

What is Rural?

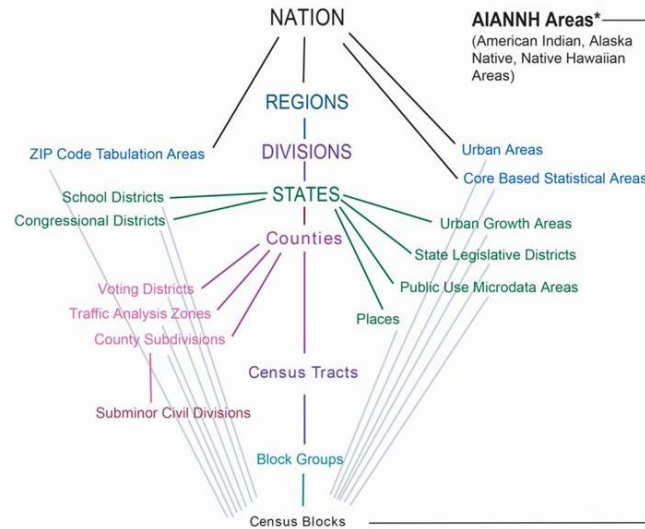
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Overview of Rural Definitions

While there are multiple ways to define a geographical area, such as a borough, independent city, or township, the majority of urban/rural definitions are based on three different geographical classifications: county, census tract, and zip code/zip code tabulated area.

Figure 1. Standard Hierarchy of Census Geographic Entities.¹



A county is a small administrative division within a state. There are no stipulations within states or the nation as to their size, either by land or population; therefore, they can be quite large, and one county can encompass both urban and rural areas.

Census tracts are divisions within a county. They are standardized by population; each should contain 4,000 people with relatively similar economic, housing, and demographic characteristics.

Zip codes were created by the US Postal Service to help postal carriers more efficiently deliver mail. They frequently change and, in some areas, cross county or state boundaries; because of this, the Census created zip code tabulated areas (ZCTAs). ZCTAs are generalized using census blocks; the zip code that appeared most often in a block in the 2010 census is considered the ZCTA for that block. Typically, the ZCTA geographical area matches the zip code area, but this is not always true.

Table 1. Rural Definitions by Geographic Classification

County and County Equivalents	Tract	ZCTA
Core-Based Statistical Areas	Urbanized Area	Rural-Urban Commuting Area
Urban Influence Codes	Urbanized Cluster	
Rural-Urban Continuum Codes		

Census Tract-Based Rural Definitions

Urbanized Area

This is a densely-populated area with at least 50,000 people where at least 49,000 people do not reside in an institution².

Urban Cluster

This is a densely-populated area with between 2,500 and 49,999 people where no more than 1,000 people live in an institution².

These two definitions are used in concert with other definitions to delineate specific rural and urban areas. Urban and metropolitan are used interchangeably in this paper.

Table 2. Census Tract: Urban and Urban Adjacent

	Urbanized Area	Urban Cluster
# Population	$\geq 50,000$	2,500 – 49,999
# Population Outside Institution	$> 49,000$	1,500 – 48,999

County-Based Rural Definitions

Core-Based Statistical Areas

The Office of Management and Budget (OMB) defines Core-Based Statistical Areas (CBSA) based on population size and economic movement³. Metropolitan Statistical Areas (MSA) have an urban area of at least 50,000 people within the central county³. Adjacent counties with a “high degree of social and economic integration” are considered outlying counties and part of the MSA; this is measured through the commuting percentages found in the American Community Survey³. At least 25 percent of the working population must travel from the outlying county to the main county or vice versa. If a central county in an MSA is an outlying county to another central county, the two MSAs would be merged into one.

If two Metropolitan or Micropolitan Statistical Areas are adjacent and have at least 15 percent of residents commuting between the two areas, it is considered a Combined Statistical Area. Counties not part of either a Metropolitan or Micropolitan Statistical Area are considered “Outside Core-Based Statistical Area.”³ The OMB also states that these definitions should not be used to delineate urban or rural areas.³

Urban Influence Codes

Urban Influence Codes (UIC) come from the Department of Agriculture (USDA) Economic Research Service (ERS) and are based on OMB’s MSA definitions and population size. Large metro counties are in an MSA and have at least 1,000,000 residents⁴. Small metro counties are also in an MSA but have fewer than 1,000,000 residents. All other counties are non-metro and either micropolitan or non-core. Micropolitan counties have a town with at least 10,000 people within the county. They do not have to be adjacent to a metro county but can be considered adjacent to a large or small metro county if they are contiguous and have at least two percent of their working population commuting to the metro county. Noncore county definitions include

being adjacent to a metro county or whether they have a town of at least 2,500 people and are adjacent to a small metro or micropolitan area⁴.

For noncore counties to be considered adjacent, they must also have at least two percent of their working population commuting to the metro or micropolitan county⁴. UIC should be used to measure the influence a major city has on their adjacent counties, specifically economic opportunities⁴.

Table 3. UIC Metropolitan/Nonmetropolitan Categories*⁴

Metropolitan counties
In large metro area of 1+ million residents
In small metro area of less than 1 million residents
Nonmetropolitan counties
Micropolitan area adjacent to large metro area
Noncore adjacent to large metro area
Micropolitan area adjacent to small metro area
Noncore adjacent to small metro area and contains a town of at least 2,500 residents
Noncore adjacent to small metro area and does not contain a town of at least 2,500 residents
Micropolitan area not adjacent to a metro area
Noncore adjacent to micro area and contains a town of at least 2,500 residents
Noncore adjacent to micro area and does not contain a town of at least 2,500 residents
Noncore not adjacent to metro or micro area and contains a town of at least 2,500 residents
Noncore not adjacent to metro or micro area and does not contain a town of at least 2,500 residents

* adapted from the 2013 Urban Influence Code documentation

Rural-Urban Continuum Codes

Rural-Urban Continuum Codes (RUCC) were also created by the USDA ERS in order to provide additional layers of classification beyond the metropolitan/non-metropolitan delineation provided by the OMB; the purpose is to help researchers with trend analysis based on closeness to an urban center and rurality⁵.

There are nine classifications, three for metro counties and six for nonmetro counties⁵. Metro counties are split between those with more than 1,000,000 people, with between 250,000 and 1,000,000 people, and with less than 250,000 people⁵. Nonmetro counties are categorized by population - 20,000 or more, 2,500 to 19,999, and under 2,500 - and adjacency to a metro county, measured by having at least two percent commuting to the metro county for work like UIC⁵.

