

# What is Rural?

South Carolina Center for  
**Rural and Primary  
Healthcare**

## What is rural?

“Rural” has no exact definition<sup>1-5</sup>. It is a subjective term that means different things to different people. Many state and federal institutions have developed quantitative definitions of rural<sup>2,3,6-8</sup> but these definitions vary and change both over time and across organizations. Depending on the definition used, the rural U.S. population ranges from 17 to 49 percent<sup>2</sup>.

## Benefits of designation

Rural communities face higher levels of poverty, higher percentage of older adults, and either slow or declining population growth<sup>6</sup>. Additionally, rural areas usually have limited access to healthcare resources including physicians, dentists, and mental health care providers<sup>6</sup>. Given these challenges, federal legislation sometimes provides special protections to rural communities and the organizations that serve them<sup>6</sup>. The federal government invests in rural areas in a number of ways<sup>6</sup>:

- Workforce training
- Clinician placement, including through the National Health Service Corps
- Infrastructure support
- Targeting resources by designating shortage areas
- Enhanced payments through Medicare and Medicaid
- Pilots and demonstrations
- Provision and support of public coverage
- Investments in technology, including telehealth, broadband, and EHRs

Thus, rural designation can help a community access designated grant funding to address the challenges they face. Some state and federal institutions set aside dollars that can only be granted to communities or organization with rural designation<sup>9</sup>. Additionally, rural designation can alleviate the regulatory burden associated with federal support. For example, “critical access hospitals” receive special protections from Medicare and “federally qualified health center” (FHQCs) receive enhanced Medicaid and Medicare reimbursements<sup>3,6</sup>.

## The problem with rural definitions in the US

Federal, state, and even regional programs require that applicants meet formal eligibility criteria to qualify for rural programs and funding. However, the criteria used do not always align with local realities of rural communities<sup>1</sup>. Furthermore, as there no universally accepted definition of rural, federal agencies and funding institutions often create and use their own definitions to facilitate their program and policies<sup>3</sup>. Over time, many definitions have been developed by various individuals for various purposes<sup>3</sup>. Currently, there are more than two dozen rural definitions used by federal agencies<sup>2</sup>. Each of these definitions have pros and cons and are used by government agencies depending on which one best fits their programmatic goals<sup>3</sup>.

With so many definitions, it is not usual for a location to meet the rurality criteria for one program but not another<sup>1</sup>. Many communities are located in areas that are not clearly rural or urban<sup>2</sup>. As such, seemingly small changes in the definition of rural can have dramatically different results<sup>2,10</sup>. Ultimately, these discrepancies can lead to confusion among communities about their eligibility for different programs and impede their ability to appropriately plan for community development<sup>1</sup>.

## How are definitions Created

All definitions are differentiated based on two categories: identifying characteristic(s) and classification. Both categories have various elements that can be combined to create unique definitions of rural.

### Identifying characteristics

Identifying characteristics refer to the variables of interest in the definition. Some common identifying characteristics for rural definitions are:

- Population thresholds – Total number of people
- Population density – Average number of people in a given area
- Distance – Proximity and/or driving time to an urban center

Additional identifying characteristics found in some rural definitions include:

- Land use – Accounting for non-residential areas like airports and parking lots
- Access – Availability of employment, healthcare, and other services
- Geographical feature – Mountains, lakes, canyons, and other physical barriers

### Classification

Classification, in term of rural definitions, refers to the geographical level employed to make designations. While there are multiple ways to define a geographical area, such as a borough, independent city, or township, the majority of rural definitions are based on three different geographical classifications: county, Census tract, and zip code/zip code tabulated area.

Unfortunately, these classifications do not always accurately reflect reality. Communities often span across multiple zip codes, Census tracts, counties, or even states. Yet they are treated as separate due to administrative boundaries used by definitions of rural<sup>1</sup>

### County

Counties are the most commonly used classification of rural definitions<sup>10</sup>. They are readily identifiable by most people, their boundaries are stable over time, and many publicly available data can be found at the county level<sup>10</sup>. However, counties across the U.S. can vary tremendously in size and population<sup>1,10</sup>. They range in size from 13 squares miles to larger than 20,000 square miles and in population from 88 to more than 10 million<sup>1,11</sup>. Counties that cover extremely large areas most certainly include urbanized and rural areas<sup>10</sup>

### Zip codes

Zip codes were created by the US Postal Service to help postal carriers more efficiently deliver mail. Zip code areas have no relationship to city or county boundaries and in some cases span across these borders<sup>10</sup>. Although this classification allows more precise data interpretation, zip codes were not designed for this purpose and can change from year to year<sup>10</sup>.

### Census tract

Census tracts are the smallest classification used to construct rural definitions<sup>10</sup>. They are standardized by population, containing 4,000 people with relatively similar economic, housing, and demographic characteristics<sup>1</sup>. Census tracts are devised by the decennial Census and are therefore more stable from year to year<sup>1,10</sup>. Furthermore, they are consistent with county boundaries while providing more precise geographical information<sup>1,10</sup>. Unfortunately, definitions using Census tracts can be harder for the general public to interpret as they are not commonly used by programs and payers (including Medicare and Medicaid)<sup>10</sup>.

### Zip Code Tabulated Areas (ZCTAs)

Census tracts are also used to standardize zip codes into zip code tabulated areas (ZCTAs). As mentioned previously, zip codes frequently change and, in some areas, cross county or state boundaries. ZCTAs are generalized using the zip code that appeared most often in a block in the 2010 Census. Typically, the ZCTA geographical area matches the zip code area, but this is not always true.

