

Housing Needs and Trends in Central Appalachia and Appalachian Alabama

Prepared for

Fahe

Prepared by

The Virginia Center for Housing Research at Virginia Tech (VCHR)

Mel Jones, Research Scientist

Samuel Spencer, Research Associate

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Introduction

Appalachia is a region with significant contrasts. The evolution of the economic landscape over the last century has led each county in the region to face and adapt to unique circumstances. Although each county is unique, general housing trends in the region can be identified as well as outlier counties that do not conform to these trends. Many of the relevant housing trends in the region are quantifiable using US Census data. VCHR has compiled this data for a wide range of housing topics, including housing stock, demand, and affordability. Despite limitations such as reduced reliability in low-population counties, VCHR has conducted a relatively complete survey of issues relating to housing demand and preferences has been conducted.

The analysis performed by VCHR uses both quantitative and geospatial methods to identify housing trends across the region; however, the trend may be stronger, weaker, or non-existent for some topics. VCHR indicates the significance of these trends where possible and maintains an unbiased presentation of the findings. This report presents each topic in the context of other trends to offer a more complete understanding of the figures produced in the analysis. Though comprehensive, the data and resulting analysis have raised additional questions. Where the analysis cannot conclusively explain a trend, this report can guide the reader toward further areas of research and consideration. Ultimately, VCHR's findings present an updated assessment of housing trends in Central Appalachia and Appalachian Alabama and their significance.

Data

VCHR compiled data from the American Community Survey (ACS) published tables, the Comprehensive Housing Affordability Strategy data (CHAS), and Public Use Microdata Samples (PUMS). VCHR tested the reliability of 1-year and 5-year ACS data and used whichever set allowed for the most accurate and reliable estimate. County-level estimates use 5-year data, and some MSA-level estimates benefit from the availability of reliable 1-year data. The latest ACS estimates available during the initial data collection by VCHR were from 2015. The US Census Bureau produces the CHAS and PUMS files using 5-year ACS estimates. The latest estimates available from the PUMS files are from 2012–2016, whereas those for CHAS data are from 2010–2014. CHAS data is available at the county level, and VCHR constructed MSA data by combining the estimates of the appropriate counties. PUMS data is available for Public Use Microdata Areas (PUMAs), each representing an area with at least 100,000 residents that may include complete or a portion of cities and/or counties in the study area. Because PUMAs do not align precisely with the Appalachian Regional Commission (ARC) delineations of Appalachian geography, VCHR has approximated this geography using PUMAs. The county-based and PUMA study areas are shown in Appendix 1.

Geography

VCHR used the ARC definition of Appalachia and Fahe's service area to define the study area: central Appalachia and Appalachian Alabama. As mentioned previously, these were approximated using PUMAs, which do not align precisely with the ARC definition used. The study area also includes jurisdictions in

Metropolitan Statistical Areas (MSAs). Because MSAs are good approximations of housing markets, VCHR conducted analysis for entire MSAs where possible.

More than 9.7 million people comprising 3.8 million households live in Central Appalachia and Appalachian Alabama. Of these households, 58 percent live in MSAs and 42 percent live in counties that are not included in the MSAs and are often more exurban or rural geographies. Most households in Appalachian Alabama, Tennessee, and West Virginia live in metro areas, whereas most households in Appalachian Kentucky and Virginia live in rural areas.

Table 1: Percentage of Households by State in MSAs and Non-Metro Areas

	Alabama	Kentucky	Tennessee	Virginia	West Virginia
MSAs	75%	7%	67%	35%	59%
Non-Metro Areas	25%	93%	33%	65%	41%
Total Households	1,183,705	457,185	1,124,425	307,180	742,345

The urban and rural contexts are critical for the VCHR analysis because differences in factors such as topography, labor markets, access, and density of the built environment affect individual housing markets. In addition, Virginia delineates “independent cities,” which are included in the study areas as county equivalents. Virginia’s independent cities effectively separate urban and rural or suburban, causing them to appear as “outliers” in the data.

Household Characteristics

The ACS published tables categorize households by number of people in a household. ACS reports the estimates using four categories: 1-person, 2-person, 3-person, and 4-or-more-person households. The most common category in our study area is 2-person households, representing 37 percent of households. Next, 1-person households are the second-most common at 27.9 percent followed by 4-or-more-person households at 18.7 percent and 3-person households at 16 percent.

The proportion of 1-person households in the region has the greatest variation among counties in our study area, ranging from 20.4 percent in Pleasants County, WV to 49.2 percent in Lexington, VA. The City of Lexington, VA; Hampshire County, WV (46.2 percent); and the City of Norton, VA (43.2 percent) have the highest percentages of 1-person households in our study area. In addition, 1-person households are most prominent in urban areas with high populations of single professionals. In the Virginia Highlands and far Southwest Virginia, independent cities are often the most-desirable places for young professionals. Hampshire County is part of the Winchester MSA and offers cost-of-living advantages over Frederick County, VA, which may also attract 1-person and other single-earner households.

There are several outliers in the distribution of county proportions of 2-person households in our study, including five localities with proportions lower than 30 percent: the City of Lexington, VA (26.2 percent); the City of Norton, VA (26.7 percent); Martin County, KY (26.9 percent); Powell County, KY (28.6 percent); and the City of Covington, VA (29.0 percent). There are three localities with proportions greater than 45 percent: Highland County, VA (46.8 percent); Cumberland County, TN (45.9 percent); and Grant County, WV (45.2 percent). A high population of empty nesters may explain the high proportion of 2-person households—either these localities are aging owing to slow growth and outmigration or they are particularly attractive to retirees.

There are few instances of localities with very high or very low proportions of 3-person and 4-or-more person households. The counties with the lowest and highest proportion of 3-person households are Pocahontas County, WV (9.9 percent) and Perry County, KY (21.7 percent), respectively. Both counties have proportions of 3-person households that differ approximately 1 percent from those with the next lowest/highest proportions. Two counties have very low proportions of 4-person-or-more households, the City of Lexington, VA (6.5 percent) and Highland County, VA (9.5 percent), whereas Martin County, KY has a particularly high proportion of such households (26.6 percent).

Although 1- and 2-person households are the most common in our study area, single-room, 1- and 2-bedroom housing units are the least common in our study area. This is because households are dynamic whereas the housing stock is “sticky.” That is, households expand and shrink through their lifetimes but housing units endure for generations. Approximately 3,600 units were built in 2014 and 2015 to reflect recent market demand, but most units reflect the housing preferences in the decade in which they were built.

Tenure

Most households in the study area own their home. The proportion of owners in each county ranges from 43.7 percent in the City of Radford, VA to 87.6 percent in Botetourt County, VA. In most counties, between 62 and 86 percent of households own their homes. Only 12 counties have a proportion of owners lower than 60 percent. A significant number of localities with very low proportions of owners are independent cities (county equivalents) in Virginia, including the cities of Radford (43.73 percent), Norton (50.9 percent), Martinsville (52.9 percent), Bristol (55.2 percent), Lexington (57.4 percent), Buena Vista (58.6 percent), and Galax (59.6 percent). These cities comprise urban areas in the Virginia Highlands and Southwest Virginia, and most multi-family rental housing is concentrated there. A number of these cities also have a substantial student population. Similarly, some counties with a proportion of owners lower than 60 percent are counties with higher-than-average student populations, including Montgomery County, VA (54.2 percent) and Monongalia County, WV (57.2 percent).

The median proportion of owner-occupied units at the MSA level (68.9 percent) is lower than that of the overall study area (74.3 percent). The MSA with the largest proportion of owner-occupied units is the Wheeling, WV–OH MSA (74.67 percent). The Blacksburg–Christiansburg–Radford, VA MSA (61.77 percent) has the lowest percentage of homeowners, likely because of the high number of students who attend Virginia Tech and Radford University and tend to rent.

Tenure has implications for housing affordability. As shown in the following table, renters are more susceptible to increasing costs of housing and are disproportionately cost-burdened. Although only approximately 30 percent of all households rent, renter households represent nearly half of all cost-burdened households. In all but four counties, renter households are disproportionately cost-burdened.

Table 2: Percent of Total Households that Rent Compared to the Percent of Cost-burdened Households that Rent

	Alabama	Kentucky	Tennessee	Virginia	West Virginia
Percent of Households Renting	29.8%	29.1%	30.4%	28.9%	27.5%
Percent of Cost-Burdened Households Renting	47.7%	45.9%	49.2%	48%	50.1%

However, owners are responsible for home maintenance and modifications. Cost-burdened owners are not likely to have savings for unexpected expenses and may be at financial risk should a home emergency occur. Furthermore, cost-burdened owners may neglect regular home maintenance and are unlikely to upgrade their home over time, reducing the market value of their home. Aging, cost-burdened homeowners may face even greater challenges when they are unable to find affordable, appropriate housing because they cannot afford home modifications and their home cannot command market value on sale.

Housing Affordability

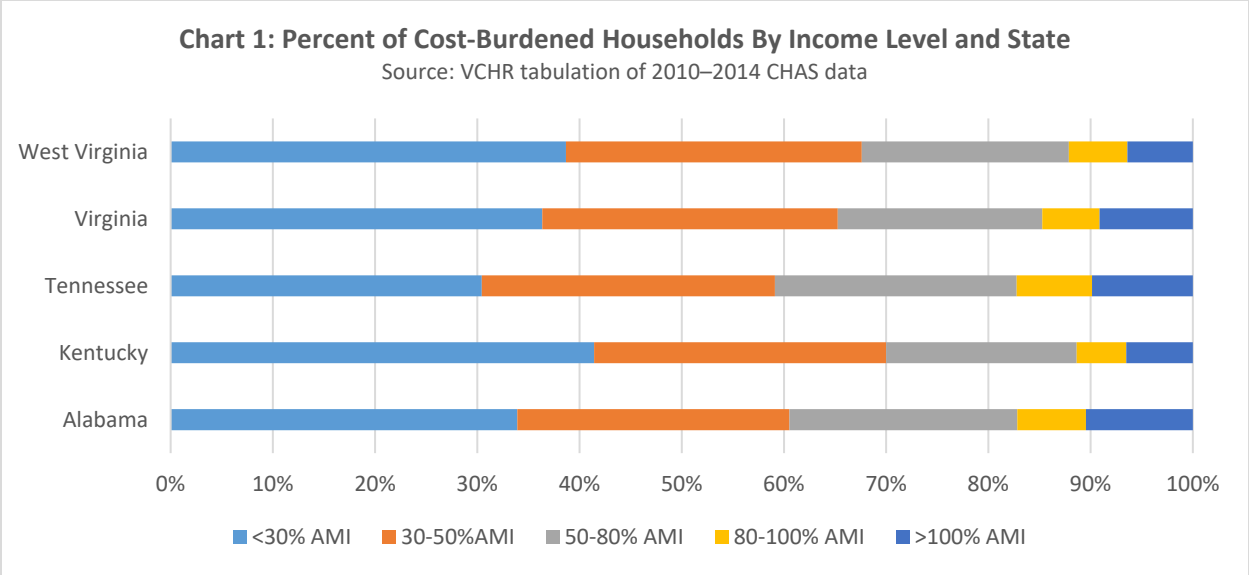
A quarter of households in the study area are cost-burdened, spending more than 30 percent of their income for housing. Furthermore, nearly half of these households are severely cost-burdened, spending more than 50 percent of their income for housing. Nationally, approximately 17.7 percent of households are cost-burdened, and 15.5 percent are severely cost-burdened. These figures can be grouped by geography and HUD Area Median Family Income (HAMFI) levels to identify trends in housing affordability across the region.

