SPOTLIGHT ON UNDERSERVED MARKETS

LIHTC in Rural Middle Appalachia

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A Comprehensive Overview of the Region's LIHTC Market and the Structural Drivers that Present Challenges and Opportunities for the Broader Multifamily Rental Market

Today approximately 5.4 million people live in rural Middle Appalachia – a region stretching from southern Ohio to western North Carolina on both sides of the Appalachian Mountains with a rich history of contributions to the economy and culture of the United States. Despite this history, it is one of the most economically challenged regions in the country and one of the hardest to serve housing markets, particularly for renters. The rental housing stock is limited due to many factors, including the geography itself, and within the existing stock, there is too little supply of quality, affordable rental homes to meet the needs of the residents living there today.

In this paper, we explore this region's multifamily housing market with a special focus on the primary means of developing affordable housing in undeserved markets: the Low-Income Housing Tax Credit (LIHTC) program. We take a look at the market size of this subsidy program, including the geographic distribution of properties receiving LIHTC allocations, its importance in serving lower-income households, and we highlight some challenges to development based on demographic, economic and topographical factors.

In our analysis, we used multiple data sources to examine the LIHTC market in rural Middle Appalachia on a geographically granular level. From this, we were able to use summary statistics, in conjunction with market research and insight from industry experts, to generalize our findings and draw conclusions about the regional characteristics of this market.

Below are some of the key findings of our research:

- There are 5.4 million residents in rural Middle Appalachia as defined by Duty to Serve. This represents 1.7 percent of the total U.S. population and 7.2 percent of the nation's rural population.
- The population of rural Middle Appalachia skews older than the nation as a whole.
- Income in rural Middle Appalachia is 40 percent lower than the national average and 20 percent lower than the rural average.
- Rental housing, and multifamily rental housing in particular, is rare in rural Middle Appalachia. Only 26.7 percent of households are renters (compared to 36.4 percent nationally). Of these renter households, only 16.7 percent rent multifamily units (compared to 42.6 percent nationally).
- Developing new rental housing often requires multiple sources of capital. The LIHTC program is the most popular housing subsidy for providing affordable housing and, on average, supports about 25 properties in rural Middle Appalachia each year.
- Although LIHTC properties support a small percentage of all households in rural Middle Appalachia compared with the nation, they support a relatively high percentage of Middle Appalachian multifamily renters and play a vital role in providing affordable rental housing for tenants who would otherwise be severely rent-burdened.

An Overview of LIHTC and its Role in Supporting Multifamily Rental Housing in Rural Middle Appalachia

The LIHTC program is one of the primary means to create and preserve affordable rental housing across the country, in both large and small markets. Since the program's inception in 1986, it has created or preserved over 3 million units of rental housing affordable to those making 60 percent of the area median income (AMI) or less.[1] Generally, we see that subsidy programs like LIHTC are needed to provide capital for affordable rental housing in markets where it would otherwise be uneconomical to develop. However, while the program has national reach, its efficacy in meeting local needs can vary by market, and is highly dependent upon a variety of local conditions, state priorities, and developer interest and capabilities. This dependency is especially apparent in the nation's hardest to serve rural markets.

This paper on rural Middle Appalachia is the first in a series in which we will study underserved markets across the country. We examine the demographics and housing stock in this region, which has historically struggled with high levels of poverty,[2] substandard housing conditions,[3] economic instability[4] and infrastructure challenges.[5] The use of LIHTCs in this region has helped provide lower-income households with access to safe, stable and affordable housing. LIHTCs are the most prevalent among the rental housing subsidies used in this area and the program is the most popular one for the construction of new affordable units.

The extent of LIHTC opportunity in this region depends not only on purely economic factors, but also on other considerations, including population density, buildable land, and property size and type preferences among those who live in rural Middle Appalachia. Through a combination of research and consultation with organizations that specialize in serving the housing needs of this region, we attempt to provide clarity regarding the market size and distribution of tax credits in rural Middle Appalachia and examine some challenges that make providing quality affordable rental housing especially difficult.

Characteristics of Rural Middle Appalachia and How They Affect the LIHTC Market

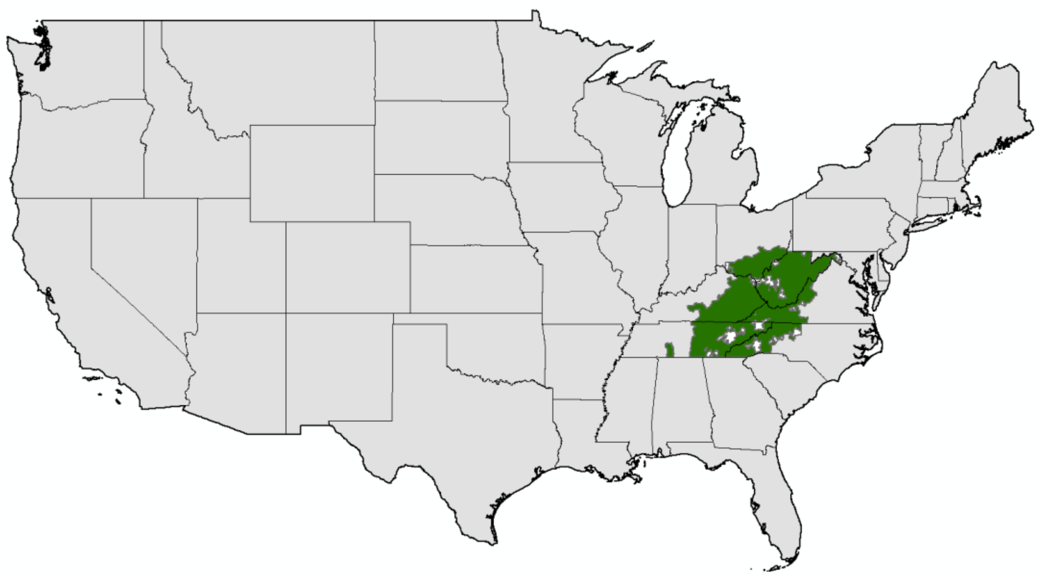
To understand the housing needs of rural Middle Appalachia, and the role of LIHTCs in meeting those needs, we need to consider some of the relevant characteristics of the region, all of which have an influence on the ability to create and preserve affordable rental housing through LIHTCs.

