

NORTH CAROLINA

Department of Transportation



Webinar Series: New Census Data and What it Means to Transit Planning

November 2, 2021

One AICP Credit Approved

This presentation has been approved for one (1) AICP Credit.





This HDR course is awarded 1 Professional Development Hour(s) PDH(s).

PDH Completion Requirements



Attend entire
session



Actively participate
and complete
evaluation form

Learning Objectives

- To be able to quickly recall two data sources to support their local planning initiatives.
- To be able to identify and distinguish the different data sets available and identify which datasets are appropriate for specific analyses types.
- To be able to select appropriate datasets for particular analyses.

Today's Speaker



Bob Coats

Analyst in the Demographic and Economic Analysis section of the North Carolina Office of State Budget and Management, Governor's Census Liaison, Coordinator of the NC State Data Center Network





2020 Census Update, Challenge Process, and Next Steps

*HDR Inc. and
NC Department of Transportation
November 2, 2021*

Integrity

Innovation

Teamwork

Excellence



2020 Census Data Releases

Once a decade count of the population required for apportionment of seats in the US House of Representatives and block-level data needed for Redistricting

Apportionment	April 26, 2021	Total and resident state populations
Redistricting	August 12, 2021 September 16, 2021	Total and voting age populations by race and Hispanic Origin, Group Quarters population, and housing unit occupancy to the census block level
Demographic and Housing Characteristics (DHC)	2022	Population by age, race, sex, and Hispanic Origin, household, and housing unit data to the census block level



American Community Survey - ACS

Rolling, monthly sample survey reporting estimates of socio-economic characteristics of the population annually

2020 ACS	Cancelled	COVID impact on data collection did not provide reliable data
2020 ACS “Experimental Tables”	November 2021	Limited number of tables and weights for the nation, states, and the District of Columbia
2016-2020 ACS	December 2021	Standard ACS for all areas to the census tract and block group level



2020 Census Redistricting Data Access

- 2020 Census Redistricting release from August 12, 2021
- delimited text files, visualizations, Data Mapper, press kit resources
<https://www.census.gov/newsroom/press-kits/2021/2020-census-redistricting.html>
- 2020 Census Redistricting release on September 16, 2021
<https://data.census.gov/>
- NC Office of State Budget and Management LINC System
Summary datasets for state, county, place, township, census tract, and block group
<https://www.osbm.nc.gov/facts-figures/linc>



2020 Census Geospatial Data

- 2020 Census Redistricting - <https://www.census.gov/rdo>

Shapefiles	GIS geometry files
Reference Maps (PDF)	County Block, State Legislative with Voting District, Census Tract, School District
Block Assignment Files	Tables identifying the blocks used to build geographic entities
Name Lookup Tables	Names and codes for geographic areas within a state
Block to Block Relationship Files	Crosswalk of 2010 blocks to 2020 blocks

- Coming soon to NC OneMap - <https://www.nconemap.gov/>



Changing Face of the US Census





2020 Census Changes

- First US Census to use internet response
- Change in how the race/ethnicity question was asked and how the responses were coded
- Revised urban area criteria
- Proposed revision to metropolitan thresholds
- New confidentiality protocol – Disclosure Avoidance System/Differential Privacy



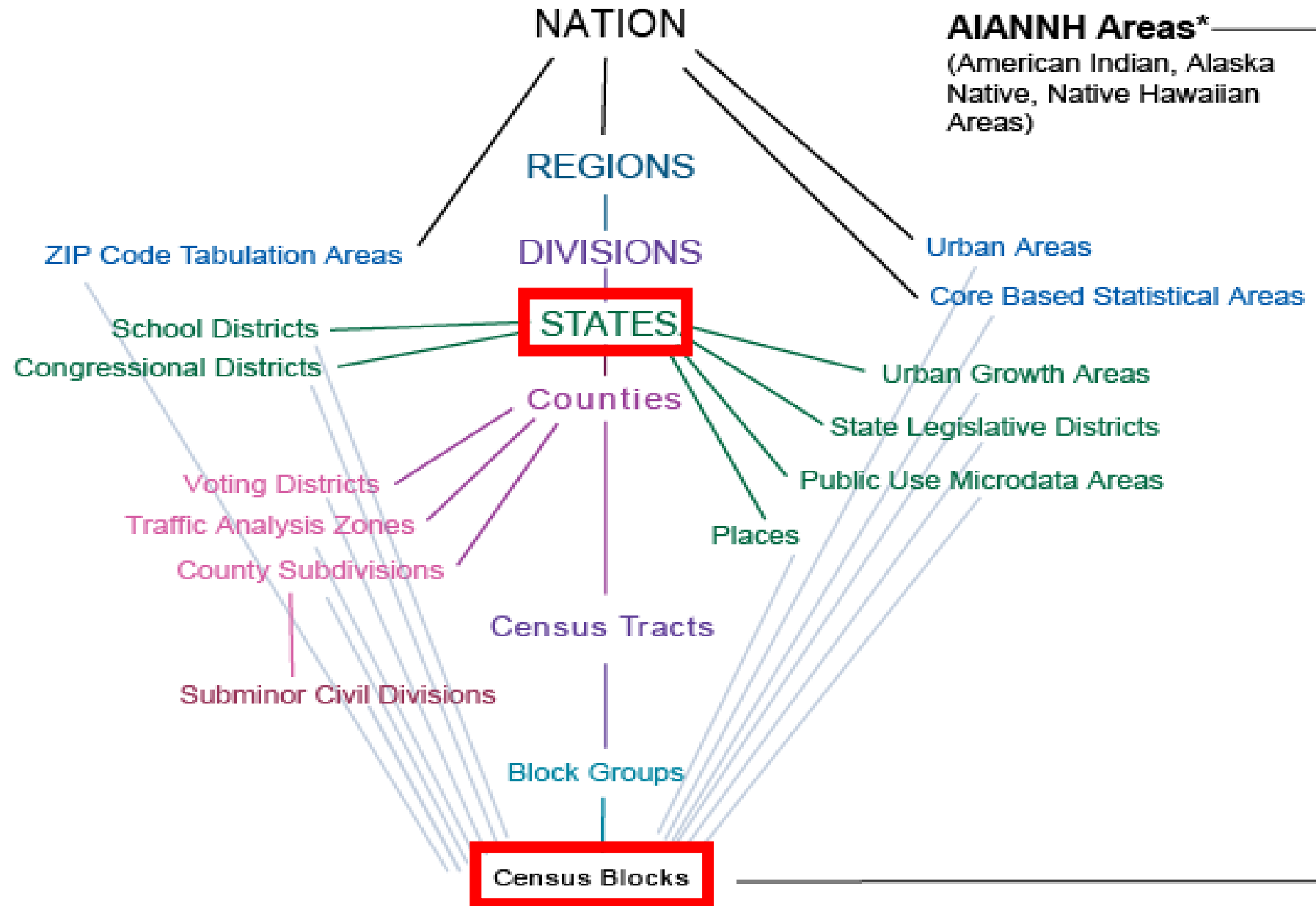
2020 Census Disclosure Avoidance System/Differential Privacy

- Title 13 of the US Code requires the US Census Bureau to protect the confidentiality of Census responses. That task changes in response to changes in technology.
- DAS injects noise (privacy loss budget) into the data to protect privacy.

