



Rural-Urban Differences in Housing Cost Burden Across the U.S.

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Key Findings

- Housing cost burden, defined as spending over 30% of income on housing costs, is widespread across the U.S. as one-third of urban households and one-quarter of rural households are cost burdened.
- In each of the four U.S. Census regions, nine divisions, and in most states, higher proportions of urban households are housing cost burdened compared to rural households, but differences vary widely.
- The Western region has the highest rates of those experiencing housing cost burden for both rural (28.9%) and urban locations (37.0%) overall, largely among states in the Pacific division.
- California, Hawaii, and Massachusetts have particularly high rates of cost burden among both rural and urban households (ranging from 34.1% - 41.4%).

Purpose

Housing is closely tied to health and well-being, but affordable housing is out of reach for many households. In this policy brief, we examine the proportion of households who are housing cost burdened by rural-urban location across different U.S. geographic spaces—census regions, divisions, states, and counties—in order to identify how housing affordability varies by location.

Background and Policy Context

Housing is a major expenditure for most families in the U.S., and housing costs for both homeowners and renters has continued to rise.¹ Housing affordability is often examined by computing housing cost burden, or the percentage of income a household spends on housing expenses (e.g. rent/mortgage, utilities, fuel costs, property insurance, fees/taxes). Affordable housing is commonly defined as spending 30% or less of household income on housing expenses.² Although those with the lowest incomes do have the highest housing cost burden rates overall, housing affordability is a widespread issue. For example, households earning \$30,000-\$45,000 annually saw the highest increase in housing cost burden rates in 2019-2020.¹

Housing affordability has clear impacts on health.³⁻⁶ The stresses of housing-related financial burdens, frequent moving, constraints in the ability to move, and choice of where to live are linked to poorer self-rated health and lower levels of psychological well-being.^{7,8} High housing costs restrict the ability to meet other household needs. For example, those who are housing cost burdened have less to spend on nutrition and health care expenditures, both of which are linked to worse health outcomes.⁸ This includes postponing medical care, not filling needed prescriptions, and having difficulty buying food.^{3,8} Recent increases in other household costs have added further pressure on household finances.⁹

Although housing has been linked to health equity, there is limited research on how housing characteristics vary by geographic area as well as by rural or urban location. Although the rising cost of housing is widespread, patterns in housing affordability vary geographically.¹ For instance, findings from data from 2015-2019 indicate 21% of rural and 28% of ur-

ban residents were housing cost burdened.¹⁰ But less is known about specific rural-urban differences in affordability across various parts of the U.S. Identifying differences in housing characteristics among rural and urban households across different geographic contexts is one mechanism that can be used to better understand population-level health inequities in order to create public policy to meet area-specific needs.

Approach

In this study, we used data from the 2017-2021 American Community Survey (ACS) 5-year summary counts of households in the U.S. accessed through IPUMS NHGIS at the University of Minnesota.¹¹ While this period overlaps with the COVID-19 pandemic (a time of widespread economic volatility), this allows us to present relatively current information on housing costs. We used U.S. Census Bureau classifications of regions, divisions, states, and counties/county equivalents.¹² We defined urban households as those in metropolitan counties and rural households as those in non-metropolitan counties using the official 2020 definitions of metropolitan statistical areas, which are the definitions used in the 2017-2021 ACS 5-year summary data.¹³

We computed housing cost burden as the percentage of the household's monthly income that is used for housing-related costs (e.g., rent/mortgage, utilities, fuel costs, property insurance, fees/taxes). We then defined households as housing cost burdened if more than 30% of the household income was used for housing costs, a commonly used measure of affordability.^{1,2}

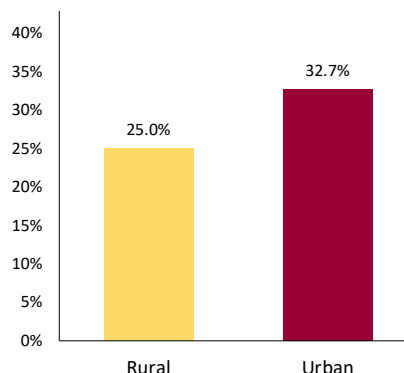
We used Z-tests to determine statistically significant differences between rural and urban share of cost-burdened households by U.S. Census region, division, and state.¹⁴ We used R to compute statistics and Esri ArcGIS Pro to produce maps of the share of cost burden among rural and urban counties/county equivalents.

Results

As seen in Figure 1, significantly higher proportions of urban households are housing cost burdened compared to rural households across the U.S., with almost one-third of urban and one-quarter of rural households spending more than 30% of household income on housing costs ($p < 0.001$).