Geographic Definition

Rural Middle Appalachia refers to a region with common cultural, topographical and economic characteristics that are not determined by state boundaries.

While there are various ways to define the region, in this paper we view rural Middle Appalachia as consisting of census tracts identified by the Federal Housing Finance Agency (FHFA) as part of the Duty to Serve regulation (shown as green in the map below).

Exhibit 1: Map of Rural Middle Appalachia



Source: Mapping of Duty to Serve data (12 CFR 1282). Note that not all of the Middle Appalachia region is rural. This explains the areas within the boundaries of Middle Appalachia that are not shaded green.

The region includes parts of Kentucky, North Carolina, Ohio, Tennessee, Virginia and West Virginia along the Appalachian Mountains. Therefore, while the region may generally be culturally cohesive, housing development is determined locally and influenced by the laws, regulations and priorities of the different states. These differences can affect the emphasis on, and feasibility of, LIHTC properties across the region.

Population

Rural Middle Appalachia is home to about 5.4 million people, representing approximately 1.7 percent of the U.S. population and 7.2 percent of the population of all rural areas nationally. From 2010 to 2016, the population in rural Middle Appalachia contracted by -0.6 percent while the nation grew by 3.2 percent and all rural areas nationwide remained relatively flat at a 0.3 percent growth rate.[6,7]

As seen in Exhibit 2 below, Kentucky, Tennessee and West Virginia have the largest populations in the region (approximately 1 million or more people), as well as the largest share of their population living in the region. West Virginia stands out, with more than half of the state's population living in rural Middle Appalachia. This population distribution is relevant as states look to allocate tax credits to support affordable housing in the state as a whole.

Exhibit 2: Population of Rural Middle Appalachia

Region	Population		
	Entire State	Middle Appalachia	% in Middle Appalachia
Kentucky	4,411,989	1,107,293	25.1%
North Carolina	9,940,828	773,834	7.8%
Ohio	11,586,941	647,945	5.6%
Tennessee	6,548,009	1,253,590	19.1%
Virginia	8,310,301	578,228	7.0%
West Virginia	1,846,092	995,776	53.9%
Rural Middle Appalachia	5,356,666		100.0%
Rural (Nation)	73,941,710		7.2%
National	318,558,162		1.7%

Source: Freddie Mac Tabulations of 2016 5-Year American Community Survey

Economics

The abundance of natural resources in Middle Appalachia helped drive economic growth during much of the 19th and 20th centuries.[8] However, it also created high levels of income inequality and poverty throughout parts of the region, particularly in rural areas.[4] The industries that anchored the area's economy began to decline in the 20th century. This decline contributed to substantially lower incomes compared with the rest of the country[9]: Income levels in rural Middle Appalachia are nearly 40 percent lower than the national average, and 20 percent below the overall rural average income.[6]

As seen in Exhibit 3 to the right, this difference is even more pronounced for renters in the region. Rural Middle Appalachia renters earn 59.7 percent compared with renters nationwide, and 78.6 percent of renters in all rural areas. Renters in Kentucky have especially low

Exhibit 3: Income and Rent of Rural Middle Appalachia

Region[i]	Owner Income	Renter Income	Median Rent
Kentucky	$38,553	$18,533	$534
North Carolina	$43,082	$22,338	$615
Ohio	$47,640	$21,023	$600
Tennessee	$42,336	$21,656	$570
Virginia	$42,883	$21,992	$555
West Virginia	$43,525	$21,535	$560
Rural Middle Appalachia	$42,598	$21,004	$569
Rural (Nation)	$53,213	$26,724	$674
National	$70,586	$35,192	$949

Source: Freddie Mac Tabulations of 2016 5-Year American Community Survey

[i] Figures for rural Middle Appalachia, and the portion of this geography in each state, cannot be pulled directly from the Census because they are not a standard geography. Because of this, a different aggregation method was used and the results were normalized to Census output.

incomes, earning about $2,500 per year less than the other states.[6]

Perhaps not surprisingly, poverty levels in the region far exceed both rural and national poverty levels.

In 2016, there were just over 1 million residents of rural Middle Appalachia living in poverty. This represents 20.7 percent of the region's population and compares to 15.1 percent for the nation, as seen in Exhibit 4.

Almost a quarter of the population of rural Middle Appalachia lives in a county in which the poverty rate has exceeded 20 percent for the past 30 years – a classification known as a persistent poverty county (PPC). Sixty-six out of the nation's 386 PPCs (17 percent) are located in rural Middle Appalachia.

Exhibit 4: Low Income and Poverty Measures

Region	Population in QCTs	Population in PPCs	Poverty Rate
Rural Middle Appalachia	20.6%	24.0%	20.7%
Rural (Nation)	12.8%	10.8%	16.3%
National	17.2%	6.5%	15.1%

Sources: Freddie Mac Tabulations of 2016 5-Year American Community Survey, FHFA, Department of Housing and Urban Development.

QCT: Qualified Census Tract; PPC: Persistent Poverty County

In addition, 20.6 percent of the region's population lives in a qualified census tract (QCT), which is a census tract that meets at least one of two criteria: (1) the income of at least half of the households are at or below 60 percent of the AMI, or (2) the poverty rate is at least 25 percent.

