



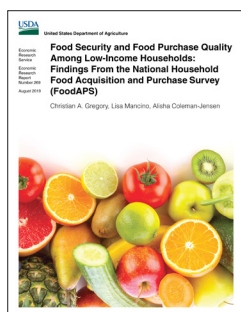
Durham County Budget Retreat

Systems Thinking Exercise: Food Insecurity

“Why, despite the county’s various programs, are we seeing the trends we’re seeing in hunger and food insecurity?”

Resource Materials

1. **USDA Food Quality and Food Purchase – Report Summary**
https://www.ers.usda.gov/webdocs/publications/93725/err-269_summary.pdf?v=1063.3
2. **Demographic and Economic Trends Data from budget pre-materials**
3. **NCACC 2019 County Map Book** – selected pages



Food Security and Food Purchase Quality Among Low-Income Households: Findings From the National Household Food Acquisition and Purchase Survey (FoodAPS)

Christian A. Gregory, Lisa Mancino, Alisha Coleman-Jensen

What Is the Issue?

Most households in the United States have access to enough food so that everyone in the household can lead active, healthy lives—they are food secure. A sizeable fraction of households are food insecure, meaning that they lack such access to enough food. Currently, there is a single security survey module used in the United States. In the module, the food security survey questions on which food security classification is based are largely focused on sufficient *quantities* rather than the *quality* of foods. However, the quality of food that food-insecure households acquire is also essential to know. Food insecurity is known to be associated with a host of adverse health outcomes in both adults and children. Some of those conditions are related to the quality of diet—for example, diabetes, high blood pressure, and dyslipidemia (abnormal levels of cholesterol or triglycerides in the blood). Looking more closely at the quality of food in food-insecure households could offer insights into the ways that food choices impact health for these households and might also underscore the importance of consumer education, particularly for low-income households. This study uses a novel data collection fielded by the USDA, Economic Research Service in partnership with the USDA, Food and Nutrition Service to quantify and characterize differences in food purchases by food-secure and food-insecure households in a way that, before now, has not been possible.

What Did the Study Find?

This study looks at the nutritional quality of food purchases of low-income food-secure and food-insecure households, as collected over 1 week in the National Household Food Acquisition and Purchase Survey (FoodAPS). The quality of the purchases were estimated using the 2010 Healthy Eating Index (HEI-2010) score, a standard measure of adherence to Federal dietary guidance widely used in research about healthfulness of food intakes and consumption. Total HEI-2010 scores are made up of 12 “component” scores that are added together. For both total and component HEI-2010 scores, higher numbers indicate better adherence to dietary guidance—i.e., more healthy purchases. There are significant differences in the purchase quality of low-income food-secure and food-insecure households. In particular:

- Food-insecure households spend about \$13 less per adult equivalent (PAE) per week on food at home (FAH) than food-secure households.

- Food-insecure households spend a higher fraction of their total FAH budget at convenience stores than food-secure households do—food-insecure households spend about 20 percent, while food-secure households spend less than 10 percent.
- The total HEI-2010 score for the FAH purchase basket for food-insecure households (44.2) is about 10 percent lower than for food-secure households (48.9).
- For every 1,000 calories in their FAH total purchases, food-insecure households acquire less total fruit, whole fruit, total protein, and seafood and plant protein compared to food-secure households.
- Food-insecure households have significantly higher probabilities of purchasing no fruit, no dairy, and no protein foods for FAH than food-secure households. Food-insecure households also have a higher probability of having a zero score for refined grains, meaning that they purchase more refined grains per 1,000 calories than is recommended by dietary guidance.
- Food-insecure households acquire about half the fruit (in cup equivalents) PAE per week than food-secure households. Food-insecure households acquire about 3.6 cups, while food-secure households acquire just over 7 cups PAE.
- The relative deficits in whole fruit and total fruit persist across the income distribution.
- Food-insecure households also purchase significantly less in protein foods (measured in ounce equivalents) PAE than food-secure households.
- Food-insecure households acquire about 5,200 calories less PAE per week in FAH than food-secure households. That is roughly the intake of an adult male for 2 days.
- The difference in FAH calories PAE purchased is not due to income alone; food-insecure households at 200 percent of the Federal poverty level purchase about 2,700 calories PAE less per week than food-secure households—about the intake of an adult male in 1 day.
- Food-insecure households' HEI-2010 score for their food-away-from-home (FAFH) purchases is about 5 percent lower than for food-secure households.
- There are also some differences by food security status in FAFH purchases, including lower scores for protein foods that remain across the income distribution.

The large differences in FAH total and component scores underline the fact that the differences in the amounts of food that food-insecure households purchase also show up in differences in the *quality* of foods that they purchase. This adds important detail to the understanding of the meaning of food insecurity and its relevance to overall health.

How Was the Study Conducted?

Data from FoodAPS were used for this study. The data set is a cross-sectional survey that over-samples low-income Supplemental Nutrition Assistance Program (SNAP) and non-SNAP households; the data contain weights and sampling information that make the estimates nationally representative. A unique feature of the data is that they contain information on all food acquisitions made by anyone in any of the sample households over the survey week. Using information on the nutritional quality of all of the acquisitions, researchers have calculated HEI-2010 scores for the total purchases for at-home and away-from-home consumption. Regression-adjusted predictions were estimated for total HEI-2010, components of HEI-2010, total energy, and food spending across food security status.



