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Rural
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Research

Rural/Urban Definitions: Alternatives and Numbers by State

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The National Rural Health Association
Rural Health Policy Board

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Rural/Urban Definitions: Alternatives and Numbers by State

INTRODUCTION

The definitions of what constitutes “rural” and “urban” have been the subject of much debate over the last decade. Because there are many ways to define these terms, the application of the definitions is confusing for those who seek information about the topic¹. There are two definitions of rural/urban which are most frequently used by the federal government. The first definition is the land mass which has not been defined as an urbanized area, a place which includes 2,500 or more persons.

The second definition is the one used by the United States Office of Management and Budget (OMB). The term “metropolitan area” (MA) includes metropolitan statistical areas (MSA’s), consolidated metropolitan statistical areas (CMSA’s), and primary metropolitan statistical areas (PMSA’s). Metropolitan areas include central cities with at least 50,000 persons, and all counties economically interdependent with that city. Non-metropolitan (e.g. “rural”) areas would include all areas not otherwise defined as metropolitan.

This report very briefly describes the rural/urban population of the US by state. We include three presentations of Census data at the level of the state, using three variations in defining the concepts of rural. These are:

- I. Percent of population in metropolitan and non-metropolitan counties (OMB);
- II. Number and percent of person in rural areas (Census); and
- III. Number and percent of persons in frontier counties.

Each of these definitions are discussed more thoroughly on the following pages.

¹For a thorough discussion of the topic see “Definition of rural: A handbook for health policy makers and researchers.” Ricketts, et al. 1998.

PART I:

The Office of Management and Budget (OMB) Metropolitan Method²

The United States Office of Management and Budget (OMB) defines metropolitan areas (MA's) according to published standards that are applied to Census Bureau data. As of 1997, seventy-nine percent of Americans lived in metropolitan counties, and 21 percent lived in nonmetropolitan counties (see Table 1). Map 1 graphically highlights the counties in the United States not classified as metropolitan as of June 1997.³

Standard definitions of metropolitan areas were first issued in 1949 by the then Bureau of the Budget (predecessor of OMB), under the designation "standard metropolitan area" (SMA). The term was changed to "standard metropolitan statistical area" (SMSA) in 1959, and to "metropolitan statistical area" (MSA) in 1983. The collective term "metropolitan area" (MA) became effective in 1990. MA's include metropolitan statistical areas (MSA's), consolidated metropolitan statistical areas (CMSA's), and primary metropolitan statistical areas (PMSA's). OMB has been responsible for the official metropolitan areas since they were first defined, except for the period 1977 to 1981, when they were the responsibility of the Office of Federal Statistical Policy and Standards, Department of Commerce. The standards for defining metropolitan areas were modified in 1958, 1971, 1975, 1980, and 1990.

The current standards provide that each newly qualifying MSA must include at least:

- one city with 50,000 or more inhabitants, or
- a Census Bureau-defined urbanized area (of at least 50,000 inhabitants) and a total metropolitan population of at least 100,000 (75,000 in New England).

Under the standards, the county (or counties) that contains the largest city becomes the "central county" (counties), along with any adjacent counties that have at least 50 percent of their population in

²This information was summarized from the Census Bureau. For a more in-depth discussion of the concept of metropolitan areas, see <http://www.census.gov/population/www/estimates/aboutmetro.html>

³Source: North Carolina Rural Health Research and Policy Analysis Cartographic Archive, 1998.

the urbanized area surrounding the largest city. Additional “outlying counties” are included in the MSA if they meet specified requirements of commuting to the central counties and other selected requirements of metropolitan character (such as population density and percent urban). In New England, the MSA’s are defined in terms of cities and towns rather than counties.

An area that meets these requirements for recognition as an MSA and also has a population of one million or more may be recognized as a CMSA if:

- separate component areas can be identified within the entire area by meeting statistical criteria specified in the standards, and
- local opinion indicates there is support for the component areas.

If recognized, the component areas are designated PMSA’s, and the entire area becomes a CMSA. PMSA’s, like the CMSA’s that contain them, are composed of entire counties, except in New England where they are composed of cities and towns. If no PMSA’s are recognized, the entire area is designated as an MSA.