Table 1 shows the proportion experiencing over 30% housing cost burden across U.S. Census regions, divisions, and states by rural-urban location. In each of the four regions and across each of the nine divisions, significantly higher proportions of urban households

Figure 1: Rural-Urban Difference in Proportion Experiencing Housing Cost Burden



Source: American Community Survey 2017-2021 5-Year Summary File, IPUMS NHGIS. Difference significant at $p < 0.001$. Housing cost burden is spending more than 30% of household income on housing costs.

are housing cost burdened compared to rural households ($p < 0.001$), but the degree of differences vary. For example, the rural-urban difference in rate of housing cost burden in the Northeast region was 9.0% while in the Midwest the difference was 5.2%. In addition, the proportion of cost burdened rural households in the West region (28.9%) was slightly greater than urban Midwest households (27.9%).

Examining the divisions within each region highlights more variation in housing cost burden across place. Divisions with less difference between the proportion of rural and urban cost burdened households included East South Central (urban-rural difference: 3.2%) and West North Central (3.6%), while the Middle Atlantic and Pacific divisions had higher rural-urban differences (11.3% and 7.2%, respectively). Differences across divisions resulted in cases where rural households in some areas were cost burdened at higher rates than urban households in other areas. Most prominently, the rural proportion of cost burdened households in the Pacific (32.2%) was higher than five other divisions' urban rates [Mountain (31.5%), East South Central (27.6%), West South Central (31.0%), East North Central (28.5%), and West North Central (26.3%)] and was the same as the South Atlantic's urban rate.

Examining the states within each region and division further highlights complex variation in housing cost burden. While most states have a significantly higher proportion of housing cost burdened households in urban counties compared to rural, differences and rates vary widely. For example, Illinois, Nevada,

Table 1. Rural-Urban Differences in Proportion of Households Experiencing Housing Cost Burden in U.S. Census Regions, Divisions, and States

Region				Division				State			
	Rural	Urban	Difference		Rural	Urban	Difference		Rural	Urban	Difference
Northeast	26.2%	35.3%	9.0% ***	New England	29.4%	34.3%	4.9% ***	Connecticut	31.8%	35.5%	3.7% ***
								Maine	25.9%	28.7%	2.8% ***
								Massachusetts	41.4%	34.9%	- 6.5% *
								New Hampshire	30.6%	31.1%	0.5%
								Rhode Island	n/a	34.4%	n/a
								Vermont	30.9%	33.0%	2.1% *
				Middle Atlantic	24.3%	35.6%	11.3% ***	New Jersey	n/a	37.4%	n/a
								New York	26.0%	39.2%	13.2% ***
								Pennsylvania	22.6%	28.8%	6.1% ***
Midwest	22.7%	27.9%	5.2% ***	East North Central	22.7%	28.5%	5.8% ***	Illinois	21.8%	32.0%	10.2% ***
								Indiana	21.2%	26.0%	4.8% ***
								Michigan	24.1%	27.8%	3.7% ***
								Ohio	22.5%	26.9%	4.4% ***
								Wisconsin	23.4%	27.2%	3.8% ***
				West North Central	22.7%	26.3%	3.6% ***	Iowa	21.1%	25.3%	4.2% ***
								Kansas	22.9%	26.4%	3.5% ***
								Minnesota	23.6%	26.3%	2.7% ***
								Missouri	24.3%	26.6%	2.3% ***
								Nebraska	21.9%	27.2%	5.4% ***
								North Dakota	21.2%	25.8%	4.6% ***
								South Dakota	22.1%	24.5%	2.4% ***

Source: American Community Survey 2017-2021 5-Year Summary File, IPUMS NHGIS

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Housing cost burden is spending more than 30% of household income on housing costs.

n/a: Delaware, District of Columbia, New Jersey, and Rhode Island do not have any rural/nonmetropolitan counties.

Table 1 (cont'd). Rural-Urban Differences in Proportion of Households Experiencing Housing Cost Burden in U.S. Census Regions, Divisions, and States