These lower income levels in the market generally, and among renters specifically, make it especially difficult to create and operate multifamily rental properties, as these properties need to be able to generate enough rental income to operate. While LIHTCs provide an important subsidy, their efficacy still depends on the income of the residents in the area and the tenants in the property. This is because the rental units supported by a LIHTC subsidy are restricted by local income. Therefore, since the median income in rural Middle Appalachia is significantly lower than other parts of the country (as seen above in Exhibit 3), the maximum amount that property owners can charge for rent is also significantly lower.

Population Density and Distribution

In general, multifamily housing is most prevalent in areas with high population density. The nation's 50 most densely populated counties contain roughly a third of the nation's multifamily units despite being home to only 17.6 percent of the population.[6] The flip side is that we do not see much multifamily housing in areas that are sparsely populated, such as rural Middle Appalachia.

The overall average population density in rural Middle Appalachia is 62.3 people per square mile – well below the national average of 90.2 people.[6] In rural Middle Appalachia, areas with higher population density tend to have a higher concentration of LIHTC units, since the allocation of tax credits is indirectly determined by the ability of the local area to support LIHTC housing.

Population density is a factor in determining LIHTC allocation, and therefore it is important to examine the causes of unequal population distribution. Topographical factors have played a particularly influential role in the formation of towns and cities in rural Middle Appalachia, which is reflected in how densely populated different areas have become.

The Appalachian Mountains run through Middle Appalachia and make building properties and infrastructure more difficult than in non-mountainous areas. Developers may face higher construction costs where the terrain is not conducive to building structures. The Kentucky Housing Corporation considers mountainous terrain and the resulting lack of buildable land as an impediment to LIHTC development.

Infrastructure challenges have been present in Middle Appalachia for centuries, although some improvements have been made. Centralized drinking water and wastewater services are less common in Middle Appalachia. Where centralized access does exist, the cost of use relative to income is very high compared with the rest of the country. Creating or replacing water and sewage lines is significantly more expensive in Middle Appalachia due largely to the region's terrain.[10] Compounding the issue is that extending lines to sparsely populated areas is more expensive on a per household basis. This means that low population density is both a cause and effect of infrastructure challenges, and ultimately limits the development of LIHTC projects.

Energy infrastructure also helps to explain the allocation of LIHTCs in rural Middle Appalachia and is largely an outcome of population density. Across the nation, power transmission lines[ii] are a strong indicator of LIHTC development, and there are large sections of rural Middle Appalachia that do not appear to have access to electricity. Close proximity to power transmission lines does not guarantee abundant LIHTC development, but predictably, areas without easy access to electricity generally have few, if any, LIHTC properties.

[ii] Power transmission lines refer to large structures that transport electricity over long distances. These are not the same as power lines that commonly run along residential streets.

Population Distribution: Age

Overall, the population of rural Middle Appalachia skews older than the nation, with a smaller percentage of the population at each age group under 45, and a larger percentage of each population group over 45, as seen in Exhibit 5. This is especially prevalent at both ends of the age spectrum: 18.3 percent of the population is above the age of 65 while only 17.4 percent are between the ages of 20 and 34 – generally seen as a prime age group for renting. This differs meaningfully from the nation, where 14.5 percent of the population is over 65 and 20.7 percent is between 20 and 34.

Exhibit 5: Comparison of Population Composition

Age Group	Population Composition by Region	
	National	Rural Middle Appalachia
Under 5	6.2%	5.3%
5 to 9	6.4%	5.7%
10 to 14	6.5%	6.1%
15 to 19	6.7%	6.3%
20 to 24	7.1%	6.4%
25 to 34	13.6%	11.0%
35 to 44	12.7%	12.2%
45 to 54	13.6%	14.1%
55 to 59	6.7%	7.4%
60 to 64	5.9%	7.0%
65 to 74	8.3%	10.9%
75 to 84	4.3%	5.5%
85 and over	1.9%	1.9%

Source: Freddie Mac Tabulations of 2016 5-Year American Community Survey

Housing Type Distribution

An older population tends to own instead of rent, which is especially prominent in this region. Single-family homes are generally more affordable in rural Middle Appalachia relative to other areas of the country and a higher percentage of homes are owned without a mortgage or any form of debt.[6]

Exhibit 6: Comparison of Homeownership

Region	Homeownership Rate
Kentucky	70.8%
North Carolina	73.5%
Ohio	71.3%
Tennessee	73.6%
Virginia	74.2%
West Virginia	76.2%
Rural Middle Appalachia	73.3%
Rural (Nation)	73.0%
National	63.6%

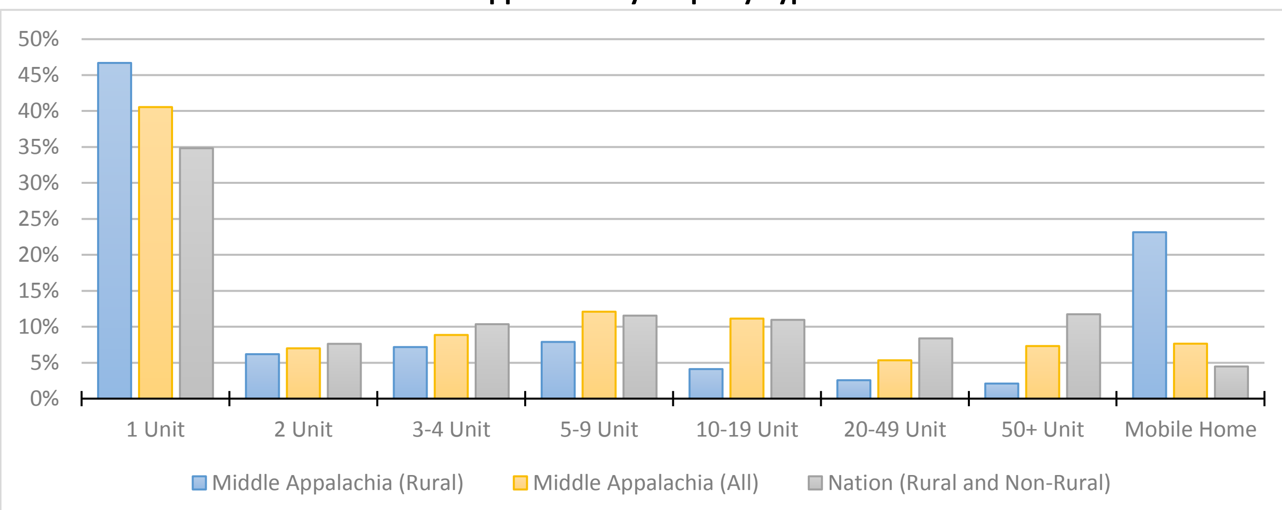
Source: Freddie Mac Tabulations of 2016 5-Year American Community Survey

