

Housing Needs and Trends in Central Appalachia and Appalachian Alabama

Prepared for

Fahe

Prepared by

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Executive Summary

Like much of the U.S., housing markets in Central Appalachia and Appalachian Alabama have become more competitive. Increasing demand for housing has improved nearly all of the previously weak markets in the study area and led to housing shortages in many places. While improving housing markets offer opportunities for community and economic development in the region, markets that become too tight jeopardize the improved position of many households and increase the need for communities to preserve housing affordability. The relative affordability of housing in many places in the study area, as compared to more populous areas of the country, can attract new residents and encourage growth. If demand stays strong, the region will need to preserve the relative affordability of their housing stock to sustain market growth and the socio-economic diversity of their communities.

High demand and housing shortages often exclude low and moderate-income households from homeownership opportunities. This group includes a wide range of low-wage service workers in hospitality, retail, childcare, health aid, and public-service occupations. Like everyone else, these households need affordable rental housing on the path toward building wealth through homeownership and are likely to seek out markets where they can become homeowners. Communities without affordable housing options may not be able to attract or keep the types of workers they need to sustain the development opportunities that stronger demand and healthy markets present to them.

While the share of households experiencing cost-burden decreased throughout the region over the 2015-2021 period, some improvements likely result from temporary pandemic-related programs in 2020-21, including the Child Tax Credit and eviction and rent increase moratoriums. As lower-income households face more competitive housing markets without this added support, gains in affordability may begin to erode. In Fall 2022 interviews, Fahe members reported increased evictions, overcrowding, and difficulty finding homeownership opportunities for low- and moderate-income buyers.

Communities throughout the region will need to increase housing development to keep up with increased demand and address their existing market challenges. Housing development should provide options that align with trends in household needs (size, affordability, access to employment, proximity to services), and create opportunities for all types of households to access homeownership. For instance, much of the existing housing in Central Appalachia and Appalachian Alabama was built for larger households than current trends require. Building units with less square footage and bedrooms may increase the number of affordable, high-quality units in the market without subsidy, by distributing land costs among more units. Nevertheless, local contexts may require public or philanthropic investments to achieve ideal community design and/or provide support for residents in need.

Preserving the quality, availability, and affordability of existing housing is a necessary complement to new development. Preservation efforts include support for homeowners who struggle to afford maintenance or home upgrades, as well as creating and reserving affordable stock for low and moderate wage workers. For instance, more than 570,000 households in the region could benefit from upgrades (HVAC, appliances, etc.) and repair or renovation that reduces energy costs. Many of these households would be eligible for Weatherization, USDA renovation loans and other supports intended for low- moderate-income households.

Introduction

The **2023 Housing Needs and Trends in Central Appalachia and Appalachian Alabama** report updates the housing data and analysis presented in the prior 2018 report, including a comparison of changes over the 2015 to 2021 period. In addition, the 2023 update includes several new topics of analysis: tenure by race, overcrowding, and a more in-depth analysis of energy costs.

The report condenses an extensive quantity of data into the essential characteristics of housing trends in the region by examining figures for individual counties and metropolitan statistical areas in detail. The patterns and trends that have been noted are representative of many communities in the region, but it is equally important to consider the areas where these trends do not hold true. Few challenges affect all communities in the region equally, precluding universal solutions that will work equally well everywhere in the region. The report is a guide to the most noteworthy issues facing housing across the region, helping guide an understand of the context and circumstances for more local issues in each county and MSA.

The Virginia Center for Housing Research at Virginia Tech (VCHR) and West Virginia University (WVU) Extension staff compiled the most recent data from the US Census and related public sources to develop reliable estimates of housing market trends in the study region, including housing stock characteristics, housing market demand, and housing affordability. These public datasets supply a relatively comprehensive survey of issues relating to housing demand and preference covering all communities in the study region, although trends for certain topics are more difficult to assess due to data limitations such as unreliable estimates in counties or categories with small populations. The report presents an array of trends for each topic to provide context to specific figures that can be produced through geospatial and quantitative analysis techniques. In addition, VCHR and WVU interviewed Fahe members at the 2022 annual meeting to gather their insights, direct additional analysis, and add context to some of the report's data analysis findings.

Although the U.S. has emerged from many of the hardships and protocols of the COVID-19 pandemic at the time of this writing in 2023, the most recent datasets available for the report reflect conditions during the height of the pandemic when many households were receiving federal and/or state assistance to prevent hunger and eviction amid the global crisis. These support programs have now expired, requiring caution when considering the improvements in housing affordability seen in the data. Fahe members expect increases in the level of homelessness, overcrowding and cost-burden to become apparent as more recent data becomes available, due to many factors: rents that were held lower during the pandemic are increasing; increasing inflation has negatively affected household purchasing power; increasing interest rates have decreased access to homeownership among low and moderate income buyers, and; increasing costs of construction has further limited Fahe members' ability to produce additional affordable units.

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), and tested the reliability of all estimates to ensure the accuracy of the report's analysis. The report uses the dataset that provides the most accurate and reliable results across each geography of analysis (county, Public Use Microdata Area, Metropolitan Statistical Area) as noted in each table or citation. County-level and PUMA estimates use the 5-year dataset to ensure reliability, while some MSA-level estimates have sufficiently large populations to produce reliable estimates using the 1-year dataset. The most recent ACS estimates available during VCHR's data collection and analysis are from 2021, but the report also uses 2019 data to examine the impact of the pandemic in later years' data.

The U.S. Census Bureau produces CHAS using 5-year ACS estimates, although the most recent available CHAS data covers the 2015-2019 period, while the most recent ACS data is from 2017-2021. CHAS data is available at the county level, so VCHR combined the appropriate county-level estimates to create estimates for MSAs and Appalachian areas of states. PUMS data is available for Public Use Microdata Areas (PUMAs), each of which represents an area with at least 100,000 residents and can include multiple cities, counties, or parts thereof. Although PUMAs do not align precisely with the Appalachian Regional Commission (ARC) delineations of the Appalachian geography, VCHR has approximated the Appalachian geography using PUMAs to create estimates of PUMS datapoints for locations within the study area. The areas included in each county-based and PUMA study areas are shown in the maps in Appendix 1.

Geography

VCHR uses the ARC definition of Appalachia and Fahe's service area to define the study area of Central Appalachia and Appalachian Alabama. The ARC uses counties to define its region, so datapoints relating to PUMA areas do not align with the study area precisely, as mentioned above. The study area also includes counties that are part of Metropolitan Statistical Areas (MSAs). Although the Metropolitan and Micropolitan Statistical Area Standards do not equate to an urban-rural classification, they reflect central-city commute sheds and broader social and economic interactions and are good approximations of housing markets. VCHR's analysis considers the urban and rural contexts because related factors such as topography, labor markets, access, population density and built environment density affect individual housing markets significantly.

Whenever possible, VCHR analyzed entire MSAs that fall within the study area. For MSAs that are partially within the study area, the analysis includes only the counties within the study area.

The U.S. Office of Management and Budget (OMB) periodically reviews and revises delineations of MSAs. OMB released revised MSA and Micropolitan area definitions for 2020 and Census applied the new geographies to the 2021 ACS data. ACS data used in the prior study was based on the 2013 delineations. Based on these changes, MSAs in the Appalachian areas of Alabama and West Virginia grew with the addition of several MSA-adjacent counties. Although Micropolitan areas in Kentucky have changed (Clay County was added to the London Micropolitan area, Estill was added to the Richmond-Berea MSA and Rockcastle was removed), Clark remains the only county in Kentucky both in the study area and within an MSA. In Virginia, Bland County was added to the Bluefield Micropolitan Area and Floyd County was removed from the Blacksburg-Christiansburg-Radford MSA. Also note that Virginia's "independent cities"

appear in Census data as county-equivalents and are reported separately from their surrounding counties, which effectively separates adjacent urban, suburban, and rural areas into different counties and make them appear as outliers in the data. Tennessee definitions of MSA and Micropolitan areas did not change.

The study area includes 9.9 million people living in 3.8 million households, with 60 percent residing in MSAs and 40 percent in more rural counties that are not in MSAs. Most households in the Appalachian regions of Alabama, Tennessee, and West Virginia are in metro areas, while households in the Appalachian areas of Kentucky and Virginia are predominantly in rural areas. Compared to the 2015 data, the number of households increased in Alabama and Tennessee but decreased in Kentucky, Virginia, and West Virginia.

Figure 1: Total Households by State (Appalachian Areas) and Percent in MSAs and Non-metro Areas

Source: 2021 ACS 5-year Estimates

	Alabama	Kentucky	Tennessee	Virginia	West Virginia
Metro Pct.	78%	12%	66%	39%	60%
Rural Pct.	22%	88%	34%	61%	40%
Total Households 2021	1,230,489	441,305	1,173,332	292,196	711,352
Growth of Total Households (2015 to 2021)	4.0%	-3.5%	4.3%	-4.9%	-4.2%

Household Characteristics

ACS reports estimates of household size in four categories: 1-person, 2-person, 3-person, and 4-or-more-person households. 2-person households are the most common in the study area, representing 36.4 percent of all households followed by 1-person households at 29.5 percent of households. The remaining households are distributed among 4-or-more-person households at 18.7 percent, and 3-person households at 15.5 percent. 1-person households have increased 2.4 percent since 2015, which may be due to factors such as an aging population or more people living alone. Although the region has more small households and the average household size has decreased, the proportion of 4 or more-person households in the study area has remained constant, representing a significant number of large households. Fahe members have noted that that severe economic consequences for many low- and moderate-income households in the aftermath of the COVID-pandemic are leading many to “double up” and share housing units to cope with lower incomes and higher housing costs. This trend may lead to higher numbers of large households in the upcoming 2022 and 2023 ACS data. Overcrowding is discussed in the Housing Affordability section.

The study area shows significant variation among counties in the proportion of 1-person households, from a low of 19.6 percent in Union County, TN to a high of 40.0 percent in Cumberland County, KY. Cumberland County, KY, Martinsville city, VA (39.1%) and Lexington city, VA (38.5%) had the highest percentage of 1-person households in the study area. Single-person households are prevalent in both job centers with many younger singles and professionals, as well as places with a higher median age and many widowed or divorced individuals. For instance, in rural Cumberland County, a higher percentage of individuals aged 65 and older live alone compared to other counties. In Virginia, independent cities such as Martinsville are job centers and have efficiency units or 1-bedroom units to accommodate singles. Development patterns that include smaller multi-family units may attract 1-person and other single-earner households

to these areas. In addition to being an independent city surrounded by a more rural county and a job center, Lexington is home to a university with many graduate students living off-campus, alone.

Seven localities in the study area have proportions of 2-person households lower than 30 percent, with a low of 27.7 percent in Clay County, KY. Five localities have more than 45 percent of the total living in 2-person households: Craig County, VA (49.3%); Highland County, VA (48.8%); Bath County, VA (47.0%); Pendleton County, WV (45.4%); and Morgan County, WV (45.1%). 2-person households may be young couples without children, young people living in roommate pairs, older couples with grown children who have moved out, etc. Localities with a high proportion of these types of 2-person households may be job-centers that are attractive to young households, or places attractive to retirees due to factors such as a low cost of living, access to healthcare, or a desirable setting.

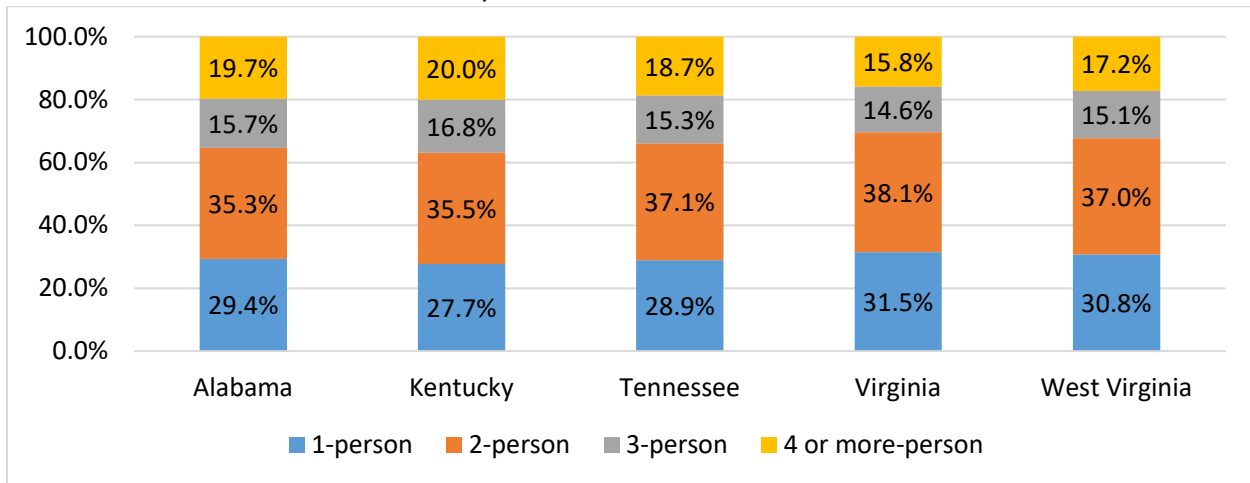
Proportions of 3-person households range from a low of 8.7 percent in Hardy County, WV to a high of 25.5 percent in Elliott County, KY. Similarly, proportions of 4 or more-person households range from a low of 6.3 percent in Bath County, VA to a high of 29.2 percent in Clay County, KY. Larger households may be families with children, or roommates splitting high housing costs among more household members.

While 1- and 2-person households are the most common household sizes in the study area, single-room and 1-bedroom housing units are the least common. 3-bedroom homes are the most common, reflecting the prevailing 'nuclear family' dynamic of household composition and an aging stock of housing units built for earlier generations. This mismatch between the housing stock and household size may present challenges for single-person households trying to find affordable and appropriately sized housing options. All manner of smaller households may benefit from an increased supply of smaller and more affordable rental or ownership options to address this gap, including young people looking to leave their parents' home, temporary and transient residents such as construction workers, travel nurses or skilled coal miners, and seniors who can no longer age in family homes.

Adding smaller multifamily units may increase the number of affordable, high-quality units in the market without subsidy by supplying units with more appropriate square footage and number of bedrooms and distributing land costs among a greater number of units. However, multifamily developments must have good neighborhood design and conveniences to outweigh increasing preference among both owners and renters for single-family living. Any new development should accommodate mixed incomes, family compositions, and the ability to appeal to multiple demand segments in order to reduce the risk of slow absorption or vacancy. Most 1- or 2- person households will be seeking efficiency, 1-, and 2-bedroom apartments, although a limited number of 3-bedroom units are also likely to be desirable. Creating more accessible units expands the potential market demand segments to include seniors and people with disabilities. Similarly, including income-restricted, affordable units within larger developments can offset costs while supporting a wider population. Redevelopment, shared amenities, conveniences, and affordability all increase development costs. Because many markets cannot support highly priced units, public or philanthropic investments may be needed to achieve the ideal outcomes.

Figure 2: Household Size by State (Appalachian Areas)

Source: VCHR tabulation of 2021 ACS 5-year Estimates



Tenure

Most households in the study area are homeowners, with rates in the Appalachian area of each state ranging from 70 to 74 percent. Further, the homeownership rate increased in each state from 2015 to 2021.