As of the June 30, 1998 OMB announced that there were 256 MSA’s and 18 CMSA’s comprising 73 PMSA’s in the United States. In addition, there were 3 MSA’s, 1 CMSA, and 3 PMSA’s in Puerto Rico.

Table 1: By State and US total: Number of Persons in Metropolitan and Nonmetropolitan Counties and Percents, 1997

	Total		Metro*		Non-metro	
	N	Percent	N	Percent	N	Percent
U.S.	267,636,061	100.0%	211,539,078	79.0%	56,096,983	21.0%
Alabama	4,319,154	100.0%	2,925,447	67.7%	1,393,707	32.3%
Alaska	609,311	100.0%	251,047	41.2%	358,264	58.8%
Arizona	4,554,966	100.0%	3,878,589	85.2%	676,377	14.8%
Arkansas	2,522,819	100.0%	1,146,344	45.4%	1,376,475	54.6%
California	32,268,301	100.0%	31,181,133	96.6%	1,087,168	3.4%
Colorado	3,892,644	100.0%	3,157,318	81.1%	735,326	18.9%
Connecticut	3,269,858	100.0%	2,983,647	91.2%	286,211	8.8%
Delaware	731,581	100.0%	597,547	81.7%	134,034	18.3%
District of Columbia	528,964	100.0%	528,964	100.0%	0	0.0%
Florida	14,653,945	100.0%	13,596,144	92.8%	1,057,801	7.2%
Georgia	7,486,242	100.0%	5,112,853	68.3%	2,373,389	31.7%
Hawaii	1,186,602	100.0%	869,857	73.3%	316,745	26.7%
Idaho	1,210,232	100.0%	383,843	31.7%	826,389	68.3%
Illinois	11,895,849	100.0%	10,008,868	84.1%	1,886,981	15.9%
Indiana	5,864,108	100.0%	4,205,310	71.7%	1,658,798	28.3%
Iowa	2,852,423	100.0%	1,268,255	44.5%	1,584,168	55.5%
Kansas	2,594,840	100.0%	1,452,862	56.0%	1,141,978	44.0%
Kentucky	3,908,124	100.0%	1,862,076	47.6%	2,046,048	52.4%
Louisiana	4,351,769	100.0%	3,202,357	73.6%	1,149,412	26.4%
Maine	1,242,051	100.0%	495,783	39.9%	746,268	60.1%
Maryland	5,094,289	100.0%	4,721,646	92.7%	372,643	7.3%
Massachusetts	6,117,520	100.0%	6,025,093	98.5%	92,427	1.5%
Michigan	9,773,892	100.0%	8,078,107	82.6%	1,695,785	17.4%
Minnesota	4,685,549	100.0%	3,273,587	69.9%	1,411,962	30.1%
Mississippi	2,730,501	100.0%	860,825	31.5%	1,869,676	68.5%
Missouri	5,402,058	100.0%	3,669,224	67.9%	1,732,834	32.1%
Montana	878,810	100.0%	204,905	23.3%	673,905	76.7%
Nebraska	1,656,870	100.0%	854,099	51.5%	802,771	48.5%
Nevada	1,676,809	100.0%	1,439,007	85.8%	237,802	14.2%
New Hampshire	1,172,709	100.0%	733,043	62.5%	439,666	37.5%
New Jersey	8,052,849	100.0%	8,052,849	100.0%	0	0.0%
New Mexico	1,729,751	100.0%	983,373	56.9%	746,378	43.1%
New York	18,137,226	100.0%	16,643,503	91.8%	1,493,723	8.2%
North Carolina	7,425,183	100.0%	4,902,656	66.0%	2,522,527	34.0%
North Dakota	640,883	100.0%	275,233	42.9%	365,650	57.1%
Ohio	11,186,331	100.0%	9,058,614	81.0%	2,127,717	19.0%
Oklahoma	3,317,091	100.0%	2,002,438	60.4%	1,314,653	39.6%
Oregon	3,243,487	100.0%	2,278,592	70.3%	964,895	29.7%
Pennsylvania	12,019,661	100.0%	10,156,730	84.5%	1,862,931	15.5%
Rhode Island	987,429	100.0%	904,831	91.6%	82,598	8.4%
South Carolina	3,760,181	100.0%	2,622,911	69.8%	1,137,270	30.2%
South Dakota	737,973	100.0%	247,860	33.6%	490,113	66.4%
Tennessee	5,368,198	100.0%	3,520,470	65.6%	1,847,728	34.4%
Texas	19,439,337	100.0%	16,385,446	84.3%	3,053,891	15.7%
Utah	2,059,148	100.0%	1,575,696	76.5%	483,452	23.5%
Vermont	588,978	100.0%	191,088	32.4%	397,890	67.6%
Virginia	6,733,996	100.0%	5,250,871	78.0%	1,483,125	22.0%
Washington	5,610,362	100.0%	4,644,414	82.8%	965,948	17.2%
West Virginia	1,815,787	100.0%	759,268	41.8%	1,056,519	58.2%
Wisconsin	5,169,677	100.0%	3,497,495	67.7%	1,672,182	32.3%
Wyoming	479,743	100.0%	142,111	29.6%	337,632	70.4%

