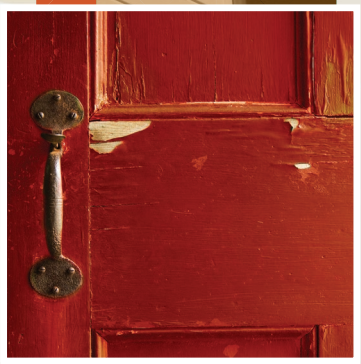

WORST CASE HOUSING NEEDS

2019 REPORT TO CONGRESS

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WORST CASE HOUSING NEEDS

2019 REPORT TO CONGRESS

Prepared for
U.S. Department of Housing and Urban Development
Office of Policy Development and Research

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June 2020

FOREWORD

The U.S. Department of Housing and Urban Development (HUD) is pleased to transmit to the U.S. Congress its 17th report on Worst Case Housing Needs. This biennial report provides data on and analysis of critical problems facing low-income renting families. It primarily draws on research from the 2017 American Housing Survey (AHS), which is funded by HUD and conducted by the U.S. Census Bureau. The AHS has taken place every 2 years since 1973, and it remains a vital source of national data on housing markets, conditions, and dynamics.

Renter households with worst case housing needs are those with very low incomes that do not receive government housing assistance and pay more than one-half of their incomes toward rent, those that live in severely inadequate conditions, or both. Worst case needs have risen sharply over the long term, increasing 54 percent since 2001, and the number of households facing these severe problems peaked in 2011 in the wake of the housing crisis and recession. The recent trend, which is the focus of this report, offers reason for optimism: the 7-percent decline observed in 2017 reverses the increase in worst case needs seen between 2013 and 2015. Indeed, worst case needs decreased from 8.3 million households in 2015 to 7.7 million in 2017. The reduction is largely attributed to economic growth, driven by increased incomes, lower unemployment, and higher labor force participation rates. Despite the recent and marked progress, however, high rents in proportion to renter incomes, particularly in supply-constrained markets, remain dominant among households with worst case needs.

This report provides substantial evidence—and supports other analyses showing—that housing developers and landlords are finding it increasingly difficult to provide decent rental housing at rates that are affordable to American working families and more vulnerable households. In 2017, only 59 affordable units were available per 100 very low-income renter households, and only 40 units were available per 100 extremely low-income renter households. Further, relative to such need, total additions to the nation's rental supply between 2015 and 2017 were unable to adequately meet new demand.

HUD is committed to tackling these issues facing American families. The Department is working closely with its federal, state, local, and tribal partners to reduce regulatory barriers to housing construction and development and to facilitate a range of affordable rental and sustainable homeownership options. The White House Council on Eliminating Regulatory Barriers to Affordable Housing, chaired by Secretary Ben Carson, is working to identify policies, regulations, and administrative obstacles that unnecessarily restrict the supply or increase the cost of housing development. To further reduce the instance of worst case housing needs, this work targets the supply of both low-rent housing and middle-market housing for renters and homeowners.

Given that physically adequate units with program-eligible rents are available on the market, HUD's Housing Choice Voucher program also plays a key role in reducing worst case needs. Essential to the success of this program are private-market landlords. HUD's Landlord Task Force is focused on increasing landlord participation by assessing and reducing administrative barriers that landlords face in HUD's primary rent subsidy program. The goal is to increase the availability of voucher-eligible units, especially in higher opportunity neighborhoods. Local policymaking—in addition to other federal initiatives, such as Small Area Fair Market Rents—is essential to mitigating barriers to rental assistance and, thus, bolstering the impact of HUD's programming to reduce worst case needs.

It is our hope that policymakers, practitioners, researchers, and ordinary citizens alike will find this report informative and compelling. We are eager to move forward with common purpose and to address this great challenge of our time.

Seth D. Appleton
Assistant Secretary for Policy Development and Research
U.S. Department of Housing and Urban Development

CONTENTS

EXECUTIVE SUMMARY

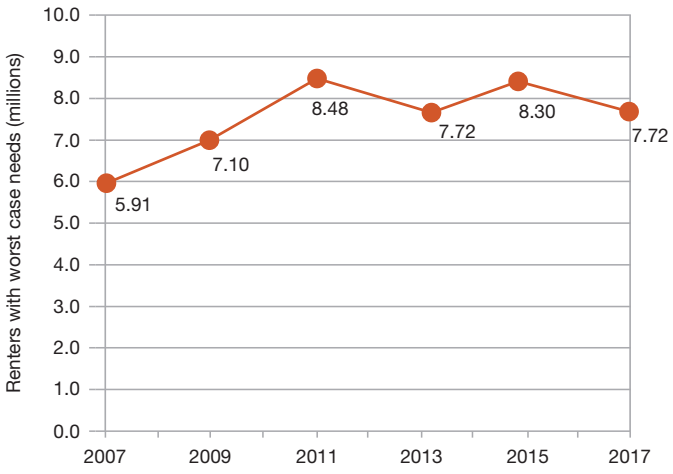
During the 2015-to-2017 period, worst case housing needs persisted across demographic groups, household types, and regions throughout the United States. Renter households with very low incomes—incomes that are no more than 50 percent of the area median income (AMI)—who do not receive government housing assistance and pay more than one-half of their income for rent, live in severely inadequate conditions, or both, have worst case needs for affordable housing of adequate quality. *Worst Case Housing Needs: 2019 Report to Congress* examines the causes of and trends in worst case needs using the most recent data from the 2017 American Housing Survey.

By the conclusion of 2017, the end of the time period evaluated, income growth had lessened the persistence of worst case needs among lower-income renters. Still, the unmet need for decent, safe, and affordable rental housing continues to outpace the availability of quality, affordable rental housing.

Worst Case Needs Have Decreased

The number of renter households with worst case needs decreased to 7.7 million in 2017 from 8.3 million in 2015 (exhibit ES-1). This 7-percent decline reverses the increase in worst case needs seen between 2013 and 2015. The decrease reflects a 321,000 reduction in worst case needs among renter households with incomes between 30 and 50 percent of AMI and a 266,000

Exhibit ES-1. Growth in Worst Case Housing Needs, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

reduction in worst case needs among renters with extremely low incomes—incomes that are no more than 30 percent of AMI.

The latest figure represents an improvement from the overall record high of 8.5 million in 2011. Looking further back, worst case needs remain higher than during the years preceding the 2007–2009 recession, when there was greater availability of affordable housing stock.

Recent improvement in the overall number of households experiencing worst cast needs has also been tempered by a static prevalence of severe housing problems among the remaining very low-income (VLI) renter population. The rate of worst case needs among VLI renter households remained flat at 43 percent between 2015 and 2017, slightly less than the highest rate observed since the recession, 44 percent in 2011. The decrease in worst case needs between 2015 and 2017 is attributable to a smaller population of susceptible VLI renter households resulting from income growth rather than a change in the availability of quality, affordable housing stock. The data suggest that in 2017, the nation's economic recovery was beneficial for the incomes of some very low-income renters, but competition for a limited supply of affordable rental units and rising rents, particularly in supply-constrained markets, continued to drive severe housing problems among this at-risk population, most notably among those with extremely low incomes. These barriers remain even as homeownership increases and the gap between available rental assistance and the number of households in need of assistance improves.

Worst Case Needs Decreased Across Most Demographic Groups and Household Types

The absolute number of renter households with worst case needs decreased across all racial and ethnic groups. The largest biennial decrease of 222,000 households was seen among non-Hispanic Black renters as these households reported the largest increase (142,000) in the number of households receiving rental assistance by race and ethnicity in 2017. The prevalence of worst case needs among VLI renter households by racial and ethnic group during 2017 was 46 percent for Hispanics, 46 percent for non-Hispanic Whites, 35 percent for non-Hispanic Blacks, and 42 percent for others. The share of VLI renter households experiencing worst case needs decreased between 2015 and 2017 for non-Hispanic Blacks and Hispanics, but not for other groups. On a regional basis, the prevalence of worst case needs among VLI renter households was greater than the national average in the South, West, and suburbs across the United States.

The number of worst case needs also decreased among most household types for VLI renters. The sole exception was elderly households, which included more households with severe housing problems even as 361,000 more reported receiving rental assistance in 2017. As this population has increased during the past 10 years, so, too, has the number of elderly households with severe housing problems. The household type with the largest biennial decrease, 317,000, was families with children. In 2017, 2.6 million family households with children, 1.9 million elderly households without children, 2.5 million "other nonfamily" households (mostly single individuals), and 0.7 million "other family" households (including multiple family members without children) experienced worst case needs.

As measured by prevalence rates rather than numbers, the proportion of VLI renter households with worst case needs decreased among elderly and "other family" household types in 2017 but not among families with children or "other nonfamily" households. Among all household types, the prevalence of worst case needs among VLI renter households ranged from a high of 47 percent for "other nonfamily" households to a low of 39 percent for elderly households without children.

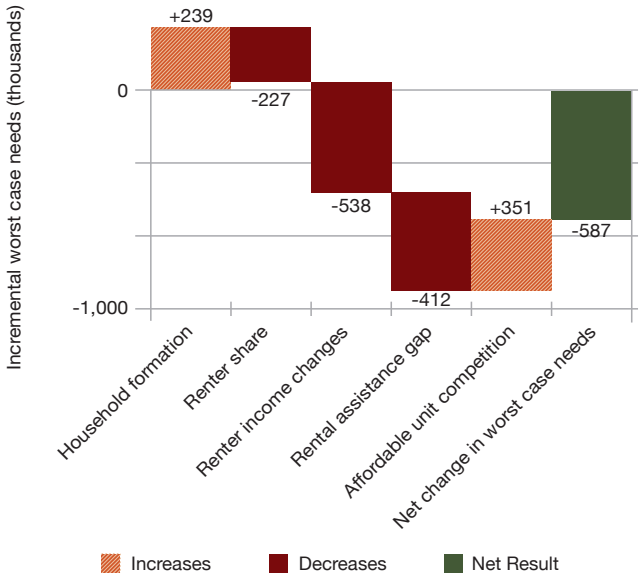
About one in six renter households with worst case needs—17 percent—included a nonelderly person with disabilities. Those 1.3 million households reflect limited improvement since 2011, when national levels of worst case needs peaked.

Worst Case Needs Result From a Shortage of Affordable Rental Housing

Most cases of worst case needs are caused by severe rent burdens—that is, paying more than one-half of income for rent. Inadequate housing quality caused only 3 percent of worst case needs. Inadequate market supply and competition for affordable units continued to pose a substantial challenge for VLI renter households in 2017.

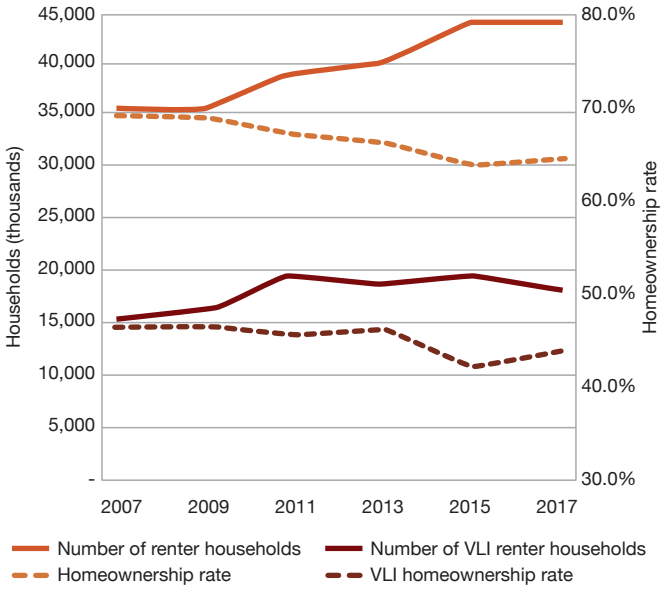
Most of the 587,000 reduction in worst case needs between 2015 and 2017 is attributable to demographic changes among unassisted VLI renter households. Four demographic factors affected the size of this at-risk group. Contributing most to the decrease in worst case needs were renter income gains (exhibit ES-2). Rising incomes in a strengthening economy lifted some renter households out of the VLI population, providing them with greater resources to bid for available housing of greater quality and consume non-housing necessities. These rising incomes mitigate the risk and consequences of experiencing severe housing problems to the extent that growing housing costs do not

Exhibit ES-2. Tenure Shifts, Tenant Income Gains, and Moderation of the Rental Assistance Gap Drove the Decline in Worst Case Needs from 2015 to 2017



Source: HUD-PD&R analysis of American Housing Survey data

Exhibit ES-3. Post-Recession Demand for Rental Units Driven by Population Growth and Tenure Trends, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

consume income gains. Other factors improving the worst case needs picture between 2015 and 2017 were strengthening homeownership rates and a somewhat diminishing gap in rental assistance relative to households eligible to receive it.

Housing market challenges, however, substantially impeded this progress. Net improvement due to demographic changes, indicated by the first four bars of exhibit ES-2, was reduced by about 37 percent due to growing competition for affordable rental units, as indicated by the fifth bar of the exhibit. Despite the shrinking population of unassisted VLI renter households, inadequate market supply responses to demand for affordable units account for an additional 351,000 cases of worst case needs. This market-driven increase in worst case needs was the result of increased competition for an inadequate supply of affordable rental units.

A closer look at the combined effect of supply and demand for affordable rental units helps explain this affordable housing gap. Exhibit ES-3 examines long-term trends in two demand factors—renter population growth and homeownership trends—that have exacerbated competition for available rental units during the past 10 years. Overall, the postrecession era was characterized by growth in rental demand and a softening of homeownership until early 2016, when homeownership rates resumed growing. These divergent trends are evident among VLI renter households but are most strongly indicated among households with higher incomes. In 2017, for example, the decline in the population of VLI renter households was met by a 5-percent growth in the population of higher income renters. Those trends indicate that households that may have been more likely to make the transition to homeownership before the recession are continuing to rent, even as their incomes rise. As the population of higher income renters grew in 2017, the shrinking population of VLI renter households faced tougher competition for affordable units.

If the supply of rental units were unchanged, greater demand would increase competition for affordable units, drive up rents, and increase prevalence of worst case needs. Additions to the total supply of rental units, including converted owner-occupied units, were minimal between 2015 and 2017, increasing by less than 1 percent nationally, compared with an increase of more than 10 percent during the previous biennial period. Costly new and existing rental units were even more likely to sit vacant than previous years, suggesting that few in the growing cohort of higher income renters preferred to occupy higher end rentals, competing, instead, with lower income renters for more affordable units.

Although the supply of rental units expanded in 2017, housing production significantly lagged household formation from 2010 to 2017; for a shrinking population of VLI renter households, therefore, the additional supply

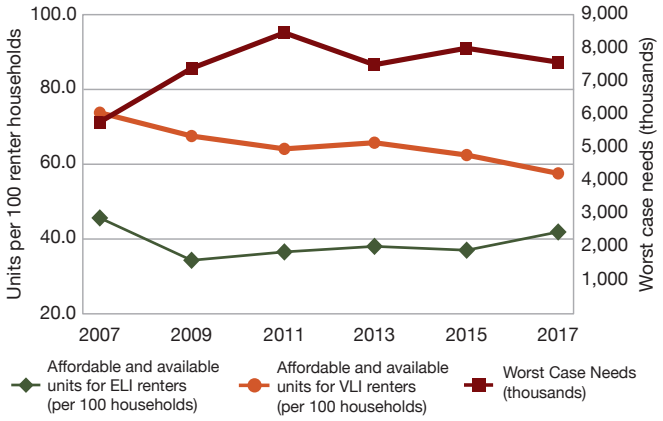
of rental units in 2017 failed to translate into increased availability of affordable housing. Those units that were added skewed toward higher rent properties, likely due to substantial fixed construction and development costs, many of which are related to regulatory burdens. Even as expensive units were added and remained vacant, the stock of rental housing affordable to VLI renter households shrank between 2015 and 2017; for them, the availability ratio decreased from 62 to 59 affordable units per 100 renter households. Higher income renters may have been less likely to compete for the lowest rent units, which are the least likely to have desirable features and amenities. Accordingly, for renter households with extremely low incomes, the ratio of affordable and available units increased from 38 in 2015 to 40 units per 100 renter households. The ratio of physically adequate units that were both affordable and available was even lower—only 35 units were available for every 100 extremely low-income (ELI) renter households (see exhibit 2-8 and "Mismatch of Supply and Demand for Affordable Rental Housing" methodology detailed in appendix E). In short, competition for the most affordable housing is striking. For each affordability bracket, renters with incomes above the bracket levels occupy large shares of units affordable to bracket households. Such crowding out affects 42 percent of the units affordable to ELI renters, 40 percent of units affordable at incomes of 30 to 50 percent of AMI, and 36 percent of units affordable at incomes of 50 to 80 percent of AMI.

Exhibit ES-4 presents how the market for rental units affordable to VLI renter households has responded to demand trends during the past 10 years. In most instances, increases in worst case needs were also accompanied by declines in the national supply of units affordable to VLI renter households. The effect of this supply shortage on worst case needs was partially mitigated in 2017 by the increase in affordable units available to ELI renter households, who account for most cases of worst case needs. Had renters with incomes between 30 and 50 percent of AMI had access to an adequate supply of affordable rental units during the most recent biennial period, an even larger decrease in worst case needs may have been seen nationally. Increasing housing supply for a range of rental and sustainable homeownership options to households with both lower and higher incomes, therefore, is important to maintaining the downward trend in worst case needs seen between 2015 and 2017.

Conclusion

Worst case housing needs improved between 2015 and 2017 in connection with a rise in incomes. Maintaining the most recent promising trends will require continued economic growth, coupled with increased production of affordable housing supply at lower price points. The latest relief from worsening housing problems among the nation's

Exhibit ES-4. Trends in Housing Supply Mismatch and Worst Case Needs, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

VLI renter households is attributable primarily to demographic and economic factors—especially household income gains among renters—that shrank the number of households susceptible to worst case needs. Growing demand for available units from higher income renters and uneven housing market supply responses, however, blunted the effect of that progress, playing a substantial role in increasing the proportion of unassisted renters with incomes between 30 and 50 percent of AMI experiencing severe rent burdens.

Even with rental assistance, 6 of 10 ELI renter households and 4 of 10 VLI renter households do not have access to affordable and available housing units. Rental housing assistance such as that offered by HUD programs, other federal programs, states, or localities helps many vulnerable renter households who have such limited incomes. HUD assistance programs were never designed nor have they ever been funded to be an entitlement for all income-eligible renters. Among VLI renters in 2017, 29 percent of households avoided worst case needs because they had rental assistance. Another 29 percent were able to avoid severe housing problems in the unassisted private rental market. The remaining 43 percent, however, were left with worst case needs for assisted or other affordable housing.

Based on the most recent evidence, the inadequate production and supply of affordable homes undermines otherwise promising demographic trends and tempers potential improvements in national levels of severe housing problems as the economy grows. A broad strategy at the federal, state, and local levels is needed to grow the economy, support market production and access to affordable homes, and provide assistance to the most vulnerable households. HUD's work to reduce regulatory

barriers to affordable housing production is particularly timely in this regard. The White House Council on Eliminating Regulatory Barriers to Affordable Housing, chaired by Secretary Ben Carson, is leading efforts to boost the supply of affordable housing by identifying policies, regulations, and administrative obstacles to cost-effective development of a much needed supply of affordable rental units and entry-level homes. Relaxing unnecessary constraints on affordable housing production is expected to both increase the number of units affordable to VLI renter households and ease transitions for qualified renters to sustainable homeownership, thereby increasing the availability of rental units. Rental assistance in the form of vouchers for use on the private market could also reduce worst case needs to the extent that rents fall within program limits and landlords are willing to participate. HUD's ongoing Landlord Task Force initiatives are expected to improve access to voucher-eligible units among VLI renter households, especially in higher opportunity neighborhoods.

Section 1

Extent and Nature of Worst Case Needs

The U.S. Department of Housing and Urban Development (HUD) is the largest federal provider of affordable rental housing. In response to a request by Congress in 1991, HUD's Office of Policy Development and Research (PD&R) periodically reports on the severity of worst case needs for affordable rental housing, as collected in the biennial American Housing Survey (AHS). This report is the 17th in the series of core reports.[1]

Extent of Worst Case Needs in 2017

HUD examined the 2017 AHS data to understand the evolving dimensions of a persistently expanding shortage of decent and affordable rental housing for lower-income households. The basic facts presented and examined in the following pages are—

- In 2017, 7.72 million renter household had worst case needs (see exhibit 1-1). These renters have very low incomes,[2] lack housing assistance, and have either severe rent burdens or severely inadequate housing (or both).

- Between 2015 and 2017, the number of worst case needs decreased by 7.1 percent following a 7.5-percent increase observed during the 2013-to-2015 period. This decrease was driven by a reduction of 321,000 in worst case needs among renter households with incomes between 30 and 50 percent of AMI and a reduction of 266,000 in worst case needs among renters with extremely low incomes—incomes that are no more than 30 percent of AMI.

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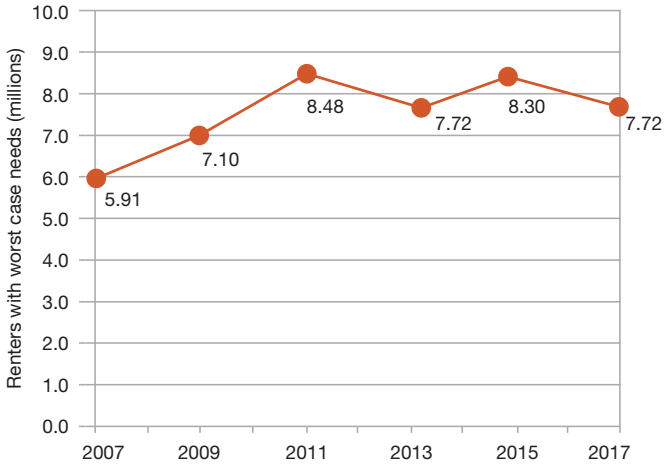
[1] PD&R supplements the core reports on worst case needs with periodic topical reports. For a list of previous titles, see appendix D.

[2] *Very low income* and *extremely low income* refer throughout this report to the income levels of renters. Very low incomes (VLI) are those incomes of no more than 50 percent of the area median income (AMI), and extremely low incomes (ELI) are those incomes of no more than 30 percent of AMI—typically below the poverty line. HUD programs use AMI based on local family incomes with adjustments for household size, more precisely known as HUD-adjusted area median family income, or HAMFI (see appendix E). Nationwide, median very low-income and extremely low-income levels were $29,400 and $19,800 per year, respectively, in 2017 (see exhibit 3-2). These income levels are for a family of four. ELI and VLI families may have incomes much less than these national thresholds if they have fewer than four members or live in areas with lower median family incomes.

Exhibit 1-1. Growth in Worst Case Housing Needs, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

- Consistent with long-term trends, the primary problem for worst case needs renters in 2017 was *severe rent burden*—insufficient tenant incomes relative to rents. Among all renter households, a 10.1-percent increase in median incomes between 2015 and 2017 was consumed, in part, by a 7.5-percent increase in median housing costs for renters. Severely inadequate housing accounted for only 2.5 percent of worst case needs.

- The most recent decrease in worst case needs is a result of some positive improvements in the trends that drove the recession-era increases observed from 2007 through 2011. During that period, the combination of mortgage foreclosures, widespread unemployment, and shrinking renter incomes resulted in historic increases in the number of VLI renter households with worst case needs, growing by 2.57 million households, or 43.5 percent. In contrast, recent gains in renter incomes played a prominent role in the modest 7.1-percent decrease in worst case needs observed during the 2015-to-2017 period, with some support from moves toward homeownership.

- In 2017, there were 18.01 million VLI renter households, a 6.1-percent decrease from 2015 levels that reversed the 4.0-percent increase seen in the 2013-to-2015 period. In 2017, 42.7 percent of VLI renter households and 48.1 percent of ELI renter households had worst case needs.

- Worst case needs also decreased as a proportion of U.S. households during the most recent two-year period, from 7.0 percent in 2015 to 6.3 percent in 2017.

WHICH HOUSEHOLDS CAN HAVE WORST CASE NEEDS?

By definition, households that can have worst case needs are households that—

- Are renters.
- Have *very low incomes*—that is, incomes of no more than 50 percent of the area median income (as adjusted for family size).
- Do not receive housing assistance.

PRIORITY PROBLEMS TRIGGER WORST CASE NEEDS

Two types of priority problems determine whether households have worst case needs:

1. *Severe rent burden,* which means that a renter household is paying more than one-half of its income for gross rent (rent and utilities).
2. *Severely inadequate housing,* which refers to units having one or more serious physical problems related to heating, plumbing, and electrical systems or maintenance (problems are listed in appendix E).

- Housing assistance prevents millions of renters from experiencing worst case needs. The shortfall of housing assistance relative to need relaxed somewhat between 2015 and 2017. In absolute terms, the number of assisted renters increased by 8.3 percent, and housing assistance met a larger share of the need among a shrinking population of VLI renter households. The share of VLI renter households receiving housing assistance grew by 3.8 points between 2015 and 2017 to 28.7 percent.

- An important dimension of the affordable housing supply gap is that affordable units are not necessarily available to the renters who need them most; higher-income renters occupy substantial shares of units that would be affordable to the lowest-income renters.

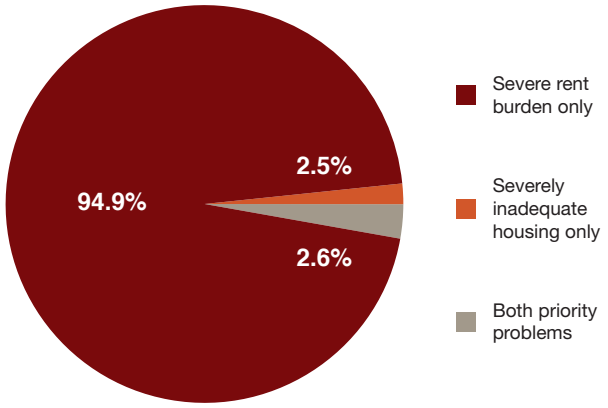
With these key facts in mind, section 1 explores the current extent and the demographic characteristics of worst case needs—which households have such needs and what their situations are.

WHAT IS A TYPICAL WORST CASE NEEDS HOUSEHOLD?

The typical renter household with worst case housing needs[a] is a family with two children, most often a minority family headed by either a single female or a married couple. The family resides in adequate or good-quality housing in a central city of a southern metropolitan area. Earnings are the family's primary source of income, yet their low wages place them below the poverty line and in the extremely low-income category. Their rent plus utilities consume most, if not all, of their extremely low reported income, costing more than $1,100 per month on average. They meet other needs with food stamps from the Supplemental Nutrition Assistance Program (SNAP), Medicaid, gifts from friends and relatives, and Earned Income Tax Credits.

[a] See table A-7 for household characteristics of worst case needs renters. Table A-14 describes average income and housing cost characteristics.

Exhibit 1-2. Severe Rent Burdens Drove Worst Case Needs in 2017



N = 7.716 million renters with worst case needs.
Source: HUD-PD&R tabulations of American Housing Survey data

Inadequate Housing and Inadequate Income

Of the two types of priority problems that make up worst case needs, severe rent burden is, by far, the more frequent problem. As exhibit 1-2 illustrates, 97.5 percent of all worst case needs renters, or 7.52 million households, had severe rent burdens in 2017. Paying one-half (or more) of a limited total income for rent leaves very little income for other essentials, such as food, medical care, transportation expenses, education, and child care.

Severely inadequate housing alone made up only 2.5 percent of worst case needs in 2017; 5.1 percent (or 397,000) of renter households with worst case needs had severely inadequate housing, either alone or in combination with severe rent burdens. Although severe housing inadequacies represent only a small fraction of severe housing problems, the number and share of worst case needs households experiencing such quality problems increased slightly in the 2015-to-2017 period.

That severely inadequate housing causes such a small fraction of worst case needs is the result of a decades-long trend of improvements to the nation's housing stock. More stringent building codes prevent the construction of units without complete plumbing or heating systems, and obsolete units are demolished each year.[3] In addition, a portion of severe physical inadequacies reported in the AHS likely results from or reflects maintenance or upgrade activity occurring in occupied units. Among all renter households, 3.0 percent of those with very low incomes and 1.0 percent of those with higher incomes[4] had severely inadequate housing in 2017. Nevertheless, the housing stock is continually aging, and thousands of renters continue to live in severely inadequate units. The costs associated with repairing severe quality deficiencies present another formidable barrier to the ability of lower-income households to improve their housing conditions. Landlords offering lower-priced units for rent may similarly delay or avoid high maintenance and repair expenses as units age.[5]

[3] Changes in the overall housing stock are primarily driven by new construction and losses due to demolition and natural disasters (Econometrica, 2016).

[4] Homeowners reported severely inadequate housing at even lower rates than renters: 1.6 percent of VLI homeowners and 0.5 percent of homeowners with higher incomes had severely inadequate housing. See table A-1B.