PLB - 0 Perfect Privacy/No Data	PLB - 19.61 2020 Census Redistricting	PLB - Infinity Complete Data/No Privacy
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- Total state population, census block housing unit and GQ structures are invariant
- Census block data are very fuzzy. Use larger geographies or group smaller ones.
- See the Census Bureau DAS site for details
<https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html>

Standard Hierarchy of Census Geographic Entities



Disclosure Avoidance by George Seurat



Census Block

Census Tract



Parade de Cirque, 1887-1888

State



2020 Census Data and The Story of US

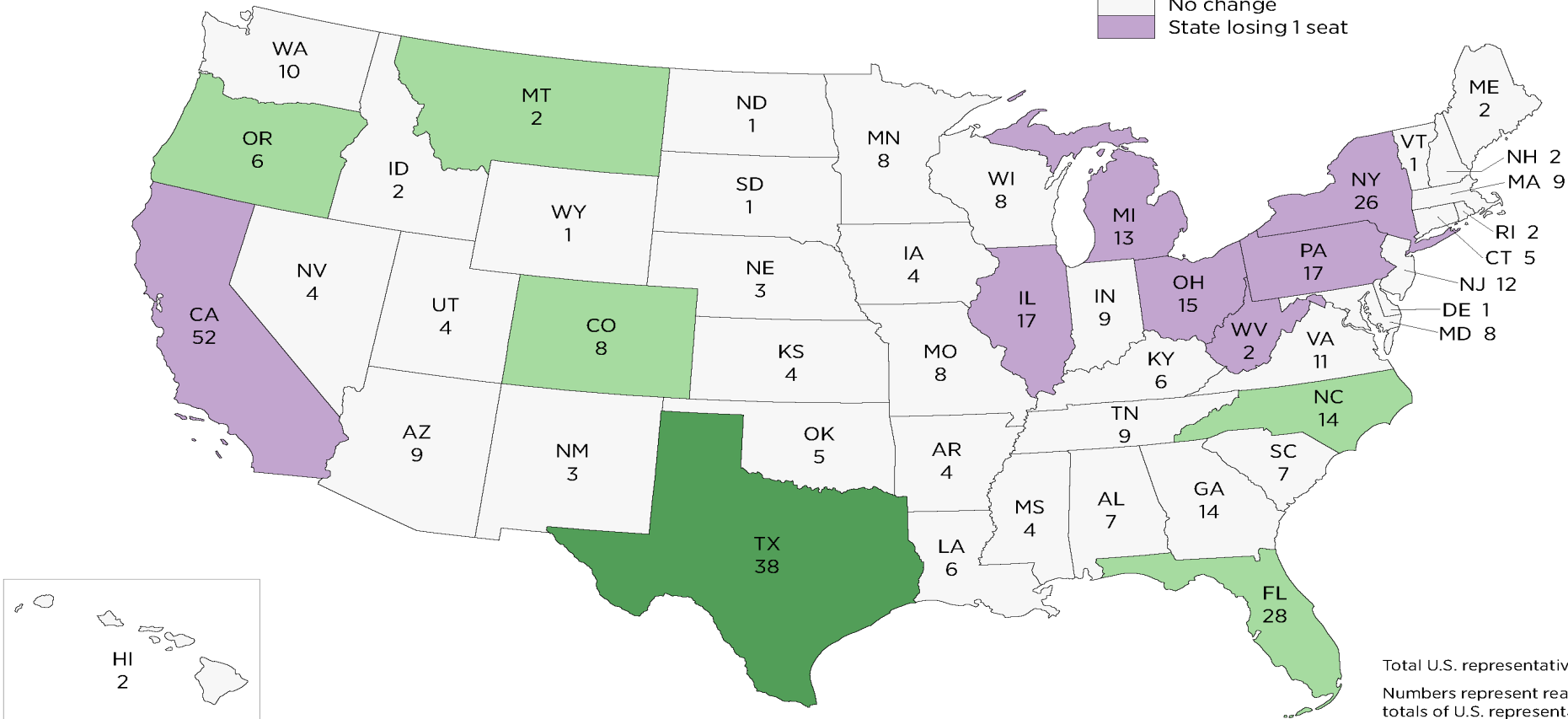


Apportionment of the U.S. House of Representatives Based on the 2020 Census



Change from 2010 to 2020

- State gaining 2 seats
- State gaining 1 seat
- No change
- State losing 1 seat



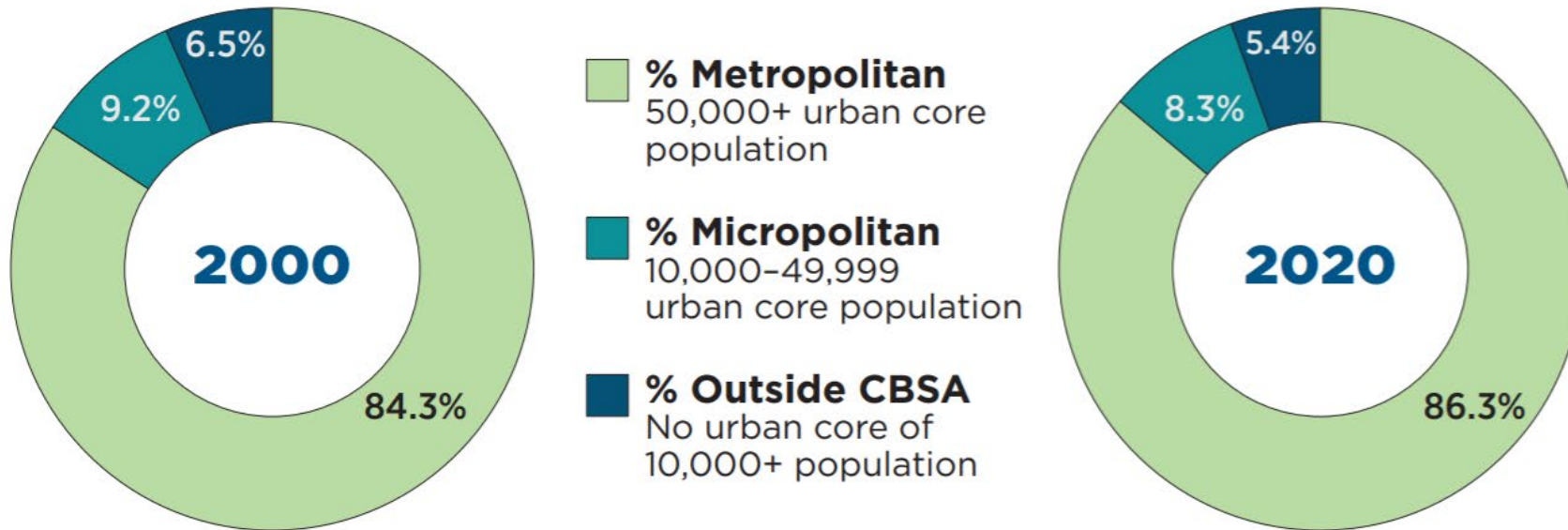
Total U.S. representatives: 435
Numbers represent reapportioned totals of U.S. representatives.