### Why are different definitions used?

As demonstrated above, there are many characteristics and classifications that can be combined to create rural definitions. These definitions are created to address specific problems or to work with specific programs<sup>2</sup>. As explained by Cromartie<sup>2</sup>:

*“Research on suburban development and its effect on rural real estate prices would probably define rural differently than a study designed to track and explain economic and social changes affecting rural people and places. Programs developed to address the unique problems that small rural governments face will not necessarily target the same rural areas as will programs that are developed to help rural businesses operating in credit-constrained markets. The key is to use a rural-urban definition that best fits the needs of a specific activity, recognizing that any simple dichotomy hides a complex rural-urban continuum, with very gentle gradations from one level to the next.”*

The use of multiple definitions demonstrates that rural is a complex concept and that no single, universally preferred definition of rural can serve all the purposes for which it can be used<sup>2,10</sup>.

## Federal definitions

Despite the almost infinite number of rural definitions available, there are three that are widely used within the U.S.: the Census' Urban-Rural Areas, the Office of Management and Budget's Core Based Statistical Areas, and the Department of Agriculture's Rural-Urban Commuting Code<sup>3</sup>.

### Urban-Rural Areas

The most widely used and adapted definition of rural comes from the Census Bureau<sup>12</sup>. The Urban-Rural definition is determined at the Census tract level and based on decennial Census data<sup>3,7</sup>. As such, rural designation may change after each Census<sup>3</sup>. Furthermore, the thresholds and characteristics used in the Census' definition are sometimes updated, which is necessary, but can create some room for misinterpretations<sup>7</sup>.

Although Census tracts follow county boundaries<sup>1,10</sup>, the Rural-Urban definition does not account for city or county delineations when making rural designations<sup>8</sup>. This can cause some difficulty when assessing whether a specific region or area is considered rural<sup>8</sup>.

### Definition

The U.S. Census Bureau designates areas as rural indirectly, through a process of elimination. Their Urban-Rural definition is based on total population and population density<sup>7,10</sup>. Many definitions of rural are based on the criteria set forth by the Census Bureau<sup>1</sup>. This definition explicitly describes two types of urban areas:

#### *Urbanized Area (UAs)*

This is a densely-populated area with at least 50,000 people where at least 48,500 people reside outside institutional group quarters (such as a prison)<sup>2,7,13</sup>.

#### *Urban Cluster (UCs)*

This is a densely-populated area with between 2,500 and 49,999 people where no more than 1,500 people live in an institution<sup>2,7,13</sup>.

#### *Rural*

The Census then determines that any area which is neither a UA nor a UC is rural<sup>2,7,13</sup>. Although not explicitly quantified, we can safely assume that if a Census tract has a population of 2,499 or fewer, then it is considered rural according to the Census' Urban-Rural definition.

### Core Based Statistical Areas (CBSA)

Another commonly used and adapted definition of rural comes out of the Office of Management and Budget (OMB)<sup>12</sup>. Their definition creates Core-Based Statistical Areas (CBSAs) and is determined at the county level. It was created in order to establish consistent data collection across federal agencies<sup>3,10</sup>. Although it is commonly used by programs, communities, and researchers as a determination of county rurality, it was never designed for this purpose<sup>3,10</sup>.

#### Definition

The OMB combines the characteristics used by the Census definition with information on commuting patterns, economic movement, and proximity to metropolitan counties to identify Core Based Statistical Areas<sup>1,3,9,14</sup>. These areas consist of one or more counties anchored by an urban center which are then classified as either metropolitan or micropolitan<sup>1,3,14</sup>. 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.

#### *Metropolitan Statistical Areas (MSAs)*

These consist of a central county with an anchoring city population of at least 50,000 and adjacent counties with a “high degree of social and economic integration”<sup>1,3,14</sup>. This integration is measured through commuting data from the American Community Survey and requires that at least 25 percent of the working population to travel from the outlying county to the central county, or vice versa<sup>3,14</sup>. If at least 50 percent of the county meets this threshold, then the entire county is designated as metropolitan<sup>9</sup>. Additionally, if a central county for one MSA is also an outlying county for a different MSA, the two MSAs are combined into one large statistical area<sup>3,14</sup>.

#### *Micropolitan Statistical Areas (μSAs)*

These are centered on an urbanized city with a population of at least 10,000 but less than 50,000 and its surrounding area<sup>1,14</sup>. These smaller cities usually have less commercial and political pull than MSAs but nonetheless operate as an economic hub that draws workers and shoppers from wide areas<sup>15</sup>. Although their anchoring city is relatively small, μSAs can be quite sizeable, with some having a larger total population than smaller MSAs<sup>15</sup>.

#### *“Rural” Areas*

Counties that are not part of either Metropolitan nor Micropolitan Statistical Areas are considered “Outside Core-Based Statistical Area”<sup>3</sup> or non-core counties<sup>10</sup>. The OMB states that their designation should not be used to delineate urban or rural areas<sup>3,10</sup>, however many federal programs and researchers refer to nonmetropolitan counties, including micro and non-core counties, as “rural<sup>8,10</sup>.” This is further problematic as this definition often includes objectively rural places, such as the Grand Canyon, into Metropolitan Statistical Areas<sup>8</sup>.