Source: Population Estimation, U.S. Bureau of the Census, Washington, DC, March 1998.

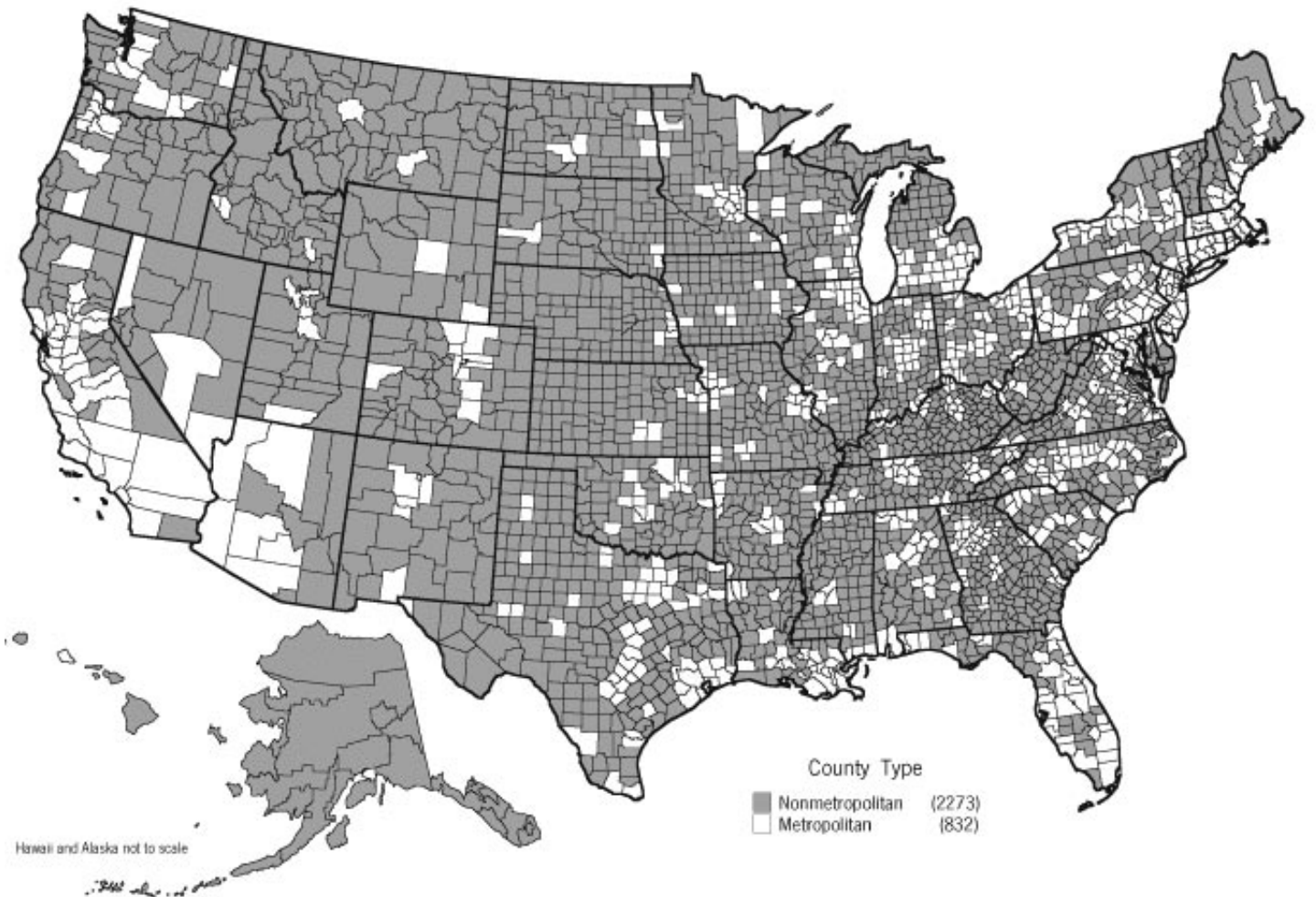
See http://www.census.gov/population/www/estimates/co_97_1.html

