 in 2022 dollars (or up to \$549 in 2010 dollars)—in 2022, 23% of units (about 348,000 units) have rents this low. In recent years, rents have increased most for efficiency and five-plus-bedroom units. Unsurprisingly, rents consume a larger share of households’ incomes. Gross rent has wavered at around 29% to 30% of the median renter household’s income between 2010 and 2022, which is just on the verge of unaffordable (affordable housing has been commonly defined as consuming no more than 30% of a household’s income).¹⁴

13 Apartment List, “Data & Rent Estimates: Historic Rent Estimates” (February 28, 2024), <https://www.apartmentlist.com/research/category/data-rent-estimates>.

14 HUD PD&R, “Rental Burdens: Rethinking Affordability Measures,” https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html.



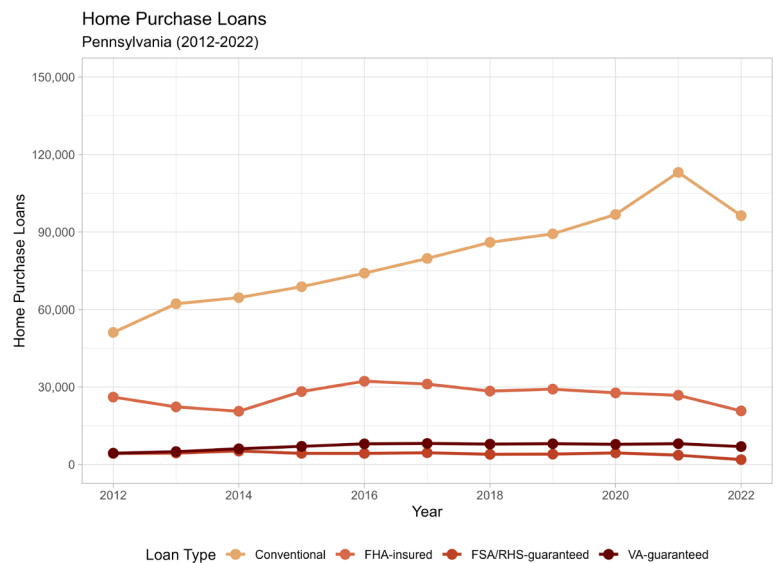
Chapter 4: Housing Finance

Access to mortgage credit affects homeownership trends. Mortgage lending has steadily recovered since the 2008 subprime mortgage crisis, and loan volumes continued to increase through 2022, mainly driven by growth in conventional loans and loans to higher-income households. It is important to note, however, that this trend has likely changed since 2022 due to increased interest rates; the more recent, higher interest rates likely have had a cooling effect on mortgage lending. Home purchases to households of color have also grown considerably in the past decade.

Mortgage Lending

In 2022, there were around 126,000 mortgage originations for owner-occupied homes in one-to four-unit buildings in Pennsylvania, according to data collected under the Home Mortgage Disclosure Act (HMDA). This is a substantial increase since 2012, when there were just about 86,000 mortgages originated. However, the number of originations is likely to go down in coming years because of higher interest rates. For illustration, in 2022 alone, average 30-year interest rates jumped from 3.22% in early January to 6.42% in late December according to Freddie Mac and mortgage originations dipped by more than 33,000 from 2021 to 2022. In 2023, interest rates remained persistently high between 6.09% and 7.79%.

Almost all the growth over the last decade is in conventional mortgages. Conventional mortgages account for roughly 77% of all home purchase loans as of 2022, compared to just 59% in 2011. The remaining mortgages are all insured by different federal programs. In 2022 this included loans backed by the Federal Housing Administration (FHA) (16%), Veterans Affairs (5%), and U.S. Department of Agriculture's Farm Service Agency or Rural Housing Service (2%). These programs are generally designed to expand homeownership opportunities.

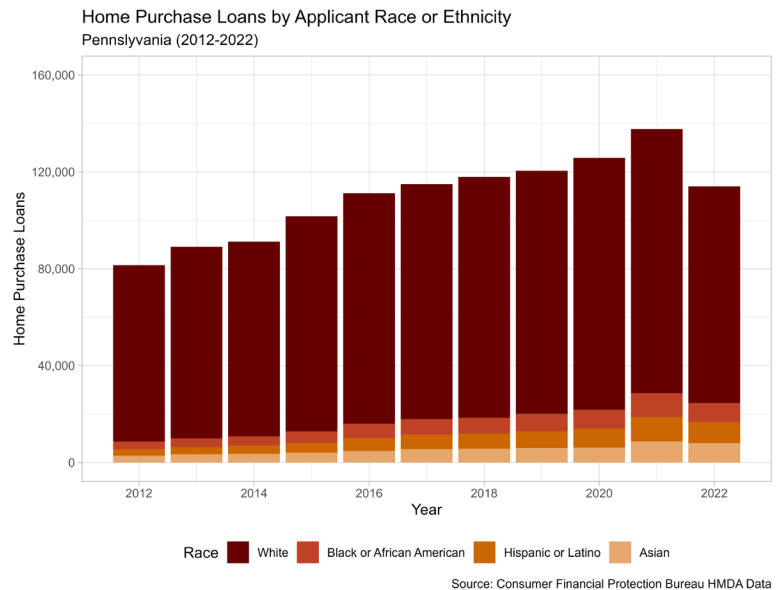
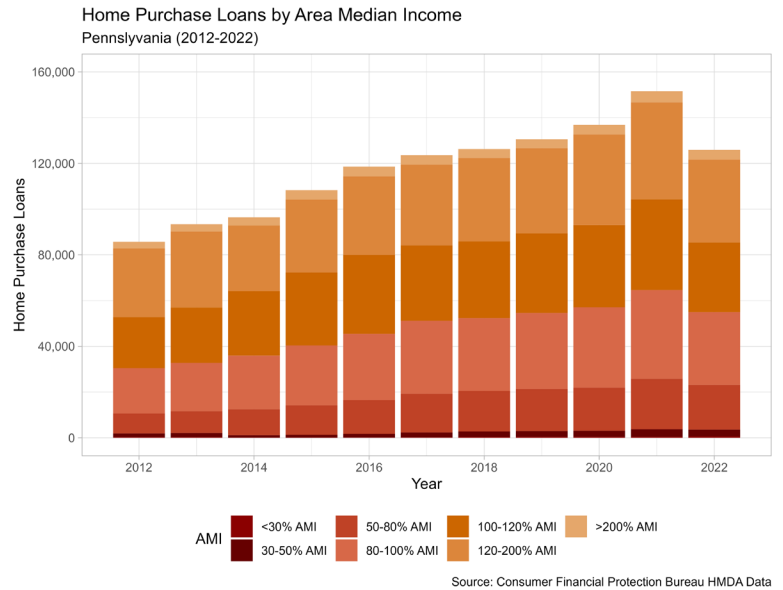


Home Purchase Mortgages by Income and Race

While total number of mortgages increased steadily over the decade, the share of mortgages going to households with low and moderate incomes has not changed. Consistently, less than 3% of all mortgages go to households with very low-incomes (earning under 50% of the area median income), and roughly 15% of mortgages go to low-income households (earning 50% to 80% of area median income). The remaining mortgages were roughly evenly split between middle-income households earning 80-120% of area median income and higher-income households earning more than 120% of area median income.

Over the last decade, Pennsylvania has seen dramatic growth in home purchases by people identifying as non-white or Hispanic. From 2012 to 2022, the share of mortgages going to racial and ethnic minorities doubled from 11% to 22%. In 2022, a majority of owner-occupancy purchases (78%) were by people who identify as white, non-Hispanic. An additional 7% of purchases were made by Black homebuyers (who make up 10% of the population), 8% by Hispanic homebuyers (9% of the population), and 7% by Asian homebuyers (4% of the population). Growth was largest among Hispanics, who purchased more than twice as many homes in 2022 compared to 2012.

Black and Hispanic homebuyers rely heavily on government insurance programs to purchase their homes. Almost half of Black (48%) and Hispanic (44%) homebuyers in Pennsylvania used an FHA-insured mortgage to purchase their home in 2021. Only 18% of whites—and just 6% of Asians—used these kinds of mortgages.