Table 4. RUCC Metro/Nonmetro Categories*⁵

Metro counties
Counties in metro areas of 1 million population or more
Counties in metro areas of 250,000 to 1 million population
Counties in metro areas of fewer than 250,000 population
Nonmetro counties
Urban population of 20,000 or more, adjacent to a metro area
Urban population of 20,000 or more, not adjacent to a metro area
Urban population of 2,500 to 19,999, adjacent to a metro area
Urban population of 2,500 to 19,999, not adjacent to a metro area
Completely rural or less than 2,500 urban population, adjacent to a metro area
Completely rural or less than 2,500 urban population, not adjacent to a metro area

* adapted from the 2013 Rural-Urban Commuting Code documentation

Table 5. Overlap between RUCC and UIC

RUCC	UIC
Metropolitan counties	
Counties in metro areas of 1 million population or more	In large metro area of 1+ million residents
Counties in metro areas of 250,000 to 1 million population	In small metro area of less than 1 million residents
Counties in metro areas of fewer than 250,000 population	
Nonmetropolitan counties	
Urban population of 20,000 or more, adjacent to a metro area	Micropolitan area adjacent to large metro area
	Noncore adjacent to large metro area
Urban population of 20,000 or more, not adjacent to a metro area	Micropolitan area adjacent to small metro area
	Noncore adjacent to small metro area and contains a town of at least 2,500 residents
	Noncore adjacent to small metro area and does not contain a town of at least 2,500 residents
	Micropolitan area not adjacent to a metro area
Urban population of 2,500 to 19,999, adjacent to a metro area	Noncore adjacent to micro area and contains a town of at least 2,500 residents
Completely rural or less than 2,500 urban population, adjacent to a metro area	Noncore adjacent to micro area and does not contain a town of at least 2,500 residents
Urban population of 2,500 to 19,999, not adjacent to a metro area	Noncore not adjacent to metro or micro area and contains a town of at least 2,500 residents
Completely rural or less than 2,500 urban population, not adjacent to a metro area	Noncore not adjacent to metro or micro area and does not contain a town of at least 2,500 residents

ZCTA-Based Rural Definitions

Rural-Urban Commuting Area

Rural-Urban Commuting Area (RUCA) codes are also formulated by the USDA ERS and are available at the census tract level; however, the version most commonly used are the ZCTA RUCA codes created by using the census tract level versions put through a tract-to-ZCTA crosswalk at the WWAMI Rural Health Research Center^{6,7}.

Census tract levels are in four major categories: metro (urbanized area), micropolitan (urbanized cluster of 10,000 to 49,999 people), small town (urbanized cluster of 2,500 to 9,999 people), and rural (does not commute to an urban area or cluster)⁶. Each major category aside from rural has three classifications: core, high commuting (30 percent to an urban area/cluster), and low commuting (10 to 30 percent to an urban area/cluster)^{6,7}. The crosswalk used by the WWAMI Rural Health Research Center transforms these census tract levels into ZCTA levels by looking at the percentage

There are also secondary classifications. For instance, a micropolitan ZCTA with a 30 percent flow to an urban area and a secondary commuting flow of 30 to 50% to a larger urban area than in the ZCTA would be classified as 5.1, while a micropolitan ZCTA with the same primary flow but without the secondary commuting flow would be 5.0⁶. This can become quite complicated, and in practice, most researchers combine the classifications into urban-focused, large rural city/town-focused (micropolitan), small rural town-focused (small town), and isolated small rural town-focused (rural) areas⁷.

RUCA structure allows for myriad uses if health data is available at ZCTA level. It is also a more accurate picture of where rural areas exist within a county as some counties are quite large.

Table 6. RUCA Categories*⁶

Code	Description
1	Metropolitan area core: primary flow within an Urbanized Area (UA)
1.0	No additional code
1.1	Secondary flow 30% through 49% to a larger UA
2	Metropolitan area high commuting: primary flow 30% or more to a UA
2.0	No additional code
2.1	Secondary flow 30% through 49% to a larger UA
3	Metropolitan area low commuting: primary flow 10% to 30% to a UA
3.0	No additional code
4	Micropolitan area core: primary flow within an Urban Cluster (UC) of 10,000 through 49,999 (large UC)
4.0	No additional code
4.1	Secondary flow 30% through 49% to a UA
4.2	Secondary flow 10% through 29% to a UA
5	Micropolitan high commuting: primary flow 30% or more to a large UC
5.0	No additional code
5.1	Secondary flow 30% through 49% to a UA
5.2	Secondary flow 10% through 29% to a UA
6	Micropolitan low commuting: primary flow 10% to 30% to a large UC
6.0	No additional code
6.1	Secondary flow 10% through 29% to a UA
7	Small town core: primary flow within an Urban Cluster of 2,500 through 9,999 (small UC)
7.0	No additional code
7.1	Secondary flow 30% through 49% to a UA
7.2	Secondary flow 30% through 49% to a large UC
7.3	Secondary flow 10% through 29% to a UA
7.4	Secondary flow 10% through 29% to a large UC
8	Small town high commuting: primary flow 30% or more to a small UC
8.0	No additional code
8.1	Secondary flow 30% through 49% to a UA
8.2	Secondary flow 30% through 49% to a large UC
8.3	Secondary flow 10% through 29% to a UA
8.4	Secondary flow 10% through 29% to a large UC
9	Small town low commuting: primary flow 10% through 29% to a small UC
9.0	No additional code
9.1	Secondary flow 10% through 29% to a UA
9.2	Secondary flow 10% through 29% to a large UC
10	Rural areas: primary flow to a tract outside a UA or UC (including self)
10.0	No additional code
10.1	Secondary flow 30% through 49% to a UA
10.2	Secondary flow 30% through 49% to a large UC
10.3	Secondary flow 30% through 49% to a small UC
10.4	Secondary flow 10% through 29% to a UA
10.5	Secondary flow 10% through 29% to a large UC
10.6	Secondary flow 10% through 29% to a small UC