The homeownership rate in this region is very high relative to the nation, with 73.3 percent of households owning instead of renting – a rate that climbs as high as 76.2 percent for the West Virginia portion of this region. The homeownership rate in this region has also proven to be less sensitive to economic conditions and the nationwide shift toward renting. From 2010 to 2016, the nationwide homeownership rate dropped by 3.0 percentage points (4.5 percent decrease) while the rate in rural Middle Appalachia dropped by only 1.9 percentage points (2.5 percent decrease).[6]

The high homeownership rate is partly attributable to lifestyle preference among Middle Appalachian households. Families often own a home without a mortgage because the house and property have been in the family for generations. It is also common for children to build homes on family land, which largely negates the need for multifamily rental housing in areas where this practice is prevalent. This contributes to a high homeownership rate even among young adults.

Despite this trend, renting in rural Middle Appalachia is not uncommon, though large apartment complexes are rare. Renters live in one-unit properties and mobile homes at disproportionately high rates, as seen in Exhibit 7. In 2016, 46.7 percent of renter households in rural Middle Appalachia resided in a single-family home, compared to 34.8 percent for the nation. Moreover, a staggering 23.1 percent of renters in rural Middle Appalachia lived in mobile homes, which is over five times the national rate and three times higher than the rate for all of Middle Appalachia (rural and non-rural). This leaves only 16.7 percent of renter households in multifamily properties, which is meaningfully lower than both the nation (42.6 percent) and for all rural areas generally (19.1 percent).

Exhibit 7: Rental Units in Rural Middle Appalachia by Property Type



Source: Freddie Mac Tabulations of 2016 5-Year American Community Survey

Overview of the LIHTC Market in Rural Middle Appalachia

LIHTC Market Size

Rural Middle Appalachia contains approximately 656 properties that have an active LIHTC subsidy, supporting 25,236 subsidized units.[11] These units are relatively evenly distributed across the states in proportion to their renter population. Over the past 20 years, an annual average of 25 properties and 1,060 units have been placed into service in rural Middle Appalachia through the LIHTC program.[11,12] The number of yearly deliveries has not displayed a high level of variability over this period, although there does appear to be a small uptick in the last three years. However, drawing meaningful conclusions from the historical LIHTC allocation is difficult given the number of factors that affect LIHTC distribution and the small sample size that each year produces. This makes forecasting future allocations very challenging.

In the six states that make up Middle Appalachia[iii], 36.5 percent of LIHTC properties are located in rural areas, leaving 63.5 percent in suburban and urban areas. This rural share is higher in the region than across the nation, where 30.2 percent of LIHTC properties are in rural areas. In both geographies, the proportion of rural units is even lower, with 22.3 percent for these six states and 15.9 percent for the nation.[11] This result is intuitive because rural LIHTC properties generally contain fewer units than their suburban and urban counterparts.

LIHTCs Support a Substantial Share of Multifamily Renters in the Region

Compared to all rural areas and the nation, LIHTC supports relatively fewer households and renter households. The story changes when focusing solely on multifamily renter households. Over a quarter of the approximately 94,000 multifamily households in rural Middle Appalachia live in a property supported by LIHTCs, which is over 10 percentage points higher than the national average, but slightly under the figure for all rural areas, as seen in Exhibit 8 on the following page. Multifamily rental housing is far less common in the rural Middle Appalachia region and in rural areas in general, but the multifamily housing that does exist is supported by LIHTC subsidies at a higher rate than elsewhere in the country.

[iii] These statistics are not limited to the portion of these states in Middle Appalachia; they refer to the entire state.

Exhibit 8: Geographic Distribution and Concentration of LIHTC Units by Region

Region	LIHTC Subsidized Units[iv]	Multifamily Renter Households as % of all Households	LIHTC Subsidized Units as a % of:		
			Households	Renter Households	Multifamily Renter Households
Kentucky	5,019	5.1%	1.2%	4.0%	22.9%
North Carolina	3,243	3.9%	1.0%	3.9%	26.5%
Ohio	4,802	5.8%	1.9%	6.8%	33.6%
Tennessee	4,846	4.0%	1.0%	3.7%	24.8%
Virginia	3,049	4.4%	1.3%	5.0%	29.2%
West Virginia	4,277	3.9%	1.1%	4.6%	27.8%
Rural Middle Appalachia	25,236	4.4%	1.2%	4.5%	26.9%
Rural (Nation)	422,520	5.1%	1.5%	5.6%	29.4%
National	2,654,768	15.5%	2.3%	6.2%	14.5%