For county names and codes, see <http://www.census.gov/datamap/fipslist/AllSt.txt>.

For the definition of metropolitan areas, see <http://www.census.gov/population/www/estimates/aboutmetro.html>

Map 1: Nonmetropolitan Counties, 1997

NONMETROPOLITAN COUNTIES, 1997



Source: US Bureau of Census; Office of Management and Budget, 1997.

Produced by: North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Steps Center for Health Services Research, University of North Carolina at Chapel Hill, with support from the Federal Office of Rural Health Policy, HRSA, US DHHS.

PART II:

The U.S. Census Bureau's Rural/Urban Method¹

The Census Bureau defines “urban” for the 1990 census as comprising all territory, population, and housing units in urbanized areas and in places of 2,500 or more persons outside urbanized areas. In 1990, 75.2 percent of Americans lived in urban areas, and 24.8 percent lived in rural areas (see Table 2). Map 2 shows the census rural population in 1990.³

More specifically, “urban” consists of territory, persons, and housing units in:

1. Places of 2,500 or more persons incorporated as cities, villages, boroughs (except in Alaska and New York), and towns (except in the six New England States, New York, and Wisconsin), but excluding the rural portions of “extended cities.”
2. Census designated places of 2,500 or more persons.
3. Other territory, incorporated or unincorporated, included in urbanized areas.

Territory, population, and housing units not classified as urban constitute “rural.” In the 100-percent data products, “rural” is divided into “places of less than 2,500” and “not in places.” The “not in places” category comprises “rural” outside incorporated and census designated places and the rural portions of extended cities.

In the sample data products, rural population and housing units are subdivided into “rural farm” and “rural nonfarm.” “Rural farm” comprises all rural households and housing units on farms (places from which \$1,000 or more of agricultural products were sold in 1989); “rural nonfarm” comprises the remaining rural.

The urban and rural classification cuts across the other hierarchies; for example, there is generally both urban and rural territory within both metropolitan and nonmetropolitan areas. The Census Bureau's rural/urban method is not used as often because the data are only updated every ten year period by the Census Bureau.

¹Geography Division. Urban and rural definitions. The internet resource by U.S. Census Bureau, at URL: <<http://www.census.gov:80/population/censusdata/urdef.txt>> (released Oct. 1995).