[5] Divringi et al. (2019) estimated repair costs associated with quality deficiencies identified in the 2017 AHS and found that units occupied by renters with incomes at or below the poverty line accounted for $25.5 billion, or 56.7 percent, of the aggregate estimated repair costs associated with rental units in the United States. Older single-family and multifamily units occupied by poor renters had higher median repair cost estimates—$2,096 and $1,355, respectively—than newer units. Similarly, Wallace et al. (2019) found that repair costs increase with the degree of housing inadequacy as measured by the AHS, with median costs for repairing moderately and severely inadequate units estimated at $2,440 and $3,346, respectively.

PROGRESS IN REDUCING HOMELESSNESS

Homeless individuals and families clearly have the greatest need for affordable or assisted housing. Homeless people, however, are not included in official estimates of worst case needs because the AHS covers only housing units and the households that live in them, and persons experiencing homelessness, by definition, do not live in a housing unit and are not surveyed by the American Housing Survey (AHS).[a]

In the most recent *Annual Homeless Assessment Report to Congress*, HUD estimated that 568,000 people in the United States experienced sheltered and unsheltered homelessness during a given night in January 2019. Most of these, 63 percent, were staying in residential programs for homeless people, and the remaining 37 percent were staying in unsheltered locations (HUD-CPD, 2019).

Since 2007, total homelessness on a given night has declined by 15 percent, and homelessness among families with children continues to decline. This long-term progress, however, is threatened by recent local trends among unsheltered and chronically homeless populations in certain areas of the country. Total homelessness has increased modestly since 2016. The increase has been driven by a growing unsheltered population in high-cost markets, particularly in California, even as total homelessness has continued to decline outside those areas. Although the number of people staying in emergency shelters and transitional housing programs continues to decline as the inventory of beds in rapid rehousing programs increases, the number of people staying in unsheltered locations grew by 20 percent between 2016 and 2019.

Between 2016 and 2019, homeless people in families with children decreased by 12 percent, but the number of homeless individuals increased by 11 percent. Chronic homelessness among individuals grew by 24 percent even as the count of homeless veterans decreased by 6 percent during the same period.

[a] The AHS samples both occupied and vacant residential housing units but excludes places such as group quarters or motels where homeless persons may be sheltered (Census-HUD, 2017: 3–5)

Prevalence of Worst Case Needs by Income

Because most cases of worst case needs are triggered by severe rent burdens, the adequacy of household incomes relative to rents of available units is crucial. Among the 18.07 million VLI renter households in 2017, 42.7 percent had worst case needs (exhibit 1-3). The VLI category includes ELI renters, who had an even greater prevalence of worst case needs at 48.1 percent. ELI renter households constituted a large share (63.9 percent) of VLI renter households in 2017. They were also a growing share because, between 2015 and 2017, the number of renters with extremely low incomes grew by 2.3 percent (258,000) as those with incomes between 30 and 50 percent of AMI declined by 17.9 percent (1.43 million). As a result of such income shifts, ELI renter households accounted for 72.0 percent of worst case needs in 2017, up from 70.1 percent in 2015.[6] Despite recent progress in the number of renters experiencing severe housing problems, those with the lowest incomes remain the worst off.

Exhibit 1-3. Extremely Low-Income Renters Were Most Vulnerable to Worst Case Needs in 2017

	0–30% AMI	>30–50% AMI	Total
Number of renter households (thousands)	11,548	6,519	18,067
Number that are worst case needs renters (thousands)	5,555	2,161	7,716
Percentage that are worst case needs renters	48.1	33.1	42.7

AMI = area median income (HUD adjusted).
Source: HUD-PD&R tabulations of American Housing Survey data

Decrease in Worst Case Needs

Worst case needs decreased by 587,000 cases (or 7.1 percent) from 2015 to 2017, more than offsetting the increase of 582,000 cases from 2013 to 2015. The decrease in the most recent period, however, only slightly mitigated the long-term trend of increasing worst case needs, including growth of 30.7 percent, or 1.81 million households, during the 10-year span of 2007–2017 (exhibit 1-4).

Worst case needs also decreased as a proportion of U.S. households during the most recent 2-year period, from 7.0 percent in 2015 to 6.3 percent in 2017, but remains higher than prerecession levels.

[6] Of the 6.0 million ELI renter households without worst case needs, 4.0 million (or 67.4 percent) received rental assistance subsidized by HUD or other federal, state, or local programs. In other words, only 2.0 million of the 11.5 million ELI renter households nationally (or 16.9 percent) avoided severe housing problems in the unassisted private market in 2017. See table A-1A.

Exhibit 1-4. Growth in Worst Case Needs Among All U.S. Households

	2007	2009	2011	2013	2015	2017
All households (millions)	110.72	111.86	115.08	116.03	118.29	121.56
Renters with worst case needs (millions)	5.91	7.10	8.48	7.72	8.30	7.72
Worst case needs as percentage of all households	5.33	6.34	7.36	6.65	7.02	6.35

Source: HUD-PD&R tabulations of American Housing Survey data

EFFECT OF THE FINANCIAL CRISIS AND RECESSION ON WORST CASE NEEDS

The decade from 2007 to 2017 was dramatically shaped by the financial crisis and recession, which nominally extended from December 2007 to June 2009 but was followed by several years of slow economic growth.

In the years leading up to the recession, relaxed housing finance terms, aggressive and risky subprime mortgage lending, and rapidly growing home prices had induced many lower income renters to finance home purchases under terms they could not sustain. Such factors contributed to a near-collapse of financial markets, falling house prices, sudden restrictions on mortgage capital, unemployment, and extremely high levels of mortgage defaults and foreclosures (HUD-PD&R, 2010).

As documented in previous Worst Case Needs reports, many homeowners were forced to become renters during and after the crisis period. Both 90-day delinquency rates and foreclosure rated peaked during 2010 and 2011 (HUD-PD&R, 2019). This tenure shift greatly increased market demand pressure on the relatively fixed rental stock and drove up market rents even as economic conditions further depressed incomes of renter households and slowed housing construction. Under the influence of these multiple forces, the number of renter households increased by 11 percent and the number of very low-income renters increased by 21 percent between 2007 and 2011. Worst case housing needs reached their peak in the same year, 2011, at 43 percent above their 2007 level. (See table A-13 for trends of renter households by income level.)

Because the problem of worst case needs is primarily one of a scarcity of units with affordable rents relative to the number of renters with very low incomes, the balance of section 1 examines the demographics of the renters who have those problems. Section 2 explores the dimensions of the inadequate supply of affordable rental units, and section 3 summarizes and integrates supply and demand issues to shed light on the root causes and shifting dimensions of this national problem.

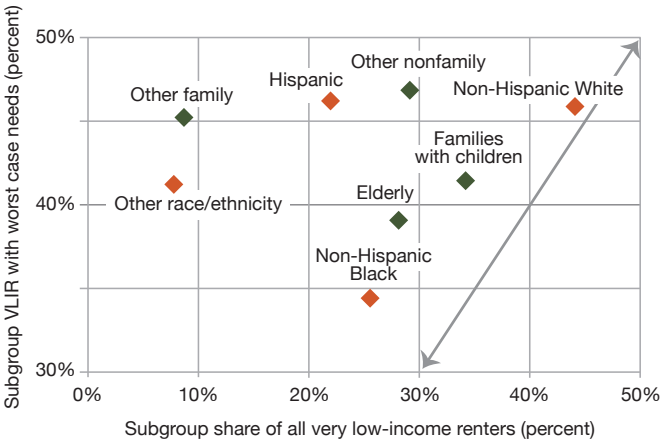
Demographics of Worst Case Needs

Worst case needs are an economic reality for many of the nation's VLI renter households. The severe housing problems that trigger worst case needs are widespread for such households, yet notable variations exist among subgroups of the population.

Exhibit 1-5 shows population subgroups defined either on the basis of race and ethnicity (orange markers) or on the basis of household structure (dark green markers). The position of the markers reflects each subgroup's share of VLI renter households and the proportion of such renters experiencing worst case needs. If the likelihood of experiencing worst case needs were distributed evenly throughout the population of VLI renter households, we would expect for the markers to cluster around the gray line on the chart. In other words, the gray line represents the distribution expected if a VLI renter household had the same chance of having worst case needs as it did to be very low-income. As indicated by exhibit 1-5, however, some subgroups that account for a small share of the VLI population have a relatively high chance of experiencing severe housing problems. As a share of VLI renter households, the subgroups span a range of 35.7 percentage points, but the prevalence of worst case needs varied by only 12.4 percentage points. Households from subgroups in the upper-left quadrant of the chart, including other family, other race and ethnicity, and Hispanic households, are particularly more likely to have worst case needs than other subgroups, relative to their share of the VLI renter population.

The subgroups that account for a relatively large share of the VLI renter household population and have a relatively large number of worst case needs cases appear in the upper-right quadrant of the exhibit and therefore account for the greatest numbers of worst case households. Those subgroups include non-Hispanic White, families with children, and other nonfamily households. Subgroups marked along the top of the chart, including non-Hispanic White, Hispanic, other family, and other nonfamily households, have a larger share of their VLI renter

Exhibit 1-5. Very Low-Income Renters from All Household Types and Racial and Ethnic Groups Experienced Worst Case Needs in 2017



Source: HUD-PD&R tabulations of American Housing Survey data

household population afflicted with worst case needs than the national average of 43 percent.

The variations in prevalence among subgroups, although limited, may reflect different access to affordable or assisted units resulting from differences in geographic distribution and markets, household preferences, disabilities, or possibly housing discrimination.

Worst Case Needs by Race and Ethnicity

Worst case needs were found across all types of communities, racial groups, and ethnic lines. Both similarities and differences emerged when examining the three largest racial and ethnic groups: non-Hispanic White, non-Hispanic Black, and Hispanic.

During 2017, non-Hispanic White renters account for the largest number of households with worst case needs (3.6 million) by race and ethnicity. They also experienced the greatest share of worst case needs—47.1 percent—followed by Hispanics, with 24.4 percent; non-Hispanic Blacks, with 20.5 percent; and renters of other races and ethnicities, with 8.0 percent. Together, the three largest race and ethnicity groups accounted for 92.0 percent of worst case needs in 2017, and minority households accounted for more than one-half—52.9 percent—of worst case needs.[7] Between 2015 and 2017, the largest decrease in households with worst case needs by race and ethnicity was seen among non-Hispanic Black renters (a reduction of 222,000), as these households reported the largest increase (142,000) in the number of households receiving rental assistance. Hispanic renters also reported a large reduction of 220,000 worst case needs during this period.

As suggested by exhibit 1-5, very low-income renters do not experience worst case needs at a uniform rate. During 2017, worst case needs affected 45.8 percent of non-Hispanic White renters with very low incomes, slightly less than the proportion of Hispanics—46.1 percent. Prevalence was lower for non-Hispanic Blacks, at 34.6 percent, and other VLI renter households fell between, with 41.6 percent having worst case needs. Variation in rates of housing assistance among VLI renter households contributed to variation in prevalence of worst case needs and the likelihood that households avoided severe housing problems unassisted in the private market.[8] Non-Hispanic White and Hispanic VLI renter households had the best odds of avoiding severe housing problems in the private market in 2017—29.9 percent of non-Hispanic White VLI renters and 30.7 percent of Hispanic VLI renters avoided severe problems without housing assistance. Only about one-fourth of Non-Hispanic Black and other VLI renter households—25.2 and 26.0 percent, respectively—avoided severe problems in the private market without housing assistance.

Exhibit 1-6 shows a downward trend in worst case needs for all racial and ethnic groups between 2015 and 2017. The 587,000 fewer cases of worst case needs in 2017 reflected 222,000 fewer non-Hispanic Black households, 220,000 fewer Hispanic households, 144,000 fewer non-Hispanic White households, and a negligible 1,000 fewer households among other VLI renter households.

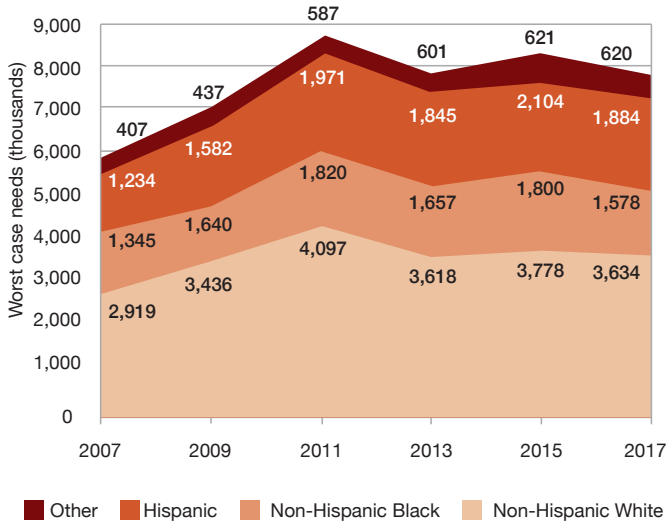
Despite those absolute decreases in numbers, the shares of VLI renter households with worst case needs did not universally decrease for racial and ethnic groups between 2015 and 2017. Prevalence decreased by 2.8 points for non-Hispanic Blacks and 1.2 points for Hispanics. Prevalence rates increased, however, by 1.2 points for non-Hispanic Whites and 0.5 points for renters of other races and ethnicities (despite the small absolute decrease in number).

Exhibit 1-6 also illustrates differences in the long-term growth of worst case needs. Between 2007 and 2017, worst case needs increased 30.7 percent overall but increased only 24.5 percent for the largest subgroup of VLI renter households: non-Hispanic Whites. The 10-year increase was only 17.3 percent among non-Hispanic Blacks, whose long-term trajectory was largely altered by the most recent

[7] Similarly, the three largest race and ethnicity groups accounted for 91.8 percent of all VLI renter households nationally, and minority households accounted for 56.1 percent of VLI renter households.

[8] See table A-9.

Exhibit 1-6. Growth in Worst Case Needs Among All Racial and Ethnic Groups, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

biennial decrease. Worst case needs expanded much more rapidly during these 10 years among other minority subgroups, with increases of 52.7 percent among Hispanics and 52.3 percent among renters of other races and ethnicities. In the most recent biennial period, economic progress reduced the population of non-Hispanic White VLI renter households by 6.4 percent. Minority VLI renter households decreased slightly less—5.8 percent—led by an 8.1-percent decrease among Hispanics, with smaller decreases of 5.2 percent observed among non-Hispanic Blacks and 1.3 percent among other minority renters.

Although minority renters who are not Hispanic or non-Hispanic Black make up a small share (8.0 percent) of households with worst case needs, the American Housing Survey sample is large enough to provide detailed national estimates for some subgroups within this category. For the first time, the *Worst Case Housing Needs Report to Congress* includes estimates of worst case needs for Asian, American Indian or Alaska Native, and Native Hawaiian or other Pacific Islander households, providing additional insight into the composition of the small but growing group of "other minority" renters (exhibit 1-7). Specifically, this detailed examination reveals that minority households not defined by these six subgroups make up only 1.8 percent (141,000 cases) of households experiencing worst case needs in 2017.

Asian households account for more than one-half of worst-case households categorized as "other" minorities in exhibit 1-6, representing 4.7 percent of all households with worst case needs. The prevalence of worst case needs among Asian VLI renter households was also higher than among any other racial or ethnic group: 47.1 percent experienced worst case needs in 2017.

Together, American Indian or Alaska Native and Native Hawaiian or other Pacific Islander households accounted for 1.5 percent of all cases of worst case needs in 2017. Although those estimates provide one indication of the prevalence of severe housing affordability and quality problems among those populations, HUD's Native American

Exhibit 1-7. Worst Case Needs Among Detailed Race and Ethnicity Subgroups in 2017

	Non-Hispanic White	Non-Hispanic Black	Hispanic	Asian	American Indian or Alaska Native	Native Hawaiian or Other Pacific Islander	Other
0-30% AMI renter households (thousands)	4,815	3,098	2,592	509	206	47	281
Worst case needs (thousands)	2,559	1,161	1,369	247	77	20	122
Percent with worst case needs	53.1	37.5	52.8	48.5	37.4	42.6	43.4
>30%-50% AMI renter households (thousands)	3,119	1,463	1,491	255	76	24	92
Worst case needs (thousands)	1,075	417	515	112	11	11	19
Percent with worst case needs	34.5	28.5	34.5	43.9	14.5	45.8	20.7
Total very low-income renter households (thousands)	**7,934**	**4,561**	**4,083**	**764**	**282**	**72**	**372**
Worst case needs (thousands)	3,634	1,578	1,884	360	88	31	141
Percent with worst case needs	45.8	34.6	46.1	47.1	31.2	43.1	37.9

AMI = area median income (HUD adjusted).
Source: HUD-PD&R tabulations of American Housing Survey data

Housing Needs Study also found that overcrowding and doubling up were far more common among Native American households compared with other households in the United States.[9] Thus, estimates of worst case housing needs should be viewed as one component of a larger body of evidence on housing problems among American Indian or Alaska Native and Native Hawaiian or other Pacific Islander households in tribal and urban areas.

Worst Case Needs by Household Type

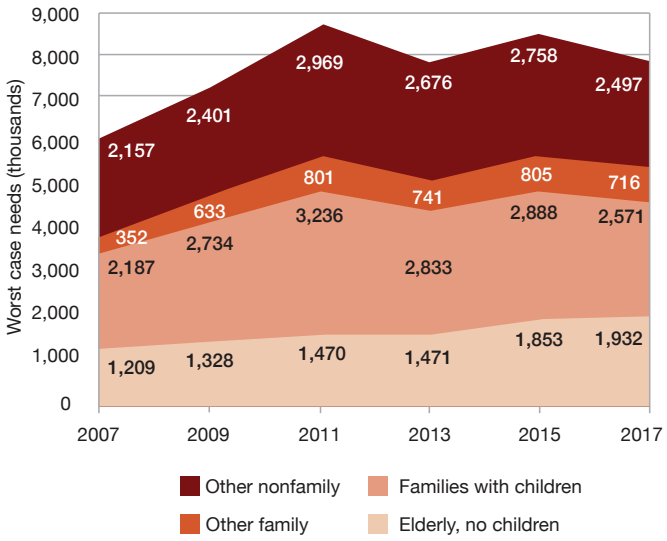
The composition of different households reflects variations in their stage of life, income and resources, and housing needs. Exhibit 1-8 shows that families with children constituted the largest share of households experiencing worst case needs in 2017—33.3 percent—followed by other nonfamily households (single adults and roommates),[10] with 32.4 percent; elderly households without children (hereafter, elderly households), with 25.0 percent; and other family households, with 9.3 percent.

Families with Children. The largest group by household type, families with children, also saw the largest decrease in worst case needs between 2015 and 2017. The number of families with children having worst case needs decreased by 317,000 during the 2015-to-2017 period, contributing to a total reduction of 665,000 cases since their housing problems peaked in 2011.

Worst case needs decreased, in part, because VLI renter households with children decreased by 763,000 between 2015 and 2017. This decrease took place wholly among households with incomes between 30 and 50 percent of AMI. Along with rising incomes, tenure shifts from renting to owning appear to have had a causal role. Nationally, the number of owner households with children increased by 8 percent between 2015 and 2017, whereas the number of renter households with children decreased by 1 percent.

Although progress is being made, the number of families with children experiencing worst case needs remains above prerecession levels. In contrast to the overall decrease in the number of VLI renters with children between 2015 and 2017, the number of ELI renter households with children increased by 172,000. The share of VLI renter households with children experiencing worst case needs remained flat, at 41.5 percent, as the percentage reporting housing assistance increased from 24.8 to 26.8 percent.

Exhibit 1-8. Growth in Worst Case Needs Among All Household Types, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

Without housing assistance, substantially more cases of worst case needs would occur. Among VLI renter households with children, 1.66 million reported having rental assistance in 2017 and, by definition, could not have worst case needs. Only about one in four VLI renter households with children received housing assistance, which helps account for the fact that the greatest share of worst case needs occurred in such families.[11]

Elderly Households. The national trend of declining worst case needs was not experienced across all household types in 2017. The number of elderly households experiencing severe housing problems has steadily increased over the past decade. During 2017, 1.93 million elderly[12] renters had worst case needs, an increase of 79,000 since 2015, even as 361,000 more of these households reported receiving rental

[9] The series of reports produced by this assessment are available at https://www.huduser.gov/portal/pdredge/pdr-edge-research-022117.html.

[10] See appendix E for more on the composition of household types.

[11] Estimates of the number of rental households that reported receiving rental housing assistance are presented for various subgroups in the tables of appendix A. AHS estimates of assisted very low-income renters in this report rely on self-reported data, which primarily include HUD-assisted households and may also include households assisted through other federal, state, or local programs, such as U.S. Department of Agriculture rental housing subsidies. As expected, HUD administrative data matching procedures suggest that excluding households assisted by non-HUD programs reduces the number of households classified as receiving housing assistance. For the purposes of this report, however, households receiving assistance from a non-HUD program are not classified as having worst case housing needs. Because administrative data matching across several federal, state, and local agencies is not feasible, AHS self-reported assistance is the preferred measure of housing assistance for this report. The aggregate numbers of households served by HUD's primary rental assistance programs, based on administrative records, are outlined in appendix C.

[12] HUD defines *elderly households* as those having a household head or spouse who is at least age 62 and including no children younger than age 18.

assistance in 2017. The proportion of elderly VLI renter households with worst case needs was 39.0 percent in 2017, less than the rate for families with children and representing a 0.9-point decrease since 2015. The increase is largely attributable to the growing population of VLI elderly renter households, which increased by 308,000 households between 2015 and 2017. Although more VLI elderly households—nearly 4 in 10—received housing assistance in 2017, aging baby boomers are likely to continue to be a key demographic facing housing problems in the years to come.[13]

Other Family Households. After considering families with children and elderly households, other households can be divided into those that include multiple members of a given family and those that do not. Other family households include those such as married couples who are childless, one or more parents with adult children at home, adult siblings sharing an apartment, and householders boarding an elderly parent.[14]

Other family households constitute the smallest category in exhibit 1-8, contributing 716,000 worst case households in 2017. The rate of worst case needs among VLI renter households in this group was 45.0 percent, exceeding the prevalence for either families with children or elderly households. The high rate of worst case needs among this group declined by 1.6 points between 2015 and 2017, more than for any other household type. A reduction of 135,000 VLI households in this subgroup contributed to the reduction, although complex dynamics within this small, diverse group are likely driving change. As income trends improve nationally, fewer households of adult relatives may choose to double up if other adequate housing options are available. Still, some of those households may be at a disadvantage in competing for limited available housing. For example, non-elderly families without children may be less likely to be prioritized among households competing for limited housing assistance resources.[15]

Other Nonfamily Households. About 5.32 million VLI renter households in 2017 were other nonfamily households, making this category the second largest after families with children. Like families with children, other nonfamily households saw a large reduction in those with very low incomes between 2015 and 2017.

Worst case needs affected 2.50 million other nonfamily households in 2017, 261,000 fewer than in 2015. Worst case needs affect a larger share, however, of VLI renter households of this type compared with other subgroups. In 2017, 47.0 percent of VLI other nonfamily households had worst case needs, a 0.2-point increase since 2015 and the only group to experience a rate increase among the four household categories. Most renters in this group are single individuals, and the rest are unrelated people sharing a housing unit.[16] VLI one-person households may be less well-equipped to handle rent increases than those who share housing costs with a roommate or family member. Income shocks may also affect one-person households more severely than households in which two or more people contribute resources to the household.[17]

Households Including People with Disabilities. Having worst case needs can be especially difficult for renter households that include people with disabilities. Disabilities can reduce employment options and create additional difficulties in finding suitable housing at reasonable cost.

Beginning with the 2009 AHS, respondents have been asked directly whether household members have any of six types of disabilities, including four basic functional limitations—visual, hearing, cognitive, and ambulatory—and two types of difficulties with activities of daily living—self-care and independent living. Ambulatory limitations (walking or climbing stairs) are the most frequently occurring type of disability, affecting 44.6 percent of VLI renter households that include a nonelderly person with a disability. Cognitive limitations (serious difficulties concentrating, remembering, or making decisions) have nearly the same prevalence,

[13] Harvard's Joint Center for Housing Studies projects that aging baby boomers will swell the nation's population aged 65 or older by 11.1 million over the next decade, fueling both the housing remodeling market and demand for smaller, accessible homes (JCHS, 2019).

[14] Among "other family" very low-income renter households, 42.4 percent include a married couple, 58.6 percent have a female householder, 66.2 percent have a minority householder, and the mean household size is 2.47 persons. See table A-6A.

[15] Within HUD's largest rental assistance program, the Housing Choice Voucher Program (HCVP), the majority (69 percent) of households served are either families with children or elderly. In addition to only one-fourth of eligible households receiving assistance, the scarcity of HCVP resources is further evidenced by long waiting lists. On average, eligible households had waited 2.4 years before receiving a voucher in 2018. Public housing authorities have the discretion to establish local preferences for choosing which households to assist based on local housing needs and priorities within this constrained resource environment. See appendix C for additional information on HUD's rental assistance programs.

[16] Among VLI nonfamily renter households, 83.6 percent were one-person households in 2017. See table A-6A. The AHS does not include college students living in institutional housing, but it may include students sharing off-campus housing and other households in which individuals double up to share housing expenses. As the number of enrolled postsecondary students decreased by 222,000 between 2015 and 2017, a decrease in off-campus student households might account for part of the reduction in worst case needs for this household type (NCES, 2019.)

[17] In a similar vein, single adults, unaccompanied youth, or multiple-adult households are more prevalent within the homeless population than are families with children (HUD-CPD, 2018). Likewise, a recent study of community-level predictors of homelessness found that higher population rates of one-person households were associated with higher homelessness rates (Nisar et al., 2019).

DISABILITY AND ACCESSIBILITY IN THE AMERICAN HOUSING SURVEY

Since 2009, the American Housing Survey (AHS) has collected information about the following types of disabilities:

- Deafness or serious difficulty hearing.
- Blindness or difficulty seeing, even when wearing glasses.
- Serious difficulty concentrating, remembering, or making decisions because of a physical, mental, or emotional condition.
- Serious difficulty walking or climbing stairs.
- Serious difficulty dressing or bathing.
- Difficulty doing errands alone because of a physical, mental, or emotional condition.

The 2015 AHS also included questions related to the wheelchair accessibility of housing units and home modifications made to accommodate individuals with physical disabilities. As in 2011, future AHS surveys may periodically include topical modules of questions related to housing accessibility features.

For further information, see demographics and accessibility sections of the *AHS Codebook* interactive tool (Census-HUD, 2019).

affecting 44.4 percent of these households.[18] People with disabilities are found among all four household types discussed previously.

As exhibit 1-9 shows, 3.28 million VLI renter households, or 18.1 percent, include nonelderly individuals[19] reporting at least one of the six measures of disability. Worst case needs affected 1.30 million of these households, 6.2 percent fewer than the 1.39 million in 2015.

The prevalence of worst case needs among households with nonelderly disabled members was 39.8 percent in 2017, little changed from 39.4 percent in 2015 because the numerator and denominator decreased in similar proportions—by about 6 percent—as did VLI renters overall. Prevalence during 2017 ranged from 30.5 percent for elderly households to 45.9 percent for other family households. The largest household categories accounted for most cases of worst case needs affecting people with disabilities; of those affected, 37.2 percent are families with children and 43.9 percent are other nonfamily households.

Exhibit 1-9. Worst Case Needs Were Common Among Nonelderly People with Disabilities Across All Household Types in 2017

	Families with Children	Elderly Households without Children	Other Family Households	Other Nonfamily Households	Total
Very low-income renter households (thousands)	6,199	4,960	1,591	5,317	18,067
Worst case needs (thousands)	2,571	1,932	716	2,497	7,716
Percentage with worst case needs	41.5	39.0	45.0	47.0	42.7
Percentage having nonelderly people with disabilities	19.0	3.1	27.4	28.4	18.1
Very low-income renter households having nonelderly people with disabilities (thousands)	1,175	154	436	1,511	3,276
Worst case needs (thousands)	485	47	200	572	1,304
Percentage with worst case needs	41.3	30.5	45.9	37.9	39.8

Source: HUD-PD&R tabulations of American Housing Survey data

[18] The data about types of limitations are summarized in appendix A, table A-15. Also see HUD-PD&R (2008).

[19] The analysis is limited to nonelderly people with disabilities because many elderly people suffer from impairments and activity limitations as a consequence of aging. Note, however, that nonelderly people with disabilities may be found in elderly households, as exhibit 1-9 demonstrates. Households headed by an elderly person with disabilities are not excluded if they also have a nonelderly person with disabilities.

Summary

Worst case needs for affordable rental housing remain a serious national problem, having improved in 2017. Of the 18.07 million VLI renter households susceptible to severe rent burdens and severely inadequate housing in 2017, 7.72 million—42.7 percent—faced one or both problems without housing assistance. Between 2015 and 2017, the number of worst case needs decreased by 7.1 percent, following a 7.5-percent increase observed during the 2013-to-2015 period. The number of worst case needs cases remains higher than before the recession, but the most recent decrease reinforces the improvements from the peak in worst case needs in 2011. The data are a reminder of the enduring impact of the financial crisis and recession that, a decade later, continue to affect personal finances, credit histories, and affordable housing opportunities.