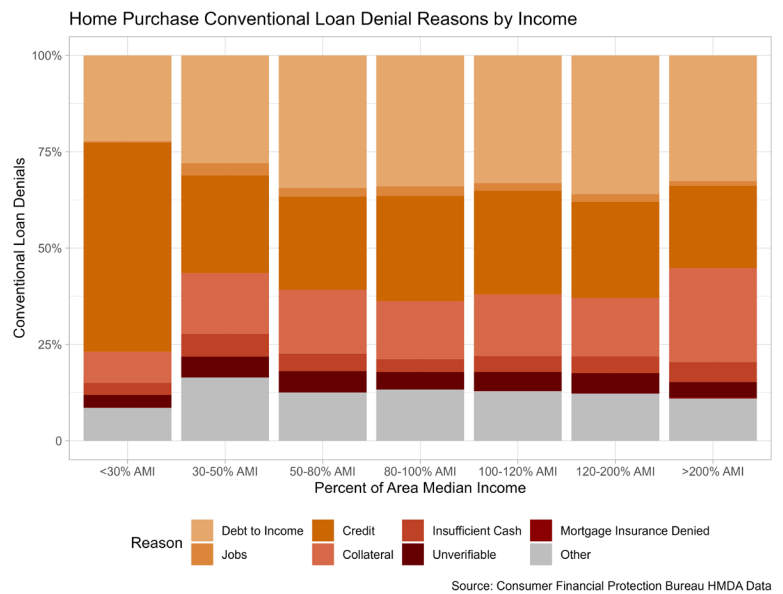
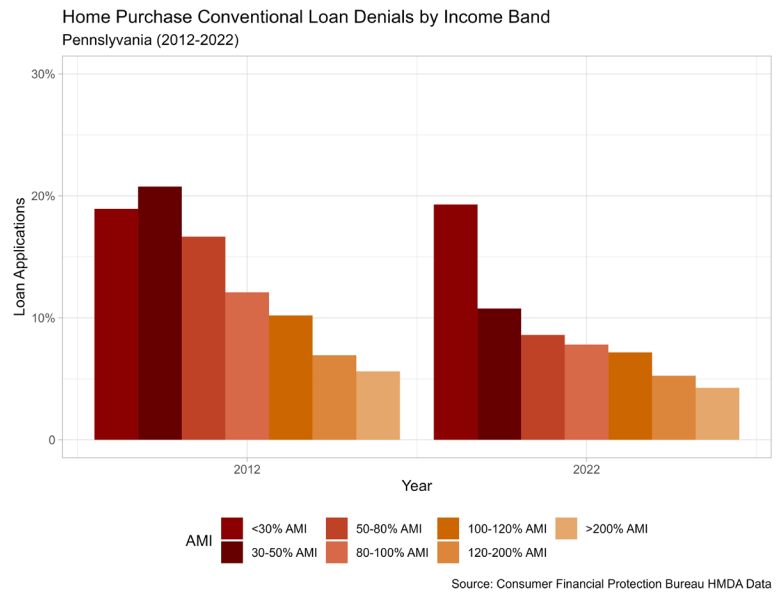


Denial Rates for Conventional Mortgages by Income

Overall mortgage denial rates for conventional mortgages are much lower than they were a decade ago. In 2021, 7% of home purchases were denied, compared to 10% in 2011.

Denial rates decreased for all income groups, except for the lowest-income households. Over one in four extremely low-income households (with incomes under 30% of the area median income (AMI), or a measure of household income controlling for household size and geographic region) were denied a conventional home loan and the denial rate remained consistent at 19% between 2012 and 2022, underscoring the challenges that households with extremely low incomes face when they try to purchase a home. Among very low-income households, the denial rate declined from 21% in 2012 to 11% in 2022. Denial rates for low-income households dropped from 17% to 9%.

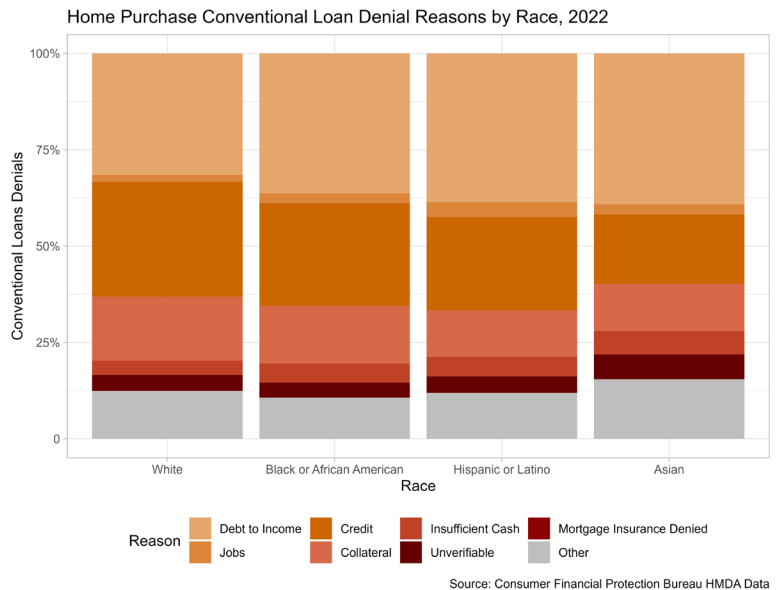
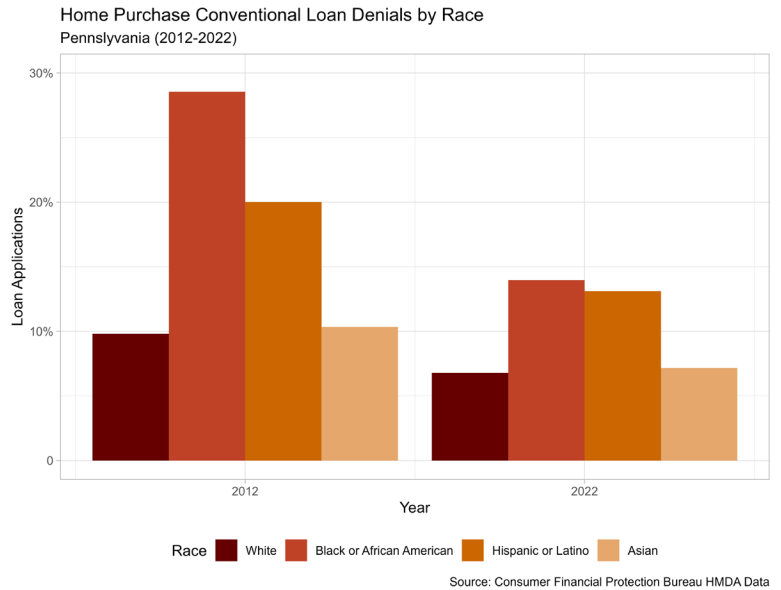
The most common reasons for denial were debt-to-income ratio (low income relative to debt), followed by credit scores and collateral. The denial reasons were distinct for extremely low-income households, for whom a majority of denials (more than 60%) were due to low credit scores.



Denial Rates for Conventional Mortgages by Race

Denial rates declined between 2012 and 2022 across all racial and ethnic groups. In 2012, the denial rate for Blacks for conventional mortgages was 28%, and for Hispanics 20%, compared to just 10% for non-Hispanic whites. In 2022, denial rates for Blacks and Hispanics had both dropped to 14% and 13% respectively, compared to 7% for non-Hispanic whites.

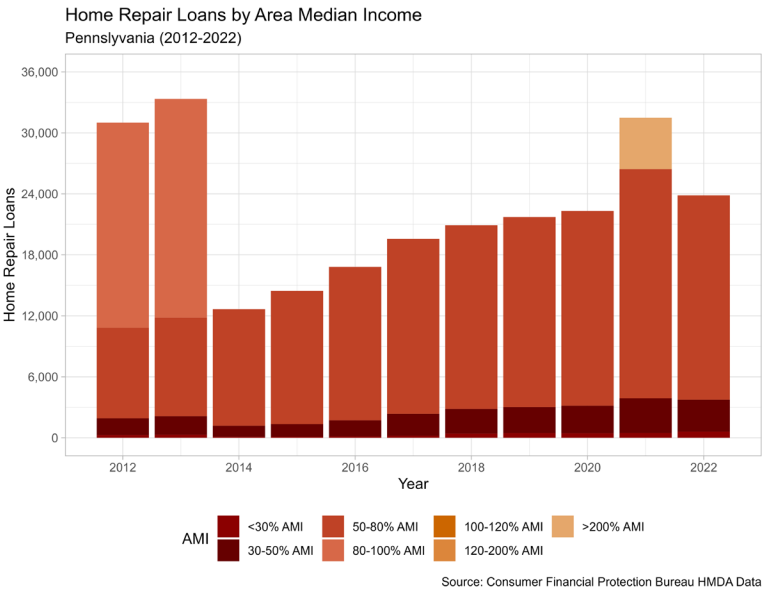
Despite these declines, racial disparities have persisted. Black and Hispanic households are more likely to have their home loan applications denied than white or Asian households. The most common reasons given for denials across all racial and ethnic groups were high debt relative to income and credit scores. Asian applicants were least likely to be rejected for low credit scores and most likely to be rejected for low income relative to debt. White applicants were least likely to be rejected for low income relative to debt and most likely to be rejected for credit or collateral.



Home Improvement Mortgages

The number of home repair mortgages has grown only modestly over the last 10 years. There were just over 43,000 repair mortgages in Pennsylvania in 2022, up from just under 28,000 in 2012. The federal mortgage insurance programs are primarily designed for home purchases so almost all home improvement mortgages use conventional financing.