### Rural-Urban Commuting Area Codes

The Rural-Urban Commuting Area Code (RUCA) was developed through a collaboration between the US Department of Agriculture's Economic Research Service division and the Office of Rural Health Policy of the Department of Health and Human Services<sup>16</sup>. This definition is based on the OMB's Core Based Statistical Areas definition but applied at the Census Tract level resulting in more precise rural designation<sup>3,16</sup>. Additionally, a ZCTA approximation of RUCA has also been developed and validated which allows for easier public interpretation of designations and a more accurate depiction of rural areas<sup>3,6,7</sup>. In the past decade, RUCA has been gaining popularity and is being used by several government agencies, particularly for use in identifying rural areas within metropolitan counties<sup>3,8</sup>.

### Definition

RUCA combines population size, commuting data, and proximity to UAs and UCs<sup>1,9</sup> to create a classification system with 10 primary codes and 30 secondary codes (see Table 1)<sup>16</sup>.

#### *Primary Codes*

Primary codes are ascribed based on the direction of the primary commuting flow<sup>16</sup>. They are divided across four major categories<sup>6</sup>:

- Metropolitan – Commuting within or to an urbanized area of 50,000 or more people
- Micropolitan – Commuting within or to a large urbanized cluster of 10,000 to 49,999 people
- Small town – Commuting within or to a small urbanized cluster of 2,500 to 9,999 people
- Rural – Does not commute to an urban area or cluster

The first three of these categories are then subdivided into three further classifications<sup>6,7</sup>:

- Core
- High commuting – 30 percent to an urban area/cluster
- Low commuting – 10 to 30 percent to an urban area/cluster

#### *Secondary Codes*

Secondary codes are ascribed based on the direction of the second-largest commuting flow<sup>16</sup>. These codes are used to illustrate the complex overlapping nature of urban-rural classifications<sup>6,16</sup>. The 30 secondary codes give researchers and policy makers a more accurate depiction of urban and rural but this level of detail can easily become complicated<sup>6,7</sup>.

TABLE 1. RUCA CATEGORIES\*

Code	Description
<b>1</b>	<b>Metropolitan area core: primary flow within an Urbanized Area (UA)</b>
1.1	Secondary flow 30% through 49% to a larger UA
2	Metropolitan area high commuting: primary flow 30% or more to a UA
2.1	Secondary flow 30% through 49% to a larger UA
3	Metropolitan area low commuting: primary flow 10% to 30% to a UA
<b>4</b>	<b>Micropolitan area core: primary flow within an Urban Cluster (UC) of 10,000</b>
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
5.1	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
6.1	Secondary flow 10% through 29% to a UA
<b>7</b>	<b>Small town core: primary flow within an Urban Cluster of 2,500 through 9,999</b>
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
8.1	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
9.1	Secondary flow 10% through 29% to a UA
9.2	Secondary flow 10% through 29% to a large UC
<b>10</b>	<b>Rural areas: primary flow to a tract outside a UA or UC (including self)</b>
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



### Comparing the main federal definitions

The three definitions described above are the most widely used and adapted definitions of rural in the U.S.<sup>3</sup>. However, each of these are limited in their ability to fully describe the nuances of rural. Many experts submit that the definition used by the Census Bureau represents an overcount of rural populations while the definition created by the OMB represents an undercount<sup>8</sup>. This disparity led to the creation of RUCA which blends the precise classification of Census Tracts with the judicious identifying characteristics of Core Based Statistical Areas. The use of the RUCA codes has enabled the identification of rural Census tracts in Metropolitan counties<sup>8</sup>, but the wide range of categories and subcategories can be overwhelming to interpret<sup>6,7</sup>. Table 2 compares these three definitions to highlight how each differs and offers something of value.

TABLE 2. MAIN FEDERAL DEFINITIONS OF RURAL

	<b>Urban-Rural Areas</b>	<b>Core Based Statistical Areas</b>	<b>Rural-Urban Commuting Area Codes</b>
<b>Agency</b>	U.S Census Bureau	U.S. Office of Management & Budget	USDA's Economic Research Service
<b>Level</b>	○ Census Tract	○ County	○ Census Tract ○ ZCTA
<b>Data Source</b>	○ Decennial Census	○ Decennial Census	○ Decennial Census ○ American Communities Survey
<b>Rural Definition</b>	Any area which is neither an Urban Area nor an Urbanized Cluster	All nonmetropolitan areas (counties) including micropolitan and non-core counties	Primary RUCA codes of 4 or more
<b>Advantages</b>	○ Small geographic units provide detailed designation ○ Simple threshold requirements	○ Includes information on how communities interact and intersect ○ Use of county makes it easy to interpret	○ Use of zip code makes it easy to interpret ○ Spectrum of categories allows more precise designation
<b>Disadvantages</b>	○ Does not take into consideration city and county boundaries ○ Census tracts are not always well understood by the public	○ Not designed to be used for rural designation ○ Large geographic units sometimes lump in objectively rural areas into metro counties	○ Secondary codes add sometimes unnecessary complexity
<b>2010 Rural Population</b>	59,492,267 (19%)	46,293,406 (15%)	51,112,552 (17%)

## Other definitions

As previously stated, many definitions of rural have been developed<sup>3</sup> with more than two dozen definitions currently used by federal agencies<sup>2</sup>. Other commonly used definitions of rural are based on either the Census Bureau’s Urban-Rural categorization of Census tracts or the Office of Management and Budget’s characterization of counties<sup>10</sup>.