Table 3: Percent of Households that are Cost Burdened by State and Income Level

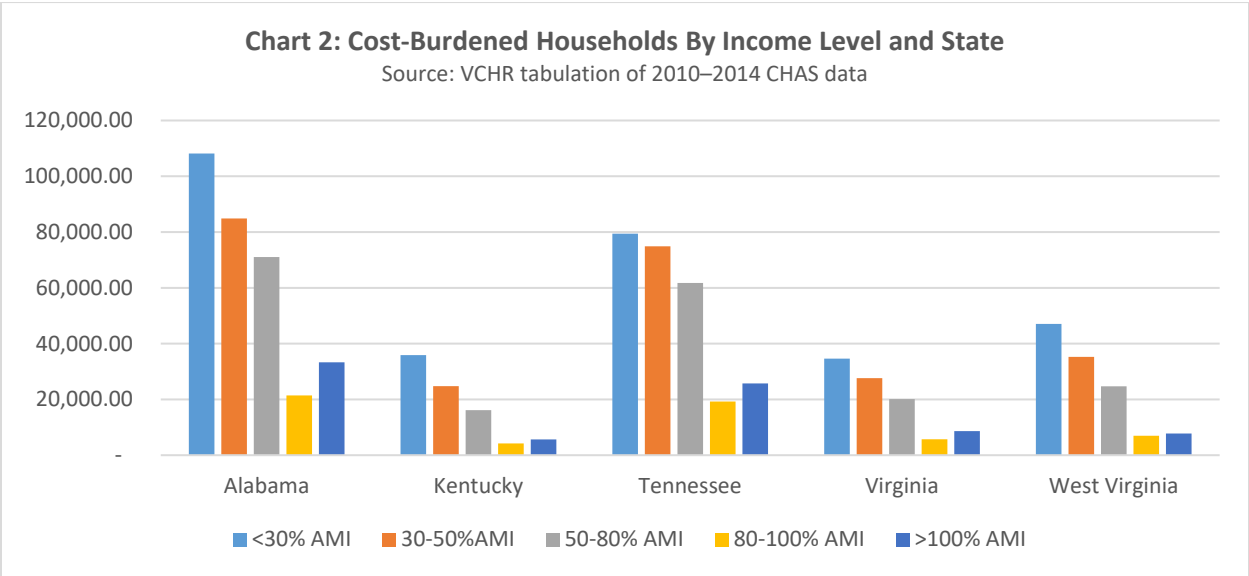
	Alabama	Kentucky	Tennessee	Virginia	West Virginia
Cost-Burdened	26.9%	25.6%	26.4%	25.1%	21.1%
Severely Cost-Burdened	12.6%	12.0%	12.0%	11.6%	9.6%
Cost-Burdened and Income Below 30% HAMFI	9.1%	10.5%	8.1%	9.1%	8.1%
Cost-Burdened and Income Below 80% HAMFI	22.3%	16.8%	19.2%	26.8%	14.4%
Total Households	1,183,705	457,185	1,124,425	307,180	742,345

The percent of households that are cost-burdened is lowest in West Virginia (21.1 percent), and the percentage of households that are severely cost-burdened is also lower in West Virginia than in the Appalachian regions of the other states in our study area. Appalachian Alabama has the largest proportion of cost-burdened (26.9 percent) and severely cost-burdened households (12.6 percent), but these percentages are not dramatically larger than those in other states.

Chart 1 shows the income levels of cost-burdened households as a percentage of total cost-burdened households. More than 40 percent of cost-burdened households in Kentucky have extremely low incomes. Households with low incomes often experience housing cost burden disproportionately; however, a very large share of cost-burdened households with extremely low incomes may indicate that the primary issue driving cost burden is low wages or other factors contributing to low incomes rather than the cost or availability of housing. In contrast, when housing costs rise faster than incomes households with moderate to median incomes, higher-income households may also experience housing cost burdens. Tennessee and Alabama have the largest share of cost-burdened households that have moderate and higher incomes, likely because of rapidly increasing housing costs in metro areas.

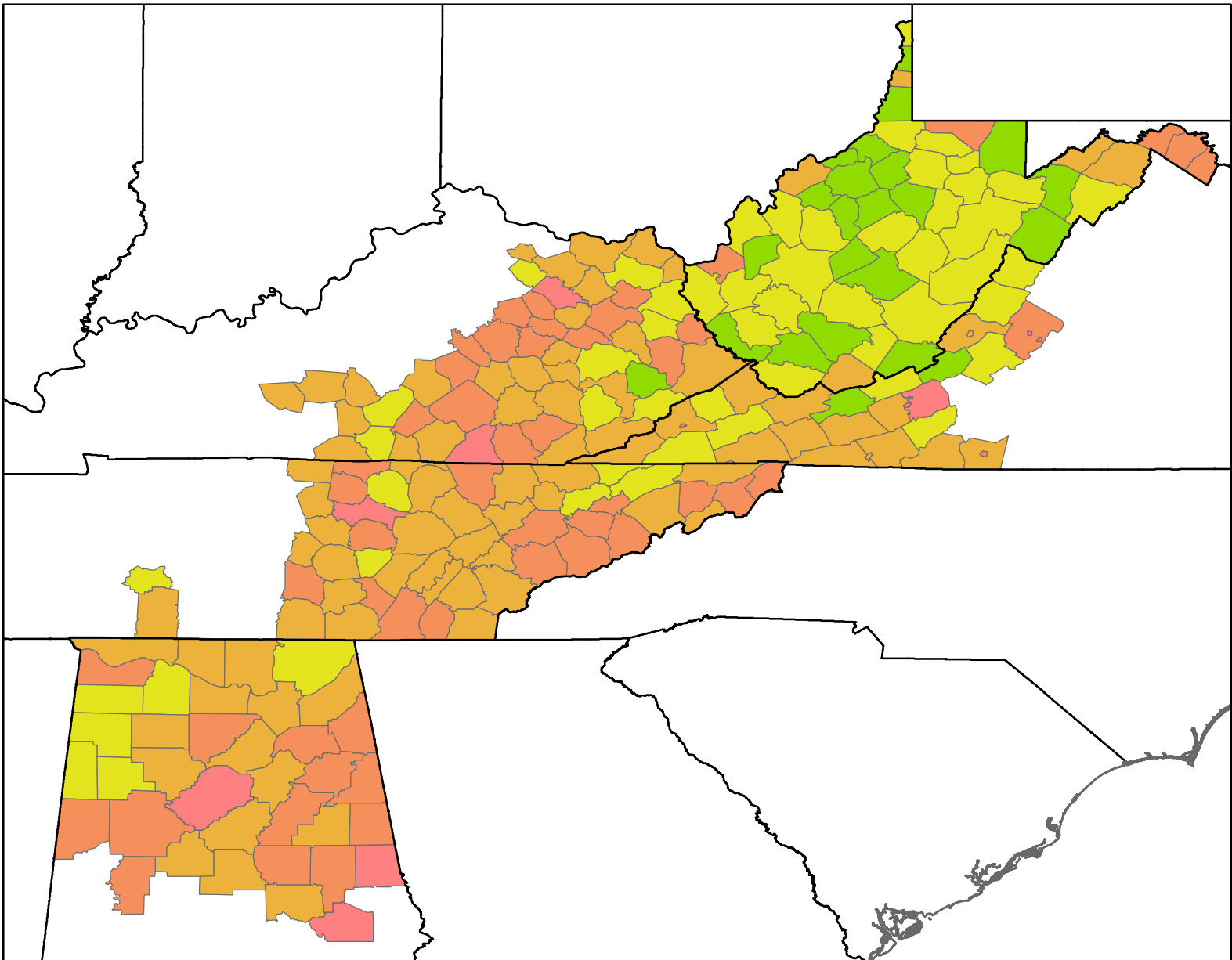


Whereas Kentucky has the highest proportion of cost-burdened and severely cost-burdened households compared to other states, Alabama has the largest number of cost-burdened households, followed by Tennessee. Alabama and Tennessee, which have more metro areas and higher population density than other states, encompass more than 60 percent of the region’s cost-burdened households.



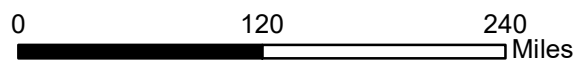
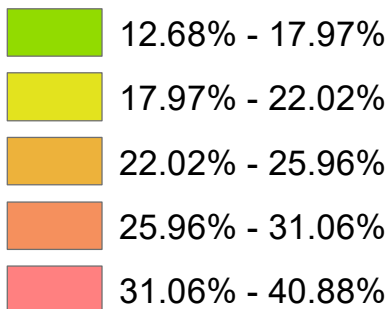
The percentage of households facing a cost burden at the county level ranges from 12.68 percent in Doddridge County, WV to 40.87 percent in the City of Buena Vista, VA. Most counties in West Virginia have a lower rate of cost burden compared to the rest of the region: only 10 counties in WV have a proportion of cost-burdened households greater than 22 percent and only 5 counties have that greater than 26 percent. Tennessee, Kentucky, and Alabama all have higher rates of cost burden than West Virginia. The proportion of cost-burdened households in Virginia falls somewhere in between these two groups, as most counties have between 12 and 22 percent cost-burdened households. Only the counties of Rockbridge and Montgomery have significantly higher proportions at 28.98 percent and 34.29 percent, respectively. There are no counties in Tennessee or Alabama with a cost burden proportion lower than

Map 1: Percent of Households that are Cost-Burdened



Legend

Percent of Total Households Cost Burdened



17.9 percent. In contrast, Knott County, KY (15.29 percent); Bland County, VA (17.14 percent); Craig County, VA (15.81 percent); and 21 counties in West Virginia all have proportions of cost-burdened households lower than 17.9 percent.