The increases in repair mortgages were driven by more affluent homeowners. The number of home repair mortgages to low-income owners (earning up to 80% of the area median income) between 2012 and 2022 grew by 20%, while the number of repair mortgages to higher income households (above 120% of area median income) increased by 56%. Notably, from 2021 to 2022, repair mortgages for low-income owners grew by 52%.

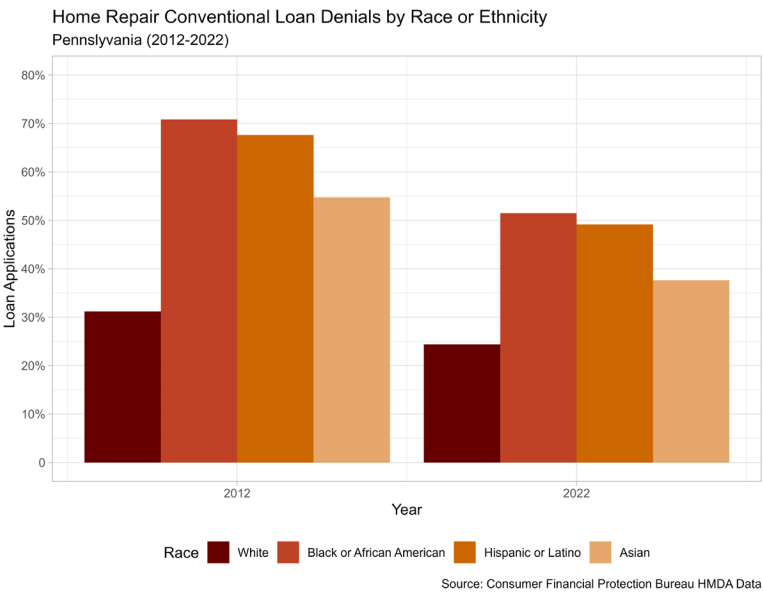
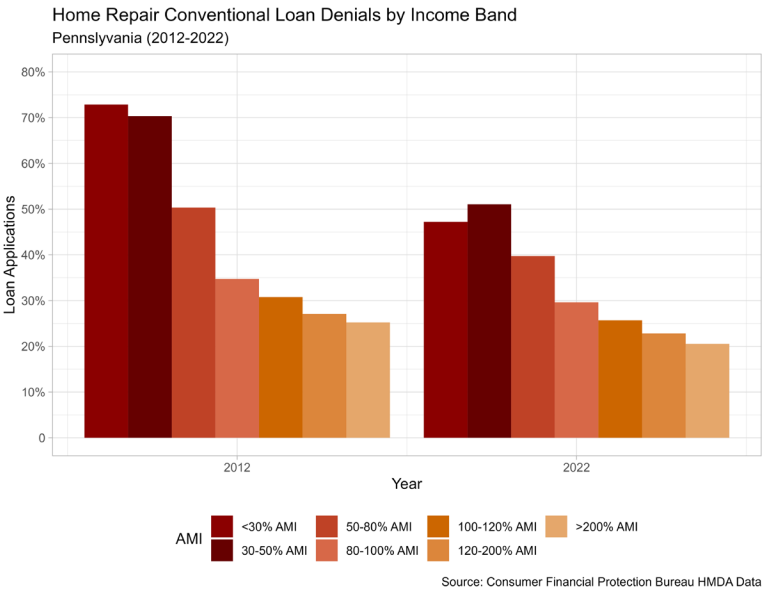


Home Improvement Mortgage Denials, by Income and Race

The denial rates for home improvement mortgages have decreased from 2012 through 2022, but they remain high at 29%. In light of Pennsylvania’s aging housing stock, high denial rates for home repair mortgages are especially concerning.

Although denial rates have dropped considerably since 2012, they remain especially high for low and moderate-income applicants. Almost half (51%) of very low-income applicants are denied for home repair mortgages, as are 40% of low-income applicants and 47% of extremely low-income applicants.

Denial rates are also high for homeowners of color: approximately half of Hispanic and Black homeowners (49% and 51%, respectively) and 38% of Asian homeowners were denied for home repair loans, compared to only one in four white, non-Hispanic homeowners. This is concerning since Black and Hispanic households are more likely to live in aging homes, which likely require repairs.



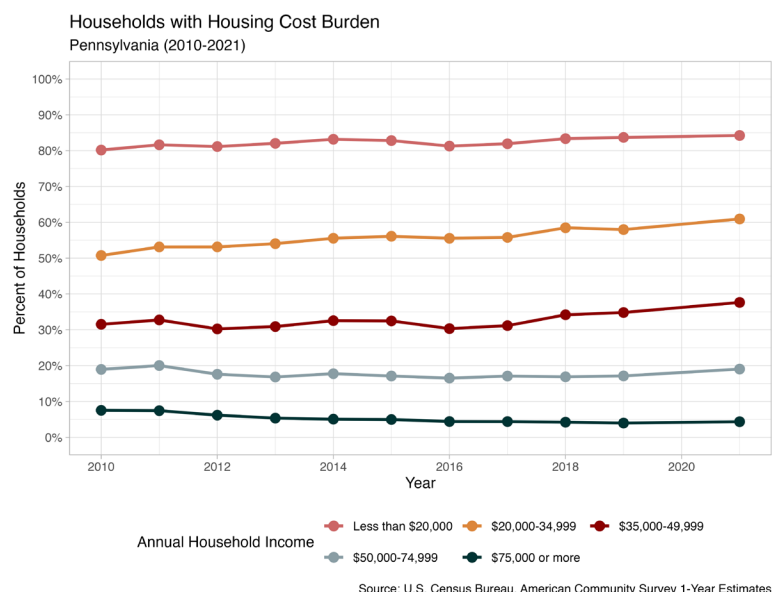
Chapter 5: Housing Affordability and Instability

Housing is essential to people's ability to conduct their daily activities. For households with low incomes, high housing costs can limit their ability to take care of other expenses, like food, healthcare, and savings, and can ultimately put households at risk of housing instability, including foreclosure, eviction, and various forms of homelessness.

Housing Cost Burden

There are many ways to measure housing affordability. The standard is “housing cost burden,” or the ratio of a household’s monthly housing costs to their monthly income. Households are considered “cost burdened” when they pay more than 30% of their monthly income in housing costs, including utilities, and “severely cost burdened” when they pay 50% or more of their monthly income for housing. Households with low incomes and high housing cost burden may have little left over to use on essential household goods and services, while high-income households with high housing cost burden are less likely to struggle meeting their basic needs with their residual income.¹⁵ Notably, this measure does not account for household size; larger households may have larger costs for essential household goods, compared to smaller households with the same income.

Households with low incomes disproportionately face housing cost burdens. As of 2022, 87% of households earning less than \$20,000 a year were cost burdened, compared to 64% of households earning \$20,000 to \$35,000 in a year, and about 43% of households earning \$35,000 to \$50,000. Still 25% of households earning \$50,000 to \$75,000 are cost-burdened. Only 4% of those earning more than \$75,000 are cost-burdened. More households at the bottom of the income



spectrum, and fewer households at the top, are experiencing cost burden than those at similar incomes did in 2010. The experience of cost burden is more common among renters than homeowners. Of the total population of renter households, 49% are cost-burdened, while only 20% of homeowners are cost-burdened. Cost burdens are even lower among homeowners without a mortgage.

The U.S. Department of Housing and Urban Development (HUD) develops income limits for its programs that also incorporate other important factors, like household size and

¹⁵ Whitney Airgood-Obrycki and Peyton Whitney, “Lower-Income Renters Have Less Residual Income than Ever Before,” April 2023, <https://www.jchs.harvard.edu/blog/lower-income-renters-have-less-residual-income-ever>

Housing Cost Burden (Continued)

regional differences in incomes—these income limits are known as the Area Median Income (AMI). AMI ranges widely: for instance, in 2021, a three-person household is considered to have an extremely low income if the household earns less than \$21,960 in many rural counties or less than \$25,550 in counties in the Philadelphia metropolitan area. The lowest-income renters face by far the greatest affordability challenges in terms of cost burden. According to 5-year data from the Comprehensive Housing Affordability Strategy, in 2016-2020, four in five renter households in the Commonwealth earning less than 30% of AMI (81%) were cost-burdened, or spend over 30% of their income on rent. Two-thirds of households (66%) in this income group were severely cost-burdened, spending 50% or more of their income on rent—severe cost burden is especially high (over 80%) in Monroe, Centre, and Union Counties. Cost burdens are widespread among households earning anything less than 80% of AMI, and the incidence and degree of cost burden among extremely low-income renter households has stayed the same since 2006-2010.

Surplus or Deficit of Affordable and Available Housing

Another way of measuring affordability is to quantify the surplus or deficit of homes affordable to households at different points along the income spectrum. As of 2016-2020, there was a deficit of 136,700 units of housing affordable to households below 30% of area median income. This deficit has grown by nearly 14,000 units since 2006-2010. Many more housing units are affordable to households at 30 to 50% of AMI, and at 50 to 80% of AMI. However, even if a home is affordable to a certain household, it may not be available to low-income households because it could already be rented by someone with a higher income. If we look just at homes that are affordable and available—meaning they are either vacant or being occupied by a household of similar or lower income—we find a deficit of 25,520 units affordable and available for households at or below 80% of AMI, and that this deficit has increased since 2006-2010, when there was a small surplus of 5,265 units.