* adapted from the 2013 Rural-Urban Commuting Areas documentation

Table 7. Collapsed RUCA Categories*⁷

Type	Codes
Urban focused	1.0, 1.1, 2.0, 2.1, 3.0, 4.1, 5.1, 7.1, 8.1, 10.1
Rural Focused	4.0, 4.2, 5.0, 5.2, 6.0, 6.1, 7.0, 7.2, 7.3, 7.4, 8.0, 8.2, 8.3, 8.4, 9.0, 9.1, 9.2, 10.0, 10.2, 10.3, 10.4, 10.5, 10.6
Large Rural City/Town	4.0, 4.2, 5.0, 5.2, 6.0, 6.1
Small Rural Town	7.0, 7.2, 7.3, 7.4, 8.0, 8.2, 8.3, 8.4, 9.0, 9.1, 9.2
Isolated Small Rural Town	10.0, 10.2, 10.3, 10.4, 10.5, 10.6

* adapted from the 2013 Rural-Urban Commuting Code documentation

Table 8. Overlap between RUCC, UIC, and RUCA

RUCC	UIC	RUCA
Metropolitan		
Counties in metro areas of 1 million+	In large metro area of 1+ million	
Counties in metro areas of 250,000 to 1 million	In small metro area of less than 1 million	
Counties in metro areas of fewer than 250,000		
		Metropolitan area core: primary flow within an Urbanized Area (UA)
		Metropolitan area high commuting: primary flow 30% or more to a UA
		Metropolitan area low commuting: primary flow 10% to 30% to a UA
Nonmetropolitan		
Urban population of 20,000 or more, adjacent to a metro area	Micropolitan area adjacent to large metro area	Micropolitan area core: primary flow within an Urban Cluster (UC) of 10,000 through 49,999 (large UC)
	Noncore adjacent to large metro area	
		Micropolitan high commuting: primary flow 30% or more to a large UC
		Micropolitan low commuting: primary flow 10% to 30% to a large UC
Urban population of 20,000 or more, not adjacent to a metro area	Micropolitan area adjacent to small metro area	
	Noncore adjacent to small metro area and contains a town of at least 2,500 residents	
	Noncore adjacent to small metro area and does not contain a town of at least 2,500 residents	
	Micropolitan area not adjacent to a metro area	
Urban population of 2,500 to 19,999, adjacent to a metro area	Noncore adjacent to micro area and contains a town of at least 2,500 residents	Small town core: primary flow within an Urban Cluster of 2,500 through 9,999 (small UC)
		Small town high commuting: primary flow 30% or more to a small UC
		Small town low commuting: primary flow 10% through 29% to a small UC
Completely rural or less than 2,500 urban population, adjacent to a metro area	Noncore adjacent to micro area and does not contain a town of at least 2,500 residents	
Urban population of 2,500 to 19,999, not adjacent to a metro area	Noncore not adjacent to metro or micro area and contains a town of at least 2,500 residents	
Completely rural or less than 2,500 urban population, not adjacent to a metro area	Noncore not adjacent to metro or micro area and does not contain a town of at least 2,500 residents	Rural areas: primary flow to a tract outside a UA or UC (including self)

South Carolina and Rural Definitions

Core-based statistical areas (CBSAs) differ from Urban Influence Codes (UIC) and Rural-Urban Commuting Codes (RUCC) in only seven out of the 47 counties in SC. All seven are classified as CBSAs but nonmetropolitan UIC and RUCC counties. The difference in the two measurements is in population: RUCC and UIC metropolitan counties must have a population of at least 50,000 people while CBSAs require the lower threshold of at least 10,000 people.

Table 9. Overlap Between County-Based Definitions*

County	UIC	RUCC	CBSA	Difference
Abbeville County	Rural	Rural	Urban	Yes
Aiken County	Urban	Urban	Urban	No
Allendale County	Rural	Rural	Rural	No
Anderson County	Urban	Urban	Urban	No
Bamberg County	Rural	Rural	Rural	No
Barnwell County	Rural	Rural	Rural	No
Beaufort County	Urban	Urban	Urban	No
Berkeley County	Urban	Urban	Urban	No
Calhoun County	Urban	Urban	Urban	No
Charleston County	Urban	Urban	Urban	No
Cherokee County	Rural	Rural	Rural	No
Chester County	Urban	Urban	Urban	No
Chesterfield County	Rural	Rural	Rural	No
Clarendon County	Rural	Rural	Urban	Yes
Colleton County	Rural	Rural	Rural	No
Darlington County	Urban	Urban	Urban	No
Dillon County	Rural	Rural	Rural	No
Dorchester County	Urban	Urban	Urban	No
Edgefield County	Urban	Urban	Urban	No
Fairfield County	Urban	Urban	Urban	No
Florence County	Urban	Urban	Urban	No
Georgetown County	Rural	Rural	Urban	Yes
Greenville County	Urban	Urban	Urban	No
Greenwood County	Rural	Rural	Urban	Yes
Hampton County	Rural	Rural	Rural	No
Horry County	Urban	Urban	Urban	No
Jasper County	Urban	Urban	Urban	No
Kershaw County	Urban	Urban	Urban	No
Lancaster County	Urban	Urban	Urban	No
Laurens County	Urban	Urban	Urban	No
Lee County	Rural	Rural	Rural	No
Lexington County	Urban	Urban	Urban	No
Marion County	Rural	Rural	Rural	No
Marlboro County	Rural	Rural	Urban	Yes
McCormick County	Rural	Rural	Rural	No
Newberry County	Rural	Rural	Urban	Yes
Oconee County	Rural	Rural	Urban	Yes
Orangeburg County	Rural	Rural	Rural	No
Pickens County	Urban	Urban	Urban	No
Richland County	Urban	Urban	Urban	No
Saluda County	Urban	Urban	Urban	No
Spartanburg County	Urban	Urban	Urban	No
Sumter County	Urban	Urban	Urban	No
Union County	Urban	Urban	Urban	No
Williamsburg County	Rural	Rural	Rural	No
York County	Urban	Urban	Urban	No

* UIC and RUCC urbanity is defined as population over or equal to 50,000 with two percent of populations in outlying counties commuting to the central county. CBSA is at least 10,000 people with 25 percent of populations in outlying counties commuting to the central county. In all three, rural is defined as not urban.