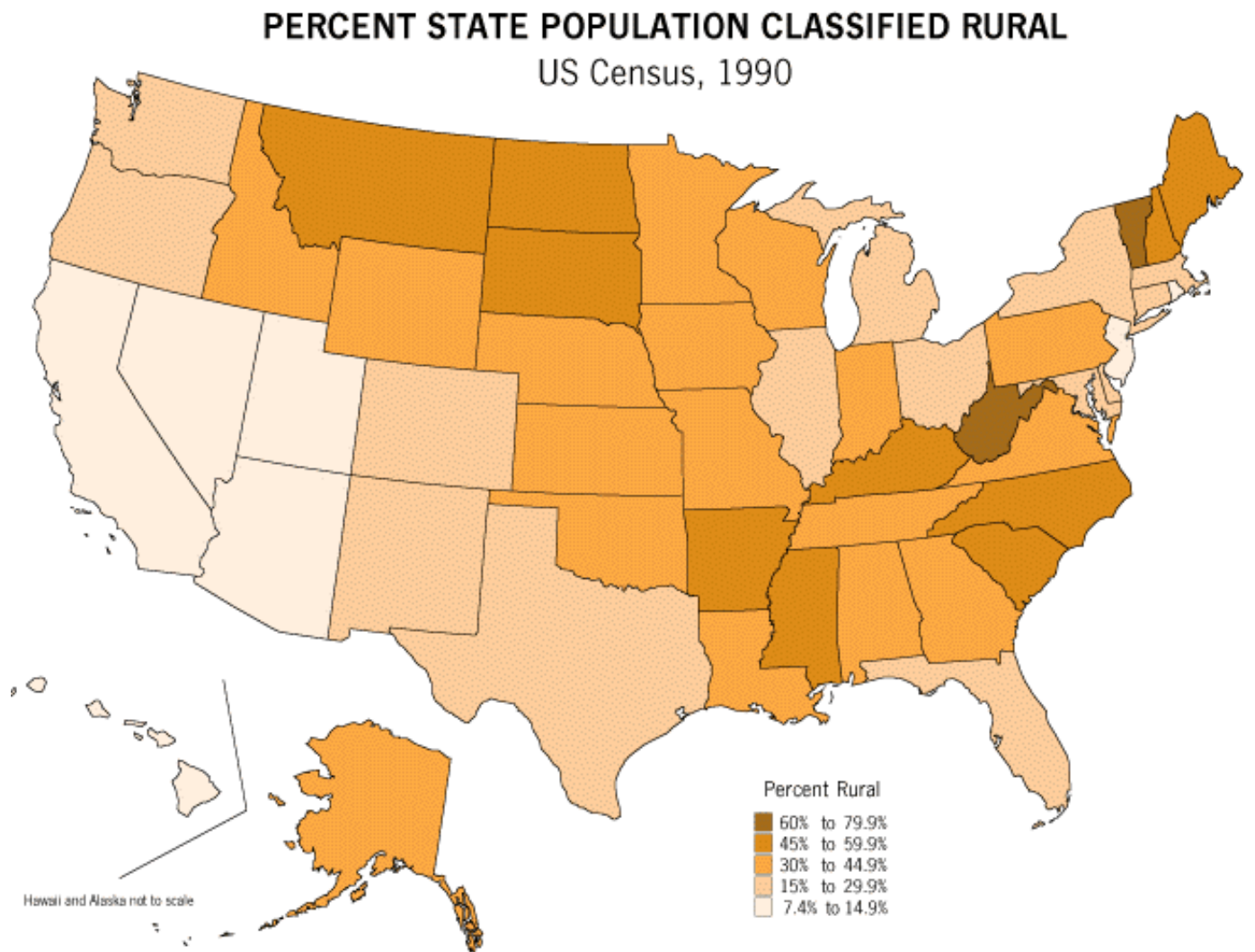
Table 2: By State and US total: Number of Persons in Rural Area, 1990