Severely inadequate housing continues to be a relatively minor cause of worst case needs. In 2017, severely inadequate housing alone triggered a mere 2.5 percent of worst case needs, whereas 97.5 percent of households with worst case needs had severe rent burdens, including 2.6 percent that had both types of housing problems. Reflecting the importance of severe rent burdens as a cause of worst case needs, nearly three out of four households with worst case needs (72.0 percent) had extremely low incomes during 2017.

VLI renter households among all racial or ethnic groups and nearly all household compositions examined experienced a decline in worst case needs from 2015 to 2017. Among racial and ethnic groups, those that contributed the most substantial reductions in worst case needs during 2015 to 2017 were non-Hispanic blacks (222,000 cases) and Hispanics (200,000). For this report, new race and ethnicity subgroup analysis suggests that Asian households account for the most worst case needs among other racial and ethnic minorities and 4.7 percent of all worst case needs in 2017.

On the basis of household composition, only among elderly householders did worst case needs increase during 2015 to 2017. The groups that saw the largest reductions in worst case needs during 2015 to 2017 were families with children (317,000 cases) and other nonfamily households (261,000). Improvements were more substantial since the 2011 peak, with 472,000 fewer families with children and 665,000 fewer other nonfamilies in 2011 facing worst case needs in 2017. Among VLI renter households, worst case needs affected 41.5 percent of families with children, 39.0 percent of elderly households, 45.0 percent of other family households, and 47.0 percent of other nonfamily households. Families with children account for the greatest share of worst case needs—33.3 percent—followed by other nonfamily households (typically one-person households), with 32.4 percent.

Worst case needs affected 39.8 percent of VLI renter households reporting nonelderly people with disabilities in 2017, slightly less than the 42.7-percent prevalence among VLI renter households overall. Households having nonelderly people with disabilities accounted for 16.9 percent of worst case needs.

Section 2 examines how the broad problem of worst case needs is caused by shortages of affordable housing and is mitigated by assisted housing on a national basis and within regional markets.

Section 2

Shortage of Affordable Housing

The supply of rental units that are affordable to very low-income (VLI) renter households, especially those with extremely low incomes, is inadequate. Nationwide, only 69 affordable units exist for every 100 extremely low-income (ELI) renter households. The presence of higher-income renters in units that are affordable to ELI renter households exacerbates this shortage. Because of that, only 40 of those 69 affordable units are available for occupancy for every 100 ELI renter households. A final factor is that a significant portion of the affordable and available stock is physically inadequate and may pose threats to occupants. Only one-half of affordable units, or 35 units, are both physically adequate and available for occupancy for every 100 ELI renter households. The geography of worst case needs and housing assistance sets a foundation for understanding competition for affordable rental housing and the shortages that result.

Geography of Worst Case Needs

Housing markets are local markets and often contain distinct submarkets. VLI and ELI renter households are more likely than higher-income renters to find their choice of housing units limited to communities and neighborhoods where poverty is more common. Such market segmentation and supply restrictions can manifest differently across market types in terms of renters' likelihood of experiencing worst case needs.

As a national survey of modest scale, the American Housing Survey (AHS) does not support biennial estimates of worst case needs for most individual metropolitan areas or highly localized submarkets.[20] It does, however, support select estimates of worst case needs for certain large metropolitan areas

[20] HUD and the Census Bureau have traditionally conducted periodic AHS metropolitan surveys to supplement the national AHS. In 2015, the AHS was redesigned with a new national and metropolitan area longitudinal sample to account for changes in geography and attrition of housing units over time. In 2017, as in 2015, a supplemental sample of housing units in select metropolitan areas was combined with the national sample to produce metropolitan-level estimates. Stand-alone surveys were also conducted in some additional metropolitan areas.

included in the survey sample.[21] It also supports a national examination of four types of metropolitan locations—central cities, urban and rural suburbs of central cities, and nonmetropolitan areas[22]—and of four geographic regions—the Northeast, Midwest, South, and West. This analysis by region and metropolitan status adds considerable depth to the national picture of worst case needs.

Worst Case Needs and Housing Assistance by Region and Metropolitan Location

A key aspect of the definition of *worst case needs* is that it can be understood as an indicator of need for affordable housing. Because income-based rental assistance and other deep public subsidies generally make housing affordable, the definition excludes renters with housing assistance. Examining the spatial distribution of housing assistance[23] and of worst case needs together provides

Exhibit 2-1. Very Low-Income Renters Experienced Worst Case Needs Across Every Region and Metropolitan Location in 2017

	Metropolitan Location				
Region	Central Cities	Suburbs, Urban	Suburbs, Rural	Nonmetropolitan Areas	Total
Northeast (thousands)	**2,165**	**1,346**	**182**	**268**	**3,961**
Percentage with worst case needs	36.5	41.6	44.1	35.6	38.5
Percentage with housing assistance	39.6	29.6	27.0	26.9	34.8
Midwest (thousands)	**1,665**	**963**	**272**	**769**	**3,670**
Percentage with worst case needs	35.5	43.0	43.3	33.1	37.5
Percentage with housing assistance	33.6	25.4	26.7	32.3	30.7
South (thousands)	**2,873**	**1,771**	**650**	**1,064**	**6,358**
Percentage with worst case needs	44.8	53.1	44.2	30.9	44.7
Percentage with housing assistance	26.1	17.9	22.6	35.7	25.1
West (thousands)	**2,292**	**1,207**	**255**	**324**	**4,078**
Percentage with worst case needs	50.0	46.2	49.2	42.6	48.3
Percentage with housing assistance	26.9	27.1	18.9	31.8	26.9
Total (thousands)	**8,995**	**5,287**	**1,360**	**2,425**	**18,067**
Percentage with worst case needs	42.4	46.8	44.9	33.7	42.7
Percentage with housing assistance	30.9	24.4	23.3	33.1	28.7

Source: HUD-PD&R tabulations of American Housing Survey data

[21] The redesigned AHS includes a longitudinal sample of the 15 largest metropolitan areas every 2 years and an additional 10 metropolitan areas surveyed on a rotating basis every 4 years. Select estimates for the metropolitan areas sampled in 2017 are presented in exhibit 2-4 and table A-11B. For more information on the 2015 AHS redesign, see appendix E.

[22] Both central cities and suburbs are located within metropolitan areas. A central city consists of the largest city within a metropolitan area. Suburbs are within metropolitan counties but outside central cities. For the purposes of this report, suburban areas are further distinguished as urban or rural based on their population density. Nonmetropolitan areas fall outside metropolitan counties and tend to be more rural in nature.

[23] AHS questions about receipt of rental assistance are designed to focus on federal housing assistance programs. These data result in an estimate of 5.19 million self-reported VLI renter households with housing assistance, which is somewhat more than HUD's program total. Other potential sources of housing assistance include the U.S. Department of Agriculture's Rural Housing Service, other federal agencies, or other state or local programs. Also affecting this comparison, a small fraction of HUD-assisted renters may have incomes above the VLI threshold because they were admitted to programs under local policy preferences or their incomes increased after program admission. See the discussion of HUD's rental assistance programs in appendix C and housing assistance status in appendix E.

information about the extent to which assistance is mitigating severe housing problems.

Exhibit 2-1 shows the distribution of the nation's 18.07 million VLI renter households across the four census regions and four metropolitan categories. On a regional basis, most VLI renter households—6.36 million—live in the South, 4.08 million live in the West, 3.96 million live in the Northeast, and 3.67 million live in the Midwest in 2017.

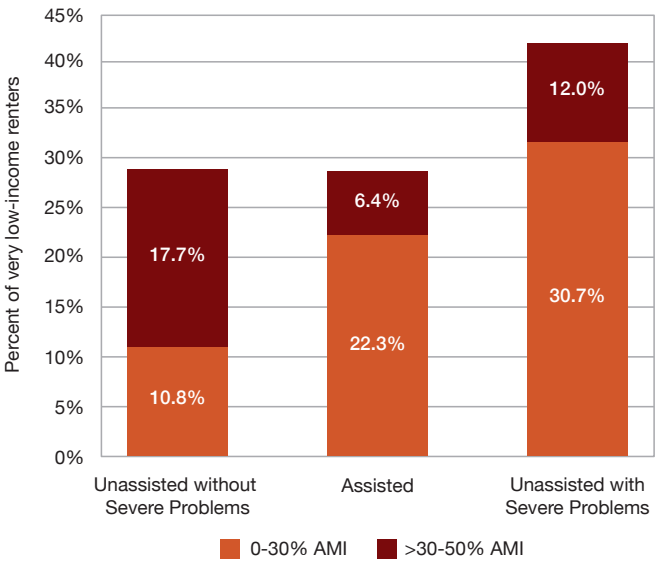
Central cities are home to most (9.00 million) VLI renter households, followed by suburbs (6.65 million)[24] and nonmetropolitan areas (2.43 million).[25]

Like VLI renter households, worst case needs were common in every region and metropolitan category across the nation. As a national average, 42.7 percent of VLI renter households had worst case needs. The prevalence of worst case needs among VLI renter households was greater than the national average in the South and West and in the suburbs. On the other hand, the Midwest, Northeast, central cities, and nonmetropolitan areas had smaller-than-average shares of VLI renter households with worst case needs. With the VLI renter populations and prevalence rates shown in the exhibit, the national total of 7.72 million worst case needs in 2017 comprises 2.84 million households from the South, followed by 1.97 million from the West, 1.53 million from the Northeast, and 1.38 million from the Midwest. (See appendix table A-10 for additional regional data.)

Exhibit 2-1 also demonstrates the important role that housing assistance plays in reducing worst case needs. Nationwide, 5.19 million VLI renter households—28.7 percent—reported receiving housing assistance, compared with the 42.7 percent having worst case needs. Thus, 1.5 VLI renter households had worst case needs for every 1 that was assisted, somewhat better than the 1.7:1 ratio seen in 2015. In other words, among VLI renter households, about 29 percent of households had rental assistance, and an additional 43 percent had worst case needs for assisted or other affordable housing in 2017. The remaining minority (29 percent) rented on the private market unassisted and avoided severe housing problems, suggesting that the private rental market is working adequately for less than one in three VLI renter households (exhibit 2-2).

Nationally, housing assistance is relatively less common in the suburbs, where less than 25 percent of VLI renter households were assisted. Newer central cities and suburbs in the South and West had particularly low rates of assistance. These regional disparities in the prevalence of housing assistance for VLI renter households were also

Exhibit 2-2. Housing Problem Status of Very Low-Income Renter Households by Relative Income



Source: HUD-PD&R tabulations of American Housing Survey data

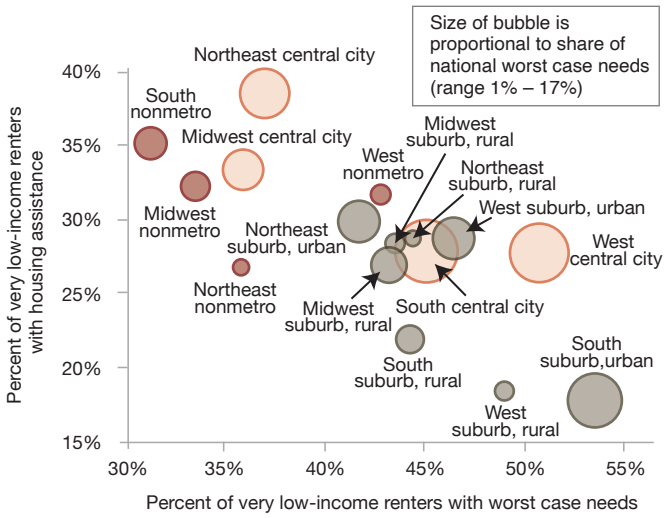
evident nationally, ranging from 25.1 percent in the South to 34.8 percent in the Northeast. Another region with a low rate of housing assistance, the West, has had the highest rate of worst case needs for decades. Nearly one-half—48.3 percent—of VLI renter households in the West experienced worst case needs in 2017. Areas that developed during an earlier period continue to draw benefits from an established but aging stock of public housing.

Exhibit 2-3 charts the same data to illustrate the vital role of housing assistance in preventing households from falling into worst case needs. In exhibit 2-3, central cities, suburbs, and nonmetropolitan areas are represented by orange, gray, and plum bubbles, respectively. Larger bubbles represent a larger national share of worst case needs households. Across regions and metropolitan locations, housing assistance is inversely related to worst case needs. Locations indicated in the upper-left quadrant of the chart fared better than the national average given their higher prevalence of housing assistance and lower prevalence of worst case needs among VLI renter households. Locations clustered in the middle of the chart approximate average prevalence rates, whereas locations indicated in the lower-right quadrant of the chart fared worse than the national average given their lower rates of housing assistance and higher rates of severe housing problems.

[24] Among suburban VLI renter households, most (79.5 percent) were concentrated in densely populated urban suburbs.

[25] Changes in annual estimates of VLI renter households in nonmetropolitan areas should be viewed with caution because HUD assigns average income limits to less populated areas to accommodate AHS data suppression. See the discussion of income cutoffs in association with AHS geography in appendix E.

Exhibit 2-3. Prevalence of Worst Case Needs Was Inversely Related to Prevalence of Housing Assistance in 2017



Source: HUD-PD&R tabulations of American Housing Survey data

Trends in the suburbs tended to be worse than nonmetropolitan areas nationally, whereas central cities reflect mixed regional trends. Namely, worst case needs affected a smaller share of very low-income renters in nonmetropolitan areas, where housing assistance was relatively more available. Central cities of the Northeast and Midwest also fared better—with higher rates of housing assistance and lower rates of worst case needs—than their counterparts in the South and West.

Worst case needs were more prevalent in the West and the South, especially in suburbs, where housing assistance was scarcer—although high rents in the West also shape this picture.[26] Several areas that have greater relative scarcity of housing assistance and an abundance of worst case needs account for substantial fractions of the national problem, as shown by the size of the bubbles in the lower-right quadrant of exhibit 2-3. The relative size and positioning of the bubbles for central cities and urban suburbs also suggest that denser urban areas contribute the largest shares of severe housing affordability problems. Together, southern central cities and urban suburbs account for a substantial share of the national picture, representing 29 percent of households with worst case needs nationally.

Compared with their urban counterparts, the small populations of very low-income renters living in rural suburbs represent a small share of worst-case households. Rural suburbs of the West, however, do have low rates of housing assistance coinciding with high rates of worst case needs. Correspondingly, many Western rural suburbs experienced high population rates of homelessness in 2017 (Nisar et al., 2019).

Not shown in this exhibit are changes in rates of VLI renter households with worst case needs between 2015 and 2017. Slight improvements of 1.5 and 2.1 percentage points were observed in the Northeast and West, compared with a slight worsening of prevalence rates by 1 point or less in the other regions (summarized in table A-10). During the same period, rates of worst case needs increased in rural suburbs and nonmetropolitan areas, by 10.1 and 2.5 percentage points, respectively, with decreases of 2 points or less observed in central cities and urban suburbs (summarized in table A-11A). Differences in the rate of decline of VLI renter populations across urban and rural areas may help to explain biennial changes in prevalence rates. Urban areas (central cities and urban suburbs) accounted for 86.1 percent of the national reduction in the population of VLI renter households between 2015 and 2017, exceeding their 79 percent share of all households. Rural areas (rural suburbs and nonmetropolitan areas) accounted for only 13.9 percent of the overall decline. Put another way, urban areas saw a 6.6-percent decline in their population of VLI renter households in the biennial period, compared with a 4.1-percent decline in rural areas. This variation may reflect a combination of a slower rate of economic improvement in rural areas during the biennial period and some out-migration of lower-income households from high-cost urban areas.

Variation in Worst Case Needs Across Local Markets

An examination of the distribution of VLI renter households and prevalence of worst case needs across the largest metropolitan areas offers additional insight into the variation of severe housing problems in central cities and suburbs. With their densely populated urban cores connected to surrounding counties through strong commuting ties, metropolitan areas reflect groupings of central cities and suburbs with a high degree of social and economic integration. The redesigned AHS supports an examination of the variation in worst case needs across some of the largest metropolitan housing markets. Exhibit 2-4 shows the distribution of VLI renter households and the share of those experiencing worst case needs in the nation's 15 largest metropolitan areas in 2015 and 2017.

Although 42.7 percent of VLI renter households had worst case needs nationally, local markets reflect a substantial degree of variation beyond the macro-level trends observed across regions and types of metropolitan

[26] High rents introduce the question of whether enough rental units are available at Fair Market Rents (FMRs) to make housing vouchers an adequate policy response to affordable housing shortfalls. Appendix B, exhibit B-3, addresses the extent of the supply of below-FMR housing on a regional basis. Also see regional supply discussions later in this section.

locations. Worst case needs affected substantial shares of VLI renter households in each of the nation's largest metropolitan areas. Among the 15 metropolitan areas shown in exhibit 2-4, 44.2 percent of VLI renters had worst case needs in 2017, compared with 47.2 percent in 2015, reflecting a decrease of 401,000 cases. Reflecting particularly severe local conditions, more than one-half of the VLI renter households residing in and around Riverside, Miami, Atlanta, and Phoenix experienced worst case needs in 2017.[27] Several large metropolitan areas did

Exhibit 2-4. Prevalence of Worst Case Needs Among Very Low-Income Renters Varied Across Metropolitan Markets in 2017

Metropolitan Area	0-50% AMI		Metropolitan Area	0-50% AMI	
	2015	2017		2015	2017
New York-Newark-Jersey City, NY-NJ-PA			**Atlanta-Sandy Springs-Roswell, GA**		
Number of very low-income renters (thousands)	1,834	1,712	Number of very low-income renters (thousands)	259	245
Number with worst case needs (thousands)	815	678	Number with worst case needs (thousands)	127	131
Percent with worst case needs	44.4	39.6	Percent with worst case needs	49.0	53.5
Los Angeles-Long Beach-Anaheim, CA			**Boston-Cambridge-Newton, MA-NH**		
Number of very low-income renters (thousands)	1,041	968	Number of very low-income renters (thousands)	300	313
Number with worst case needs (thousands)	567	459	Number with worst case needs (thousands)	93	100
Percent with worst case needs	54.5	47.4	Percent with worst case needs	31.0	31.9
Chicago-Naperville-Elgin, IL-IN-WI			**San Francisco-Oakland-Hayward, CA**		
Number of very low-income renters (thousands)	567	509	Number of very low-income renters (thousands)	287	274
Number with worst case needs (thousands)	242	204	Number with worst case needs (thousands)	142	110
Percent with worst case needs	42.7	40.1	Percent with worst case needs	49.5	40.1
Dallas-Fort Worth-Arlington, TX			**Detroit-Warren-Dearborn, MI**		
Number of very low-income renters (thousands)	365	332	Number of very low-income renters (thousands)	251	243
Number with worst case needs (thousands)	177	159	Number with worst case needs (thousands)	115	105
Percent with worst case needs	48.5	47.9	Percent with worst case needs	45.8	43.2
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD			**Riverside-San Bernardino-Ontario, CA**		
Number of very low-income renters (thousands)	342	336	Number of very low-income renters (thousands)	215	158
Number with worst case needs (thousands)	145	147	Number with worst case needs (thousands)	123	91
Percent with worst case needs	42.4	43.8	Percent with worst case needs	57.2	57.6
Houston-The Woodlands-Sugar Land, TX			**Phoenix-Mesa-Scottsdale, AZ**		
Number of very low-income renters (thousands)	347	362	Number of very low-income renters (thousands)	227	189
Number with worst case needs (thousands)	159	177	Number with worst case needs (thousands)	124	97
Percent with worst case needs	45.8	48.9	Percent with worst case needs	54.6	51.3
Washington-Arlington-Alexandria, DC-VA-MD-WV			**Seattle-Tacoma-Bellevue, WA**		
Number of very low-income renters (thousands)	343	292	Number of very low-income renters (thousands)	199	202
Number with worst case needs (thousands)	141	126	Number with worst case needs (thousands)	83	84
Percent with worst case needs	41.1	43.2	Percent with worst case needs	41.7	41.6
Miami-Fort Lauderdale-West Palm Beach, FL			**National**		
Number of very low-income renters (thousands)	373	292	Number of very low-income renters (thousands)	19,235	18,067
Number with worst case needs (thousands)	227	126	Number with worst case needs (thousands)	8,303	7,716
Percent with worst case needs	41.1	60.9	Percent with worst case needs	43.2	42.7

Note: Estimates for the 15 largest metropolitan areas (by population ranking) are presented. The redesigned AHS samples these 15 metropolitan areas every 2 years. Estimates for 10 additional metropolitan areas surveyed in 2017 are presented in table A-11B.
Source: HUD-PD&R tabulations of American Housing Survey data

[27] By a different measure, special tabulations of 2017 American Community Survey (ACS) data matched to HUD administrative records suggest that more metropolitan areas have especially high rates of housing problems among VLI renter households. Namely, more than one-half of all VLI renter households without HUD assistance in each of the largest 15 metropolitan areas except for Boston experienced at least one of the four following housing problems in 2017: severe rent burden, severe overcrowding (more than 1.5 persons per room), incomplete kitchen facilities, or incomplete plumbing facilities.

not enjoy the general declining trend of worst case needs seen nationally between 2015 and 2017—these include Seattle to the West, Atlanta and Houston to the South, and Boston and Philadelphia to the Northeast.[28] Local events, trends, and policies may help explain why housing conditions seemed to tighten in those areas. For example, modest increases in both the number of VLI renter households and the prevalence of worst case housing needs in the Houston area may, in part, reflect some of the economic and housing challenges faced by households following Hurricane Harvey.[29]

Reductions in estimates of worst case needs in other metropolitan areas are counterintuitive in some cases.[30] For example, the improvements estimated in Los Angeles and New York seem to run counter to increasing levels of unsheltered homelessness measured in those cities in 2017 (HUD-CPD, 2017). Out-migration from large, expensive metropolitan areas to more affordable locations may help explain some of the declining very low-income population trends measured by the AHS in 2017. For example, New York and Los Angeles, the country's two largest metropolitan areas, have recently experienced population decline, whereas smaller cities with more affordable housing are becoming popular destinations.[31] Furthermore, at-risk renters who became homeless between 2015 and 2017 are excluded from the AHS, which only captures the experiences of renters who are housed. Some of the reduction in worst case needs seen in large cities between 2015 and 2017, therefore, may represent renters moving to more affordable locations and at-risk renters who became homeless, as well as renters who experienced improved incomes or housing conditions. Additional estimates of renter housing problems and housing assistance in all 25 metropolitan areas sampled in 2017 are presented in table A-11B.

Factors Limiting Access to Affordable Rental Housing

Even with one-fourth of VLI renter households receiving housing assistance, the private market's supply of affordable rental housing falls far short of need. Nationally, less than one-third of VLI renter households were able to avoid severe housing problems in the unassisted private rental market in 2017. An examination of the mismatches between the number of rental units needed by renters of various income categories and the number of affordable units provided by the market to those renters lends considerable insight into private rental market dynamics and the persistence of worst case needs during periods of economic growth.

How the Market Allocates Affordable Housing on a National Basis

The competition for good-quality, affordable housing remains vigorous. Competition affects whether the neediest households can live in the most affordable units, the vacancy rate at different rent levels, and how quickly new units are occupied. Exhibit 2-5 shows the distribution of rental units and their occupancy by the affordability of their rents relative to the area median income (AMI).[32] For this analysis, a unit is considered affordable for a renter if the gross rent (rent plus utilities) does not exceed 30 percent of the maximum income of their income category. Any given renter may live in a unit renting for less than, the same as, or more than that threshold, however.[33]

The extent of competition for the most affordable housing portrayed in exhibit 2-5 is striking. Higher-income renters occupy 3.39 million, or 42.4 percent, of the units affordable to ELI renter households. Similarly, higher-income renters occupy 39.5 percent of units affordable at incomes of 30 to 50 percent of AMI and 35.6 percent of units affordable at incomes of 50 to 80 percent of AMI,

[28] The general declining trend in both the renter population and severe housing problems among unassisted renters was also evident in ACS estimates matched to HUD administrative records. VLI renter populations declined in each of the largest 15 metropolitan areas between 2015 and 2017 except for Seattle, Boston, and Philadelphia. Those estimates also suggest that the number of VLI renter households without HUD housing assistance who experienced severe rent burden, severe overcrowding, or incomplete kitchen or plumbing facilities increased between 2015 and 2017 in the Seattle, Boston, and Philadelphia metropolitan areas. The number of severely rent-burdened very low-income renters without HUD housing assistance also increased slightly by ACS estimates in the Houston and Los Angeles metropolitan areas between 2015 and 2017, although the number experiencing severe overcrowding or incomplete kitchen or plumbing facilities declined.

[29] AHS interviews were conducted between June 26 and October 30, 2017. Making landfall on August 25, 2017, Hurricane Harvey directly affected the Houston metropolitan area and several surrounding counties; see https://www.weather.gov/crp/hurricane_harvey and https://www.fema.gov/disaster/4332. About three-fourths of 2017 AHS interviews were conducted before the hurricane, with the remaining one-fourth conducted thereafter.

[30] This report does not estimate the extent to which these figures represent statistically significant biennial change.

[31] See, for example, https://www.theatlantic.com/ideas/archive/2019/09/americas-three-biggest-metros-shrinking/597544/.

[32] The method of assigning units to cost categories was modified in 2017 to also account for limited HUD administrative exceptions to program income limits. Slight unit affordability adjustments were applied to outliner cases where AMI-determined affordability differed from administratively determined affordability categories.

[33] Note that renters whose incomes place them at the bottom of an income range would not be able to afford rents at the top of their range. More detailed presentations of these data appear in appendixes A and B, where table A-12 and exhibit B-2 show unit affordability and occupancy status using 10-point income breaks.

which is the largest category of units. Rental units that are more affordable are both rarer and more likely to be occupied by higher-income renters.

Variations in vacancy rates across the affordability categories further demonstrate the competition for affordable units. The most affordable units are least likely to be vacant (exhibit 2-6). Among the least costly units—those with rents affordable at incomes of 0 to 30 percent of AMI—only 4.6 percent were vacant in 2017. The vacancy rate jumped to 10.1 among units affordable at incomes of 30 to 50 percent of AMI, 9.9 percent at 50 to 80 percent of AMI, and 12.9 percent among the highest rent units. Since 2015, vacancy rates relaxed among units affordable at incomes up to 30 percent of AMI but tightened for renters with incomes from 30 to 80 percent of AMI. Vacancies increased most among units affordable to those with incomes more than 80 percent of AMI. Overall rental vacancy rates were consistently less than 10 percent in recent years—8.4 percent in 2013, 9.7 percent in 2015, and 9.9 percent in 2017—reflecting steady absorption of unoccupied rental housing stock.[34]

The gradient in national vacancy rates seen in exhibit 2-6 remained relatively flat among units affordable to low-income renters earning between 40 and 80 percent of AMI, as seen during both the 2013-to-2015 and the 2015-to-2017 periods. Nevertheless, the market for units affordable at ELI levels remained very tight. The somewhat higher vacancy rate for the units affordable at only 10 percent of AMI is often ascribed to units that have physical or locational challenges and may soon be removed from the housing stock. Greater vacancy rates continue to be found at the highest rent levels, which include numerous vacation homes[35] and also may reflect developer preferences to construct higher-end rental units in recent years. Regulatory barriers that make affordable homebuilding difficult have exacerbated labor shortages that constrain mid-range rental housing production needed to cope with large tenure shifts and household formation. In many areas the production of housing for ELI renters is not profitable. Compared with the market for the most affordable units, the availability of vacant units at higher rent levels shows that in many markets, rental assistance in the form of vouchers could reduce worst case needs to the extent that rents fall within program limits and landlords are willing to participate. Appendix exhibit B-3, which examines the availability of units within HUD program rent limits, shows that about 75 affordable and physically adequate rental units are available for every 100 households nationally.[36] Increasing landlord participation in HUD's voucher program could improve access to those units among very low-income households while also improving voucher utilization rates in places where vouchers are available but difficult to lease up.