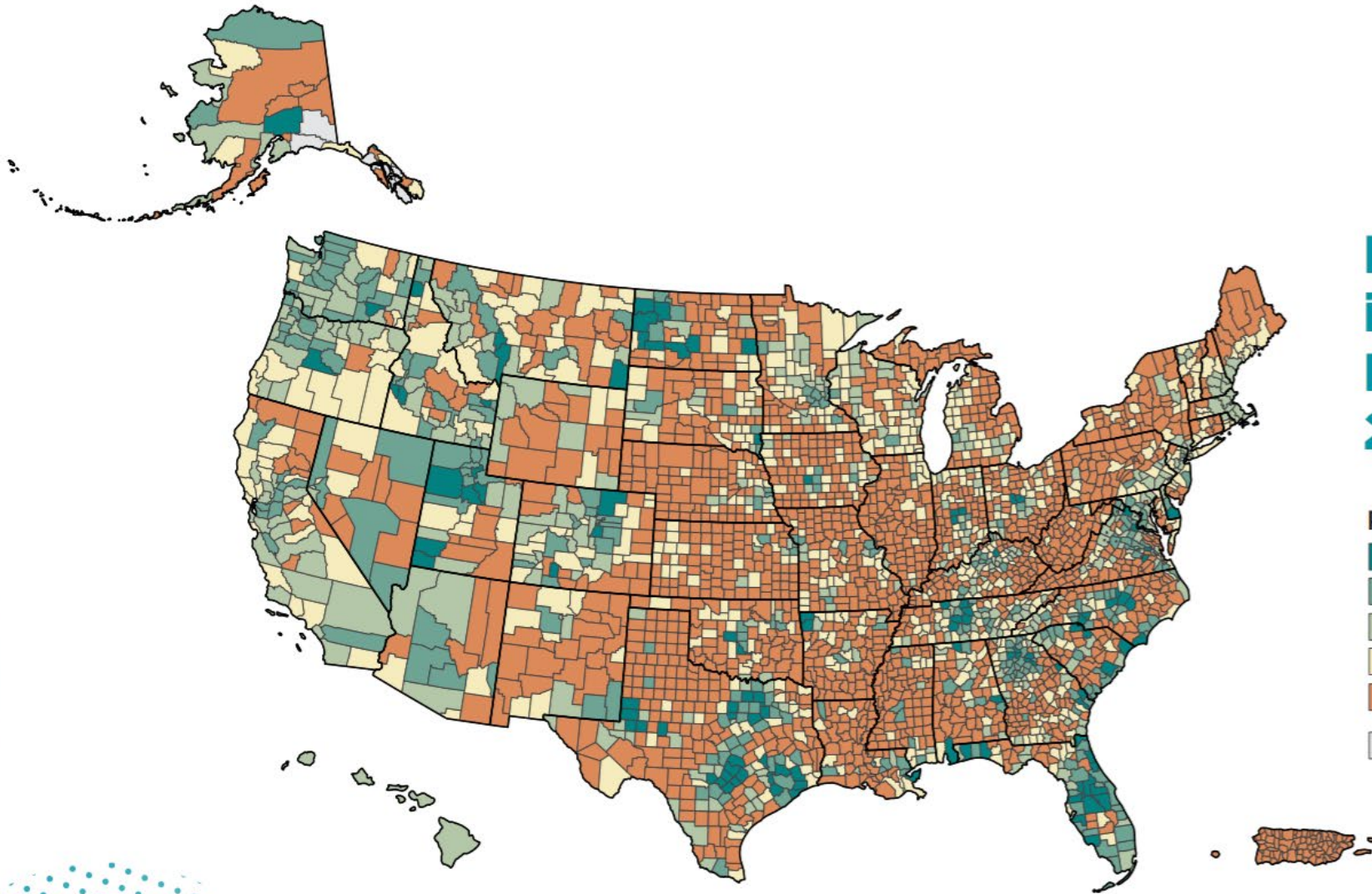


2020 Census Redistricting Data

- The nation's population grew by 22.7 million from 2010 to 2020, but the 7.4% growth rate was the lowest since the Great Depression.
- Population growth was mostly in Metropolitan areas
 - Metro area population grew by 8.7%
 - Micro area population grew by 0.8%
 - Non-Metro or Micro area populations decreased by 2.8%
- 52% of the nation's counties lost population over the last decade
- Diversity is increasing

Share of U.S. Population by Core Based Statistical Area (CBSA) Type: 2000 and 2020