Figure 2. Urban Area and Clusters, South Carolina

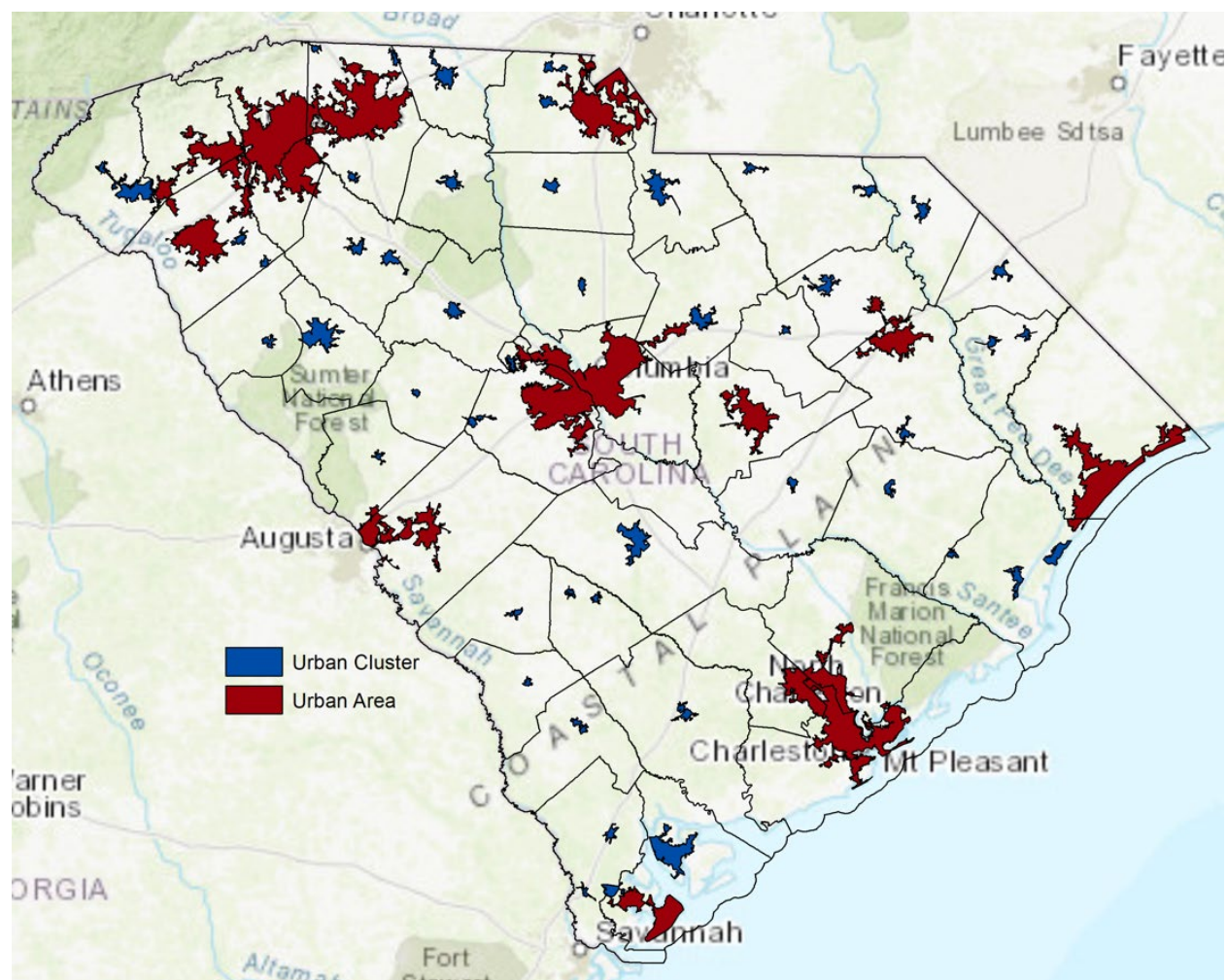
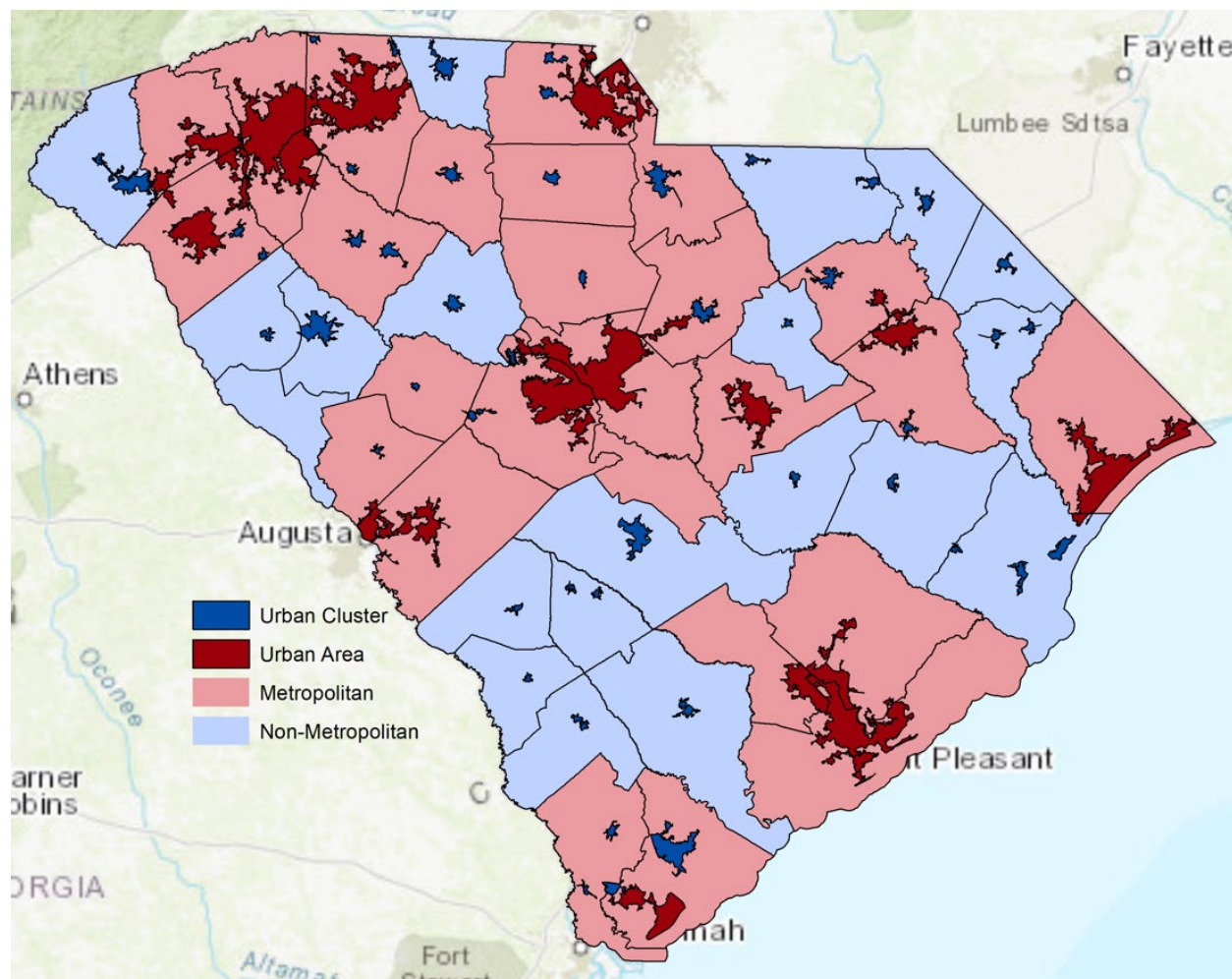