The shifts in vacancy from 2015 to 2017 reflect in part the slight expansion of the overall rental stock by approximately 150,000 units, less than 1 percent, that increased vacant units by 86,000, or nearly 2 percent. The rate of rental stock expansion, however, has slowed substantially since 2015, when the biennial rental stock increase was more than 10 percent. Despite small increases in vacant units while the overall rental stock was growing, strong rental demand nationwide kept vacancy rates fairly constrained for renters with median or lower incomes. The rental stock affordable

Exhibit 2-5. Higher-Income Renters Occupied Many Affordable Units in 2017

	Rental Units by Income Needed To Make the Rent Affordable (thousands)				
Occupancy Status	**0–30% of AMI**	**>30–50% of AMI**	**>50–80% of AMI**	**>80% of AMI**	**Total**
Higher-income occupants	3,387	3,320	6,997	NA	13,704
Same-income or lower-income occupants	4,223	4,232	10,723	11,109	30,287
Vacant	371	852	1,952	1,651	4,826
Total	**7,983**	**8,403**	**19,673**	**12,760**	**48,820**

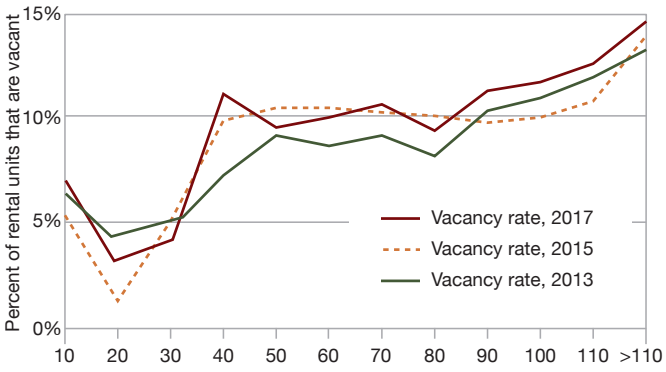
AMI = area median income. NA = not applicable.
Source: HUD-PD&R tabulations of American Housing Survey data

[34] Comparable estimates of the rental vacancy rate based on the Current Population Survey are slightly lower in recent years: 8.3 percent in 2013, 7.1 percent in 2015, and 7.2 percent in 2017. See U.S. Housing Market Conditions charting data, http://www.huduser.gov/portal/ushmc/hi_RentVac.html.

[35] According to 2017 American Community Survey 1-Year Estimates, about one-third of vacant housing units in the United States are for seasonal, recreational, or occasional use.

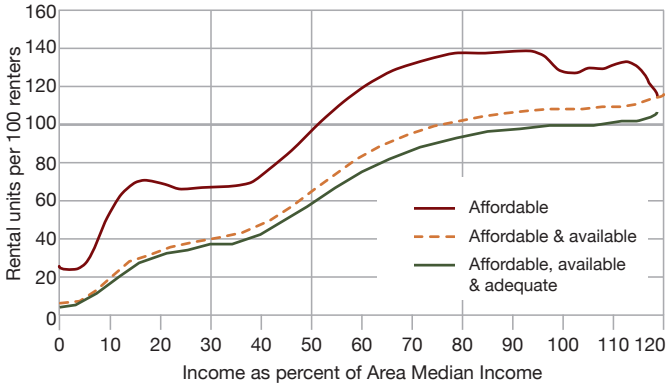
[36] Regional variation in the availability of units within Fair Market Rent (FMR) limits is further addressed in the "Rental Stock by Region" discussion later in this section.

Exhibit 2-6. Vacancies Were Lowest Among Most Affordable Rentals, 2013 to 2017



Source: HUD-PD&R tabulations of American Housing Survey data

Exhibit 2-7. The Supply of Affordable, Available, and Adequate Rental Housing Stock Was Insufficient in 2017



Source: HUD-PD&R tabulations of American Housing Survey data

to VLI renters declined by 393,000 units, or more than 2 percent, whereas affordable vacant units declined 4 percent.[37] In short, the affordable stock decline seen between 2013 and 2015 was only made worse in 2017.

Although vacancy rates provide a valuable indication of the balance between supply and demand, they do not directly compare the number of affordable units with the number of renters. The remainder of section 2 makes such comparisons, employing three increasingly rigorous concepts to assess whether the rental housing stock is sufficient for the need.

Affordability, Availability, and Adequacy of the National Rental Stock

The scarcity of affordable units is greatest for the poorest renters, but, because of the rapid increase in renter households and greater competition since the Great Recession, that scarcity is reaching higher up the income scale. Although the expansion of the renter population slowed somewhat in 2017 and fewer renter households have very low incomes, rental units largely remained out of reach for households remaining at the lower end of local income distributions. Exhibit 2-7 displays the rental housing stock in 2017. These aggregate data portray how well the overall stock could meet the need for affordable housing if location did not matter.[38]

Focusing first on all affordable units, regardless of whether higher-income households occupied them or whether they were adequate, the cumulative number of affordable units is shown to equal the cumulative number of renters only for incomes exceeding 53 percent of AMI. Beyond that point, more than 100 affordable units existed per 100 renters—enough, with perfect allocation, to provide affordable housing to every renter with a higher income. This threshold is 1 percentage point higher than the 2015 estimate and remains significantly greater than the 2007 level of 45 percent of AMI, which may indicate that many households recovering from the recession remained renters for longer periods as the economy recovered.

As in 2015, the ratio of affordable units per renter peaked at income levels of 98 percent of AMI. On a cumulative basis, there was a substantial surplus of units affordable at higher levels of household income. As income increased, renters were increasingly likely to spend less than 30 percent of their incomes on housing.[39]

The situation was completely different at the low end of the income scale. Enough affordable units existed to house 69 percent of extremely low-income renters in 2017 if those units somehow could have been perfectly allocated. That shortage was substantial and critical, with little improvement from the ratio of 66 percent observed in 2015.

[37] See tables A-12 and A-13.

[38] Measures of affordability, availability, and adequacy compare the entire housing stock with the entire renter population, and they do not reflect small-scale geographic detail or the complexities of local housing markets.

[39] Only 14.2 percent of renters with incomes above 80 percent of AMI had either moderate or severe rent burdens, compared with 69.4 percent of renters with lower incomes. See table A-1A.

MEASURING WHETHER AFFORDABLE HOUSING STOCK IS SUFFICIENT FOR NEED

- *Affordability* measures the extent to which enough rental housing units of different costs can provide each renter household with a unit it can afford (based on the 30-percent-of-income standard). Affordability, which is the broadest measure of the relative supply of the housing stock, addresses whether sufficient housing units would exist if allocated solely on the basis of cost. The affordable stock includes both vacant and occupied units.
- *Availability* measures the extent to which affordable rental housing units are available to renters within a particular income range. Availability is a more restrictive concept because units that meet the definition must be available and affordable. Some renters choose to spend less than 30 percent of their incomes on rent, occupying housing that is affordable to renters of lower incomes. Those units thus are not available to lower-income renters. A unit is available at a given level of income if (1) it is affordable at that level, and (2) it is occupied by a renter either at that income level or at a lower level or is vacant.
- *Adequacy* extends the concept of availability by considering whether sufficient rental units are physically adequate (based on unit characteristics described in appendix E), affordable, and available. Adequacy thus is the most restrictive of the three measures.

The second line in exhibit 2-7 includes the criterion of availability in addition to affordability, meaning that it considers whether higher-income renters currently occupy affordable units.[40] Availability poses an important additional constraint on renters seeking affordable units; only 40 percent of extremely low-income renters could actually find an affordable and available unit, even if location were not a factor.

The paucity of affordable and available units is worsened by the occupancy of a considerable proportion of the most affordable housing stock by renters who could afford to spend more but do not choose to do so (as shown previously in exhibit 2-5). Such renters may be cautious about their finances because of income instability, a desire to reduce debt burdens, or saving for a downpayment to buy a house. The affordable stock was nominally sufficient to house every renter with an income greater than 53 percent of AMI, yet the affordable and available stock did not match the number of renters until household incomes reached about 85 percent of AMI.

The third line in exhibit 2-7 adds a third criterion—that units should be physically adequate—which further reduces the supply of the rental housing stock. Even for renters with low incomes (up to 80 percent of AMI), only 87 adequate units were available for every 100 renters. The physically adequate stock did not fully match the need until it included units affordable only to renters with incomes exceeding 123 percent of AMI, similar to 2015 levels.

Rental Stock by Income

We have seen that relatively few rental units are affordable, and—because of occupancy by higher-income renters and limited vacancies—even fewer are available to renters with the lowest incomes. Exhibit 2-8 summarizes the three housing stock measures for the standard income groups used in this report.

A severe mismatch existed between the number of ELI renter households and the number of affordable units available to them. For every 100 ELI renter households only 69 affordable units existed, and only 40 of those units were affordable and available. The ratio of physically adequate units that were both affordable and available was even lower—only 35 units were available for every 100 ELI renter households.[41] Those figures suggest that 12 percent of affordable and available units for ELI renters had severe quality deficiencies.

Renters with very low incomes found 91 affordable units, 59 affordable and available units, and only 52 affordable, available, and physically adequate units per 100 renters. About 12 percent of the affordable and available units for this larger group had severe physical problems.

Renters with low incomes found that the affordable and available rental stock was nearly sufficient to house them all, although 11 percent of such units had severe physical problems.

[40] The availability measure also removes units from consideration if they have artificially low rents because they are occupied as a benefit of employment (for example, units provided for caretakers) or because relatives or friends of the occupants own the units. In 2017, 1.96 million renter households (4.5 percent) occupied their units while paying no rent. The AHS does not provide estimates of the number of households paying a positive but less-than-market rent because of employment or other reasons.

[41] Previous research based on the Residential Finance Survey indicated that 12 percent of units with gross rents of $400 or less produced negative net operating income, suggesting they were headed for demolition or conversion to nonresidential use (JCHS, 2006). More recent research based on the Housing Vacancy Survey suggests that more than 10 percent of vacant units held off-market are in need of repair, abandoned, condemned, or to be demolished (JCHS, 2016).

Exhibit 2-8. Rental Housing Stock Was Scarcest for Extremely Low-Income Renters in 2017

	Rental Units per 100 Renter Households		
Income Category	Affordable	Affordable and Available	Affordable, Available, and Adequate
Extremely low-income renter households (0–30% AMI)	69.1	39.8	34.9
Very low-income renter households (0–50% AMI)	90.7	59.0	51.9
Low-income renter households (0–80% AMI)	135.0	97.4	87.2

AMI = area median income.
Source: HUD-PD&R tabulations of American Housing Survey data

Overall, the supply of affordable housing improved slightly for extremely low-income renters from its record low point in 2011, although fewer units are affordable to those with very low incomes. Exhibit 2-9 illustrates that the supply of affordable housing stock for ELI renters increased by 3 units per 100 households, from 66 in 2015 to 69 in 2017, following a 1-unit gain during the previous 2 years. The ratio of affordable and available units increased from 38 in 2015 to 40 units per 100 ELI renter households.

For very low-income renters, however, the past 4 years have witnessed a steady decline of affordable housing stock. The overall supply of affordable units decreased by more than 6 units per 100 renters since 2013. The more focused affordable and available unit ratio also lost 6 units per 100 renters during the same period. Netting out the 2-point gain in units available at 0 to 30 percent of AMI from the 3-point loss for VLI renter households suggests that the stock at 30 to 50 percent of AMI became more constrained during the 2015-to-2017 period.

Geography of Supply

The preceding discussion shows that worst case needs are dispersed across the nation, although their concentration varies across geography. It further shows that spatial variation in worst case needs is affected in part by the availability and utilization of housing assistance.

Affordable rental housing includes both units that receive public rent assistance and units that for-profit and nonprofit housing providers offer at modest rents. The examination of affordable housing supply on a national basis reveals, first, that the supply of rental units that are affordable to very low-income and poorer households remains substantially inadequate; second, that this shortage is worsened by the preference of higher-income renters for more affordable units; and third, that the shortage is further worsened by the physical inadequacy of some of the stock.

The following discussion sharpens that picture by showing how shortages vary by geography.

Exhibit 2-9. Fewer Affordable Units Were Available to Very Low-Income Renters in 2017

	Rental Units per 100 Renters				
				Change	
Income Category	2013	2015	2017	2013 to 2015	2015 to 2017
Extremely low-income renter households (0–30% AMI)					
Affordable	65.3	66.0	69.1	0.7	3.1
Affordable and available	39.0	37.7	39.8	– 1.3	2.1
Very low-income renter households (0–50% AMI)					
Affordable	97.2	92.9	90.7	– 4.3	– 2.2
Affordable and available	65.2	62.0	59.0	– 3.2	– 3.0

AMI = area median income.
Source: HUD-PD&R tabulations of American Housing Survey data

Rental Stock by Region

Rental markets are constrained for ELI renters across the four census regions despite substantial variation in the availability of affordable rental units.[42] Exhibit 2-10 illustrates that the Midwest showed the best availability, with 78 units per 100 VLI renter households. The West was worst off, with fewer than 44 units per 100 VLI renter households, compared with 57 units for the South and 61 for the Northeast. For ELI renters, the availability of affordable units was far from adequate in any region. Even low-income renters with incomes up to 80 percent of AMI found, in the West and Northeast, that not enough affordable units were available.

On a regional basis, adding the adequacy test restricted the estimated supply for VLI renters less in the West, eliminating 5 units, than in the other regions, which lost 8 to 9 units per 100 VLI renter households. Even so, the West retains its regional disadvantage for such renters across all three measures of sufficiency.

The primary point in exhibit 2-10 is that ELI renter households continued to face severely constrained markets across all four regions. The Northeast, Midwest, and South had affordable units available for only two in five ELI renter households, and the West for only one in three.

Exhibit 2-10. Rental Housing Stock Was Insufficient for Extremely Low-Income Renters Across All Regions in 2017

	Housing Units per 100 Renters		
Income Category	Affordable	Affordable and Available	Affordable, Available, and Adequate
Northeast			
Extremely low-income renter households (0–30% AMI)	71.0	45.3	40.0
Very low-income renter households (0–50% AMI)	85.0	60.5	53.1
Low-income renter households (0–80% AMI)	123.0	93.2	83.3
Midwest			
Extremely low-income renter households (0–30% AMI)	75.2	42.1	38.3
Very low-income renter households (0–50% AMI)	124.6	77.7	69.3
Low-income renter households (0–80% AMI)	156.4	109.3	97.9
South			
Extremely low-income renter households (0–30% AMI)	70.6	39.2	33.3
Very low-income renter households (0–50% AMI)	89.8	57.0	49.3
Low-income renter households (0–80% AMI)	141.1	101.4	90.1
West			
Extremely low-income renter households (0–30% AMI)	59.0	33.2	29.1
Very low-income renter households (0–50% AMI)	67.1	43.9	39.0
Low-income renter households (0–80% AMI)	117.7	84.7	76.7

AMI = area median income.
Source: HUD-PD&R tabulations of American Housing Survey data

[42] For renters who could afford rents no greater than the FMR, appendix B, exhibit B-3 reveals that although enough affordable units existed in each region, the number of available units in each region was sufficient to house only 76 to 88 percent of those renters. For renters who attempt to find a unit with a housing choice voucher, the housing quality standards of that program imply that their success will depend on the prevalence of physically adequate units in their area—not merely affordable and available units. Across regions, there were only enough physically adequate, affordable, and available units to house 70 to 80 percent of renters who could not afford rents higher than FMR.

Rental Stock by Metropolitan Location

Similar analysis of affordable housing supply on the basis of metropolitan status showed market variation in 2017. Exhibit 2-11 demonstrates the primacy of urban areas in terms of severe shortages of affordable units for VLI renter households. As shown in exhibit 2-11, measures of affordability, availability, and adequacy for each income group in central cities and urban suburbs were generally lower than the national summary values presented in exhibit 2-8.

Stock in rural suburbs and nonmetropolitan areas was not as constrained as the stock for the nation as a whole. Exhibit 2-11 also highlights, however, severe deficiencies in the availability and adequacy of units that are affordable in rural areas. Among units that are affordable to VLI renter households in urban areas, 30 to 36 percent are occupied by higher-income renters.[43] In rural areas, that figure ranges from 40 to 45 percent, suggesting that higher-income renters consume a larger share of the affordable housing stock in rural areas than those who live closer to city centers. This evidence disrupts the notion that the affordable housing crisis could be resolved simply by lower-income renters moving away from cities. Likewise, a greater share of units have severe quality deficiencies in rural areas, where 14 to 15 percent of affordable units available to very low-income renters are

Exhibit 2-11. Rental Housing Stock Was Insufficient for Extremely Low-Income Renters Across All Metropolitan Locations in 2017

	Housing Units per 100 Renter Households		
Income Category	Affordable	Affordable and Available	Affordable, Available, and Adequate
Central Cities			
Extremely low-income renter households (0–30% AMI)	56.3	36.8	32.4
Very low-income renter households (0–50% AMI)	81.4	57.4	50.7
Low-income renter households (0–80% AMI)	128.3	95.9	85.7
Suburbs, Urban			
Extremely low-income renter households (0–30% AMI)	61.5	34.8	31.0
Very low-income renter households (0–50% AMI)	76.7	48.8	43.6
Low-income renter households (0–80% AMI)	132.5	91.6	84.2
Suburbs, Rural			
Extremely low-income renter households (0–30% AMI)	103.9	46.9	39.7
Very low-income renter households (0–50% AMI)	133.8	74.2	62.9
Low-income renter households (0–80% AMI)	149.2	104.7	90.2
Nonmetropolitan Areas			
Extremely low-income renter households (0–30% AMI)	111.3	56.5	48.4
Very low-income renter households (0–50% AMI)	131.5	78.9	68.2
Low-income renter households (0–80% AMI)	157.2	112.1	97.9

AMI = area median income.
Source: HUD-PD&R tabulations of American Housing Survey data

[43] That is, 24 of the 81 units affordable for every 100 VLI renter households in central cities are not available; the same is true for 28 of 77 affordable units in urban suburbs.

inadequate.[44] These problems are less prevalent in urban areas—affecting 11 to 12 percent of units affordable and available to very low-income renters.

Summary

Worst case needs are commonplace in every region and metropolitan category across the United States. The national total of 7.72 million worst case needs in 2017 is distributed on a regional basis, with 2.84 million households in the South, followed by 1.97 million in the West, 1.53 million in the Northeast, and 1.38 million in the Midwest. Nationwide, 42.7 percent of very low-income renters had worst case needs in 2017, a rate lower than in 2015. Prevalence increased, however, by 1 percentage point or less from 2015 levels in the South and Midwest. Both the South and West maintained greater-than-average rates of worst case needs in 2017. Suburbs also had greater-than-average prevalence rates and were home to about 40 percent of worst case needs households. Housing assistance, including that provided by HUD, is an important preventer of worst case needs among very low-income renters. Nationwide, 28.7 percent of very low-income renters, or 5.19 million households, reported receiving housing assistance. For every VLI renter household who was assisted, however, another 1.5 renter households had worst case needs for such assistance.

Steady absorption of unoccupied rental housing stock has reduced overall vacancy rates to consistently less than 10 percent since 2011. With 91 rental units affordable for every 100 VLI renter households nationally, not all such households could find an affordable unit in 2017, even if allocations were perfect among households across the nation (that is, if the lowest rent units were allocated to the lowest income households first). Many fewer affordable units were actually available to renters with the lowest incomes because vacancy rates were lowest for the lowest rent units, and many affordable units were rented to higher-income families. In 2017, the vacancy rate for units affordable at extremely low incomes was only 4.6 percent, compared with 12.9 percent for units affordable at more than 80 percent of AMI. The slight expansion of rental stock to meet rental demand between 2015 and 2017 mostly benefited higher-income households, with less stock affordable to VLI renter households.

Because of competition for affordable units, when a simple ratio of affordable units per 100 VLI renter households is made more stringent by adding availability as a constraint, the ratio decreases from 91 affordable units to only 59 affordable and available units per 100 VLI renter households, and it decreases from 69 to 40 per 100 ELI renter households. Higher-income families occupied 42.4 percent of units affordable to ELI renter households.

In addition, a substantial proportion of available units are not in adequate physical condition. The number of affordable, available, and adequate units in 2017 was only 52 per 100 VLI renter households and only 35 per 100 ELI renter households.

Given the scarcity of affordable, available, and adequate units for the renters with the lowest incomes, the efficacy of housing assistance in preventing worst case needs, and the surplus of units available at higher rent levels, housing vouchers continue to offer an important policy option for addressing the growing problem of worst case needs using the existing housing stock. Given that physically adequate units with rents within program limits are available on the market, vouchers could reduce worst case needs to the extent that landlords are willing to participate in HUD's voucher program. Increasing landlord participation could improve access to those units among VLI households while also improving voucher utilization rates in places where vouchers are available but difficult to lease up. HUD's ongoing Landlord Task Force initiatives are expected to do just that by assessing and reducing administrative barriers to landlord participation in HUD's primary rent subsidy program with the aim of making voucher-eligible units more accessible, especially in higher-opportunity neighborhoods.[45]

[44] Likewise, Divringi et al. (2019) found that aggregate repair costs were particularly high among single-family rental units, especially older units occupied by renters with incomes at or below the poverty line. Repair needs among those units accounted for about 20 percent of the aggregate estimated repair costs of all renter households in 2018. Those units are disproportionately clustered in nonmetropolitan areas.

[45] See https://www.huduser.gov/portal/periodicals/em/winter19/highlight1.html.

Section 3

Understanding the Trend in Worst Case Needs

Section 2 demonstrated that worst case needs are prevalent across the nation as a result of the limited availability of adequate, affordable rental units relative to the number of very low-income (VLI) renter households who need them. Section 3 elaborates how the changes in the number of units, the number of renter households, and the rents they paid during the 2015-to-2017 period underlie that result.

The latest 2015-to-2017 period showed improvement, with worst case needs decreasing by 587,000 households. Most of that change is attributable to demographic changes among unassisted VLI renter households. Supply conditions and market competition, however, muted the potential of demographic-driven improvements by about 37 percent.

Changes in tenure trends from renting to homeownership contributed to the improvement in worst case needs between 2015 and 2017. This is a promising departure from renting trends that escalated worst case needs in the previous 2-year period, nearly offsetting the effect of new household formation between 2015 and 2017. Consistent with improvements seen between 2013 and 2015, rising incomes also benefited renters, contributing more than any other factor to the decline in worst case needs between 2015 and 2017. Rental assistance also contributed to the decline. A widening of the gap between demand for affordable rental housing and the supply of affordable units, however, continued to drive worst case needs upward between 2015 and 2017, dampening the effect of otherwise promising demographic trends.

Changes in Affordable Housing Demand

The previous sections of this report have shown that the increase in the number of households with worst case needs reflects both changes in the population vulnerable to worst case needs—unassisted VLI renter households—and changes in the share of those renters experiencing the severe problems that trigger worst case needs. The population of vulnerable renters is affected primarily by demographic factors (including their incomes

and, to a small extent, HUD's categorization of their incomes). This population, in turn, substantially determines the demand for affordable housing. The rate of worst case needs among these vulnerable renters, by contrast, reflects the economic response of the housing market to these demographic changes.

The following analysis sorts out those factors. First, we distinguish between the effects of population change and the effects of the prevalence of worst case needs to estimate their relative importance. Then we identify how much various demographic factors affected the population change.[46]

The population of unassisted VLI renter households decreased 10.8 percent between 2015 and 2017, from 14.44 million to 12.88 million. During the same period, however, the rate of worst case needs in this population increased from 57.5 to 59.9 percent, as the smaller, remaining number of unassisted VLI households had a higher concentration of worst case needs.

From those facts, we can attribute a net decrease of 938,000 cases of worst case needs to demographic changes. That effect was muted, however, by an increase of about 351,000 cases attributable to changes in the prevalence of severe problems, which reduced the total potential biennial decrease in worst case needs by about 37 percent. The demographic effect and the prevalence effect together explain the 587,000 fewer cases of worst case needs observed in the AHS in 2017 compared with the number of cases observed in 2015.[47]

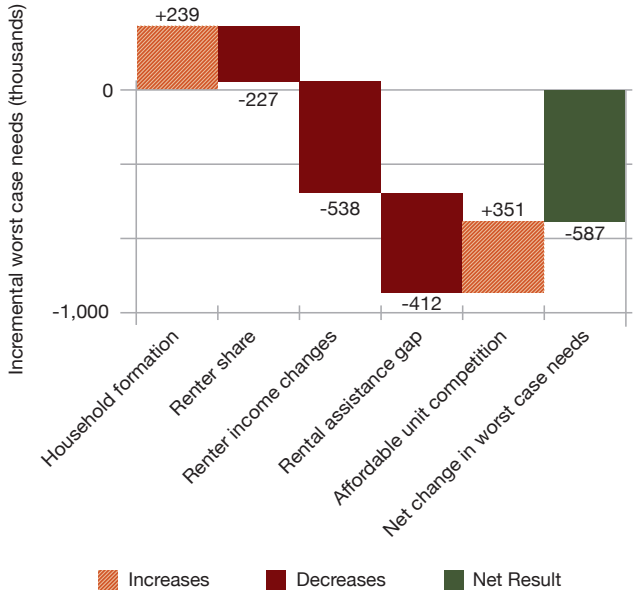
The 938,000 decrease in worst case needs resulting from demographic shifts can be further broken down into the following four components, illustrated by the first four columns of exhibit 3-1.

1. **Household formation.** The nation added 3.27 million new households between 2015 and 2017, to which we attribute a proportional increase of 239,000 cases of worst case needs. The household formation growth rate was 2.8 percent during this 2-year period, exceeding the average biennial increase of 1.9 percent since 2007 as measured by the AHS.

2. **Renter share of households.** A decline in renters' share of households accounts for a reduction of worst case needs by 227,000 cases, nearly offsetting the effect of new household formation. The homeownership rate increased slightly from 62.9 percent in 2015 to 63.8 percent in 2017, as only 63,000 renter households were added for 2-year growth of 0.1 percent.[48] Such growth contrasts sharply with the 9.1-percent increase in renter households between 2013 and 2015 and biennial increases averaging 4.5 percent since 2007.

3. **Renter income changes.** Changes in income that raised renter households out of the very low-income category account for a 538,000-case reduction of worst case needs. The number of renters with very low incomes decreased by 1,168,000, or 6.1 percent, in 2017. That biennial reduction more than offset the 4.0-percent decrease observed during 2013 to 2015 and limits the average biennial change since 2007 to a 2.2-percent increase.[49] At the same time, the population of renters with higher incomes grew by 5.0 percent between 2015 and 2017. In other words, a growing population of higher-income households

Exhibit 3-1. Tenure Shifts, Tenant Income Gains, and Moderation of the Rental Assistance Gap Drove the Decline in Worst Case Needs from 2015 to 2017



Source: HUD-PD&R analysis of American Housing Survey data

[46] Any analysis of survey data faces limitations from both sampling error and non-sampling error. Such errors are compounded when multiple survey years are compared. In addition, the 2015 AHS was administered to a completely different sample of households than were previous AHS iterations. This analysis takes the AHS estimates at face value, but the reader should recognize that multiple sources of potential error exist.

[47] The demographic effect equals the new prevalence rate times the numerical increase (or decrease) in renters, and the prevalence effect is the increase (or decrease) in the prevalence rate times the baseline number of renters.

[48] These are AHS estimates. Annual homeownership estimates based on the Current Population Survey/Housing Vacancy Survey were 63.7 percent for 2015 and 63.9 percent for 2017.

[49] Methodological factors are summarized in the sidebar, "Changes in Income Limits and Worst Case Needs."

were competing with a shrinking population of VLI renter households for available rental units in 2017.[50]

4. **Rental assistance gap.** A moderation of the rental assistance gap accounts for a reduction of worst case needs by 412,000 cases. The number of unassisted VLI renter households decreased by 1,565,000 households during the 2015-to-2017 period; those reporting assistance increased by 397,000 even as numbers of VLI renter households declined. The resulting 10.8-percent decrease in the number of unassisted VLI renter households more than reversed the 5.1-percent increase of 2013-to-2015, and compares with average biennial increases of 2.3 percent during 2007 to 2017. Following this significant decline, the remaining unassisted VLI renter households had a higher rate of prevalence of severe housing problems.

This analysis shows that the offsetting demographic factors that resulted in the net reduction in the population of unassisted very low-income renters would account for a decrease of worst case needs by 938,000 between 2015 and 2017. A strong economy supported those demographic benefits. The potential reduction in severe housing problems, however, was blunted by the housing market, as the mismatch between the unassisted VLI renter population and affordable units available for their occupancy explains the difference between the potential decrease of 938,000 and the actual decrease of 587,000. The inadequate market response is illustrated by the fifth column of exhibit 3-1, which contracted the demographic-driven decreases in worst case needs by 351,000 cases.

Affordable unit competition represents the extent to which the market responded to demand from unassisted VLI renter households and higher-income renters. As the population of higher-income renters grew, lower-income renters faced increasing competition for available units. Meanwhile, rental construction was weak during the biennial period, and rents continued to increase. The market result was a net reduction in affordable rental units that were available to VLI renter households. Because the supply of affordable and available units did not adequately meet the demand, the prevalence of worst case needs among unassisted VLI renter households actually increased from 57.5 percent to 59.9 percent from 2015 to 2017, despite the decrease in their number. The combined effect of insufficient construction of affordable units and demand-driven rent increases that make existing units unaffordable to VLI renter households, therefore, counteracted the otherwise promising demographic trends seen in 2017. The next section further explores those market factors.

Affordable Housing Supply and Demand

Exhibit 2-9 showed that the availability of affordable rental units became more constrained during the 2015-to-2017 period. Such affordability metrics are affected by multiple demographic and market factors. Some additional data, including key numbers underlying the changes in available unit ratios, will shed light on the issue.