	Total		Urban*		Rural	
	N	Percent	N	Percent	N	Percent
U. S.	248,709,873	100.0%	187,053,487	75.2%	61,656,386	24.8%
Alabama	4,040,587	100.0%	2,439,549	60.4%	1,601,038	39.6%
Alaska	550,043	100.0%	371,235	67.5%	178,808	32.5%
Arizona	3,665,228	100.0%	3,206,973	87.5%	458,255	12.5%
Arkansas	2,350,725	100.0%	1,258,021	53.5%	1,092,704	46.5%
California	29,760,021	100.0%	27,571,321	92.6%	2,188,700	7.4%
Colorado	3,294,394	100.0%	2,715,517	82.4%	578,877	17.6%
Connecticut	3,287,116	100.0%	2,601,548	79.1%	685,568	20.9%
Delaware	666,168	100.0%	486,501	73.0%	179,667	27.0%
District of Columbia	606,900	100.0%	606,900	100.0%	-	0.0%
Florida	12,937,926	100.0%	10,967,328	84.8%	1,970,598	15.2%
Georgia	6,478,216	100.0%	4,097,339	63.2%	2,380,877	36.8%
Hawaii	1,108,229	100.0%	986,171	89.0%	122,058	11.0%
Idaho	1,006,749	100.0%	578,214	57.4%	428,535	42.6%
Illinois	11,430,602	100.0%	9,668,552	84.6%	1,762,050	15.4%
Indiana	5,544,159	100.0%	3,598,099	64.9%	1,946,060	35.1%
Iowa	2,776,755	100.0%	1,683,065	60.6%	1,093,690	39.4%
Kansas	2,477,574	100.0%	1,712,564	69.1%	765,010	30.9%
Kentucky	3,685,296	100.0%	1,910,325	51.8%	1,774,971	48.2%
Louisiana	4,219,973	100.0%	2,871,759	68.1%	1,348,214	31.9%
Maine	1,227,928	100.0%	547,824	44.6%	680,104	55.4%
Maryland	4,781,468	100.0%	3,888,429	81.3%	893,039	18.7%
Massachusetts	6,016,425	100.0%	5,069,603	84.3%	946,822	15.7%
Michigan	9,295,297	100.0%	6,555,842	70.5%	2,739,455	29.5%
Minnesota	4,375,099	100.0%	3,056,474	69.9%	1,318,625	30.1%
Mississippi	2,573,216	100.0%	1,210,729	47.1%	1,362,487	52.9%
Missouri	5,117,073	100.0%	3,516,009	68.7%	1,601,064	31.3%
Montana	799,065	100.0%	419,826	52.5%	379,239	47.5%
Nebraska	1,578,385	100.0%	1,043,984	66.1%	534,401	33.9%
Nevada	1,201,833	100.0%	1,061,444	88.3%	140,389	11.7%
New Hampshire	1,109,252	100.0%	565,670	51.0%	543,582	49.0%
New Jersey	7,730,188	100.0%	6,910,220	89.4%	819,968	10.6%
New Mexico	1,515,069	100.0%	1,105,651	73.0%	409,418	27.0%
New York	17,990,455	100.0%	15,164,047	84.3%	2,826,408	15.7%
North Carolina	6,628,637	100.0%	3,337,778	50.4%	3,290,859	49.6%
North Dakota	638,800	100.0%	340,339	53.3%	298,461	46.7%
Ohio	10,847,115	100.0%	8,039,409	74.1%	2,807,706	25.9%
Oklahoma	3,145,585	100.0%	2,130,139	67.7%	1,015,446	32.3%
Oregon	2,842,321	100.0%	2,003,271	70.5%	839,050	29.5%
Pennsylvania	11,881,643	100.0%	8,188,295	68.9%	3,693,348	31.1%
Rhode Island	1,003,464	100.0%	863,381	86.0%	140,083	14.0%
South Carolina	3,486,703	100.0%	1,905,378	54.6%	1,581,325	45.4%
South Dakota	696,004	100.0%	347,903	50.0%	348,101	50.0%
Tennessee	4,877,185	100.0%	2,969,948	60.9%	1,907,237	39.1%
Texas	16,986,510	100.0%	13,634,517	80.3%	3,351,993	19.7%
Utah	1,722,850	100.0%	1,499,081	87.0%	223,769	13.0%
Vermont	562,758	100.0%	181,149	32.2%	381,609	67.8%
Virginia	6,187,358	100.0%	4,293,443	69.4%	1,893,915	30.6%
Washington	4,866,692	100.0%	3,717,948	76.4%	1,148,744	23.6%
West Virginia	1,793,477	100.0%	648,184	36.1%	1,145,293	63.9%
Wisconsin	4,891,769	100.0%	3,211,956	65.7%	1,679,813	34.3%
Wyoming	453,588	100.0%	294,635	65.0%	158,953	35.0%

Source: Population Estimation, U.S. Bureau of the Census, Washington, DC, Oct. 1995.
 See <http://www.census.gov/population/censusdata/urpop0090.txt>

*The Census Bureau defines "urban" for the 1990 census as comprising all territory, population, and housing units in urbanized areas and in places of 2,500 or more persons outside urbanized areas.

Map 2: Percent State Population Classified Rural, 1990



Source: US Bureau of the Census, 1990.

Produced by: North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, with support from the Federal Office of Rural Health Policy, HRSA, US DHHS.

PART III:

The Concept of Frontier

Population density is determined by dividing the resident population of a geographic unit by the land area it occupies, usually expressed in the US as square miles. The most sparsely populated areas are often called “frontier” areas. Hewitt in 1992 suggested that population density as a measure of population concentration is one component of the basis for rural/urban classification. Map 3, cited from the North Carolina Rural Health Research and Policy Analysis Cartographic Archive, illustrates frontier counties in 1994. In current day discussions of health care provision, “frontier” is applied at the county level, and in some uses denote from six to ten persons per square mile; in most cases frontier, including map 3, is defined as six or fewer persons per square mile. Table 3 lists number and percent of persons in frontier counties by state in 1997. As “frontier” is categorized as six or fewer persons, about 0.92 percent of Americans lived in “frontier” areas in 1997.