Figure 4. Urban Influence Codes



UIC and RUCC definitions are identical and therefore result in the same map.

Figure 6. Urban Areas/Cluster with RUCA

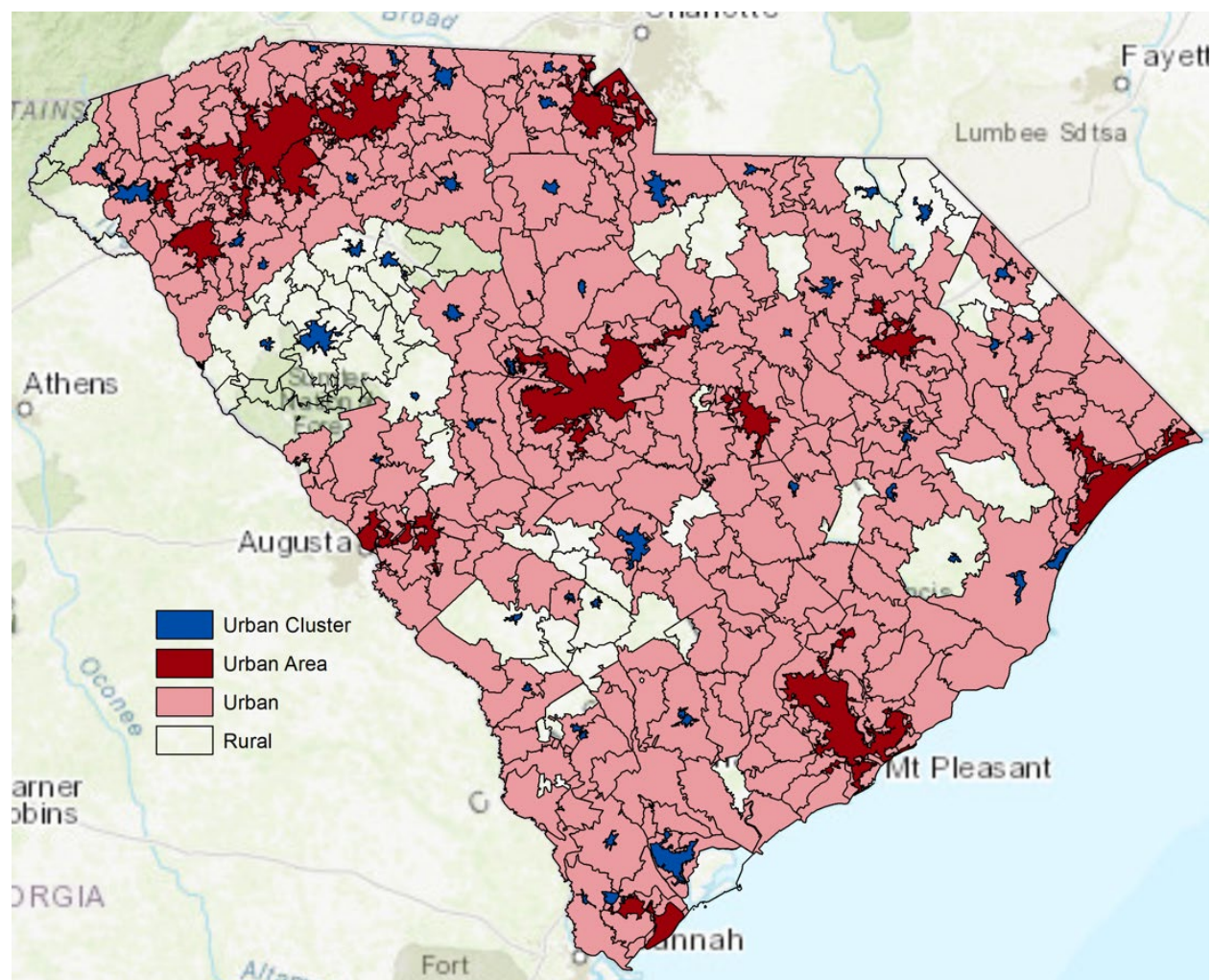
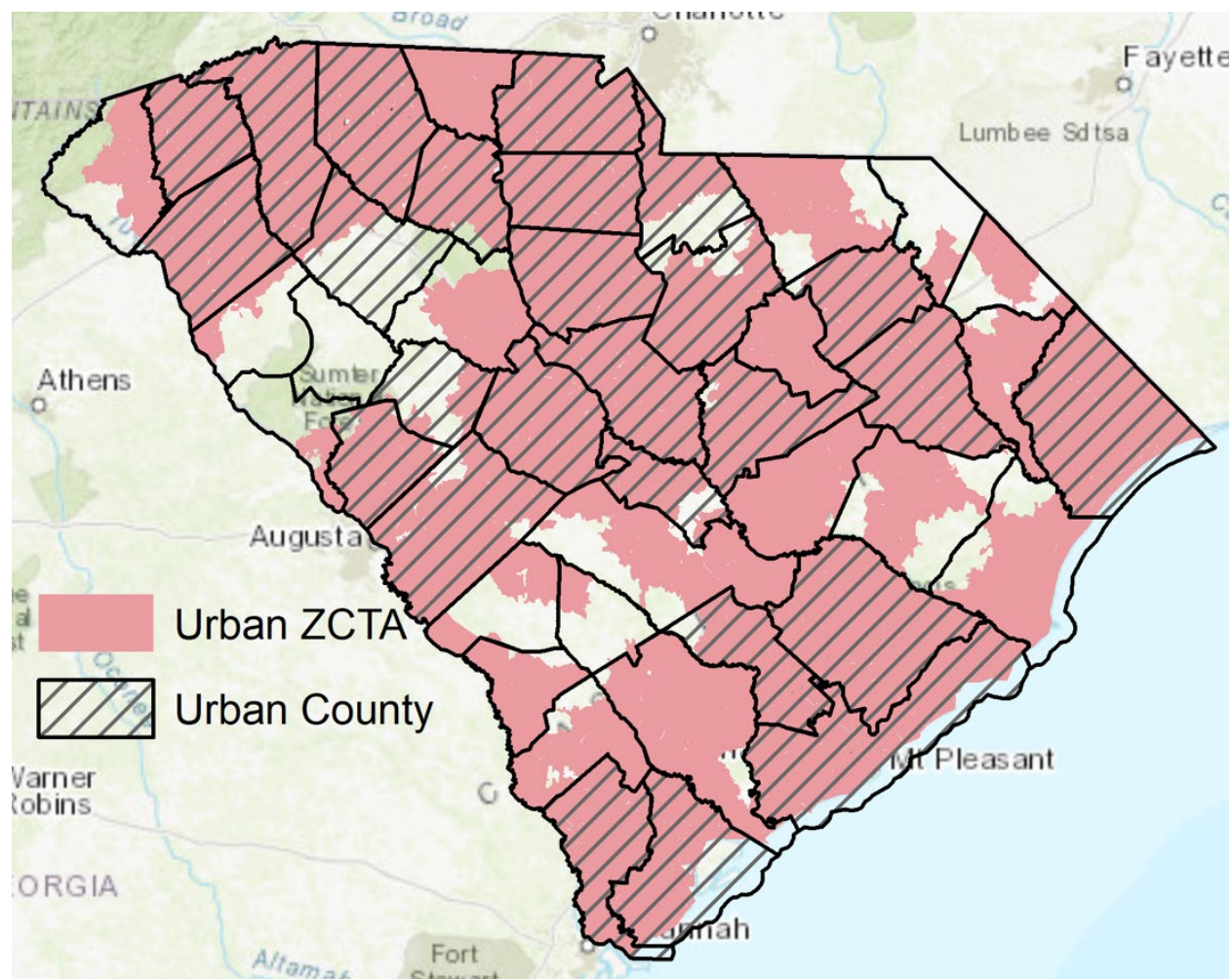