Exhibit 3-2 examines the factors responsible for the change in the availability of affordable units. The total number of rental units increased by only 150,000 (0.3 percent) between 2015 and 2017, marking a substantial slowing of construction compared with the 10.6-percent increase between 2013 and 2015. The number of renter households changed by even less, driven by an increasing population of higher-income renters while the population of VLI renters shrank.

Between 2015 and 2017, the roles of both supply and demand factors shaped worst case needs. Some of those trends are promising and others reflect ongoing challenges. Overall, median renter incomes increased by 10.1 percent, continuing the trend of income gains since the recessionary period.[51] Growing renter incomes in 2017 served as an indicator of a strengthening economy. Rising incomes among renter households could translate into increased ability to bid for housing of greater quality and greater resources to consume non-housing necessities, which could mitigate the risk and consequences of severe housing problems, if growing housing costs do not consume income gains. Renter incomes rose across all income groups in 2017.[52]

Rising renter incomes, however, may also indicate that households that would have been more likely to make the transition to homeownership before the recession are continuing to rent even as their incomes rise.[53] By the end of 2017, house prices fully recovered to prerecession levels and there was limited availability of entry-level homes for purchase compared to homes at higher price points. As the population of higher-income renters grew in 2017, the shrinking population of VLI renter households faced tougher competition for affordable units as costlier new and existing rental units were even more likely to sit vacant than during previous years. In fact, the number of units affordable to VLI renter households decreased by 1,194,000 in 2017,

[50] Higher-income renters have accounted for a growing share of renters in recent years. As a percentage of renter households, VLI renters decreased from a high of 49.6 percent in 2011 to 41.1 percent in 2017.

[51] The median renter household's income placed it in the VLI category in 2011 but in the low-income category in subsequent years.

[52] Table A-14 presents average monthly renter household incomes for all income groups in 2015 and 2017.

[53] Exhibit 3-3 presents a 10-year analysis of tenure trends among VLI and higher-income households.

Exhibit 3-2. Changes in Affordable Rental Housing Availability Driven by Income Gains Among Renters That Outpaced Rising Costs, 2015 to 2017

	Extremely Low-Income (0–30% AMI)	Very Low-Income (0–50% AMI)	Low-Income (0–80% AMI)	Total[a]
Cumulative affordable & available rental units (thousands)				
2015	4,278	11,854	27,716	48,670
2017	4,595	10,661	26,014	48,820
Percent change	+7.4	-10.1	-6.1	+0.3
Cumulative households (thousands)				
2015	11,290	19,235	27,931	43,930
2017	11,548	18,067	26,704	43,993
Percent change	+2.3	-6.1	-4.4	+0.1
Income limit (median, current dollars)				
2015	17,050	28,400	45,450	—
2017	19,800	29,400	47,000	—
Percent change	+16.1	+3.5	+3.4	—
Median household income (all renters, current dollars)				
2015	—	—	—	32,796
2017	—	—	—	36,100
Percent change	—	—	—	+10.1
Median monthly housing cost (all renters, current dollars)				
2015	—	—	—	922
2017	—	—	—	991
Percent change	—	—	—	+7.5

AMI = area median income.
[a] Total represents all units or renters, not the sum of the cumulative income categories.
Source: HUD-PD&R tabulations of American Housing Survey data

outpacing the 1,168,000 reduction in the number of VLI renter households. This difference suggests that some higher-income renters would prefer to own an affordable home than occupy a higher-end rental unit. In addition, those renters whose growing incomes raised them out of the VLI group may continue to reside in the same affordable units they previously occupied. Such units would be classified as affordable but not available to current very low-income renters. At the same time, higher-income renters may have been less likely to compete for (or continue to occupy) the lowest rent units. For extremely low-income (ELI) households, affordable and available units increased by 317,000, a promising trend that was mostly offset by an increase of 258,000 households in this group.[54]

Median monthly housing costs for renters[55] also increased by 7.5 percent between 2015 and 2017, building on a similar increase in the prior period. Such trends suggest that increasing housing costs probably consumed a good share of income gains experienced by many renters in recent years, keeping worst case needs at elevated levels. Overall, the status quo remained as worst case needs remained at high levels despite marginal improvements.

CHANGES IN INCOME LIMITS AND WORST CASE NEEDS

A minimal portion of the population change in renters with extremely low and very low incomes between 2015 and 2017, and of those with worst case needs, is explained by a shift in income limits. HUD calculates income limits on the basis of area median incomes, which include both owners and renters, and then uses the income limits to define the boundaries of the extremely low-, very low-, and low-income categories. *(continued)*

[54] As shown in table A-13, movement in affordable housing needs occurred in opposite directions for ELI renter households relative to those with slightly higher incomes in the range of 30 to 50 percent of area median income.

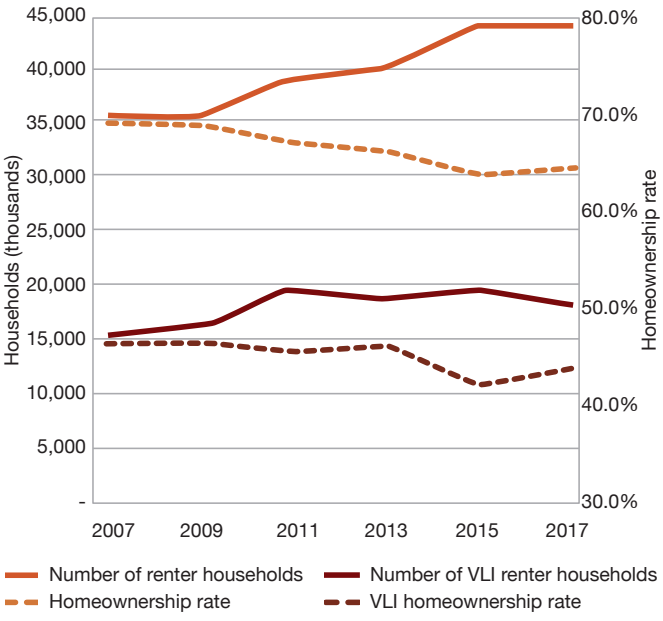
[55] Those housing costs include rent, utilities, property insurance, land rent, and association fees but exclude any separate security deposit or parking fees.

Exhibit 3-2 shows that, across the nation, the income limits for the median renter household increased slightly between 2015 and 2017. The greatest income qualifying as extremely low income increased by $2,750, and the greatest income qualifying as very low income increased by $1,000. As a result of the substantial median income increase for extremely low-income renters, more households were captured in that category during 2017. The median income limit for very low-income renter households increased by a smaller degree in 2017 and fewer households were captured in that category.

During the 2015-to-2017 period, median renter incomes increased and renter households earning less than 50 percent of area median income decreased, even as the most disadvantaged ELI renter households increased in number. Such diverging paths suggest that ELI renter households may have been isolated from the benefits of a growing economy—for example, because of fixed incomes associated with disability or advanced age. For such households, few paths of escape exist from the severe shortage of affordable and available housing.

Exhibit 3-3 examines long-term trends in two demand factors, renter population growth and homeownership trends, to further frame changes in worst case needs observed over the past 10 years.

Exhibit 3-3. Post-Recession Demand for Rental Units Driven by Population Growth and Tenure Trends, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

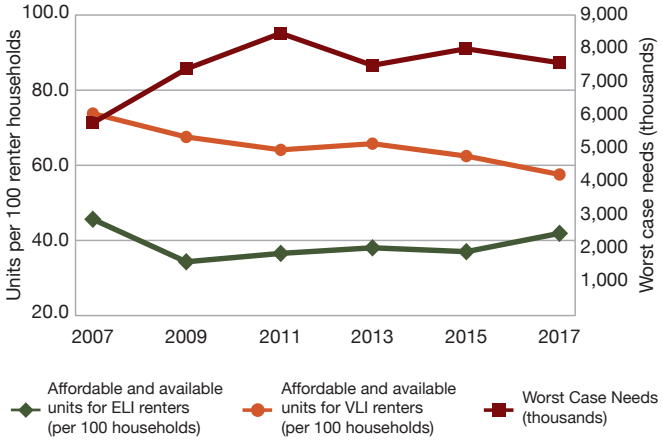
With few exceptions, the sharpest increases in number of households experiencing worst case needs were observed during and immediately following the recessionary period. In most instances, increases in worst case needs were accompanied by increasing numbers of VLI renter households, indicating increasing demand for affordable rental units. Overall, the postrecession era has been characterized by growth in rental demand and a softening of homeownership. Exhibit 3-3 shows the steady increase in the population of renter households over the past 10 years, with a corresponding decrease in the homeownership rate from 2009 through 2015. Those divergent trends are evident among VLI households but are most strongly indicated when higher income households are included. Those trends were moderated in the most recent biennial period, especially among VLI households.

Another critical element to improvement in worst case needs over time, however, is the access VLI renter households have to an adequate supply of affordable rental units. Exhibit 3-4 presents how the market for rental units affordable to VLI households has responded to demand trends over the past 10 years.

In most instances, increases in worst case needs were also accompanied by declines in the national supply of units affordable to VLI renters. Despite easing demand between 2015 and 2017, VLI renter households found fewer affordable units available. The effect of this supply shortage on worst case needs was partially mitigated by the increase in affordable units available to ELI renters, who account for most instances of worst case needs.

In short, the effect of weak growth in the rental supply and strong competition for available rental units from higher-income renters seems to be having the most detrimental

Exhibit 3-4. Trends in Housing Supply Mismatch and Worst Case Needs, 2007-2017



Source: HUD-PD&R tabulations of American Housing Survey data

effect on the availability of units affordable to renters with incomes between 30 and 50 percent of AMI. One reason for this effect may be that higher-income renters are less likely to compete for units with the cheapest rents, which may lack the soundness, features, or amenities preferred by the growing population of high-income renters. Had renters with incomes between 30 and 50 percent of AMI had access to an adequate supply of affordable rental units during the biennial period, we may have seen an even larger decrease in worst case needs nationally. Supplying a range of rental and homeownership options to households with both lower and higher incomes, therefore, is important to sustaining the downward trend in worst case needs seen between 2015 and 2017.

Concluding Summary

In the strong U.S. economy of 2017, the number of worst case needs declined by 587,000, to 7.72 million over the preceding 2 years. An analysis decomposing demographic and market factors indicates that the demographic factors affecting the number of unassisted VLI renter households had the potential to reduce worst case needs by 938,000—had the increasingly inadequate market supply of affordable rental units not caused the prevalence rate of worst case needs to increase among renters with incomes between 30 and 50 percent of AMI.

Of the four demographic factors, national household formation would have been expected to increase worst case needs by 239,000 cases. A decrease in the renter share of households offset that effect by a tally of 227,000. Improvements in renter incomes reduced worst case needs by 538,000, and a moderation of the rental assistance gap accounted for a reduction of 412,000.

The market response to those promising demographic trends, however, undercut the national reduction in worst case needs. The total increase in the supply of rental units between 2015 and 2017 was weak compared with that of the previous biennial period, adding just 150,000 units, or less than 1 percent, compared with the more-than-10-percent increase seen in the previous period. The total renter population also grew more slowly between 2015 and 2017, moderated somewhat by a slight improvement in homeownership rates. With vacancy rates highest among the most expensive units and continuing to creep higher than previous years, the number of rental units affordable and available to VLI renter households decreased by 1.19 million units (more than 10 percent) even as the VLI renter household population decreased by 1.17 million households (more than 6 percent). This uneven pattern in supply growth was mimicked in renter income changes, with median income growing more sharply for renter households overall (10.1 percent) than the median income threshold for VLI renter households (3.5 percent). Further, renters' housing costs continued to rapidly escalate—the 7.5-percent increase in median monthly housing costs for renter households nearly matched the 8.5-percent increase in costs during the previous 2 years.

Worst case housing needs are a national problem, with variations in severity across both demographic and geographic dimensions. Worst case needs expanded dramatically through the economic recession and associated collapse of the housing market, which reduced homeownership through foreclosures and increased demand for renting. During the economic recovery that followed, worst case needs continued to persist at high levels. Renter income gains in recent years have been offset by rent increases because of limited production of affordable rental units. Even with public rental assistance, 6 of 10 ELI renter households and 4 of 10 VLI renter households do not have access to affordable and available housing units. In 2017, there were 1.5 VLI renter households with worst case needs for every VLI renter household with rental assistance. Based on the most recent evidence, the inadequate supply of affordable homes seriously undermined otherwise promising demographic trends and tempered potential improvements in national levels of severe housing problems as the economy improved in 2017.

A broad strategy at the federal, state, and local levels is needed to grow the economy, support market production and access to affordable homes, and provide assistance to those families most in need. HUD's work to reduce regulatory barriers to affordable housing production is particularly timely in this regard. The White House Council on Eliminating Regulatory Barriers to Affordable Housing, chaired by Secretary Ben Carson, is leading efforts to boost the supply of affordable housing by identifying policies, regulations, and administrative obstacles to cost-effective development of affordable rental units and entry-level homes. Relaxing constraints on affordable housing production is expected to both increase the number of units affordable to VLI renter households and ease transitions to homeownership, thereby increasing the availability of rental units. HUD's ongoing Landlord Task Force initiatives are also expected to improve access to voucher-eligible units among very low-income renters, especially in higher-opportunity neighborhoods.

Appendix A

Detailed Data on Housing Problems and Supply of Affordable Housing

Table A-1A. Housing Conditions of Renter Households by Relative Income, 2015 and 2017

	Household Income as Percentage of HUD-Adjusted Area Median Family Income					
2017	**0–30%**	**>30–50%**	**>50–80%**	**>80–120%**	**>120%**	**All Incomes**
Total households (thousands)	**11,548**	**6,519**	**8,637**	**7,306**	**9,983**	**43,993**
Unassisted with severe problems	5,555	2,161	973	277	232	9,198
Unassisted with nonsevere problems only	1,049	2,381	3,804	1,768	1,180	10,181
Unassisted with no problems	908	823	3,220	5,003	8,272	18,226
Assisted	4,037	1,154	641	259	298	6,388
Any with severe problems	**7,362**	**2,411**	**1,010**	**286**	**243**	**11,312**
Rent burden >50% of income	7,198	2,300	879	236	144	10,757
Severely inadequate housing	378	156	134	54	104	826
Any with nonsevere problems only	**2,127**	**2,890**	**4,066**	**1,810**	**1,219**	**12,113**
Rent burden >30–50% of income	1,848	2,756	3,541	1,463	607	10,215
Moderately inadequate housing	321	256	433	258	439	1,708
Crowded housing	256	241	376	149	223	1,245
Any with no problems	**2,060**	**1,217**	**3,562**	**5,210**	**8,520**	**20,568**
2015						
Total households (thousands)	**11,290**	**7,945**	**8,696**	**7,051**	**8,948**	**43,930**
Unassisted with severe problems	5,821	2,482	880	258	210	9,651
Unassisted with nonsevere problems only	779	3,344	3,755	1,684	893	10,455
Unassisted with no problems	988	1,027	3,623	4,908	7,720	18,265
Assisted	3,702	1,092	438	202	125	5,559
Any with severe problems	**7,500**	**2,634**	**896**	**263**	**215**	**11,509**
Rent burden >50% of income	7,385	2,525	748	207	124	10,988
Severely inadequate housing	352	157	161	60	97	828
Any with nonsevere problems only	**1,776**	**3,848**	**3,919**	**1,712**	**899**	**12,153**
Rent burden >30–50% of income	1,511	3,611	3,296	1,276	424	10,118
Moderately inadequate housing	357	452	506	336	376	2,027
Crowded housing	122	358	361	157	122	1,120
Any with no problems	**2,014**	**1,463**	**3,881**	**5,077**	**7,834**	**20,269**

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-1B. Housing Conditions of Owner Households by Relative Income, 2015 and 2017

	Household Income as Percentage of HUD-Adjusted Area Median Family Income					
2017	**0–30%**	**>30–50%**	**>50–80%**	**>80–120%**	**>120%**	**All Incomes**
Total households (thousands)	**7,883**	**6,172**	**10,959**	**13,736**	**38,817**	**77,567**
Unassisted with severe problems	4,829	1,756	1,400	744	667	9,396
Unassisted with nonsevere problems only	1,365	2,125	3,481	3,128	3,353	13,452
Unassisted with no problems	1,689	2,291	6,078	9,864	34,797	54,719
Any with severe problems	**4,829**	**1,756**	**1,400**	**744**	**667**	**9,396**
Cost burden >50% of income	4,742	1,692	1,347	658	527	8,967
Severely inadequate housing	146	78	66	87	141	517
Any with nonsevere problems only	**1,365**	**2,125**	**3,481**	**3,128**	**3,353**	**13,452**
Cost burden >30–50% of income	1,174	1,952	3,136	2,674	2,454	11,391
Moderately inadequate housing	236	220	308	346	750	1,860
Crowded housing	75	64	195	187	186	706
Any with no problems	**1,689**	**2,291**	**6,078**	**9,864**	**34,797**	**54,719**
2015						
Total households (thousands)	**6,893**	**6,861**	**10,948**	**13,638**	**36,019**	**74,360**
Unassisted with severe problems	4,341	1,727	1,110	556	616	8,349
Unassisted with nonsevere problems only	1,206	2,387	2,947	2,323	2,354	11,217
Unassisted with no problems	1,347	2,748	6,891	10,759	33,049	54,794
Any with severe problems	**4,341**	**1,727**	**1,110**	**556**	**616**	**8,349**
Cost burden >50% of income	4,263	1,639	1,000	475	433	7,811
Severely inadequate housing	165	109	123	89	187	673
Any with nonsevere problems only	**1,206**	**2,387**	**2,947**	**2,323**	**2,354**	**11,217**
Cost burden >30–50% of income	1,056	2,167	2,541	1,821	1,549	9,135
Moderately inadequate housing	170	236	367	411	696	1,881
Crowded housing	53	144	178	158	150	683
Any with no problems	**1,347**	**2,748**	**6,891**	**10,759**	**33,049**	**54,794**

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-2A. Housing Conditions of Renters and Owners, 2001–2017—Number of Households

	2001	2003	2005	2007	2009	2011	2013	2015	2017
Total households (thousands)	**105,435**	**105,868**	**108,901**	**110,719**	**111,861**	**115,076**	**116,032**	**118,290**	**121,560**
Unassisted with severe problems	13,494	13,398	16,142	16,944	19,259	20,717	18,553	18,000	18,594
Unassisted with nonsevere problems only	19,217	19,790	20,849	22,752	23,225	24,079	22,153	21,672	23,633
Unassisted with no problems	66,445	66,468	65,362	65,862	64,506	64,983	69,796	73,059	72,945
Assisted	6,279	6,211	6,547	5,161	4,871	5,298	5,530	5,559	6,388
Cost burden >50% of income	13,330	13,188	16,433	17,140	19,458	20,781	18,810	18,799	19,724
Cost burden >30–50% of income	16,923	17,856	19,403	21,153	21,818	22,369	20,884	19,252	21,606
Severely inadequate housing	2,108	1,971	2,023	1,805	1,866	2,126	1,942	1,500	1,343
Moderately inadequate housing	4,504	4,311	4,177	3,954	3,884	3,133	3,946	3,907	3,568
Crowded housing	2,631	2,559	2,621	2,529	2,509	1,923	2,509	1,803	1,951
Renter households (thousands)	**33,727**	**33,614**	**33,951**	**35,054**	**35,396**	**38,867**	**40,273**	**43,930**	**43,993**
Unassisted with severe problems	5,758	5,887	6,860	6,993	8,085	9,548	8,874	9,651	9,198
Unassisted with nonsevere problems only	7,283	7,557	7,303	8,445	8,229	9,194	9,233	10,455	10,181
Unassisted with no problems	14,407	13,958	13,240	14,455	14,211	14,828	16,636	18,265	18,226
Assisted	6,279	6,211	6,547	5,161	4,871	5,298	5,530	5,559	6,388
Cost burden >50% of income	6,412	6,477	7,891	7,793	9,000	10,391	9,744	10,988	10,757
Cost burden >30–50% of income	6,916	7,468	7,502	8,340	8,240	9,124	9,292	10,118	10,215
Severely inadequate housing	1,168	1,038	1,100	1,073	998	1,204	1,155	828	826
Moderately inadequate housing	2,508	2,525	2,542	2,400	2,264	1,830	2,508	2,027	1,708
Crowded housing	1,658	1,615	1,635	1,511	1,499	1,072	1,652	1,120	1,245
Owner households (thousands)	**71,708**	**72,254**	**74,950**	**75,665**	**76,465**	**76,209**	**75,759**	**74,360**	**77,567**
Unassisted with severe problems	7,736	7,511	9,282	9,951	11,174	11,169	9,679	8,349	9,396
Unassisted with nonsevere problems only	11,934	12,233	13,546	14,307	14,996	14,885	12,920	11,217	13,452
Unassisted with no problems	52,038	52,510	52,122	51,407	50,295	50,155	53,160	54,794	54,719
Cost burden >50% of income	6,918	6,711	8,542	9,347	10,458	10,390	9,066	7,811	8,967
Cost burden >30–50% of income	10,007	10,388	11,901	12,813	13,578	13,245	11,592	9,135	11,391
Severely inadequate housing	940	933	923	732	868	922	787	673	517
Moderately inadequate housing	1,996	1,786	1,635	1,554	1,620	1,303	1,438	1,881	1,860
Crowded housing	973	944	986	1,018	1,010	851	857	683	706

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-2B. Housing Conditions of Renters and Owners, 2001–2017—Percentage of Households

	2001	2003	2005	2007	2009	2011	2013	2015	2017
Total households	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Unassisted with severe problems	12.8	12.7	14.8	15.3	17.2	18.0	16.0	15.2	15.3
Unassisted with nonsevere problems only	18.2	18.7	19.1	20.5	20.8	20.9	19.1	18.3	19.4
Unassisted with no problems	63.0	62.8	60.0	59.5	57.7	56.5	60.2	61.8	60.0
Assisted	6.0	5.9	6.0	4.7	4.4	4.6	4.8	4.7	5.3
Cost burden >50% of income	12.6	12.5	15.1	15.5	17.4	18.1	16.2	15.9	16.2
Cost burden >30–50% of income	16.1	16.9	17.8	19.1	19.5	19.4	18.0	16.3	17.8
Severely inadequate housing	2.0	1.9	1.9	1.6	1.7	1.8	1.7	1.3	1.1
Moderately inadequate housing	4.3	4.1	3.8	3.6	3.5	2.7	3.4	3.3	2.9
Crowded housing	2.5	2.4	2.4	2.3	2.2	1.7	2.2	1.5	1.6
Renter households	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Unassisted with severe problems	17.1	17.5	20.2	19.9	22.8	24.6	22.0	22.0	20.9
Unassisted with nonsevere problems only	21.6	22.5	21.5	24.1	23.2	23.7	22.9	23.8	23.1
Unassisted with no problems	42.7	41.5	39.0	41.2	40.1	38.2	41.3	41.6	41.4
Assisted	18.6	18.5	19.3	14.7	13.8	13.6	13.7	12.7	14.5
Cost burden >50% of income	19.0	19.3	23.2	22.2	25.4	26.7	24.2	25.0	24.5
Cost burden >30–50% of income	20.5	22.2	22.1	23.8	23.3	23.5	23.1	23.0	23.2
Severely inadequate housing	3.5	3.1	3.2	3.1	2.8	3.1	2.9	1.9	1.9
Moderately inadequate housing	7.4	7.5	7.5	6.8	6.4	4.7	6.2	4.6	3.9
Crowded housing	4.9	4.8	4.8	4.3	4.2	2.8	4.1	2.6	2.8
Owner households	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Unassisted with severe problems	10.8	10.4	12.4	13.2	14.6	14.7	12.8	11.2	12.1
Unassisted with nonsevere problems only	16.6	16.9	18.1	18.9	19.6	19.5	17.1	15.1	17.3
Unassisted with no problems	72.6	72.7	69.5	67.9	65.8	65.8	70.2	73.7	70.5
Cost burden >50% of income	9.6	9.3	11.4	12.4	13.7	13.6	12.0	10.5	11.6
Cost burden >30–50% of income	14.0	14.4	15.9	16.9	17.8	17.4	15.3	12.3	14.7
Severely inadequate housing	1.3	1.3	1.2	1.0	1.1	1.2	1.0	0.9	0.7
Moderately inadequate housing	2.8	2.5	2.2	2.1	2.1	1.7	1.9	2.5	2.4
Crowded housing	1.4	1.3	1.3	1.3	1.3	1.1	1.1	0.9	0.9

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-3. Housing Conditions of Unassisted Renter Households by Relative Income, 2015 and 2017

	Household Income as Percentage of HUD-Adjusted Area Median Family Income					
2017	**0–30%**	**>30–50%**	**>50–80%**	**>80–120%**	**>120%**	**All Incomes**
Total unassisted households (thousands)	**7,511**	**5,365**	**7,997**	**7,048**	**9,685**	**37,605**
Any with severe problems	**5,555**	**2,161**	**973**	**277**	**232**	**9,198**
Rent burden >50% of income	5,453	2,068	856	230	144	8,750
[Rent above FMR]	1,898	1,197	779	223	143	4,240
Severely inadequate housing	266	131	120	52	93	662
Any with nonsevere problems only	**1,049**	**2,381**	**3,804**	**1,768**	**1,180**	**10,181**
Rent burden >30–50% of income	852	2,278	3,333	1,432	598	8,494
Moderately inadequate housing	208	200	406	255	421	1,489
Crowded housing	200	217	336	140	211	1,103
Any with no problems	**908**	**823**	**3,220**	**5,003**	**8,272**	**18,226**
2015						
Total unassisted households (thousands)	**7,588**	**6,853**	**8,258**	**6,849**	**8,823**	**38,371**
Any with severe problems	**5,821**	**2,482**	**880**	**258**	**210**	**9,651**
Rent burden >50% of income	5,756	2,395	740	202	124	9,216
[Rent above FMR]	1,919	1,437	672	202	124	4,354
Severely inadequate housing	234	130	153	59	92	669
Any with nonsevere problems only	**779**	**3,344**	**3,755**	**1,684**	**893**	**10,455**
Rent burden >30–50% of income	615	3,150	3,170	1,258	422	8,616
Moderately inadequate housing	216	376	471	329	372	1,764
Crowded housing	75	325	344	154	121	1,020
Any with no problems	**988**	**1,027**	**3,623**	**4,908**	**7,720**	**18,265**

FMR = Fair Market Rent.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-4. Incidence of Housing Problems Among Renters by Relative Income, 2015 and 2017

	Number		Percentage	
	2015	2017	2015	2017
Renter households (thousands)	**43,930**	**43,990**	**100.0**	**100.0**
Unassisted with severe problems	9,651	9,198	22.0	20.9
Unassisted with nonsevere problems only	10,455	10,180	23.8	23.1
Unassisted with no problems	18,265	18,230	41.6	41.4
Assisted	5,559	6,388	12.7	14.5
Any with severe problems	**11,509**	**11,310**	**26.2**	**25.7**
Rent burden >50% of income	10,988	10,760	25.0	24.5
Severely inadequate housing	828	826	1.9	1.9
[Rent burden only]	9,772	9,748	22.2	22.2
Any with nonsevere problems only	**12,153**	**12,110**	**27.7**	**27.5**
Rent burden >30–50% of income	10,118	10,220	23.0	23.2
Moderately inadequate housing	2,027	1,708	4.6	3.9
Crowded housing	1,120	1,245	2.5	2.8
[Rent burden only]	9,098	9,254	20.7	21.0
Any with no problems	**20,269**	**20,570**	**46.1**	**46.8**
Income 0-30% HAMFI (thousands)	**11,290**	**11,550**	**100.0**	**100.0**
Unassisted with severe problems	5,821	5,555	51.6	48.1
Unassisted with nonsevere problems only	779	1,049	6.9	9.1
Unassisted with no problems	988	908	8.8	7.9
Assisted	3,702	4,037	32.8	35.0
Any with severe problems	**7,500**	**7,362**	**66.4**	**63.7**
Rent burden >50% of income	7,385	7,198	65.4	62.3
Severely inadequate housing	352	378	3.1	3.3
[Rent burden only]	6,500	6,406	57.6	55.5
Any with nonsevere problems only	**1,776**	**2,127**	**15.7**	**18.4**
Rent burden >30–50% of income	1,511	1,848	13.4	16.0
Moderately inadequate housing	357	321	3.2	2.8
Crowded housing	122	256	1.1	2.2
[Rent burden only]	1,312	1,570	11.6	13.6
Any with no problems	**2,014**	**2,060**	**17.8**	**17.8**

(continued)

Table A-4. Incidence of Housing Problems Among Renters by Relative Income, 2015 and 2017 (continued)