Table 3: By State and US Total, Number and Percent of Persons in Frontier Counties* as July 1, 1997

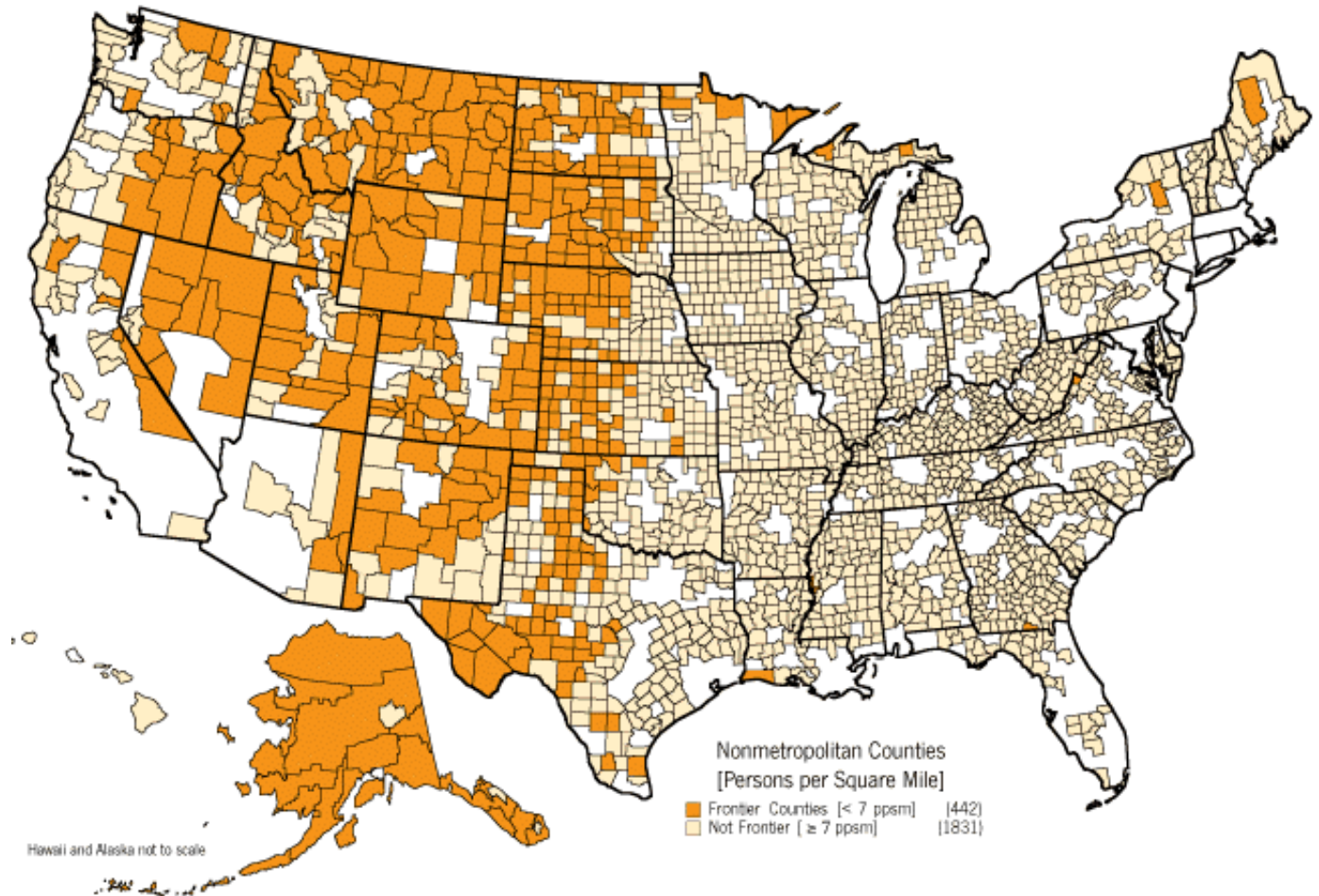
<u>U. S.</u>	<u>Total Persons</u>	<u>6 or fewer persons per square/m</u>	
		<u>N in Frontier</u>	<u>%</u>
U. S.	267,636,061	2,451,774	0.92%
Alabama	4,319,154	0	0.00%
Alaska	609,311	230,151	37.77%
Arizona	4,554,966	24,313	0.53%
Arkansas	2,522,819	0	0.00%
California	32,268,301	56,807	0.18%
Colorado	3,892,644	154,891	3.98%
Connecticut	3,269,858	0	0.00%
Delaware	731,581	0	0.00%
District of Columbia	528,964	0	0.00%
Florida	14,653,945	0	0.00%
Georgia	7,486,242	2,422	0.03%
Hawaii	1,186,602	0	0.00%
Idaho	1,210,232	106,366	8.79%
Illinois	11,895,849	0	0.00%
Indiana	5,864,108	0	0.00%
Iowa	2,852,423	0	0.00%
Kansas	2,594,840	99,172	3.82%
Kentucky	3,908,124	0	0.00%
Louisiana	4,351,769	0	0.00%
Maine	1,242,051	18,315	1.47%
Massachusetts	6,117,520	0	0.00%
Michigan	9,773,892	2,078	0.02%
Minnesota	4,685,549	51,560	1.10%
Mississippi	2,730,501	1,637	0.06%
Missouri	5,402,058	0	0.00%
Montana	878,810	277,149	31.54%
Nebraska	1,656,870	93,602	5.65%
Nevada	1,676,809	148,688	8.87%
New Hampshire	1,172,709	0	0.00%
New Jersey	8,052,849	0	0.00%
New Mexico	1,729,751	133,016	7.69%
New York	18,137,226	5,213	0.03%
North Carolina	7,425,183	0	0.00%
North Dakota	640,883	139,699	21.80%
Ohio	11,186,331	0	0.00%
Oklahoma	3,317,091	30,945	0.93%
Oregon	3,243,487	106,645	3.29%
Pennsylvania	12,019,661	0	0.00%
Rhode Island	987,429	0	0.00%
South Carolina	3,760,181	0	0.00%
South Dakota	737,973	134,274	18.19%
Tennessee	5,368,198	0	0.00%
Texas	19,439,337	225,388	1.16%
Utah	2,059,148	145,837	7.08%
Vermont	588,978	0	0.00%
Virginia	6,733,996	0	0.00%
Washington	5,610,362	33,256	0.59%
West Virginia	1,815,787	0	0.00%
Wisconsin	5,169,677	0	0.00%
Wyoming	479,743	230,350	48.02%