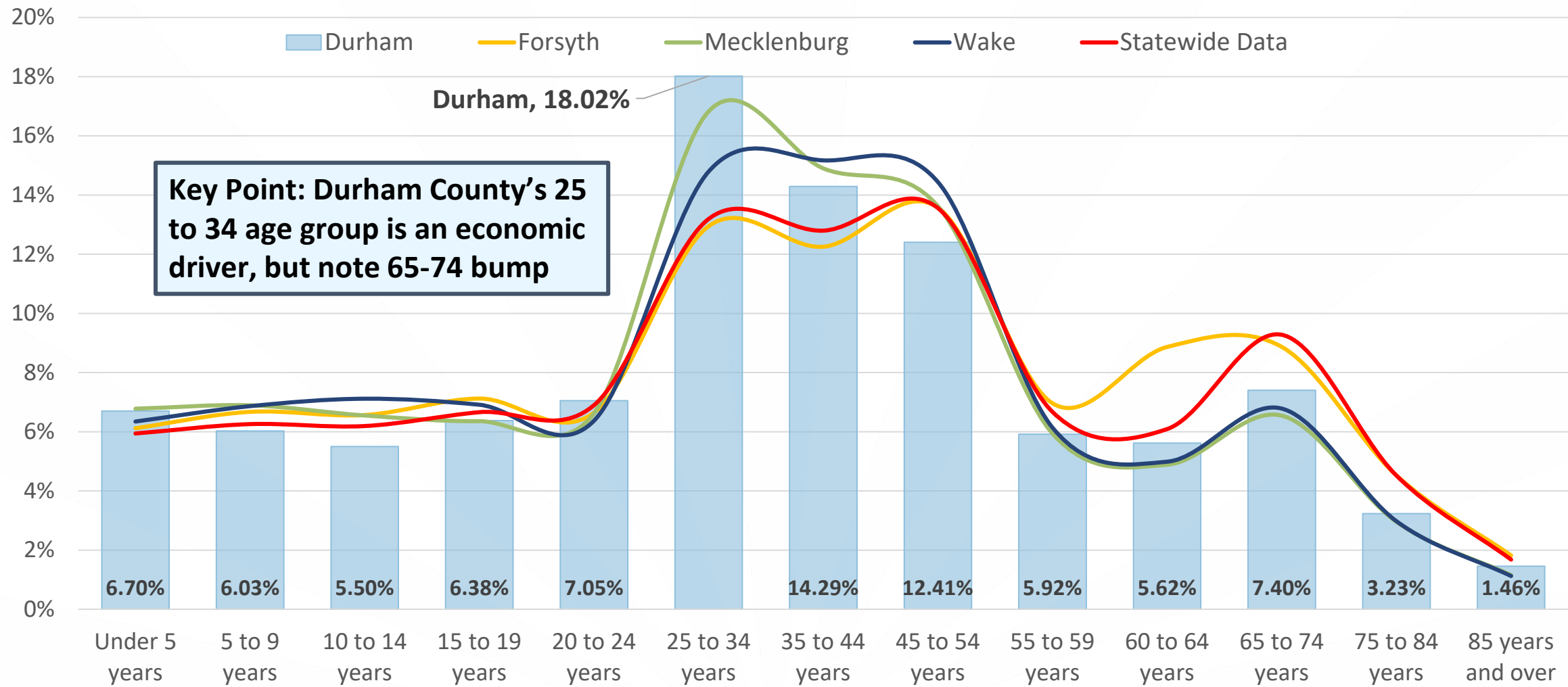
Economic & Demographic Trends





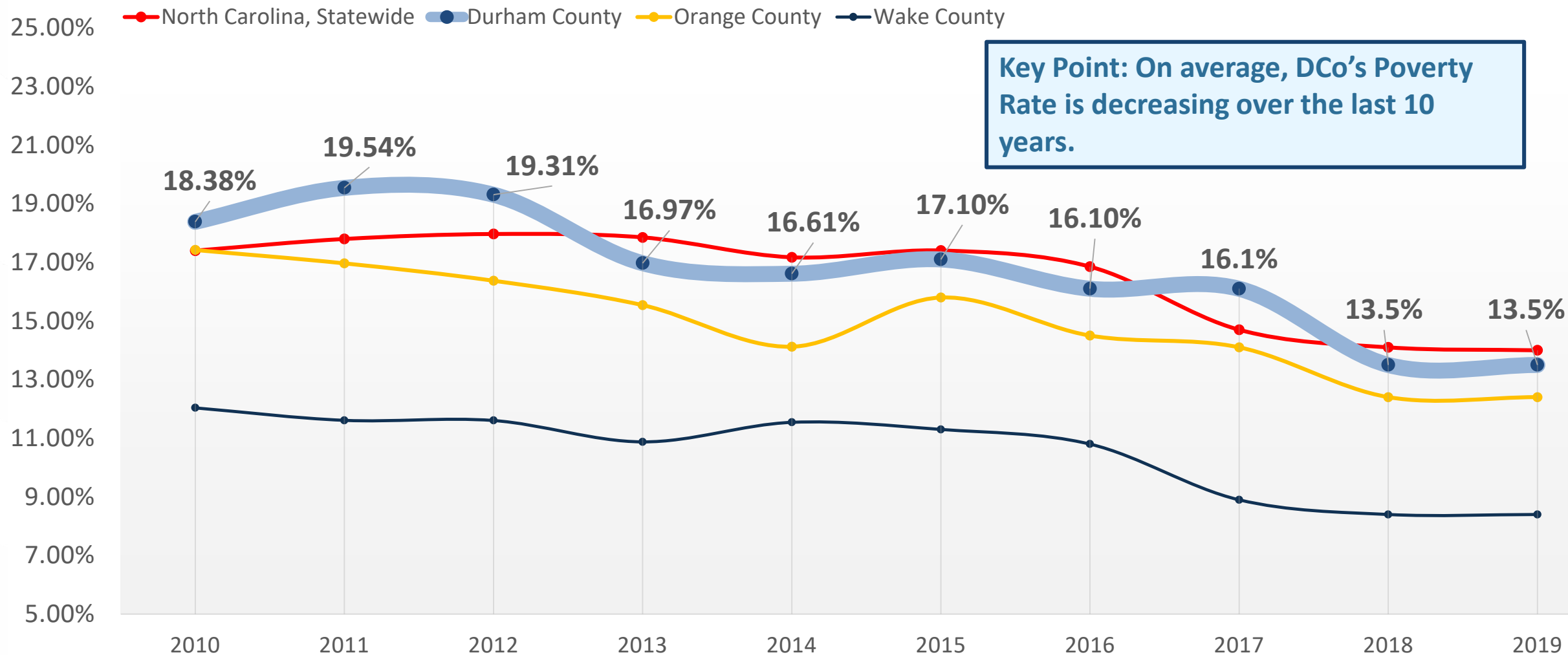
Population by Age Group

2014-2018



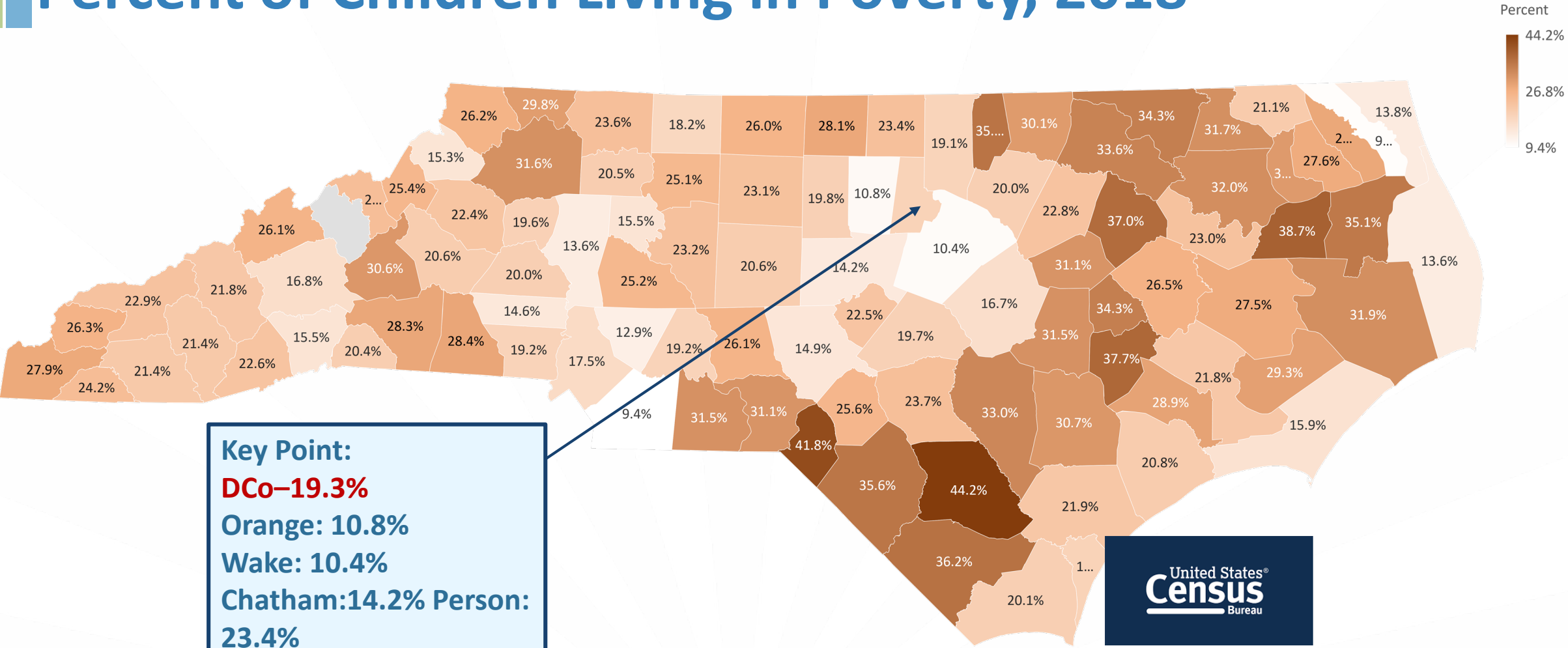


County Poverty Rate – 10 Years





Percent of Children Living in Poverty, 2018



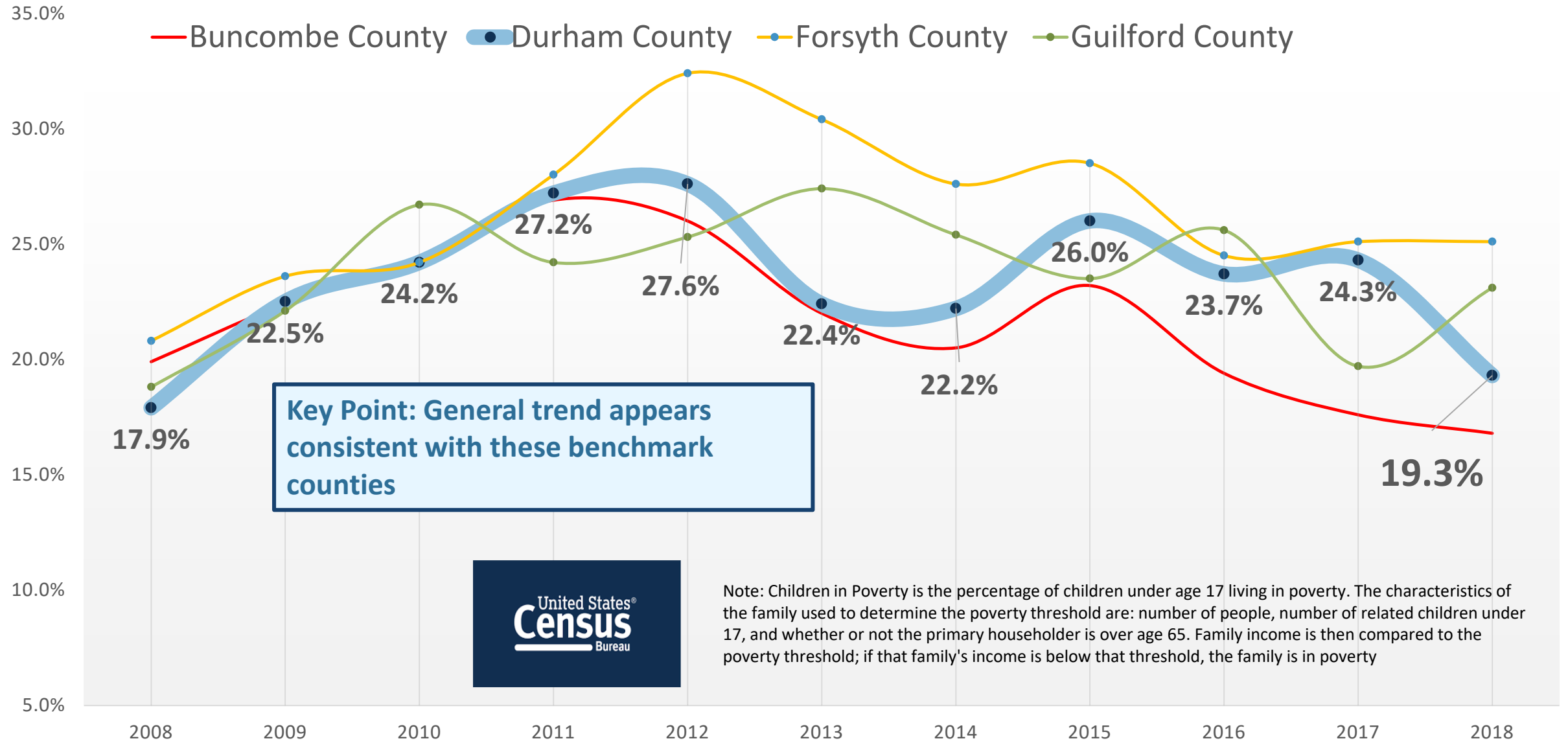
Note: Children in Poverty is the percentage of children under age 18 living in poverty. The characteristics of the family used to determine the poverty threshold are: number of people, number of related children under 18, and whether or not the primary householder is over age 65. Family income is then compared to the poverty threshold; if that family's income is below that threshold, the family is in poverty