Homelessness

One of the most dire outcomes of housing unaffordability is homelessness, as defined by the HEARTH Act (Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009) as lacking a fixed, regular, and adequate nighttime residence. Researchers found that for every \$100 increase per month in rent, homelessness increased by 9%.¹⁶ Similarly, another study found that homelessness rates increase sharply in communities in which people spend more than 32% of their income on rent. This is because rising rents and stagnating incomes lead to a “cascading affordability crunch” that increases the risk of homelessness for those on the bottom economic rung.¹⁷

Homelessness can take many forms, from living on the street or in a shelter, doubling up with family or friends, living in a car, or living in a hotel or motel. Some forms of homelessness are less visible than others, which can make accurately measuring the issue difficult. National homelessness data collected by HUD Continuums of Care rely on point-in-time counts of sheltered and unsheltered people experiencing homelessness on a single night in January each year.¹⁸ As such, they underestimate less visible forms of homelessness.¹⁹

In 2023, the 16 Continuums of Care within

16 Alicia Puente Cackley, “Homelessness: Better HUD Oversight of Data Collection Could Improve Estimates of Homeless Population,” U.S. Government Accountability Office, July 14, 2020, <https://www.gao.gov/products/gao-20-433>.

17 Chris Glynn, Thomas H. Byrne, and Dennis P. Culhane, . “Inflection Points in Community-Level Homeless Rates,” Zillow, 2018, https://wp-tid.zillowstatic.com/3/Homelessness_InflectionPoints-27eb88.pdf.

18 U.S. Department of Housing and Urban Development, “Point-in-Time Count and Housing Inventory Count,” HUD Exchange, <https://www.hudexchange.info/programs/hdx/pit-hic/#2024-pit-count-and-hic-guidance-and-training>.

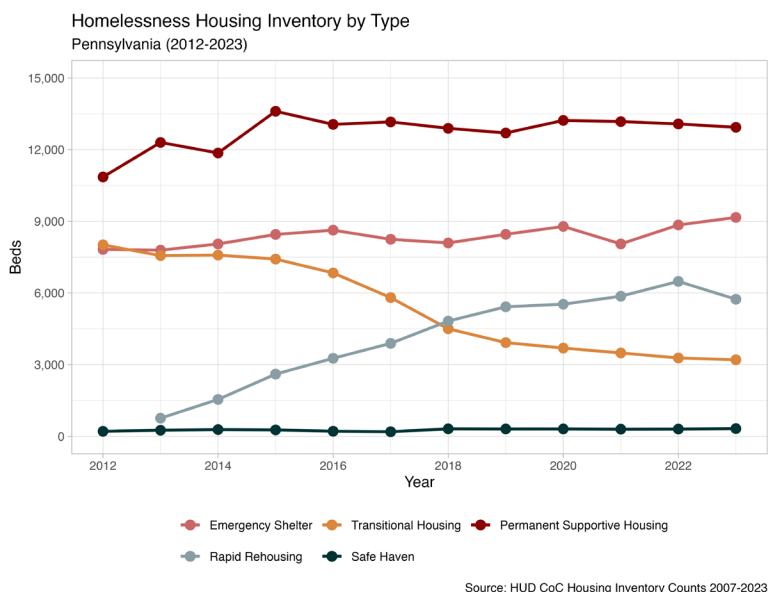
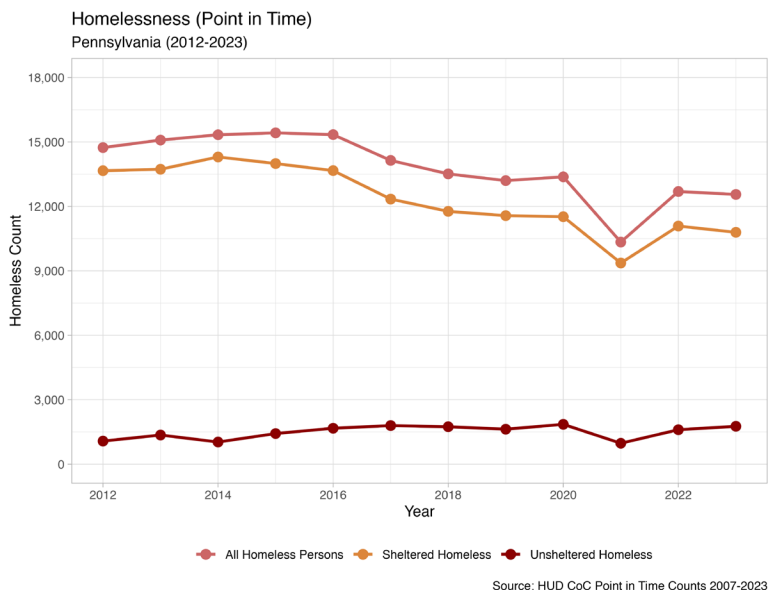
19 Darrell Stanley, “Don’t Count On It: How the HUD Point-in-Time Count Underestimates the Homelessness Crisis in America,” National Law Center on Homelessness and Poverty (2017), <https://homelesslaw.org/wp-content/uploads/2018/10/HUD-PIT-report2017.pdf>.

Homelessness (Continued)

Pennsylvania collectively estimated that the state is home to 12,556 homeless individuals. The number of people experiencing homelessness has generally decreased since 2007, the earliest year for which these data are available. Most of those counted were sheltered (86%). Of the sheltered, the majority were sleeping in emergency shelters (67%), rather than in transitional housing or “safe haven” shelters for victims of domestic violence.

The majority (66%) of homeless individuals counted in Pennsylvania in 2023 were individuals not belonging to a family. A small share of these (22%) were chronically homeless individuals, meaning that they had been continuously homeless for a year or more, or had four or more episodes of homelessness in the past three years. The number of homeless families has been declining since 2012, when it reached 2,476 families (7,441 people). As of 2023, only 1,348 families (4,229 people) were homeless according to the point-in-time count; however, this likely undercounts families experiencing some form of homelessness.²⁰

The state now has only about 12,691 year-round beds in emergency shelters, transitional housing, and safe haven shelters, compared with more than 16,500 in 2007. At the same time, the state’s Continuums of Care have focused on expanding their inventories of permanent supportive housing and rapid re-housing units, which help to resolve and avert experiences of homelessness. Pennsylvania now has 12,938 beds in permanently supportive housing, and 5,739 beds in rapid re-housing units, compared to 12,304 and 758, respectively, in 2013.

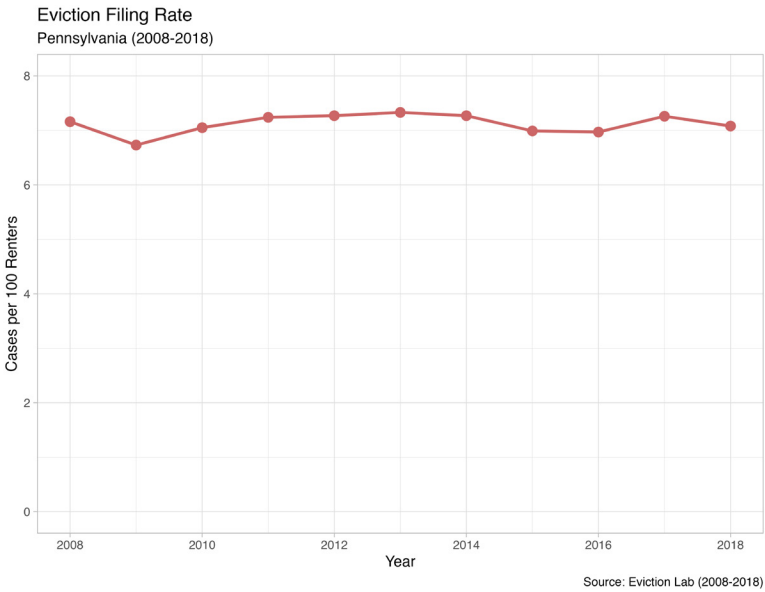


²⁰ Camila Beiner, “Homeless youth and children are wildly undercounted, advocates say,” NPR (2022), <https://www.npr.org/2022/02/15/1073791409/homeless-youth-and-children-are-wildly-undercounted-advocates-say>.

Eviction

Eviction is another potential consequence of housing affordability problems, especially for low-income renters. Eviction negatively affects health, mental health, and educational outcomes, in addition to housing stability. Researchers estimated that there were approximately 120,000 eviction filings in Pennsylvania in 2018.²¹ This is an eviction filing rate of 7.1 cases filed for every 100 renters, which is slightly lower than the national rate of 7.8. Not all eviction filings result in evictions and some households receive multiple eviction filings. However, filing and eviction rates do not capture informal evictions, where households are forced to move extralegally.