Figure 7. RUCA and RUCC

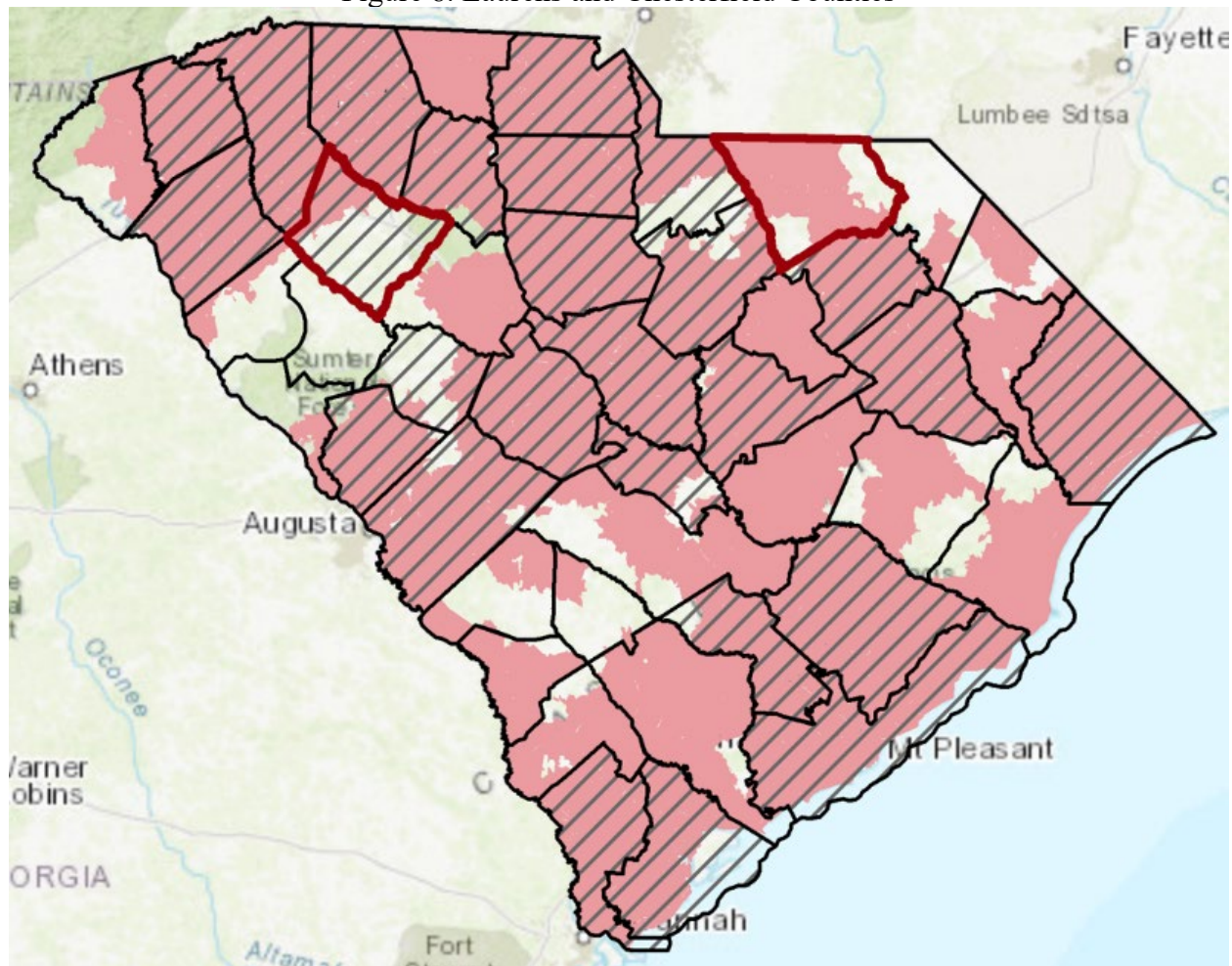


ZCTAs versus Counties

Clearly shown in Figure 7 are several areas where the ZCTA and County designations do not match. This affects the county's capacity to receive funding that is designated for rural areas in ways both positive and negative.