Housing Stock

Type

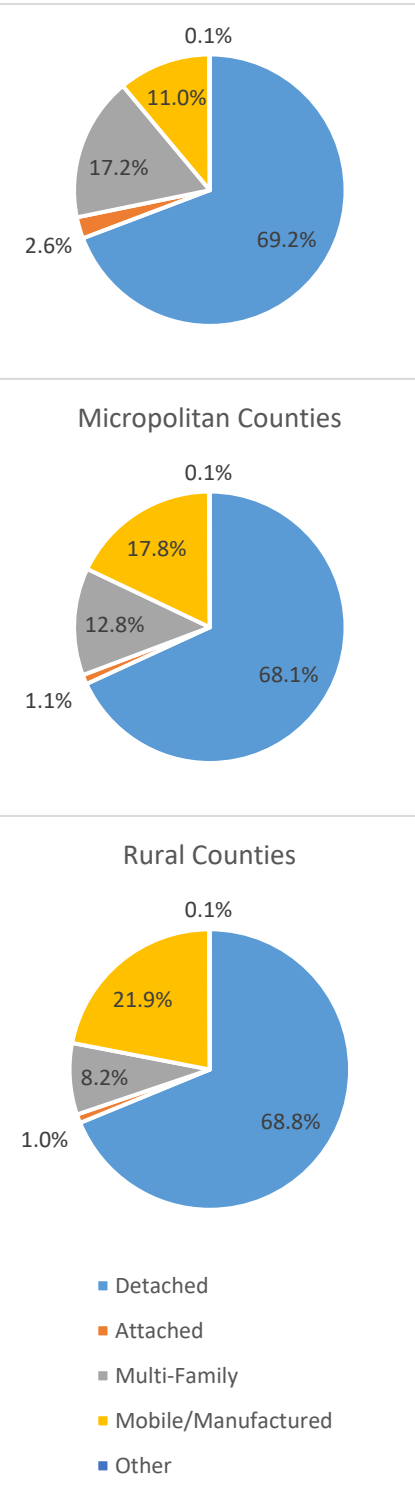
The distribution of structure types reflects subtle market differences and similarities between metropolitan, micropolitan, and non-metropolitan counties in our study area. Detached units represent the overwhelming majority (68–69 percent) of structure types in all counties. Mobile or manufactured units represent the second-largest structure type in rural and micropolitan areas, whereas multifamily units outnumber mobile and manufactured homes in metropolitan areas. Mobile and manufactured homes and multifamily housing may serve similar markets in each geographic context: multifamily housing is more viable in urban, dense contexts, whereas manufactured homes are more practical in rural areas where factors such as topography and access present challenges to building larger buildings. Attached housing units comprise roughly 1 percent of units in rural and micropolitan counties and 2.6 percent of units in metropolitan areas.

Some outliers exist for the percentage of detached housing units in the study region. Excluding the outliers in Virginia, Kentucky has the greatest range of the percentage of detached housing units to total housing stock, between 50 and 80 percent. Kentucky counties may have relatively fewer single-family detached homes than counties in other states because of the prominence of mobile and manufactured homes as an alternative to stick-built detached homes. Mapping the proportion of single-family detached homes shows several areas with relatively low proportions of detached housing units in Eastern Kentucky, Southwest Virginia, Eastern Tennessee, and the Southern part of Appalachian Alabama, areas which have higher proportions of mobile and manufactured homes.

Kentucky counties have the largest proportion of mobile and manufactured homes. Nine of the 10 counties with the largest proportion of mobile housing units are in Kentucky, and Magoffin County has the highest percentage of mobile and manufactured homes (nearly 47 percent). There exists a clear cluster of high proportions of mobile and manufactured housing units in Eastern

Chart 3: Structure Types by MSA, Micropolitan, and Non-Metro Areas

Source: VCHR tabulation of 2015 ACS 1- and 5-year data



Kentucky, Southwestern West Virginia, and Southwestern Virginia. A smaller cluster also exists in the southern section of Appalachian Alabama.

There are very few counties and MSAs where the proportion of attached housing units exceeds 5 percent of the total housing stock. Although most of these are concentrated in MSAs, several urban counties have relatively low quantities of attached housing units whereas a few rural/low-population counties have significantly higher proportions of attached housing units than others of a similar size. At the county level, the median proportion of attached households is around 1 percent or less. However, three counties have a proportion greater than 8 percent: Montgomery County, VA; Berkeley County, WV; and Jefferson County, WV. Each of these three counties are part of an MSA and include a town or city that is an employment center and more densely developed, making attached, townhouse-style units more natural.

Counties with the highest proportions of multifamily units are within MSAs and often contain the largest cities in their respective MSA. Some of the highest proportions of multifamily housing units are in independent cities in Virginia, which exclude the surrounding, more-rural county. Higher proportions of multifamily housing units are partially attributable to higher proportions of students in some counties. The median proportion of multifamily units by county in all five states is 7.7 percent, whereas that for MSAs is 15 percent. In addition, there exist counties in every state with multifamily housing proportions between 20 to 30 percent. Only three counties exceed 30 percent: Monongalia County, WV and the independent cities of Radford, VA and Lexington, VA, each of which is home to a large student population.

Number of Bedrooms

The best and most useful measure of unit size available in the ACS is the number of bedrooms. ACS published tables provide estimates of units with 1, 2, 3, 4, and 5-or-more bedroom units. Among counties in Central Appalachia and Appalachian Alabama, 3-bedroom housing units are the most common with a median proportion of 49.5 percent of total housing, which is significantly higher than that of any other unit type. Several counties have a relatively low proportion of 3-bedroom units, including Pocahontas County, WV (31 percent); the City of Lexington, VA (31.7 percent); the City of Covington City, VA (32.4 percent); the City of Norton, VA (33 percent); and Monongalia County, WV (35 percent).

The second-largest median proportion of housing units among counties are 2-bedroom units at 28.5 percent of total housing units. Three counties have significantly high proportions of 2-bedroom units: the City of Covington VA, (45.3 percent); the City of Norton, VA (41.6 percent); and Pickett County, TN (40.6 percent). Only one county is an outlier with low proportions of two-bedroom units: Shelby County, AL (16.2 percent). Typically, 2- and 3-bedroom units house 3- and 4-person households. The mismatch between household size and size of the housing stock may make it harder for small households, particularly those with one earner, to find affordable appropriate units.

There are far fewer 1-, 4- and 5-or-more bedroom units in the study area. The proportion of 5-or-more-bedroom units is the smallest among total housing units, ranging from a minimum of 0.4 percent to a maximum of 7.9 percent for each county. The counties with the highest proportion of 5-or-more-bedroom units are Shelby County, AL (7.9 percent); Webster County, WV (6.8 percent); Martinsville City, VA (6.7 percent); and Tucker County, WV (6.6 percent). Several counties have high proportions of 1-bedroom units, including Pocahontas County, WV (18 percent); the City of Norton, VA (15.9 percent); the City of Lexington, VA (14.4 percent); the City of Galax, VA (14.1 percent); and Ohio County, WV (12.5 percent).

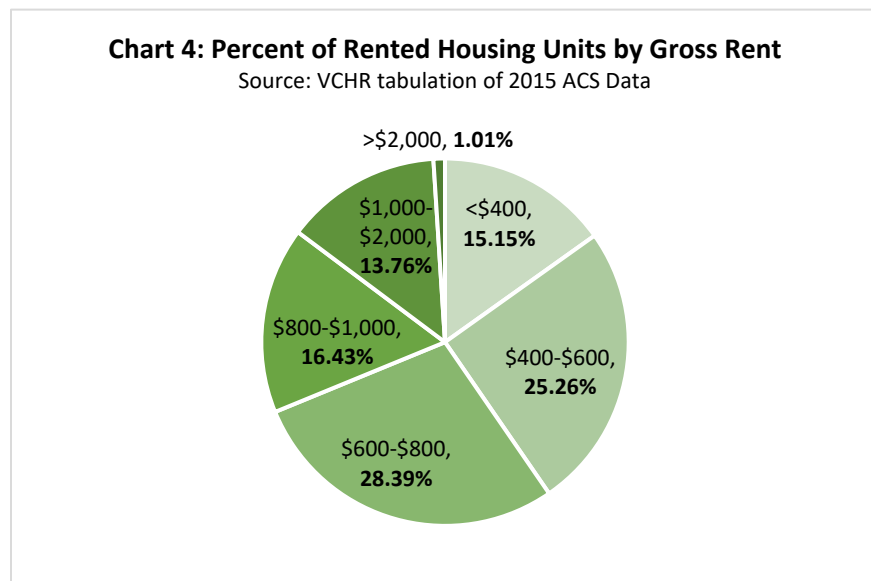
Furthermore, Jefferson County, WV (25 percent); Shelby County, AL (24.8 percent); Madison County, AL (23.5 percent); Botetourt County, VA (21.9 percent) have the largest proportions of 4-bedroom units.

Costs

VCHR separated renter and owner cost categories to ensure the reliability of estimates. The sample of renters and rental units is relatively small, so only six groupings of gross rents are included compared to eight groupings for owner costs. Charts 4 and 5 show the basic dynamics of owner costs versus gross rent. The highest- and lowest-cost groupings in each group vastly differ: rental units are available at costs that are far lower than ownership opportunities that include mortgages. Only 2 percent of households with a mortgage pay less than \$400 a month, but around 15 percent of all renter households pay that amount. Owners costs included in this report are for owners with mortgages. VCHR confined its analysis of owner costs to those with a mortgage to conduct a comparison to rents and to assess the accessibility of homeownership throughout the region.