	Number		Percentage	
	2015	2017	2015	2017
Income >30-50% HAMFI (thousands)	**7,945**	**6,519**	**100.0**	**100.0**
Unassisted with severe problems	2,482	2,161	31.2	33.1
Unassisted with nonsevere problems only	3,344	2,381	42.1	36.5
Unassisted with no problems	1,027	823	12.9	12.6
Assisted	1,092	1,154	13.7	17.7
Any with severe problems	**2,634**	**2,411**	**33.2**	**37.0**
Rent burden >50% of income	2,525	2,300	31.8	35.3
Severely inadequate housing	157	156	2.0	2.4
[Rent burden only]	2,274	2,136	28.6	32.8
Any with nonsevere problems only	**3,848**	**2,890**	**48.4**	**44.3**
Rent burden >30–50% of income	3,611	2,756	45.4	42.3
Moderately inadequate housing	452	256	5.7	3.9
Crowded housing	358	241	4.5	3.7
[Rent burden only]	3,073	2,415	38.7	37.0
Any with no problems	**1,463**	**1,217**	**18.4**	**18.7**
Income >50-80% HAMFI (thousands)	**8,696**	**8,637**	**100.0**	**100.0**
Unassisted with severe problems	880	973	10.1	11.3
Unassisted with nonsevere problems only	3,755	3,804	43.2	44.0
Unassisted with no problems	3,623	3,220	41.7	37.3
Assisted	438	641	5.0	7.4
Any with severe problems	**896**	**1,010**	**10.3**	**11.7**
Rent burden >50% of income	748	879	8.6	10.2
Severely inadequate housing	161	134	1.9	1.6
[Rent burden only]	696	849	8.0	9.8
Any with nonsevere problems only	**3,919**	**4,066**	**45.1**	**47.1**
Rent burden >30–50% of income	3,296	3,541	37.9	41.0
Moderately inadequate housing	506	433	5.8	5.0
Crowded housing	361	376	4.2	4.4
[Rent burden only]	3,076	3,278	35.4	38.0
Any with no problems	**3,881**	**3,562**	**44.6**	**41.2**

(continued)

Table A-4. Incidence of Housing Problems Among Renters by Relative Income, 2015 and 2017 (continued)

	Number		Percentage	
	2015	2017	2015	2017
Income >80-120% HAMFI (thousands)	**7,051**	**7,306**	**100.0**	**100.0**
Unassisted with severe problems	258	277	3.7	3.8
Unassisted with nonsevere problems only	1,684	1,768	23.9	24.2
Unassisted with no problems	4,908	5,003	69.6	68.5
Assisted	202	259	2.9	3.5
Any with severe problems	**263**	**286**	**3.7**	**3.9**
Rent burden >50% of income	207	236	2.9	3.2
Severely inadequate housing	60	54	0.9	0.7
[Rent burden only]	191	226	2.7	3.1
Any with nonsevere problems only	**1,712**	**1,810**	**24.3**	**24.8**
Rent burden >30–50% of income	1,276	1,463	18.1	20.0
Moderately inadequate housing	336	258	4.8	3.5
Crowded housing	157	149	2.2	2.0
[Rent burden only]	1,226	1,407	17.4	19.3
Any with no problems	**5,077**	**5,210**	**72.0**	**71.3**
Income >120% HAMFI (thousands)	**8,948**	**9,983**	**100.0**	**100.0**
Unassisted with severe problems	210	232	2.4	2.3
Unassisted with nonsevere problems only	893	1,180	10.0	11.8
Unassisted with no problems	7,720	8,272	86.3	82.9
Assisted	125	298	1.4	3.0
Any with severe problems	**215**	**243**	**2.4**	**2.4**
Rent burden >50% of income	124	144	1.4	1.4
Severely inadequate housing	97	104	1.1	1.0
[Rent burden only]	110	132	1.2	1.3
Any with nonsevere problems only	**899**	**1,219**	**10.0**	**12.2**
Rent burden >30–50% of income	424	607	4.7	6.1
Moderately inadequate housing	376	439	4.2	4.4
Crowded housing	122	223	1.4	2.2
[Rent burden only]	410	582	4.6	5.8
Any with no problems	**7,834**	**8,520**	**87.5**	**85.3**

HAMFI = HUD Area Median Family Income.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-5A. Incidence of Housing Problems Among Very Low-Income Renters by Household Type, 2015 and 2017

	Number		Percentage	
Household type	**2015**	**2017**	**2015**	**2017**
All household types (thousands)	**19,235**	**18,067**	**100.0**	**100.0**
Elderly without children (thousands)	**4,652**	**4,960**	**100.0**	**100.0**
Unassisted with severe problems	1,853	1,932	39.8	39.0
Unassisted with nonsevere problems only	722	641	15.5	12.9
Unassisted with no problems	519	467	11.2	9.4
Assisted	1,559	1,920	33.5	38.7
Any with severe problems	**2,373**	**2,600**	**51.0**	**52.4**
Rent burden >50% of income	2,335	2,571	50.2	51.8
Severely inadequate housing	86	75	1.8	1.5
[Rent burden only]	2,070	2,372	44.5	47.8
Any with nonsevere problems only	**1,242**	**1,279**	**26.7**	**25.8**
Rent burden >30–50% of income	1,149	1,190	24.7	24.0
Moderately inadequate housing	161	155	3.5	3.1
Crowded housing	(s)	(s)	(s)	(s)
[Rent burden only]	1,075	1,120	23.1	22.6
Any with no problems	**1,038**	**1,081**	**22.3**	**21.8**
Families with children (thousands)	**6,962**	**6,199**	**100.0**	**100.0**
Unassisted with severe problems	2,888	2,571	41.5	41.5
Unassisted with nonsevere problems only	1,796	1,528	25.8	24.6
Unassisted with no problems	552	441	7.9	7.1
Assisted	1,726	1,659	24.8	26.8
Any with severe problems	**3,614**	**3,333**	**51.9**	**53.8**
Rent burden >50% of income	3,534	3,228	50.8	52.1
Severely inadequate housing	207	223	3.0	3.6
[Rent burden only]	3,076	2,869	44.2	46.3
Any with nonsevere problems only	**2,340**	**2,020**	**33.6**	**32.6**
Rent burden >30–50% of income	2,088	1,799	30.0	29.0
Moderately inadequate housing	333	230	4.8	3.7
Crowded housing	446	(s)	6.4	(s)
[Rent burden only]	1,607	1,377	23.1	22.2
Any with no problems	**1,008**	**847**	**14.5**	**13.7**

(continued)

Table A-5A. Incidence of Housing Problems Among Very Low-Income Renters by Household Type, 2015 and 2017 (continued)

	Number		Percentage	
Household type	**2015**	**2017**	**2015**	**2017**
Other family households (thousands)	**1,726**	**1,591**	**100.0**	**100.0**
Unassisted with severe problems	805	716	46.6	45.0
Unassisted with nonsevere problems only	429	335	24.9	21.1
Unassisted with no problems	203	212	11.8	13.3
Assisted	289	327	16.7	20.6
Any with severe problems	**922**	**843**	**53.4**	**53.0**
Rent burden >50% of income	899	826	52.1	51.9
Severely inadequate housing	57	55	3.3	3.5
[Rent burden only]	801	710	46.4	44.6
Any with nonsevere problems only	**527**	**423**	**30.5**	**26.6**
Rent burden >30–50% of income	488	385	28.3	24.2
Moderately inadequate housing	79	41	4.6	2.6
Crowded housing	26	(s)	1.5	(s)
[Rent burden only]	427	347	24.7	21.8
Any with no problems	**277**	**324**	**16.1**	**20.4**
Other nonfamily households (thousands)	**5,895**	**5,317**	**100.0**	**100.0**
Unassisted with severe problems	2,758	2,497	46.8	47.0
Unassisted with nonsevere problems only	1,176	925	19.9	17.4
Unassisted with no problems	740	611	12.6	11.5
Assisted	1,221	1,284	20.7	24.1
Any with severe problems	**3,225**	**2,997**	**54.7**	**56.4**
Rent burden >50% of income	3,142	2,872	53.3	54.0
Severely inadequate housing	159	181	2.7	3.4
[Rent burden only]	2,827	2,589	48.0	48.7
Any with nonsevere problems only	**1,514**	**1,295**	**25.7**	**24.4**
Rent burden >30–50% of income	1,397	1,229	23.7	23.1
Moderately inadequate housing	236	151	4.0	2.8
Crowded housing	(s)	(s)	(s)	(s)
[Rent burden only]	1,277	1,142	21.7	21.5
Any with no problems	**1,155**	**1,025**	**19.6**	**19.3**

(s) = Unweighted counts of 5 or fewer suppressed.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-5B. Incidence of Housing Problems Among Very Low-Income Renter Households Containing Persons with Disabilities* by Household Type, 2015 and 2017

	Number		Percentage	
Household type	**2015**	**2017**	**2015**	**2017**
All household types (thousands)	**3,529**	**3,276**	**100.0**	**100.0**
Elderly without children (thousands)	**155**	**154**	**100.0**	**100.0**
Unassisted with severe problems	61	47	39.7	30.5
Unassisted with nonsevere problems only	44	49	28.2	31.8
Unassisted with no problems	18	4	11.6	2.6
Assisted	32	54	20.6	35.1
Any with severe problems	**75**	**72**	**48.2**	**46.8**
Rent burden >50% of income	71	72	46.1	46.8
Severely inadequate housing	(s)	(s)	(s)	(s)
[Rent burden only]	65	68	42.4	44.2
Any with nonsevere problems only	**52**	**70**	**33.5**	**45.5**
Rent burden >30–50% of income	50	59	32.5	38.3
Moderately inadequate housing	3	15	2.2	9.7
Crowded housing	0	(s)	0.0	(s)
[Rent burden only]	48	56	31.3	36.4
Any with no problems	**28**	**12**	**18.3**	**7.8**
Families with children (thousands)	**1,295**	**1,175**	**100.0**	**100.0**
Unassisted with severe problems	538	485	41.5	41.3
Unassisted with nonsevere problems only	264	236	20.4	20.1
Unassisted with no problems	68	53	5.2	4.5
Assisted	425	401	32.8	34.1
Any with severe problems	**722**	**690**	**55.7**	**58.7**
Rent burden >50% of income	682	669	52.7	56.9
Severely inadequate housing	82	(s)	6.3	(s)
[Rent burden only]	541	541	41.8	46.0
Any with nonsevere problems only	**403**	**347**	**31.1**	**29.5**
Rent burden >30–50% of income	358	302	27.6	25.7
Moderately inadequate housing	74	69	5.7	5.9
Crowded housing	70	(s)	5.4	(s)
[Rent burden only]	268	213	20.7	18.1
Any with no problems	**170**	**138**	**13.1**	**11.7**

(continued)

Table A-5B. Incidence of Housing Problems Among Very Low-Income Renter Households Containing Persons with Disabilities* by Household Type, 2015 and 2017 (continued)

	Number		Percentage	
Household type	**2015**	**2017**	**2015**	**2017**
Other family households (thousands)	**453**	**436**	**100.0**	**100.0**
Unassisted with severe problems	177	200	39.1	45.9
Unassisted with nonsevere problems only	81	76	17.9	17.4
Unassisted with no problems	70	36	15.5	8.3
Assisted	124	124	27.4	28.4
Any with severe problems	**227**	**243**	**50.1**	**55.7**
Rent burden >50% of income	211	228	46.7	52.3
Severely inadequate housing	36	(s)	8.0	(s)
[Rent burden only]	175	189	38.5	43.3
Any with nonsevere problems only	**126**	**111**	**27.8**	**25.5**
Rent burden >30–50% of income	116	104	25.6	23.9
Moderately inadequate housing	22	17	4.9	3.9
Crowded housing	(s)	(s)	(s)	(s)
[Rent burden only]	101	94	22.3	21.6
Any with no problems	**100**	**82**	**22.0**	**18.8**
Other nonfamily households (thousands)	**1,627**	**1,511**	**100.0**	**100.0**
Unassisted with severe problems	614	572	37.8	37.9
Unassisted with nonsevere problems only	234	174	14.4	11.5
Unassisted with no problems	106	90	6.5	6.0
Assisted	673	677	41.4	44.8
Any with severe problems	**863**	**797**	**53.1**	**52.7**
Rent burden >50% of income	841	739	51.7	48.9
Severely inadequate housing	54	(s)	3.3	(s)
[Rent burden only]	739	620	45.4	41.0
Any with nonsevere problems only	**436**	**374**	**26.8**	**24.8**
Rent burden >30–50% of income	408	355	25.1	23.5
Moderately inadequate housing	61	47	3.8	3.1
Crowded housing	(s)	(s)	(s)	(s)
[Rent burden only]	374	326	23.0	21.6
Any with no problems	**327**	**341**	**20.1**	**22.6**

* Elderly persons with disabilities were excluded.
(s) = Unweighted counts of 5 or fewer suppressed.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-6A. Housing Problems and Characteristics of Very Low-Income Renters by Household Type, 2017

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Renter households (thousands)	**18,067**	**4,960**	**6,199**	**1,591**	**5,317**
Number of children	12,510	NA	12,510	NA	NA
Number of persons	40,601	6,437	23,791	3,930	6,443
Children/household	2.02	NA	2.02	NA	NA
Persons/household	2.25	1.30	3.84	2.47	1.21
Unassisted with severe problems	7,716	1,932	2,571	716	2,497
Unassisted with nonsevere problems only	3,429	641	1,528	335	925
Unassisted with no problems	1,731	467	441	212	611
Assisted	5,191	1,920	1,659	327	1,284
Any with severe problems	**9,773**	**2,600**	**3,333**	**843**	**2,997**
Rent burden >50% of income	9,498	2,571	3,228	826	2,872
Severely inadequate housing	534	75	223	55	181
[Rent burden only]	8,541	2,372	2,869	710	2,589
Any with nonsevere problems only	**5,017**	**1,279**	**2,020**	**423**	**1,295**
Rent burden >30–50% of income	4,604	1,190	1,799	385	1,229
Moderately inadequate housing	578	155	230	41	151
Crowded housing	(s)	(s)	(s)	(s)	(s)
[Rent burden only]	3,986	1,120	1,377	347	1,142
Any with no problems	**3,277**	**1,081**	**847**	**324**	**1,025**

(continued)

Table A-6A. Housing Problems and Characteristics of Very Low-Income Renters by Household Type, 2017 (continued)

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Other characteristics					
One person in household	8,257	3,799	NA	NA	4,446
Two-spouse household	3,487	678	2,135	674	NA
Female householder	11,318	3,209	4,379	933	2,797
Minority householder	10,133	2,058	4,389	1,054	2,632
Welfare/SSI income	3,393	956	1,199	367	871
Social Security income	4,934	3,791	448	184	511
Income below 50% poverty	4,447	1,029	1,733	280	1,404
Income below poverty	9,816	2,396	3,838	742	2,840
Income below 150% of poverty	14,616	3,840	5,537	1,213	4,026
High school graduate	13,561	3,534	4,491	1,174	4,362
Two+ years post-high school	3,902	1,003	1,165	331	1,403
Earnings at minimum wage: At least half time	7,984	446	4,075	989	2,474
Earnings at minimum wage: At least full time	6,043	289	3,189	783	1,783
Earnings main source of income	8,841	442	4,425	1,047	2,927
Housing rated poor	1,129	156	516	97	359
Housing rated good+	13,318	4,014	4,315	1,161	3,828
Neighborhood rated poor	1,310	179	638	112	382
Neighborhood rated good+	13,214	3,981	4,304	1,160	3,769
In central cities	8,995	2,231	3,073	823	2,867
Suburbs, urban	5,287	1,554	1,908	459	1,365
Suburbs, rural	1,360	439	488	95	338
Nonmetropolitan	2,425	735	729	213	746
Northeast	3,961	1,218	1,227	393	1,124
Midwest	3,670	1,111	1,145	210	1,203
South	6,358	1,569	2,307	584	1,899
West	4,078	1,062	1,521	404	1,091

NA = Not applicable. (s) = Unweighted counts of 5 or fewer suppressed. SSI = Supplemental Security Income.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-6B. Housing Problems and Characteristics of Extremely Low-Income Renters by Household Type, 2017

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Renter households (thousands)	**11,548**	**3,250**	**4,120**	**877**	**3,301**
Number of children	8,786	NA	8,786	NA	NA
Number of persons	26,188	4,095	16,048	2,145	3,900
Children/household	2.13	NA	2.13	NA	NA
Persons/household	2.27	1.26	3.90	2.45	1.18
Unassisted with severe problems	5,555	1,341	1,985	472	1,757
Unassisted with nonsevere problems only	1,049	215	559	94	180
Unassisted with no problems	908	217	226	97	368
Assisted	4,037	1,476	1,350	214	997
Any with severe problems	**7,362**	**1,933**	**2,684**	**567**	**2,178**
Rent burden >50% of income	7,198	1,915	2,640	562	2,081
Severely inadequate housing	378	58	154	30	136
[Rent burden only]	6,406	1,741	2,315	476	1,873
Any with nonsevere problems only	**2,127**	**651**	**896**	**144**	**436**
Rent burden >30–50% of income	1,848	584	754	129	382
Moderately inadequate housing	321	100	124	12	86
Crowded housing	(s)	(s)	(s)	(s)	(s)
[Rent burden only]	1,570	551	549	120	350
Any with no problems	**2,060**	**665**	**541**	**166**	**687**

(continued)

Table A-6B. Housing Problems and Characteristics of Extremely Low-Income Renters by Household Type, 2017 (continued)

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Other characteristics					
One person in household	5,423	2,577	NA	NA	2,846
Two-spouse household	1,978	394	1,229	356	NA
Female householder	7,657	2,176	3,140	540	1,801
Minority householder	6,733	1,543	2,941	591	1,658
Welfare/SSI income	2,739	781	966	239	753
Social Security income	3,243	2,411	321	107	404
Income below 50% poverty	4,420	1,020	1,731	280	1,389
Income below poverty	9,729	2,379	3,797	736	2,817
Income below 150% of poverty	11,257	3,116	4,091	859	3,191
High school graduate	8,310	2,246	2,870	617	2,577
Two+ years post-high school	2,209	597	663	169	780
Earnings at minimum wage: At least half time	3,524	152	2,159	379	835
Earnings at minimum wage: At least full time	1,904	62	1,342	215	285
Earnings main source of income	4,539	187	2,571	468	1,313
Housing rated poor	817	112	404	46	256
Housing rated good+	8,386	2,641	2,784	618	2,344
Neighborhood rated poor	945	126	469	70	281
Neighborhood rated good+	8,282	2,612	2,768	617	2,285
In central cities	5,880	1,534	2,058	457	1,831
Suburbs, urban	3,152	1,012	1,109	244	788
Suburbs, rural	880	257	363	46	215
Nonmetropolitan	1,635	447	591	130	467
Northeast	2,499	832	777	179	711
Midwest	2,320	700	753	118	748
South	4,245	1,022	1,680	365	1,178
West	2,484	696	910	214	664

NA = Not applicable. (s) = Unweighted counts of 5 or fewer suppressed. SSI = Supplemental Security Income.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-7. Housing Problems and Characteristics of Very Low-Income Worst Case Renters by Household Type, 2017

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Renter households (thousands)	**7,716**	**1,932**	**2,571**	**716**	**2,497**
Number of children	5,115	NA	5,115	NA	NA
Number of persons	17,470	2,562	9,958	1,727	3,223
Children/household	1.99	NA	1.99	NA	NA
Persons/household	2.26	1.33	3.87	2.41	1.29
Unassisted with severe problems	7,716	1,932	2,571	716	2,497
Unassisted with nonsevere problems only	—	—	—	—	—
Unassisted with no problems	—	—	—	—	—
Assisted	—	—	—	—	—
Any with severe problems	**7,716**	**1,932**	**2,571**	**716**	**2,497**
Rent burden >50% of income	7,521	1,916	2,493	701	2,411
Severely inadequate housing	397	50	163	48	135
[Rent burden only]	6,772	1,769	2,242	601	2,161
Any with nonsevere problems only	**—**	**—**	**—**	**—**	**—**
Rent burden >30–50% of income	—	—	—	—	—
Moderately inadequate housing	—	—	—	—	—
Crowded housing	—	—	—	—	—
[Rent burden only]	—	—	—	—	—
Any with no problems	**—**	**—**	**—**	**—**	**—**

(continued)

Table A-7. Housing Problems and Characteristics of Very Low-Income Worst Case Renters by Household Type, 2017 (continued)

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Other characteristics					
One person in household	3,413	1,430	NA	NA	1,983
Two-spouse household	1,643	303	1,000	341	NA
Female householder	4,769	1,269	1,747	400	1,353
Minority householder	4,082	716	1,781	449	1,135
Welfare/SSI income	1,145	281	406	134	324
Social Security income	2,041	1,563	224	70	185
Income below 50% poverty	2,219	558	801	146	714
Income below poverty	4,718	1,013	1,835	400	1,470
Income below 150% of poverty	6,489	1,474	2,369	597	2,049
High school graduate	6,038	1,491	1,879	517	2,150
Two+ years post-high school	1,908	483	500	158	767
Earnings at minimum wage: At least half time	3,435	153	1,635	428	1,218
Earnings at minimum wage: At least full time	2,307	103	1,158	313	733
Earnings main source of income	4,146	178	1,868	486	1,614
Housing rated poor	484	37	217	46	184
Housing rated good+	5,711	1,581	1,810	538	1,783
Neighborhood rated poor	482	42	239	52	148
Neighborhood rated good+	5,779	1,598	1,849	551	1,781
In central cities	3,816	835	1,231	382	1,367
Suburbs, urban	2,472	698	861	229	685
Suburbs, rural	611	178	210	34	189
Nonmetropolitan	816	221	270	71	255
Northeast	1,526	403	467	144	512
Midwest	1,378	448	363	78	489
South	2,844	618	1,005	293	927
West	1,968	463	735	200	570

NA = Not applicable. (s) = Unweighted counts of 5 or fewer suppressed. SSI = Supplemental Security Income.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-8. Housing Problems and Characteristics of Extremely Low-Income Worst Case Renters by Household Type, 2017

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Renter households (thousands)	**5,555**	**1,341**	**1,985**	**472**	**1,757**
Number of children	4,109	NA	4,109	NA	NA
Number of persons	12,952	1,792	7,800	1,140	2,220
Children/household	2.07	NA	2.07	NA	NA
Persons/household	2.33	1.34	3.93	2.42	1.26
Unassisted with severe problems	5,555	1,341	1,985	472	1,757
Unassisted with nonsevere problems only	—	—	—	—	—
Unassisted with no problems	—	—	—	—	—
Assisted	—	—	—	—	—
Any with severe problems	**5,555**	**1,341**	**1,985**	**472**	**1,757**
Rent burden >50% of income	5,453	1,333	1,959	468	1,693
Severely inadequate housing	266	35	106	28	97
[Rent burden only]	4,861	1,211	1,739	393	1,517
Any with nonsevere problems only	**—**	**—**	**—**	**—**	**—**
Rent burden >30–50% of income	—	—	—	—	—
Moderately inadequate housing	—	—	—	—	—
Crowded housing	—	—	—	—	—
[Rent burden only]	—	—	—	—	—
Any with no problems	**—**	**—**	**—**	**—**	**—**

(continued)

Table A-8. Housing Problems and Characteristics of Extremely Low-Income Worst Case Renters by Household Type, 2017 (continued)

	Total	Elderly, No Children	Families with Children	Other Families	Other Nonfamily Households
Other characteristics					
One person in household	2,413	991	NA	NA	1,417
Two-spouse household	1,161	197	750	214	NA
Female householder	3,532	891	1,411	276	955
Minority householder	2,996	553	1,372	284	787
Welfare/SSI income	1,022	244	355	112	311
Social Security income	1,455	1,069	186	49	151
Income below 50% poverty	2,218	558	801	146	713
Income below poverty	4,698	1,012	1,819	398	1,469
Income below 150% of poverty	5,385	1,266	1,965	465	1,689
High school graduate	4,214	998	1,419	324	1,473
Two+ years post-high school	1,204	296	334	87	488
Earnings at minimum wage: At least half time	2,000	67	1,111	217	607
Earnings at minimum wage: At least full time	977	29	654	122	171
Earnings main source of income	2,764	94	1,368	289	1,013
Housing rated poor	378	33	177	25	143
Housing rated good+	4,028	1,089	1,367	342	1,231
Neighborhood rated poor	373	29	188	41	115
Neighborhood rated good+	4,103	1,110	1,408	348	1,237
In central cities	2,759	571	942	252	994
Suburbs, urban	1,665	479	618	136	432
Suburbs, rural	465	121	183	23	138
Nonmetropolitan	666	170	242	61	194
Northeast	1,059	259	342	76	382
Midwest	1,051	327	297	62	366
South	2,130	439	841	205	646
West	1,314	317	506	129	363

NA = Not applicable. SSI = Supplemental Security Income.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-9. Incidence of Housing Problems Among Very Low-Income Renters by Race and Ethnicity, 2015 and 2017—Number and Percentage

	Number		Percentage	
	2015	2017	2015	2017
Non-Hispanic White (thousands)	**8,473**	**7,934**	**100.0**	**100.0**
Unassisted with severe problems	3,778	3,634	44.6	45.8
Unassisted with nonsevere problems only	1,836	1,461	21.7	18.4
Unassisted with no problems	1,072	911	12.7	11.5
Assisted	1,787	1,927	21.1	24.3
Any with severe problems	**4,379**	**4,291**	**51.7**	**54.1**
Rent burden >50% of income	4,302	4,186	50.8	52.8
Severely inadequate housing	176	212	2.1	2.7
[Rent burden only]	3,856	3,764	45.5	47.4
Any with nonsevere problems only	**2,417**	**2,075**	**28.5**	**26.2**
Rent burden >30–50% of income	2,210	1,929	26.1	24.3
Moderately inadequate housing	346	244	4.1	3.1
Crowded housing	132	92	1.6	1.2
[Rent burden only]	1,950	1,746	23.0	22.0
Any with no problems	**1,678**	**1,568**	**19.8**	**19.8**
Non-Hispanic Black (thousands)	**4,813**	**4,561**	**100.0**	**100.0**
Unassisted with severe problems	1,800	1,578	37.4	34.6
Unassisted with nonsevere problems only	906	810	18.8	17.8
Unassisted with no problems	414	339	8.6	7.4
Assisted	1,693	1,835	35.2	40.2
Any with severe problems	**2,495**	**2,365**	**51.8**	**51.9**
Rent burden >50% of income	2,421	2,310	50.3	50.6
Severely inadequate housing	151	106	3.1	2.3
[Rent burden only]	2,130	2,091	44.2	45.8
Any with nonsevere problems only	**1,389**	**1,307**	**28.9**	**28.7**
Rent burden >30–50% of income	1,261	1,182	26.2	25.9
Moderately inadequate housing	246	171	5.1	3.7
Crowded housing	65	83	1.3	1.8
[Rent burden only]	1,090	1,063	22.6	23.3
Any with no problems	**929**	**890**	**19.3**	**19.5**

(continued)

Table A-9. Incidence of Housing Problems Among Very Low-Income Renters by Race and Ethnicity, 2015 and 2017—Number and Percentage (continued)

	Number		Percentage	
	2015	2017	2015	2017
Hispanic (thousands)	**4,441**	**4,083**	**100.0**	**100.0**
Unassisted with severe problems	2,104	1,884	47.4	46.1
Unassisted with nonsevere problems only	1,100	916	24.8	22.4
Unassisted with no problems	361	336	8.1	8.2
Assisted	875	947	19.7	23.2
Any with severe problems	**2,482**	**2,295**	**55.9**	**56.2**
Rent burden >50% of income	2,429	2,213	54.7	54.2
Severely inadequate housing	140	161	3.2	3.9
[Rent burden only]	2,119	1,965	47.7	48.1
Any with nonsevere problems only	**1,384**	**1,246**	**31.2**	**30.5**
Rent burden >30–50% of income	1,263	1,140	28.4	27.9
Moderately inadequate housing	153	120	3.4	2.9
Crowded housing	248	252	5.6	6.2
[Rent burden only]	1,009	898	22.7	22.0
Any with no problems	**575**	**542**	**12.9**	**13.3**

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-10. Incidence of Housing Problems Among Very Low-Income Renters by Region, 2015 and 2017—Number and Percentage

	Number		Percentage	
	2015	2017	2015	2017
Northeast (thousands)	**3,983**	**3,961**	**100.0**	**100.0**
Unassisted with severe problems	1,593	1,526	40.0	38.5
Unassisted with nonsevere problems only	725	683	18.2	17.2
Unassisted with no problems	393	376	9.9	9.5
Assisted	1,271	1,377	31.9	34.8
Any with severe problems	**2,092**	**2,088**	**52.5**	**52.7**
Rent burden >50% of income	2,015	1,990	50.6	50.2
Severely inadequate housing	189	198	4.8	5.0
[Rent burden only]	1,690	1,709	42.4	43.1
Any with nonsevere problems only	**1,143**	**1,085**	**28.7**	**27.4**
Rent burden >30–50% of income	1,035	1,015	26.0	25.6
Moderately inadequate housing	185	94	4.6	2.4
Crowded housing	70	98	1.8	2.5
[Rent burden only]	898	896	22.5	22.6
Any with no problems	**748**	**789**	**18.8**	**19.9**
Midwest (thousands)	**4,053**	**3,670**	**100.0**	**100.0**
Unassisted with severe problems	1,512	1,378	37.3	37.5
Unassisted with nonsevere problems only	1,003	767	24.7	20.9
Unassisted with no problems	453	400	11.2	10.9
Assisted	1,085	1,126	26.8	30.7
Any with severe problems	**1,901**	**1,757**	**46.9**	**47.9**
Rent burden >50% of income	1,854	1,697	45.8	46.2
Severely inadequate housing	89	93	2.2	2.5
[Rent burden only]	1,667	1,552	41.1	42.3
Any with nonsevere problems only	**1,335**	**1,118**	**32.9**	**30.5**
Rent burden >30–50% of income	1,233	1,048	30.4	28.6
Moderately inadequate housing	167	127	4.1	3.5
Crowded housing	71	65	1.7	1.8
[Rent burden only]	1,116	934	27.5	25.4
Any with no problems	**817**	**795**	**20.2**	**21.7**