Percent Change in County Population: 2010 to 2020

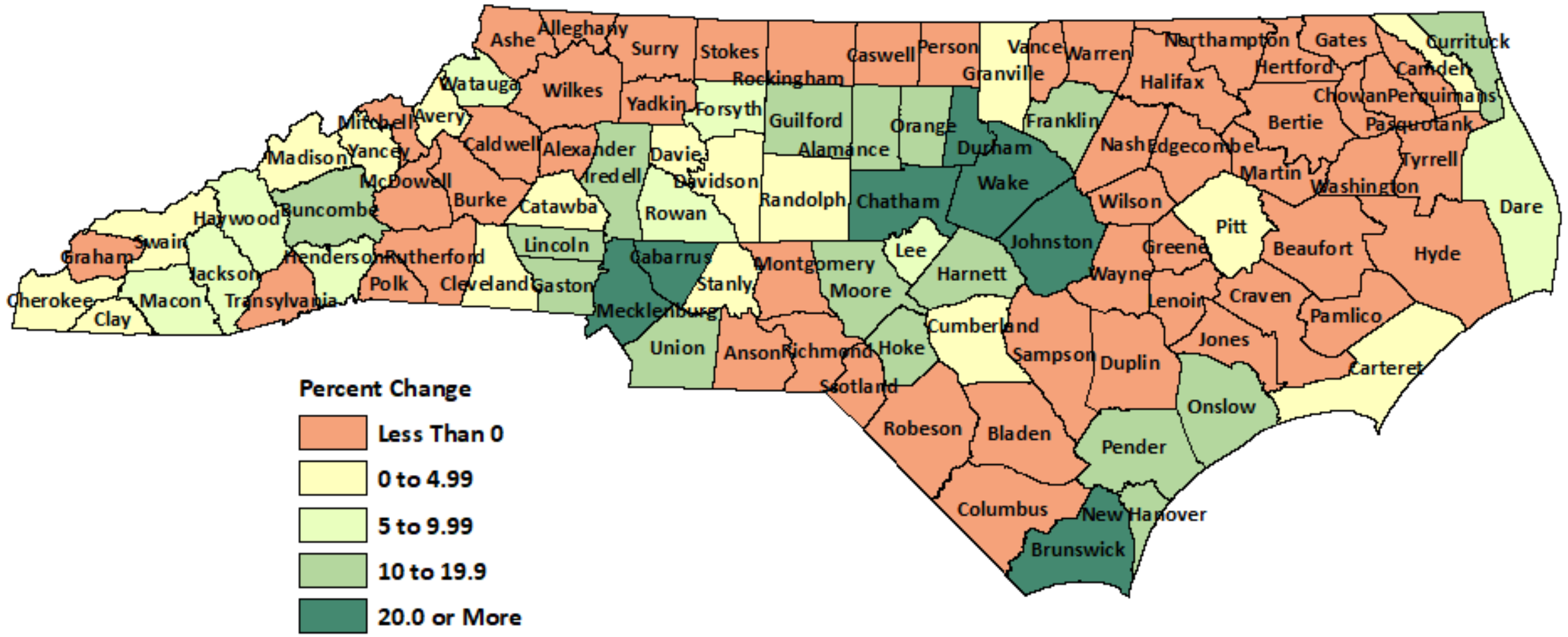
Percent change

- 20.0 or more
- 10.0 to 19.9
- 5.0 to 9.9
- 0.0 to 4.9
- Less than 0.0
- Comparable data not available

United States®
Census
2020

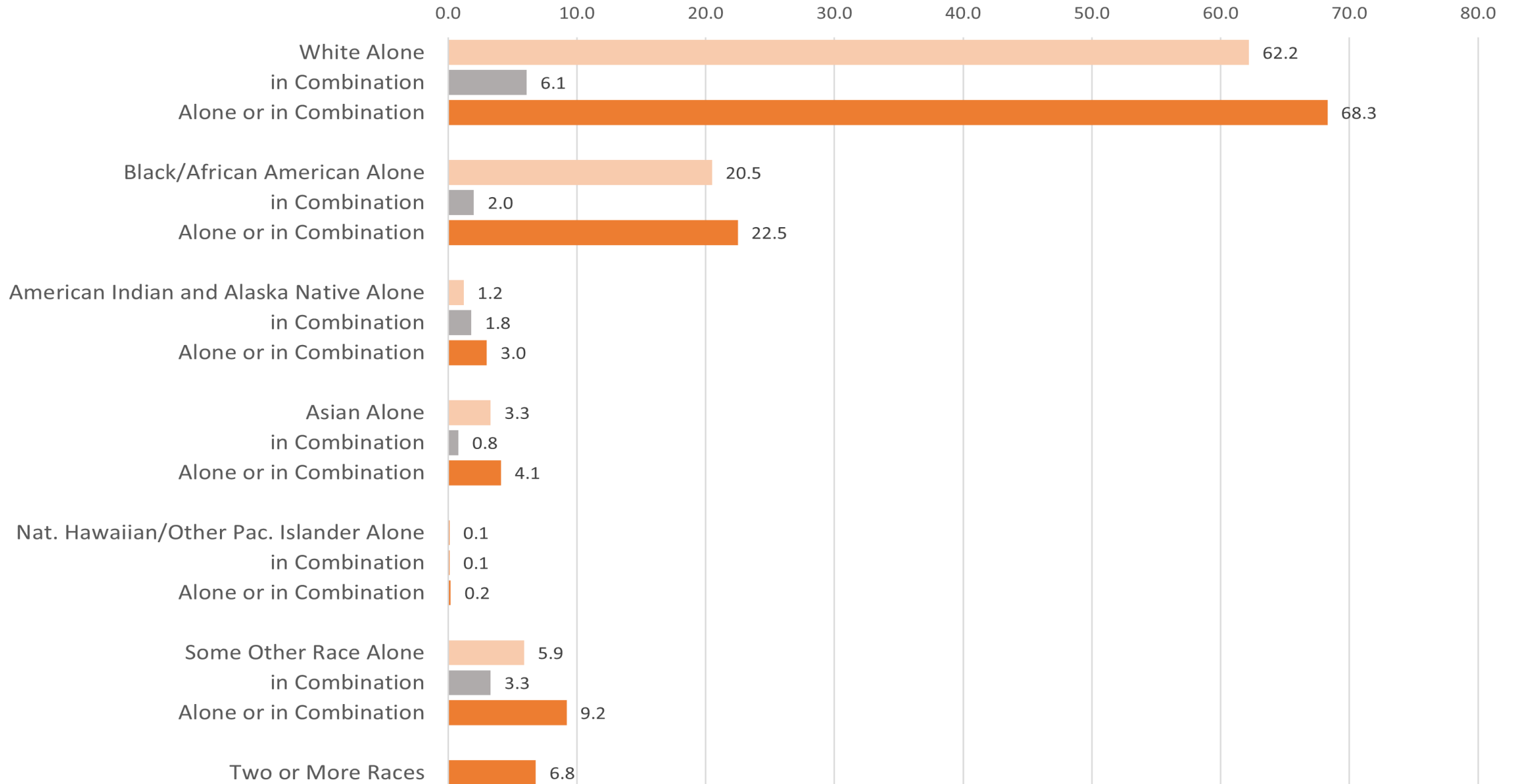
2010 - 2020 Percent Change in the Total Population for North Carolina Counties

Source: US Census Public Law 94-171 (Redistricting) data, US Census Bureau



Produced by NC Office of State Budget and Management

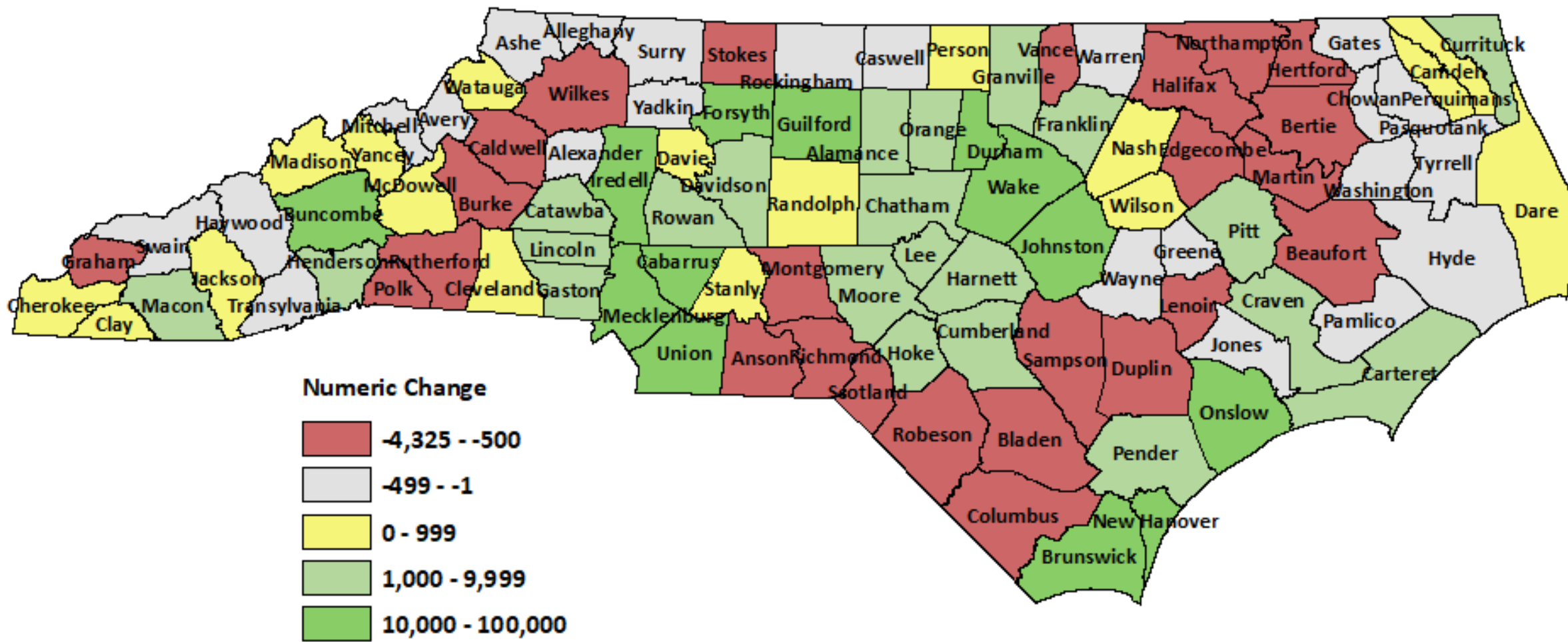
2020 Census Population by Race - North Carolina