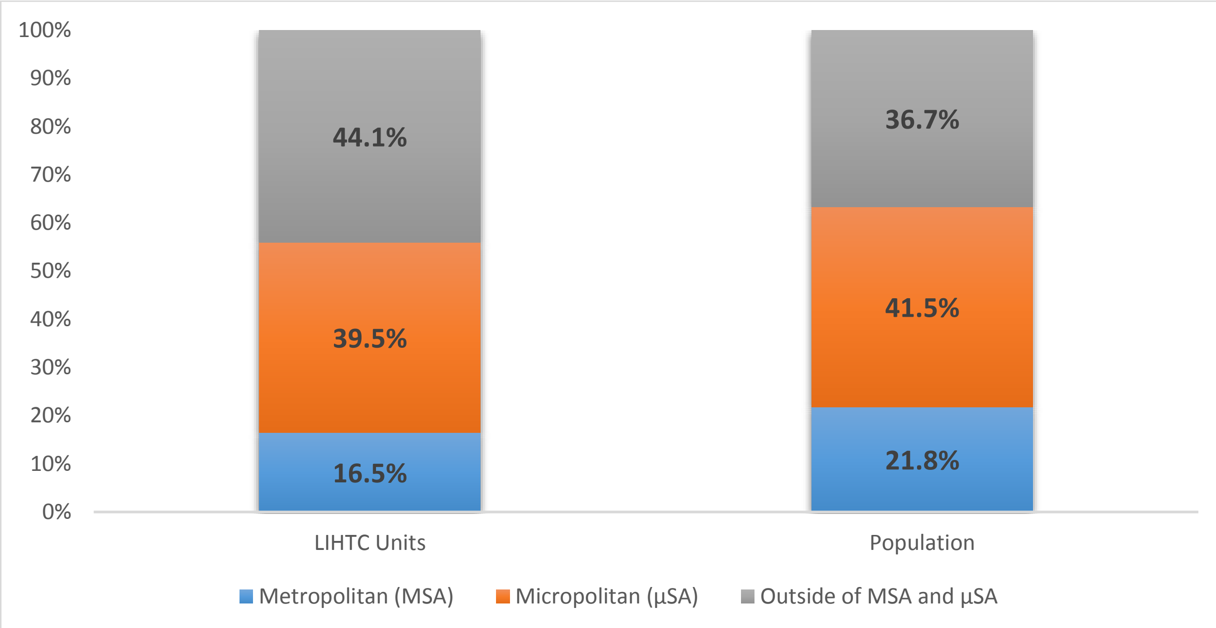
Sources: Freddie Mac Tabulations of 2016 5-Year American Community Survey and the National Housing Preservation Database. Shading is based on LIHTC prevalence. Blue shading indicates that a relatively high percentage of LIHTC units are available for the given population (e.g., Renter Households). Red shading indicates that relatively few LIHTC units exist for the population.

While this may appear to indicate that this region is receiving a disproportionate share of subsidized multifamily housing, this finding must be viewed with consideration to the economic feasibility of unsubsidized multifamily housing. This apparent disparity in allocation is likely because unsubsidized housing is much more difficult to support in rural Middle Appalachia, due in large part to high construction costs, low renter income and low AMI, all of which prevent unsubsidized projects from earning a positive return on investment. Said plainly, subsidized housing makes up such a large percentage of the total multifamily rental market because in many cases it is the only feasible way of providing it.

A similar theme can be found when comparing the number of LIHTC units to the population in metropolitan areas (MSAs), micropolitan areas (µSAs) and all other areas within rural Middle Appalachia. Despite containing just 37 percent of the region's population, the rural portion of Middle Appalachia that is outside of MSAs and µSAs contains 44.1 percent of the region's LIHTC subsidized units. This relatively high concentration of rural properties outside of MSAs and µSAs is observed on a national scale as well.[11]

[iv] LIHTC Subsidized units only includes units in multifamily properties (5+ units). There are LIHTC units that are in properties with fewer units, but they are very uncommon and not the focus of this paper.

Exhibit 9: Rural Middle Appalachia's Geographic Spread of LIHTC Units Relative to Population



Sources: Freddie Mac Tabulations of 2016 5-Year American Community Survey and the National Housing Preservation Database. Census tracts located in metropolitan areas can either be rural or nonrural, whereas tracts outside of metro areas are always rural.

This finding ostensibly suggests that less densely populated areas have a disproportionally high number of LIHTC units. However, it is important to remember that the figures in Exhibit 9 refer only to rural areas in each geography type, so densely populated areas in MSAs are excluded. All areas outside of MSAs are considered rural, but tracts in MSAs can be either rural or nonrural.

On the topic of disproportionate LIHTC representation, an interesting finding comes from studying the distribution of LIHTC housing around interstate highways. Approximately 18 percent of the inhabitants of rural Middle Appalachia live within 2 miles of an interstate despite this area only representing 9.5 percent of the region's total area.[v] Consistent with this, 261 (39.8 percent) of the region's LIHTC properties are located within 2 miles of an interstate and 395 (60.2 percent) are within 5 miles.[13] This relatively high population density helps explain the abundance of properties in the area.

LIHTC Properties in Rural Middle Appalachia Are Small Compared to National Averages

LIHTC properties in rural Middle Appalachia tend to have relatively few units, particularly when compared with LIHTC properties nationwide, with very little variation in size. The average LIHTC property size in the region is about 39 units, compared with about 75 units nationally. There are only 13 properties in Middle Appalachia (2.0 percent of LIHTC stock) that have 100 or more units, compared with 8,294 in the nation (23.3 percent of LIHTC stock) and 73 in the nonrural portions of Middle Appalachia (16.7 percent of LIHTC stock).[11]

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[v] This refers solely to interstate highways and does not include local, state, or U.S. highways.

Property sizes in rural Middle Appalachia are generally smaller because larger projects are often not economically feasible; as discussed above, there is not a large enough renter population to justify larger properties. In addition, we learned in our outreach that, in some cases, the area surrounding potential LIHTC projects lacks basic infrastructure, and developers have had to extend water lines and install small sewer package plants to make construction possible. This issue has improved in recent decades, but the quality of infrastructure in Middle Appalachia continues to be a challenge and impacts both LIHTC development and multifamily development in general.