In possibly the largest survey of renters in the City of Philadelphia, HIP and Community Legal Services found in their joint survey that 14% of survey respondents reported having experienced a formal eviction—with a vast majority experiencing an eviction in the five years prior to the survey.²² While nonpayment of rent was the most common reason for eviction, a third of tenants chose to not pay rent in response to owner behavior (like withholding rent for a needed repair or landlord harassment). Evictions have real consequences for households’ ability to move and acquire housing: four in five respondents with a history of eviction reported having a subsequent rental application denied.²³



21 Ashley Gromis, Ian Fellows, James R. Hendrickson, Lavar Edmonds, Lillian Leung, Adam Porton, and Matthew Desmond, “Estimating Eviction Prevalence across the United States,” Princeton University Eviction Lab, May 13, 2022, <https://data-downloads.evictionlab.org/#estimating-eviction-prevalance-across-us/>.

22 Claudia Aiken, Sydney Goldstein, and Yeonhwa Lee, “Trends and Challenges in the Philadelphia Rental Market,” Housing Initiative at Penn (June 2022), https://www.housinginitiative.org/uploads/1/3/2/9/132946414/cls-hip-report_6-14-2022.pdf.

23 Claudia Aiken, Sydney Goldstein, and Yeonhwa Lee, “Trends and Challenges in the Philadelphia Rental Market,” Housing Initiative at Penn (June 2022), https://www.housinginitiative.org/uploads/1/3/2/9/132946414/cls-hip-report_6-14-2022.pdf.

Foreclosures

For homeowners with mortgages, unaffordability can lead to the loss of one's home not through eviction, but through foreclosure. According to our [previous comprehensive housing study](#), based on information from ATTOM Data Solutions, nearly 31,000 properties in Pennsylvania were foreclosed in 2017.²⁴ Much of this foreclosure activity was from deferred effects of the recession. More recent data suggests that foreclosure rates may have decreased since 2017: for instance, in the first half of 2022, 5,531 homes were foreclosed in 2022.²⁵ In Pennsylvania, foreclosures are judicial, meaning that the lender seeking foreclosure has to file suit in court. This judicial process can take close to a year longer than a non-judicial foreclosure would.²⁶ Judicial oversight, along with other protections designed to keep homeowners in their homes for as long as possible, created a backlog of foreclosure cases that counties needed to address in the aftermath of the subprime mortgage crisis.²⁷ Others attribute the persistency of foreclosure to predatory lending.²⁸ Struggles with home maintenance may also contribute to foreclosure: much of Pennsylvania's housing stock is aging, as previously mentioned, and home maintenance is costly. One estimate suggests that in Pittsburgh and Philadelphia, the average annual cost of maintaining a single-family home was \$6,428

and \$6,414 in 2023.²⁹ This may lead homeowners to selectively miss utility payments depending on the season, live in substandard housing conditions, and miss mortgage payments.

29 Michael Kolomatsy, "Home Maintenance Inflation Is Real," The New York Times (2023), <https://www.nytimes.com/2023/04/20/realestate/home-maintenance-costs.html>.

24 Candy Woodall, "Pennsylvania Counties with the Most Foreclosures," PennLive (2018), <https://www.penn-live.com/news/2018/02/pennsylvania-counties-with-the.html>.

25 Samuel Stebbins, "How the Foreclosure Rate in Pennsylvania Compares to the Nation," 24/7 Wall St. (2022), <https://247wallst.com/state/how-the-foreclosure-rate-in-pennsylvania-compares-to-the-nation/>.

26 Brian Feinstein, "State Foreclosure Law: A Neglected Element of the Housing Finance Debate," Penn Wharton Public Policy Initiative 6, no. 10 (2018), <https://core.ac.uk/reader/219380280>.

27 Candy Woodall, "Pennsylvania Counties with the Most Foreclosures," PennLive (2018), <https://www.penn-live.com/news/2018/02/pennsylvania-counties-with-the.html>.

28 "Pennsylvania Ranked Among Worst for Home Foreclosures," ABC27 (Feb. 6, 2018), <https://www.abc27.com/news/pennsylvania-ranked-among-worst-for-home-foreclosures/>.

Chapter 6: Housing Assistance

The availability of subsidized housing remains far short of need. HUD's most recent report, Worst Case Housing Needs, found that, in 2021, 41% of very low-income renters in the Northeast experienced worst case needs (including severe rent burden and severely inadequate housing), but only 34% of very low-income renters received federal housing assistance. In the Northeast, the shortage of housing assistance was greatest in more densely populated suburbs, where 43% of very low-income renters had worst case housing needs but only 31% received assistance.³⁰

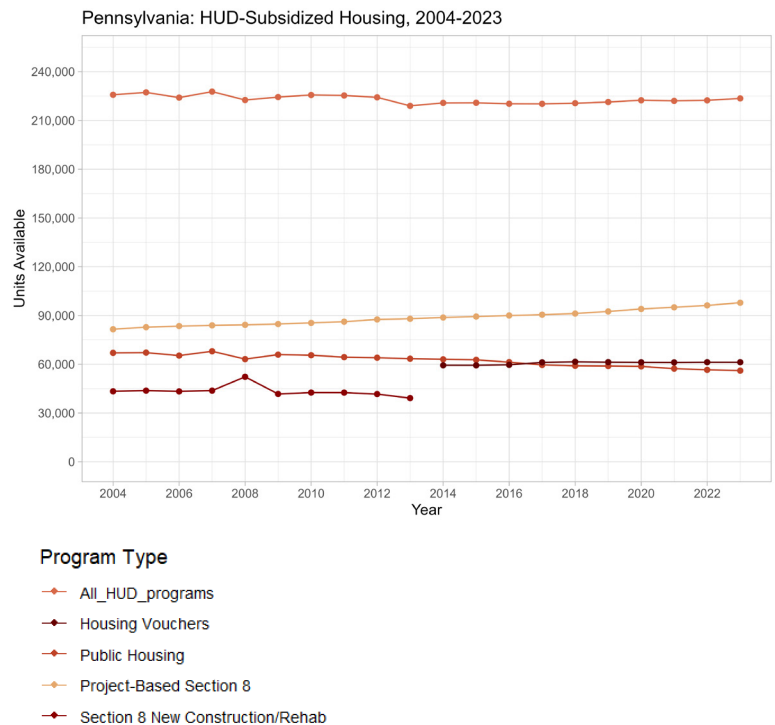
Though federal funding for housing needs temporarily increased during the COVID-19 pandemic, consistent long-term funding for housing still does not meet the demand for it. For instance, HIP estimated that there were 391,505 extremely low-income households eligible for vouchers, but only 76,151 vouchers available in the Commonwealth; among very low-income households, the gap between available vouchers and eligible households increased by 283,181.³¹ Further, existing subsidized units are increasingly threatened with affordability contract expirations, which further complicates the enormous challenges in meeting the growing need for affordable housing.

30 U.S. Department of Housing and Urban Development, Policy Development and Research, Worst Case Housing Needs: Report to Congress (May 2023), <https://www.huduser.gov/portal//portal/sites/default/files/pdf/Worst-Case-Housing-Needs-2023.pdf>.

31 Vincent Reina, Claudia Aiken, and Jenna Epstein, "Exploring a Universal Housing Voucher," Housing Initiative at Penn (2021), <https://www.housinginitiative.org/universal-voucher.html>.

Federal Housing Subsidies

Federal housing programs operated through HUD are a vital source of deep, long-term subsidy for housing in Pennsylvania. As of 2023, there are 223,554 units or households receiving subsidy through various HUD programs, though this number does not take into account the overlap that occurs when the same household receives multiple HUD subsidies.³² The primary programs that HUD administers include: the Housing Choice Voucher program, which provides approximately 97,873 low-income households in the Commonwealth with rental assistance that covers the difference between 30% of a household's income and the approved unit rent; Project-Based Section 8 program, which subsidizes 61,235 private housing units in Pennsylvania to make them affordable to low-income households; and public housing, which includes 56,090 low-cost, publicly owned units.



32 Vincent Reina and Michael Williams, "The Importance of Using Layered Data to Analyze Housing: The Case of the Subsidized Housing Information Project," Cityscape 14, no.1 (2012): 215-222.

Federal Housing Subsidies (Continued)

The total number of HUD subsidies has remained fairly steady over the course of the last two decades, although the makeup of different programs has changed in important ways. For example, the number of households using Housing Choice Vouchers has increased slightly, while public housing units have declined.

Since the early 1990s, one of the most important affordable housing subsidies has come through the Internal Revenue Service (IRS) by way of state housing finance agencies like PHFA. This subsidy, called the Low Income Housing Tax Credit (LIHTC), funds the development of affordable housing. LIHTCs take the form of either a 9% tax credit (typically used for new construction) or a 4% tax credit (typically used for rehabilitation or for new construction financed with tax-exempt bonds).

