3-23-2021

Nevada Population Density Maps, 2015 - 2019

Jaewon Lim
University of Nevada, Las Vegas, jaewon.lim@unlv.edu

Caitlin J. Saladino
Brookings Mountain West & The Lincy Institute, caitlin.saladino@unlv.edu

William E. Brown Jr.
Brookings Mountain West, william.brown@unlv.edu

Follow this and additional works at: https://digitalscholarship.unlv.edu/bmw_lincy_demography

Part of the Growth and Development Commons, Human Geography Commons, Public Policy Commons, and the Urban Studies Commons

Nevada Population Density Maps, 2015 - 2019
Demography Fact Sheet No. 16 | March 2021
Prepared by: Jaewon Lim, Caitlin J. Saladino, and William E. Brown, Jr.

PURPOSE:

This fact sheet reports the population distribution for the 687 census tracts in the State of Nevada between 2015 and 2019. Mapping population distribution by census tract can misrepresent population density. Oftentimes, in rural regions with low population density, large census tracts are home to a small number of people. Likewise, urban cores have many small census tracts, each with high population density. Using a method for constructing density-equalizing projections, or cartograms (i.e. maps that show statistical information in diagrammatic form) by Mark Newman and Michael Gastner at the University of Michigan,[1] the constructed maps in this fact sheet better visualize population density among the 687 census tracts in Nevada. The illustrations provided allow for the comparison of a simple choropleth population distribution map -- which displays numerical data using a color gradient -- and a cartogram,[2] which utilizes density-equalizing projections[3] to demonstrate population density in Nevada and how population density differs by age-cohorts.

ABOUT THE DATA:

This fact sheet utilizes population size data from the 2015-2019 American Community Survey (ACS) 5-year estimates produced by the U.S. Census Bureau. The ACS 5-year estimates utilize raw data collected over a period of time in estimating various socioeconomic, demographic, and housing characteristics of population in the U.S. This fact sheet explores census tract level data for total population, and population sizes for age cohorts: 15 to 44 years old, and 65 years and older.

KEY FINDINGS:

1. Between 2015 and 2019, population distribution among the 687 census tracts in Nevada is largely uneven.

2. The two main population centers are the Las Vegas-Henderson-Paradise, NV MSA (Metropolitan Statistical Area) in Southern Nevada, and the combined area of the Reno MSA and the Carson City MSA in Northern Nevada; there is an imbalance between the two population centers of Nevada.

3. Most densely population census tracts are located in the periphery of the urban cores of Southern Nevada, while only a few census tracts within the urban cores in Northern Nevada have slightly higher than average population size.