LIHTC Properties Overwhelmingly Rely on 9 Percent Credits and Rural Set-Asides of Incentives

Nine percent tax credits generate a larger share of LIHTC units in rural Middle Appalachia than they do nationally, 69 percent compared with 56.7 percent. The remainder are supported by 4 percent credits. Of the 571 properties in rural Middle Appalachia for which credit data is available, 366 properties and 14,878 units are supported by 9 percent credits, while 332 properties and 11,938 units are supported by 4 percent credits.[vi,11]

This reliance on 9 percent credits is important for two reasons: (1) they generate more equity and are generally required when a property can't support debt, and (2) they are competitive. In other words, in order for properties to receive 9 percent LIHTCs in the region, they must either benefit from a rural set-aside in the state's Qualified Allocation Plan (QAP) or benefit from the presence of other incentives that allow them to out-compete other properties for 9 percent credit allocation. This is generally difficult without specific emphasis from the tax credit allocating authorities.

There are some incentives that pertain solely or primarily to rural Middle Appalachia. For example, Kentucky's Housing Finance Agency incentivizes LIHTC development in Middle Appalachia by increasing the maximum price per housing credit unit in eight high poverty counties (collectively known as one of the "Promise Zones"[vii,14]), all of which fall entirely in rural Middle Appalachia. In Ohio, areas in Middle Appalachia are incentivized for development, especially where there are many permits for oil and gas extraction. West Virginia's Housing Finance Agency scores projects higher if they preserve low-income residential units supported by USDA's Office of Rural Development.[15] In addition, projects located in a QCT are eligible to receive 30 percent more tax credits than projects outside of QCTs.[16] This credit boost pertains to all LIHTC projects regardless of where they are in the country, but as discussed on page four, rural Middle Appalachia has a relatively large number of QCTs. These incentives alone, however, do not guarantee abundant development.

[vi] It is not uncommon for a property to be supported by both 4 percent and 9 percent credits (i.e., overlap is possible).
[vii] Poverty Zones appear throughout the country and, according to HUD, are "high poverty areas in select urban, rural and tribal communities." The purpose of the Promise Zone Initiative is to "boost economic activity and job growth, improve educational opportunities, reduce crime and leverage private investment to improve the quality of life in these vulnerable areas."

Economics of LIHTC Development

As stated earlier, the efficacy of the LIHTC program, and multifamily rental housing in general, is dependent on a property's ability to generate enough cash flows to support its operation.

The presence of tax credit equity is critical since debt in rural Middle Appalachia is tough to support. Debt has an explicit cost that requires monthly payments. Equity from tax credits, however, is essentially cost-free, meaning that it is a portion of the capital stack that does not require a high return on equity. Tax credits are claimed over a 15-year period, and at the end of this period, there is no expectation of return on capital to the investor when they exit the partnership. Other parts of the capital stack may, but will not always, include subordinate debt such as HOME and Community Development Block Grant (CDBG) funding, which do not require monthly payments.

However, even with minimal debt, covering operating expense can be challenging. For market rate (unsubsidized) properties that heavily rely on debt, the problem is even worse, especially when considering that market rate rent doesn't differ significantly from rents based on the 60 percent AMI rents used in the LIHTC program. Market rate rent is generally higher than restricted rent, but if demand is low enough, the two can converge, or in some cases, restricted rent can actually surpass market rate.

To examine the economic feasibility of developing LIHTC units in rural Middle Appalachia, we'll examine a simple example of the costs and cash flows of a hypothetical property. Consider a LIHTC project in rural Middle Appalachia that has 32 units with a 20 percent leverage ratio. Based on development costs that are typical of a property in this region, the annual debt service would be roughly $61,000 with annual operating expense at about $181,000, for a total expense of $242,000.

Assuming that the property is composed entirely of 2-bedroom units, the maximum rent that the property can charge per unit is $710[viii]. Annually, this equates to roughly $273,000 in potential gross revenue, assuming full occupancy.

In this example, the income available after paying expenses and debt service is only $31,000 which is quite low and could be considerably lower if the property is located in an area that cannot support this level of rent. Indeed, properties commonly don't meet the maximum allowable, which is the highest amount of rent that property owners can charge for rent-restricted units under the LIHTC program. In addition, developers commonly defer their fee for the project, which is used as a financing source that must be repaid over the 15-year compliance period. Thus, the true profit would be less than $31,000. Further, this example assumes 100 percent occupancy, which is unlikely.[ix]

Although this example relies on simplified assumptions, it does illustrate the basic economic dilemma of developing rental units in areas with low incomes. The example above is not economically feasible, even in this example with only 20 percent debt financing. There is no room for profit-driven equity investors

[viii] This rental rate of $710 is not uniform across rural Middle Appalachia. It is the weighted average based on counties that have the highest concentration of LIHTC units.
[ix] Very small properties and properties in markets that have historically high vacancy rates will be underwritten at 7 percent or higher.

to make a return on such a transaction. Low return on investment would preclude this type of development. This example underscores why LIHTC is so valuable.

An interesting note is that the median rent in rural Middle Appalachia is comparable to maximum allowable rents under the LIHTC program (and in this case, market rents are even lower). On top of the lack of market pricing power over subsidized rates, unsubsidized properties must contend with a much higher percentage of hard debt. This explains why relatively few market rate properties exist in this region since it is comparatively difficult to attain positive profit.

LIHTC Properties Rely on Additional Subsidies

Even with LIHTC as a part of the capital stack, projects often require additional capital that does not demand high returns. We can see evidence of this from examining LIHTC properties that are supported by other housing programs. Our research indicates that 56.7 percent of all LIHTC properties in rural Middle Appalachia are supported by an additional federal assistance program. The most prevalent programs, as shown in Exhibit 10, are Section 8, HOME, and the Section 515 and 538 Rental Housing Service programs (commonly known as RHS 515 and RHS 538).