LIHTC-supported projects must reserve a percentage of units for low-income renters, though in practice most LIHTC developments set aside all or nearly all of their units for low-income renters: in Pennsylvania, about 98% of units in LIHTC properties are set aside for low-income households on average.³³ Rents in LIHTC low-income units must meet limits set by the state housing finance agency, but are not tied to a percentage of residents' income as in Project-Based Section 8 or public housing units. Rent thresholds set by state housing finance agencies are frequently greater than 30% of low-income tenants' incomes, however, meaning that many may still need additional subsidies for housing to be affordable. In Pennsylvania, 57% of low-income households residing in LIHTC properties receive additional sources of rental assistance to subsidize their rents in order to make their rents affordable.³⁴

33 U.S. Department of Housing and Urban Development, Low-Income Housing Tax Credit (LIHTC): Property Level Data (2021), <https://www.huduser.gov/portal/datasets/lihtc/property.html>.

34 U.S. Department of Housing and Urban Development, Low-Income Housing Tax Credit (LIHTC): Tenant Level Data: Table 11 (2021), <https://www.huduser.gov/portal/>

As of 2021, there were over 58,000 active tax credit units reserved for low-income households in Pennsylvania.³⁵ Between 2010 and 2019, an average of 1,909 LIHTC-supported units were completed each year. Since the beginning of the COVID-19 pandemic, however, labor, supply chain, and material cost challenges have slowed the flow of new units significantly, with only 847 units completed in 2020 and 236 units completed in 2021.³⁶ On the other hand, the pace of new LIHTC awards has remained steady, at around 1,500-2,000 new proposed units receiving LIHTC awards per year between 2018 and 2022.³⁷ In response to construction cost challenges that arose in the pandemic, the Pennsylvania legislature dedicated \$150 million of American Rescue Plan Act funding to a Development Cost Relief Program administered through PHFA.³⁸ Further, state support for affordable housing development has been boosted since 2021 through the yearly \$10 million allocation for a Pennsylvania Housing Tax Credit, modeled on LIHTC.³⁹

The U.S. Department of Agriculture (USDA) also provides federal housing subsidies that are especially important to rural Pennsylvania, including loans and loan guarantees to

[datasets/lihtc/tenant.html](https://www.huduser.gov/portal/datasets/lihtc/tenant.html).

35 Pennsylvania Housing Finance Agency, email with Heather Black on September 26, 2023.

36 U.S. Department of Housing and Urban Development, Low-Income Housing Tax Credit (LIHTC): Property Level Data (2021), <https://www.huduser.gov/portal/datasets/lihtc/property.html>

37 Pennsylvania Housing Finance Agency, "News & Awards 2019-Present" (2023), <https://www.phfa.org/mhp/>.

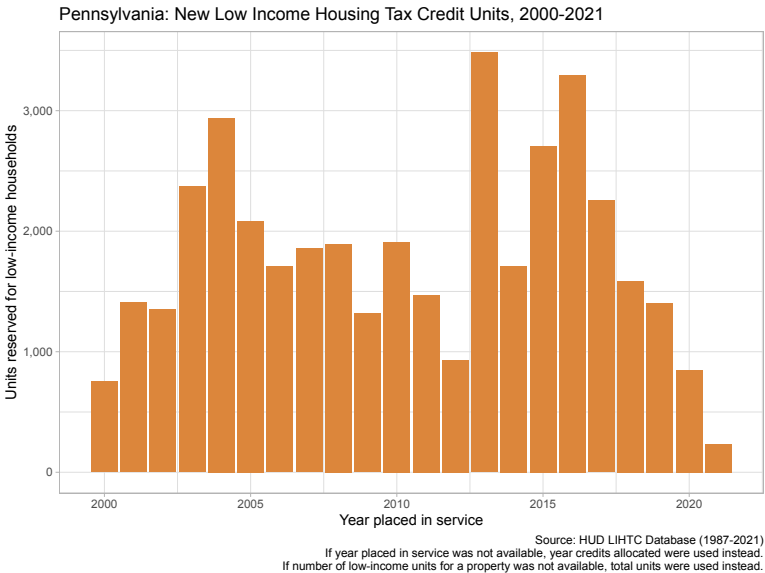
38 Pennsylvania Housing Finance Agency, "Development Cost Relief Program: Program Guideline" (2022), https://www.phfa.org/forms/multifamily_news/news/2022/dcrp-program-guidelines.pdf.

39 Pennsylvania Housing Finance Agency, "Pennsylvania Housing Tax Credit (PHTC) Quick Reference Guide" (2022), https://www.phfa.org/forms/multifamily_program_notices/phtc/phtc-program-guidelines.pdf.

Federal Housing Subsidies (Continued)

support homeownership, affordable housing development, and housing preservation in rural areas. USDA’s Section 515/514 program has historically subsidized the development of nearly 10,000 affordable rental units in Pennsylvania, though the program currently only funds the preservation of existing units rather than the construction of new housing.⁴⁰ In 2006, USDA began making guaranteed loans to rural, affordable multifamily projects and has made 17 loans to LIHTC projects in the Commonwealth between 2006 and 2021.⁴¹

40 Leslie Strauss, “USDA Rural Rental Housing Programs,” in Advocates’ Guide (National Low Income Housing Coalition: 2023), <https://nlihc.org/explore-issues/publications-research/advocates-guide>.
41 United States Department of Agriculture, Rural Development Multi-Family Housing Datasets (2006-2021), <https://www.sc.egov.usda.gov/data/MFH.html>.

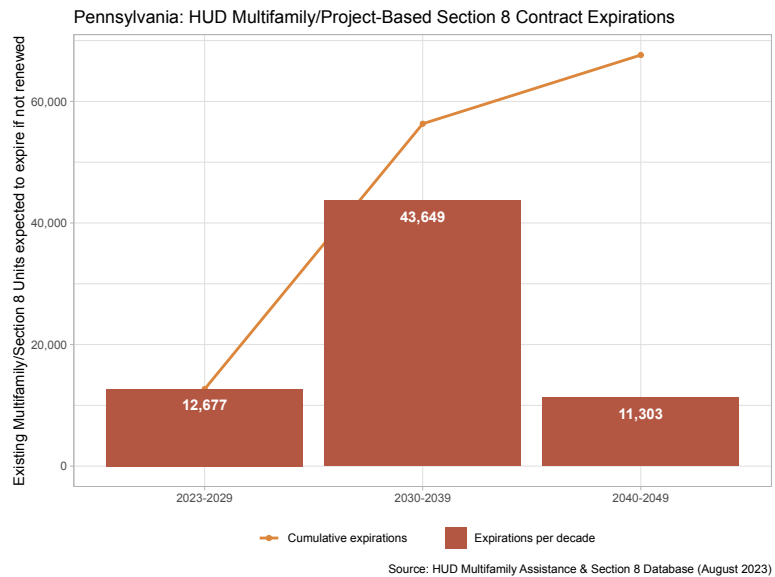
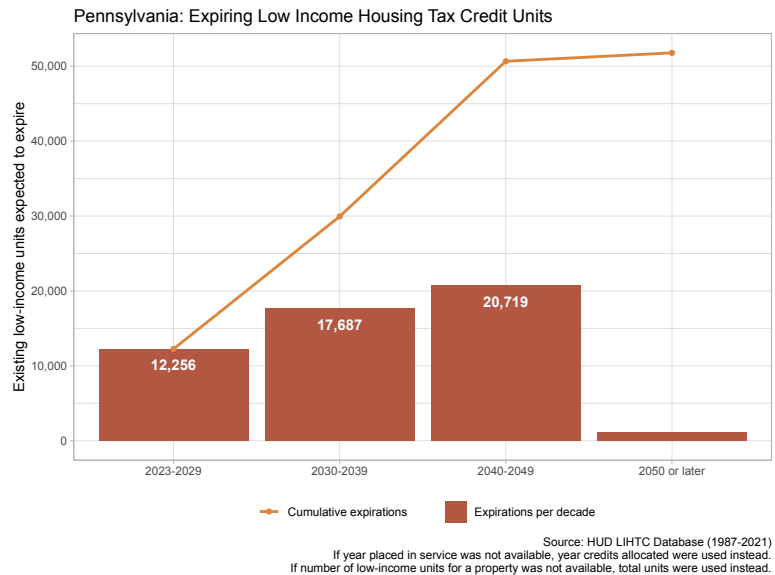


Federal Subsidy Expirations

A growing threat facing federally subsidized housing is subsidy expiration. Properties developed through the Section 8 program and other project-based HUD programs, USDA multifamily development programs, and LIHTC are privately owned. In exchange for the subsidy, the property owner enters into a contract that requires them to maintain a certain share of units as affordable for a certain period of time. Affordability periods vary by program, by state, and by the year in which the subsidy was awarded. For example, Project-Based Section 8 contracts are typically 20 to 40 years long, with the option to renew for 1, 5, or 20 years.⁴²

The LIHTC program initially required only a 15-year affordability commitment; in 1989, the affordability period was extended to 30 years. States have the authority to extend the affordability period still further, and Pennsylvania has done so. Starting in the 2017/2018 program year, PHFA extended the affordability period to 35 years and extended it further to 40 years in 2019, requiring LIHTC applicants to “demonstrate a commitment to serve low-income residents for a period of not less than 40 years or, in the alternative, offer homeownership opportunities to qualified residents after the initial 15 year compliance period.”⁴³ When the affordability period expires, property owners can choose to maintain the unit as affordable housing, raise rents to market rates, or they may take the units off-line entirely.