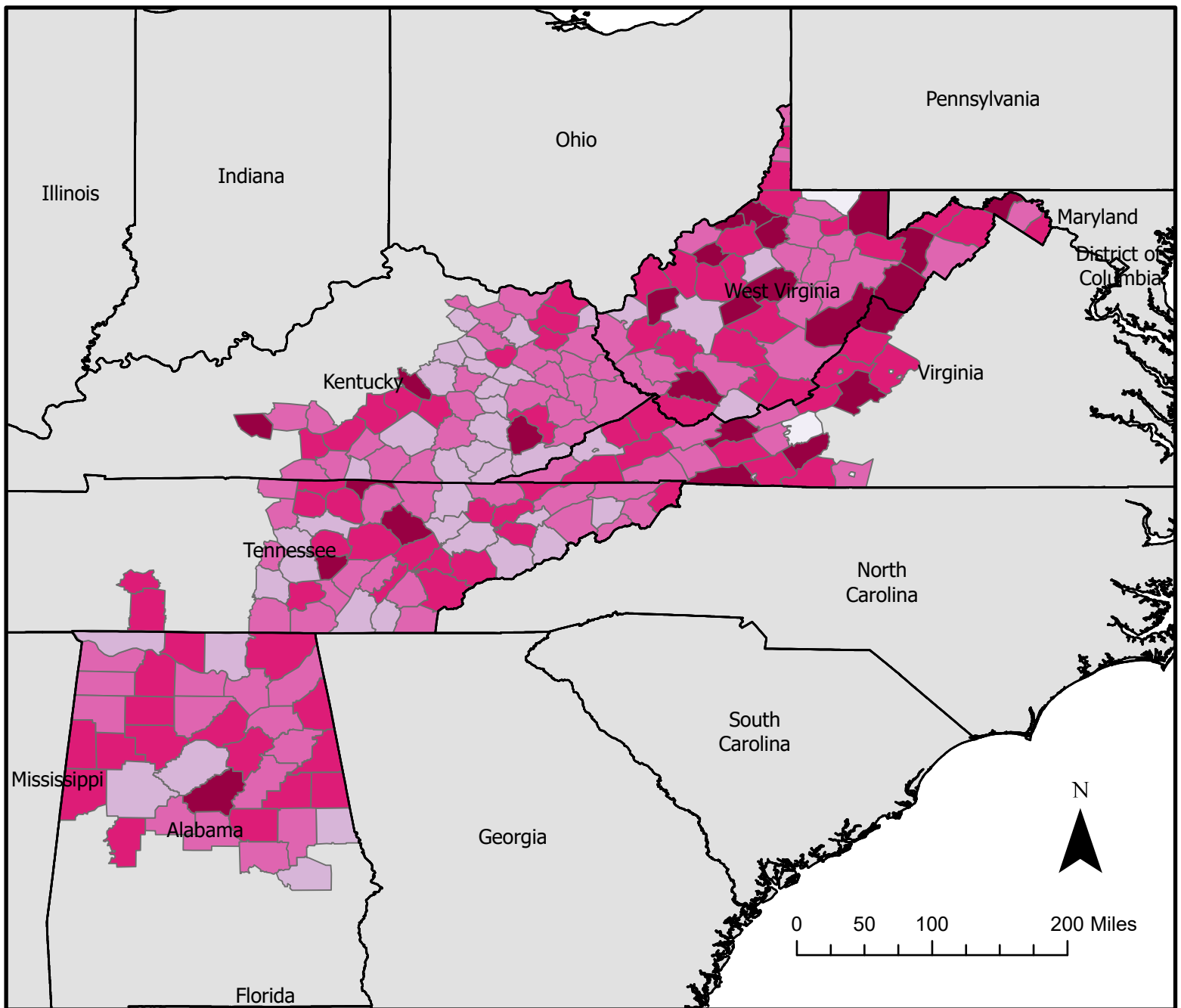
Figure 3: Homeownership Rate by State (Appalachian Areas)

Source: VCHR tabulation of 2015 and 2021 ACS 5-year Estimates

	Alabama	Kentucky	Tennessee	Virginia	West Virginia
Homeownership Rate	70.9%	71.6%	70.2%	71.7%	73.9%
Changes in Rate (2015 to 2021)	0.7%	0.7%	0.6%	0.6%	1.4%

The proportion of homeowners varies significantly by county, however, ranging from 45.7 percent in the City of Radford, VA to 91.2 percent in Doddridge County, WV. Seven counties have a proportion of homeowners below 60 percent, which includes several of Virginia’s independent cities (county equivalents): Radford (45.7%), Lexington (53.8%), Buena Vista (54.8%), Norton (55.8%), and Martinsville (57.7%). Independent cities in Southwestern and Southern Virginia such as Norton, Radford and Martinsville are often the only places with multi-family rental housing, which may explain the lower proportion of homeowners. Cities like Lexington and Buena Vista have substantial student populations, as do many counties with low homeownership rates, such as Montgomery County, VA (55.3%) and Monongalia County, WV (57.1%). The presence of a large student population who typically rent while attending university affects the overall proportion of homeowners in these communities.

Homeownership Rate in Fahe States



Homeownership

- 45.7% - 57.7%
- 57.8% - 69.6%
- 69.7% - 75.2%
- 75.3% - 80.2%
- 80.3% - 91.2%

Source: American Community Survey 2021 5-year estimates
 Map created using ArcGIS software by ESRI



Tenure by Race

The ACS categorizes households by race and ethnicity as indicated by the householder. Non-Hispanic White households have significantly higher homeownership rates than other groups in the study area, with rates approximately 26% higher than black households, 18 percent higher than Asian households, and 28 percent higher than Hispanic households. White households have homeownership rates exceeding 70 percent in all states in the study area. Black and Hispanic households in Tennessee have lower homeownership rates compared to other areas, while Asian households in Virginia have lower homeownership rates compared to other areas.

Figure 4: Homeownership Rate by Race/Ethnicity in Central Appalachia and Appalachian Alabama

Source: VCHR tabulation of 2019 CHAS 5-year Estimates

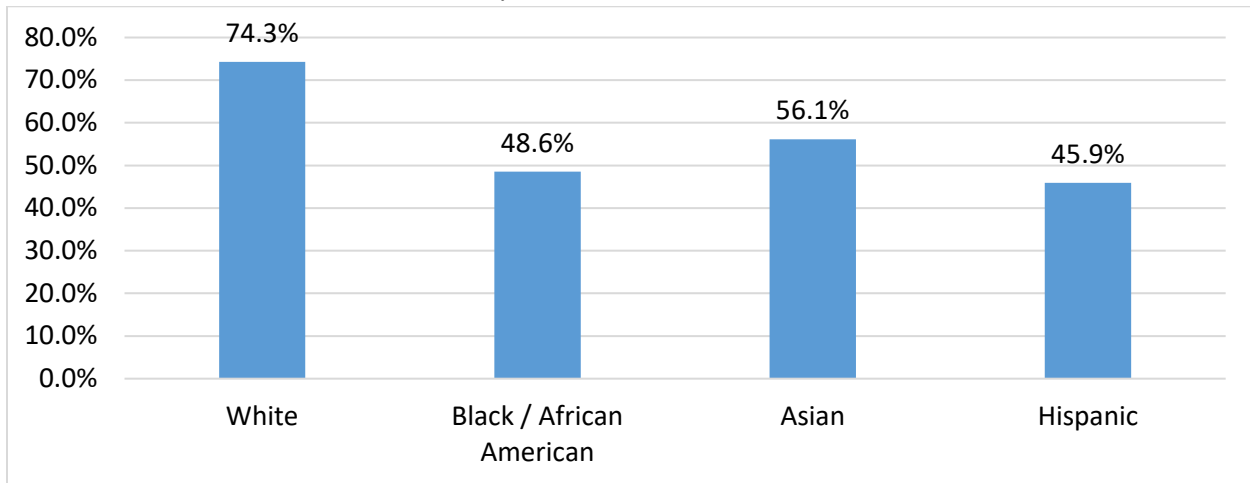


Figure 5: Homeownership Rate by Race/Ethnicity by State (Appalachian Areas)

Source: VCHR tabulation of 2019 CHAS 5-year Estimates

Homeownership Rate	Alabama	Kentucky	Tennessee	Virginia	West Virginia	Total
White	77.3%	71.8%	72.8%	73.2%	74.8%	74.3%
Black / African American	51.2%	49.7%	39.4%	50.2%	42.3%	48.6%
Asian	59.2%	50.1%	59.4%	36.7%	55.9%	56.1%
Hispanic	50.6%	41.3%	37.0%	53.8%	57.4%	45.9%

Lower homeownership rates among households that identify as Black/African American, Asian or Hispanic translate into these race/ethnicity groups representing a disproportionately smaller share of homeowners as compared to their share of the total population in the Appalachian regions of each state (figures 6 and 7). For example, the share of Asian households among homeowners in Appalachian Virginia is half of their share of the total population of households, with a similarly large discrepancy among Hispanic households in Tennessee.

Figure 6: Households by Race/Ethnicity and State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

Households	Alabama	Kentucky	Tennessee	Virginia	West Virginia
White	73.0%	97.1%	90.7%	92.7%	94.6%
Black / African American	22.4%	1.4%	5.4%	4.7%	3.4%
Asian	1.0%	0.3%	0.9%	1.0%	0.7%
Hispanic	3.1%	0.9%	2.7%	1.3%	1.1%

Figure 7: Racial Composition Among Homeowners by State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

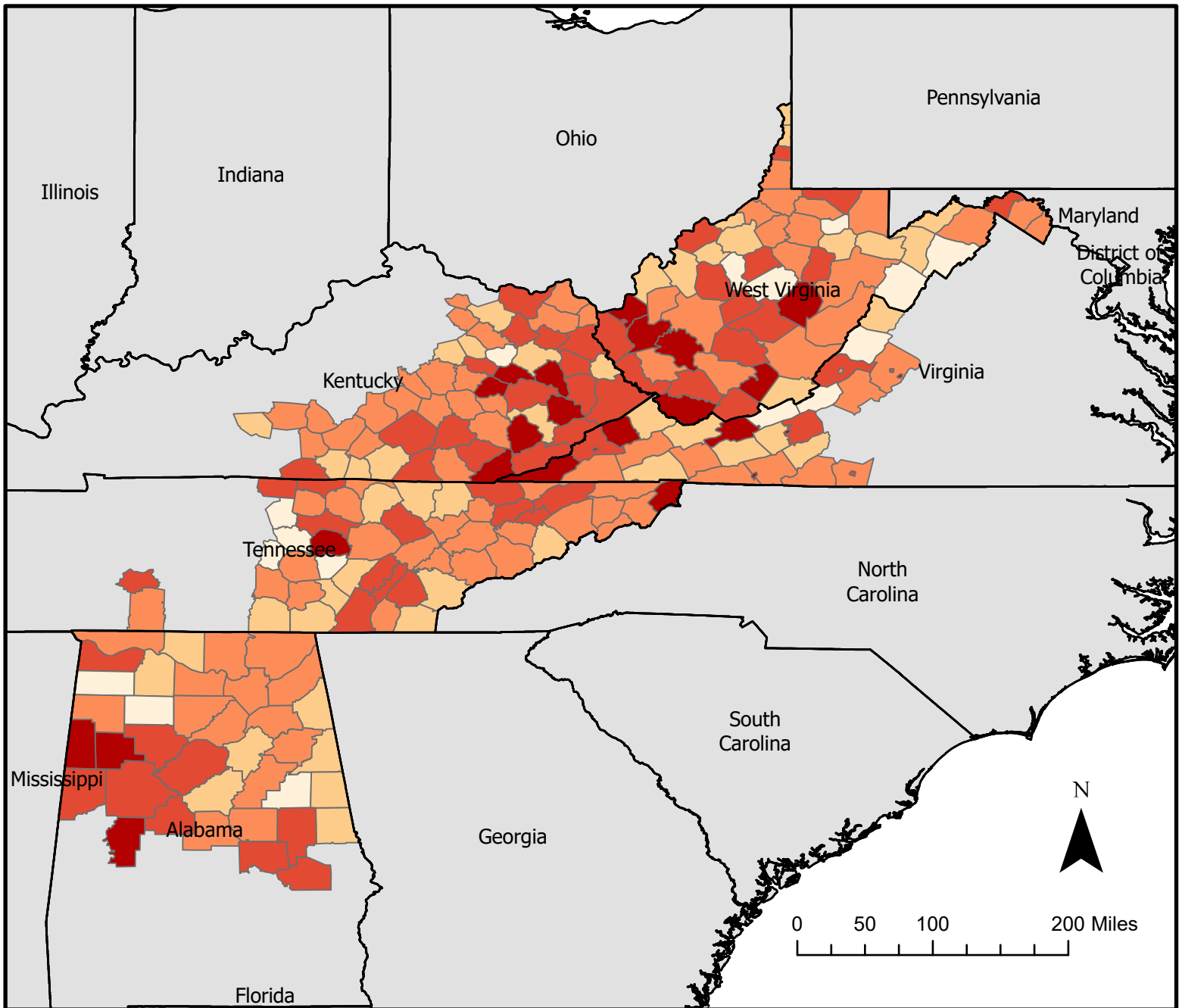
Households	Alabama	Kentucky	Tennessee	Virginia	West Virginia
White	80.2%	98.0%	94.5%	95.0%	96.5%
Black / African American	16.3%	1.0%	3.1%	3.3%	2.0%
Asian	0.8%	0.2%	0.7%	0.5%	0.5%
Hispanic	2.2%	0.6%	1.4%	1.0%	0.8%
Other Races	0.5%	0.2%	0.3%	0.2%	0.2%

Tenure and Housing Affordability

Tenure plays a crucial role in housing affordability, with renters more vulnerable to increasing housing costs than homeowners, and a higher rate of housing cost burden among renters than among owners. By definition, cost-burdened households spend more than 30 percent of their income on housing costs, which can make it difficult to afford other necessities like food, healthcare, and transportation. While homeowners generally have fixed mortgage payments that change little from year to year, renters generally face increased housing costs annually. In competitive markets, they may also be subject to turnover in unit ownership, which is often associated with higher rent increases. Fahe members have described several recent examples of the loss of once-affordable housing stock when new owners plan to make improvements to the property and increase rents significantly.

Rental households make up approximately 30 percent of all households in the study area, and nearly half of all rental households in the study area are cost-burdened. Rates of cost burden among renters in each state are more than double the rates among homeowners, highlighting the need for a wider array of affordable rental housing options in the study area. The share of renters who are cost-burdened declined in all states in the study area between 2015 and 2019 and continued to decline through 2021 in all states except among renters in West Virginia. Further investigation into rental market dynamics may help to find causes for this trend, but the impact of the pandemic on housing affordability is important to consider. Factors such as job loss, reduced income, and increased housing demand due to remote work and migration patterns may have contributed to changes in the percentage of cost-burdened renters. Events after 2021 that have had major impacts on local housing markets do not appear in this dataset, such as nation-wide inflation or regional disasters like the 2022 flooding in Appalachian areas of Kentucky.

Share of Cost-Burden Renters in Fahe States



Cost-Burden Renters

- 19.8% - 34.6%
- 34.7% - 41.3%
- 41.4% - 47.6%
- 47.7% - 55.1%
- 55.2% - 73.7%

Source: American Community Survey 2021 5-year estimates
 Map created using ArcGIS software by ESRI



Figure 8: Percent of Renter Households with Housing Cost Burden by State (Appalachian Areas)

Source: VCHR Tabulation of ACS 5-year Estimates

Percent of Renters with Housing Cost-Burden	Alabama	Kentucky	Tennessee	Virginia	West Virginia
2015	49.3%	51.0%	49.5%	50.6%	47.8%
2019	46.3%	47.2%	46.1%	46.3%	47.3%
2021	45.7%	44.7%	44.6%	45.0%	48.3%
Changes in Rate (2015 to 2021)	-3.6%	-6.3%	-4.9%	-5.6%	0.5%

The mortgage finance system generally prevents homeowners from being cost-burdened when they buy their home and often homeowners' income increases over the life of their mortgage. Homeowners also face relatively little change in housing costs compared to renters. Homeowners become cost-burdened due to economic hardship such as job loss, death of a family member, or fixed incomes that do not keep up rising costs of taxes, utilities and insurance.

Figure 9: Percent of Owner Households with Housing Cost Burden by State (Appalachian Areas)

Source: VCHR Tabulation of ACS 5-year Estimates

Percent of Cost-Burdened Owners	Alabama	Kentucky	Tennessee	Virginia	West Virginia
2015	21.1%	21.1%	20.5%	19.6%	15.7%
2019	17.5%	18.9%	17.5%	16.8%	14.8%
2021	16.4%	17.8%	16.6%	15.9%	14.8%
Changes in Rate (2015 to 2021)	-4.7%	-3.3%	-3.9%	-3.7%	-0.9%

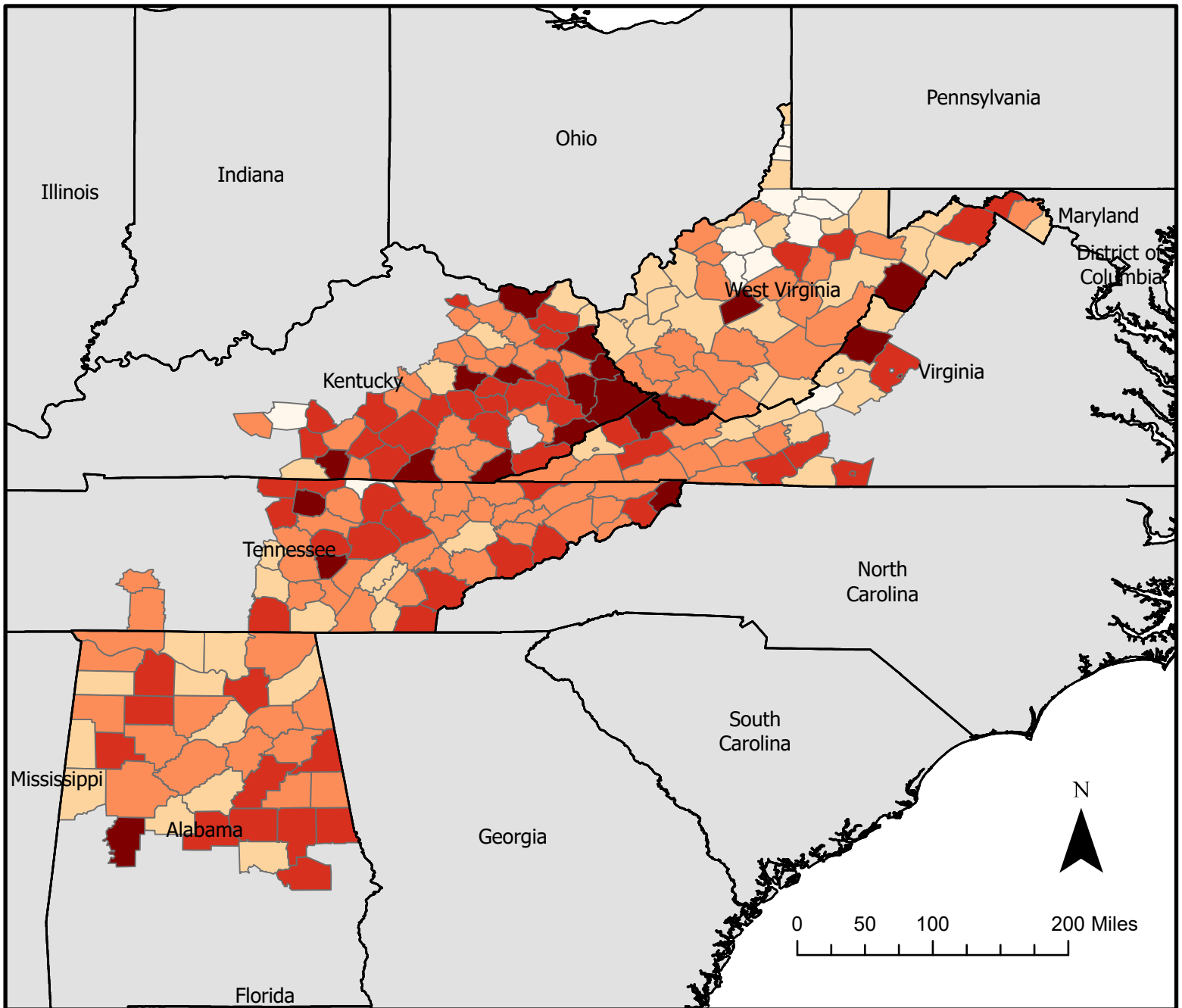
Since many homeowners had the opportunity to reduce their housing costs by refinancing their mortgages during the study period, decreasing rates of cost-burden among owners with a mortgage are expected. The proportion of cost-burdened households among homeowners with a mortgage ranges from a low of 21 percent in West Virginia to nearly 25 percent in Kentucky, less than half the rate of cost-burden among renters.