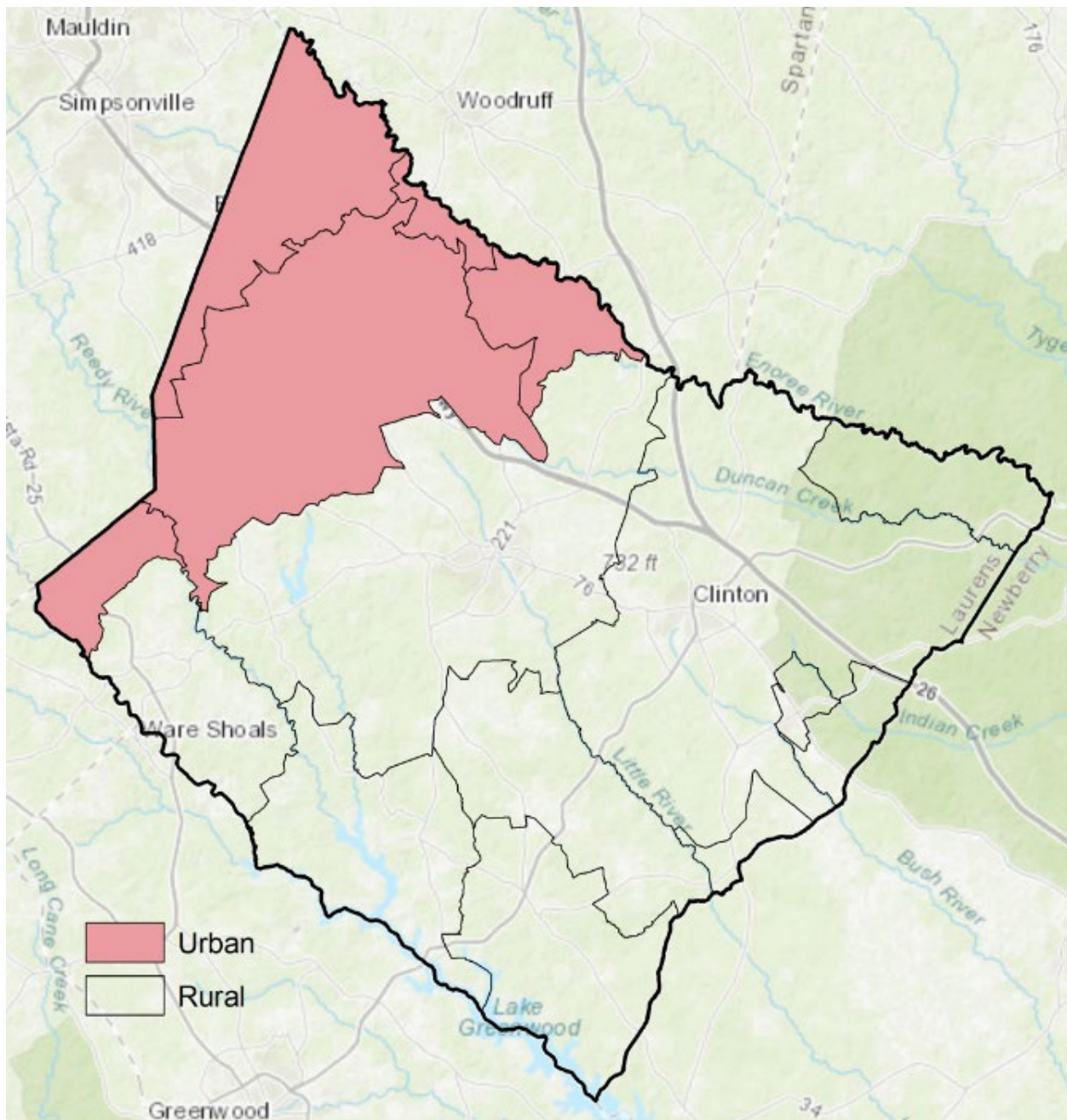
Two counties within SC that show this dichotomy well are Laurens and Chesterfield Counties.

Figure 8. Laurens and Chesterfield Counties



Laurens County - an outlying county in the northwest area of the state - is designated metropolitan according to the RUCC, UIC, and CBSAs (based on population and percent commuting to the larger counties of Greenville, Anderson, and Maudlin). However, the majority of the ZCTAs are rural. They are not eligible for funding based strictly on their county urban status.

Figure 9. Laurens County



Conversely, Chesterfield County in northeast SC is classified non-metropolitan by RUCC, UIC, and CBSA based on population and commuting, but the majority of the ZCTAs within the county are classified urban by RUCA. They are eligible for rural funding.