According to HUD and USDA data, Pennsylvania risks losing 12,256 low-income LIHTC units, 12,677 Project-Based Section 8 and other HUD-

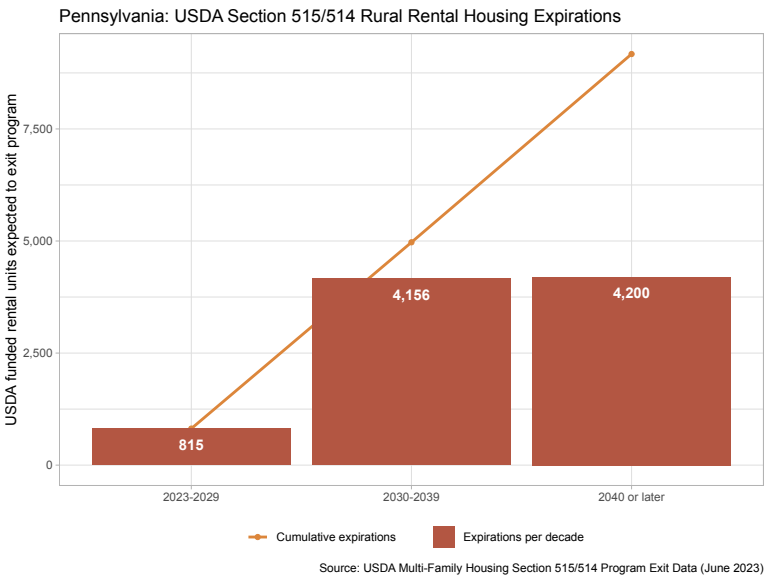


42 Vincent Reina, “The Preservation of Subsidized Housing: What We Know and Need to Know” (Lincoln Institute of Land Policy: 2018), https://www.lincolnst.edu/sites/default/files/pubfiles/reina_wp18vr1.pdf

43 Pennsylvania Housing Finance Agency, Second Amendment to the Pennsylvania Housing Finance Agency’s Allocation Plan for Year 2019-2020 Low Income Housing Tax Credit Program (2019), https://www.phfa.org/forms/multifamily_program_notices/qap/2019_and_2020/second-amendment-to-2019-2020-lihtc-allocation-plan.pdf.

Federal Subsidy Expirations (Continued)

subsidized multifamily units, and 815 USDA-subsidized units by 2030 (bearing in mind that there is overlap between these programs). A still greater share of the current stock is faced with subsidy expirations in the following decade. In order to preserve the subsidized affordable housing stock, it will be necessary to invest new subsidies and, in many cases, to finance the rehabilitation of these aging units.



Local Housing Subsidies

Many localities offer their own housing assistance programs, including down-payment grants, home repair loans and grants, housing counseling, legal aid in housing court, emergency shelter, and more. While tracking all these programs statewide would be a challenge, we can say something about the federal funding that helps support them. Many local housing programs are at least partially financed with federal funds, including the Community Development Block Grant (CDBG), Emergency Solutions Grant (ESG), and HOME Investment Partnerships Program (HOME). The Coronavirus Aid, Relief, and Economic Security Act of 2020 (CARES Act), as well as the American Rescue Plan Act of 2021 (ARPA), also temporarily boosted federal funding that could be used for local housing needs.

Federal funding to localities through the CDBG, ESG, and HOME programs was boosted nearly 1.5 times during 2020, but declined by a quarter during 2021, though a deeper decrease was offset by an additional \$73 million of funding to the HOME program under ARPA and nearly \$440 million dedicated to housing activities under the State and Local Fiscal Recovery Fund.⁴⁴ In 2022, CDBG, ESG, and HOME were cut by nearly half again to \$267 million. In comparison, the total allocation for these programs in 2003 was \$343 million, 28% higher than in 2022.⁴⁵ These declines put stress on the localities that rely on federal funding to provide critical housing assistance.

44 PA Office of the Budget, “State and Local Fiscal Recovery Funds: 2023 Report” (2023), July 31, 2023, <https://www.budget.pa.gov/Publications%20and%20Reports/ARPA/Documents/SLFRF-Recovery-Plan-Performance-Report-07-31-23.pdf>.

45 U.S. Department of Housing and Urban Development, “Awards and Allocations” (HUD Exchange: 2023), <https://www.hudexchange.info/grantees/allocations-awards/>.

Housing Subsidies Allocations

Year	CDBG, ESG, and HOME Allocation: Statewide Total	Percent Change from Previous Year
2022	\$267,006,355	-44%
2021	\$473,473,798	-25%
2020	\$633,145,960	+152%
2019	\$251,741,354	-2%
2018	\$257,514,170	+15%
2017	\$224,822,719	n/a

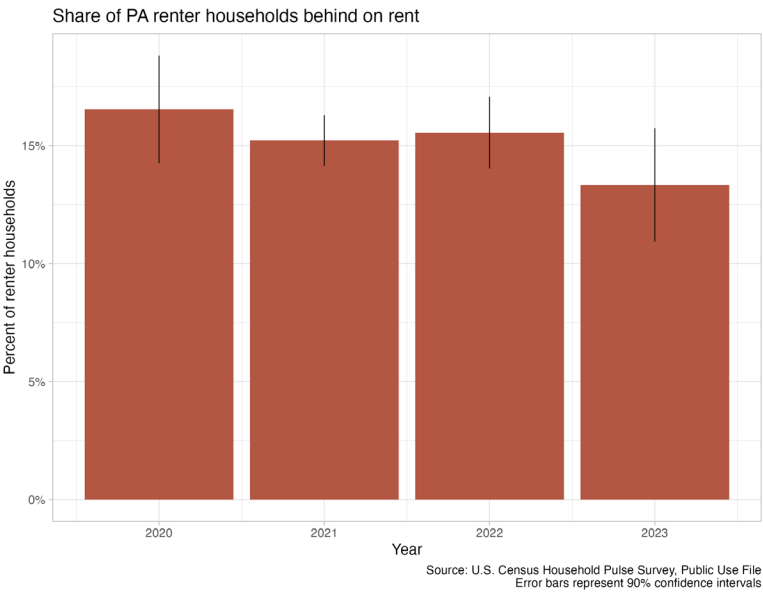
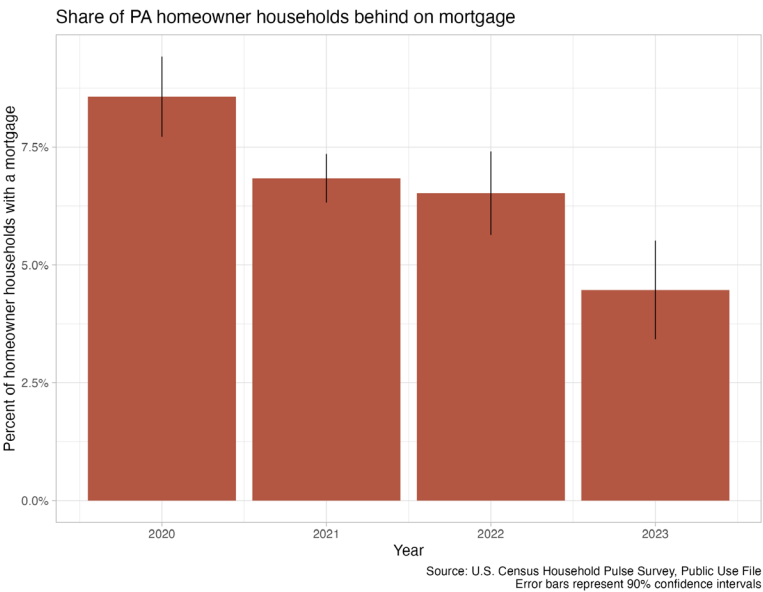
Source: HUD Exchange (2017-2022)

Chapter 7: COVID-19

During the COVID-19 pandemic, households faced a dual public health and economic crisis. Early in 2020, in a period of great uncertainty, many households experienced job loss and other economic impacts, exacerbating preexisting housing insecurity for many. Both owner and renter households fell behind on their mortgages and rents, respectively. A greater share of renter households were behind on rent, compared to owner households behind on mortgage.

Prior to the pandemic, in 2019, 19% of owner households faced housing cost burdens. In 2020, at the height of the public health pandemic, 8.6% of all Pennsylvania owner households were behind on their mortgage. By 2022, the share of owner households behind on their mortgages dropped to 6.5%. Households with the lowest incomes were more likely to struggle with their mortgages: nearly one in four households with the lowest incomes were behind on their mortgage in 2020 and, by 2022, 16% of households were behind on their mortgage. Households of color were twice as likely as white households to be behind on their rent—and these disparities persisted throughout the pandemic for Black and Latino owner households.