Rent

For most counties with a small population, the quantity of reliable estimates for gross rent is limited. In many cases, it was impossible to identify reliable estimates for the groupings of gross rent used. Several counties had reliable estimates for only one or two groupings. Despite the lack of reliable data, these estimates still offer useful insight in comparing trends across counties. Most counties with reliable estimates in only one category have reliable data for the \$400–600/month grouping, which typically comprises 25 to 35 percent of all renter households. For counties with two or three reliable estimates, the distribution of gross rent moves towards the \$600–800/month grouping. While the \$400–600 grouping diminishes with population size, it still represents the largest proportion of gross rent in some cases. For most counties, the distribution of gross rent tends to be centered around \$600–800. However, there are several counties with an uneven distribution, including Montgomery County, VA; Shelby County, AL; and Berkeley County, WV. In these three counties, the proportion of total renters and rent are high: the \$1,000–2,000 gross rent grouping is the largest and represents more than 30 percent of all households renting in these counties. In Monongalia County, WV and Montgomery County, VA there is a gap in the groupings, where fewer households in the \$800–1,000 rent grouping than the \$1,000–2,000 or \$600–800 ones. Bimodal distributions are not common in this dataset and may be related to the influx of high-end student rental housing, providing both more and higher-rent units and reducing demand for more modestly priced existing units.

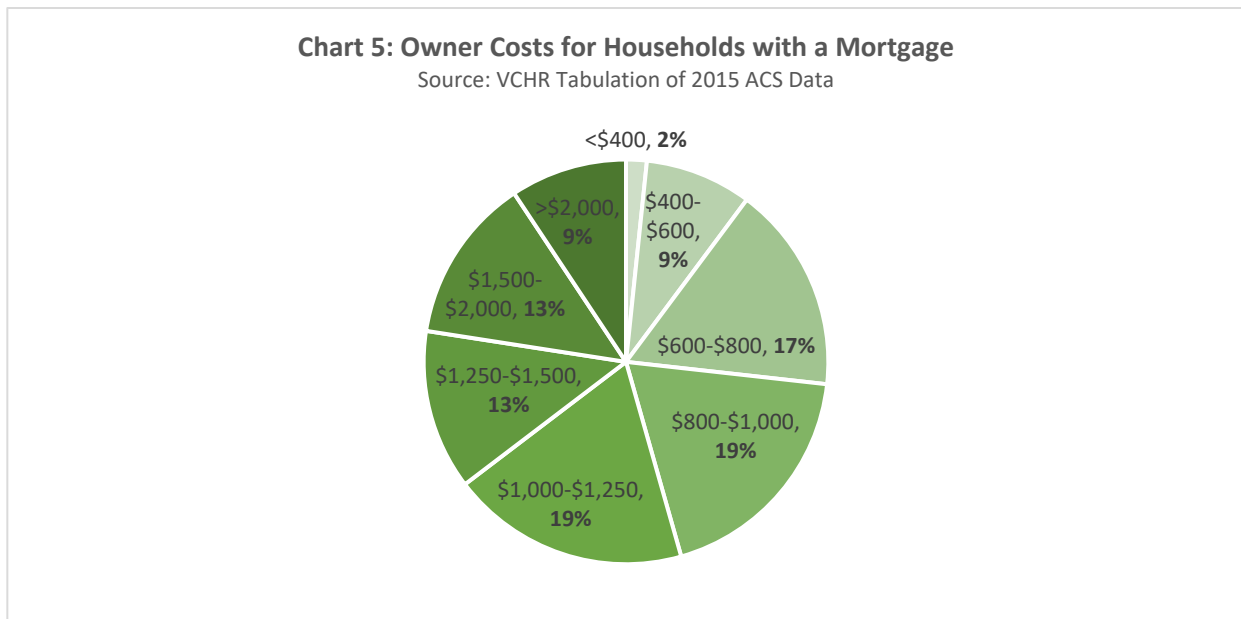


Most MSAs see a relatively even distribution of gross rent, and the largest grouping of rent costs is the \$600–800 range. There are a few MSAs where gross rent is somewhat lower. In Florence–Muscle Shoals, AL and Decatur, AL, the largest grouping of gross rent falls between \$400–600, representing around 30 percent of all renter-occupied housing units in the area. The Winchester, VA–WV and Hagerstown–Martinsburg, MD–WV MSAs have a relatively high proportion of gross rent estimates in the \$1,000–2,000 range—in both areas, this range represents greater than 30 percent of renter-occupied households, which is a significantly larger proportion than that in any other MSA. Both MSAs are within the greater Washington–Baltimore housing market. High demand in this market and relatively restricted supply in the employment centers of the market push demand outward, increasing costs in the most outlying areas of the market. The gaps in the groupings in both Monongalia County, WV and Montgomery County, VA are again apparent in the Morgantown, WV and Blacksburg–Christiansburg–Radford, VA MSAs. Outside these two MSAs, there is an absence of major gaps between estimates.

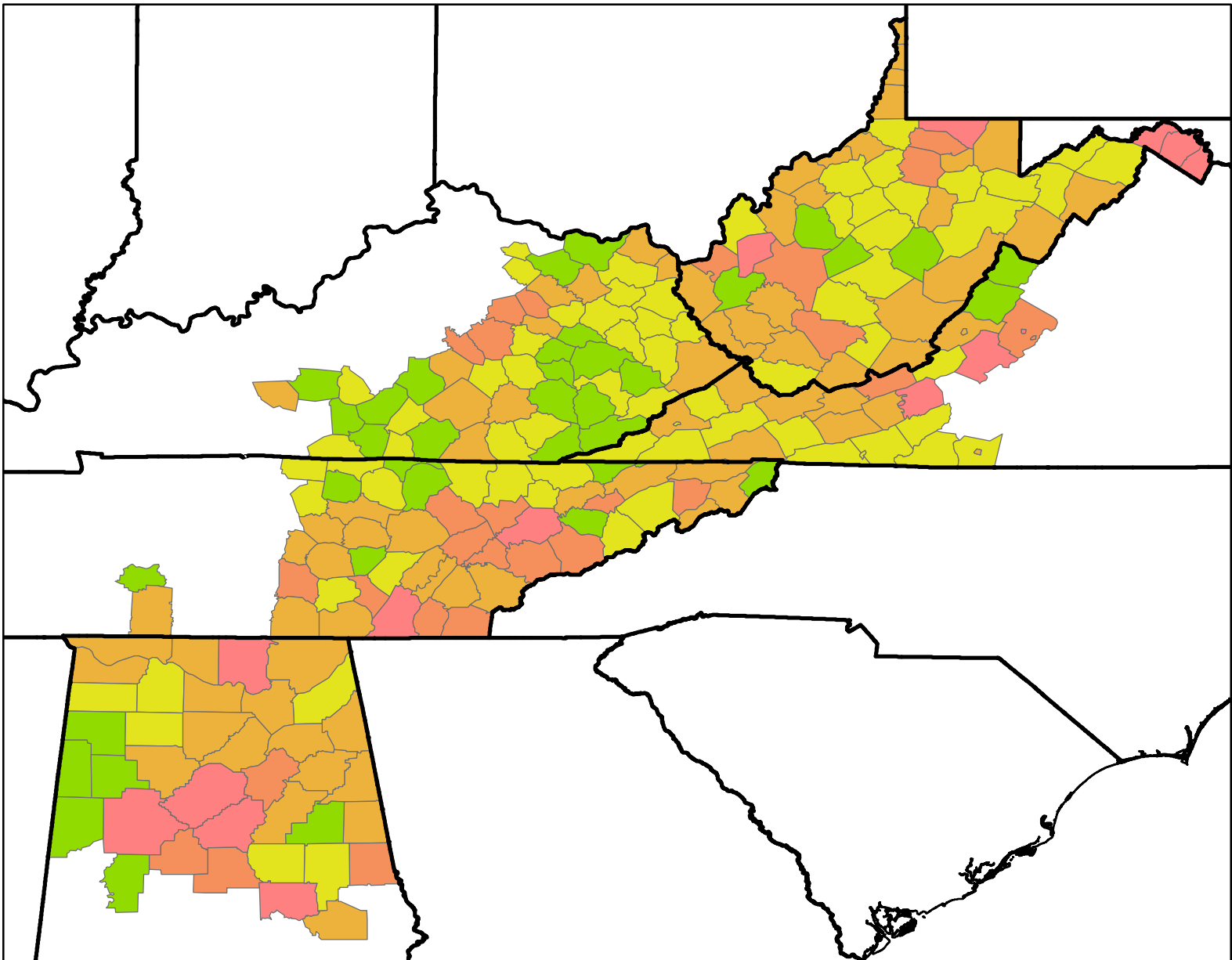
The map of median gross rents for each county in Central Appalachia and Appalachian Alabama (Map 2) suggest slightly higher rent in urban areas than rural ones. However, a few counties outside of Metro/Micro areas have high median rents, including Botetourt County, VA (\$870) and Elmore County, AL (\$817). Every state has at least one county with a median rent in the lowest grouping, and Kentucky has the most low-rent counties by a large margin. Across the entire region, a reasonable level of variety exists in median rents in each state.

Owner Costs for Owners with a Mortgage

In low-population counties, approximately 20–25 percent of all owners with mortgages tend to spend \$600–800 per month, the most-common grouping. For larger-population counties, the distribution shifts up such that the \$600–800 range represents only approximately 15–20 percent of owners with mortgages. As the population increases, fewer groupings of housing costs exceed 25 percent of total housing units occupied by owners with mortgages, suggesting that the range of housing costs widens and groupings become more evenly distributed. In larger counties, ranges between \$800–1,000 and \$1,000–1,250 represent the largest groupings. However, there exist several anomalies where the largest grouping is between \$1,500–2,000, including Montgomery County, VA; Berkeley County, WV; and Shelby County, AL.

