

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 Rucho-Lewis Congress 3 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 U.S. Census Bureau's 2014 American Community Survey (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:

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

All congressional district boundaries will require adjustment in 2021 redistricting

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

We also considered total population projections produced with the Hamilton-Perry method. However, an examination of the projected population suggested that the Hamilton-Perry method may be prone to distortion for rapidly growing areas, such as District 9. It remains a useful method for projecting population characteristics, but must be used in conjunction with a control for total population that is produced through an alternate method.

For additional information, or to purchase projections data, please contact Dr. Rebecca Tippett, at rtippett@unc.edu or (919) 962-6151.