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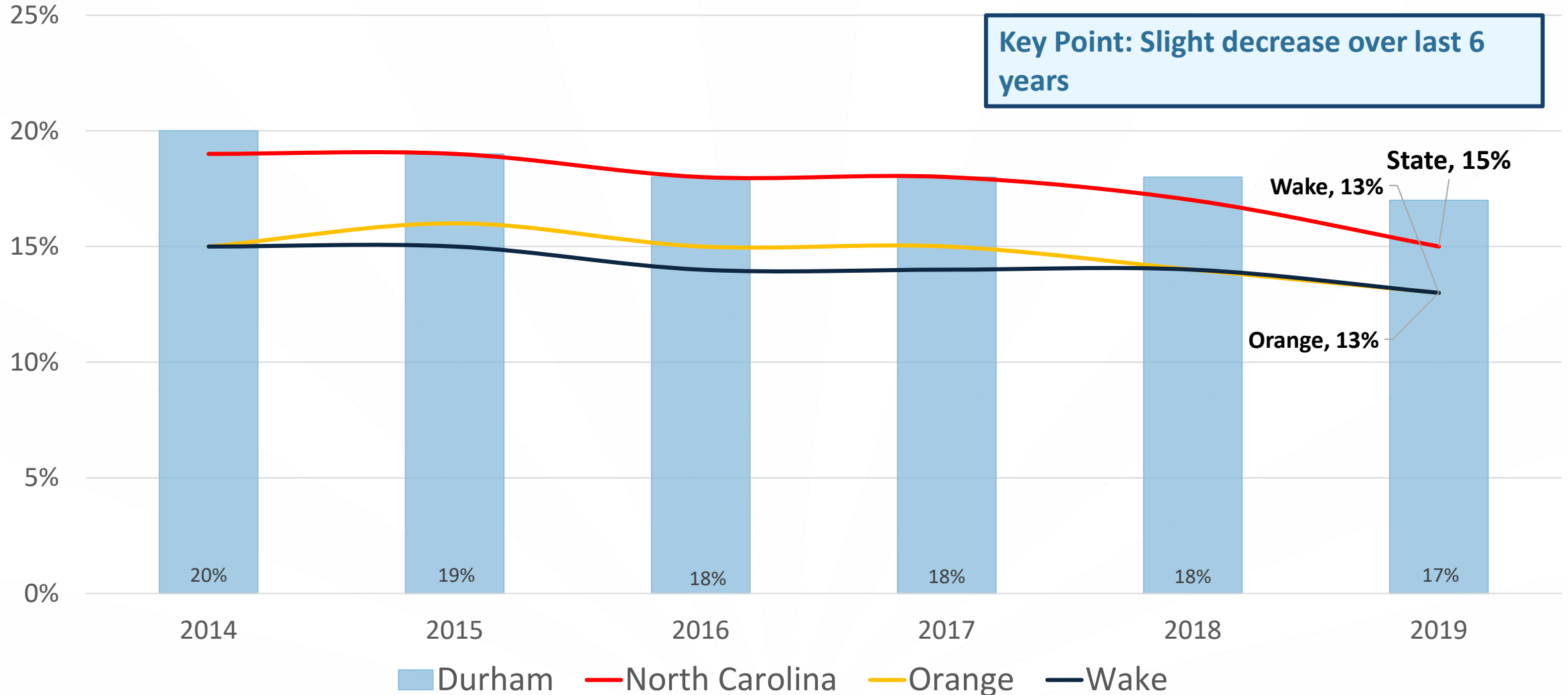
Percent of Children Living in Poverty, 2008-2018

— Buncombe County —●— Durham County —●— Forsyth County —●— Guilford County



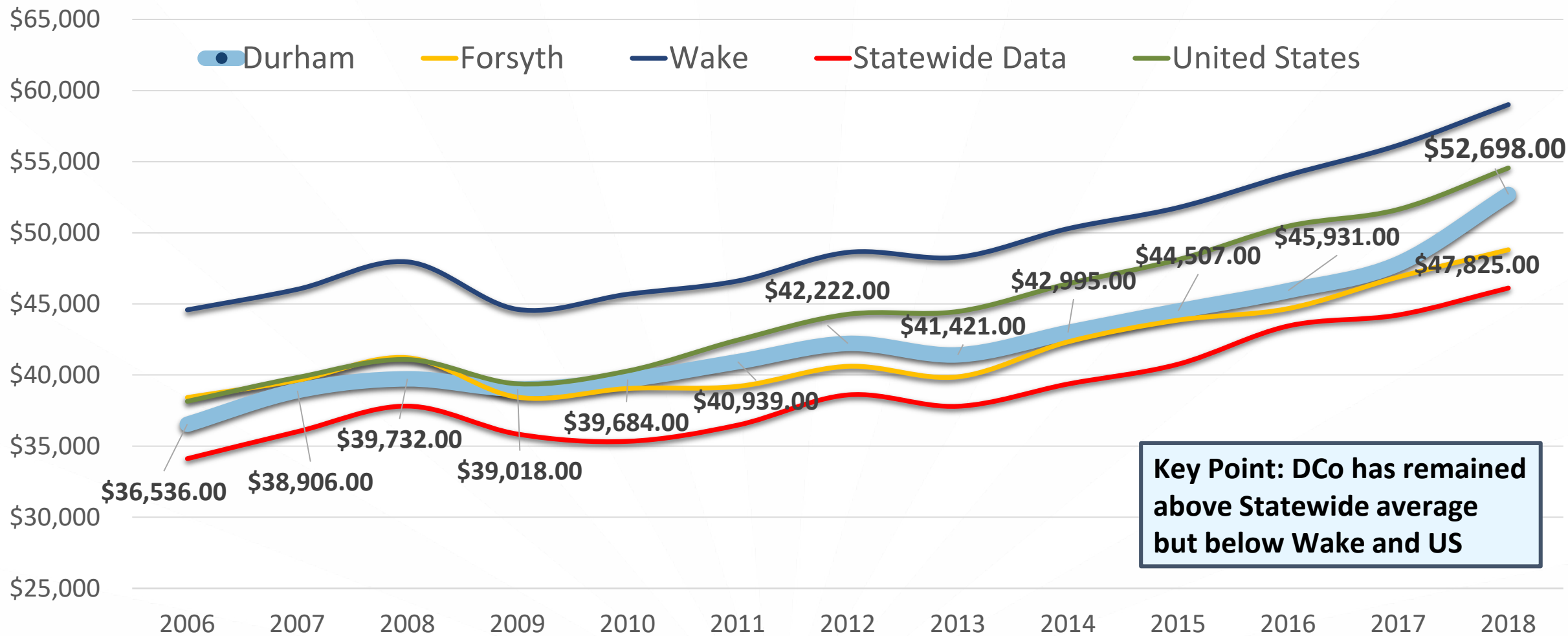
United States[®]
Census
Bureau

Food Insecurity Trends: 2014-2019





Per Capita Income (not adjusted for Inflation)