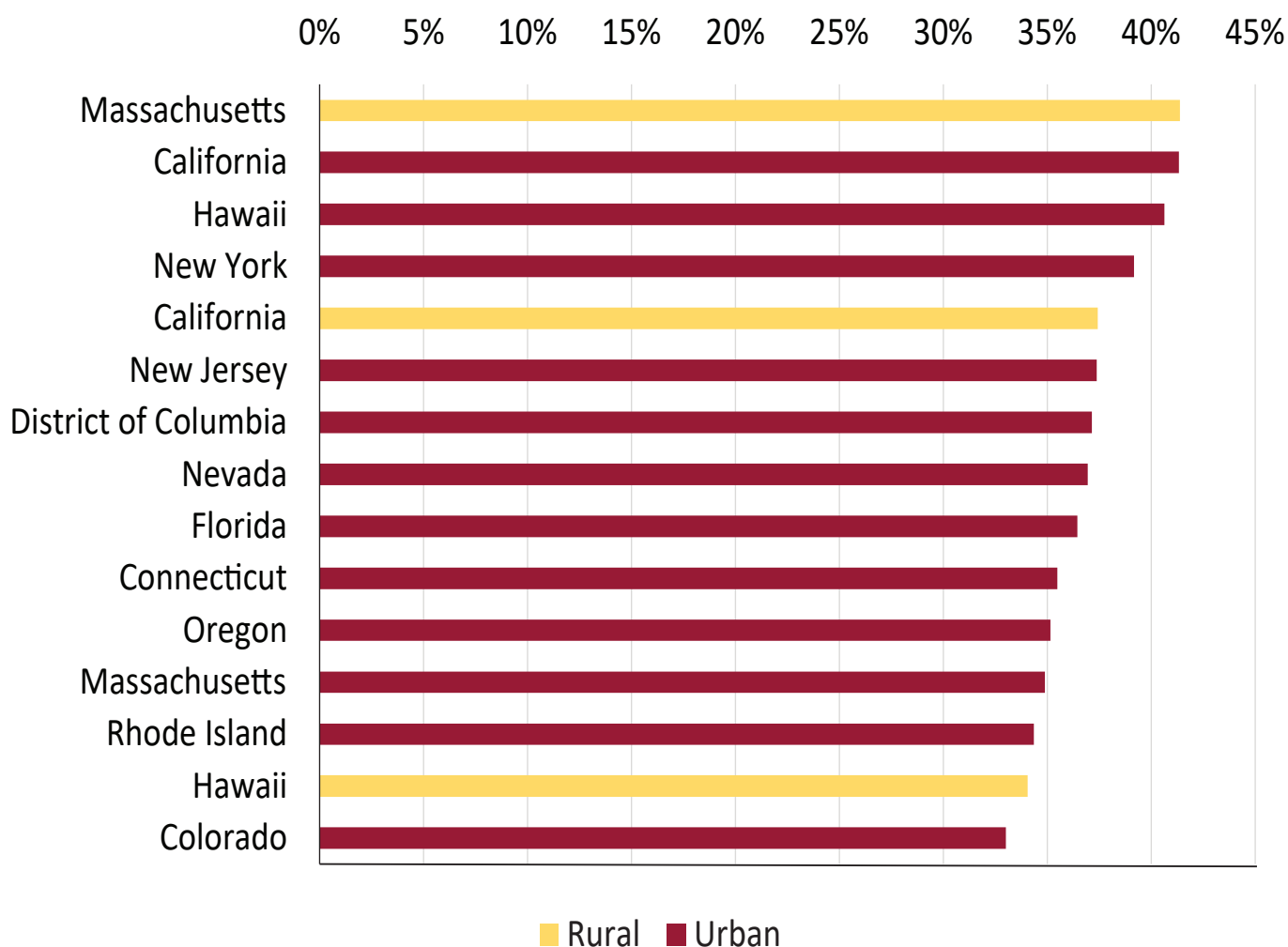
Region				Division				State			
	Rural	Urban	Difference		Rural	Urban	Difference		Rural	Urban	Difference
South	25.2%	31.2%	6.0% ***	South Atlantic	26.6%	32.2%	5.7% ***	Delaware	n/a	29.9%	n/a
								District of Columbia	n/a	37.1%	n/a
								Florida	28.0%	36.5%	8.4% ***
								Georgia	27.8%	31.3%	3.4% ***
								Maryland	30.3%	31.6%	1.3%
								North Carolina	27.5%	28.7%	1.2% ***
								South Carolina	26.9%	28.0%	1.1% *
								Virginia	24.9%	29.8%	4.9% ***
								West Virginia	20.2%	23.7%	3.5% ***
				East South Central	24.4%	27.6%	3.2% ***	Alabama	23.4%	26.9%	3.5% ***
								Kentucky	24.0%	26.3%	2.3% ***
								Mississippi	26.7%	28.2%	1.5% **
								Tennessee	23.4%	28.5%	5.1% ***
				West South Central	24.4%	31.0%	6.6% ***	Arkansas	24.0%	26.2%	2.2% ***
								Louisiana	26.3%	30.2%	3.8% ***
								Oklahoma	23.6%	26.7%	3.0% ***
Texas	24.5%	32.0%	7.5% ***								
West	28.9%	37.0%	8.1% ***	Mountain	26.5%	31.5%	5.0%	Arizona	24.7%	30.8%	6.2% ***
								Colorado	30.4%	33.0%	2.6% ***
								Idaho	26.8%	27.0%	0.3%
								Montana	27.4%	29.2%	1.8% *
								Nevada	26.2%	36.9%	10.8% ***
								New Mexico	24.3%	31.4%	7.2% ***
								Utah	24.9%	27.2%	2.3% ***
								Wyoming	24.0%	27.1%	3.1% **
								Pacific	32.2%	39.4%	7.2% ***
				California	37.4%	41.3%	3.9% ***				
				Hawaii	34.1%	40.6%	6.6% ***				
				Oregon	29.6%	35.2%	5.6% ***				
				Washington	30.4%	32.7%	2.4% ***				