Figure 10: Percent of Owner Households with a Mortgage and Housing Cost Burden by State (Appalachian Areas)

Source: VCHR Tabulation of ACS 5-year Estimates

Percent of Cost-Burdened Owners	Alabama	Kentucky	Tennessee	Virginia	West Virginia
2015	27.3%	30.2%	28.6%	28.4%	23.2%
2019	23.1%	26.9%	24.2%	24.8%	21.1%
2021	21.8%	24.9%	23.0%	24.3%	21.0%
Changes in Rate (2015 to 2021)	-5.5%	-5.3%	-5.6%	-4.1%	-2.2%

Share of Cost-Burden Owners in Fahe States



Cost-Burden Owners with a mortgage

- 6.8% - 16.7%
- 16.8% - 22.5%
- 22.6% - 27.0%
- 27.1% - 33.2%
- 33.3% - 43.3%

Source: American Community Survey 2021 5-year estimates
 Map created using ArcGIS software by ESRI



Homeowners are responsible for the costs of home maintenance and modifications in addition to the monthly costs that the estimates of cost-burden consider, which can create financial hardships that cost-burden figures do not reflect. When homeowners are cost-burdened, they may not be able to save for unexpected expenses such as home repairs or medical emergencies, which can leave them at financial risk should a home emergency occur. Similarly, cost-burdened homeowners may neglect regular home maintenance and upgrades, which can reduce the market value of their home over time.

Figure 11: Percent of Owner Households without a Mortgage and Housing Cost Burden by State (Appalachian Areas)

Source: VCHR Tabulation of ACS 5-year Estimates

Percent of Cost-Burdened Owners	Alabama	Kentucky	Tennessee	Virginia	West Virginia
2015	12.3%	13.0%	10.5%	11.0%	8.7%
2019	9.9%	12.2%	9.5%	9.8%	9.3%
2021	9.6%	12.0%	9.1%	8.9%	9.4%
Changes in Rate (2015 to 2021)	-2.7%	-1.1%	-1.4%	-2.1%	0.7%

Housing Affordability

More than 1 in 5 households in the study area are experiencing cost burden due to housing expenses, with, 22.2 percent of households allocating more than 30 percent of their income towards housing-related expenses. Of these households, almost half are severely cost-burdened, spending more than half of their income on housing expenses. The share of cost-burdened households has fallen by 3.7 percent since 2015. West Virginia had the lowest proportion of cost-burdened households (20.0%) among states in the study area, as well as the lowest proportion of severely cost-burdened households. While Appalachian Alabama and Tennessee had the highest share of cost-burdened households (22.9%), these rates are not significantly higher than in other states in the study area. Cost-burden is less prevalent in the Appalachian areas of Alabama, Kentucky, Tennessee and Virginia compared to their respective statewide levels.

Cost-burden calculations using HUD Area Median Family Income (HAMFI) levels allow a more detailed and localized examination of the types of households that struggle with cost burden and affordability in the study area. Households earning less than 80 percent of HAMFI (low-income households) who are also cost burdened make up around 20 percent of all households in the study area, accounting for nearly all cost-burdened households. Households with less than 30 percent of HAMFI (extremely low-income households) experiencing cost burden account for around 9 percent of all households. Although the number of cost-burdened households has decreased since 2014, low-income households still experience disproportionately higher levels of cost burdens. For instance, more than 40 percent of cost-burdened households in Kentucky have extremely low incomes, and low-income households represent nearly all the rest. When a high proportion of cost-burdened households have extremely low incomes, the primary driver of the cost burden may be 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, and even higher-income households, may also begin to experience housing cost burdens. For example, Tennessee and Alabama have the largest share of cost-burdened households that have moderate and higher incomes, which is likely due to higher housing costs in metro areas.

Figure 12: Percent of Households that are Cost Burdened by State and Level of Income (Appalachian Areas)

Source: VCHR Tabulation of 2019 CHAS 5-year Estimates

	Alabama	Kentucky	Tennessee	Virginia	West Virginia
Cost-Burdened	22.9%	22.8%	22.9%	21.6%	20.0%
Severely Cost-Burdened	10.4%	10.7%	10.1%	10.5%	9.1%
Cost-Burdened and Income Below 30% AMI	9.5%	10.9%	8.8%	9.8%	8.6%
Cost-Burdened and Low Income (Below 80% AMI)	20.5%	20.9%	20.4%	19.3%	18.1%
Total Households	1,201,655	453,450	1,155,485	299,405	732,585

Figure 13: Statewide Cost-burden by Housing Tenure

Source: VCHR Tabulation of 2019 CHAS 5-year Estimates

State	Alabama	Kentucky	Tennessee	Virginia	West Virginia
Cost-Burdened	23.9%	23.5%	25.1%	27.5%	20.0%
Owners	16.8%	16.6%	17.2%	19.9%	13.8%
Renters	39.4%	37.6%	40.6%	42.5%	36.9%

Figure 14: Percent Cost-Burdened Households by Income Level and State (Appalachian Areas)

Source: VCHR Tabulation of 2019 CHAS 5-year Estimates

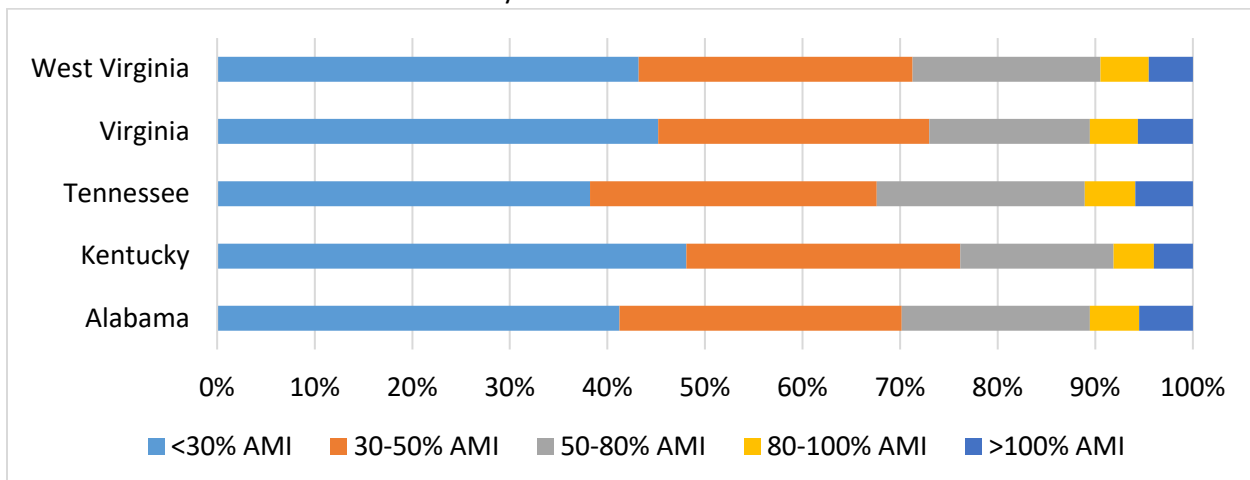


Figure 15: Cost-Burdened Households by Income Level and State (Appalachian Areas)

Source: VCHR Tabulation of 2019 CHAS 5-year Estimates

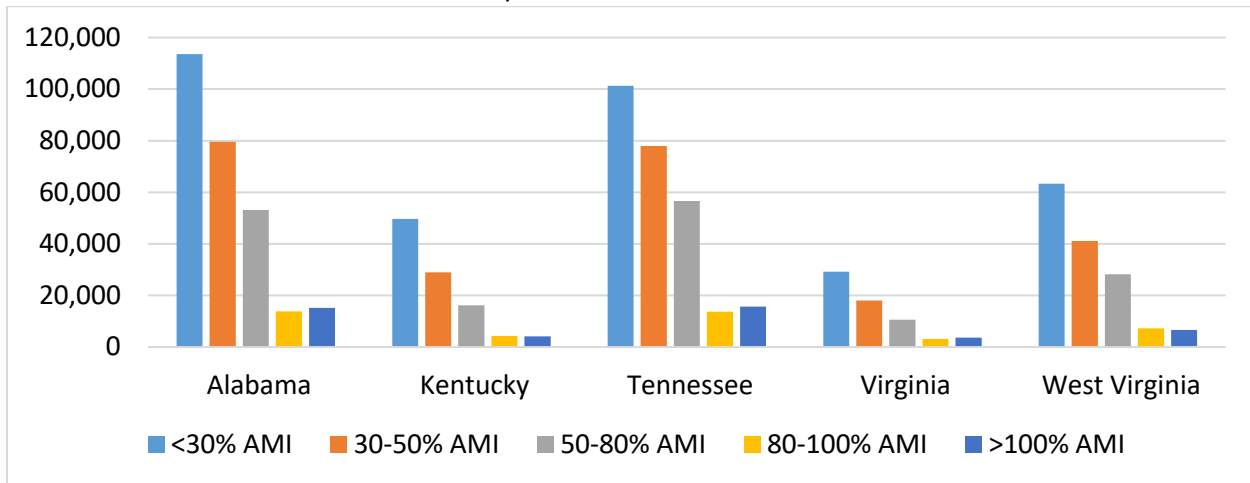
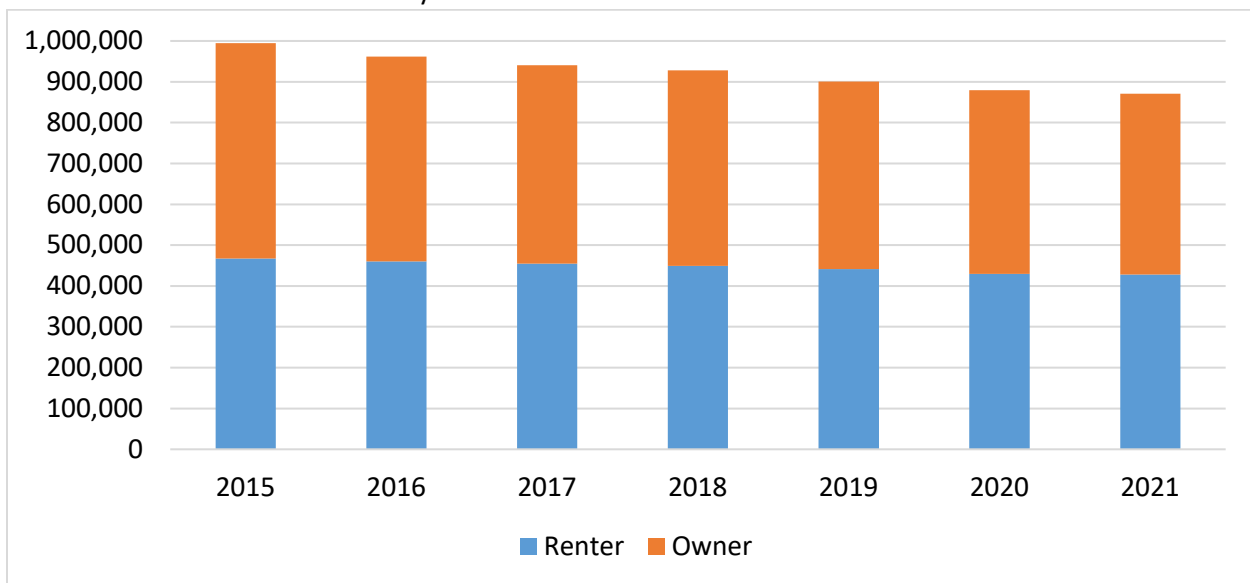


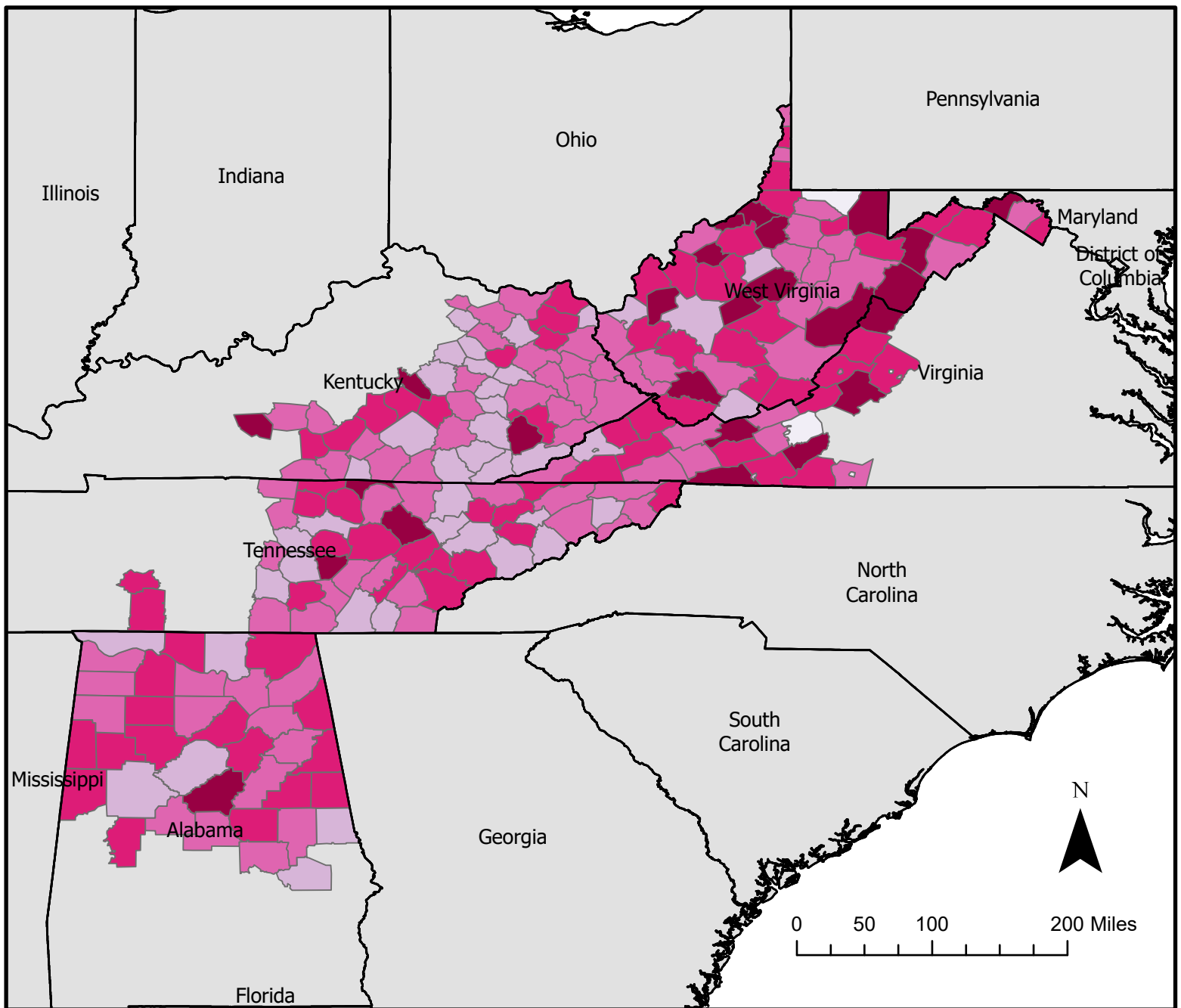
Figure 16: Cost-Burdened Households by Tenure in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of ACS 5-year Estimates



Overall, these findings suggest that addressing the issue of housing affordability will require a multi-faceted approach that considers the income levels and geographic location of households. While increasing the supply of affordable housing is certainly a critical part of the solution across the region, addressing the underlying factors contributing to low incomes, such as stagnant wages and limited job opportunities, may be key factor in some regions in the study area. In addition, targeted policies and interventions may be necessary to address specific regional variations in housing affordability, such as the high housing costs in metro areas in Tennessee and Alabama.