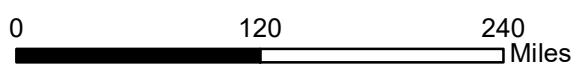


Map 2: Median Gross Rent



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Median Gross Rent



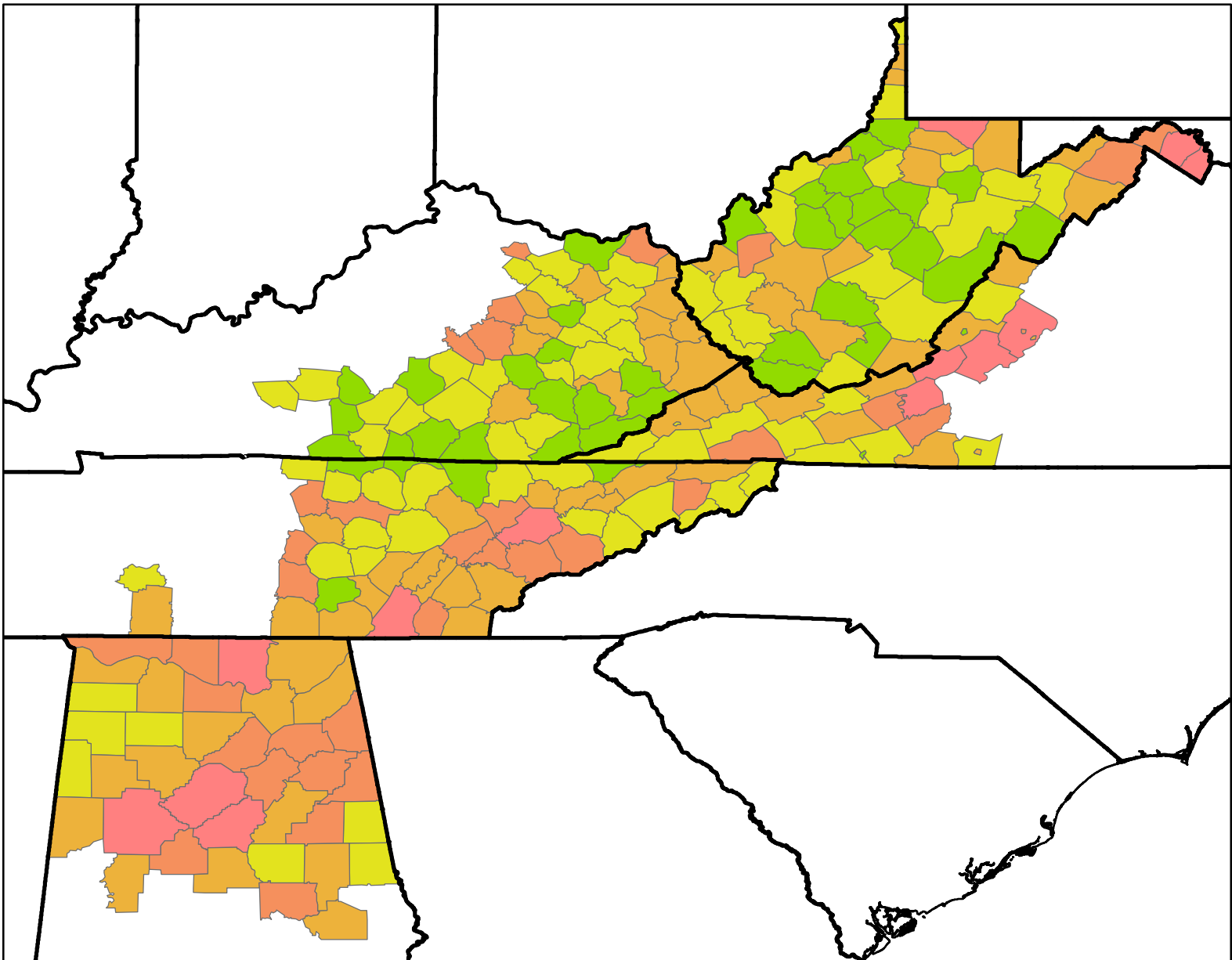
Although the distribution usually clusters around median cost, clustering is correlated with population size. There is a higher proportion of estimates within higher-cost groupings in larger counties, whereas there is a higher proportion of lower-cost units in less populous counties. However, Kanawha County, WV and Sullivan County, TN are clustered within the middle range of cost groupings. Furthermore, 25 percent of all owners with a mortgage in the low-population counties Pickens County, AL and Giles County, VA have costs between \$1,000–1,250. In Cherokee County, AL the proportion of households in this cost range (\$1,000–1,250) approaches 30 percent. Most counties exhibit a smooth distribution of costs without significant gaps; however, in counties including Botetourt County, VA; Montgomery County, VA; and Elmore County, AL, the proportion of owners within a specific cost range is significantly lower than that in adjacent ranges.

The four largest MSAs in the area tend to have an imbalanced distribution biased toward higher-cost groupings. In Hagerstown–Martinsburg, MD–WV and Winchester, VA–WV, the proportion of households in higher-cost groupings are disproportionately larger than those in other MSAs. VCHR conducted an in-depth analysis of housing gaps in MSAs, which is available in a separate report titled “Housing Gap Analyses for Appalachian MSAs.”

The urban/rural divide is somewhat more apparent among owners compared to renters, and far less diversity exists in owner costs among states. Virginia and Alabama have moderate to high owner costs compared to the other states in our study area, whereas Kentucky and West Virginia have many counties with low median owner costs, which is likely related to the relatively large number of lower-cost mobile and manufactured homes. The median owner costs for owners with a mortgage are shown in Map 3.

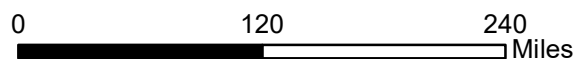
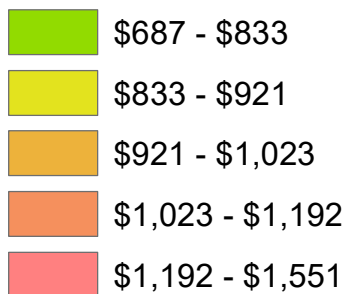
Median household income levels across the region—as well as AMI-level breakdowns—follow some limited geographic trends: Many of the lowest-income households in Central Appalachia and Appalachian Alabama are found in Eastern Kentucky and a few border counties in neighboring states. Other patches of low-income counties exist elsewhere, but the pattern is weaker. Most counties within MSAs have the highest income levels in the area. Median housing costs grouped by tenure reflect similar patterns but differ slightly. The map of Median Gross Rents reflects very similar trends to the map of Median Household Income Levels: areas with low median incomes typically have low median rents. However, the map for Median Owner Costs suggests that a few counties have low incomes and high housing costs, including Hale County, AL; Pickens County, AL; Patrick County, VA; and Hampshire County, WV.

Map 3: Median Owner Costs (Units with a Mortgage)



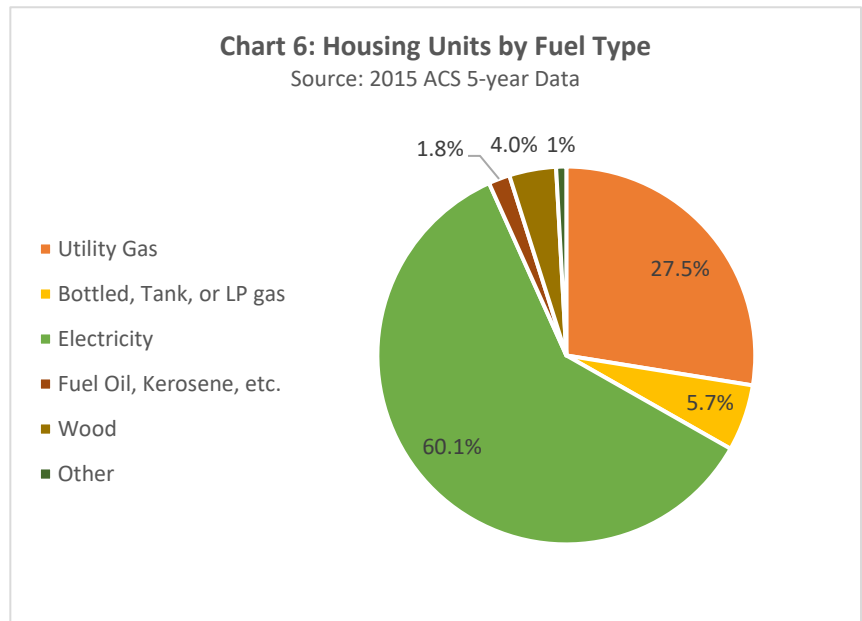
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Median Owner Costs (With a Mortgage)



Energy Use

The overwhelming majority of households in Central Appalachia and Appalachian Alabama rely on energy from electricity (60.1 percent) or utility gas (27.5 percent), and a small but significant quantity of households use other fuel types (12.4 percent). “Bottled, Tank, or LP Gas” is the third-largest category at 5.7 percent, followed by “Wood” at 4 percent. “Coal or Coke,” “Solar,” “No Fuel Used,” and “Other Fuel” categories are combined in the “Other” category and represent only 1 percent of households in the region, or roughly 38,000 households of 3.8 million.