Hispanic Origin of Any Race – 10.7%

2010 - 2020 Change in Housing Units

Source: US Census Public Law 94-171 (Redistricting) data, US Census Bureau



Produced by NC Office of State Budget and Management



2020 Census Challenges





2020 Census Challenges – Count Question Resolution (CQR) Program

- CQR program run January 2022 – June 2023
- Local governments may only challenge 2020 Census counts based on

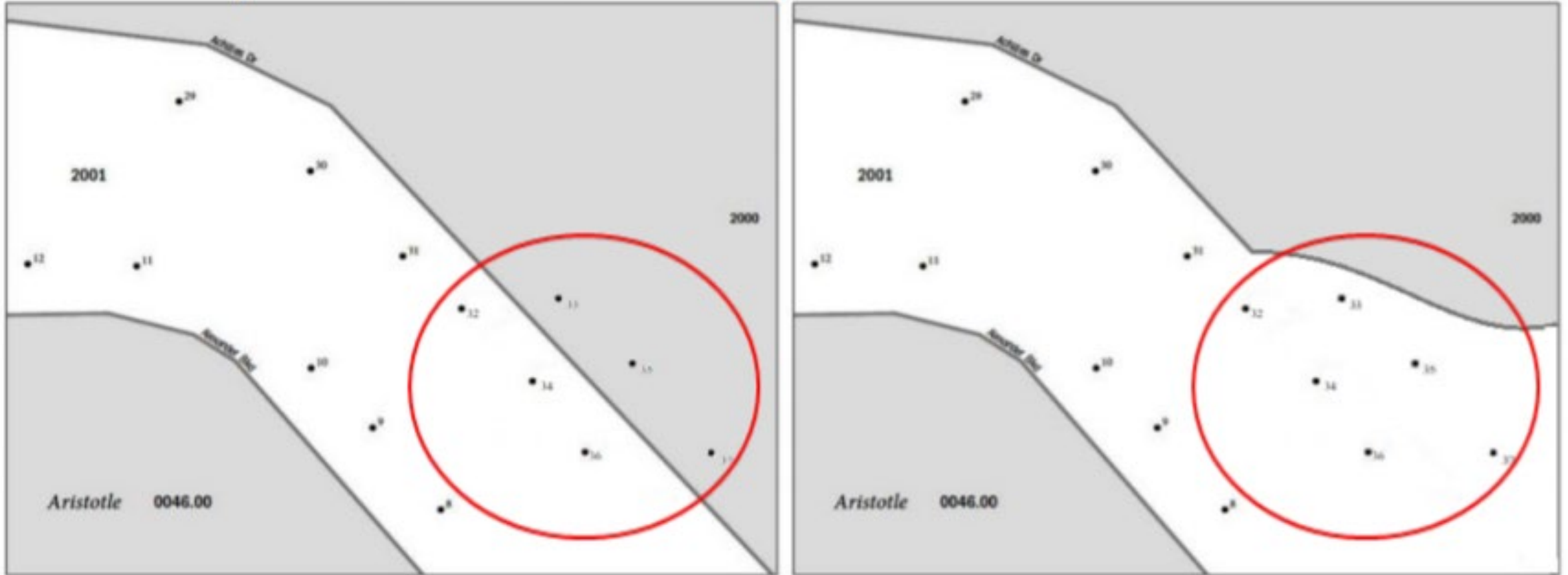
Boundary	Incorrect boundaries were used
Geocoding	Housing units or GQs were counted in the wrong place (inside/outside town limits)
Coverage	Housing units or GQs in an area were not counted

- Federal Register Notice released October 29, 2021
<https://www.federalregister.gov/documents/2021/10/29/2021-23567/agency-information-collection-activities-submission-to-the-office-of-management-and-budget-omb-for>
- Current CQR website
<https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/evaluate/cqr.html>



Count Question Resolution (CQR) – Boundary Challenge

Boundary case correction example:

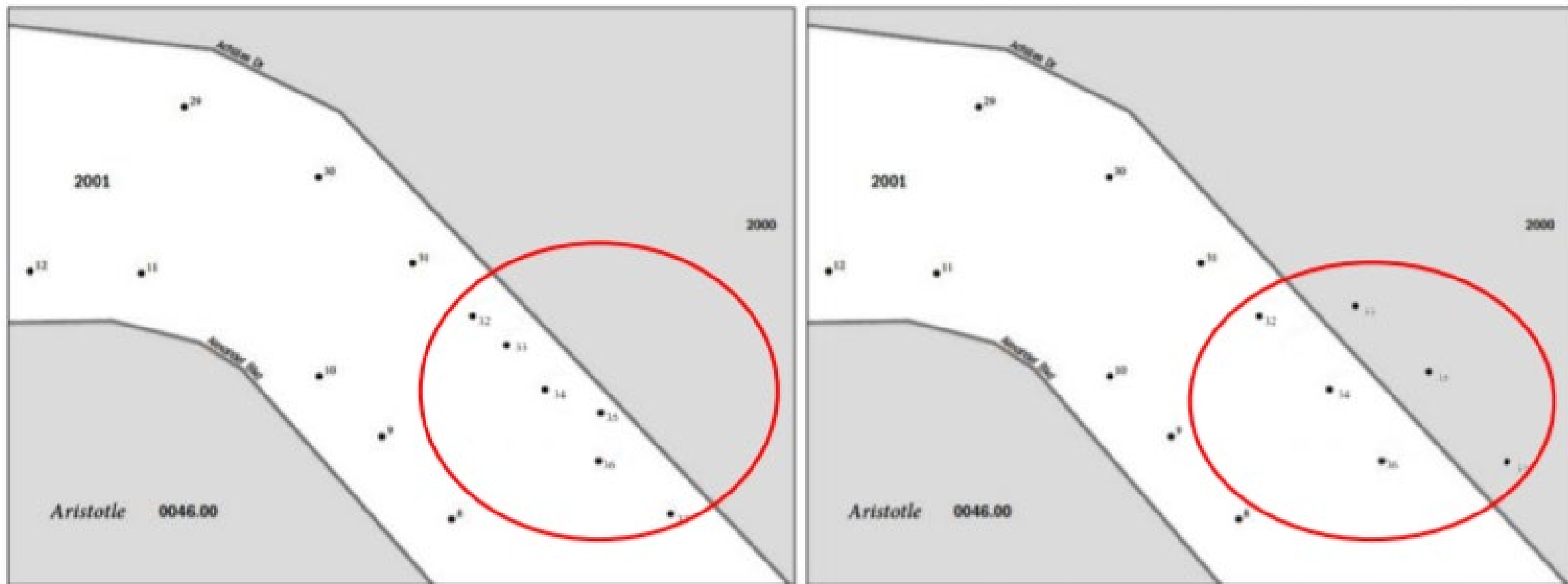


Boundaries legally in effect on January 1, 2020



Count Question Resolution (CQR) – Geocoding Challenge

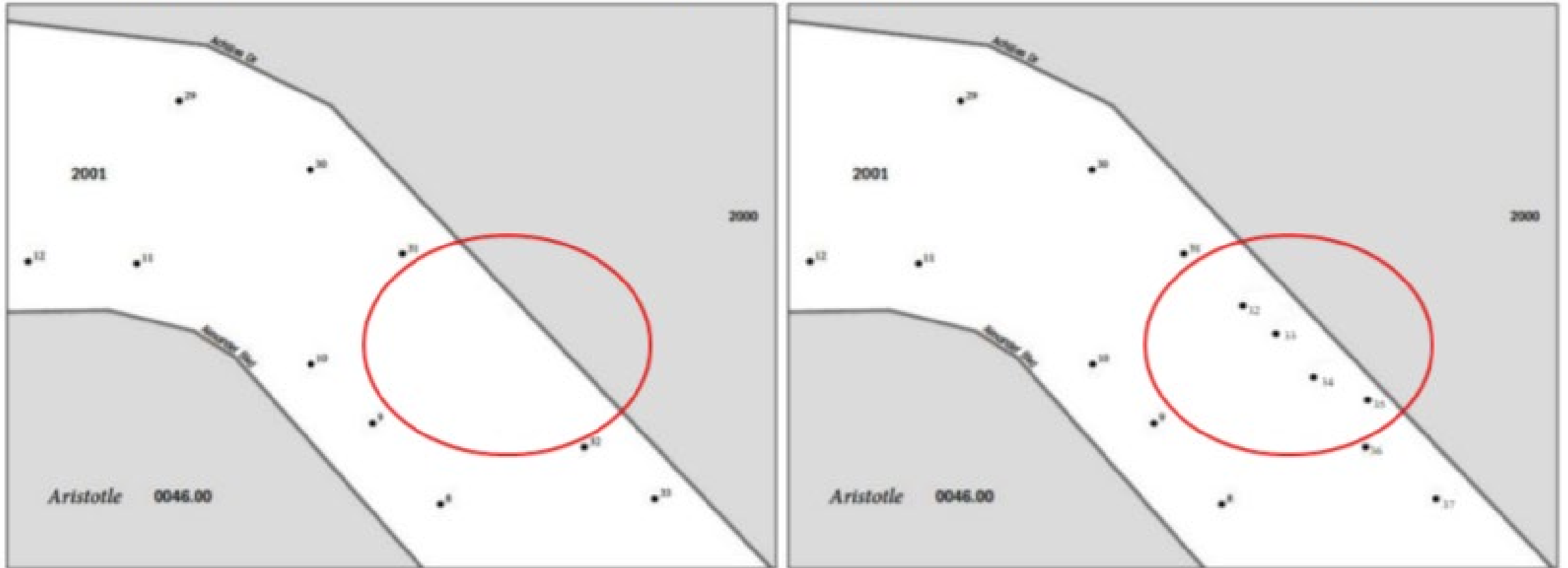
Living Quarter Count case, Geocoding correction example:





Count Question Resolution (CQR) – Coverage Challenge

Living Quarter Count case, Coverage correction example:





Review and Challenge Strategy

- Focus on structure count, location, and occupancy
- Verify Census boundary with boundary in effect on January 1, 2020 and housing/Group Quarter structure count as of April 1, 2020 with local records.
- Census block level count of housing unit and group quarters structures

US Census Bureau	https://www.census.gov/geographies/reference-files/2020/geo/2020addcountlisting.html
NC Office of State Budget and Management	https://linc.osbm.nc.gov/explore/dataset/nchu_gq_counts_9_20_21



Analysis Resources – Census Block Housing Unit & Group Quarters Count

[Home](#)[Data](#)[Map](#)[Chart](#)[Help](#)[Contact](#)[Back office](#)[Bob Coats](#)[Logout](#)

1,468 records

Active filters [Clear all](#)

Area Lee

Filters

Area

Alamance	3,594
Alexander	919
Alleghany	704
Anson	1,310
Ashe	1,138
Avery	948

Census 2020 Block Housing Unit & Group Quarters Facility Counts

[Edit](#)

[Information](#)
[Table](#)
[Analyze](#)
[Export](#)
[API](#)

	Area	TRACT	BLOCK	BLOCK_GEOID	TOTAL HOUSING UNITS	TOTAL GROUP QUARTERS
1	Lee	0301.01	1003	371050301011003	0	0
2	Lee	0301.01	1009	371050301011009	16	0
3	Lee	0301.01	1010	371050301011010	0	0
4	Lee	0301.01	1011	371050301011011	4	0
5	Lee	0301.01	1027	371050301011027	5	0
6	Lee	0301.01	1028	371050301011028	81	0
7	Lee	0301.01	1030	371050301011030	12	0
8	Lee	0301.01	2008	371050301012008	14	0
9	Lee	0301.01	2012	371050301012012	13	0
10	Lee	0301.01	2019	371050301012019	29	0
11	Lee	0301.01	2021	371050301012021	14	0