Homeownership Rate in Fahe States



Homeownership

- 45.7% - 57.7%
- 57.8% - 69.6%
- 69.7% - 75.2%
- 75.3% - 80.2%
- 80.3% - 91.2%

Source: American Community Survey 2021 5-year estimates
 Map created using ArcGIS software by ESRI



Households headed by someone identifying as Black/African American or Hispanic are overrepresented among cost-burdened households in the study area, accounting for 12 percent of total households, but 19 percent of cost-burdened households. These groups have been historically marginalized and continue to face challenges in accessing affordable housing, with rates of cost burden among Black/African American (35.9%) and Hispanic (31.4%) households over 10 percent higher than the rate for Whites. Rates of cost-burden are especially high in Tennessee among all groups, with minority groups the most likely to be affected.

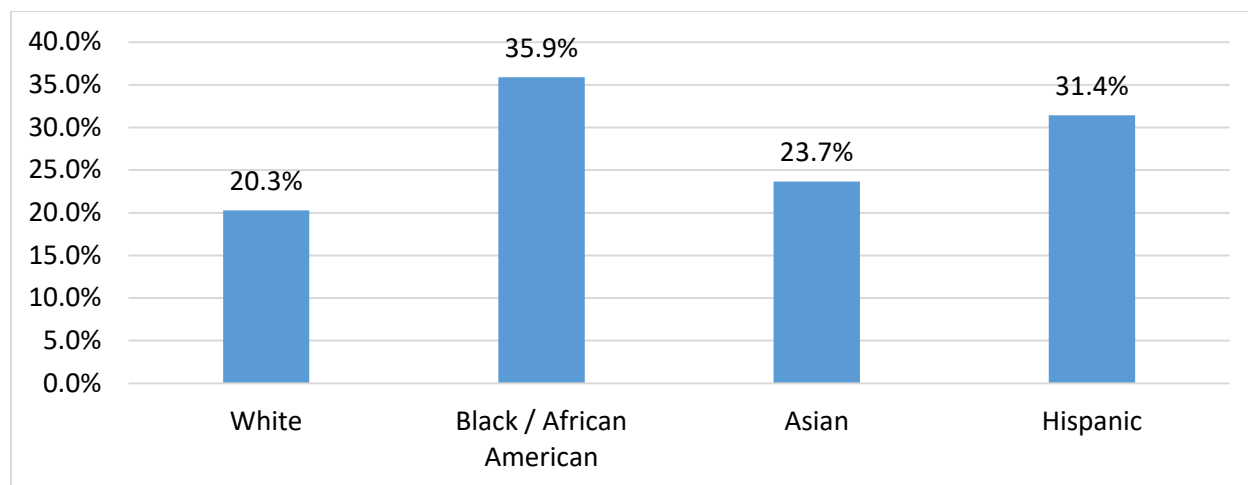
Figure 17: Percent of Households that are Cost Burdened by Race/Ethnicity (Appalachian Areas)

Source: VCHR Tabulation of 2019 CHAS 5-year Estimates

Cost Burdened by Race/ethnicity	Alabama	Kentucky	Tennessee	Virginia	West Virginia	Total
White	18.7%	22.4%	21.4%	20.5%	19.2%	20.3%
Black / African American	35.6%	30.9%	38.6%	33.7%	35.2%	35.9%
Asian	20.3%	17.7%	24.0%	37.8%	23.9%	23.7%
Hispanic	28.7%	27.7%	36.0%	29.4%	29.3%	31.4%

Figure 18: Percent of Households that are Cost Burdened by Race/Ethnicity in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of 2019 CHAS 5-year Estimates



At Risk of Homelessness

Although a variety of methods can be used to estimate the number of households at-risk of homelessness, the viability of each method for the study area depends on the availability of data. The Comprehensive Housing Affordability Strategy (CHAS) data can provide an adequate estimate of the population that meet the HUD definition for households at risk of homelessness, which includes households with incomes below 30 percent of AMI and characteristics associated with housing instability (in this case cost-burden). This metric assumes these households do not have sufficient resources to overcome an emergency expense, such as eviction. The 2015-2019 CHAS data counted 357,061 households in the study area that fit this

definition, 9.3 percent of total households in the region: 208,142 renter households, or 18.5 percent of total renter households, and 148,919 owner households, or 5.5 percent of total owner households.

Figure 19: Households by Income Level and Housing Tenure (Appalachian Areas)

Source: VCHR Tabulation of 2019 CHAS 5-year Estimates

	<30% of AMI	30–50% of AMI	50–80% of AMI	80–100% of AMI	>100% of AMI	Total
Total Households	554,390	505,720	678,920	389,634	1,714,100	3,842,764
Renter Households	315,655	215,190	228,665	103,969	258,680	1,122,159
Owner Households	238,735	290,530	450,255	285,665	1,455,420	2,720,605

Overcrowding

Overcrowded conditions also put households at risk for homelessness. Many Fahe members and stakeholders expressed concerns about overcrowding as a way of coping with increased housing costs and lower incomes in the aftermath of the COVID-19 pandemic. The Census Bureau traditionally defines overcrowding as 1.01 or more people per room (not bedroom) in the housing unit. Based on this definition, ACS 5-year estimates for the study area’s component PUMA areas shows that at least 69,769 households (2%) in the Fahe service area live in overcrowded conditions, with rates of overcrowding ranging from less than 1 percent in Maryland’s western counties to just over 2 percent in Kentucky.

Figure 20: Households with Overcrowded Conditions (Appalachian Areas)

Source: WVU Tabulation of 2021 ACS PUMS

	Overcrowded Households		With Children Present	
	PPR >1.01	% of occupied HH	PPR >1.01	% of overcrowded HH
Alabama	20,682	2%	16,951	82%
Kentucky	12,519	2%	10,782	86%
Maryland	237	1%	141	60%
Tennessee	21,477	2%	18,675	87%
Virginia	6,175	1%	5,276	85%
West Virginia	8,491	1%	6,950	82%
Region Total	69,769	2%	58,951	84%

At least 58,951 overcrowded households include children, or 84 percent of total overcrowded households in the study area. Similar to living in cost-burdened households, overcrowding can have severe consequences for children’s future opportunities. Studies have found that children growing up in overcrowded housing have lower math and reading scores, complete fewer years of education, and are less likely to graduate from high school than their peers (Braconi, 2001). Increases in noise and chaos interfere with children’s studies and cognitive development. Research has also linked household chaos with reductions in children’s IQ scores and increases in behavior problems. (Deater-Deckard et al., 2009).

Working Households and Affordability

Most households in the study area work and/or receive retirement income, with a smaller share receiving disability or other forms of income as well. Although some households receive income from multiple sources and may overlap in the data, the share of households in each category offers context for both area median income (AMI) levels and housing affordability for workers. In areas with fewer workers and fewer workers earning higher incomes, AMI levels are more likely to be so low that the dollar amount that defines 30 percent of AMI limits is below the national poverty guidelines and must be adjusted upward to meet this threshold. In these places, a smaller share of households is eligible for programs that serve low-income households with incomes less than 80 percent of AMI for the associated Fair Market Rent Area even though the increased threshold captures more households than the literal 30 percent of AMI would have¹. Lower income limits for these programs may act as a disincentive for labor market participation, especially if full-time employment would make the household ineligible for housing benefits even though wages for full-time workers in common jobs are not enough for workers to afford available, market-rate housing.

Figure 21: Percent of Households with Employment or Retirement Income (Appalachian Areas)

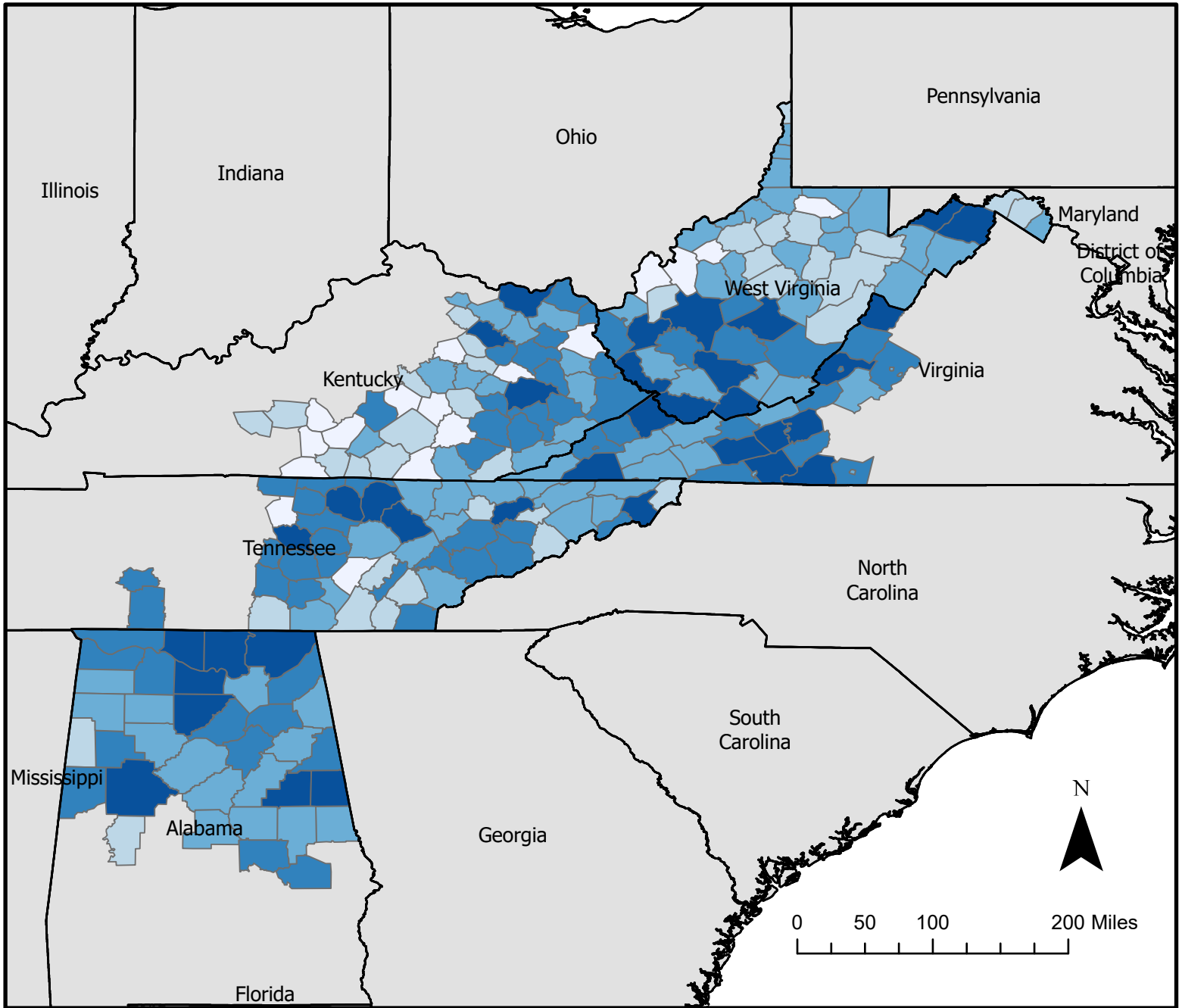
Source: VCHR Tabulation of 2021 ACS 5-year Estimates

Households	Alabama	Kentucky	Tennessee	Virginia	West Virginia
Working	69%	58%	67%	61%	62%
Retired	24%	24%	24%	27%	28%

The share of working households in the study area ranges from a low of 33 percent in Wolfe County, KY to a high of 78 percent in Shelby County, AL. In most places, a higher share of working households corresponds to a lower share of households with retirement income, although some places have relatively few households with either earned or retirement income.

¹ VCHR compared the percent of households below 80% of AMI in FMR areas where 30% of AMI is adjusted to the poverty line to all other FMR areas in the study region. The relationship was discerned based on correlation between adjustment/no adjustment and the percent of households below 80% of AMI.

Households with Emp or Retired Income in Fahe States



Households with Employment or Retirement Income

- 54.4% - 72.1%
- 72.2% - 80.9%
- 81.0% - 87.9%
- 88.0% - 93.6%
- 93.7% - 101.7%

Source: American Community Survey 2021 5-year estimates
 Map created using ArcGIS software by ESRI



Housing Stock

ACS collects data on several characteristics of residential housing units that help to characterize communities' existing housing stock including type of unit (single-family site-built, mobile or manufactured, and multi-family), size (number of rooms and number of bedrooms), age of structure, owner and renter costs, and availability (units for rent and for sale). The number of bedrooms provides a good approximation of the size of housing units and is more useful than square footage for comparisons between housing unit size and household size. Housing costs which include rent and utilities for renters and taxes, insurance, mortgage payment and utilities for owners; and market availability provide useful insights on housing market dynamics. A unit's age and utility usage are useful references for housing stock repair and upgrade needs.

Unit Type

Single-family homes predominate in the study area, accounting for 69.4 percent of all housing units, followed by nearly equal shares of mobile or manufactured units (14.3% of units), and multi-family units (14.1%). The share of mobile or manufactured units versus multi-family units varies greatly across the study area, depending on how much of each region is urbanized. Generally, multifamily housing is more workable in denser urban areas, while manufactured housing is a more practical option in rural areas. For instance, in Kentucky where 78 percent of the study area is in non-metro areas, mobile or manufactured units are more prevalent (23.3%) than multi-family units (10.1%). In Alabama where non-metro areas are only 6 percent of the study area, multi-family units (15.9%) are more prevalent than mobile or manufactured units (12.3%).

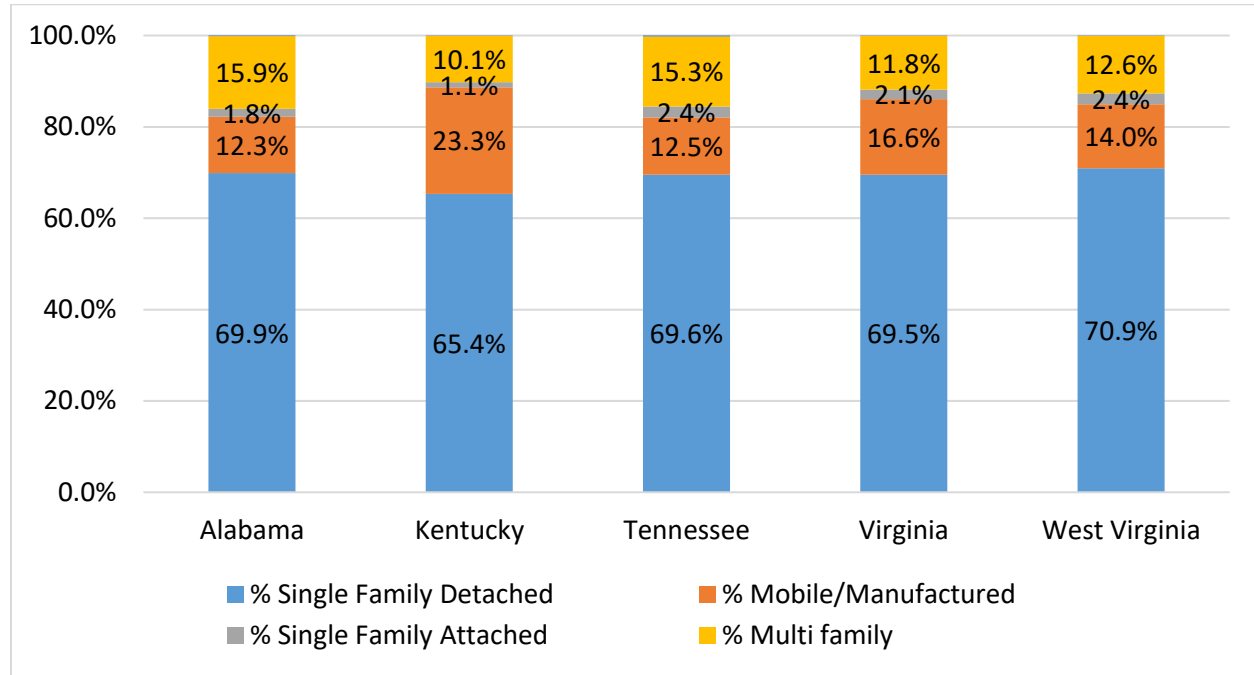
Kentucky counties have a lower proportion of single-family, site-built detached homes than the counties in other states in the study area, and the highest proportion of mobile or manufactured homes among all states. Nine of the top 10 counties with the highest proportion of mobile or manufactured homes in the study area are in Kentucky, including Magoffin County with approximately 45 percent of the housing stock composed of mobile or manufactured homes.

The share of housing units in multi-family structures within study area counties ranges from 0 to 30 percent of total units, with some of the highest proportions in Virginia's 'independent cities' that are skewed by their separation from their surrounding, more rural counties. Certain counties in the study have a higher proportion of multi-family housing units due in part to large student populations at local universities. Three of the four counties with 30 percent or more of housing units in multifamily structures have large student populations: the independent cities of Radford (Radford University) and Norton, VA (UVA-Wise), and Montgomery County, VA (Virginia Tech)-the fourth is Monongalia County, WV (West Virginia University).