(continued)

Table A-10. Incidence of Housing Problems Among Very Low-Income Renters by Region, 2015 and 2017—Number and Percentage (continued)

	Number		Percentage	
	2015	2017	2015	2017
South (thousands)	**6,696**	**6,358**	**100.0**	**100.0**
Unassisted with severe problems	2,928	2,844	43.7	44.7
Unassisted with nonsevere problems only	1,456	1,278	21.7	20.1
Unassisted with no problems	812	643	12.1	10.1
Assisted	1,501	1,593	22.4	25.1
Any with severe problems	**3,494**	**3,475**	**52.2**	**54.7**
Rent burden >50% of income	3,444	3,438	51.4	54.1
Severely inadequate housing	114	115	1.7	1.8
[Rent burden only]	3,093	3,112	46.2	48.9
Any with nonsevere problems only	**1,867**	**1,767**	**27.9**	**27.8**
Rent burden >30–50% of income	1,682	1,590	25.1	25.0
Moderately inadequate housing	316	261	4.7	4.1
Crowded housing	142	137	2.1	2.2
[Rent burden only]	1,421	1,386	21.2	21.8
Any with no problems	**1,335**	**1,116**	**19.9**	**17.6**
West (thousands)	**4,503**	**4,078**	**100.0**	**100.0**
Unassisted with severe problems	2,270	1,968	50.4	48.3
Unassisted with nonsevere problems only	939	702	20.9	17.2
Unassisted with no problems	357	313	7.9	7.7
Assisted	937	1,095	20.8	26.9
Any with severe problems	**2,647**	**2,453**	**58.8**	**60.2**
Rent burden >50% of income	2,596	2,373	57.7	58.2
Severely inadequate housing	117	128	2.6	3.1
[Rent burden only]	2,324	2,169	51.6	53.2
Any with nonsevere problems only	**1,279**	**1,047**	**28.4**	**25.7**
Rent burden >30–50% of income	1,172	951	26.0	23.3
Moderately inadequate housing	142	95	3.1	2.3
Crowded housing	198	197	4.4	4.8
[Rent burden only]	950	770	21.1	18.9
Any with no problems	**578**	**577**	**12.8**	**14.1**

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-11A. Incidence of Housing Problems Among Very Low-Income Renters by Metropolitan Location, 2015 and 2017—Number and Percentage

	Number		Percentage	
	2015	2017	2015	2017
Central cities (thousands)	**9,513**	**8,995**	**100.0**	**100.0**
Unassisted with severe problems	4,202	3,816	44.2	42.4
Unassisted with nonsevere problems only	1,951	1,613	20.5	17.9
Unassisted with no problems	872	783	9.2	8.7
Assisted	2,489	2,783	26.2	30.9
Any with severe problems	**5,202**	**4,989**	**54.7**	**55.5**
Rent burden >50% of income	5,080	4,828	53.4	53.7
Severely inadequate housing	296	313	3.1	3.5
[Rent burden only]	4,435	4,302	46.6	47.8
Any with nonsevere problems only	**2,739**	**2,421**	**28.8**	**26.9**
Rent burden >30–50% of income	2,496	2,226	26.2	24.7
Moderately inadequate housing	419	261	4.4	2.9
Crowded housing	240	284	2.5	3.2
[Rent burden only]	2,116	1,902	22.2	21.1
Any with no problems	**1,572**	**1,585**	**16.5**	**17.6**
Suburbs, urban (thousands)	**5,775**	**5,287**	**100.0**	**100.0**
Unassisted with severe problems	2,820	2,472	48.8	46.8
Unassisted with nonsevere problems only	1,157	1,059	20.0	20.0
Unassisted with no problems	589	468	10.2	8.9
Assisted	1,209	1,287	20.9	24.3
Any with severe problems	**3,294**	**2,976**	**57.0**	**56.3**
Rent burden >50% of income	3,236	2,921	56.0	55.2
Severely inadequate housing	131	98	2.3	1.9
[Rent burden only]	2,913	2,691	50.4	50.9
Any with nonsevere problems only	**1,536**	**1,460**	**26.6**	**27.6**
Rent burden >30–50% of income	1,426	1,374	24.7	26.0
Moderately inadequate housing	179	135	3.1	2.6
Crowded housing	155	142	2.7	2.7
[Rent burden only]	1,213	1,192	21.0	22.5
Any with no problems	**945**	**851**	**16.4**	**16.1**

(continued)

Table A-11A. Incidence of Housing Problems Among Very Low-Income Renters by Metropolitan Location, 2015 and 2017—Number and Percentage (continued)

	Number		Percentage	
	2015	2017	2015	2017
Suburbs, rural (thousands)	**1,459**	**1,360**	**100.0**	**100.0**
Unassisted with severe problems	507	611	34.8	44.9
Unassisted with nonsevere problems only	409	255	28.0	18.8
Unassisted with no problems	239	178	16.4	13.1
Assisted	304	317	20.8	23.3
Any with severe problems	**602**	**733**	**41.3**	**53.9**
Rent burden >50% of income	584	710	40.0	52.2
Severely inadequate housing	33	56	2.3	4.1
[Rent burden only]	491	623	33.7	45.8
Any with nonsevere problems only	**505**	**352**	**34.6**	**25.9**
Rent burden >30–50% of income	464	311	31.8	22.9
Moderately inadequate housing	57	55	3.9	4.0
Crowded housing	37	29	2.5	2.1
[Rent burden only]	411	272	28.2	20.0
Any with no problems	**352**	**275**	**24.1**	**20.2**
Nonmetropolitan (thousands)	**2,488**	**2,425**	**100.0**	**100.0**
Unassisted with severe problems	774	816	31.1	33.6
Unassisted with nonsevere problems only	607	503	24.4	20.7
Unassisted with no problems	315	302	12.7	12.5
Assisted	792	803	31.8	33.1
Any with severe problems	**1,036**	**1,074**	**41.7**	**44.3**
Rent burden >50% of income	1,009	1,039	40.6	42.8
Severely inadequate housing	48	66	1.9	2.7
[Rent burden only]	936	925	37.6	38.1
Any with nonsevere problems only	**843**	**784**	**33.9**	**32.3**
Rent burden >30–50% of income	736	694	29.6	28.6
Moderately inadequate housing	154	127	6.2	5.2
Crowded housing	49	42	2.0	1.7
[Rent burden only]	646	619	26.0	25.5
Any with no problems	**609**	**566**	**24.5**	**23.3**

(continued)

Table A-11A. Incidence of Housing Problems Among Very Low-Income Renters by Metropolitan Location, 2015 and 2017—Number and Percentage (continued)

	Number		Percentage	
	2015	2017	2015	2017
U.S. Total (thousands)	**19,235**	**18,067**	**100.0**	**100.0**
Unassisted with severe problems	8,303	7,715	43.2	42.7
Unassisted with nonsevere problems only	4,123	3,430	21.4	19.0
Unassisted with no problems	2,015	1,731	10.5	9.6
Assisted	4,794	5,190	24.9	28.7
Any with severe problems	**10,134**	**9,772**	**52.7**	**54.1**
Rent burden >50% of income	9,910	9,498	51.5	52.6
Severely inadequate housing	509	533	2.6	3.0
[Rent burden only]	8,774	8,541	45.6	47.3
Any with nonsevere problems only	**5,624**	**5,017**	**29.2**	**27.8**
Rent burden >30–50% of income	5,122	4,605	26.6	25.5
Moderately inadequate housing	809	578	4.2	3.2
Crowded housing	480	497	2.5	2.8
[Rent burden only]	4,385	3,985	22.8	22.1
Any with no problems	**3,477**	**3,277**	**18.1**	**18.1**

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-11B. Housing Conditions of Renter Households by Relative Income, Sampled Metropolitan Areas, 2015 and 2017

	Household Income as Percentage of HUD-Adjusted Area Median Family Income			
	2015		2017	
	0–50%	All Incomes	0–50%	All Incomes
Atlanta-Sandy Springs-Roswell, GA				
Total households (thousands)	**259**	**729**	**245**	**794**
Unassisted with severe problems	127		131	
Unassisted with nonsevere problems only	52		39	
Unassisted with no problems	30		22	
Assisted	51		53	
Boston-Cambridge-Newton, MA-NH				
Total households (thousands)	**300**	**708**	**313**	**715**
Unassisted with severe problems	93		100	
Unassisted with nonsevere problems only	41		28	
Unassisted with no problems	20		29	
Assisted	146		156	
Chicago-Naperville-Elgin, IL-IN-WI				
Total households (thousands)	**567**	**1,289**	**509**	**1,238**
Unassisted with severe problems	242		204	
Unassisted with nonsevere problems only	112		92	
Unassisted with no problems	57		58	
Assisted	157		155	
Dallas-Fort Worth-Arlington, TX				
Total households (thousands)	**365**	**1,019**	**332**	**1,060**
Unassisted with severe problems	177		159	
Unassisted with nonsevere problems only	112		83	
Unassisted with no problems	22		35	
Assisted	54		54	
Detroit-Warren-Dearborn, MI				
Total households (thousands)	**251**	**524**	**243**	**527**
Unassisted with severe problems	115		105	
Unassisted with nonsevere problems only	54		49	
Unassisted with no problems	27		23	
Assisted	57		65	
Houston-The Woodlands-Sugar Land, TX				
Total households (thousands)	**347**	**892**	**362**	**897**
Unassisted with severe problems	159		177	
Unassisted with nonsevere problems only	101		91	
Unassisted with no problems	37		43	
Assisted	50		51	

(continued)

Table A-11B. Housing Conditions of Renter Households by Relative Income, Sampled Metropolitan Areas, 2015 and 2017 (continued)

	Household Income as Percentage of HUD-Adjusted Area Median Family Income			
	2015		2017	
	0–50%	All Incomes	0–50%	All Incomes
Los Angeles-Long Beach-Anaheim, CA				
Total households (thousands)	**1,041**	**2,328**	**968**	**2,281**
Unassisted with severe problems	567		459	
Unassisted with nonsevere problems only	220		210	
Unassisted with no problems	90		86	
Assisted	164		213	
Miami-Fort Lauderdale-West Palm Beach, FL				
Total households (thousands)	**373**	**860**	**384**	**854**
Unassisted with severe problems	227		211	
Unassisted with nonsevere problems only	43		54	
Unassisted with no problems	29		39	
Assisted	73		80	
New York-Newark-Jersey City, NY-NJ-PA				
Total households (thousands)	**1,834**	**3,705**	**1,712**	**3,644**
Unassisted with severe problems	815		678	
Unassisted with nonsevere problems only	281		269	
Unassisted with no problems	174		168	
Assisted	563		596	
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD				
Total households (thousands)	**342**	**722**	**336**	**734**
Unassisted with severe problems	145		147	
Unassisted with nonsevere problems only	74		61	
Unassisted with no problems	39		29	
Assisted	85		98	
Phoenix-Mesa-Scottsdale, AZ				
Total households (thousands)	**227**	**622**	**189**	**593**
Unassisted with severe problems	124		97	
Unassisted with nonsevere problems only	63		37	
Unassisted with no problems	15		20	
Assisted	26		35	
Riverside-San Bernardino-Ontario, CA				
Total households (thousands)	**215**	**536**	**158**	**479**
Unassisted with severe problems	123		91	
Unassisted with nonsevere problems only	33		19	
Unassisted with no problems	28		19	
Assisted	30		30	

(continued)

Table A-11B. Housing Conditions of Renter Households by Relative Income, Sampled Metropolitan Areas, 2015 and 2017 (continued)

	Household Income as Percentage of HUD-Adjusted Area Median Family Income			
	2015		2017	
	0–50%	All Incomes	0–50%	All Incomes
San Francisco-Oakland-Hayward, CA				
Total households (thousands)	**287**	**791**	**274**	**774**
Unassisted with severe problems	142		110	
Unassisted with nonsevere problems only	40		48	
Unassisted with no problems	22		26	
Assisted	84		89	
Seattle-Tacoma-Bellevue, WA				
Total households (thousands)	**199**	**604**	**202**	**614**
Unassisted with severe problems	83		84	
Unassisted with nonsevere problems only	46		32	
Unassisted with no problems	17		21	
Assisted	54		65	
Washington-Arlington-Alexandria, DC-VA-MD-WV				
Total households (thousands)	**343**	**809**	**292**	**802**
Unassisted with severe problems	141		126	
Unassisted with nonsevere problems only	95		58	
Unassisted with no problems	33		25	
Assisted	74		82	
Baltimore-Columbia-Towson, MD				
Total households (thousands)	**—**	**—**	**291**	**673**
Unassisted with severe problems	—		124	
Unassisted with nonsevere problems only	—		57	
Unassisted with no problems	—		23	
Assisted	—		87	
Birmingham-Hoover, AL				
Total households (thousands)	**—**	**—**	**120**	**279**
Unassisted with severe problems	—		52	
Unassisted with nonsevere problems only	—		15	
Unassisted with no problems	—		6	
Assisted	—		47	
Cincinnati, OH-KY-IN				
Total households (thousands)	**127**	**281**	**—**	**—**
Unassisted with severe problems	47		—	
Unassisted with nonsevere problems only	28		—	
Unassisted with no problems	16		—	
Assisted	36		—	

(continued)

Table A-11B. Housing Conditions of Renter Households by Relative Income, Sampled Metropolitan Areas, 2015 and 2017 (continued)

	Household Income as Percentage of HUD-Adjusted Area Median Family Income			
	2015		2017	
	0–50%	All Incomes	0–50%	All Incomes
Cleveland-Elyria, OH				
Total households (thousands)	**159**	**301**	**—**	**—**
Unassisted with severe problems	62		—	
Unassisted with nonsevere problems only	43		—	
Unassisted with no problems	12		—	
Assisted	42		—	
Denver-Aurora-Lakewood, CO				
Total households (thousands)	**140**	**395**	**—**	**—**
Unassisted with severe problems	60		—	
Unassisted with nonsevere problems only	33		—	
Unassisted with no problems	16		—	
Assisted	31		—	
Kansas City, MO-KS				
Total households (thousands)	**121**	**293**	**—**	**—**
Unassisted with severe problems	41		—	
Unassisted with nonsevere problems only	34		—	
Unassisted with no problems	14		—	
Assisted	32		—	
Las Vegas-Henderson-Paradise, NV				
Total households (thousands)	**—**	**—**	**242**	**784**
Unassisted with severe problems	—		132	
Unassisted with nonsevere problems only	—		50	
Unassisted with no problems	—		21	
Assisted	—		39	
Memphis, TN-MS-AR				
Total households (thousands)	**90**	**201**	**—**	**—**
Unassisted with severe problems	44		—	
Unassisted with nonsevere problems only	18		—	
Unassisted with no problems	12		—	
Assisted	16		—	
Milwaukee-Waukesha-West Allis, WI				
Total households (thousands)	**115**	**248**	**—**	**—**
Unassisted with severe problems	50		—	
Unassisted with nonsevere problems only	33		—	
Unassisted with no problems	9		—	
Assisted	24		—	

(continued)

Table A-11B. Housing Conditions of Renter Households by Relative Income, Sampled Metropolitan Areas, 2015 and 2017 (continued)

	Household Income as Percentage of HUD-Adjusted Area Median Family Income			
	2015		2017	
	0–50%	All Incomes	0–50%	All Incomes
Minneapolis-St. Paul-Bloomington, MN-WI				
Total households (thousands)	**—**	**—**	**392**	**866**
Unassisted with severe problems	—		138	
Unassisted with nonsevere problems only	—		79	
Unassisted with no problems	—		28	
Assisted	—		146	
New Orleans-Metairie, LA				
Total households (thousands)	**76**	**191**	**—**	**—**
Unassisted with severe problems	31		—	
Unassisted with nonsevere problems only	10		—	
Unassisted with no problems	9		—	
Assisted	28		—	
Oklahoma City, OK				
Total households (thousands)	**—**	**—**	**131**	**331**
Unassisted with severe problems	—		53	
Unassisted with nonsevere problems only	—		35	
Unassisted with no problems	—		19	
Assisted	—		23	
Pittsburgh, PA				
Total households (thousands)	**141**	**313**	**—**	**—**
Unassisted with severe problems	43		—	
Unassisted with nonsevere problems only	33		—	
Unassisted with no problems	21		—	
Assisted	44		—	
Portland-Vancouver-Hillsboro, OR-WA				
Total households (thousands)	**125**	**349**	**—**	**—**
Unassisted with severe problems	56		—	
Unassisted with nonsevere problems only	29		—	
Unassisted with no problems	8		—	
Assisted	32		—	
Raleigh, NC				
Total households (thousands)	**63**	**166**	**—**	**—**
Unassisted with severe problems	25		—	
Unassisted with nonsevere problems only	19		—	
Unassisted with no problems	9		—	
Assisted	11		—	

(continued)

Table A-11B. Housing Conditions of Renter Households by Relative Income, Sampled Metropolitan Areas, 2015 and 2017 (continued)

	Household Income as Percentage of HUD-Adjusted Area Median Family Income			
	2015		2017	
	0–50%	All Incomes	0–50%	All Incomes
Richmond, VA				
Total households (thousands)	**—**	**—**	**131**	**303**
Unassisted with severe problems	—		55	
Unassisted with nonsevere problems only	—		23	
Unassisted with no problems	—		24	
Assisted	—		29	
Rochester, NY				
Total households (thousands)	**—**	**—**	**142**	**280**
Unassisted with severe problems	—		50	
Unassisted with nonsevere problems only	—		15	
Unassisted with no problems	—		5	
Assisted	—		72	
San Antonio-New Braunfels, TX				
Total households (thousands)	**—**	**—**	**207**	**631**
Unassisted with severe problems	—		105	
Unassisted with nonsevere problems only	—		46	
Unassisted with no problems	—		9	
Assisted	—		47	
San Jose-Sunnyvale-Santa Clara, CA				
Total households (thousands)	**—**	**—**	**182**	**647**
Unassisted with severe problems	—		85	
Unassisted with nonsevere problems only	—		33	
Unassisted with no problems	—		21	
Assisted	—		44	
Tampa-St. Petersburg-Clearwater, FL				
Total households (thousands)	**—**	**—**	**278**	**825**
Unassisted with severe problems	—		165	
Unassisted with nonsevere problems only	—		43	
Unassisted with no problems	—		27	
Assisted	—		44	

Note: Each of the 15 largest metropolitan areas, listed first, are part of the AHS longitudinal panel surveyed every 2 years. The remaining 10 metropolitan areas represent a subset of the 16th to 50th largest metropolitan areas surveyed on a rotating basis every 4 years.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-12. Households Occupying Rental Units by Affordability of Rent and Income of Occupants, 2015 and 2017

Relative Income of Households	Occupied and Vacant Rental Units (thousands) by Unit Affordability Category (percent of HAMFI needed to afford the highest rent in the category)												
2017	**10***	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**>110**	**Total**
Extremely low income (<30% HAMFI)	801	1,583	1,839	703	1,782	1,822	890	955	321	165	205	483	11,548
Very low income (30–50%)	145	326	511	505	1,242	1,304	700	820	273	123	218	351	6,519
Low income (50–80%)	243	280	476	364	1,315	1,698	1,288	1,246	531	301	305	590	8,637
Middle income or higher (>80%)	304	478	624	330	1,311	2,193	2,200	2,604	1,751	1,381	1,678	2,433	17,289
Vacant units for rent	122	89	160	236	616	770	579	603	371	261	355	664	4,827
Total units vacant and occupied	1,616	2,757	3,610	2,138	6,265	7,788	5,657	6,228	3,246	2,231	2,761	4,522	48,820
2015													
Extremely low income (<30% HAMFI)	818	1,607	1,341	1,132	1,757	1,533	1,040	649	436	246	197	534	11,290
Very low income (30–50%)	272	437	387	757	1,465	1,612	1,137	634	415	270	164	398	7,945
Low income (50–80%)	226	371	259	556	1,310	1,726	1,405	1,015	663	348	240	579	8,696
Middle income or higher (>80%)	278	511	339	431	1,250	1,981	2,405	2,154	1,821	1,234	928	2,667	15,999
Vacant units for rent	89	56	128	319	686	815	692	510	363	230	180	672	4,740
Total units vacant and occupied	1,682	2,982	2,453	3,194	6,468	7,667	6,679	4,962	3,699	2,328	1,708	4,849	48,670

HAMFI = HUD Area Median Family Income.
* The 10-percent-of-HAMFI category includes units occupied with no cash rent.
Note: The method of assigning units to cost categories was modified in 2017 to account for limited HUD administrative exceptions to program income limits. Slight unit affordability adjustments were applied to outlier cases for which Area Median Income-determined affordability differed from administratively determined affordability categories.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-13. Renters and Rental Units Affordable and Available to Them by Relative Income, 2001–2017

	2001	2003	2005	2007	2009	2011	2013	2015	2017
Renter households (thousands)	**34,042**	**33,614**	**33,951**	**35,054**	**35,396**	**38,867**	**40,294**	**43,930**	**43,993**
Extremely low-income (<30% HAMFI)	8,739	9,077	9,729	9,243	9,961	11,774	11,163	11,290	11,548
Very low-income (30–50%)	6,315	6,581	6,342	6,697	7,157	7,492	7,375	7,945	6,519
Low-income (50–80%)	7,251	7,460	7,488	7,650	7,168	7,750	7,795	8,696	8,637
Middle-income or higher (>80%)	11,737	10,496	10,392	11,464	11,110	11,850	13,961	15,999	17,289
Affordable units	**37,197**	**37,577**	**37,924**	**39,330**	**39,744**	**43,075**	**43,992**	**48,670**	**48,820**
Extremely low-income (<30% HAMFI)	6,870	7,098	6,747	7,280	6,265	6,854	7,294	7,117	7,982
Very low-income (30–50%)	12,366	12,863	12,368	11,071	10,938	10,947	10,727	9,643	8,404
Low-income (50–80%)	13,634	13,518	14,044	15,063	16,228	17,995	17,904	19,326	19,674
Middle-income or higher (>80%)	4,328	4,099	4,765	5,916	6,313	7,279	8,067	12,584	12,760
Affordable and available units	**37,197**	**37,577**	**37,924**	**39,330**	**39,744**	**43,075**	**43,992**	**48,670**	**48,820**
Extremely low-income (<30% HAMFI)	3,803	3,996	3,982	4,224	3,665	4,220	4,354	4,278	4,595
Very low-income (30–50%)	8,132	8,744	8,549	7,786	8,045	8,225	7,734	7,576	6,066
Low-income (50–80%)	11,665	12,396	12,865	13,196	14,004	15,361	14,529	15,862	15,353
Middle-income or higher (>80%)	13,597	12,441	12,528	14,123	14,029	15,270	17,375	20,955	22,806

HAMFI = HUD-adjusted area median family income.
Note: Income categories in this table do not overlap and therefore differ from the standard definitions. The method of assigning units to cost categories was modified in 2017 to account for limited HUD administrative exceptions to program income limits. Slight unit affordability adjustments were applied to outlier cases for which Area Median Income-determined affordability differed from administratively determined affordability categories.
Source: HUD-PD&R tabulations of the American Housing Survey

Table A-14. Average Income and Average Gross Rent of Renter Households by Relative Income, 2015 and 2017

	Household Income as Percentage of HUD-Adjusted Area Median Family Income					
2017	**0–30%**	**>30–50%**	**>50–80%**	**>80–120%**	**>120%**	**All Incomes**
Total households (thousands)	**11,548**	**6,519**	**8,637**	**7,306**	**9,983**	**43,993**
Unassisted with severe problems	5,555	2,161	973	277	232	9,198
Unassisted with nonsevere problems only	1,049	2,381	3,804	1,768	1,180	10,181
Unassisted with no problems	908	823	3,220	5,003	8,272	18,226
Assisted	4,037	1,154	641	259	298	6,388
Average monthly income	**$850**	**$2,136**	**$3,306**	**$4,726**	**$10,300**	**$4,310**
Unassisted with severe problems	$868	$2,067	$3,162	$3,383	$11,060	$1,725
Unassisted with nonsevere problems only	$1,355	$2,273	$3,343	$4,716	$9,047	$3,787
Unassisted with no problems	$533	$2,144	$3,335	$4,818	$10,510	$6,805
Assisted	$765	$1,974	$3,170	$4,455	$8,791	$1,749
Average gross rent	**$790**	**$1,010**	**$1,109**	**$1,281**	**$1,594**	**$1,149**
Unassisted with severe problems	$1,101	$1,491	$2,358	$4,464	$5,344	$1,534
Unassisted with nonsevere problems only	$569	$887	$1,169	$1,622	$2,087	$1,226
Unassisted with no problems	$492	$399	$708	$1,000	$1,434	$1,093
Assisted	$487	$800	$869	$965	$1,179	$633
2015						
Total households (thousands)	**11,290**	**7,945**	**8,696**	**7,051**	**8,948**	**43,930**
Unassisted with severe problems	5,821	2,482	880	258	210	9,651
Unassisted with nonsevere problems only	779	3,344	3,755	1,684	893	10,455
Unassisted with no problems	988	1,027	3,623	4,908	7,720	18,265
Assisted	3,702	1,092	438	202	125	5,559
Average monthly income	**$760**	**$1,988**	**$3,148**	**$4,545**	**$9,731**	**$3,890**
Unassisted with severe problems	$806	$1,895	$3,024	$3,901	$7,211	$1,510
Unassisted with nonsevere problems only	$1,072	$2,081	$3,173	$4,477	$8,637	$3,344
Unassisted with no problems	$470	$2,004	$3,173	$4,617	$9,934	$6,207
Assisted	$699	$1,896	$2,974	$4,197	$9,279	$1,433
Average gross rent	**$763**	**$961**	**$1,014**	**$1,172**	**$1,479**	**$1,060**
Unassisted with severe problems	$1,038	$1,537	$2,190	$3,344	$3,841	$1,394
Unassisted with nonsevere problems only	$578	$801	$1,091	$1,514	$1,938	$1,100
Unassisted with no problems	$388	$364	$682	$953	$1,370	$1,012
Assisted	$470	$708	$731	$885	$968	$564

Source: HUD-PD&R tabulations of the American Housing Survey

Table A-15. Housing Conditions of Households Having Nonelderly People with Disabilities by Disability Type, 2015 and 2017

	Functional Limitations					ADL/IADL Limitations[a]	
2017	Any Limitation	Hearing	Visual	Cognitive	Ambulatory	Self-Care	Independent Living
Households (thousands)	**12,360**	**3,071**	**2,558**	**5,202**	**5,423**	**1,885**	**3,633**
Renter households	5,750	1,146	1,300	2,710	2,669	923	1,819
Owner households	6,613	1,925	1,258	2,492	2,754	962	1,815
Renters (thousands)	**5,750**	**1,146**	**1,300**	**2,710**	**2,669**	**923**	**1,819**
Unassisted with severe problems	1,442	234	334	735	721	280	524
Unassisted with nonsevere problems only	1,293	284	325	562	542	159	325
Unassisted with no problems	1,604	378	343	653	580	184	377
Assisted	1,412	250	298	760	827	299	594
Very low-income renters (thousands)	**1,260**	**215**	**269**	**560**	**562**	**199**	**385**
Unassisted with severe problems	344	71	56	180	162	63	130
Unassisted with nonsevere problems only	493	87	157	179	192	59	120
Unassisted with no problems	192	24	24	92	82	36	37
Assisted	231	33	33	109	126	41	98
Any with severe problems	**377**	**81**	**63**	**194**	**185**	**68**	**146**
Rent burden >50% of income	332	72	53	162	156	62	129
Severely inadequate housing	45	8	11	32	28	6	17
[Rent burden only]	299	71	46	149	134	56	110
Any with nonsevere problems only	**601**	**101**	**175**	**239**	**248**	**84**	**165**
Rent burden >30–50% of income	551	93	156	220	234	80	155
Moderately inadequate housing	90	8	17	39	36	18	22
Crowded housing	57	12	24	23	17	11	17
[Rent burden only]	459	84	136	178	199	57	128
Any with no problems	**282**	**33**	**32**	**127**	**130**	**46**	**74**

(continued)

Table A-15. Housing Conditions of Households Having Nonelderly People with Disabilities by Disability Type, 2015 and 2017 (continued)