and New York all had stark differences with urban counties having 10-13% higher proportion of housing cost burdened households compared to rural counties ($p < 0.001$). Other states had significant but much smaller rural-urban differences. Midwestern states South Dakota and Missouri; Western states Washington, Utah, and Montana; Southern states Kentucky, Mississippi, Arkansas, North and South Carolina; and Northeastern state Vermont all have less than 2.5% urban-rural difference in the proportion of housing cost burdened households ($p < 0.001$ - $p < 0.05$). In addition, in several states (Maryland, New Hampshire, and Idaho) there was no significant difference in rates of housing cost burdened households in urban and rural areas. And in one state, Massachusetts, the proportion of housing cost burdened households was significantly

higher in rural areas (41.4%) than urban areas (34.9%, $p < 0.05$). We note that, using our county classification, there are only two rural counties in Massachusetts that are driving this rate—Nantucket County and Dukes County (the latter including Martha's Vineyard)—which we discuss more below.

Figure 2 shows the 15 highest rates of housing cost burden by both state and rural-urban location. Rural Massachusetts (41.4%) and urban California (41.3%) have the highest rates of households experiencing cost burden. Next were urban Hawaii (40.6%), urban New York (39.2%), as well as rural California and urban New Jersey (both 37.4%) comprising the top five highest housing cost burdened areas.

Figure 2. Highest Proportion of Households Experiencing Housing Cost Burden by State and Rural-Urban Location



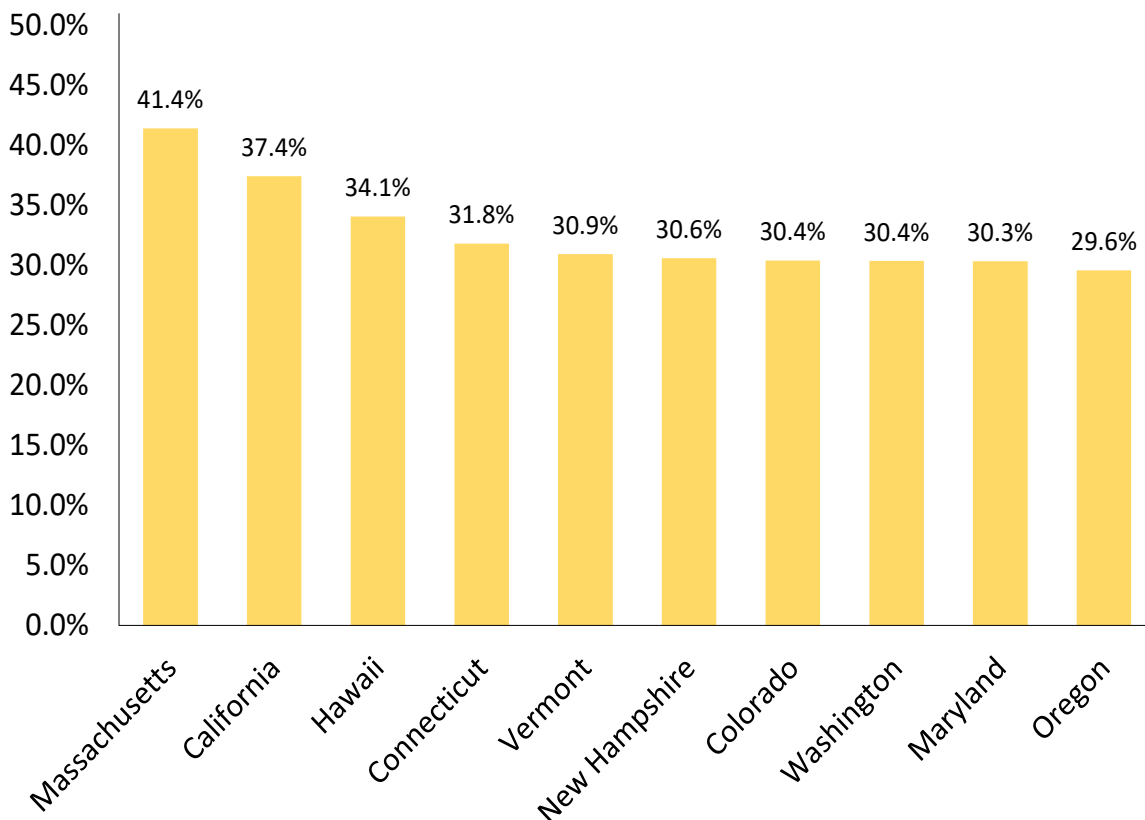
Source: American Community Survey 2017-2021 5-Year Summary File, IPUMS NHGIS