The share of housing units of various types have not changed significantly since the previous 2015 dataset, as new housing supply and loss of existing housing are slow processes, and account for only a small portion of the total housing stock.

Figure 22: Percent of Housing Units by Housing Type by State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates



In addition to the types of housing units described above, Fahe members have observed households that are unlikely to be counted in the American Community Survey, such as RVs with no address and households experiencing homelessness. Households who experience homelessness are often less ‘observable’ in housing data and may not appear in public datasets unless they request public aid programs². Some shelter in abandoned buildings, storage sheds, or otherwise unsuitable structures, while others may “couch surf” between relatives and friends but do not have their own unit and therefore are not included in the traditional enumeration of households in the ACS.

While households in many dire housing situations are not accounted for in the public datasets, the study team tabulated the housing types occupied by households reporting income less than \$10,000. Throughout the study region, households with incomes less than \$10,000 disproportionately live in mobile and manufactured homes and multifamily homes. While 71 percent of all households in the study area live in single-family detached units, only 46 percent of households with incomes less than \$10,000 live in this type of unit.

² “In an attempt to describe clearly that Census 2000 would not be producing a count of the population experiencing homelessness, the Census Bureau adopted the terminology, “people without conventional housing.” People without conventional housing are defined as the population who may be missed in the traditional enumeration of housing units and group quarters.” Census, Accessed July 2023
<https://ask.census.gov/prweb/PRServletCustom?pyActivity=pyMobileSnapStart&ArticleID=KCP-5062>

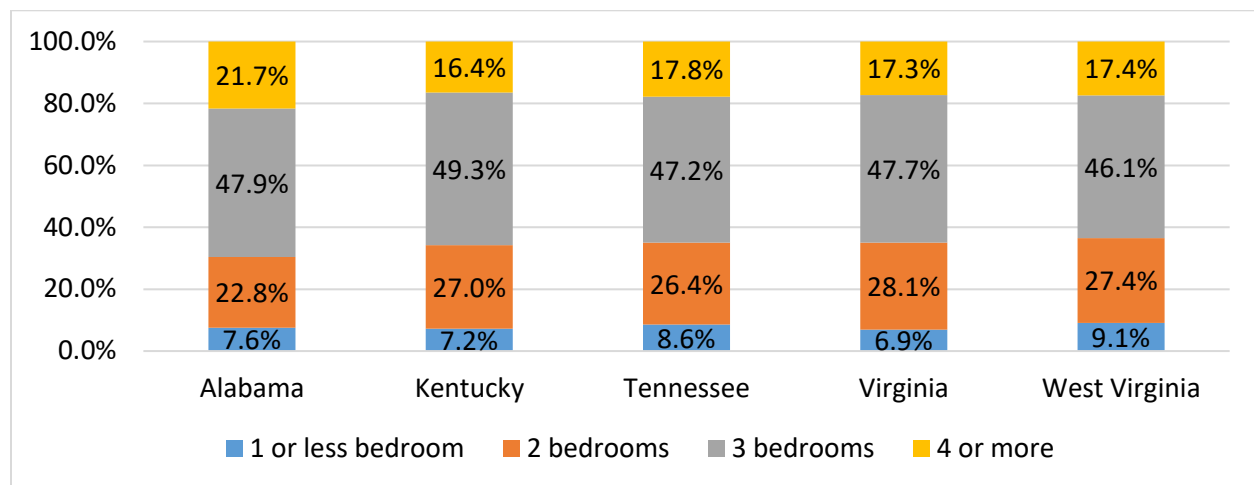
Number of Bedrooms

Nearly half of all housing units in the study area have three bedrooms, followed by units with two bedrooms (25.7% of total units), and units with four or more bedrooms (18.8%). The study area has a large share of housing units with 3+ bedrooms, but also has large share of smaller, 1- or 2- person households. This mismatch between household size and the size of the available housing stock means that small households, especially single-person households, may have a harder time finding affordable housing.

Three-bedroom units account for over 60 percent of housing in three counties in the study area: Bland County, VA (61.6%), Van Buren County, TN (60.5%), and Lawrence County, AL (60.0%). These counties may be more suitable for families or households that need more space. Counties in the study area with relatively low proportions of three-bedroom units include Lexington city, VA (29.7%), Pocahontas County, WV (30.2%), Radford city, VA (32.4%), Martinsville city, VA (33.7%), Norton city, VA (37.0%), Monongalia County, WV (37.8%), and Montgomery County, VA (38.7%). Most of these counties have larger shares of one-person households and/or students, as noted previously.

Figure 23: Percent of Housing Units by Bedroom Size by State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

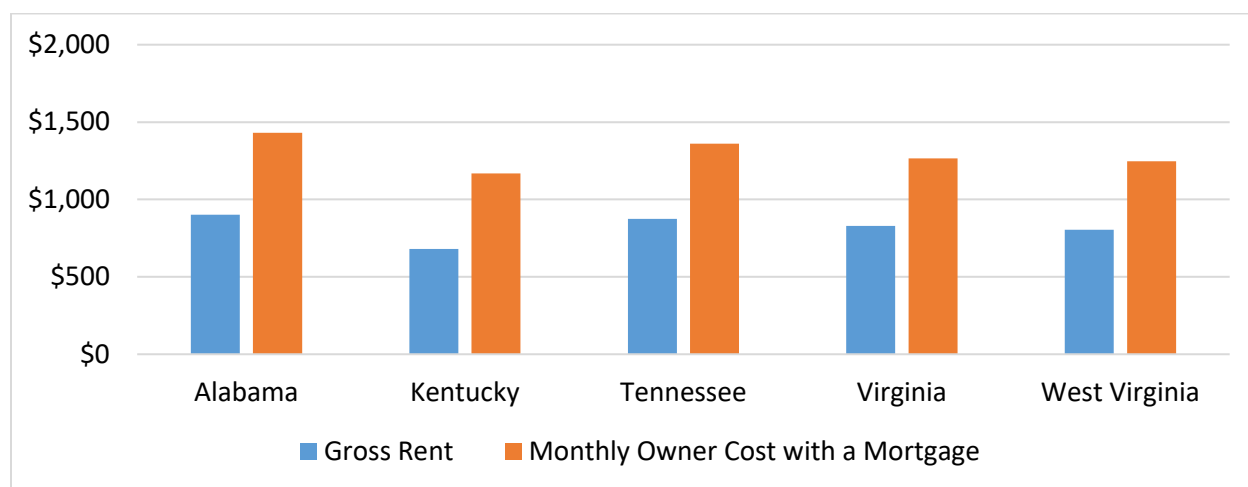


Costs

The ACS provides county-level data for median gross rent and median owner costs; however, medians are not available for the full Appalachian areas of each state. The study team tabulated averages for each state Appalachian region, using county-level aggregate costs and number of households. County-level medians are shown in the following maps. Alabama has the highest average housing costs in the study area, while Kentucky has the lowest, suggesting a possible correlation with the proportion of each region in more costly metro areas.

Figure 24: Average Monthly Owner Cost with a Mortgage and Gross Rent by State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates



The American Community Survey (ACS) provides three types of estimates of housing costs: gross rent, owner costs with a mortgage, and owner costs without a mortgage. Gross rent describes renters' housing costs for rent plus any utility costs paid by tenants. Estimates of homeowners' housing cost are divided into two types: those who own their home with some type of loan (mortgage, chattel or otherwise) and those who own their home "free and clear". While both types of owners incur costs for utilities, insurance, and taxes, housing costs are generally higher for homeowners who are paying a mortgage. 'Owner costs with a mortgage' data is the more useful metric to assess whether households can afford to buy a home, and to compare the added cost needed to purchase a home versus typical rental costs within a given region. In the study region for instance, homeowners with a mortgage typically pay about \$491, or 58 percent more in housing costs than renters.

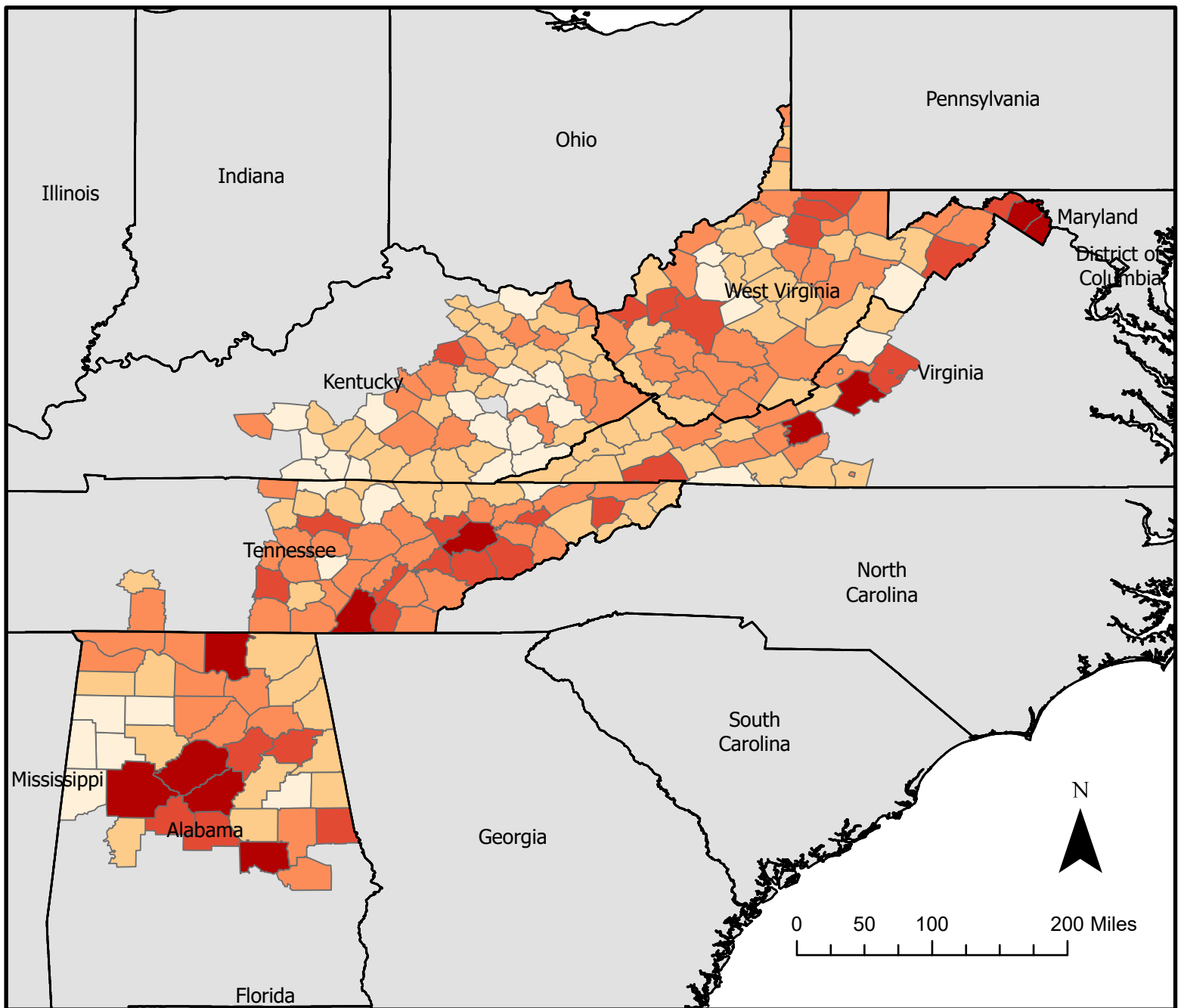
Rent

Figure 25 illustrates the trend in average gross rent levels for each state in the study area over the past six years. 2020 ACS data is not reliable for this measure because of insufficient sample sizes and interviews in that year's dataset, so the chart uses an average of the 2019 and 2021 values to replace the missing 2020 datapoint. Since 2020 data is not reliable and has been omitted or constructed by the study team, the trend is shown by a broken line or transparent bar in the figures below.

The direct impact of the pandemic on gross rent is difficult to determine accurately in the absence of 2020 data, but the rate of rent increases over the past two years shows little difference from the rate of change over the previous four years, suggesting the pandemic may have had a short-term impact on rent levels but has not caused a shift in 2021 data compared with the trends before 2020.

The study area has experienced a steady increase in gross rent over the past five years, with the highest increase in Alabama and the lowest in Kentucky, which is more than \$100 lower compared to other states. Average gross rent in counties within MSAs are approximately 30 percent higher than those outside MSAs in rural areas. The median gross rent in the study area varies widely, from a low of \$386/month in Wolfe County, KY to a high of \$1,142 in Shelby County, AL. Four counties in the study area have a median gross rent over \$1,000: Shelby County, AL, Montgomery County, VA (\$1,082), Berkeley County, WV (\$1,064), and Lexington City, VA (\$1,057). Six counties have a median gross rent under \$500.

Median Gross Rent in Fahe States



Median Gross Rent

- \$343 - \$537
- \$538 - \$633
- \$634 - \$714
- \$715 - \$844
- \$845 - \$1142

Source: American Community Survey 2021 5-year estimates
 Map created using ArcGIS software by ESRI



Figure 25: Nominal Average Gross Rent by State (Appalachian Areas)

Source: VCHR Tabulation of ACS 5-year Estimates³

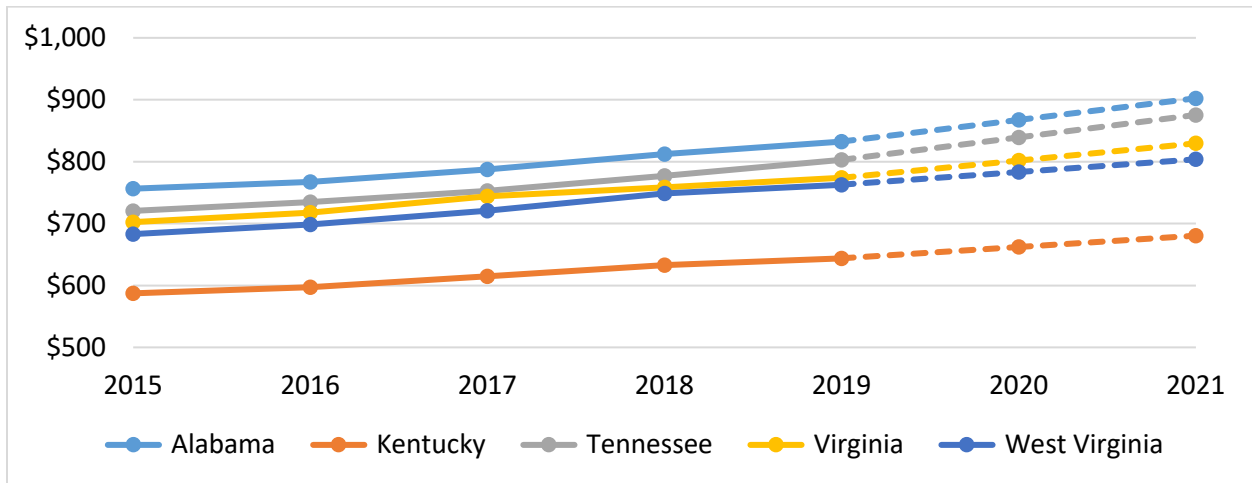
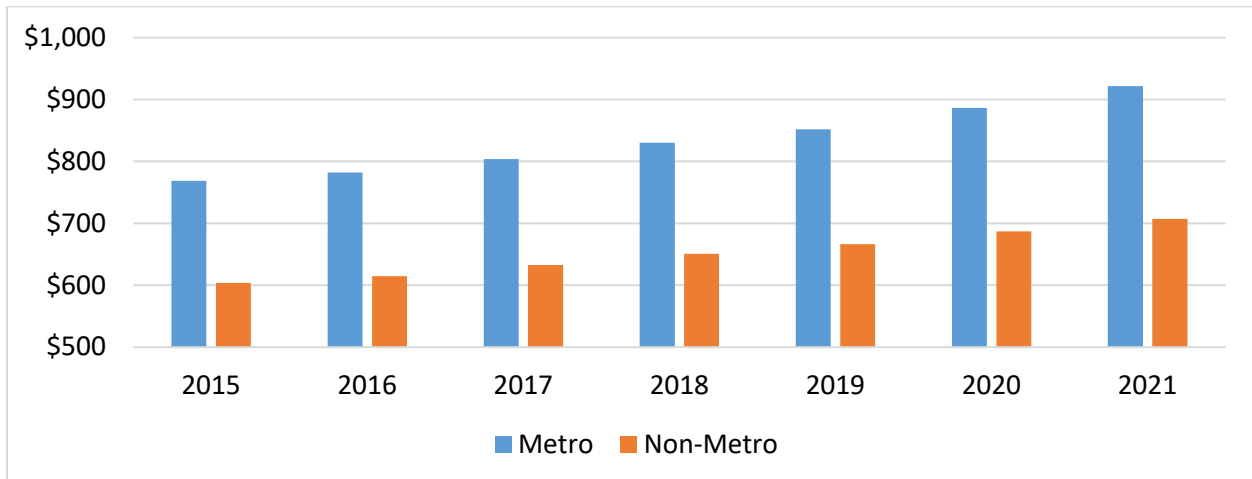


Figure 26: Average Gross Rent by Metro Area in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of ACS 5-year Estimates