## Rural-Urban Continuum Code

The Rural-Urban Continuum Code (RUCC) was developed by the US Department of Agriculture and is the predecessor of RUCA<sup>9,16</sup>. This definition is based on the OMB’s Core Based Statistical Areas and classifies counties based on their size, commuting flow, and proximity to metro areas<sup>1,9,16</sup>. RUCC has been used to help researchers with trend analysis based on proximity to urban centers and has been successful in explaining socioeconomic conditions in the rural U.S.<sup>5,16</sup>.

RUCC uses a 9-point scale that distributes counties into three metropolitan and six nonmetropolitan classifications<sup>5,9,16</sup>. Table 3 describes the identifying characteristic threshold for each category of RUCC.

TABLE 3. RUCC METRO/NONMETRO CATEGORIES\*<sup>5</sup>

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

\* adapted from the 2013 Rural-Urban Commuting Code documentation

### Urban Influence Code

Also developed by the USDA, the Urban Influence Code (UIC) is similar to RUCC<sup>16</sup>. Both make designation at the county level and use population thresholds and proximity to metro areas to define their categories. UIC, however, emphasizes adjacency and population size of neighboring counties<sup>16</sup> which is helpful in measuring the influence a major city has on the economic development of a region<sup>8,17</sup>. These components aid in the identification of the economic and social roles of counties<sup>17</sup>.

UIC uses a 12-point scale that distributes counties into two metropolitan and 10 nonmetropolitan categories based on their size and adjacency to other counties<sup>1,9</sup>. Table 4 describes the identifying characteristic threshold for each category of UIC.

TABLE 4. UIC METROPOLITAN/NONMETROPOLITAN CATEGORIES<sup>16</sup>

<b>Metropolitan counties</b>	
1	In large metro area of 1+ million residents
2	In small metro area of less than 1 million residents
<b>Nonmetropolitan counties</b>	
3	Micropolitan area adjacent to large metro area
4	Noncore adjacent to large metro area
5	Micropolitan area adjacent to small metro area
6	Noncore adjacent to small metro area and contains a town of at least 2,500 residents
7	Noncore adjacent to small metro area and does not contain a town of at least 2,500 residents
8	Micropolitan area not adjacent to a metro area
9	Noncore adjacent to micro area and contains a town of at least 2,500 residents
10	Noncore adjacent to micro area and does not contain a town of at least 2,500 residents
11	Noncore not adjacent to metro or micro area and contains a town of at least 2,500 residents
12	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

### Federal Office of Rural Health Policy Rural Areas

Recognizing the disadvantages of definitions created by the Census Bureau and the OMB, the Federal Office of Rural Health Policy (FORHP) blended the most commonly used definitions to create their own representation of rural for use in their programs<sup>8</sup>. This definition is largely based on the OMB's definition of non-metro counties but uses RUCA codes to recategorize areas within metropolitan counties as rural<sup>8</sup>. However, in larger tracts, RUCA can sometimes miscategorize areas as it doesn't account for distance to services and sparse population<sup>8</sup>. In these cases, the FORHP developed their own identifying characteristics to ensure more precise categorization: tracts of a least 400 square miles with a population density of 35 people or less are rural<sup>8</sup>.

Thus, FORHP uses a stepwise approach to defining rural:

1. Counties classified as non-metro by the OMB are rural
2. Within metropolitan counties, tracts and zip codes with a RUCA code of 4 or more are rural
3. Within areas with a RUCA code of 2 or 3, any tracts of at least 400 square miles and a population density of no more than 35 people are rural.

To make their interpretation a bit easier to follow, the FORHP creates a data file of eligible zip codes which is updated based on Census data. Following the 2010 Census, FORHP redesignated 132 large area Census tracts with a RUCA code of 2 or 3 as rural<sup>8</sup>.

### Conflicting designation

Each of the definitions discussed were developed for a specific program or purpose. When used in other applications, each has advantages and shortcomings. However, even with all of their limitations, the main problem when there are so many definitions is that it can make determining the rurality of an area difficult<sup>1</sup>. Each program, office, or foundation can create, combine, and use any definition which fits the needs of their mission. Understandably, this can create conflicting rural designation and these discrepancies make program planning, community development, and providing healthcare resources difficulty for areas caught in the middle<sup>1</sup>.

### Examples In South Carolina

South Carolina has 46 counties and a 2019 population of a little more than 5.1million<sup>18</sup>. The percent of this population that is considered rural varies from 9% using the OMB's Core Based Statistical Areas definition, to 18% using the USDA's Rural-Urban Commuting Areas definition, and as much as 34% using the Census' Urban and Rural Areas definition. Thus between 500,00 to 1.7million South Carolinians are "rural".

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This discrepancy isn't eliminated when we use definitions that are based on the same classification. As shown in Table 5, using only the main county-level definitions of rural, there are still 7 counties with conflicting designation.

TABLE 5. OVERLAP BETWEEN COUNTY-BASED DEFINITIONS\*

County	UIC	RUCC	CBSA	Difference
<b>Abbeville County</b>	<b>Rural</b>	<b>Rural</b>	<b>Urban</b>	<b>Yes</b>
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
<b>Clarendon County</b>	<b>Rural</b>	<b>Rural</b>	<b>Urban</b>	<b>Yes</b>
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
<b>Georgetown County</b>	<b>Rural</b>	<b>Rural</b>	<b>Urban</b>	<b>Yes</b>
Greenville County	Urban	Urban	Urban	No
<b>Greenwood County</b>	<b>Rural</b>	<b>Rural</b>	<b>Urban</b>	<b>Yes</b>
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