To further illuminate where the greatest housing cost issues were, we examined differences among rural households separately. The Western region has the highest rates of housing cost burden for both rural households (28.9%) and urban households (37.0%) overall. This is being driven largely by the Pacific division, which consists of five states, four of which have top-ten state-level rural cost burden rates as detailed in Figure 3. These are rural California (37.4%), Hawaii (34.1%), Washington (30.4%), and Oregon (29.6%). In addition, in the Mountain West, Colorado is in the top ten cost burdened rural areas with a 33.0% cost burden rate. Northeast New England states also comprise several spots among the highest proportion cost burdened among rural households with Massachusetts' high rate (41.4%) along with Connecticut, New Hampshire, and Vermont all among the top ten with 31-32% of rural households experiencing cost burden.

County-level analyses provide further evidence of rural-urban differences in housing cost burden. Figure 4 is a county-level map showing the share of households experiencing housing cost burden among

urban counties. Looking at urban counties highlights the higher shares of cost burdened households in the counties containing or near several major cities throughout the U.S. with many along the West Coast (especially California and Hawaii) and the East Coast from Virginia to Massachusetts in addition to Florida. For example, the Bronx, in New York City, has the highest cost burden rate of any county at 55.1%, and Miami-Dade County in Florida has the second highest cost burden rate at 48.8%. Most of California's urban counties have rates in the highest mapped class (exceeding 37.5%, or 3 in 8 households), as do both of Hawaii's urban counties (Honolulu and Maui). In addition, the other central counties of New York City as well as Philadelphia, PA, Boston, MA, Baltimore, MD, Richmond, VA, and Norfolk, VA, are all in the highest class of cost burden with Washington, DC, just below, at 37.1%. Outside of these regions, three other major cities' central counties are also in the highest class: New Orleans, LA, Las Vegas, NV, and Portland, OR, with 45.4%, 38.1%, and 37.8% of households burdened, respectively.

Figure 3: Top 10 States with Highest Proportion of Rural Households Experiencing Housing Cost Burden



Source: American Community Survey 2017-2021 5-Year Summary File, IPUMS NHGIS

Figure 5 is a county-level map showing the share of households experiencing housing cost burden among rural counties only. As expected given the overall rates of cost burden for urban and rural households (Figure 1), rates of housing cost burden among rural counties are generally lower than among urban counties, but there are still multiple areas where rural counties fall in one of the top two cost-burden classes, with rates exceeding 31.25% (5 in 16 households). One large region of high rural cost-burden rates stretches across the South—from eastern Texas to Georgia and on up through Maryland. This band of high rates continues along the East Coast into New England, which has nine rural counties in the top two cost-burden classes. The Mountain West includes numerous rural counties with high cost-burden rates, concentrated in Colorado, western Montana, and parts of Idaho. The rural Pacific West also has many counties with higher rates of cost burden, particularly along the Pacific Coast, in

the Sierra Mountains, and in the rural parts of Hawaii, encompassing the islands of Hawai'i and Kaua'i.