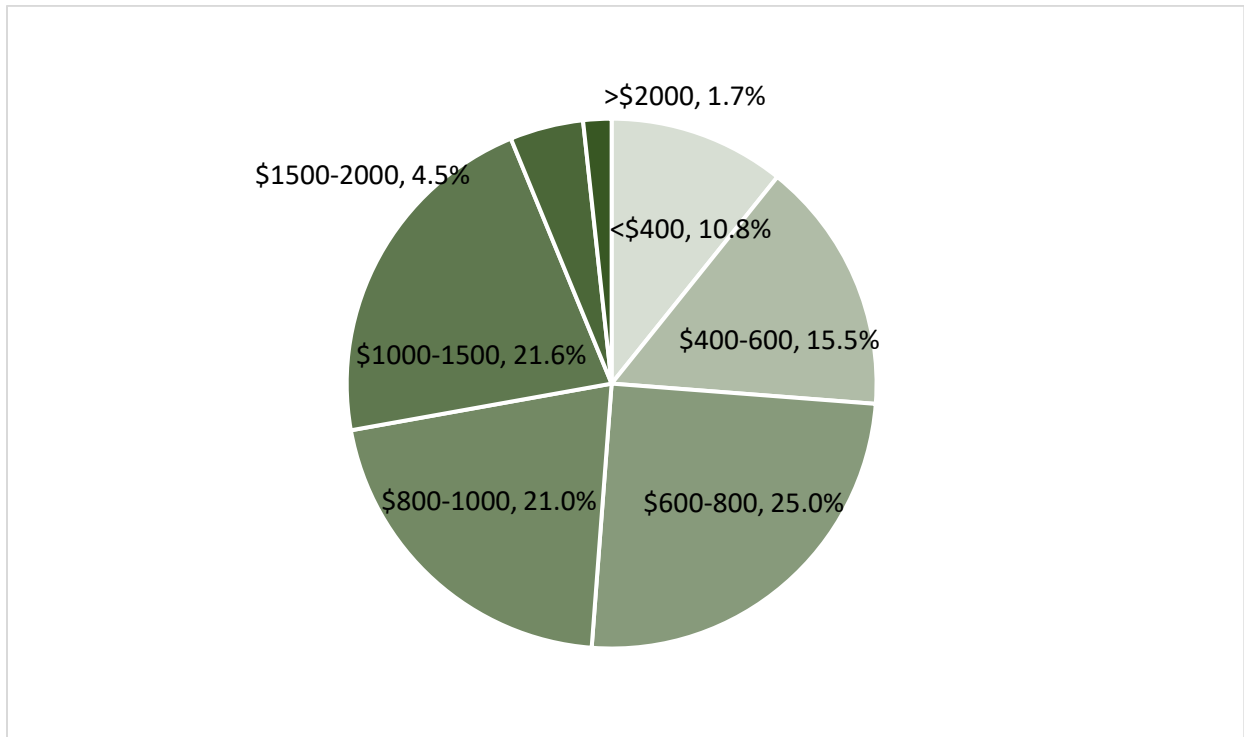
In most counties with reliable estimates, gross rent levels fall within the range of \$600-\$1,500, with renters in the \$600-\$800 category representing 20 to 35 percent of all renter households within the study region. Counties with larger shares of rental housing units costing over \$1,000 include Montgomery County, VA, Shelby County, AL, Jefferson County AL, Lexington City, VA, and Berkeley County, WV. These counties have large shares of young professionals and students that increase demand for rental housing and help explain higher rental costs. Since 2015, the share of rental units

³ While ACS 5-year data used data pooled from the past five years to produce reliable estimates even in areas with small sample sizes, the ACS 1-year data, where reliable, is more appropriate for identifying changing trends. Although the 1-year data excludes smaller counties with insufficient sample sizes, both 1-year and 5-year trends show similar trends of continuous increases in gross rent over the past five years.

costing over \$1,000 has increased from 14 percent to 28 percent, consistent with the overall trend of increased rents in the study area.

Figure 27: Percent of Rented Housing Units by Gross Rent in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of 2021 ACS 5-year Estimates



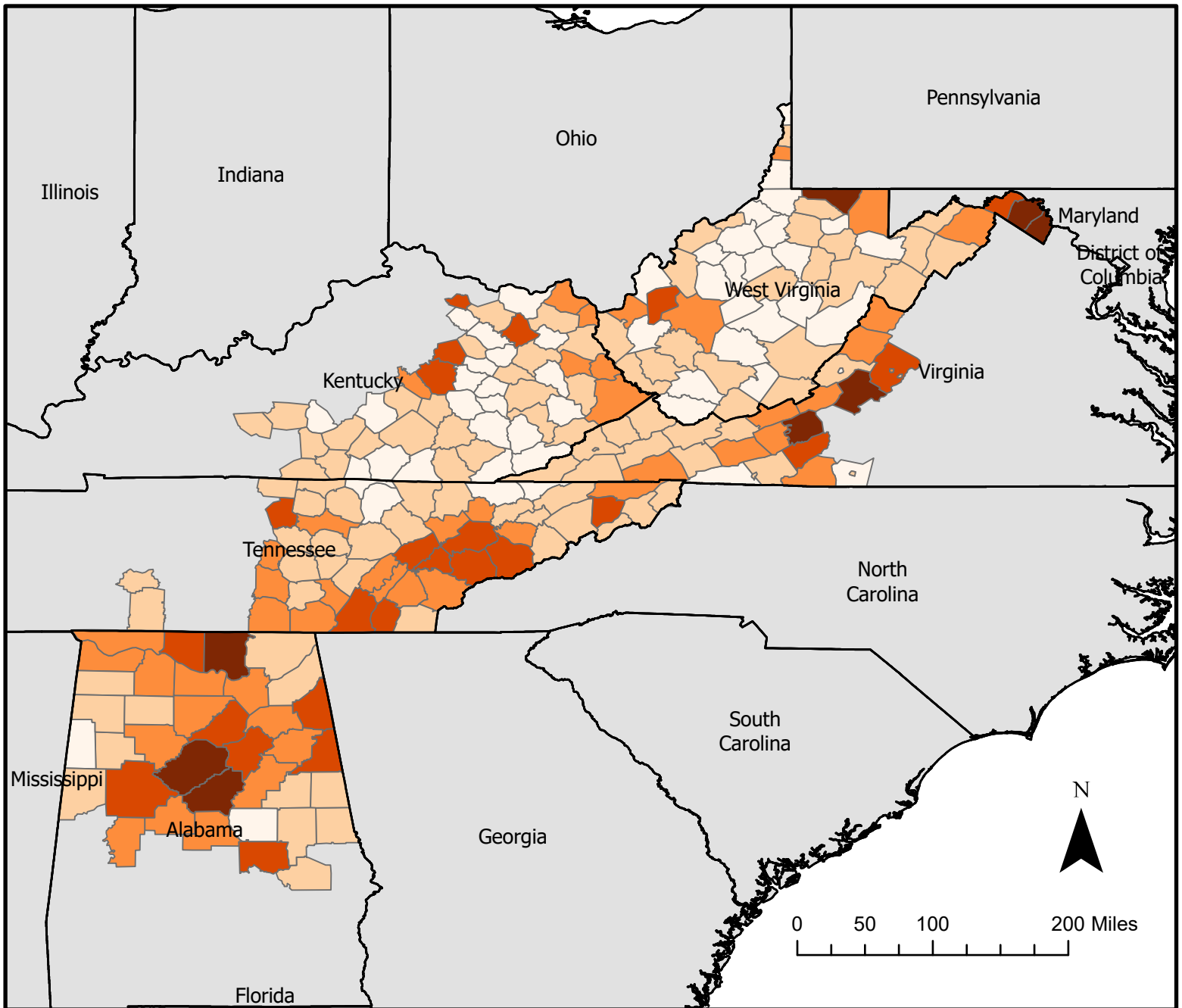
Owner Costs for Owners with a Mortgage

Figure 28 displays the trend in median owner costs with a mortgage over the past six years. The entire study area has experienced a steady increase in owner costs over the past five years. However, unlike the similarity in range and rate of increase for gross rent across the study region, owner costs vary more significantly among states. Kentucky has the lowest owner costs, while Alabama has the highest.

The rate of owner cost increases over 2019-21 is similar to that of the previous four years, which suggests the economic shocks of the pandemic may have had little impact on costs for existing owners. Counties within MSAs have average owner costs about 12 percent higher than those in rural areas outside of MSAs, much like the higher costs for renters in MSAs compared to rural areas.

Owner costs with a mortgage in the study area vary widely, ranging from a low of \$672 in Gilmer County, WV to a high of \$1,709 in Jefferson County, WV. Four counties in the study area have a median owner cost with a mortgage over \$1,500: Jefferson County, WV (\$1,530), Shelby County, AL (\$1,512), and Botetourt County, VA (\$1,507). Of counties with reliable data, five counties have a median owner cost under \$800/month: Gilmer County, WV (\$672), Calhoun County, WV (\$748), Van Buren County, TN (\$783), Summers County, WV (\$792), and Wirt County, WV (\$800).

Median Owner Cost with a Mortgage in Fahe States



Median Owner Cost with a mortgage

- \$672 - \$903
- \$904 - \$1020
- \$1021 - \$1137
- \$1138 - \$1289
- \$1290 - \$1709

Source: American Community Survey 2021 5-year estimates
 Map created using ArcGIS software by ESRI



Figure 28: Average Owner Costs Among Owners with a Mortgage by State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

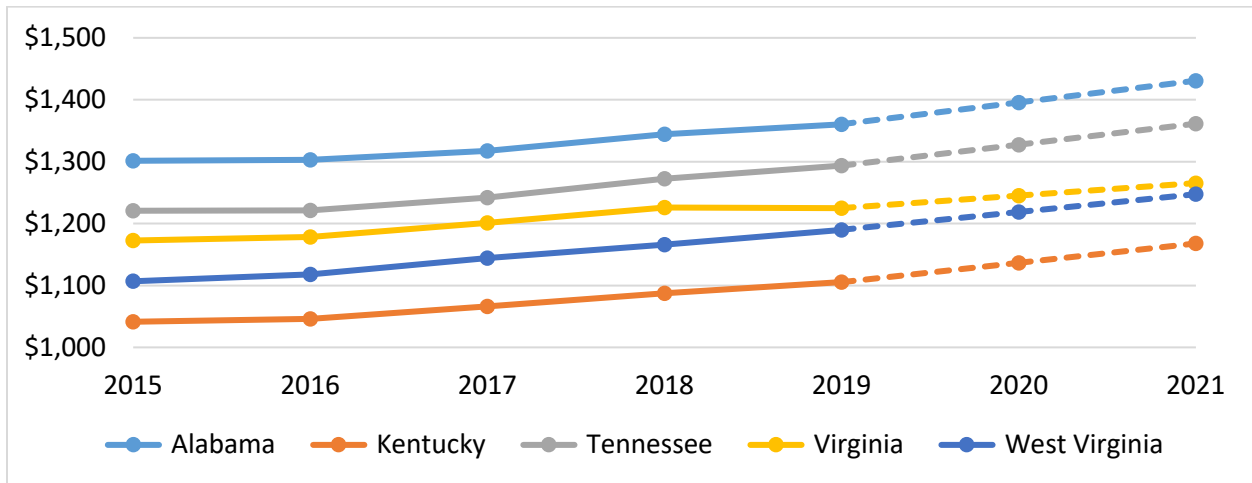


Figure 29: Owner Costs with a Mortgage by Metro Area in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

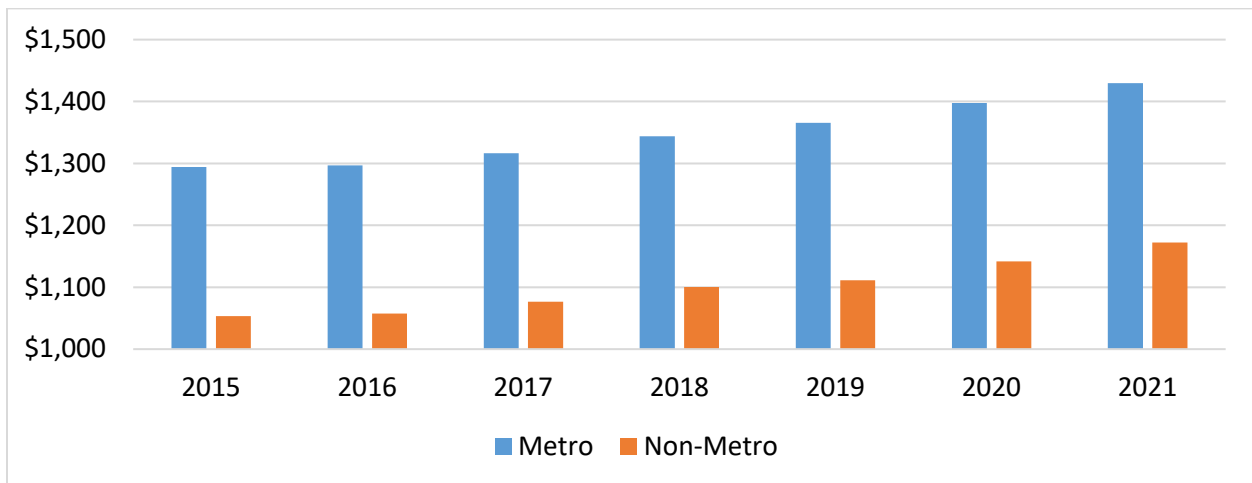
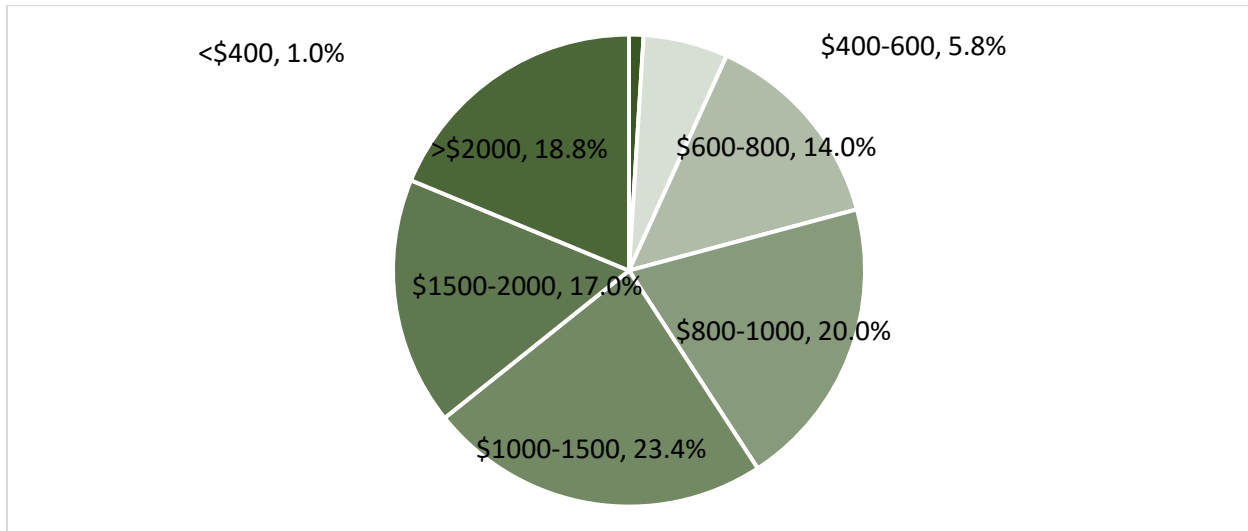


Figure 30 represents distribution of owner-occupied housing units in the study area by cost. Owner costs are evenly distributed, with 23.4 percent of owners with a mortgage paying housing costs between \$1,000 and \$1,500. Several counties have relatively high shares of owners with costs over \$2,000/month, including Jefferson County, AL; Botetourt County, VA; Shelby County, AL; Montgomery County, VA; Lexington City, VA; and Putnam County, WV. These relatively high-cost counties have continued to increase their share of housing units that cost more than \$2,000/month, rising from about 9 percent in the 2015 data to 19 percent in 2021. These rates of increase are similar across the study area.