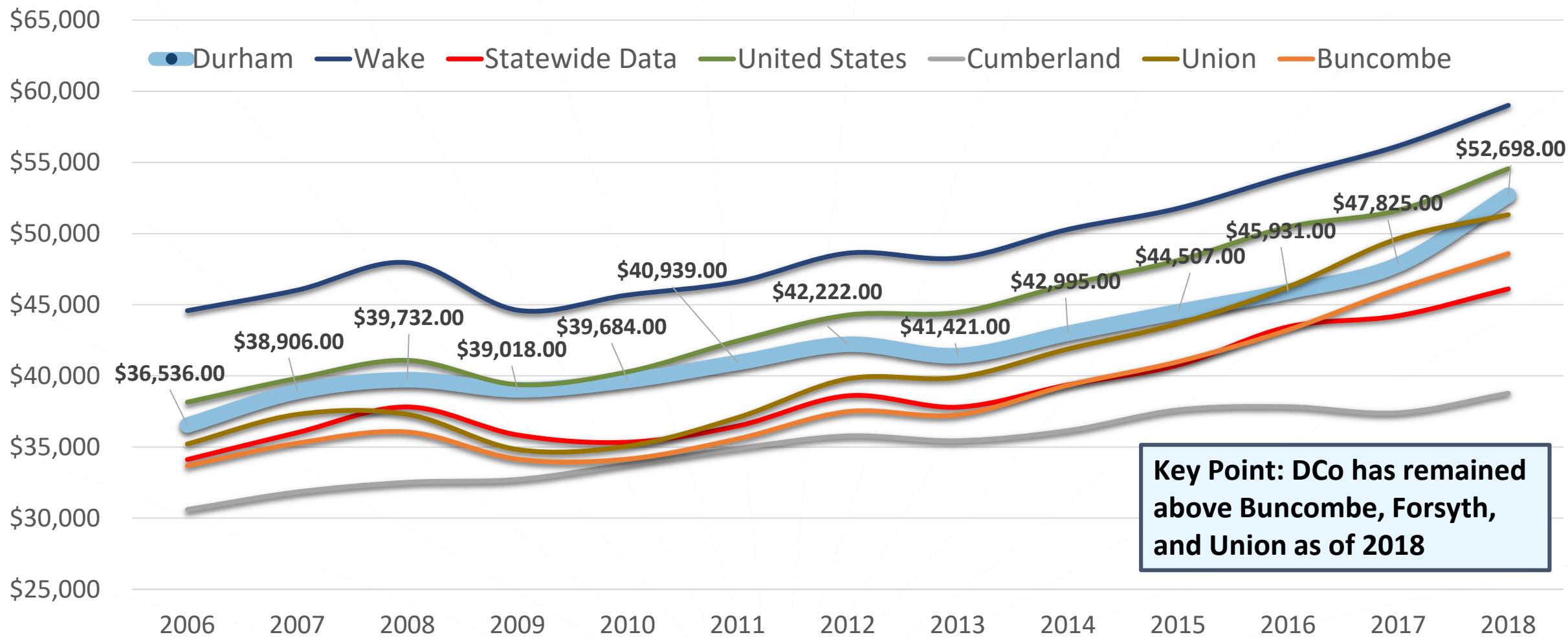


Key Point: DCo has remained above Statewide average but below Wake and US





Per Capita Income (not adjusted for Inflation)



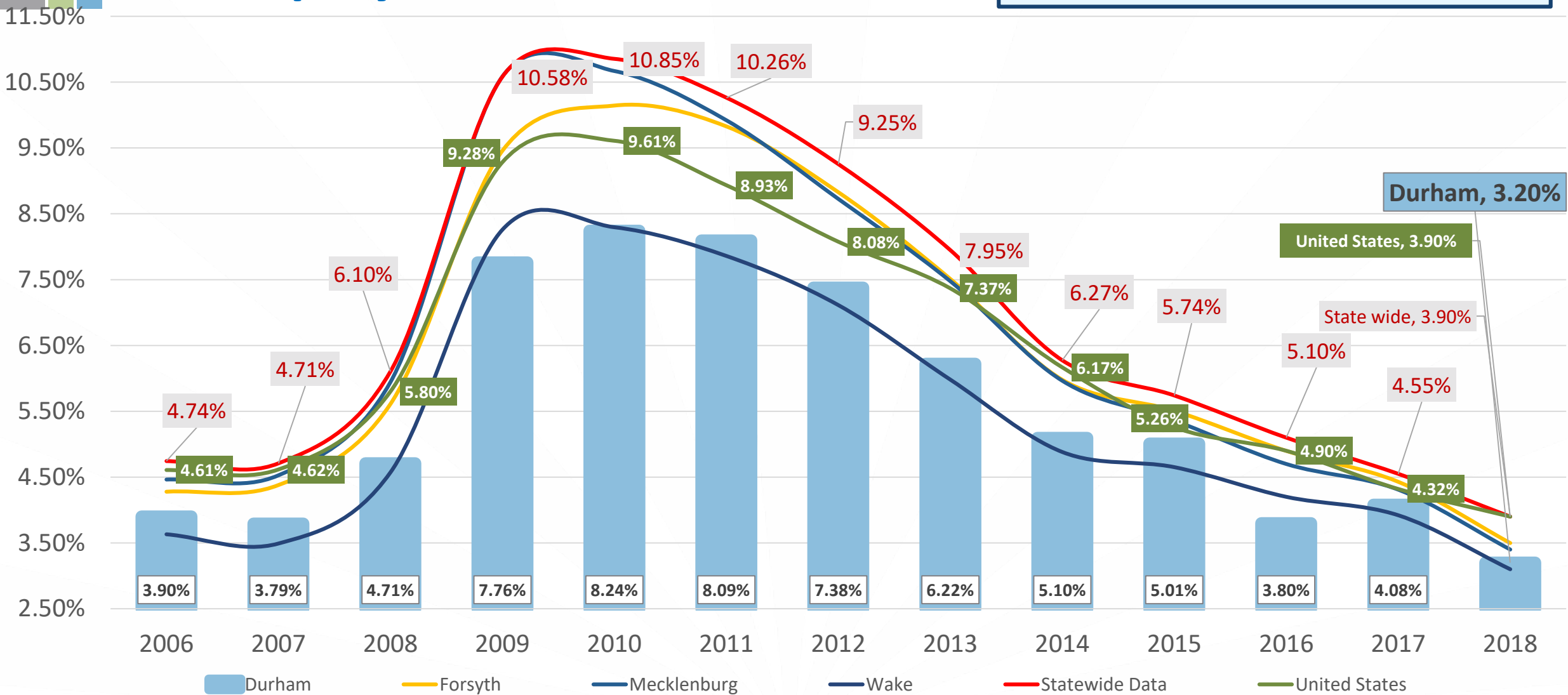
Key Point: DCo has remained above Buncombe, Forsyth, and Union as of 2018





Unemployment Rate

Key Point: Since 2006, Durham, Wake, and Orange County continue to have the lowest unemployment rates