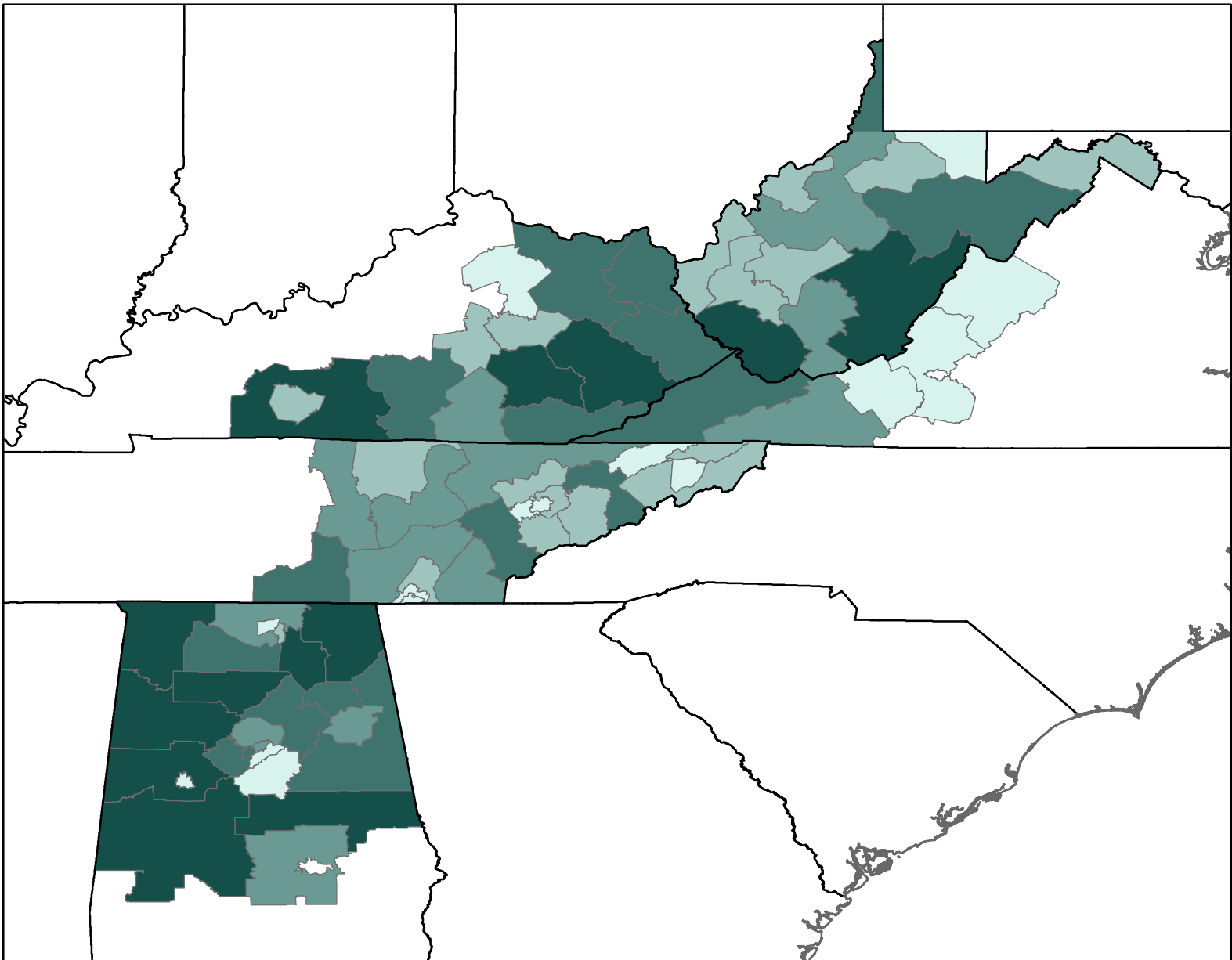


The range of median energy costs as a percentage of median housing costs (Maps 4 and 5) differs significantly between renters (9–30 percent) and owners (17–58 percent), but they exhibit similarities in geographic distribution. Most metropolitan areas tend to see relatively low median energy costs, but costs among rural counties vary significantly. Both owners and renters see the highest costs in Eastern Kentucky, Southern West Virginia, and the Western section of Appalachian Alabama. In other words, utility cost contributes to housing costs substantially in these areas. In total, 248,715 households in the region are cost-burdened by utilities alone.

Unit Age

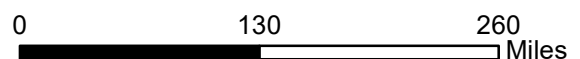
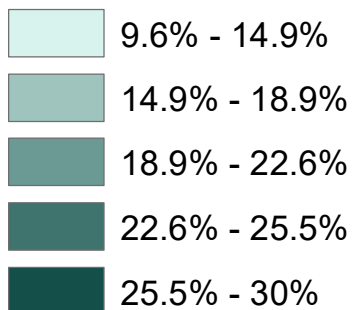
Energy performance, maintenance costs, and upgrade costs of a housing unit are often related to the age of the unit; that is, older units generally cost more to heat and cool, require more maintenance, and necessitate significant upgrades to command full market value. Chart 7 shows the number of housing units constructed by decade. Homes built before 1939 are generally considered “historic” and have often been upgraded or preserved. Thus, drawing conclusions about the performance or upgrade needs of these homes is difficult; however, they generally have high maintenance costs regardless of the condition of the house. Homes built in the 40s and 50s often have a high quality of construction and have likely had up to two upgrades. These units are typically small and located in cities within walking distance of the city center, offering very desirable and affordable housing opportunities. Housing built in the 1960s, although modest and well-built, is often less central than those from the previous decade and is associated with higher transportation costs. Homes built in the 70s, 80s, and 90s are notably less well-constructed compared to housing in previous decades. In metropolitan areas, these are associated with “sprawl” development and high transportation costs. Many of the housing units built between the 60s and 80s have not experienced major upgrades and must be upgraded to match market demand. Housing built in the 70s, 80s, and 90s comprises nearly 50 percent of the housing stock in our study area, indicating that nearly 50 percent of the housing stock will need significant work over the next 10 to 20 years.

Map 4: Median Utility Cost as a Percentage of Household Income (Rent)

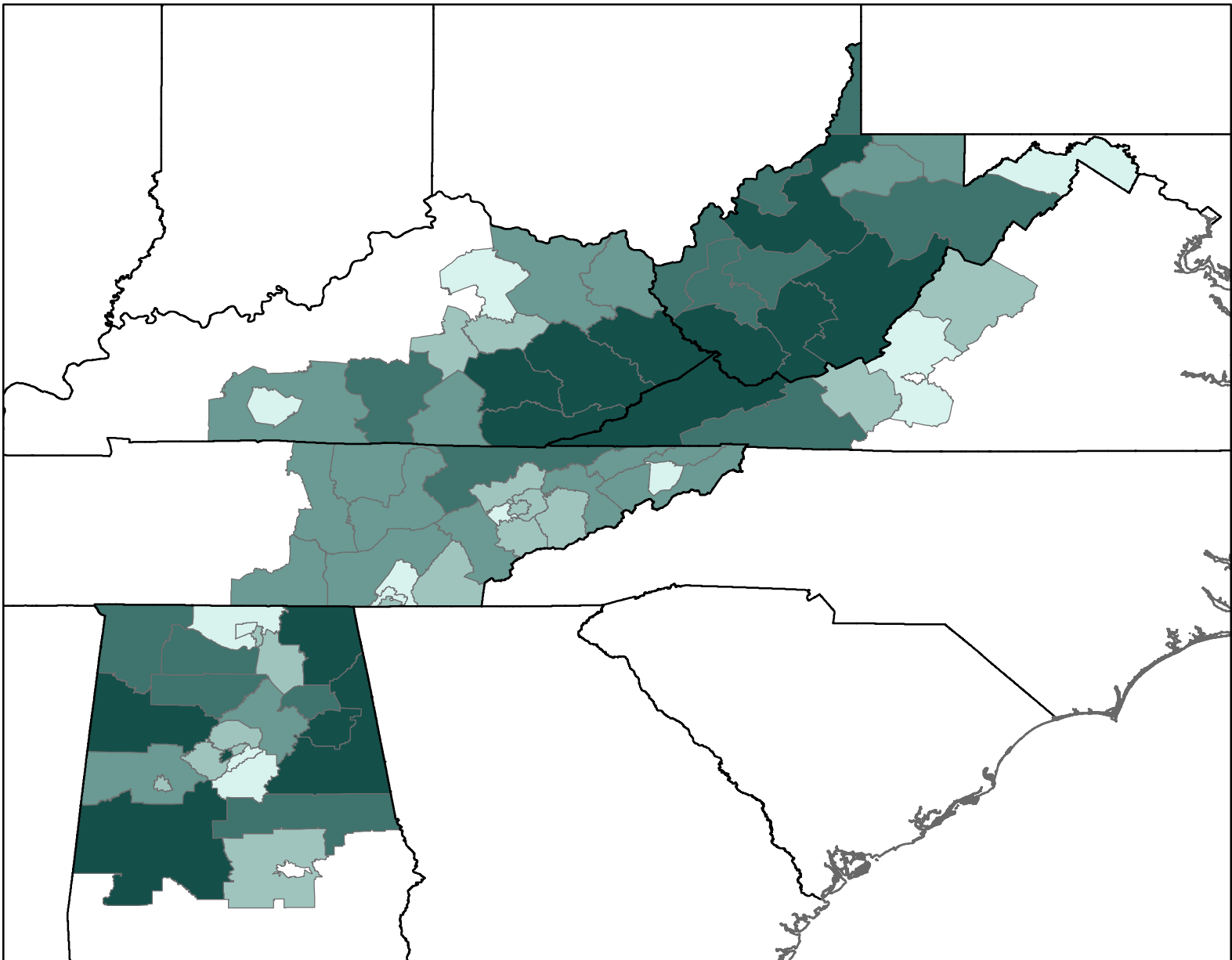


Legend

Utility Cost as a Percentage of Household Income

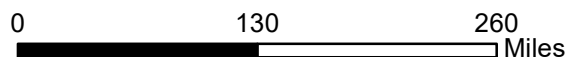
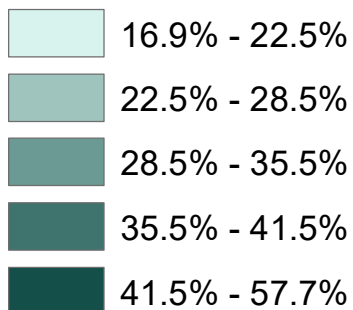


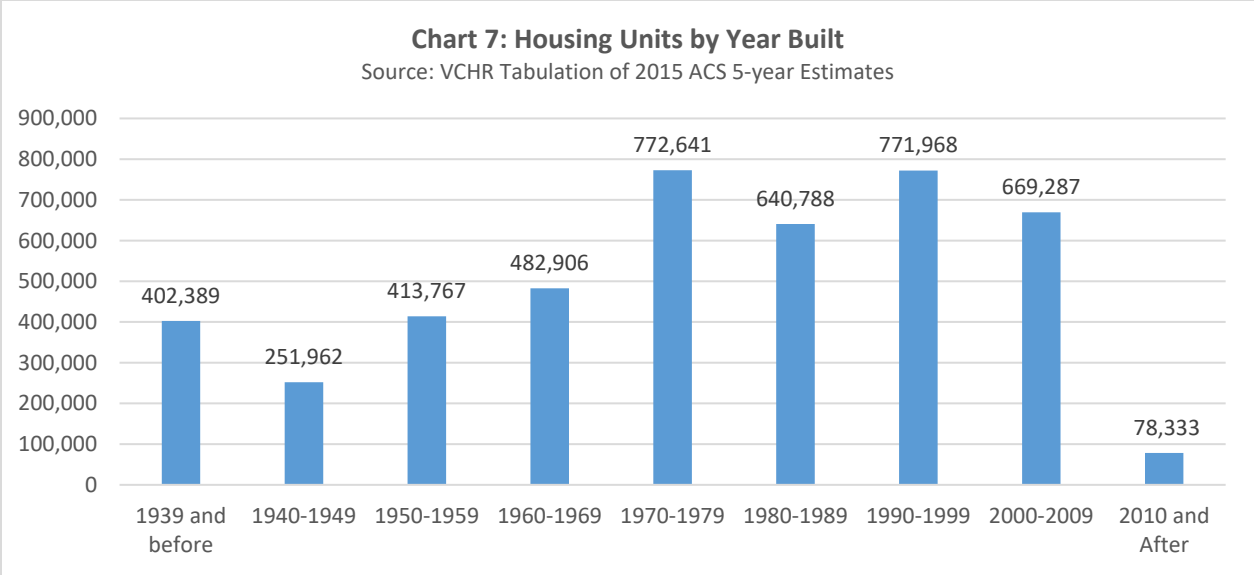
Map 5: Median Utility Cost as a Percentage of Household Income (Owner)



Legend

Utility Cost as a Percentage of Household Income





VCHR also examined unit ages at the state, county, and MSA-level geographies to identify areas with particularly old housing stock. The group of housing units built in 1939 or earlier has the smallest median value for all MSAs. The quantity of pre-1940 housing units is highest in West Virginia (with a median of 15 percent of all housing units) followed by six outliers in Virginia (Highland County, Bath County, Craig County, the City of Covington, the City of Lexington, and the City of Buena Vista), where more than 20 percent of the housing stock comprises such units. In other areas, the median proportion of pre-1939 housing units is approximately 7 percent.