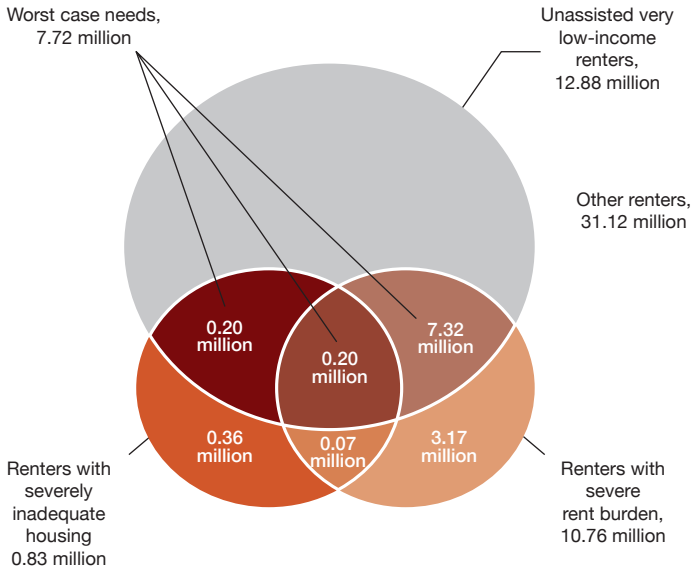
	Functional Limitations					ADL/IADL Limitations[a]	
2015							
Households (thousands)	**12,588**	**3,060**	**2,647**	**5,119**	**5,626**	**1,836**	**3,614**
Renter households	5,740	1,077	1,339	2,602	2,746	888	1,755
Owner households	6,849	1,983	1,308	2,517	2,880	948	1,859
Renters (thousands)	**5,740**	**1,077**	**1,339**	**2,602**	**2,746**	**888**	**1,755**
Unassisted with severe problems	1,507	302	393	745	729	292	476
Unassisted with nonsevere problems only	1,297	246	311	557	578	152	362
Unassisted with no problems	1,567	350	316	603	667	198	387
Assisted	1,369	179	319	698	773	246	529
Very low-income renters (thousands)	**1,581**	**294**	**416**	**732**	**778**	**227**	**463**
Unassisted with severe problems	387	79	117	189	200	75	123
Unassisted with nonsevere problems only	716	124	182	331	351	94	197
Unassisted with no problems	235	60	54	91	117	21	66
Assisted	243	31	63	122	110	37	78
Any with severe problems	**423**	**88**	**129**	**197**	**217**	**79**	**134**
Rent burden >50% of income	382	83	117	171	192	69	117
Severely inadequate housing	49	12	13	33	25	(s)	23
[Rent burden only, adequate housing]	352	73	108	152	179	66	103
Any with nonsevere problems only	**808**	**131**	**191**	**386**	**396**	**113**	**233**
Rent burden >30–50% of income	742	116	170	343	362	103	217
Moderately inadequate housing	128	21	38	76	57	13	43
Crowded housing	56	9	8	27	27	8	21
[Rent burden only]	630	101	145	290	315	93	173
Any with no problems	**351**	**75**	**95**	**149**	**164**	**35**	**96**

[a] ADL = Activities of Daily Living. IADL = Instrumental Activities of Daily Living.
(s) = Unweighted counts of 5 or fewer suppressed.
Source: HUD-PD&R tabulations of the American Housing Survey

Appendix

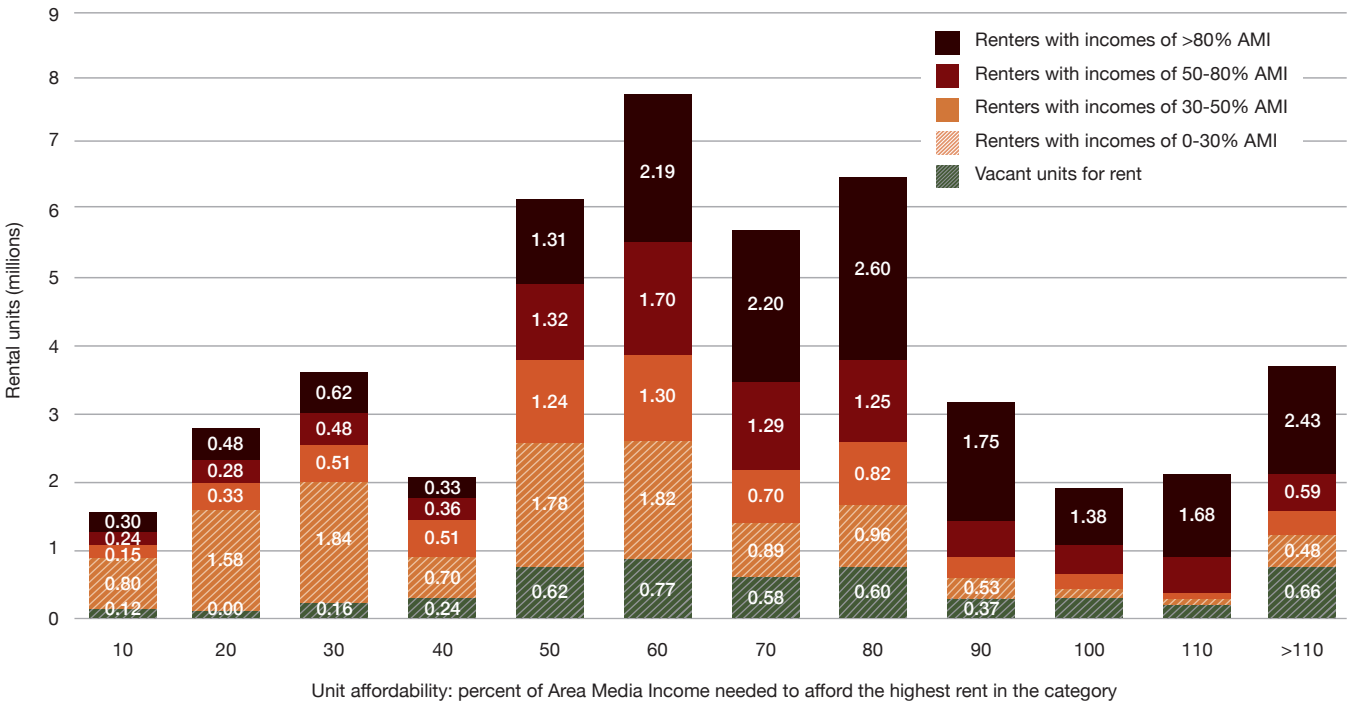
B Supplemental Exhibits

Exhibit B-1. Bird's-Eye View of Worst Case Housing Needs in 2017



Note: Not to scale.
Source: HUD-PD&R tabulations of American Housing Survey data

Exhibit B-2. Affordable Rental Units Occupied by Higher Income Renters, 2017



Source: HUD-PD&R tabulations of American Housing Survey data

Exhibit B-3. Rental Stock of Below-FMR Units by Region and Metropolitan Location, 2017

	Households (thousands)	Housing Units (thousands)			Housing Units per 100 Households		
		Affordable	Affordable and Available	Affordable, Available, and Adequate	Affordable	Affordable and Available	Affordable, Available, and Adequate
All	**25,611**	**28,476**	**21,055**	**19,267**	**111.2**	**82.2**	**75.2**
Northeast	5,252	5,538	4,329	3,894	105.4	82.4	74.1
Midwest	4,552	5,675	3,994	3,656	124.7	87.7	80.3
South	9,346	10,646	7,831	7,197	113.9	83.8	77.0
West	6,461	6,618	4,901	4,520	102.4	75.9	70.0
Central cities	12,501	13,005	10,105	9,186	104.0	80.8	73.5
Suburbs, urban	7,940	8,555	6,132	5,707	107.7	77.2	71.9
Suburbs, rural	2,074	2,715	1,888	1,717	130.9	91.0	82.8
Nonmetropolitan areas	3,096	4,201	2,930	2,657	135.7	94.6	85.8

FMR = Fair Market Rent.
Source: HUD-PD&R tabulations of the American Housing Survey

Appendix C

Federal Housing Assistance and Affordable Housing Programs

HUD provides rental housing assistance through three key programs.[56]

1. **Public housing.** This program provides affordable housing to approximately 1.0 million households through units owned and managed by local public housing agencies. Families are required to pay 30 percent of their incomes for rent.

2. **Project-based assisted housing.** This program provides assistance to 1.2 million households living in privately owned rental housing. The assistance is attached to the units, which are reserved for low-income families who are required to pay 30 percent of their incomes for rent.

3. **Tenant-based rental assistance.** The Housing Choice Voucher Program supplements the rent payments of 2.3 million households in the private rental market. The program is administered through state and local housing agencies. Although 30 percent of income is the rent baseline, families often pay more and use these portable subsidies to locate housing of their choice.

Several other federal housing programs produce affordable housing, typically with shallower subsidies. Although these units often are more affordable than market-rate units, without additional rent subsidies (such as vouchers), extremely low-income families would often have to pay much more than 30 percent of their incomes under these programs.

- **Low-Income Housing Tax Credit (LIHTC) Program.** Tax credits offered to investors by the U.S. Department of the Treasury subsidize the capital costs of units that have rents affordable to households with incomes not exceeding 60 percent of area median income.

[56] The number of households assisted by key programs based on HUD administrative records are available through the *Picture of Subsidized Households* query tool at https://www.huduser.gov/portal/datasets/assthsg.html.

- **HOME Investment Partnerships Program.** This program provides annual formula grants to state and local governments that can be used to assist homeowners, first-time homebuyers, or renters. Qualifying rents must be affordable to households with incomes not exceeding 65 percent of AMI or must be less than the local Fair Market Rent (FMR), whichever is less.
- **Housing Opportunities for Persons With AIDS (HOPWA).** HOPWA provides annual formula and competitive grants available to state and local governments and nonprofits for rental assistance targeted to a special-needs population.
- **Older rental subsidy programs.** Programs named for sections of the National Housing Act, primarily the Section 221(d)(3) Below Market Interest Rate Program and the Section 236 mortgage assistance program, were active from the early 1960s through the early 1970s. They were designed to produce housing that was affordable for families with incomes greater than the public housing income limits.

For further detail on HUD program requirements, see HUD (2018).

Appendix D

Previous Reports to Congress on Worst Case Needs

- *Priority Problems and "Worst Case" Needs in 1989* (June 1991, HUD-1314-PDR).
- *The Location of Worst Case Needs in the Late 1980s* (December 1992, HUD-1387-PDR).
- *Worst Case Needs for Housing Assistance in the United States in 1990 and 1991* (June 1994, HUD-1481-PDR).
- *Rental Housing Assistance at a Crossroads: A Report to Congress on Worst Case Housing Needs* (March 1996).
- *Rental Housing Assistance—The Crisis Continues* (April 1998).
- *Rental Housing Assistance—The Worsening Crisis: A Report to Congress on Worst Case Housing Needs* (March 2000).
- *A Report on Worst Case Housing Needs in 1999: New Opportunity Amid Continuing Challenges, Executive Summary* (January 2001).
- *Trends in Worst Case Needs for Housing, 1978–1999* (December 2003).
- *Affordable Housing Needs: A Report to Congress on the Significant Need for Housing* (December 2005).
- *Affordable Housing Needs 2005: Report to Congress* (May 2007).
- *Housing Needs of Persons With Disabilities: Supplemental Findings to the* Affordable Housing Needs 2005 *Report* (February 2008).
- *Worst Case Housing Needs 2007: A Report to Congress* (May 2010).
- *Worst Case Housing Needs 2009: Report to Congress* (February 2011).
- *Worst Case Housing Needs 2011: Report to Congress* (August 2013).
- *Worst Case Housing Needs: 2015 Report to Congress* (April 2015).
- *Worst Case Housing Needs: 2017 Report to Congress* (August 2017).

These publications are available on line at http://www.huduser.gov.

Appendix E

Data and Methodology

A report such as this one requires researchers to use a number of specialized concepts, definitions, and assumptions when analyzing and presenting the data. This appendix documents such elements for those who wish to understand the results more fully or replicate and extend the results in their own research.

Using the American Housing Survey Data

This report uses data from the most recently available American Housing Survey (AHS), conducted in 2017. The AHS, which is the only detailed periodic national housing survey in the United States, is sponsored by HUD and conducted by the Census Bureau. It provides nationally representative data on a wide range of housing subjects, including apartments, single-family homes, mobile homes, vacant homes, family composition, income, housing and neighborhood quality, housing costs, equipment, fuel type, size of housing units, and recent moves. National data are collected every 2 years, from a sample of about 84,400 housing units in 2013 (Census-HUD, 2013) and a new, redesigned sample of about 85,400 housing units in 2015 (Census-HUD, 2017). The survey, which started in 1973, sampled the same housing units between 1985 and 2013—with occasional adjustments and supplements—plus samples of newly constructed units to ensure both continuity and timeliness of the data. To address many challenges in maintaining the AHS longitudinal sample for nearly 30 years—including attrition of housing units, response burden, changes in geography, and disclosure avoidance and mitigation—the 2015 AHS underwent a major redesign. The redesign included selection of a new national and metropolitan area longitudinal sample, changes to weighting methodologies and imputation processes, and a reevaluation of variables. Information from the worst case needs reports has helped inform public policy decisions, including decisions on targeting existing resources, determining the need for additional resources, and choosing the form that housing assistance should take.

To accurately estimate worst case needs for federal rental assistance from AHS data, it is essential to determine whether household incomes fall below

HUD's official very low-income limits (50 percent of HUD-adjusted area median family income [HAMFI], also termed area median income), whether a household already receives housing assistance, and whether an unassisted income-eligible household has one or more of the priority problems that formerly conferred preference in tenant selection for assistance (rent burdens exceeding 50 percent of income, substandard housing, or being involuntarily displaced).

A national data source that is a reasonable alternative to the AHS for measuring housing needs is the American Community Survey (ACS). The ACS has the advantage of a larger sample size that supports estimates for small geographic areas. Disadvantages of the ACS include addressing housing assistance status in a less comprehensive way and providing much less information about housing unit characteristics. For example, the ACS no longer ascertains whether units contain complete plumbing systems.

Weighting. Because the AHS is based on a sample of housing units rather than a census of all housing units, estimates based on the data must be "weighted up" so that totals for each year match independent estimates of the total housing stock and better represent the full housing stock. The Census Bureau weights up responses to account for undercoverage of households and household nonresponse (about 15 percent). The weights for 2001-through-2009 AHS data used in this report are based on the 2000 Census of Housing, with adjustments for estimated change since then. Since 2011, AHS data have been weighted to 2010 census benchmarks.

Exclusions. Households reporting incomes that are zero or negative are excluded from estimates of worst case needs, although they are included in counts of total households. If such households pay rents greater than the Fair Market Rent and report zero or negative incomes, then their income situation is presumably temporary, and so they are included and higher incomes are imputed to them.

Household and Family Types

In this report, the terms *family* and *household* are not interchangeable because not all households are families. *Families* refers only to a subset of households that have one or more people in the household related to the *householder* (the first household member age 18 years or older who is listed as an owner or renter of the housing unit) by birth, marriage, or adoption.

Families with children. Households with a child younger than age 18 present are presumed to meet the definition of family through relation by birth or adoption (including grandparents as parents).

Elderly households without children. Households in which the householder or spouse is age 62 or older and in which no children are present. Elderly households may be either family or nonfamily households.

Other family households. Households with a nonelderly householder and no children, in which either (1) one or more people are related to the householder by birth, marriage, or adoption; or (2) one or more subfamilies reside there who have members related to each other by birth, marriage, or adoption.

Other nonfamily households. Households with a single nonelderly person living alone or with only nonrelatives. Most of these households consist of a single person living alone rather than unrelated people sharing housing.

Households with disabilities. Before 2009, no questions in the AHS were designed to ascertain directly whether individuals suffered from disabilities. Worst case needs reports for 2007 and earlier identified households containing people with disabilities using various forms of income-based proxies. Households with disabilities (1) were not families with children, (2) were not elderly households, and (3) received some form of income or government assistance that is very likely to indicate that an adult with disabilities is present in the household. Beginning with the 2009 AHS, the survey now asks direct questions about impairments and difficulties with activities of daily living about each household member, including children. This report therefore addresses disability on the basis of people identified with these problems. In this report, elderly people with disabilities do not increase the number of households with disabilities because of the prevalence of disabilities associated with aging.

Housing Assistance Status

In 1997, the AHS questions intended to identify households receiving rental assistance were changed in both content and order from those used previously. After careful review, HUD and the Census Bureau adopted the following procedure to identify assisted households in a way that produces results that are more comparable with pre-1997 data. Those questions were further refined in 2007, as a result of additional cognitive research. In this report, therefore, receipt of rental assistance is based on respondent reports designed to determine the following:

- Whether the household must recertify to determine the rent it pays.
- Whether the rent is less because of a federal, state, or local government housing program.
- Whether the household has a housing voucher and, if so, whether it can be used to move to another location.

- Whether the housing authority is the household's landlord.

An alternative approach of identifying HUD-assisted households using an administrative data match is not used to determine housing assistance status for the purposes of this report because such an approach excludes assistance received from other federal, state, or local agencies.

Housing Problems

Rent or cost burden. A ratio of housing costs (including utilities) to household income that exceeds 30 percent, which is a conventional standard for housing affordability. To the extent that respondents underreport total income, the AHS estimates may overcount the number of households with a cost burden. A *severe* cost burden exceeds 50 percent of reported income. A *moderate* cost burden exceeds 30 percent but is less than or equal to 50 percent of reported income. Cost burdens qualify as potential worst case needs only if they are severe. Households reporting zero or negative income are defined as having no cost burden.

Inadequate housing. Housing with severe or moderate physical problems, as defined in the AHS since 1984 and modified from time to time to reflect changes in the survey. Severe inadequacies constitute potential worst case needs, but moderate inadequacies do not. The 2007 AHS eliminated the questions about hallways (common stairways and light fixtures) in multiunit structures in the section on selected physical problems, which affects the classification of units having severe or moderate physical problems. Briefly, a unit is defined as having severe physical inadequacies if it has any one of the following four problems.

1. **Plumbing.** Lacking piped hot water or a flush toilet or lacking both bathtub and shower, all for the exclusive use of the unit.
2. **Heating.** Having been uncomfortably cold during the past winter for 24 hours or more, or three times for at least 6 hours each, because of broken-down heating equipment.
3. **Electrical.** Having no electricity or having all of the following three electrical problems: exposed wiring, a room with no working wall outlet, and three or more blown fuses or tripped circuit breakers in the past 90 days.
4. **Upkeep.** Having any five of the following six maintenance problems: leaks from outdoors, leaks from indoors, holes in the floor, holes or open cracks in the walls or ceilings, more than 1 square foot of peeling paint or plaster, and rats in the past 90 days.

A unit has moderate inadequacies if it has any of the following four problems but none of the severe problems listed previously.

1. **Plumbing.** Having all toilets break down simultaneously at least three times in the past 3 months for at least 3 hours each time.
2. **Heating.** Having unvented gas, oil, or kerosene heaters as the main source of heat (because those heaters may produce unsafe fumes and unhealthy levels of moisture).
3. **Upkeep.** Having any three of the six upkeep problems associated with severe inadequacies.
4. **Kitchen.** Lacking a sink, range, or refrigerator for the exclusive use of the unit.

Overcrowding. The condition of having more than one person per room in a residence. Overcrowding is counted as a moderate problem rather than a severe problem that constitutes a potential worst case need.

"Priority" problems. Problems qualifying for federal preference in admission to assisted housing programs between 1988 and 1996, including paying more than one-half of income for rent (severe rent burden), living in severely substandard housing (including being homeless or in a homeless shelter), or being involuntarily displaced. These problems informed the original definition of worst case needs. Because the AHS sample tracks housing units and thus cannot count homeless people, AHS estimates of priority problems are limited to the two severe problems described previously: (1) rent burdens greater than 50 percent of income or (2) severe physical problems. In accordance with the intention to estimate the number of unassisted very low-income renters with priority problems, the tables in appendix A classify households with a combination of moderate problems and severe problems as having severe problems.

Income Measurement

Income sources. *Income* means gross income reported by AHS respondents for the 12 months preceding the interview. For each person in the household, the AHS questionnaire collects the amounts of several different types of income. Income includes amounts reported for wage and salary income, net self-employment income, Social Security or railroad retirement income, public assistance or welfare payments, and all other money income before deductions for taxes or any other purpose. Imputed income from equity is not included as income in this report. In accordance with HUD rules for determining income eligibility for HUD programs, the earnings of teenagers age 17 and younger are not counted as income for this report.

Household income. Reported income from all sources for all household members age 18 and older.

Income Categories

HAMFI and official income limits. HUD is required by law to set income limits each year that determine the eligibility of applicants for assisted housing programs. In 1974, Congress defined *low income* and *very low income* for HUD rental programs as incomes not exceeding 80 and 50 percent, respectively, of HAMFI. HAMFI is more commonly referred to as area median income (AMI), although the latter term may be subject to misinterpretation. Note that income limits are based on median family income (MFI), not on median household income. HUD determines base income limits for a household of four. Income limits are further adjusted by household size: one person, 70 percent of base; two people, 80 percent; three people, 90 percent; five people, 108 percent; six people, 116 percent; and so on. Each household is assigned to an income category using the income limit appropriate to its area and the number of household members.[57]

Income cutoffs in association with AHS geography. The Census Bureau matches AHS survey addresses with HUD income limit geography and assigns the appropriate income limits to each case, making the appropriate adjustments for household size.

Because developing estimates of official income limits for the geography identified in the AHS microdata was time consuming, before the 2003 AHS release, HUD prepared income limits to use with AHS geography for only 3 years: 1978, 1986, and 1995. Income cutoffs for the 2003 AHS release and each subsequent dataset have been based on HUD's current income limits for those years, weighted by AHS weights. The Census Bureau included those cutoffs to the AHS public use file through 2013. To protect respondent confidentiality, income limit variables were restricted to the AHS internal use file (IUF) in 2015. Additional detail about income limits can be found in the housing costs-affordability section of the *AHS Codebook* interactive tool (Census-HUD, 2019).

Categorizing households by income. For this report, when households are categorized using the extremely low-, very low-, and low-income cutoffs, the cutoffs are adjusted for household size using the same adjustment factors that HUD programs use.

In addition, households reporting negative income are attributed incomes of slightly more than AMI if their monthly housing costs exceed the FMR and they lived in adequate and uncrowded housing. The justification for imputing higher incomes is that many households in this situation live in housing with amenities such as dining rooms, balconies, and off-street parking and thus may be reporting temporary accounting losses.

- **Extremely low income (ELI).** Income not in excess of 30 percent of HAMFI, as determined by the extremely low-income cutoff.
- **Very low income (VLI).** Income not in excess of 50 percent of HAMFI, as determined by the very low-income cutoff. Very low income thus includes extremely low income, although the term sometimes is used loosely in specific contexts, such as mismatch analysis, to mean incomes of between 30 and 50 percent of HAMFI.
- **Low income.** Reported income not in excess of 80 percent of HAMFI, as determined by the low-income cutoff.
- **Middle income.** For this report, income exceeding 80 percent and less than 120 percent of HAMFI.
- **Upper income.** For this report, income exceeding 120 percent of HAMFI.

  HUD allows some jurisdictions exceptions in the definition of the ELI and VLI cutoffs. Those exceptions are intended to prevent loss of benefits to assisted households caused by improvement in local economic conditions. Thus, the official income limits for ELI and VLI are in some cases set above 30 or 50 percent of HAMFI, respectively. The AHS (and thus this report) uses those official income limits in all its measures.
- **Poor.** Household income of less than the U.S. national poverty cutoff for that household size. As discussed in appendix A of the Census Bureau's AHS publications, AHS poverty estimates differ from official poverty estimates made from the Current Population Survey. AHS poverty estimates are based on the income of households rather than the income of families or individuals, and AHS income questions are much less detailed and refer to income during the past 12 months rather than during a fixed period. The poverty cutoff for a family of four approximates 33 percent of HAMFI. Comparisons of income limits with poverty thresholds are presented in appendix tables A-6A, A-6B, A-7, and A-8.
- **Earnings at minimum wage.** Households with incomes from salary or wages totaling at least as much as one could earn working full-time (40 hours per week for 50 weeks per year) at the federal minimum wage of $7.25

[57] For details about how HUD sets income limits, see http://www.huduser.gov/portal/datasets/il.html.

per hour are defined as having at least full-time earnings at minimum wage. Thus, the sum of salary and wage income earned by all persons in the household totals at least $14,500 annually. Households with incomes from salary or wages totaling at least one-half that amount ($7,250 annually) are defined as having at least half-time earnings at minimum wage. Comparisons of household earnings characteristics are presented in tables A-6A, A-6B, A-7, and A-8.

Location

Metropolitan Statistical Area. From 1973 to 1983, the definitions of metropolitan location in AHS data corresponded to the 243 Standard Metropolitan Statistical Areas used in the 1970 census. From 1984 to 2013, metropolitan location in the AHS has referred to the Metropolitan Statistical Areas defined in 1983, based on the 1980 census. The 2015 AHS redesign that selected a new national and metropolitan area longitudinal sample for the first time since 1985 brought metropolitan area definitions up-to-date with the most current Office of Management and Budget (OMB) delineations based on the 2010 census, which, at the time the 2015 AHS sample design took place, was February 2013.[58] These areas are now termed Core-Based Statistical Areas (CBSAs).

Region. The four census regions are the Northeast, Midwest, South, and West.

Mismatch of Supply and Demand for Affordable Rental Housing

Mismatch. The discrepancy between the number of rental units needed by renters of various income categories and the number provided by the market that are affordable at those income levels based on the three measures described below.

Affordability. Several federal rental programs define *affordable* rents as those requiring not more than 30 percent of an income cutoff defined in relation to HAMFI. Under the Low-Income Housing Tax Credit program (LIHTC), for example, housing units with rents up to 30 percent of 60 percent of HAMFI qualify as affordable and eligible for the credit.

This report generalizes the approach developed to define LIHTC maximum rents for units of different sizes to define three categories of affordability (ELI, VLI, and low income) on the basis of incomes that are sufficient for the rents: at or less than 30 percent of HAMFI, more than 30 percent and not more than 50 percent of HAMFI, and more than 50 percent of HAMFI. Units are assigned to affordability categories by comparing their gross rent, including payments for utilities, with affordability thresholds calculated as 30 percent of the income cutoffs for the corresponding income group. Units with gross rents above those thresholds are not affordable because they would cause moderate or severe cost burdens even for the highest income renters of the income group. Unit affordability thus depends on the percent of HAMFI needed to afford the highest rent in each income category (ELI, VLI, and so on). For example, to be affordable to ELI renters, a unit's gross rent would have to be 30 percent or less (affordability threshold) of 30 percent of HAMFI (ELI threshold). The method of assigning units to cost categories was modified in 2017 to account for limited HUD administrative exceptions to program income limits.

The income limits used to define rent affordability are adjusted for number of bedrooms using the formula codified at 26 U.S.C. 42(g)(2)(C): no bedrooms, 70 percent of base; one bedroom, 75 percent; two bedrooms, 90 percent; three bedrooms, 104 percent; four bedrooms, 116 percent; and plus 12 percent of base for every additional bedroom. This formula assumes that an efficiency unit houses one person, a one-bedroom unit houses 1.5 people, and each additional bedroom houses another 1.5 people.

Three measures of affordability. HUD uses three measures to analyze the supply of the rental housing stock in relation to the number of renters with household incomes below specified thresholds: affordable units per 100 renters; affordable and available units per 100 renters; and affordable, available, and adequate units per 100 renters.

Categorizing rental units by affordability and households by income. To analyze the mismatch between affordability and income, HUD compares household incomes and housing unit rents with the current income limits (for income and rent categories up to and including 80 percent of HAMFI) and to a ratio of HAMFI (for categories exceeding 80 percent of HAMFI). As in the analysis of household income, households reporting negative income are redefined as having incomes slightly greater than MFI if their monthly housing costs were more than the FMR and they lived in adequate and uncrowded housing. Units with "no cash rent" reported are categorized solely on the basis of utility costs. Utility costs are allocated to vacant units through hot-deck imputation based on units that are comparable on the basis of cost, number of units in the structure, region, and tenure.

[58] For more detailed information on 2015 AHS metropolitan areas, see https://obamawhitehouse.archives.gov/sites/default/files/omb/bulletins/2013/b13-01.pdf.

Race and Ethnicity

In 2003, the AHS began using revised Census Bureau categories of race and ethnicity that are not directly comparable with the categories used in the AHS from 2001 and earlier. Survey respondents may now select more than one racial group, causing slight but meaningful decreases in the size of previously monolithic categories.

The 2017 AHS supports producing estimates of worst case housing needs for more detailed race and ethnicity categories than were included in previous reports. In addition to non-Hispanic White, non-Hispanic Black, and Hispanic renters, households experiencing worst case housing needs previously enumerated in an "other" race category are now reported for Asian, American Indian or Alaska Native, and Native Hawaiian or other Pacific Islander renters in exhibit 1-7.

Appendix F

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