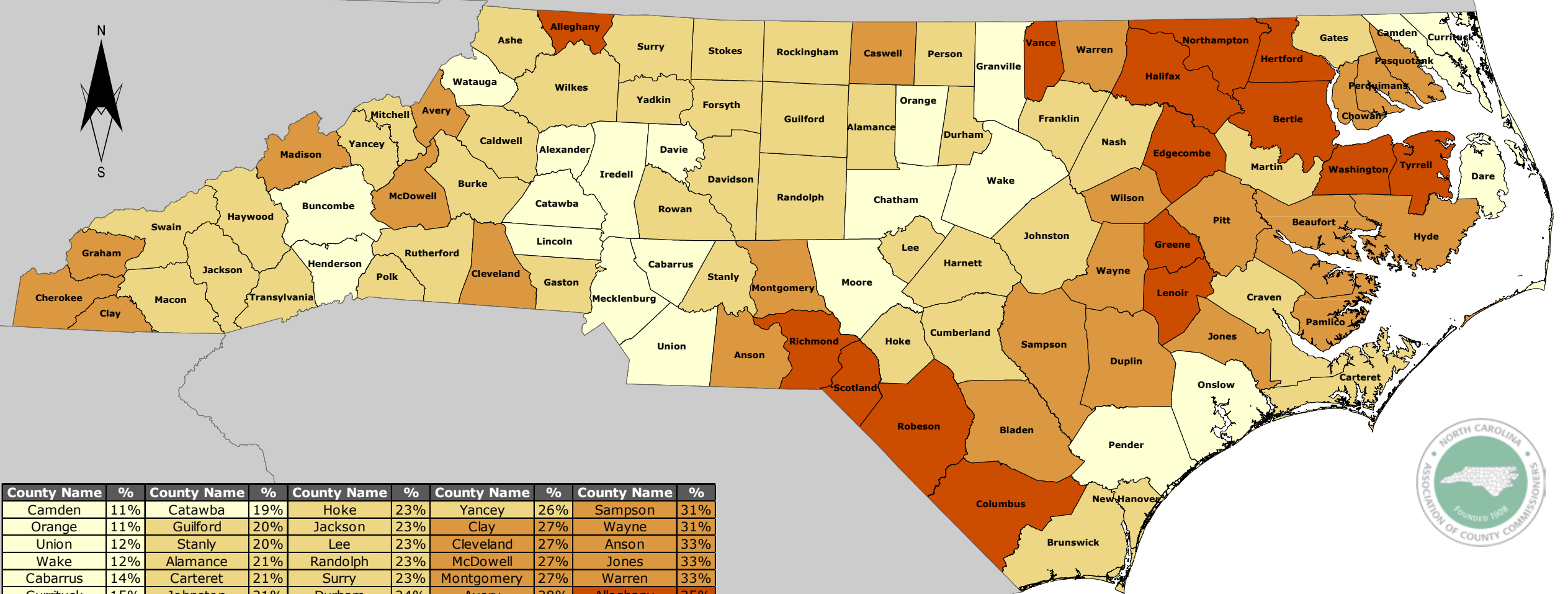


NORTH CAROLINA ASSOCIATION OF COUNTY COMMISSIONERS



2019 COUNTY MAP BOOK

Children Living In Poverty

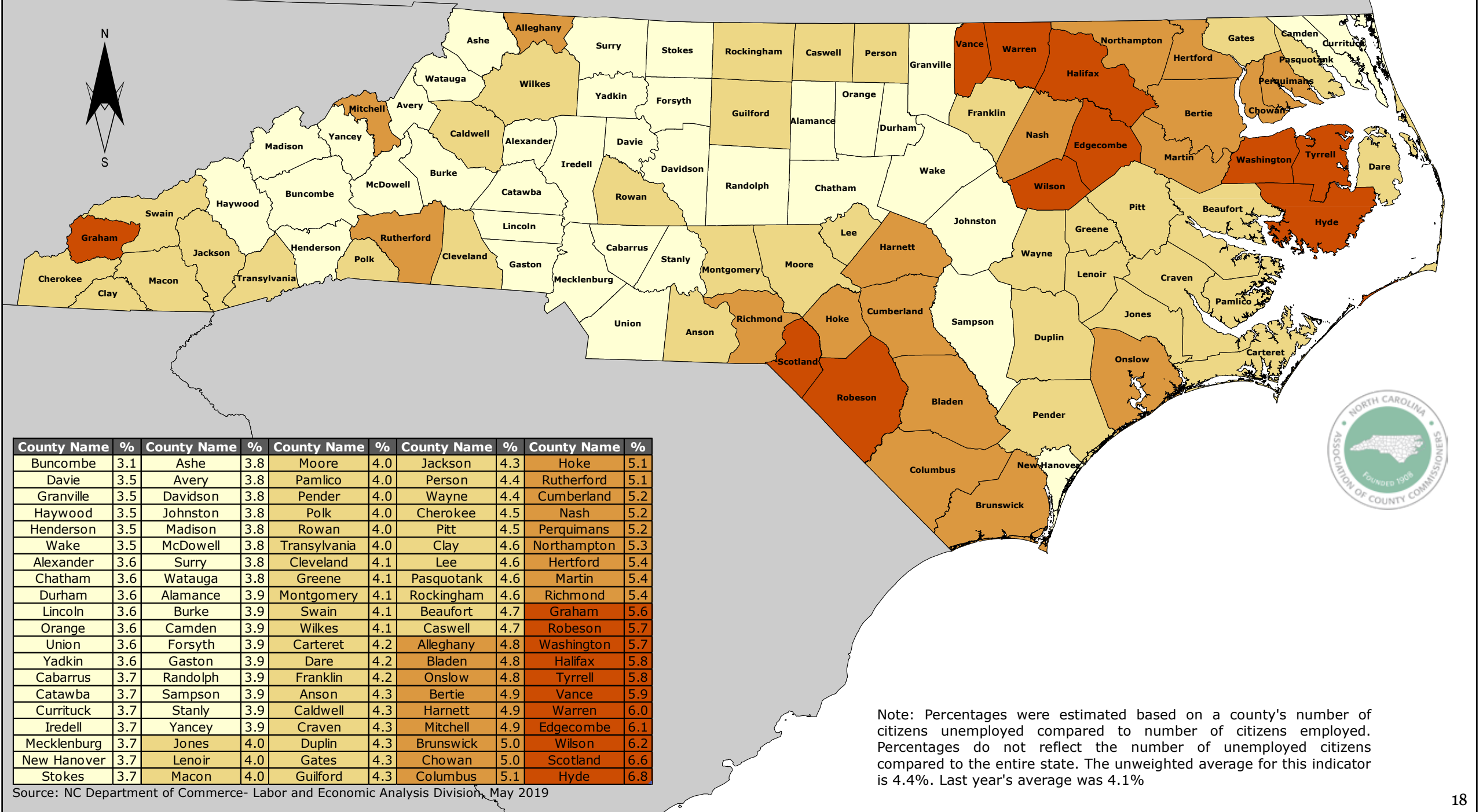


County Name	%	County Name	%	County Name	%	County Name	%	County Name	%
Camden	11%	Catawba	19%	Hoke	23%	Yancey	26%	Sampson	31%
Orange	11%	Guilford	20%	Jackson	23%	Clay	27%	Wayne	31%
Union	12%	Stanly	20%	Lee	23%	Cleveland	27%	Anson	33%
Wake	12%	Alamance	21%	Randolph	23%	McDowell	27%	Jones	33%
Cabarrus	14%	Carteret	21%	Surry	23%	Montgomery	27%	Warren	33%
Currituck	15%	Johnston	21%	Durham	24%	Avery	28%	Alleghany	35%
Lincoln	15%	New Hanover	21%	Franklin	24%	Bladen	28%	Columbus	35%
Moore	15%	Polk	21%	Macon	24%	Graham	28%	Tyrrell	35%
Alexander	16%	Stokes	21%	Nash	24%	Perquimans	28%	Hertford	37%
Chatham	16%	Brunswick	22%	Rockingham	24%	Caswell	29%	Richmond	37%
Dare	16%	Burke	22%	Rutherford	24%	Cherokee	29%	Lenoir	38%
Iredell	16%	Caldwell	22%	Swain	24%	Chowan	29%	Vance	38%
Davie	17%	Davidson	22%	Transylvania	24%	Wilson	29%	Bertie	39%
Granville	17%	Gaston	22%	Ashe	25%	Pitt	30%	Edgecombe	39%
Mecklenburg	17%	Person	22%	Cumberland	25%	Beaufort	31%	Scotland	39%
Watauga	17%	Rowan	22%	Forsyth	25%	Duplin	31%	Halifax	40%
Buncombe	18%	Yadkin	22%	Wilkes	25%	Hyde	31%	Northampton	40%
Henderson	18%	Gates	23%	Craven	26%	Madison	31%	Washington	41%
Onslow	18%	Harnett	23%	Martin	26%	Pamlico	31%	Greene	44%
Pender	18%	Haywood	23%	Mitchell	26%	Pasquotank	31%	Robeson	44%

Source: 2019 NC County Health Rankings, University of Wisconsin Population Health Institute

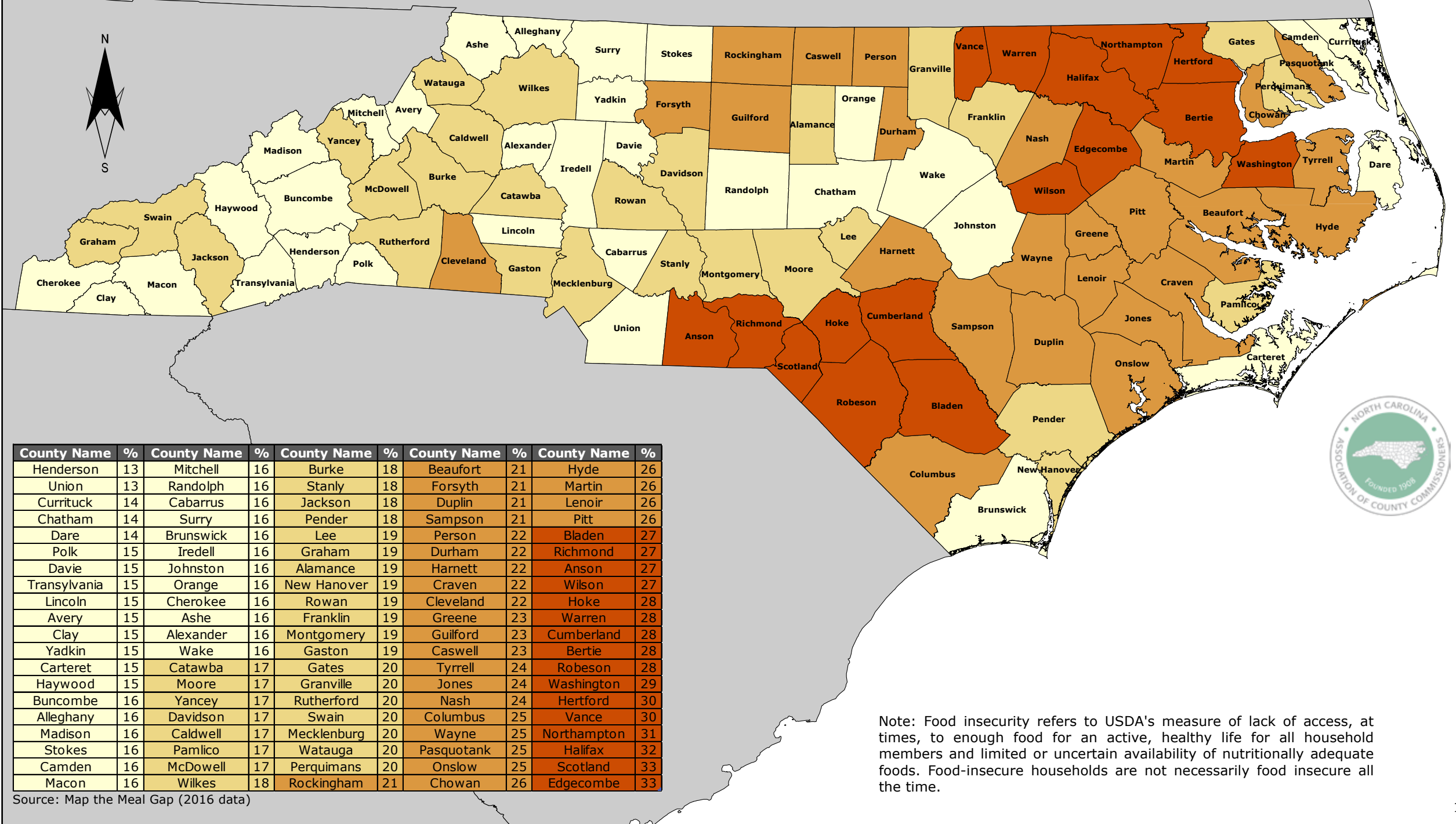
Note: Children in Poverty is the percentage of children under age 18 living in poverty. The characteristics of family used to determine the poverty threshold are: number of people, number of related children under 18, and whether or not the primary householder is over age 65. Family income is then compared to the poverty threshold; if that family's income is below that threshold, the family is in poverty. The 2019 poverty threshold for a family of four is \$25,750.