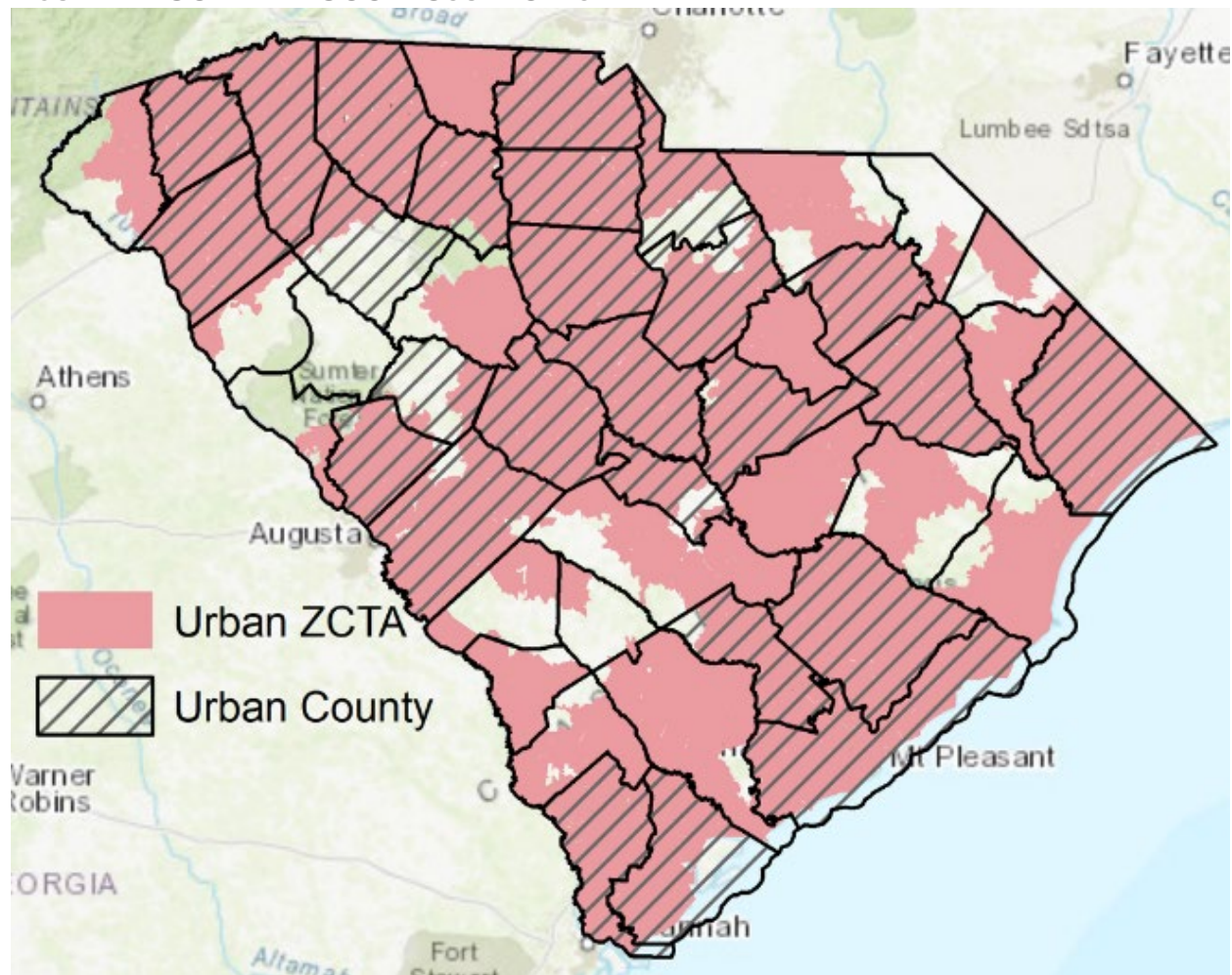
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Laurens County	Urban	Urban	Urban	No
Lee County	Rural	Rural	Rural	No
Lexington County	Urban	Urban	Urban	No
Marion County	Rural	Rural	Rural	No
<b>Marlboro County</b>	<b>Rural</b>	<b>Rural</b>	<b>Urban</b>	<b>Yes</b>
McCormick County	Rural	Rural	Rural	No
<b>Newberry County</b>	<b>Rural</b>	<b>Rural</b>	<b>Urban</b>	<b>Yes</b>
<b>Oconee County</b>	<b>Rural</b>	<b>Rural</b>	<b>Urban</b>	<b>Yes</b>
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.

Even, if we compare the state using two relatively similar definitions, RUCA and RUCC, we can highlight how these discrepancies can lead to confusion about what is rural and what isn't. RUCA's definition is based on ZCTAs while RUCC classifies counties. As shown in Figure 1, while there is overlap between Urban ZCTAs and Urban counties, there are areas where designations do not match.