Figure 30: Percent of Owner-Occupied Housing Units by Owner Costs with a Mortgage in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

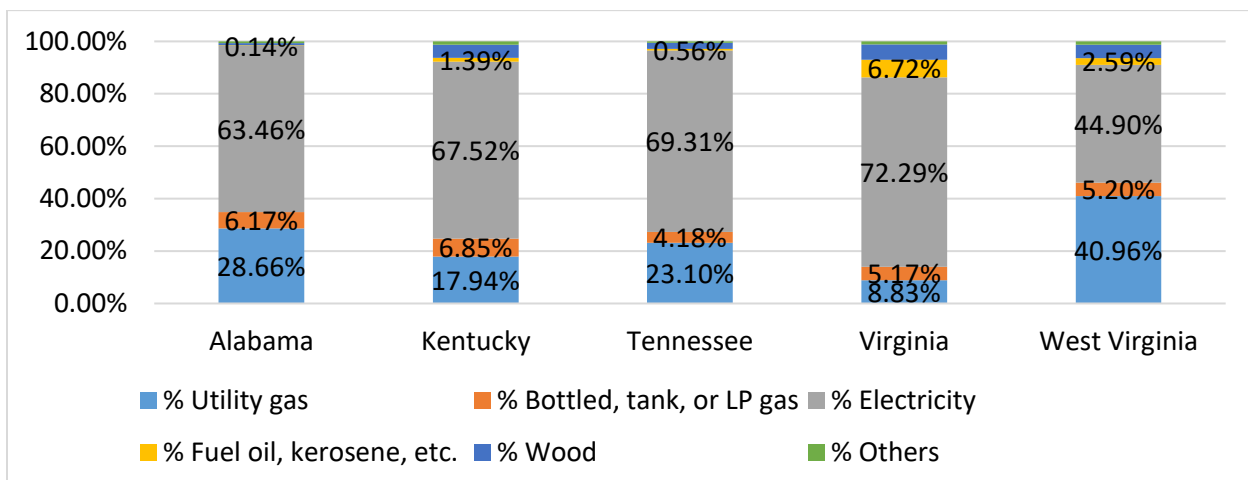


Energy use

Most households in the study area rely on electricity (63.0%) or utility gas (26.5%) as their primary heating fuel. A smaller share of households uses "Bottled, Tank, or LP gas" (5.4%) or wood (3.0%), but the share of each fuel type varies greatly by region. Electricity is the overwhelming energy source in Virginia (72.3%), while only 44.5 percent of households use electricity as their energy source in West Virginia. At least 41 percent of households use utility gas in West Virginia, which has many older homes built to use this type of energy source and a well-developed gas infrastructure. The percentage of households using electricity has increased by about 3 percent since 2015, suggesting that newly-built homes use electricity as the main energy source.

Figure 31: Percent of Housing Units by Fuel Type and State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates



Energy Burden

Across Fahe’s coverage area, average and median monthly household energy costs⁴ were highest in Alabama (\$240 and \$216, respectively) and lowest in Tennessee (\$193 and \$170, respectively). For the remaining states, household energy costs averaged \$205-210 per month, with median monthly energy costs ranging between \$180 and \$188.

Households with high energy costs and energy burden would benefit most from weatherization and energy efficiency improvements, reducing household expenses and conserving energy resources. ‘High energy cost’ households are those with energy expenditures in the top 25 percent of all households (greater than or equal to the 3rd quartile). Nearly 13 percent of households in Fahe’s service area have high energy costs and are ‘energy burdened’, meaning they spend more than 6 percent of their income on energy costs. Alabama reported the largest number (182,581) of high energy cost, energy burdened households, while Kentucky reported the largest share (15%) of high energy cost, energy burdened households.

Figure 32: Households with High Energy Cost and Energy Burden by State (Appalachian Areas)

Source: WVU Tabulation of 2021 ACS PUMS

	Region Total	Alabama	Kentucky	Maryland	Tennessee	Virginia	West Virginia
High Energy Cost	1,097,291	337,470	142,528	10,120	306,491	123,110	177,572
% of Total	25%	25%	25%	25%	25%	25%	25%
High Energy Costs and Energy Burden	571,577	182,581	83,920	5,522	139,195	65,609	94,750
% of Total	13%	14%	15%	14%	11%	13%	13%

Single-family homes were more likely to have high energy costs and create energy burdens in all regions of the study area (Figures 33, 34, and 35). Across the region, 28 percent of households in single-family housing units had high energy costs, and 15 percent are energy burdened, compared to only 4 percent of multi-family households with high costs, and 4 percent with energy burden. Larger households with more people were more likely to report high energy costs (Figure 35).

⁴ Energy costs include electricity cost (PUMS ELEP), gas cost (PUMS GASP), and fuel (other than gas or electricity) cost (PUMS FULP). Energy costs were converted from annual costs to average monthly costs.

Figure 33: Households with High Energy Cost and Energy Burden Occupying Single Family Units by State (Appalachian Areas)

Source: WVU Tabulation of 2021 ACS PUMS

	Region Total	Alabama	Kentucky	Maryland	Tennessee	Virginia	West Virginia
High Energy Cost	1,069,670	327,778	140,086	9,863	298,883	119,726	177,477
% of Total	28%	29%	27%	29%	29%	28%	28%
High Energy Costs and Energy Burden	548,939	174,059	81,992	5,282	133,532	62,801	91,273
% of Total	15%	15%	16%	15%	13%	15%	15%

Figure 34: Households with High Energy Cost and Energy Burden Occupying Multifamily Units by State (Appalachian Areas)

Source: WVU Tabulation of 2021 ACS PUMS

	Region Total	Alabama	Kentucky	Maryland*	Tennessee	Virginia	West Virginia
High Energy Cost	26,545	9,390	2,299	131	7,205	3,377	4,143
% of Total	4%	5%	4%	2%	4%	5%	5%
High Energy Costs and Energy Burden	21,780	8,248	1,855	120	5,353	2,801	3,403
% of Total	4%	4%	3%	2%	3%	4%	4%

*Maryland estimates are lower-bound estimates (estimates minus the margin of error) because exact estimates were not reliable.

Figure 35: Households with High Energy Cost by Size and Unit Type

Source: WVU Tabulation of 2021 ACS PUMS

	Number	Percent
Single Family HHs with High Energy Costs	1,069,670	28%
Single Family, One-Person HHs with High Energy Costs	160,151	17%
Single Family, Two-Person HHs with High Energy Costs	376,238	26%
Single Family, Three-Person HHs with High Energy Costs	201,330	33%
Single Family, Four plus-Person HHs with High Energy Costs	331,951	44%
Multi-Family HHs with High Energy Costs	26,545	4%
Multi-Family HHs, One-Person, High Energy Costs*	5,894	2%
Multi-Family HHs, Two-Person, High Energy Costs*	7,163	4%
Multi-Family HHs, Three-Person, High Energy Costs*	3,082	5%
Multi-Family HHs, Four plus-Person, High Energy Costs*	5,487	12%

*Estimates are lower-bound estimates (estimates minus the margin of error) because exact estimates were not reliable.

Age of units

The energy performance, maintenance costs, and upgrade costs of a housing unit depend greatly on the age of the unit. Older units usually cost more to heat and cool and require more maintenance and upgrades to retain their full market value. Homes built before 1939 are generally considered “historic,” and have often been upgraded or preserved, so drawing conclusions about the performance or upgrade needs of these homes can be difficult, but they generally have high maintenance costs regardless of the overall condition. Homes built in the 40s and 50s benefit from solid construction of that era, and typically have had up to two “upgrades” in their history. Many of these units are relatively small compared to newer homes and are often within walking distance of city centers due to historic development patterns. As a result, these units often offer very desirable and affordable housing opportunities. Housing built in the 1960s, although also modest and well built, is often less well located and has higher transportation costs. Homes built in the 1970s, ‘80s and ‘90s are notably less well constructed compared to older housing, and in metropolitan areas are in locations associated with “sprawl” development and high transportation costs. Many of the housing units built in the 1960s, and an even larger share of housing units from the 1970s and 1980s, have not had any major upgrades since their original construction and may need upgrades soon to remain competitive in their housing markets. Housing built in the 1970s, ‘80s, and ‘90s makes up nearly 50 percent of the housing stock in the study area, which suggests the housing stock in many communities will need significant maintenance and upgrades over the next 10 to 20 years.

Figure 36: Housing Units by Year Built in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

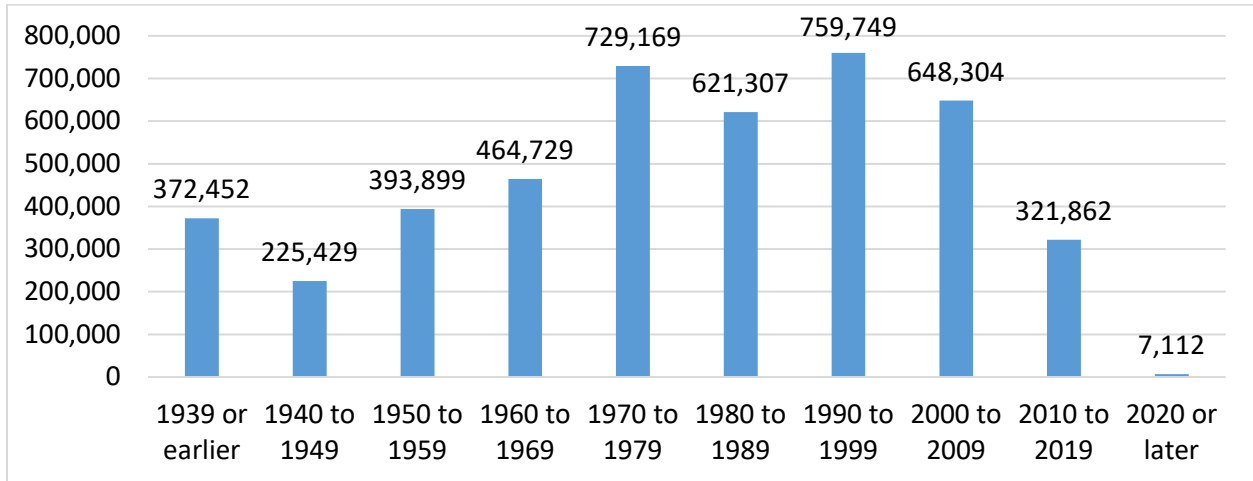


Figure 37: Percent of Housing Units by Year Built and State (Appalachian Areas)

Source: VCHR Tabulation of 2021 ACS 5-year Estimates

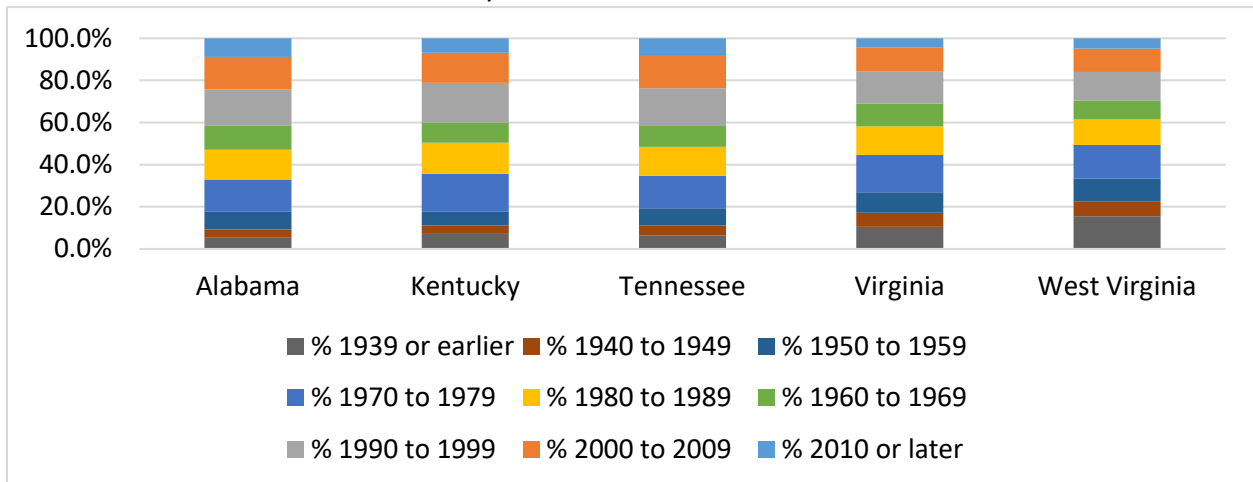
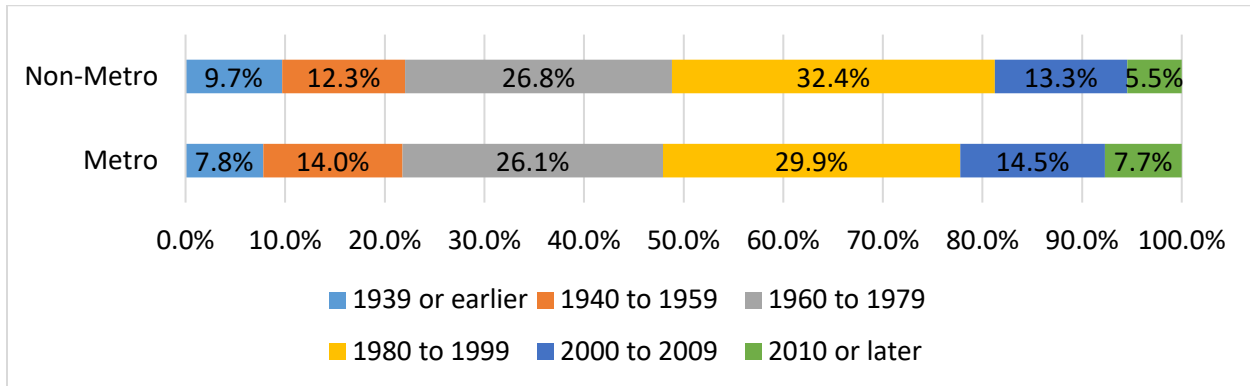


Figure 38: Percent of Housing Units by Year Built and Metro Area in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of 2021 ACS 5-year Estimates



The proportion of housing units built in 1990 or later in Alabama, Kentucky, and Tennessee is around 40 percent, while in Virginia and West Virginia it is 35 percent or less. These two states have a larger share of older homes, with 42.3 percent of housing units built before 1960 in West Virginia, as compared to 27.2 percent in Kentucky.

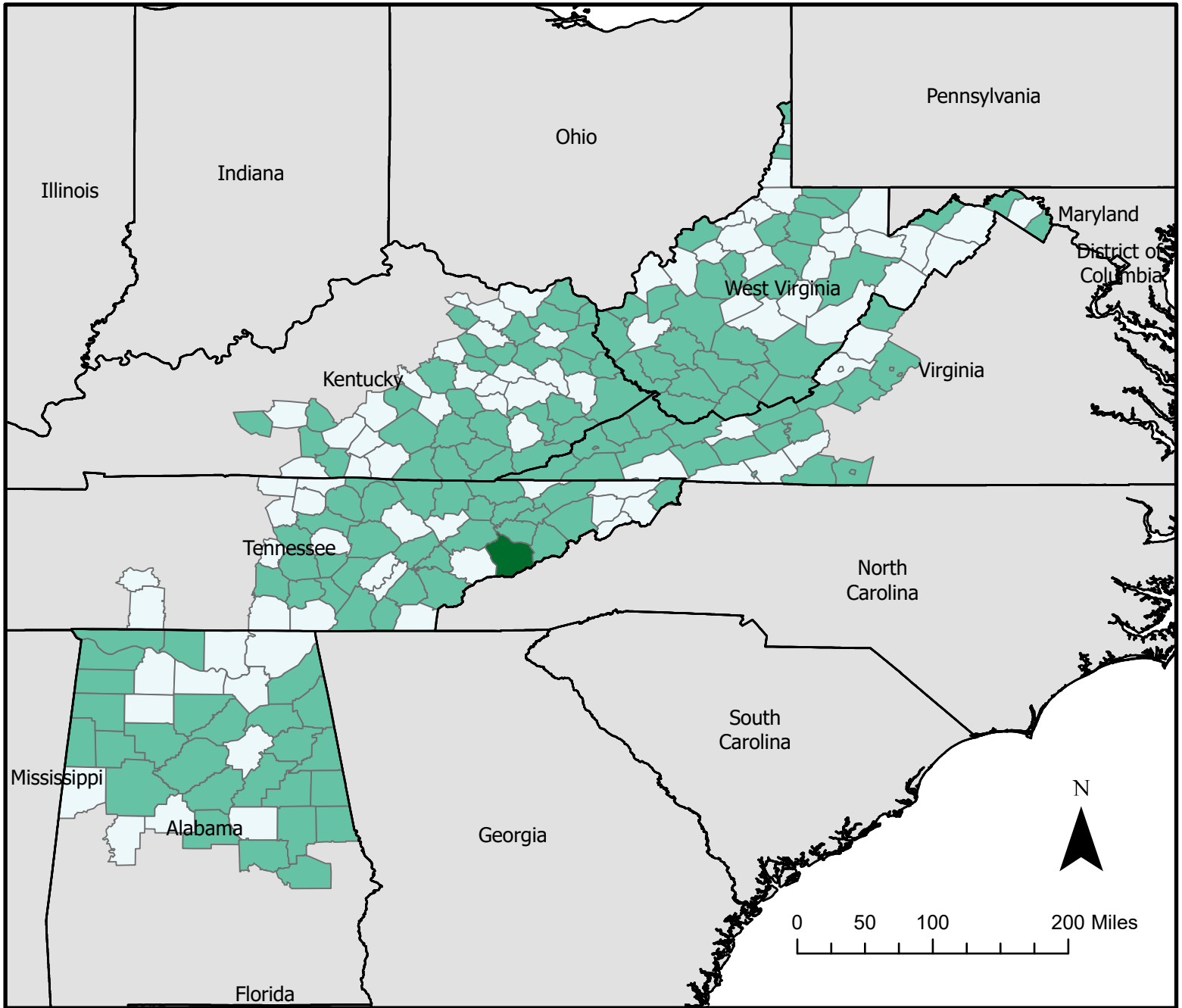
Regions vary in their proportion of newer homes as well, highlighting the varying pace of growth and new construction in different regions of the study area. More than 8 percent of homes in Alabama and Tennessee were built after 2010 and nearly a quarter (24%) were built in 2000 or later. In Virginia and West Virginia homes built after 2000 are only 16 percent of the total, while those newer than 2010 make up 5 percent or less. MSAs have a higher share of newer homes than non-MSA areas, indicating new home construction is more active in urban areas. While the proportion of homes built before 1980 is similar between MSA and non-MSA areas, the share of housing built after 2010 is 2.2 percent higher in MSA areas, and 3.4 percent higher for homes built after 2000.