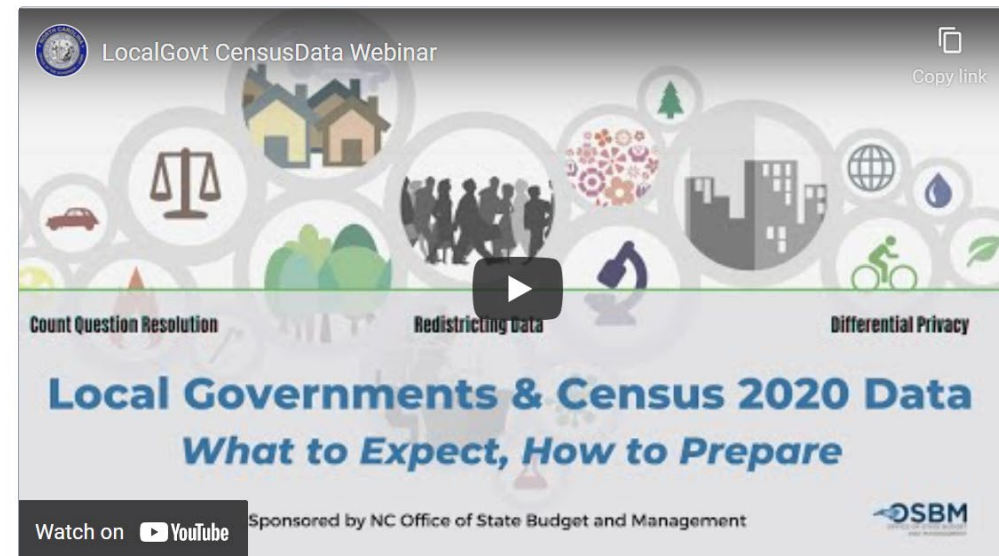


Details Available in Recorded Webinars

- NC OSBM May Event with Census experts on Redistricting, DAS, and the Count Question Resolution program
- <https://www.osbm.nc.gov/facts-figures/population-demographics/nc-census-data/local-government-webinars>

Local Government Webinars

On May 26, 2021 OSBM hosted a webinar about Census 2020 data. Guest speakers from the US Census Bureau presented on when and what to expect from redistricting data, how disclosure avoidance will protect privacy and influence data products, and the Count Questions Resolution process.



NC Census Data

[April 2000 County Census Populations](#)

[Census 2000 County/State Densities/Areas](#)

[County Census Populations - 1990-2000](#)

Local Government Webinars

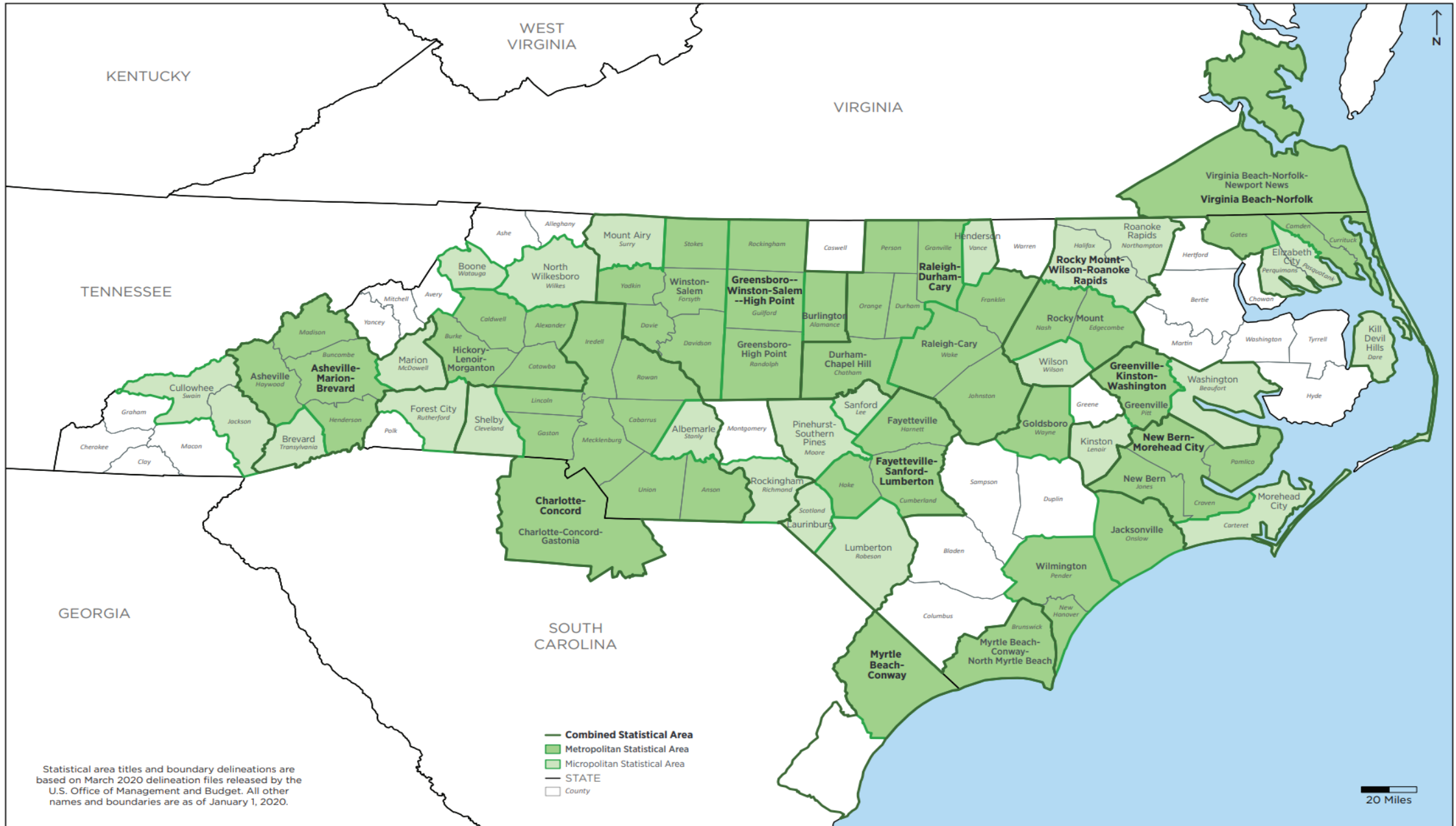


Core Based Statistical Areas (CBSA) Revision

- CBSAs can be either Metropolitan (50,000 + core) or Micropolitan (10,000 – 50,000 core) Statistical Areas.
- CBSAs are revised every 10 years after the release of the decennial census data and the conclusion of the CQR program.
- CBSAs are made up of the core area's home county and neighboring counties with a high degree of integration with the core.
- Criteria are posted online and remain essentially the same as 2010.