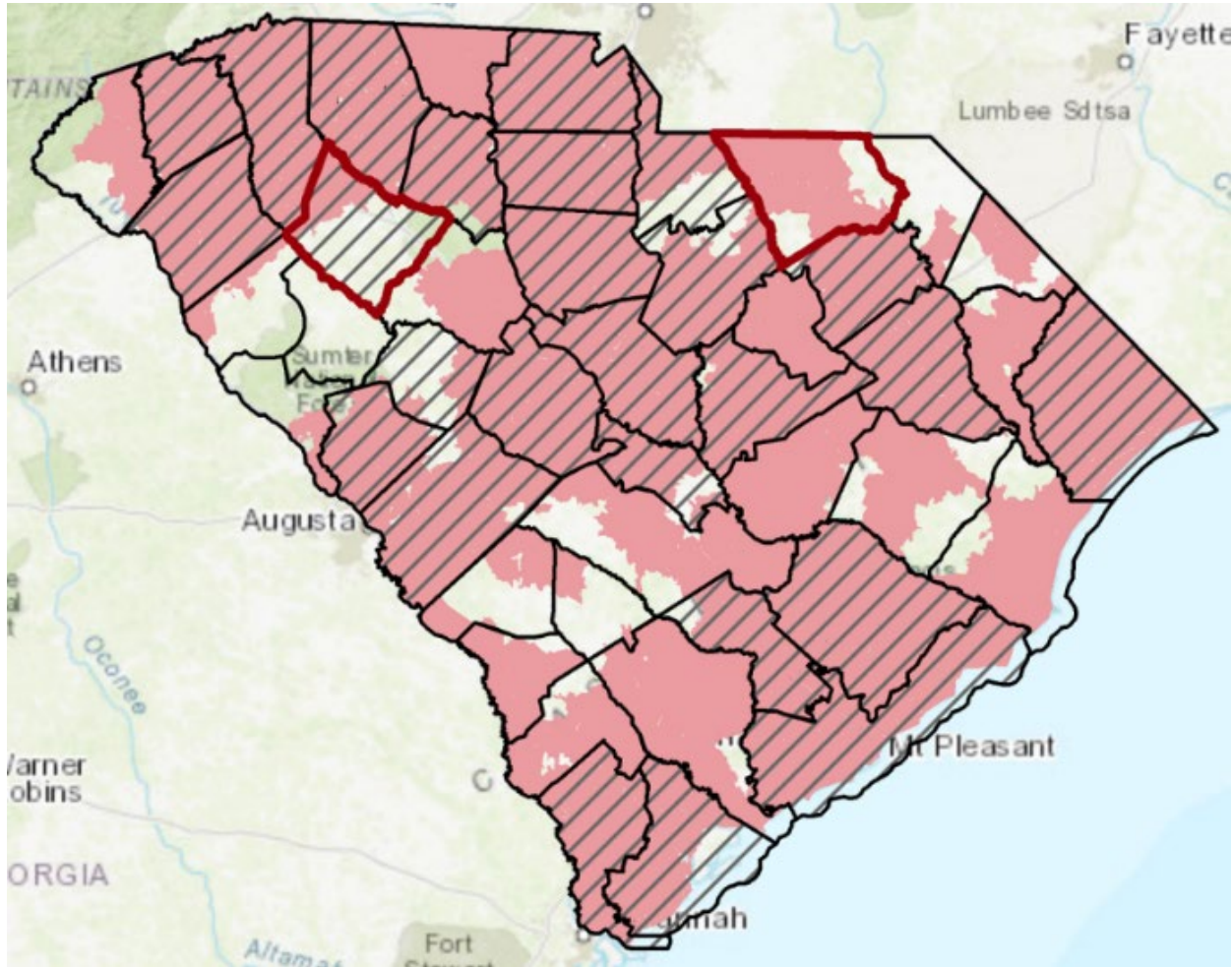
FIGURE 1. RUCA AND RUCC IN SOUTH CAROLINA





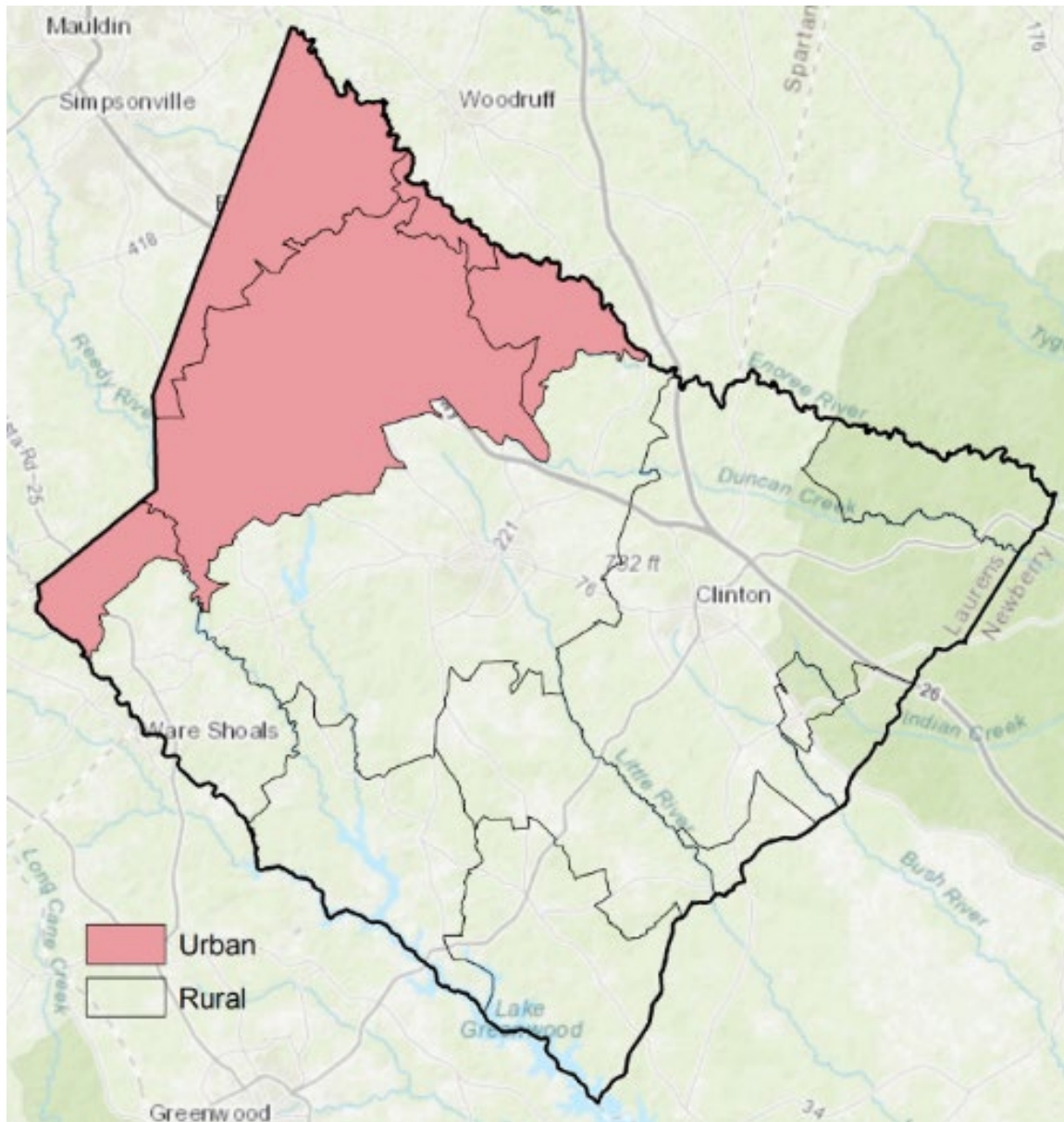
There are two counties within South Carolina that show this dichotomy well: Laurens and Chesterfield Counties. These counties are indicated in a red outline in Figure 2.