Unemployment Rate



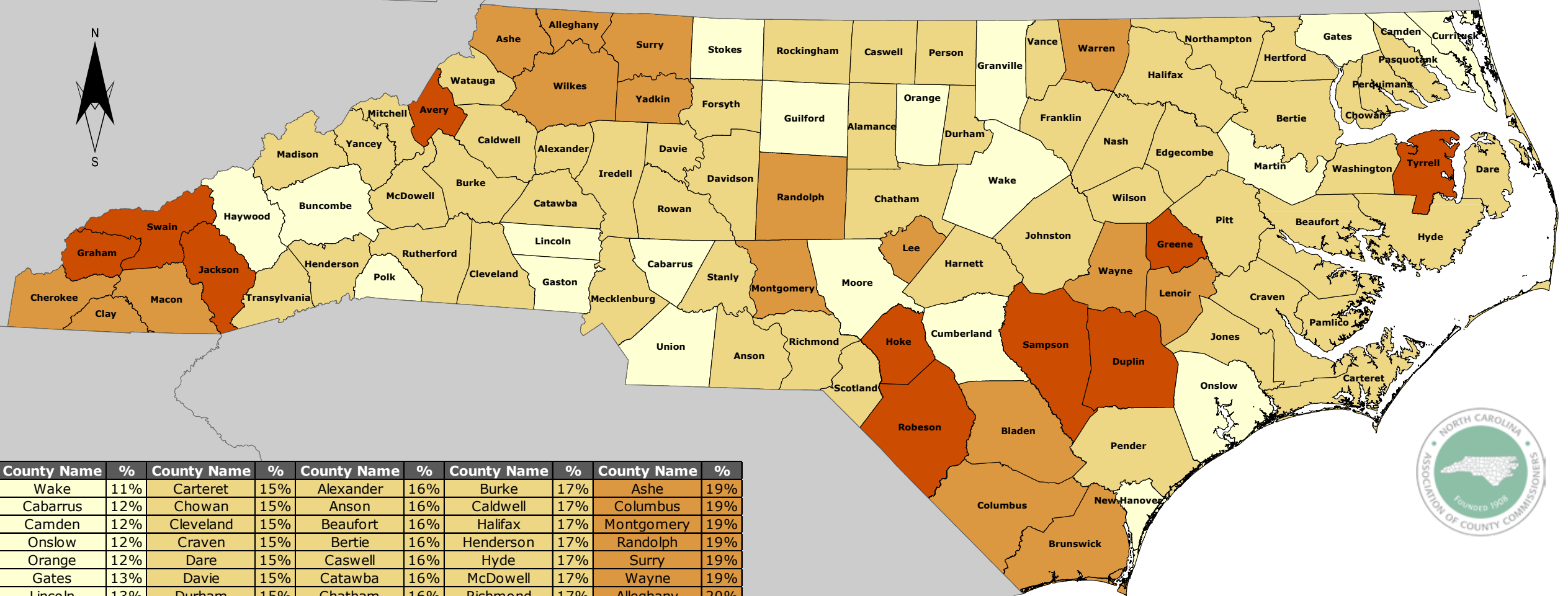
Note: Percentages were estimated based on a county's number of citizens unemployed compared to number of citizens employed. Percentages do not reflect the number of unemployed citizens compared to the entire state. The unweighted average for this indicator is 4.4%. Last year's average was 4.1%

Food Insecurity Rates



Source: Map the Meal Gap (2016 data)

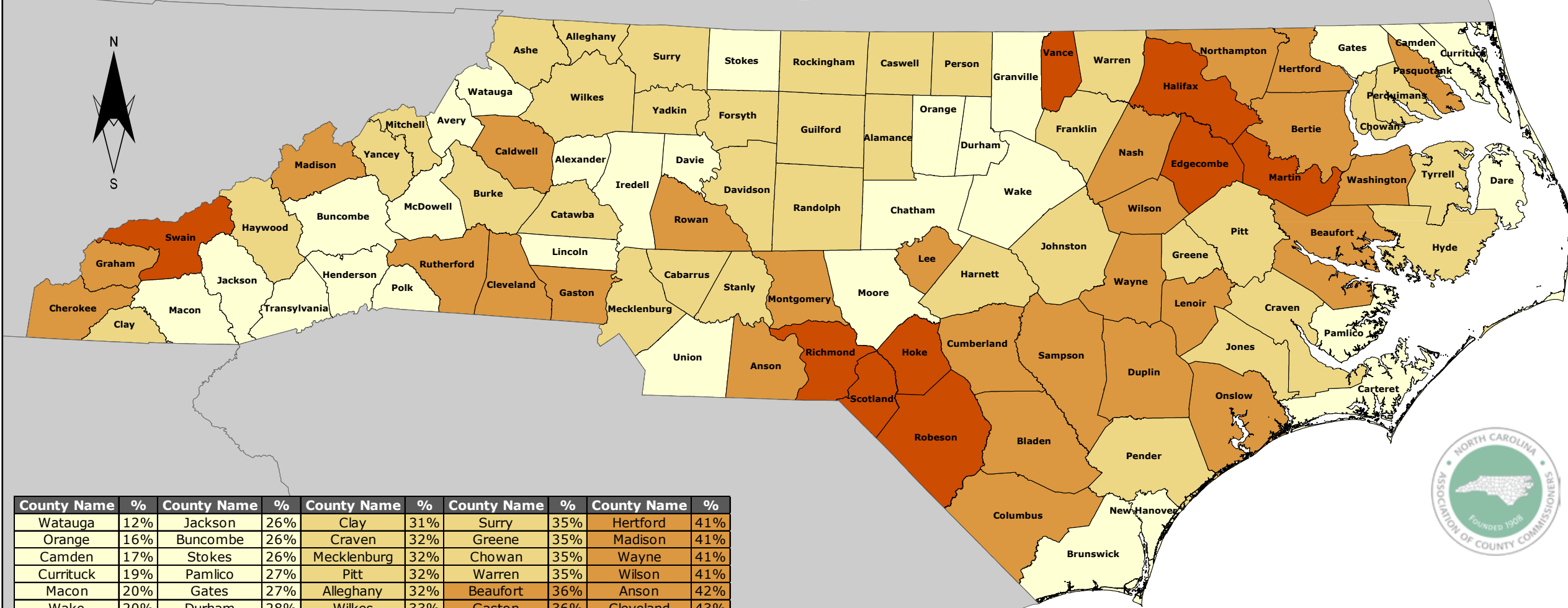
Uninsured Persons



County Name	%	County Name	%	County Name	%	County Name	%	County Name	%
Wake	11%	Carteret	15%	Alexander	16%	Burke	17%	Ashe	19%
Cabarrus	12%	Chowan	15%	Anson	16%	Caldwell	17%	Columbus	19%
Camden	12%	Cleveland	15%	Beaufort	16%	Halifax	17%	Montgomery	19%
Onslow	12%	Craven	15%	Bertie	16%	Henderson	17%	Randolph	19%
Orange	12%	Dare	15%	Caswell	16%	Hyde	17%	Surry	19%
Gates	13%	Davie	15%	Catawba	16%	McDowell	17%	Wayne	19%
Lincoln	13%	Durham	15%	Chatham	16%	Richmond	17%	Alleghany	20%
New Hanover	13%	Edgecombe	15%	Davidson	16%	Rockingham	17%	Bladen	20%
Union	13%	Hertford	15%	Forsyth	16%	Rutherford	17%	Macon	20%
Buncombe	14%	Iredell	15%	Franklin	16%	Scotland	17%	Warren	20%
Cumberland	14%	Madison	15%	Harnett	16%	Transylvania	17%	Graham	21%
Currituck	14%	Mecklenburg	15%	Johnston	16%	Wilson	17%	Hoke	21%
Gaston	14%	Nash	15%	Jones	16%	Yancey	17%	Jackson	21%
Granville	14%	Northampton	15%	Mitchell	16%	Brunswick	18%	Tyrrell	21%
Guilford	14%	Pasquotank	15%	Pamlico	16%	Cherokee	18%	Avery	22%
Haywood	14%	Perquimans	15%	Pender	16%	Clay	18%	Greene	22%
Martin	14%	Person	15%	Rowan	16%	Lee	18%	Swain	22%
Moore	14%	Pitt	15%	Vance	16%	Lenoir	18%	Robeson	24%
Polk	14%	Stanly	15%	Washington	16%	Wilkes	18%	Sampson	24%
Stokes	14%	Watauga	15%	Alamance	17%	Yadkin	18%	Duplin	25%

Note: Uninsured population refers to the percentage of citizens within each county who are under the age of 65 and do not have health insurance. The North Carolina average is 16.5%. Last year's average was 14%.