Figure 10. Chesterfield County

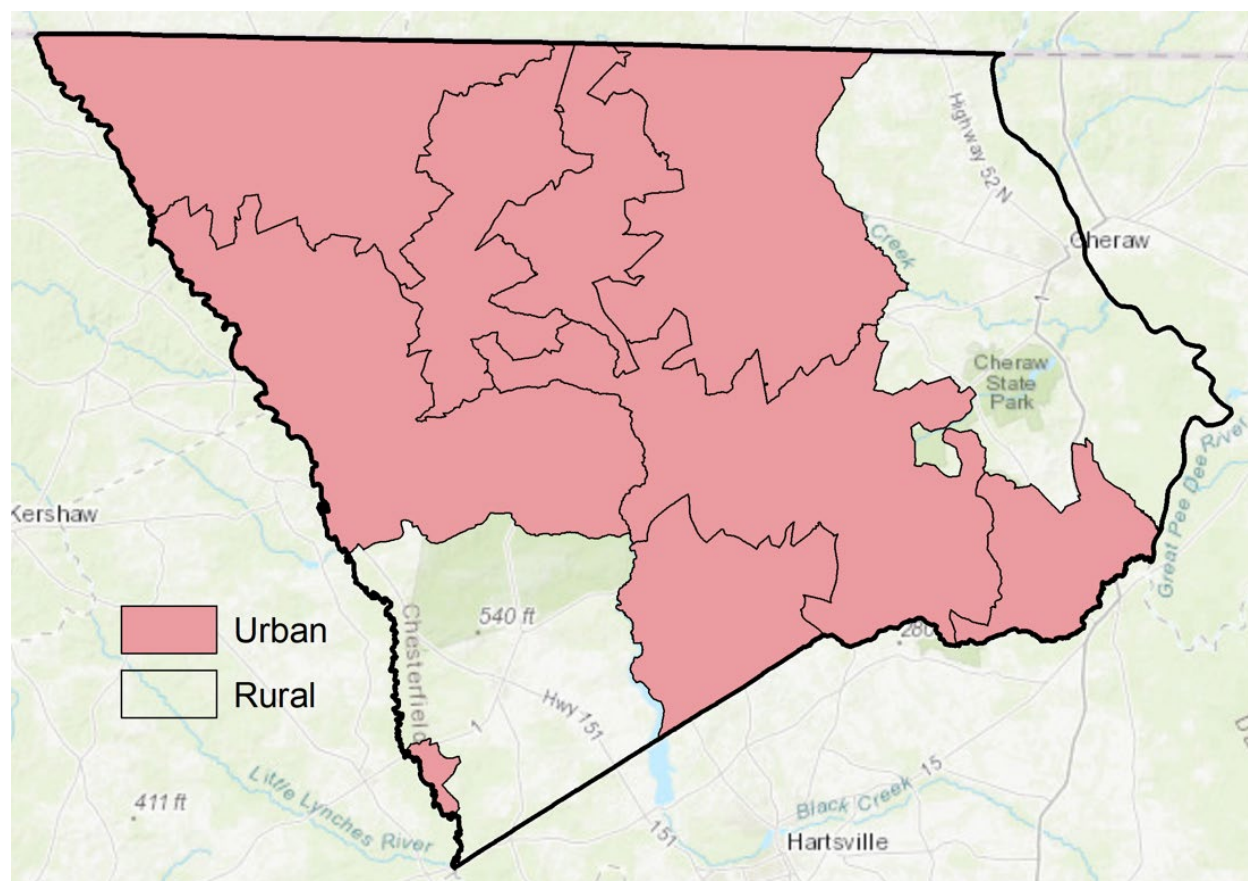


Table 10. State, RUCC/UIC, CBSA, RUCA Demographic Distributions¹

	State %	RUCC/ UIC %	CBSA %	Non- UA/UC %	RUCA (ZCTA) %
Total population	100.0%	15.8%	8.8%	33.5%	17.5%
SEX					
Male	48.6%	48.5%	48.9%	49.2%	48.9%
Female	51.4%	51.5%	51.1%	50.8%	51.1%
AGE					
Under 5 years	6.1%	5.9%	6.0%	5.6%	6.0%
5 to 9 years	6.4%	6.1%	6.2%	6.1%	6.5%
10 to 14 years	6.3%	6.5%	6.7%	6.5%	6.3%
15 to 19 years	6.6%	6.4%	6.6%	6.2%	6.4%
20 to 24 years	7.3%	6.9%	7.2%	6.2%	7.1%
25 to 34 years	12.9%	11.2%	11.6%	11.0%	12.4%
35 to 44 years	12.5%	11.6%	11.9%	12.2%	11.9%
45 to 54 years	13.6%	13.6%	13.8%	14.8%	13.2%
55 to 59 years	6.7%	7.2%	7.1%	7.7%	6.7%
60 to 64 years	6.3%	7.0%	6.7%	7.3%	6.6%
65 to 74 years	9.2%	10.6%	9.8%	10.6%	10.3%
75 to 84 years	4.4%	5.1%	4.7%	4.5%	4.9%
85 years and over	1.6%	1.9%	1.8%	1.4%	1.8%
RACE					
White	67.2%	55.8%	47.9%	68.8%	66.7%
Black or African American	27.5%	40.2%	48.3%	27.6%	27.6%
American Indian and Alaska Native	0.3%	0.5%	0.7%	0.4%	0.2%
Asian	1.4%	0.5%	0.5%	0.5%	1.1%
Native Hawaiian and Other Pacific Islander	0.1%	0.1%	0.1%	0.0%	0.0%
Some other race	1.5%	1.4%	1.1%	1.2%	2.4%
Two or more races	2.0%	1.5%	1.4%	1.5%	2.0%
EMPLOYMENT STATUS					
In labor force	48.6%	42.6%	41.6%	46.0%	47.3%
Civilian labor force	98.7%	99.8%	99.9%	99.7%	98.2%
Employed	90.5%	87.7%	36.4%	89.3%	90.3%
Unemployed	4.6%	12.3%	5.2%	10.7%	9.7%
Armed Forces	1.3%	0.2%	0.0%	0.3%	1.8%
Not in labor force	31.2%	37.7%	38.2%	34.6%	32.7%
HEALTH INSURANCE					

With health insurance coverage	83.7%	82.0%	81.0%	83.6%	83.1%
With private health insurance	62.3%	53.2%	50.3%	58.8%	60.6%
With public coverage	33.8%	42.2%	42.7%	37.8%	36.0%
No health insurance coverage	14.2%	15.6%	15.8%	15.0%	14.7%

PERCENTAGE BELOW THE POVERTY LEVEL

All people	17.9%
Under 18 years	26.3%
18 years and over	15.4%
18 to 64 years	16.8%
65 years and over	9.8%

¹ Based on 2015 ACS five-year estimates, census.gov

References

1. Bureau UC. Understanding Geographic Relationships: Counties, Places, Tracts and More. The United States Census Bureau. <https://www.census.gov/newsroom/blogs/random-samplings/2014/07/understanding-geographic-relationships-counties-places-tracts-and-more.html>. Accessed June 19, 2019.
2. Bureau UC. 2010 Census Urban and Rural Classification and Urban Area Criteria. <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2010-urban-rural.html>. Accessed June 20, 2019.
3. Office of Management and Budget. 2010 Standards for Delineating Metropolitan and Micropolitan Statistical Areas. *Fed Regist.* 2010;75(123):8.
4. UIC Documentation. <https://www.ers.usda.gov/data-products/urban-influence-codes/documentation/>. Accessed June 19, 2019.
5. RUCC Documentation. <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/documentation.aspx>. Accessed June 20, 2019.
6. RUCA Documentation. <https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/documentation/>. Accessed June 20, 2019.
7. Rural Urban Commuting Area Codes Data. <http://depts.washington.edu/uwruca/ruca-codes.php>. Accessed June 20, 2019.