FIGURE 2. LAURENS AND CHESTERFIELD COUNTIES



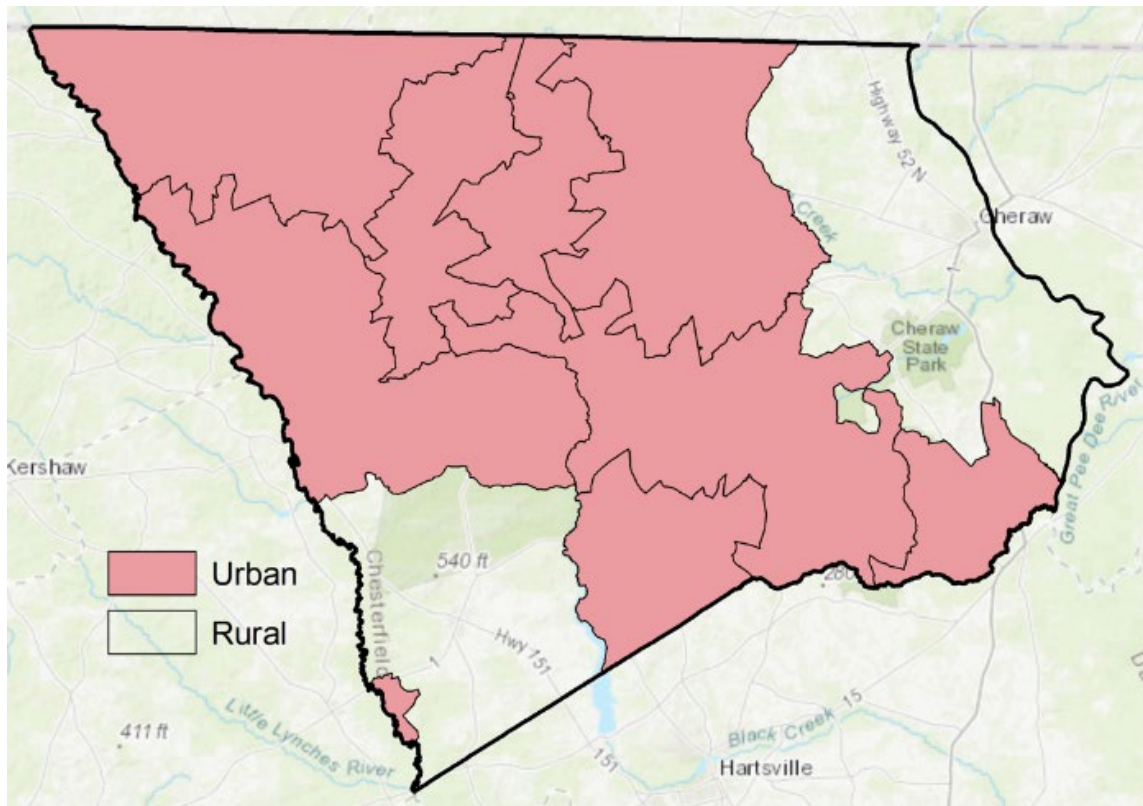
Laurens County - an outlying county in the northwest area of the state - is designated metropolitan according to the RUCC, UIC, and CBSAs (based on population and percent commuting to the larger counties of Greenville, Anderson, and Maudlin). However, as shown in Figure 3, the majority of the ZCTAs are rural. Laurens county is not eligible for many rural funding opportunities based strictly on their county urban status.

FIGURE 3. LAURENS COUNTY



Conversely, Chesterfield County - in northeast South Carolina - is classified non-metropolitan by RUCC, UIC, and CBSA based on population and commuting, but as shown in Figure 4, the majority of the ZCTAs within the county are classified urban by RUCA. This makes Chesterfield county eligible for rural funding.