Exhibit 10: LIHTC Properties Supported by Other Housing Assistance Programs

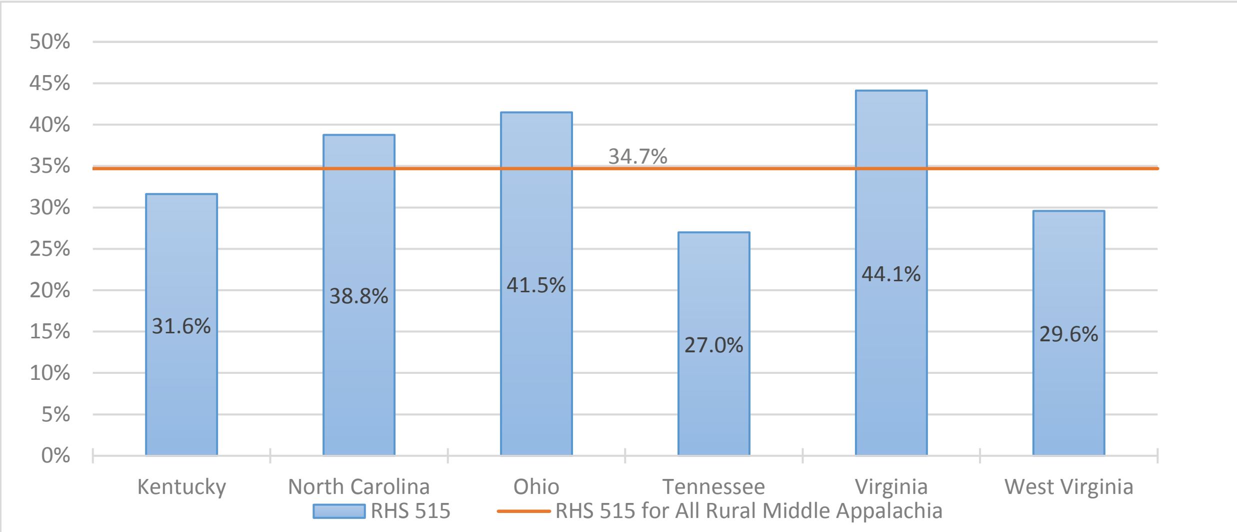
Subsidy/Guarantee Program	Number of LIHTC Properties Supported	Percentage of LIHTC Properties Supported
Project-Based Section 8	54	8.2%
HOME	54	8.2%
RHS 515	256	39.0%
RHS 538	53	8.1%
All Programs	372	56.7%

Source: Freddie Mac Tabulations of the National Housing Preservation Database

RHS 515, which is administered by the U.S. Department of Agriculture, is one of the most popular housing subsidies in rural areas. The program grants loans at an effective interest rate of 1 percent that amortize over 50 years, thereby reducing the cash flows required to cover mortgage payments. In addition, tenants may benefit from the RHS Rental Assistance subsidy which ensures that rent payments are capped at 30 percent of tenants' income.[17] This rental assistance is particularly important in allowing a property to generate enough income to stay in operation while only charging tenants rent equivalent to 30 percent of their income. In 2015, the average income of a household receiving RHS Rental Assistance nationally was only $10,554.[18]

RHS 515 is still the most common supporting subsidy program when examining the market on a unit level. LIHTC units in rural Middle Appalachia are supported by RHS 515 at a rate of 34.7 percent, which compares with 5.8 percent nationally and 27.9 percent in rural markets.[11] RHS 515 is especially prevalent in North Carolina, Ohio and Virginia, where the share of LIHTC units in properties that have 515 loans exceeds the rate for the region as a whole, as shown in Exhibit 11.

Exhibit 11: LIHTC Units Supported by a RHS 515 Loan in Rural Middle Appalachia



Source: Freddie Mac Tabulations of the National Housing Preservation Database

A significant number of RHS 515 loans are expected to mature in the coming decades which could adversely affect the affordability of rental housing in rural areas, including rural Middle Appalachia. According to the Housing Assistance Council, an average of 1,788 RHS 515 units will be lost every year until 2027, at which point the unit loss per year will increase to 16,364 per year until 2032. That number will then shoot up to 22,600 annually until 2040. When the loans on these mortgages mature, property owners are no longer obligated to keep the units affordable and tenants lose access to RHS Rental Assistance.[19] Since a significant portion of the LIHTC market in rural Middle Appalachia is supported by RHS 515, the rapid maturation of 515 loans could put additional housing stress on the region's rental market and disproportionately affect low-income tenants in properties supported by LIHTC.

LIHTC Properties in Rural Middle Appalachia Earn Comparatively Lower Prices Per Credit

Recent tax law changes caused the nationwide average price per credit to drop by roughly 15 percent.[20] The effects of this change are felt acutely in rural Middle Appalachia where competition for tax credits is not particularly high, resulting in lower pricing per credit. For example, based on market data from 2017, the value of a tax credit for a LIHTC property in Charlotte, North Carolina would yield 95 cents on the dollar. In Wetzel County, West Virginia, which is entirely within rural Middle Appalachia, the same deal would yield only 86 cents on the dollar.

The price per credit is important because, as the price decreases, developers are not able to raise as much capital using their allocation of LIHTCs, which can lead to funding gaps. For a hypothetical project with $10 million of debt and a need for $6 million of equity, the relative pricing difference between Charlotte and Wetzel County would equate to a $540,000 funding gap. The drop in the price of credits is especially problematic in rural Middle Appalachia given the dependence on equity financing. We learned from industry experts that projects may need to be subsidized by state or local housing agencies. This ultimately can lead to fewer tax credit units due to the increased reliance on limited government funding.