Source: Population Estimation, U.S. Bureau of the Census, Washington, DC, March 1998.
 See http://www.census.gov/population/www/estimates/co_97_1.html
 For land area and density, see http://www.census.gov/population/censusdata/90den_stco.txt

* Frontier is defined as six or fewer persons per square mile.

Map 3: Frontier Counties, 1994

FRONTIER COUNTIES, 1994



Note: The following metropolitan counties are frontier: Cocino Co., AZ; Nye Co., NV; and Kane Co., UT.

Metropolitan counties are aggregated into white areas on the map.

Source: Area Resource File, OHPAR, BHP, HRSA, PHS, US DHHS, February 1997.

Produced by: North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, with support from the Federal Office of Rural Health Policy, HRSA, US DHHS.

CONCLUSION

When using rural/urban data, there are various definitions used, depending on the needs of the users. For example, for some grant programs, metropolitan/nonmetropolitan county distinction is inadequate to describe large counties where land mass includes large areas of highly populated areas, as well as large areas of sparsely populated areas (e.g. one example of this is Pima County, Arizona). Modifications to nonmetropolitan definitions have been published.

Currently, joint efforts are taken by rural health researchers from the University of Washington Rural Research Center and policymakers from the U.S. Bureau of the Census to simplify and refine the definitions of “rural.” Dr. Ricketts and his colleagues from the North Carolina Rural Health Research and Policy Analysis Center (NC RHRP) recently published a handbook on the issue of the definition of rural. The web site for this handbook is:

http://www.shepscenter.unc.edu/research_programs/Rural_Program/ruralit.pdf

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