West Virginia also has the highest median proportion of households constructed from 1940–1959 (approximately 13 percent) followed by Virginia, where county medians range from 4 percent to almost 30 percent. The quantity of housing stock from the 40s and 50s is slightly higher than that from the 60s for Alabama and Kentucky. Kentucky has low proportions of housing units built in both periods compared to the rest of the area (except for the proportion of homes built in 1960s West Virginia, which is significantly lower than that in other states in the region).

The lowest range of housing stock by period at the county level is the 1960s (4 percent to 19 percent), which is slightly lower than that of the 70s and 80s at the MSA level. Alabama has the greatest median percentage of housing units built from 1960–1969 (12 percent) compared to other states and MSAs. The upper limit for the proportion of 1960s housing units is Martinsville, VA (19 percent), followed by Lamar County, AL (18 percent).

The highest median percentage of housing stock across both the MSA and county levels is from the 70s and 80s (by more than 10 percent in some cases). These proportions are relatively consistent across the five states and MSAs, ranging from 32–34 percent of total housing units. Four counties show significantly fewer housing units built from 1970–1989 at less than 20 percent of total units: the City of Covington, VA; Bath County, VA; the City of Lexington, VA; and Ohio County, WV. These areas also have low proportions of housing units constructed since the 1990s but higher proportions of those built in previous decades.

Median trends at the county level for each state suggest that more households were constructed in the 1990s than after 2000. Several counties in Alabama (Shelby, St. Clair, Limestone, Tuscaloosa, Elmore, and Cumberland) and two in Tennessee (Loudon and Sequatchie) have high proportions of housing units—

around 30 percent—constructed after 2000. At nearly 35 percent, the county with the largest proportion of units built after 2000 is Berkeley County, WV. Berkeley County is an outlier among West Virginia counties, where the median proportion of housing units constructed after 2000 is approximately 12 percent. Moreover, Virginia has the largest differences in percentages of housing units built after 2000 by county (2–31 percent).

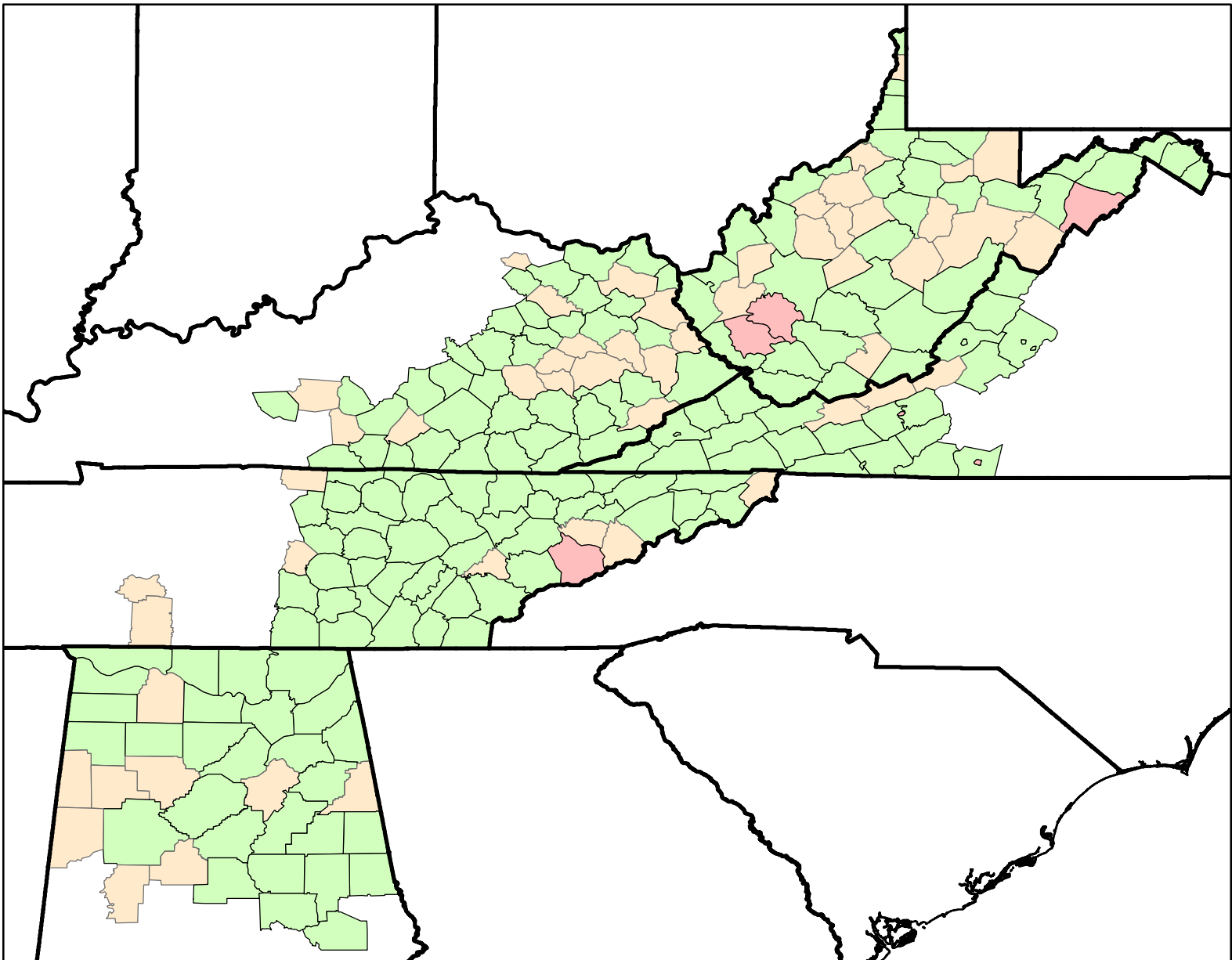
Vacancy

Most counties within the study area have a healthy market vacancy rate between 2–7 percent of total housing stock. Fifty-two counties have market vacancy rates below 2 percent, of which 12 counties have vacancy rates below 1 percent. Counties with vacancy rates below 2 percent can be considered “tight,” and the lack of for-sale and for-rent inventory may drive up housing costs. At the MSA level, four MSAs have a market vacancy rate below 2 percent: Chattanooga, TN–GA; Winchester, VA–WV; Johnson City, TN; and Huntington–Ashland, WV–KY–OH.

Six localities have market vacancy rates above 7 percent: Boone County, WV; Logan County, WV; Hardy County, WV; the City of Radford, VA; Sevier County, TN; and Martinsville, VA. The county with the largest vacancy rate is Boone County at 9.2 percent. Only one MSA, Wheeling, WV–OH, had a market vacancy rate above 7 percent (12.5 percent). Market vacancy rates above 7 percent may signal market weakness.

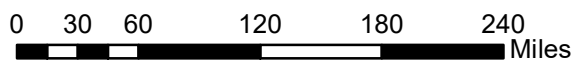
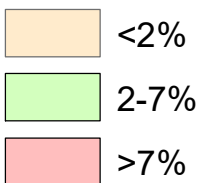
“Other” vacancies are long-term vacancies rather than seasonal or market ones (where units are for sale or for rent). The long-term vacancy rate ranges from 0.53 percent in Harlan County, KY to 19.52 percent in Bibb County, AL. Within this large range, it is difficult to identify clear geographic patterns or evidence to suggest an exclusively rural or urban issue. Among MSAs in the study area, the long-term vacancy rates range from 3.5 percent (Decatur, AL) to 14.2 percent (Tuscaloosa, AL). VCHR has mapped this data to highlight jurisdictions with large percentages of long-term vacancies, which also signal market weakness and/or extreme mismatch between housing stock and housing demand.