FIGURE 4. CHESTERFIELD COUNTY



## Conclusion

State and federal policies are usually focused on larger population centers where more people can benefit from new legislation<sup>6</sup>. However, rural advocates have successfully lobbied agencies to create special programs and funding sources that would benefit rural communities and organizations<sup>6</sup>. However, as we have explored, defining and determining what is rural continues to be a challenging issue<sup>6,9</sup>.

Each of the definitions discussed were developed for a specific program or purpose. When used in other applications, each has advantages and limitations. The Urban-Rural definition created by the Census Bureau is oversimplified. By using dichotomous categorization, this definition misses the crucial variation in the spectrum of rural<sup>9</sup>. Meanwhile the Core Based Statistical Areas devised by the OMB commonly suffer from over- and under-bounding due its use of counties as classification level. That is, counties with large urban regions are classified as metropolitan even though they may encompass objectively rural areas that do not benefit from the same access to services<sup>9</sup>. Meanwhile residents that live on the border of counties can easily access services in adjoining counties that are unavailable within their own county of residence<sup>9</sup>.

As institutions and organizations continue to develop or refine their definition of rural, there is sometimes little evidence or reasoning for why one definition is chosen over another. This confusion is compounded when definitions are used inappropriately or incorrectly interpreted<sup>3</sup>. This includes the OMB's Core Based Statistical Areas which is commonly used by programs, communities, and researchers as a determination of county rurality, despite its authors emphasizing that it was never designed for this purpose<sup>3,10</sup>.

This lack of understanding and the wide array of rural experiences in the U.S. contributes to the frustrations felt by rural communities<sup>6</sup>. The University of North Carolina Center for Health Services Research tracks rural hospital closures. According to their data, since 2005, 160 rural hospitals have closed down<sup>19</sup>. Of those, 39 were located in Metropolitan counties but all were designated as critical access or Medicare dependent hospitals<sup>1,19</sup>. In part to blame for these closures is the complicated and sometime inappropriate system of rural definitions. Additionally, federal offices continue to misuse the OMB's Core Based Statistical Areas as a substitute for rural including the Center for Disease Control and the National Center for Health Statistics<sup>1</sup>.

Ultimately, what is most needed is a consistent and appropriate definition that would benefit policy makers, researchers, and communities<sup>1</sup>. Additionally, transparency is needed when determining how definitions were selected and what measures or methods are being employed for classification<sup>1</sup>. Lastly, everyone involved in rural advocacy needs to recognize and understand the sensitivity and limitations of existing rural definitions<sup>1</sup>.

### Advocate for better definitions

Our system is currently plagued with too many rural definitions. While arguing for additional definitions might seem counterintuitive, perhaps the reason so many definitions exist is because none have been satisfactory.

All current definitions of rural have one thing in common: they focus on absence<sup>1</sup>. What does “rural” not have compared to its urban counterpart? Perhaps a better definition should not only include deficits but gains as well<sup>1</sup>. What does “rural” have that isn’t found in its urban counterparts? Additionally, rural residence often face different economic and workplace barriers and benefits<sup>1,6</sup>. Thus, the addition of socioeconomic measures in rural definitions could provide more accurate representation. Lastly, any new definition must continue the recent move away from categorical or dichotomous definitions towards a continuous spectrum of rural<sup>1</sup>. Rural isn’t an absolute concept, especially in a country as large as the U.S. This type of definition allows for greater flexibility of use among various programs as it doesn’t impose arbitrary labels<sup>3</sup>.

With so many characteristics to incorporate, and old definitions to account for, the quest for a better definition is daunting. One possible solution was posited by Bennett et al<sup>1</sup>:

*“We suggest that a definition of rural could be operationalized as an index and incorporate measures from a variety of areas, such as population density, travel or distance, geographic isolation, resources, socioeconomic characteristics, local perceptions or culture, and amenities. Each component would include several sub-measures to contribute to the category...Each category could also be weighted, essentially granting some categories more influence than others...The components of each category, how they were indexed, and how the weights were assigned could all be adjusted to create an overall rural index that would indicate an area’s rurality on a continuous scale”*

### Use practical considerations

In the absence of a perfect definition, transparency becomes critical. Programs, organizations, and researchers should use practical considerations when selecting or creating their definition of rural<sup>2</sup>. This exercise should consider the purpose of the program or analysis, the intended audience, history, and data collection methods<sup>2</sup>. Definitions should also be applied at the smallest possible unit (such as zip codes instead of county)<sup>1</sup>. If appropriate, choosing a definition that indicates rural status along a continuum will give programs greater flexibility to use a tighter or looser delineation<sup>3</sup>.

Of greatest importance during this activity, is the commitment from the program, organization, researcher, or community to provide justification for their selection of any definition. This transparency allows other groups to better understand how a definition may or may not be appropriate for different purposes. This justification should include the specific definition (i.e. identifying characteristics and classification level) and define how rurality is being operationalized<sup>1</sup>.

### Start discussions

With so many elements to consider, it is no wonder that there is such misunderstanding of who and what is rural. This confusion is even greater for those who may not be aware of the various definitions of rural<sup>3</sup>. Therefore, it is important for communities, researchers, and even policy makers to talk about these issues. Organizations such as the Rural Health Information Hub have developed tools that can help rural groups determine their eligibility for certain programs<sup>1,20</sup>. However, in order to leverage this tool, groups must first understand that there is uncertainty and variance in rural definitions. Only by increasing awareness of this issue can we begin to fully address disparities and develop policies that help everyone along the rural spectrum.

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