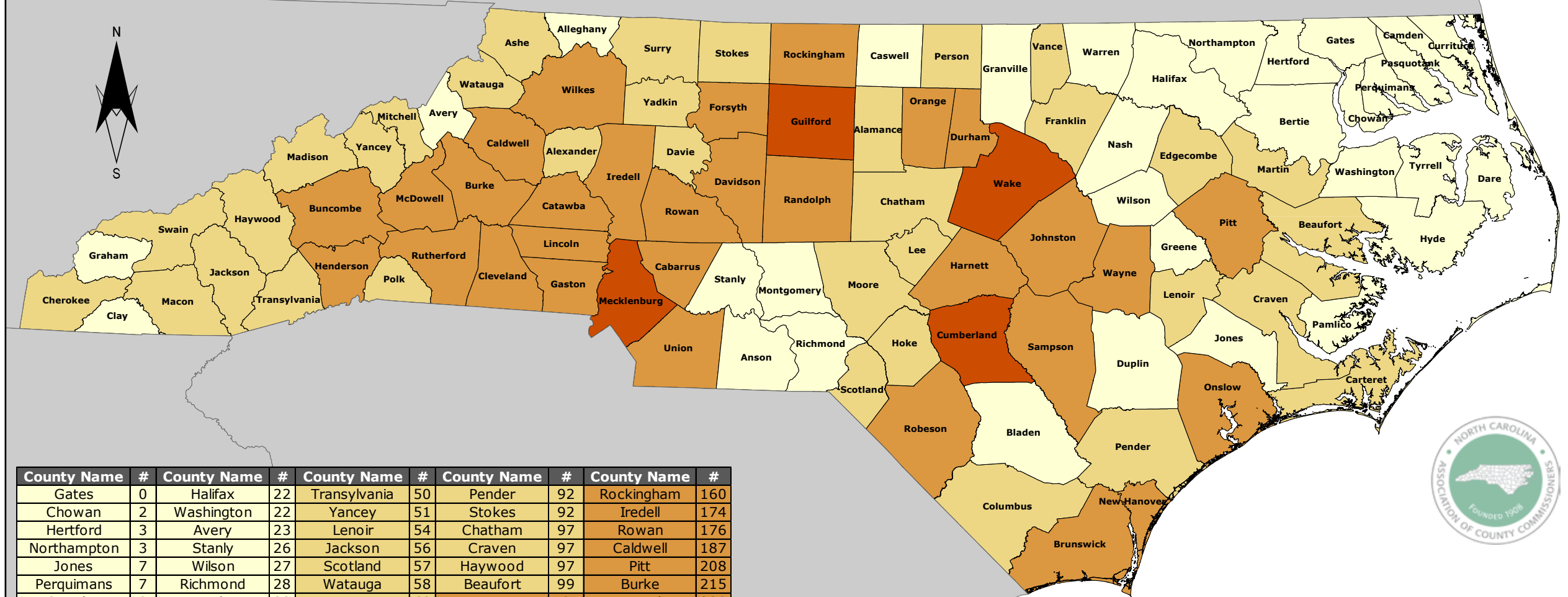
Medicaid-Eligible Persons



County Name	%	County Name	%	County Name	%	County Name	%	County Name	%
Watauga	12%	Jackson	26%	Clay	31%	Surry	35%	Hertford	41%
Orange	16%	Buncombe	26%	Craven	32%	Greene	35%	Madison	41%
Camden	17%	Stokes	26%	Mecklenburg	32%	Chowan	35%	Wayne	41%
Currituck	19%	Pamlico	27%	Pitt	32%	Warren	35%	Wilson	41%
Macon	20%	Gates	27%	Alleghany	32%	Beaufort	36%	Anson	42%
Wake	20%	Durham	28%	Wilkes	33%	Gaston	36%	Cleveland	43%
Chatham	21%	Granville	28%	Forsyth	33%	Rowan	36%	Washington	44%
Dare	21%	Lincoln	28%	Haywood	33%	Rutherford	36%	Sampson	44%
Polk	23%	Alexander	28%	Yancey	33%	Caldwell	36%	Cumberland	44%
Henderson	23%	Yadkin	29%	Guilford	33%	Cherokee	36%	Lenoir	44%
Union	23%	Ashe	30%	Alamance	33%	Pasquotank	38%	Columbus	45%
New Hanover	23%	Perquimans	30%	Burke	33%	Duplin	39%	Hoke	47%
Avery	24%	Cabarrus	30%	Person	33%	Lee	39%	Halifax	47%
Davie	24%	Stanly	30%	Pender	34%	Onslow	39%	Swain	47%
McDowell	25%	Catawba	30%	Randolph	34%	Montgomery	39%	Richmond	52%
Moore	25%	Tyrrell	30%	Harnett	34%	Nash	39%	Scotland	53%
Carteret	25%	Davidson	31%	Jones	34%	Graham	40%	Edgecombe	53%
Transylvania	25%	Hyde	31%	Caswell	34%	Bertie	40%	Robeson	56%
Iredell	26%	Mitchell	31%	Rockingham	35%	Bladen	41%	Vance	57%
Brunswick	26%	Franklin	31%	Johnston	35%	Northampton	41%	Martin	69%

Note: A Medicaid eligible individual is a person with a Medicaid ID card authorizing Medicaid coverage for any portion of the fiscal year. Persons are counted in the last county of residence. Medicaid eligible individuals are calculated per capita in relation to the county population.