A high number of census tracts contained in rural Middle Appalachia are considered distressed or underserved, which means these tracts are eligible to receive credit for serving communities in need under the Community Reinvestment Act (CRA). Of the 1,342 tracts that compose rural Middle Appalachia, 371 (27.6 percent) are distressed, 205 (15.3 percent) are underserved, and 436 (32.5 percent) are either one or both. These rates are significantly higher nationally where only 4.4 percent of tracts are either distressed or underserved.[21]

The designation of tracts as being CRA eligible does not always translate into increased development activity and CRA demand across most parts of rural Middle Appalachia has historically not been very high. This is partly the result of a lack of bank deposits. Due to the region's low income and low population, banks simply don't take enough deposits to create significant need for CRA credit in geographies that might support LIHTC projects. That said, the existence of CRA-eligible tracts can prompt development in some situations and would certainly not inherently detract from LIHTC development, but it has historically not been a major catalyst either.

Boodry Place – An Example of LIHTC Filling a Great Need

Considering the many challenges described above, the basis of future opportunity for LIHTC in rural Middle Appalachia can be informed by examining the conditions under which properties currently serving the region are financed and operated. LIHTC makes up a disproportionally high percentage of all multifamily housing in rural Middle Appalachia. This is symptomatic of a small multifamily market in general and not an overallocation of tax credits. In areas where unsubsidized, affordable rental housing development is not economically feasible, opportunity exists for LIHTC to fill the void.

To illustrate this point, we examine Boodry Place, a 32-unit, elevator-served apartment building developed by Frontier Housing that fills a great rental housing need in rural Middle Appalachia. The project, located in Morehead, Kentucky, was constructed to serve seniors and families with disabled children.

Morehead was chosen as the location for the project because it is the county seat of Rowan County and the St. Claire Regional Medical Center is located only a half-mile to the west of the project. The close proximity to Morehead State University creates high rental demand, causing rents in the market to increase while quality has remained subpar. This created a need for affordable housing in the area.

Tom Manning-Beavin, president and CEO of Frontier Housing, said, "The site was part of a CDBG Neighborhood Revitalization project that eliminated slum and blighted properties and turned them into housing for low- and moderate-income families. This property completed the revitalization of this phase of West Morehead. It is the capstone property in this neighborhood."

The project features a community room with planned resident functions, communal balconies on each floor, and on-site management. It was designed with accessibility for the disabled as one of the key features, including grab bars, pull alarms and a handicapped-accessible playground. The units are among the highest quality in the area, featuring modern open floorplans, energy-efficient design, construction, and appliances, carpet and laminate flooring, and in-unit washers and dryers in a separate laundry room.

Units in Boodry Place are restricted to households earning less than 60 percent AMI (with half of the units restricted to households below 50 percent AMI). In Rowan County, 60 percent AMI for a 2-person household – a typical household size at Boodry Place – is $25,680. However, rents at Boodry Place are significantly lower than the maximum allowable under LIHTC regulations, as seen in Exhibit 12. Many residents are on fixed incomes of less than $1,000 a month and Boodry Place is by far the best and safest affordable housing option for them. Even with highly affordable rents, many residents report that it is still a struggle to make monthly payments.

Exhibit 12: Unit Mix and 50 Percent LIHTC Rent

Unit Type	# of Units	Size S.F.	Rent	2018 50% LIHTC Max
1BR/1B	18	755	$305	$547
2BR/2B	14	1,001	$434	$657

Sources: Frontier Housing, Novogradac & Co.

Ten years after delivery, the project is still very popular; it is 100 percent occupied and currently has a waiting list with 14 applications. Over half of the tenants at Boodry Place have been in their units for five or more years and nine of the 32 units have never turned over.

When the property was built, the biggest challenge for Boodry Place was finding enough subsidies to close the funding gap, as the proposed rents would only cover minimal debt. The project was financed in the following way, which is clearly very different than conventional apartments:

- $3.28M in tax credit equity
- $140,000 permanent USDA 538 loan
- $360,100 of State Affordable Housing Trust Fund dollars
- $19,135 loan from the City of Morehead
- $10,000 Housing Assistance Council RCDI grant
- $100,000 of Appalachian Regional Commission funding granted by the Kentucky Housing Corporation to the city for site development
- $120,937 developer loan

The project's total cost was $4,030,172.[22] At the time of financing, debt totaled $280,072, or about 7 percent of the capital stack; the low debt load is critical for the project to sustain the low rents that support its residents. Frontier Housing operates Boodry Place to break even each year.

Conclusion

LIHTC development in rural Middle Appalachia faces unique challenges. An aging population, low population density, a preference for homeownership, lack of buildable land and low investor interest are just a few of the factors that affect the extent of LIHTC development in this region. These factors present difficulties for producing unsubsidized rental housing, and as such, properties supported by housing subsidies compose a relatively high percentage of the region's multifamily rental stock. Meeting the rental housing needs of this region relies on subsidies such as LIHTC to bridge the gap between the need for housing and the natural economic viability of that housing. Within this context, there has been a steady, but modest, development of successful projects serving the needs of lower-income families in rural Middle Appalachia, and projects such as Boodry Place continue to be constructed and meet the vital needs of communities across the region.

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In addition to these explicit, in-line citations, we also received input from many various organizations who specialize in rural housing, with some having an explicit focus on Middle Appalachia. We are very grateful for their input as this research effort could not have been possible without them. These organizations include:

- Community Affordable Housing Equity Corporation
- Fahe
- Federal Reserve Bank of St. Louis
- Frontier Housing
- Housing Assistance Council
- Kentucky Housing Corporation
- Ohio Housing Financing Agency
- RBC Tax Credit Equity Group
- Woda Group