Vacancy

The study area has more than 695,000 vacant housing units. Over half of these units (55%) are long-term vacancies that are not available for sale or for rent. Nearly a quarter (22%) are seasonal or vacation properties, like hunting shacks, cabins or vacation homes. The remaining units are in transition in the market: for sale, for rent, rented/sold and not yet occupied, or reserved for migrant workers.

Market vacancy, defined as the percent of total units that are for-sale or for-rent, decreased from 2015 to 2021 in 67 percent of counties in the study area. Most counties within the study area have a healthy market vacancy rate between 2 to 7 percent of total housing stock. Only Sevier County, TN has a market vacancy rate above 7 percent, which may be a sign of market weakness.

Market Vacancy Rate in Fahe States



Market Vacancy

- 0% - 2%
- 2.1% - 7%
- 7.1% - 7.9%

Source: American Community Survey 2019 5-year estimates
 Map created using ArcGIS software by ESRI

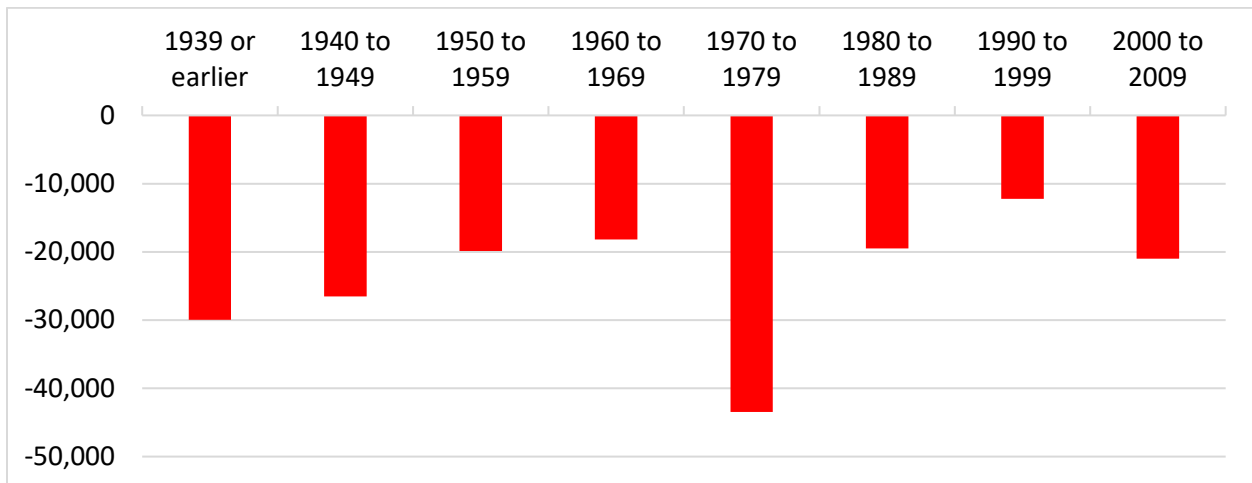


An increasing number of counties in the study region have market vacancy rates below 2 percent, with 85 counties meeting this threshold in 2021. Twenty-four counties have market vacancy rates below 1 percent. Counties with vacancy rates below 2 percent are “tight” markets where the lack of for-sale and for-rent inventory may drive up housing costs. Fahe members have noted the impacts of these tight markets in many places, including increasing prices, landlords becoming less willing to take part in affordable housing programs, and affordable housing developers facing increased competition in acquisition of both land and housing units from other real estate investors. Competition and increased costs constrain options for the development of new affordable housing units, limiting new affordable developments to locations where funding or market conditions are most conducive to these projects

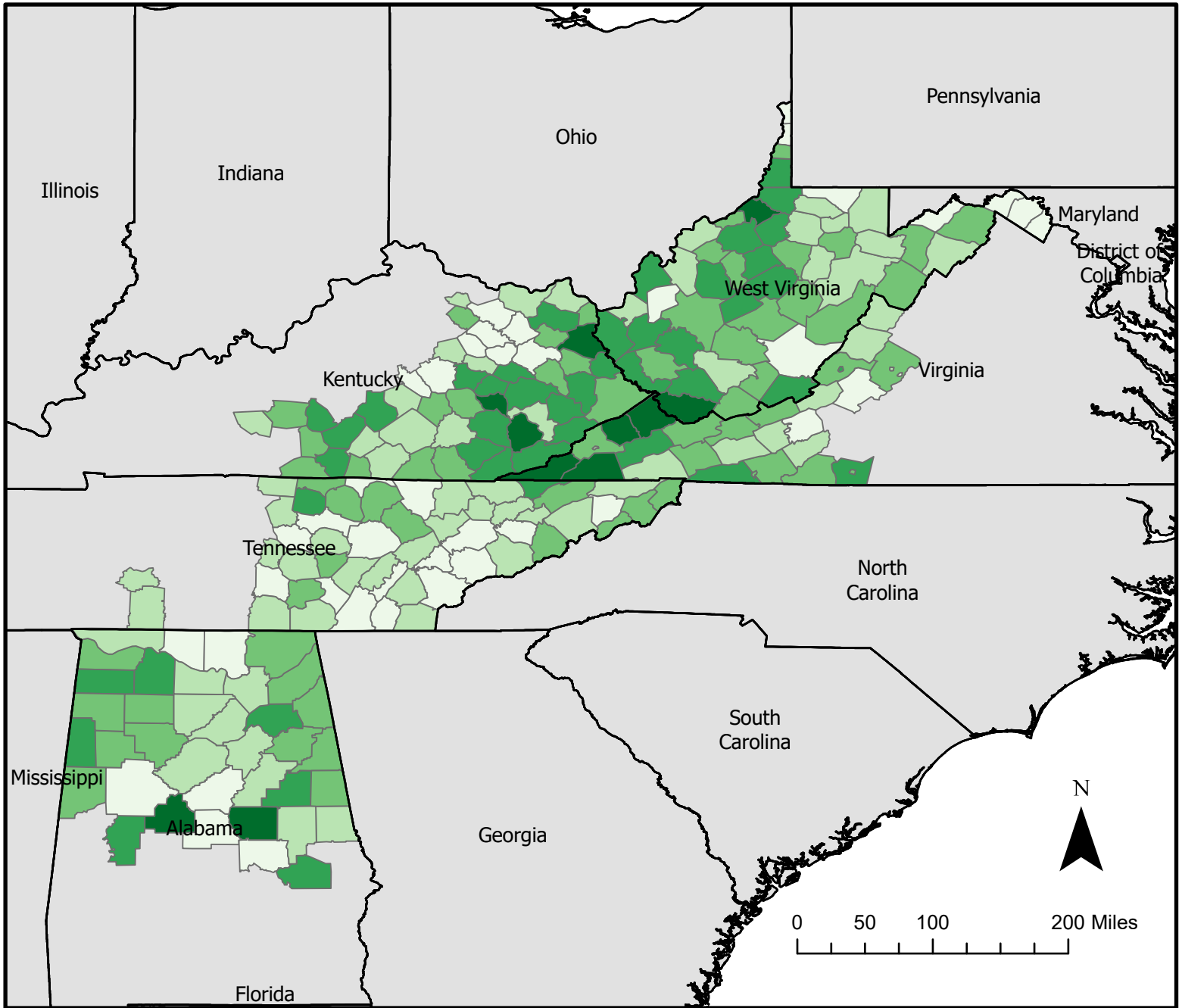
Long-term vacant units that are not seasonal or ‘on the market’ decreased in 85 percent of counties in the study area. The percent of long-term vacancies in the total housing stock ranges from 2 percent in Shelby County, AL to 27 percent in McDowell County, WV. Some units may have been sold or rented, as increasing demand and market tightness lead to higher prices and rents. In addition, many communities are working to demolish dilapidated structures or convert long-term vacant units to non-residential uses. Approximately 190,670 homes were removed from the region’s housing stock in recent years, encompassing demolitions and building transitioning from residential uses to other uses such as commercial businesses, municipal offices or storage.

Figure 39: Changes in Housing Units by Year Built (2015-2021) in Central Appalachia and Appalachian Alabama

Source: VCHR Tabulation of 2015, 2021 ACS 5-year Estimates



Long-Term Vacancy Rate in Fahe States



Long-Term Vacancy

- 2.4% - 6.5%
- 6.6% - 9.7%
- 9.8% - 13.1%
- 13.2% - 17.9%
- 18% - 26.8%

Source: American Community Survey 2019 5-year estimates
 Map created using ArcGIS software by ESRI



Sixty-two (62) percent of all vacant units in the study area are single family homes (502,095 units). Additionally, the study region has an estimated 158,967 vacant mobile homes (20% of vacant units) and 129,805 vacant multifamily units (16%). Mobile and manufactured homes are disproportionately vacant, there is a higher proportion of mobile and manufactured homes among vacant homes than all housing units. Mobile and manufactured homes account for 1 in 5 of all vacant units in the region. The vacancy rate for multifamily properties is 18 percent. Multifamily properties with 5-9 units reported the lowest vacancy rate (15%), while those with 20-49 units reported vacancy rates of 22 percent (16,412 properties).

Figures 40. Vacancy Rates and Share of Total Vacant Units by Housing Type in the Faxe Service Region

Source: WVU tabulation of 2021 PUMS 5-year Data

	Total Units	Share of Total Units	Vacant Units	Vacancy Rate	Share of All Vacant Units
All Units	5,178,689	100%	790,867	15%	100%
Mobile/ Manufactured Homes	729,898	14%	158,967	22%	20%
Single Family	3,705,521	72%	502,095	14%	63%
Single Family Detached	3,600,025	70%	491,416	14%	62%
Single Family Attached	105,496	2%	10,679	10%	1%
All Multifamily	737,158	14%	129,805	18%	16%
2 Unit	119,962	2%	22,461	19%	3%
3-4 Unit	145,890	3%	25,581	18%	3%
5-9 Unit	180,641	3%	27,434	15%	3%
10-19 Unit	138,720	3%	25,766	19%	3%
20-49 Units	76,086	1%	16,412	22%	2%
50+ Units	75,859	1%	12,151	16%	2%

Vacancy rates range from 13 percent in Tennessee (180,286 vacant units) to 22 percent in the PUMAs covering Garret and Allegheny County, Maryland (11,281 units). Vacancy rates for single family homes are largely consistent across the region, with the exception of higher rates in Maryland. Vacancy rates for multifamily units range from 16 percent in Tennessee and Kentucky to over 21 percent in Maryland and West Virginia. Vacancy rates for mobile and manufactured homes are highest in Virginia and West Virginia (26% and 23%, respectively).

Vacancy rates vary widely across the study area, with rates under 6 percent in Madison County, AL and the western Knox County, TN PUMA area, and rates of nearly 30 percent in the Jefferson and Sevier County, TN PUMA area (29%) and the Greenbrier, Monroe, Nicholas, Pocahontas, Summers, and Webster County, WV PUMA area (28%).

Context and Conclusions

Fewer vacancies and increasing housing costs are evidence of strengthening housing markets throughout the region. Strong markets can help to attract new investment to the region, but some disadvantaged households may face adverse consequences from more competitive markets. In places where weak markets have become balanced, owners and landlords now have incentives to invest in their property: they can rely on a return when they sell, or they can compete for tenants that can pay higher rents. In highly competitive housing markets where homes sell fast, buyers relying on non-conventional financing (e.g., FHA, USDA, VA etc.) may be disadvantaged by slower processes and inspection requirements. Low- and moderate-income renters in competitive rental markets may find rents increasing beyond reach or landlords less receptive to requests for repair or modification, especially if units have long wait lists of renters who may be willing to accept less than ideal circumstances in order to secure any place to live.

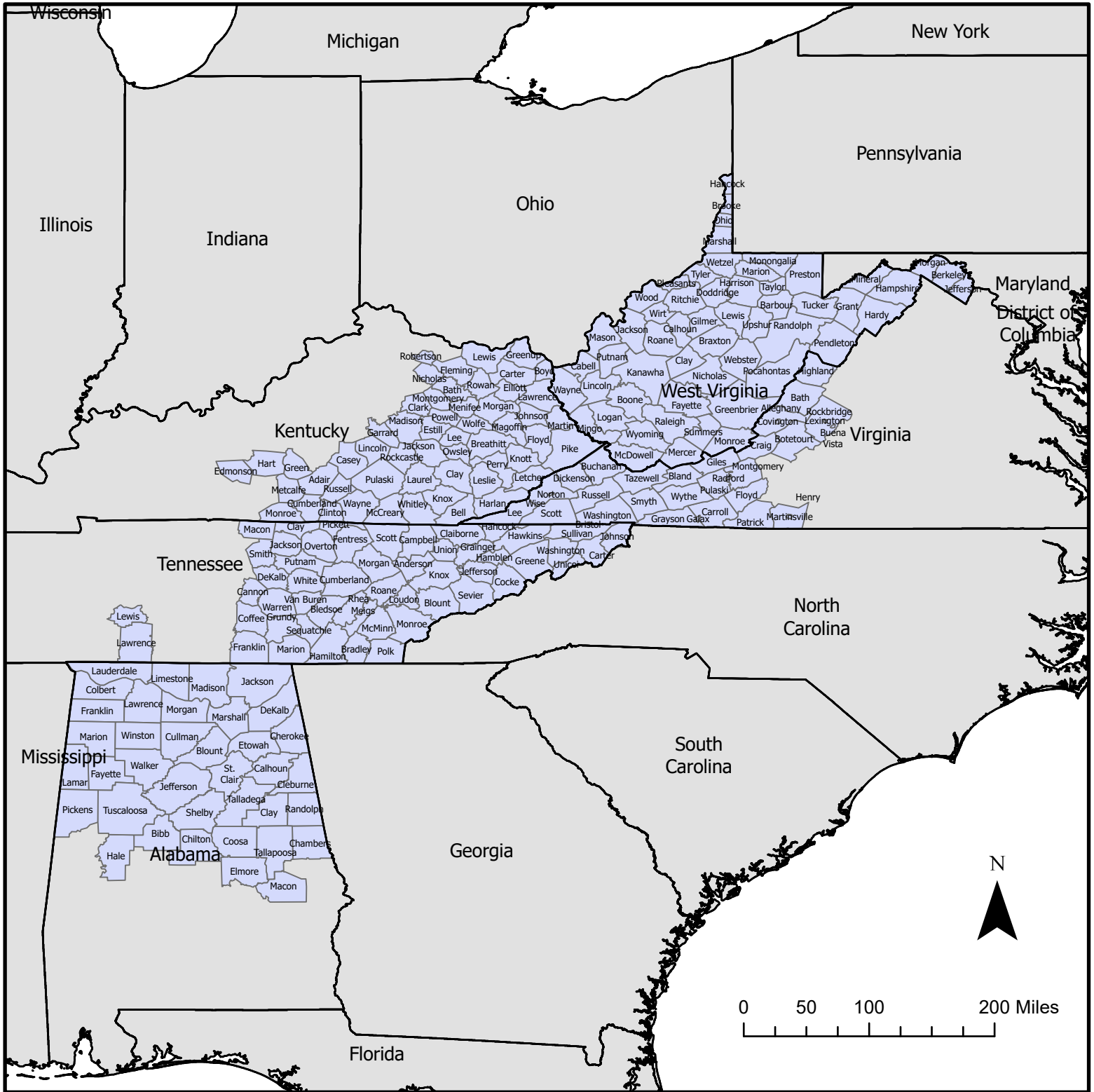
In addition to challenges for households, Fahe members described development challenges that more competitive housing markets present. For example, higher rents attract more developers to the market, causing competition for development sites that makes it more difficult to site and build affordable units. Material and labor costs that have been increasing since the Great Recession have escalated in the face of scarcity due to pandemic supply chain interruptions, recent inflation, and competition for resources in the high-demand market. These increasing costs make constructing units that are affordable to households with lower incomes increasingly difficult.

Nonetheless, communities across Appalachia have an opportunity to take advantage of strengthened markets to invest in existing housing stock and/or build new housing. New housing must appeal to as many demand segments as possible and align with needs for access to community, internet, and transportation. Housing preservation should be similarly focused, prioritizing investments in homes that will remain in use for years to come. Investments in repairs, weatherization, and upgrades such as new windows and appliances preserve the housing stock and increase quality of life and affordability for residents.

Housing affordability remains an issue throughout the region, especially for low-income households. Renters continue to be cost-burdened at a higher rate than owners, and recent improvements in cost-burden rates may be eroding as pandemic supports have ceased and landlords increase rents to try to recover from pandemic and take advantage of market demand. Many homeowners decreased their housing costs by refinancing their mortgages in the years prior to recent interest rate increases, but new homebuyers must contend with higher rates, reduced purchasing power and highly competitive markets in much of the study area. Meanwhile, households who own their homes “free and clear” have seen little change to their affordability, so those that do experience cost-burden would likely benefit from housing investments to reduce utility costs, or an option to move to different housing that better meets their needs in terms of size, performance and location.

Appendix 1: Study Area

County Study Area in Fahe States



PUMA Study Area in Fahe States