Children Under DSS Responsibility



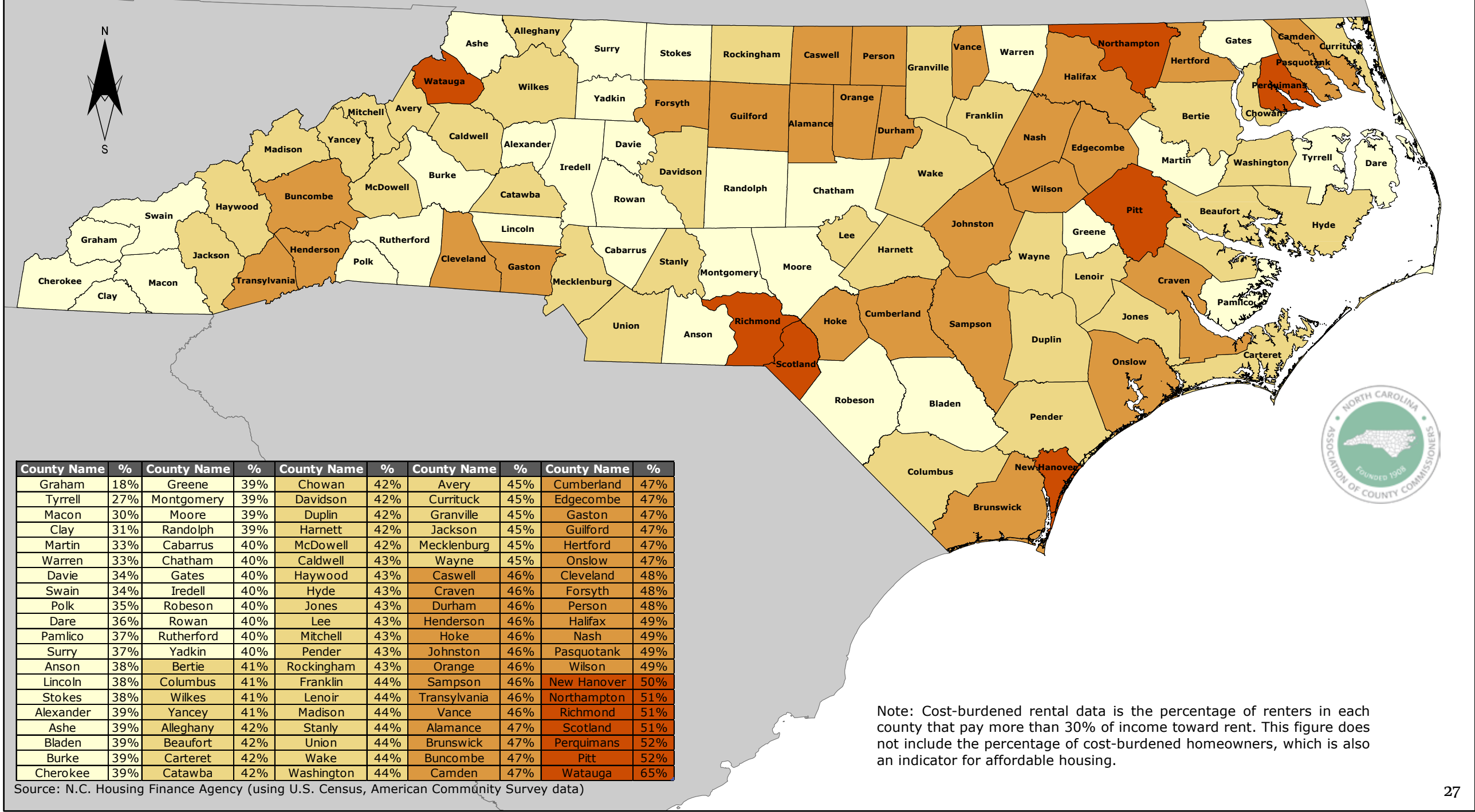
County Name	#	County Name	#	County Name	#	County Name	#	County Name	#
Gates	0	Halifax	22	Transylvania	50	Pender	92	Rockingham	160
Chowan	2	Washington	22	Yancey	51	Stokes	92	Iredell	174
Hertford	3	Avery	23	Lenoir	54	Chatham	97	Rowan	176
Northampton	3	Stanly	26	Jackson	56	Craven	97	Caldwell	187
Jones	7	Wilson	27	Scotland	57	Haywood	97	Pitt	208
Perquimans	7	Richmond	28	Watauga	58	Beaufort	99	Burke	215
Camden	8	Duplin	33	Person	60	Union	104	Forsyth	230
Warren	8	Montgomery	33	Edgecombe	62	Wayne	109	Cleveland	233
Tyrrell	11	Bladen	37	Surry	62	Cabarrus	112	Wilkes	261
Bertie	12	Granville	37	Cherokee	63	Lincoln	112	Robeson	268
Hyde	12	Nash	39	Mitchell	63	McDowell	112	Onslow	279
Pasquotank	14	Alleghany	40	Columbus	69	Orange	114	Catawba	308
Greene	16	Moore	41	Macon	70	Randolph	128	Durham	332
Pamlico	18	Vance	41	Davie	73	Rutherford	130	Gaston	359
Clay	19	Alexander	47	Franklin	78	Henderson	134	Buncombe	389
Currituck	19	Ashe	47	Yadkin	79	Sampson	144	New Hanover	412
Anson	21	Polk	47	Hoke	81	Johnston	146	Mecklenburg	537
Caswell	21	Swain	47	Madison	85	Harnett	148	Guilford	555
Dare	22	Martin	48	Carteret	87	Brunswick	156	Wake	609
Graham	22	Lee	49	Alamance	91	Davidson	158	Cumberland	787

Source: N.C. Department of Health and Human Services, 2018

Note: These figures reflect the number of children, including foster children, under placement responsibility for the county department of social services, as of June 30.



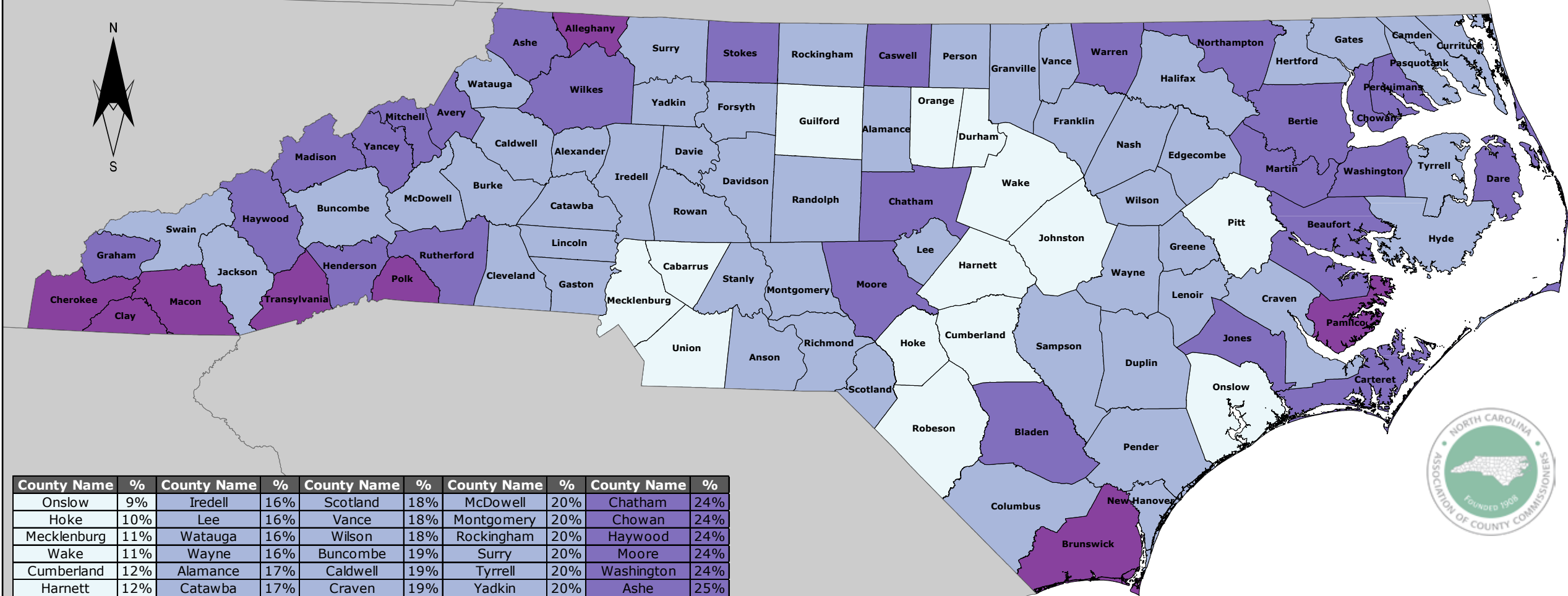
Cost-Burdened Renters



Note: Cost-burdened rental data is the percentage of renters in each county that pay more than 30% of income toward rent. This figure does not include the percentage of cost-burdened homeowners, which is also an indicator for affordable housing.

Source: N.C. Housing Finance Agency (using U.S. Census, American Community Survey data)

Persons Aged 65 & Over



County Name	%	County Name	%	County Name	%	County Name	%	County Name	%
Onslow	9%	Iredell	16%	Scotland	18%	McDowell	20%	Chatham	24%
Hoke	10%	Lee	16%	Vance	18%	Montgomery	20%	Chowan	24%
Mecklenburg	11%	Watauga	16%	Wilson	18%	Rockingham	20%	Haywood	24%
Wake	11%	Wayne	16%	Buncombe	19%	Surry	20%	Moore	24%
Cumberland	12%	Alamance	17%	Caldwell	19%	Tyrrell	20%	Washington	24%
Harnett	12%	Catawba	17%	Craven	19%	Yadkin	20%	Ashe	25%
Union	12%	Granville	17%	Edgecombe	19%	Avery	21%	Henderson	25%
Cabarrus	13%	New Hanover	17%	Hertford	19%	Bladen	21%	Mitchell	25%
Durham	13%	Pasquotank	17%	Jackson	19%	Caswell	21%	Northampton	25%
Johnston	13%	Randolph	17%	Lenoir	19%	Dare	21%	Warren	25%
Orange	13%	Rowan	17%	Person	19%	Madison	21%	Yancey	25%
Pitt	13%	Sampson	17%	Stanly	19%	Rutherford	21%	Perquimans	26%
Guilford	15%	Anson	18%	Swain	19%	Stokes	21%	Alleghany	27%
Robeson	15%	Cleveland	18%	Alexander	20%	Wilkes	21%	Macon	28%
Camden	16%	Davidson	18%	Burke	20%	Bertie	22%	Cherokee	29%
Currituck	16%	Duplin	18%	Columbus	20%	Jones	22%	Pamlico	29%
Forsyth	16%	Lincoln	18%	Davie	20%	Martin	22%	Clay	30%
Franklin	16%	Nash	18%	Gates	20%	Beaufort	23%	Transylvania	30%
Gaston	16%	Pender	18%	Halifax	20%	Graham	23%	Brunswick	31%
Greene	16%	Richmond	18%	Hyde	20%	Carteret	24%	Polk	31%

Source: U.S. Census Bureau, American Community Survey, 2017 (5 year estimates)

Note: This map reflects the percent of persons aged 65 and over in each county according to the most recent five-year American Community Survey estimates.