

Appendix

By Rebecca Tippet

2000 Census Data in 2011 Congressional District Boundaries

Carolina Demography developed Census 2000 data for current congressional district boundaries through the following steps:

- 1) Obtained detailed demographic data from the Census SF1 for each NC block for 2000.
 - a. Total Population
 - b. Total Population by Age & Sex
 - c. Total Population by Age & Sex & Race
 - d. Total Population by Age & Sex & Hispanic Origin

These data were obtained from the [National Historical Geographic Information System](#).

- 2) Bridged 2000 Census data into 2010 Census geographies using the U.S. Census [Bureau's 2010 Block Relationship Files](#) (Census 2000 tabulation census block to 2010 Census tabulation block).
- 3) Assigned blocks to appropriate US House of Representatives districts according to the [2016 Contingent Corrected Plan \(Corrected\)](#) block assignment files.
- 4) Aggregated demographic data detailed in item #1 each congressional district.

2020 Projections Data & Methodologies

- 1) **2020 projections based on linear extrapolation of population change between the 2000 Census and the 2010 Census.** The total population for each of the 13 congressional districts was projected to 2020 using linear extrapolation based on the past 10 years of population change:

$$Pop_{2020} = Pop_{2010} + (Pop_{2010} - Pop_{2000})$$

These projections were controlled to the most recent [state population projection for 2020](#) from the State Demographer at North Carolina's Office of State Budget and Management: 10,574,718 according to projections updated in October 8, 2015.

- 2) **2020 projections based on linear extrapolation of population change between April 1, 2010 and the Carolina Demography-produced 2014 population estimates** (centered on July 1, 2014). The total population for each of the 13 congressional districts was projected to 2020 using linear extrapolation based on the average annual change that occurred between 2010 and 2014:

Updated: All NC congressional districts will require adjustment in 2021 redistricting

$$Pop_{2020} = Pop_{2010} + \left(\frac{(Est_{2014} - EstBase_{2010})}{4.25} \right) * 10$$

These projections were controlled to the most recent 2020 state population projection.

- 3) **2020 projections based on share-of-growth projections based on population change between 2000 and 2010 and the 2020 county population projection.** The district's proportion of each county's growth between 2010 and 2020 is assumed to be proportional to its share of the county's population growth between 2000 and 2010. For each district/county intersection, the 2014 population estimate was calculated as:

$$PPop_{2020} = PPop_{2010} + \left(\frac{PPop_{2010} - PPop_{2000}}{CPop_{2010} - CPop_{2000}} \right) \times (CPop_{2020} - CPop_{2010})$$

In the above equation, PPop refers to the population of each part of the district in a given county, and CPop refers to the county population.

The total population estimates for each district for 2014 is equivalent to the sum of the estimates for all of the district's individual district/county intersections.

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