Comparing Figures 4 and 5 highlights the extent to which urban counties have higher rates of cost burden than rural counties. Figure 4 shows clearly that a larger proportion of the urban counties is in the highest cost-burden class (exceeding 37.5%), and a much smaller proportion is in the lowest class (18.75% or less), compared to the rural counties in Figure 5. These visual relationships are consistent with the data: 23% of urban households live in a county in the highest cost-burden class while only 2% of rural households live in one of these counties. Figures 4 and 5 nevertheless also illustrate a great deal of variation both within and across the urban and rural classes. Many urban counties have lower rates of cost burden that resemble those in rural counties, especially away from the coasts and in outlying parts in smaller metropolitan areas (i.e., the “most rural” of the urban counties), but even

Figure 4: Households Experiencing Housing Cost Burden in Urban U.S. Counties

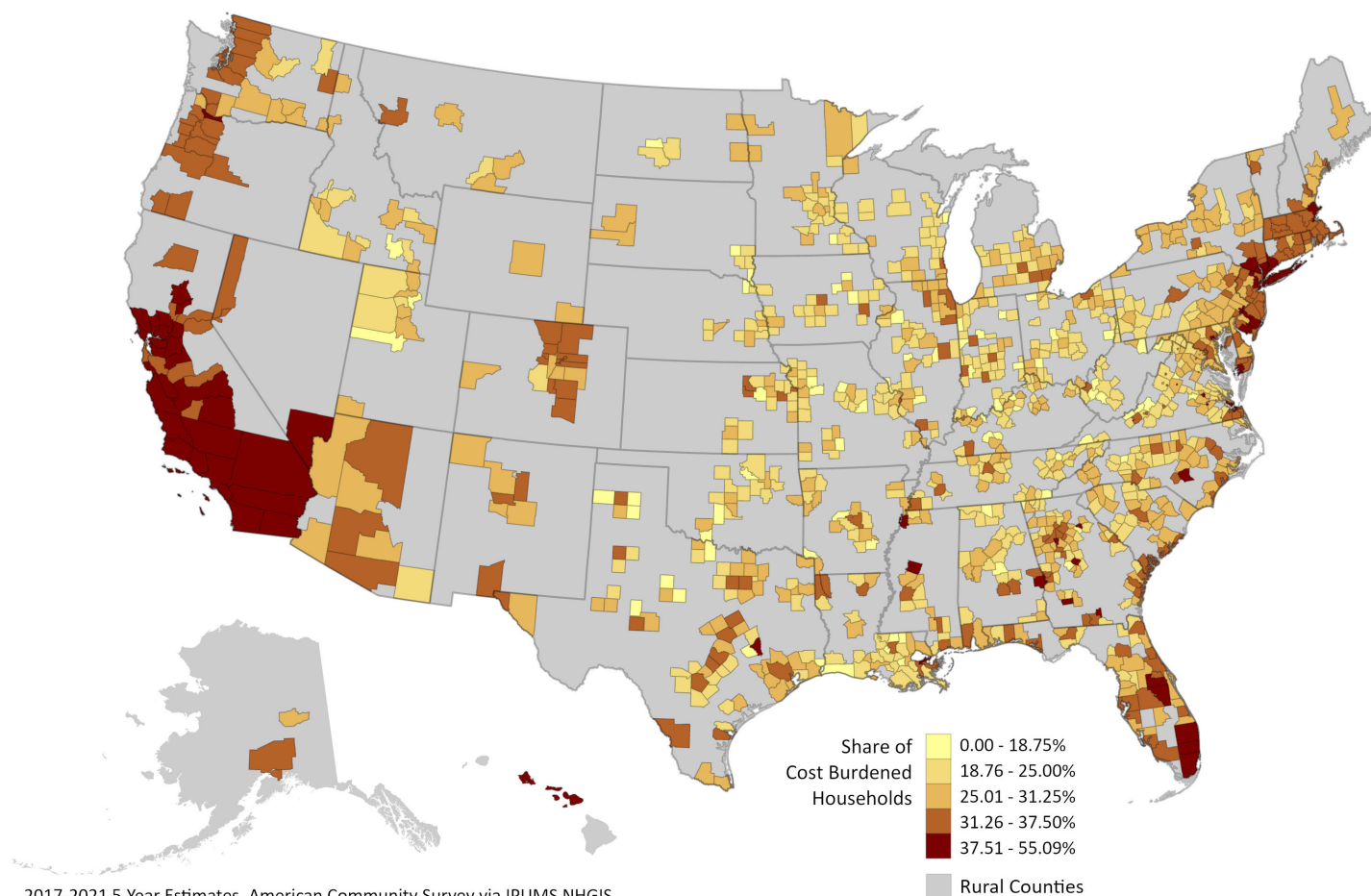
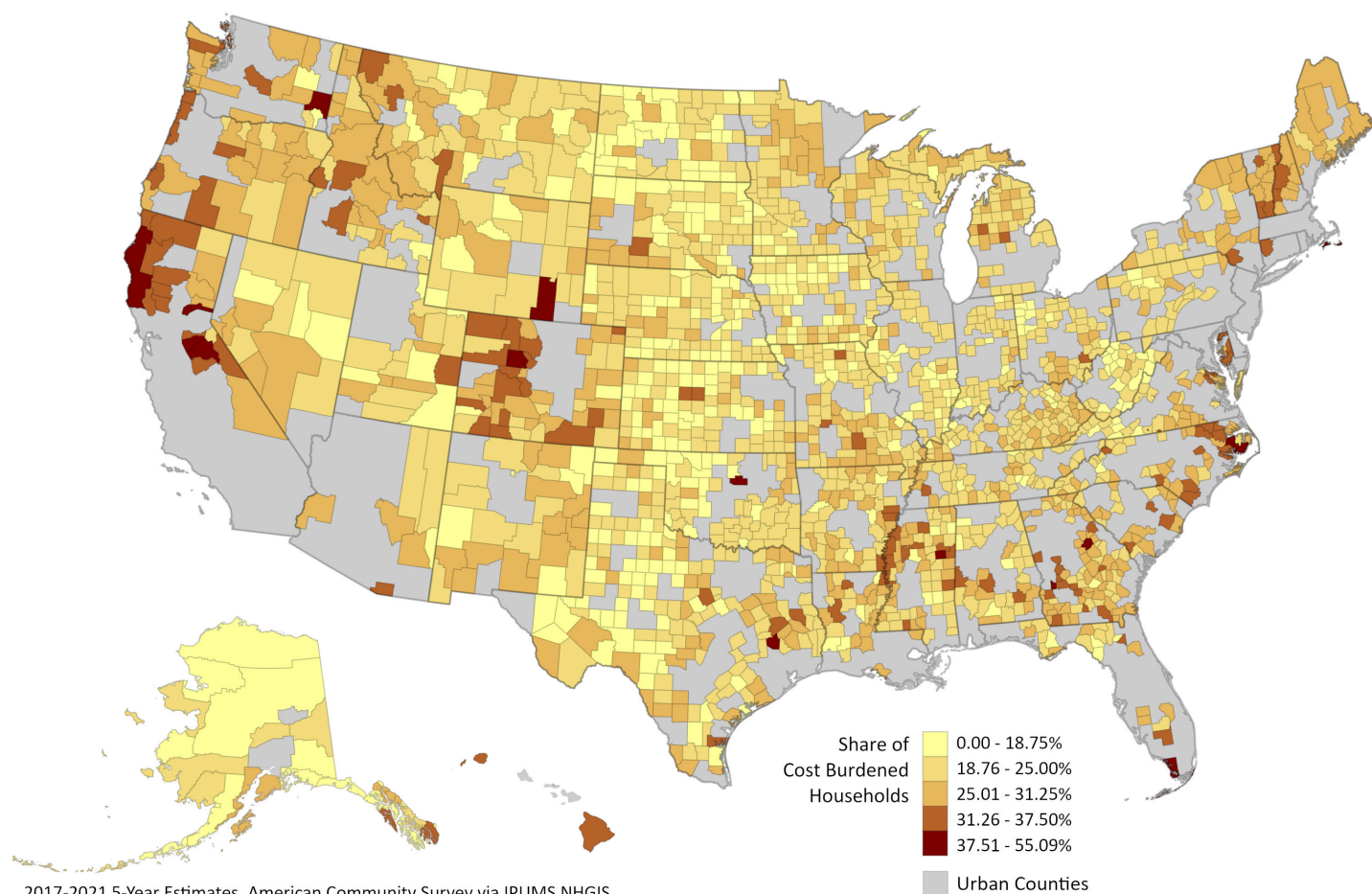