North Carolina: 2020 Core Based Statistical Areas and Counties

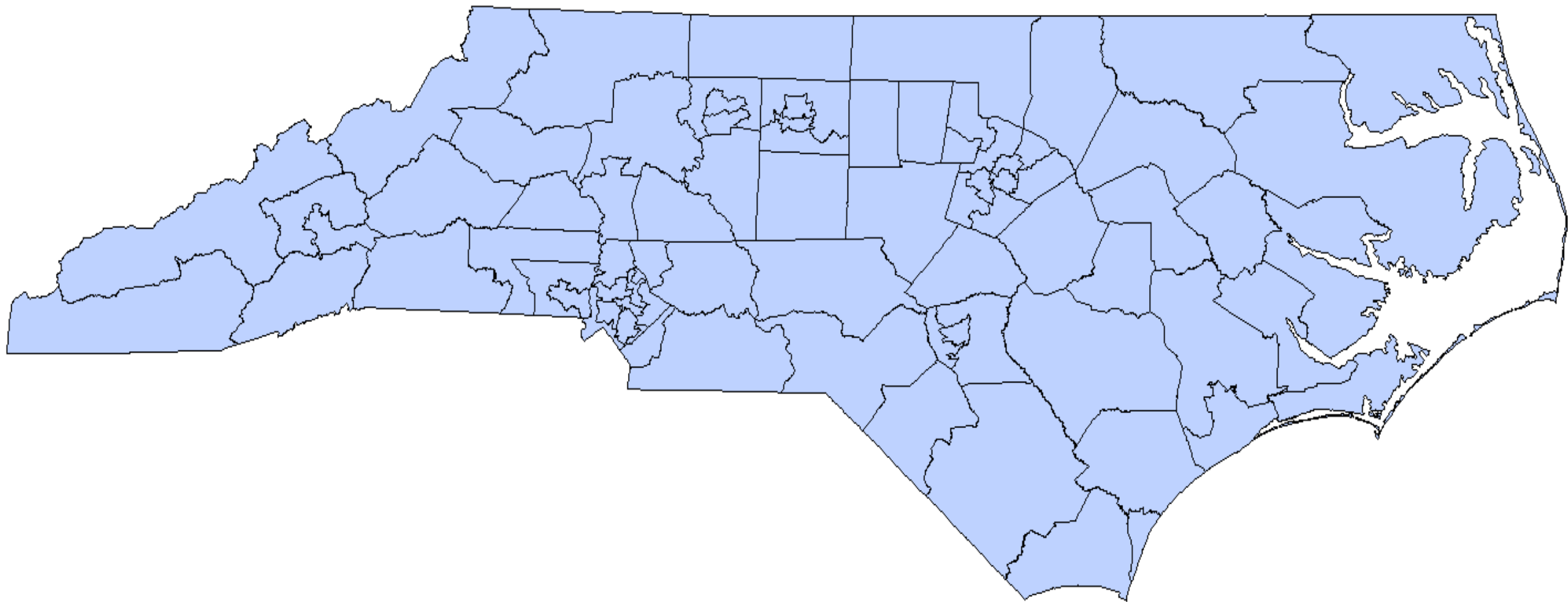
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Statistical area titles and boundary delineations are based on March 2020 delineation files released by the U.S. Office of Management and Budget. All other names and boundaries are as of January 1, 2020.



2010 North Carolina PUMAs





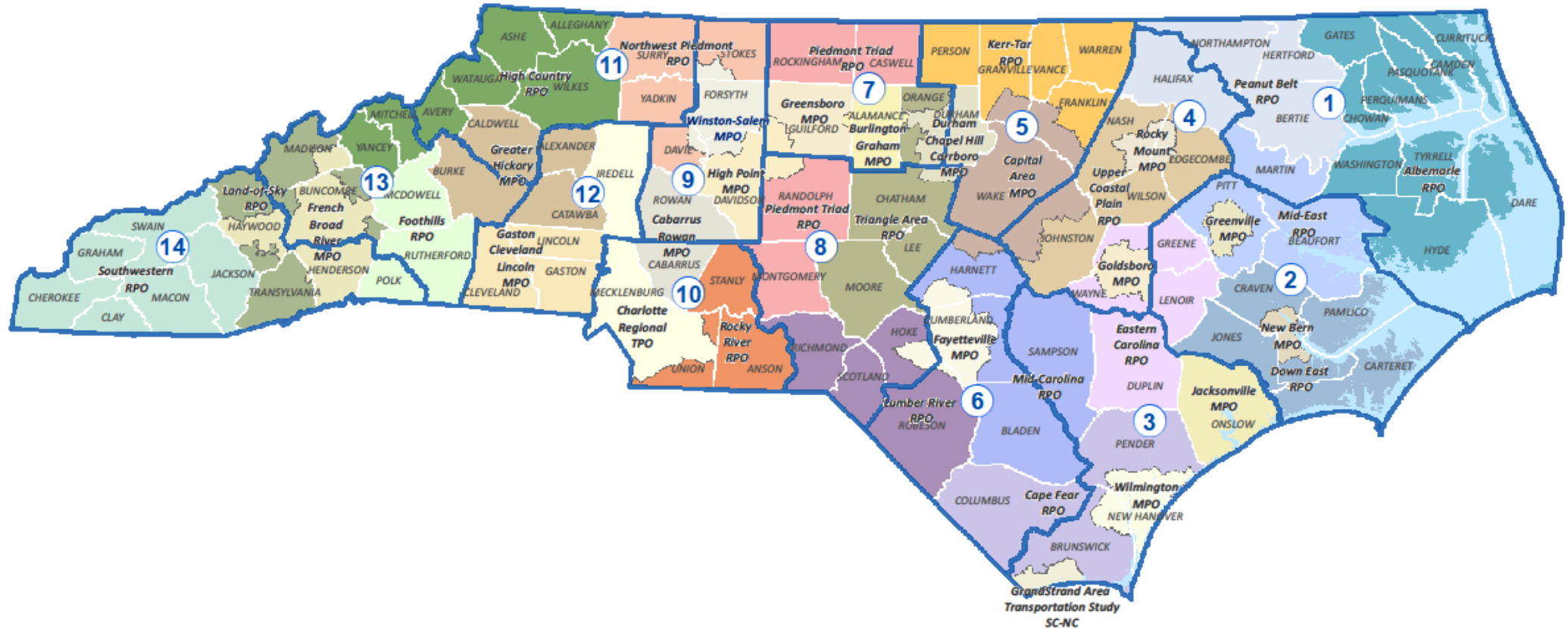
Contact



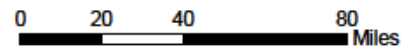
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984-236-0687
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North Carolina State Data Center
Demographic and Economic Analysis Section
NC Office of State Budget and Management

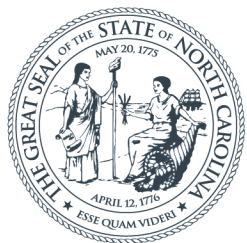
North Carolina Metropolitan and Rural Planning Organizations With NCDOT Divisions Boundaries



NCDOT Divisions

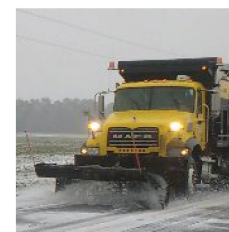
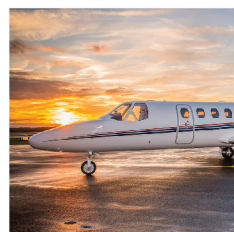


Map Created By
NCDOT Transportation Planning Division
August 2021



NORTH CAROLINA

Department of Transportation



Questions?

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Multimodal Innovations Webinar Series

Future Topics



- Covid & Transit Recovery
- Bicycle & Pedestrian Integration
- Equity in Transit & Transportation
- GIS Integration
- Complete Streets
- Transit Planning 101
- Outreach & Communication
- Legislative Round Table
- Grant Writing
- Facility Planning
- ADA Integration
- Multimodal & Land Use Connection