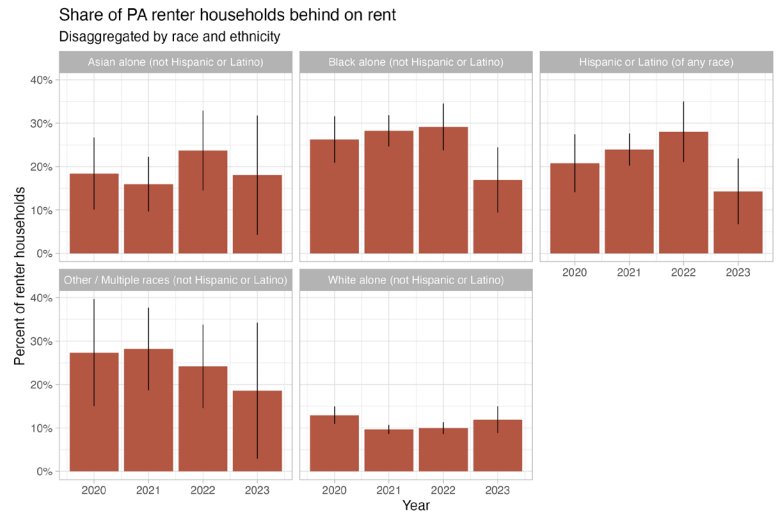
In 2020, on average, 16.5% of renter households were behind on their rent; by 2022, a slightly smaller share of renter households struggled with their rent at 15.5%. Similar to homeowners, renter households with the lowest incomes were more likely to be behind on their rent. Nearly one in four (24.4%) renter households with incomes below \$25,000 were behind on their rent between April 23, 2020 and December 21, 2020. By 2022, still 21.3% of renter households were behind on their rent, suggesting that lowest-income renter households are struggling to afford housing.



COVID-19 (Continued)

Renter households of color were more likely than white households to be behind on rent: in 2020, 26.2% of Black renter households, 20.7% of Latino renter households, and 18.4% of Asian renter households were behind on their rent compared to 12.9% of white renter households. By 2022, only 10% of white renter households were behind on rent, while renter households of color faced persistent and even slightly increased instances of rental arrears (29.2% of Black renter households, 28.0% of Latino renter households, and 23.7% of Asian renter households were behind their rent).

In late 2020 and early 2021, the federal government enacted the Consolidated Appropriations Act of 2021 and the American Rescue Plan Act, creating the U.S. Treasury Emergency Rental Assistance Program that provided \$46.55 billion to help low-income renters stay in their homes. Pennsylvania and its entitlement counties received nearly \$1.6 billion in total through these bills and, by the end of 2022, according to the U.S. Department of the Treasury, Pennsylvania and its entitlement counties had spent over 90% of its allocation. Pennsylvania emergency rental assistance programs received nearly 350,000 applications and assisted 184,270 households, or 11% of all renter households in the state.



Chapter 8: Special Topics Summaries

This section summarizes four topics especially relevant to Pennsylvania communities: manufactured housing, rural housing, broadband infrastructure, and lead pipe infrastructure. Manufactured homes are an important source of affordable housing in Pennsylvania, but such property and its residents have unique needs and vulnerabilities. Rural housing markets are shaped by very different dynamics than urban ones and rural residents may experience major challenges especially with housing quality and access to homeownership. Both broadband and lead pipe infrastructure impact residents' day-to-day lives and both systems require significant investments and improvements. These special topics are further summarized below, but the standalone brief, can be found here: <https://www.phfa.org/housingstudy/>.

Manufactured Housing

Modern manufactured homes are up to 50% less expensive per square foot than traditional site-built homes primarily due to the efficiency of the factory fabrication process.⁴⁶ The relative affordability of manufactured housing can enable more residents, particularly low-income households, to access homeownership. Yet manufactured homes made up only 4.6% of Pennsylvania's housing stock in 2021.⁴⁷ Several factors constrain the viability and adoption of manufactured homes: local zoning codes restrict the siting of manufactured homes⁴⁸ and titling of manufactured homes as personal property (rather than real property) limits financing options available to interested individuals. In addition, manufactured homes are frequently sited in areas that face greater environmental hazards; policy changes to protect these homeowners from climate vulnerabilities is needed.

⁴⁶ Jason Boehlert, "Appraisals for Higher-Risk Mortgage Loans," (comments to the Federal Reserve System, 2012), https://www.federalreserve.gov/SECRS/2012/October/20121025/R-1443/R-1443_101412_108727_314519808940_1.pdf

⁴⁷ Pennsylvania Manufactured Housing Association, "Industry Statistics," <https://pmha.org/industry-statistics>.

⁴⁸ Astou Aw, Lariece Brown, and Ashley Yea, "Identifying the Opportunities to Expand Manufactured Housing," Freddie Mac, <https://www.manufacturedhomelivingnews.com/wp-content/uploads/2023/01/FreddieMacIdentifying-the-opportunities-to-expand-manufactured-housing2022AstouAwLarieceBrownAshleyYeaManufactured-HomeLivingNews.pdf>.

Rural Housing

Over a quarter (26%) of Pennsylvania's population resides in its 48 rural counties. Rural Pennsylvania was home to 1.6 million dwelling units, or about 28% of Pennsylvania's housing stock, as of 2021. The majority (73%) of homes in rural Pennsylvania are single-family, detached; mobile homes are more concentrated in rural areas and are the second most common dwelling unit type (8%). The volume of rural home sales increased over the course of the pandemic, as did the median sales price. This may signal increasing demand and vitality in rural areas in the face of continuing aging and population loss over the past decade. Rural residents also experience major challenges with housing quality, housing cost burden, and accessing mortgages to become homeowners or to carry out home repairs.

Broadband Infrastructure

Access to fast and stable broadband internet is more important than ever for work, school, and other activities. While most households had some sort of broadband subscription, defined by the Federal Communication Commission (FCC) as internet that is always on and has a minimum download speed of at least 25 megabytes per second (Mbps), real internet speeds fell significantly below broadband speeds. A majority of Pennsylvania’s counties have a median internet speed that falls below broadband speeds. Challenges in increasing access to broadband in Pennsylvania include affordability, the digital divide, and a lack of infrastructure, all of which exacerbate disparities in education, healthcare, and economic opportunities.

Lead Pipe Infrastructure

Lead exposure from drinking water systems continues to significantly impact Americans. The Environmental Protection Agency (EPA) calculates that 10 to 20% of all human exposure to lead originates from drinking water systems and lead pipes. The risk of lead exposure from water infrastructure is higher than average for residents in Pennsylvania, which is estimated to have the fourth largest system of lead service lines in the nation behind Florida, Illinois, and Ohio. The EPA estimates that the total cost to mediate all portions of public water systems in Pennsylvania is \$24.3 billion.

Appendix: Data and Methods

This comprehensive housing study draws on a wide variety of quantitative data and textual sources. Key sources for quantitative data are listed below, while textual sources have been cited throughout the report as footnotes.

Year	CDBG, ESG, and HOME Allocation: Statewide Total
Demographic and Housing Data	U.S. Census Bureau American Community Survey, 1-year estimates, 2010-2022 (2020 data is considered experimental due to the emergence of the COVID-19 pandemic); U.S. Bureau of Labor Statistics' Consumer Price Index, July 2010-July 2022 (to adjust housing costs for inflation)
Mortgage Lending	Consumer Financial Protection Bureau Home Mortgage Disclosure Act (HMDA) data, 2012-2022; Freddie Mac Mortgage Rates, Current Mortgage Rates Data Since 1971
Housing Quality	U.S. Census Bureau, American Housing Survey (AHS), 2015-2021
New Construction	U.S. Census Bureau Building Permits Survey, 2010-2021
Surplus or Deficit of Affordable Housing Units	U.S. Department of Housing and Urban Development (HUD) Comprehensive Housing Affordability System (CHAS), 2006-2020
Homelessness	U.S. Department of Housing and Urban Development (HUD) Point-in-Time Counts and Housing Inventory Counts, via HUD Exchange, 2000-2023
Evictions	Eviction Lab, 2000-2018; Housing Initiative at Penn and Community Legal Services, 2021
Subsidized Housing	U.S. Department of Housing and Urban Development (HUD) Picture of Subsidized Households (POSH), 2004-2023; HUD Low-Income Housing Tax Credit (LIHTC) Database, 1987-2021; HUD Multifamily and Section 8 Contract Database, 2023; U.S. Department of Agriculture (USDA) Multi-Family Housing Section 515/514 Program Exit Data, 2023
Housing Issues during COVID-19 Pandemic	U.S. Census Bureau Household Pulse Survey, public use files, April 2020-April 2023