Figure 5: Households Experiencing Housing Cost Burden in Rural U.S. Counties



2017-2021 5-Year Estimates, American Community Survey via IPUMS NHGIS

some of the counties containing large cities fall in one of the lowest three cost-burden classes (e.g., Minneapolis-St. Paul, MN; Pittsburgh, PA; Kansas City, MO; Cincinnati, OH; Oklahoma City, OK; Salt Lake City, UT).

Discussion and Implications

An increasing share of Americans report that the availability of affordable housing in their area is a major problem,¹⁵ and our findings support this concern as we find housing cost burden (i.e., spending > 30% of household income on housing) is widespread across the U.S. Housing is associated with individual health and well-being, but much less is known about housing differences among rural and urban households or by other geographic locations across the U.S. This policy brief addresses these gaps. Our analysis shows that urban households are overall more likely to be housing

cost burdened than rural households, but some regional variations in rural and urban places are important to consider and highlight.

The Western region, and especially the Pacific division, has the highest rates of housing cost burden for both rural and urban locations of any region. Western states make up 5 out of the top 10 rural and 4 of the top 10 urban cost burdened areas. The top 15 most cost burdened places by state and rural-urban location included both the rural and urban parts of Massachusetts, California, and Hawaii. Overall, these states have been facing high home and rental prices for years. For instance, median home prices in California are around double the U.S. median, and there is a continuing decrease in the proportion of households who can afford a median-priced home.^{16,17} Also, more than 40% of Californians rent housing, and about one-third of those renters reported in 2021 being late on housing payments or anticipated not being able to meet the

next month's payment.¹⁸ Hawaii has encountered difficulties building affordable housing and stark increases in home prices as well, driven by a large percentage of homes being sold as investment properties.^{19,20}

The Northeast has several states with outsized rates of experiencing cost burden among rural and urban households as well. For example, Massachusetts has a shortage of affordable housing throughout the state, and this differs by location with the metropolitan core seeing higher rates of housing construction, outlying suburbs having slower production, and rural areas struggling to retain and develop affordable housing.^{21,22} Greater Boston has rents and home prices that are among the highest in the U.S. and housing vacancy rates that are among the lowest within a major metropolitan area.²¹ And, although rural Massachusetts includes only two counties in our classification (Nantucket and outlying islands as well as the Martha's Vineyard area), residents working in these areas' seasonal, service-based tourist economy are facing cost burden. Many have been forced to move off-island and have called on the state for more affordable housing options.^{23,24} Further, while both rural Massachusetts counties are typically viewed as vacation destinations, they are also health-professional shortage areas,^{25,26} indicating that they may struggle to recruit and retain health-professional workforce. While we cannot say with this study whether housing cost is a factor in health professional workforce recruitment, more attention is needed on the issue of housing cost for the rural health-professional workforce in higher-cost areas.

In general, rural areas typically have lower costs of living, including housing costs,²⁷ so it is notable that we find some rural areas among the highest proportion of housing cost burden in the U.S. For rural areas, the sources of housing unaffordability vary by place and local context. In general, many rural areas struggle to develop new and preserve existing affordable housing due to more limited resources and infrastructure related to geographic isolation. In addition, rural areas face different challenges based on the economic base and conditions of the local area.²² Areas relying on a tourist economy or that have seen increased numbers of urban transplants are faced with housing price inflation that increases cost burden for long-term, year-round residents. For example, in-migration to rural Washington and Idaho has led to increases in housing cost burden and limited housing availability for long-time and working-class residents.^{28,29} Rural Montana, such as the outlying Bozeman area, has seen an influx of people

purchasing second homes and/or moving there to work remotely, causing home prices to increase locally.³⁰ Meanwhile, rural areas that rely on agricultural or manufacturing economies have more affordable housing prices, but economic shifts affecting unemployment and limiting job availability influence individuals' incomes and thus their ability to afford housing, even if it is lower cost than those in other areas.^{22,31}

Other social contexts in combination with the issues listed above influence rural housing costs. Structural racism and historically racist housing policies are factors that continue to impact people of color.⁴ For example, we find higher rates of housing cost burden across the Southern Black Belt--rural Southern counties with higher rates of majority-Black population.³² In Hawaii, with its high rates of rural and urban cost burden, Native Hawaiians continue to struggle in gaining access to develop ancestral lands via federal mortgages and land trusts.³³ In addition, shifts to an aging and sometimes decreasing population overall means rural areas are faced with additional challenges of meeting specialized housing needs and maintaining a stable tax base.²²

These findings have implications for public policy. Continued or increased investment in federal rural housing initiatives, such as the USDA's Section 502 direct home loan program³⁴ and Section 515 rental housing loan program,³⁵ have potential to improve these issues. In addition, funding limits keep many who need federal rental assistance most from receiving it,³⁶ highlighting a need to expand programs to reach those they are intended to help and build more equitable access to these services. However, policymakers may need to consider additional investments in infrastructure and other resources to address root causes that hinder development in rural areas.²² Most notably, further programs and support at the state and local levels would empower rural communities to make changes to best meet their specific context and need.²² Overall, a greater investment in affordable housing in rural and urban areas alike would lessen the cost burden and improve the lives and health of many.

Conclusion

Housing affordability directly impacts health outcomes. This policy brief reveals the link between housing cost burden and rural-urban location in combination with other geographic contexts (regions, states, and counties). Our findings indicate that urgent attention is needed to address policy to lessen housing

cost burden both in urban and rural areas, with attention to the specific and complex needs of different areas around the country. Improving housing affordability is an important way to address the social determinants of health and improve health equity.

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