Map 6: Proportion of Vacant Housing Units (Market)

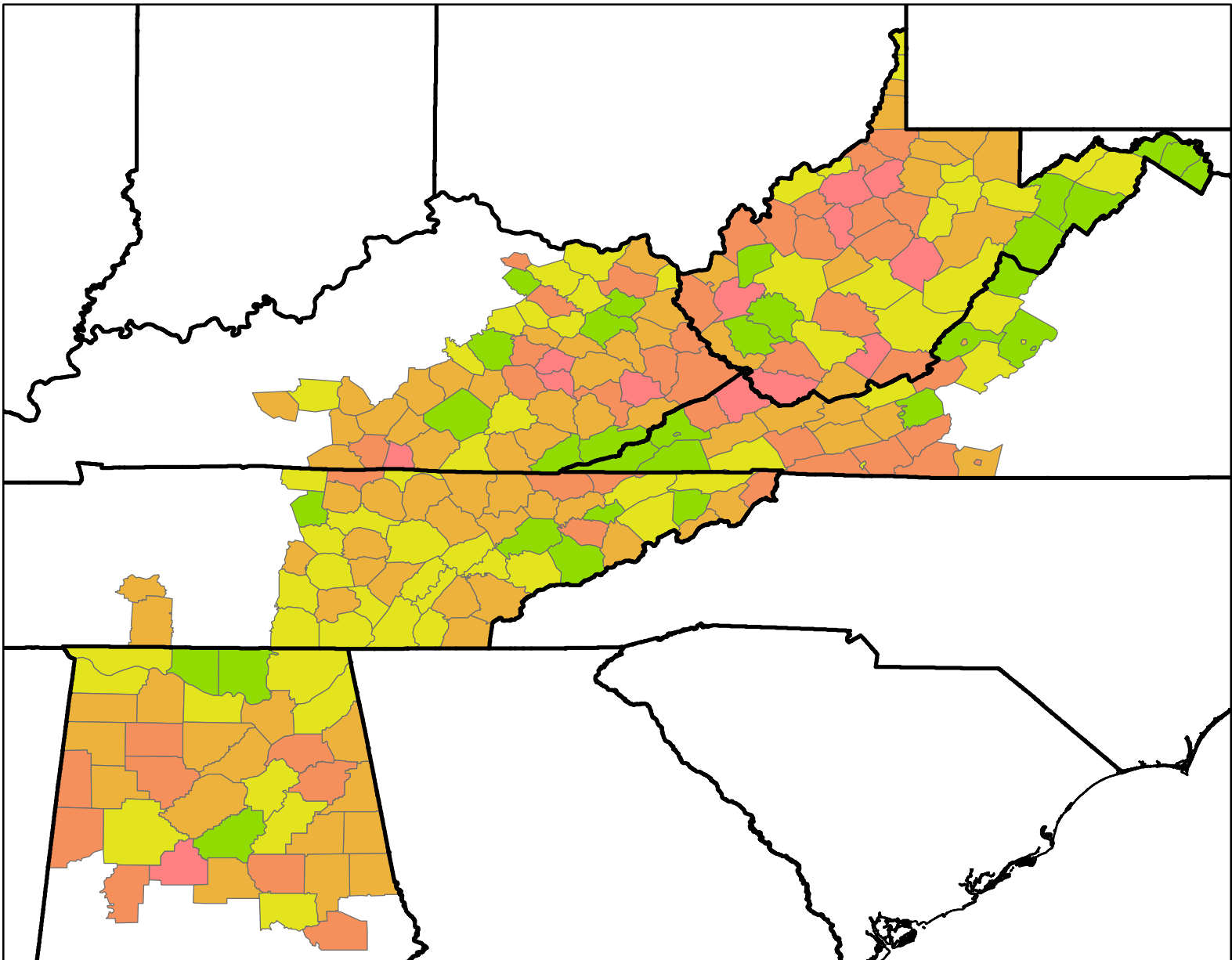


Legend

Percent Vacant

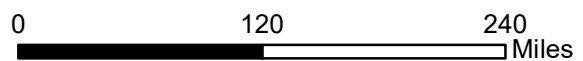
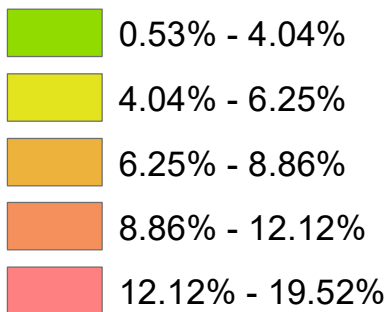


Map 7: Percent of Total Housing Units that are Vacant (Other)



Legend

Percent Vacant (Other)



Conclusion

Although significant differences exist between individual counties in the study area, Appalachia exhibits housing trends that are like regional (i.e., Mid-Atlantic and Southern) ones. That is, the lack of affordable housing is very apparent. However, the “heart” of the region—Eastern Kentucky and adjacent parts of West Virginia—has likely been impacted by sustained and severe low incomes and cycles of poverty relative to other areas. The disproportionate amount of extremely low-income households in the area suggests that low wages are likely a significant cause of cost burden than a lack of appropriate and affordable housing stock.

Most households that need more affordable housing are in the densely populated, urban areas of the study region. Low and moderate-income households in these areas likely face rising housing costs driven by demand and relatively stagnant income growth, suppressed in part owing to a large supply of labor and market conditions following the Great Recession. The small quantity of housing units constructed in the region after 2010 shows how slowly the housing market is recovering. Because new housing cannot meet demand, demand for existing units is higher and they must remain in use for longer periods. About 50 percent of the housing stock requires major upgrades in the next 10 to 20 years owing to an extensive amount of housing construction in the 1970s that has not been significantly updated since. This is a post-recession challenge because stagnant or decreased incomes and high housing costs imply that households have forgone maintenance and have little savings to complete upgrades.

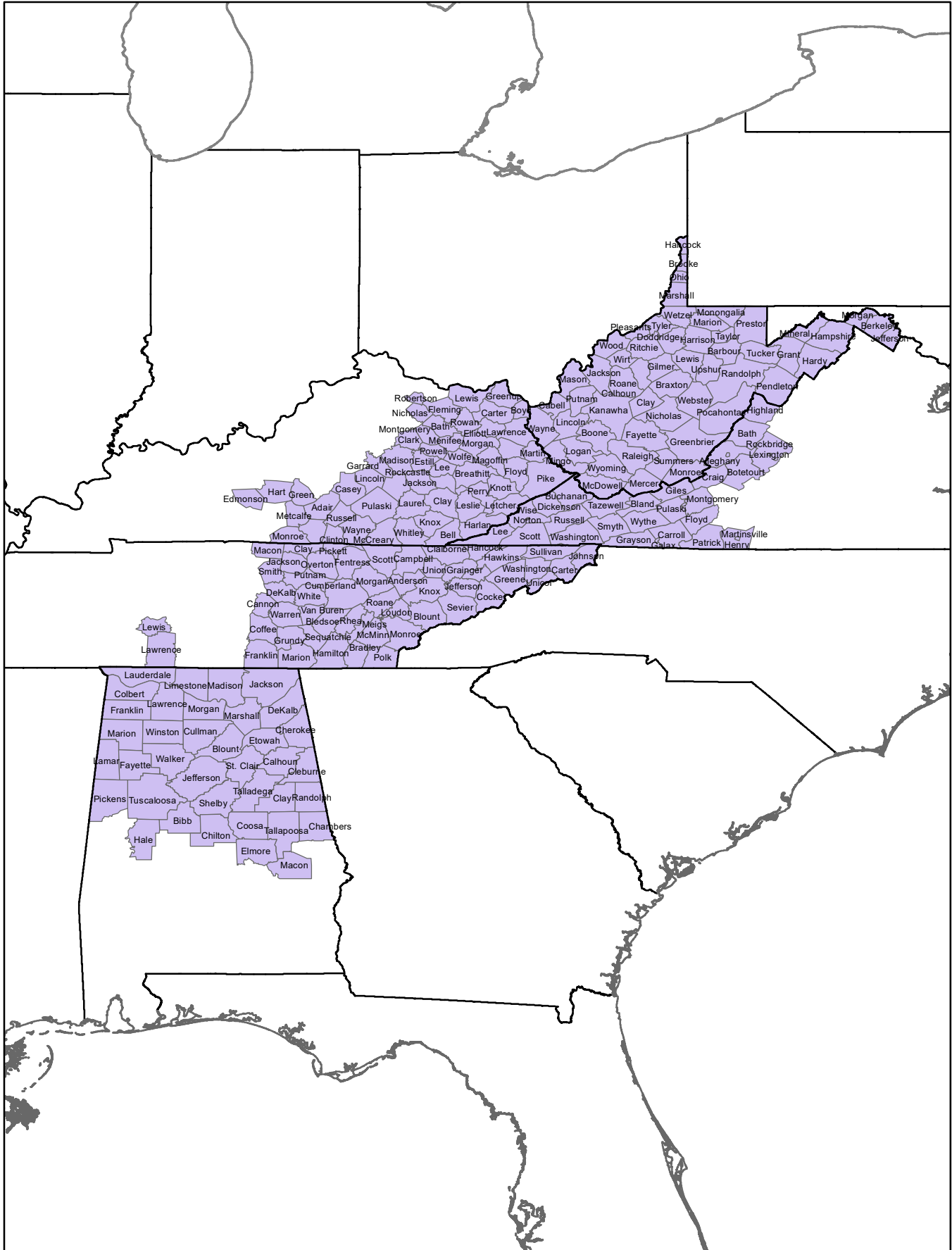
The inability to upgrade and the absence of newer housing units means that much of the region’s housing stock is likely not very energy efficient. High energy usage is likely to disproportionately burden lower-income households in the oldest housing units—including mobile homes—that are concentrated in the heart of the region and in the western portions of Appalachian Alabama. Therefore, almost a quarter of a million households are cost-burdened by energy costs alone, further increasing the inability of homeowners to make needed upgrades or relocate to more efficient housing units.

The mismatch of house and household size also affects the availability of affordable, appropriate units and may present opportunities for redevelopment in some areas. The most common unit size is the 3-bedroom unit across the region and 50% of housing units in the median county. In contrast, households tend to be smaller: 2-person households are the most common followed by 1-person households, which suggests that many of the existing housing units may be larger and more costly than necessary for most households. The lack of affordable and appropriate units is likely to force smaller households to settle for larger units, and the associated higher cost may lead to some degree of cost burden. However, because a significant quantity of the existing stock is old and in need of replacement, current and future preferences in housing size should be considered in new construction.

The challenges facing metropolitan counties are somewhat homogenous, but identifying the contrasts of the region as solely an urban–rural divide would be a simplification. This report has condensed an extensive quantity of data into the essential characteristics of housing trends in the region by closely examining figures for individual counties and MSAs. The patterns and trends indicated here are typical in the region; however, considering outlier areas is also critical. Few challenges affect the region equally, and few solutions will benefit each county in the same manner. This report offers a guide to the critical housing issues in the region as well as explanations for the contexts and circumstances facing each county and MSA.

In rural areas, the data cannot always fully reflect housing challenges. Metro areas have more dynamic markets that respond more quickly to changes in demand, and the Census offers more accurate data for these areas owing to larger sample populations. Rural areas exhibit slow-moving housing markets: older housing stock, fewer rental opportunities that allow residents the flexibility for relocation, and less demand for housing and thus fewer opportunities for return on investment in housing. In addition, the data do not reflect local housing challenges and opportunities in rural and remote areas. More detailed examination at the market and/or local levels, including stakeholder engagement, would enable VCHR to draw additional conclusions for these areas.

Map 8: County Study Area



Map 9: PUMA Study Area