4. The concentration of higher density census tracts for 15-44 age cohorts in Southern Nevada is more noticeable, whereas the population density for 65 years and older age cohort is balanced between two population centers of Nevada.
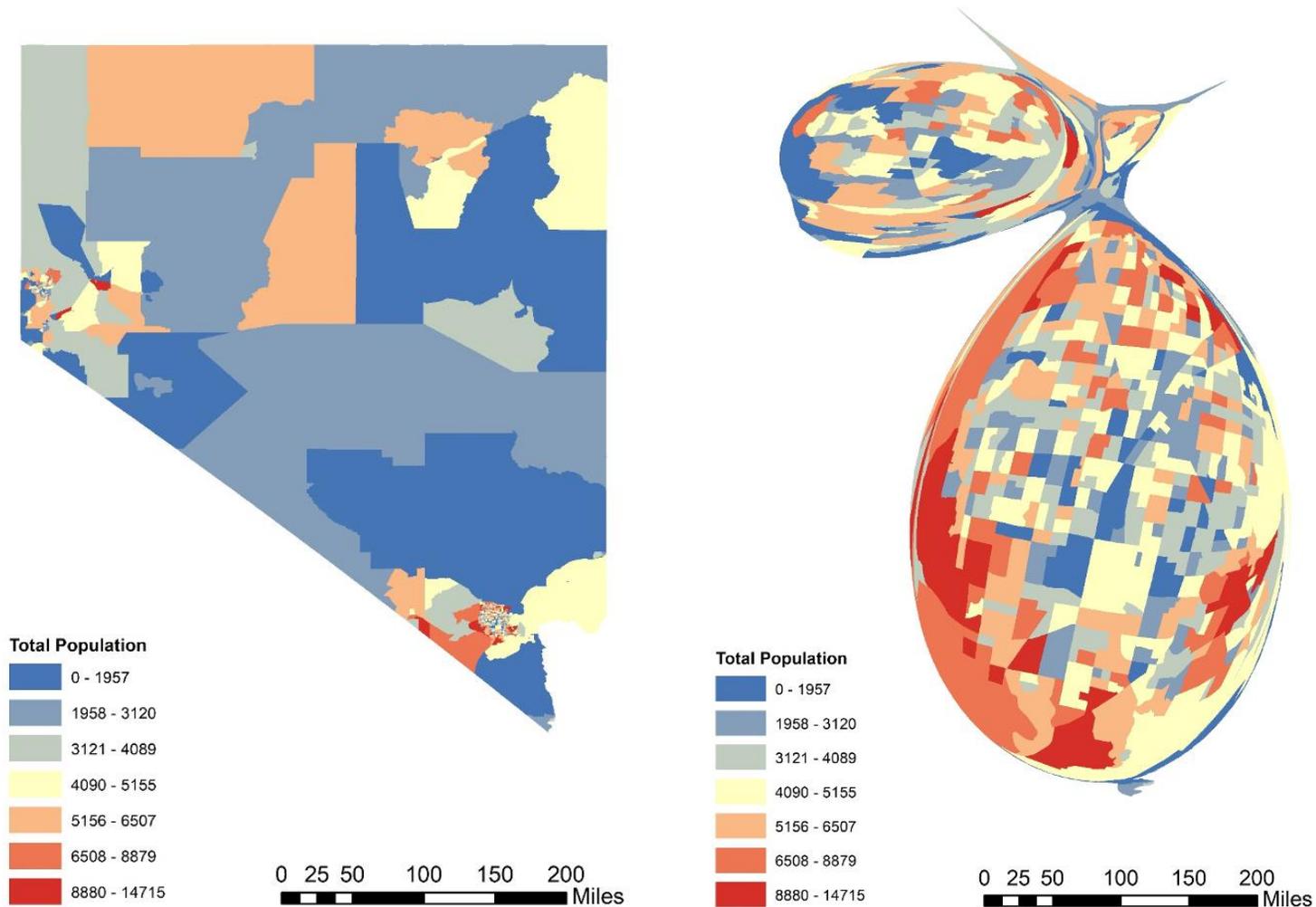
---

[1] Gastner, M. T., & Newman, M. E. 2004. Diffusion-based method for producing density-equalizing maps. *Proceedings of the National Academy of Sciences, 101*(20), 7499-7504. (https://doi.org/10.1073/pnas.0400280101)

[2] The cartogram was developed using the Cartogram Geoprocessing tool for ArcGIS Desktop created by Tom Gross of Esri and is available from the Esri ArcScripts site. See Esri AcrScripts website (www.esri.com/arcscripts)

[3] The tool utilizes density-equalizing methodology by Michael Gastner and Mark Newman. This technology is able to balance between appropriate density equalization and low distortion of geographic regions.

Image 1 shows two maps of the population distribution in the State of Nevada. The map on the left (a choropleth map) illustrates Nevada's population size, color-coded by census tract. The map on the right (a cartogram density equalizing projection map) displays census tracts in a size proportional to the number of residents living in each tract, again with color-coded gradients to reflect the density of population.

Image 1: Nevada Population by Census Tract, 2015 - 2019

Total Population

- 0 - 1957
- 1958 - 3120
- 3121 - 4089
- 4090 - 5155
- 5156 - 6507
- 6508 - 8879
- 8880 - 14715

0 25 50 100 150 200 Miles

Total Population

- 0 - 1957
- 1958 - 3120
- 3121 - 4089
- 4090 - 5155
- 5156 - 6507
- 6508 - 8879
- 8880 - 14715

0 25 50 100 150 200 Miles

*Adapted from U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2015-2019, Nevada Counties, *n* = 687

Image 2 shows two maps of the population distribution in the State of Nevada. The map on the left (a choropleth map) illustrates Nevada's population aged 15 to 44 years old, color-coded by census tract. The map on the right (a cartogram density equalizing projection map) displays census tracts in a size proportional to the number of residents aged 15 to 44 years old living in each tract, again with color-coded gradients to reflect the density of population.
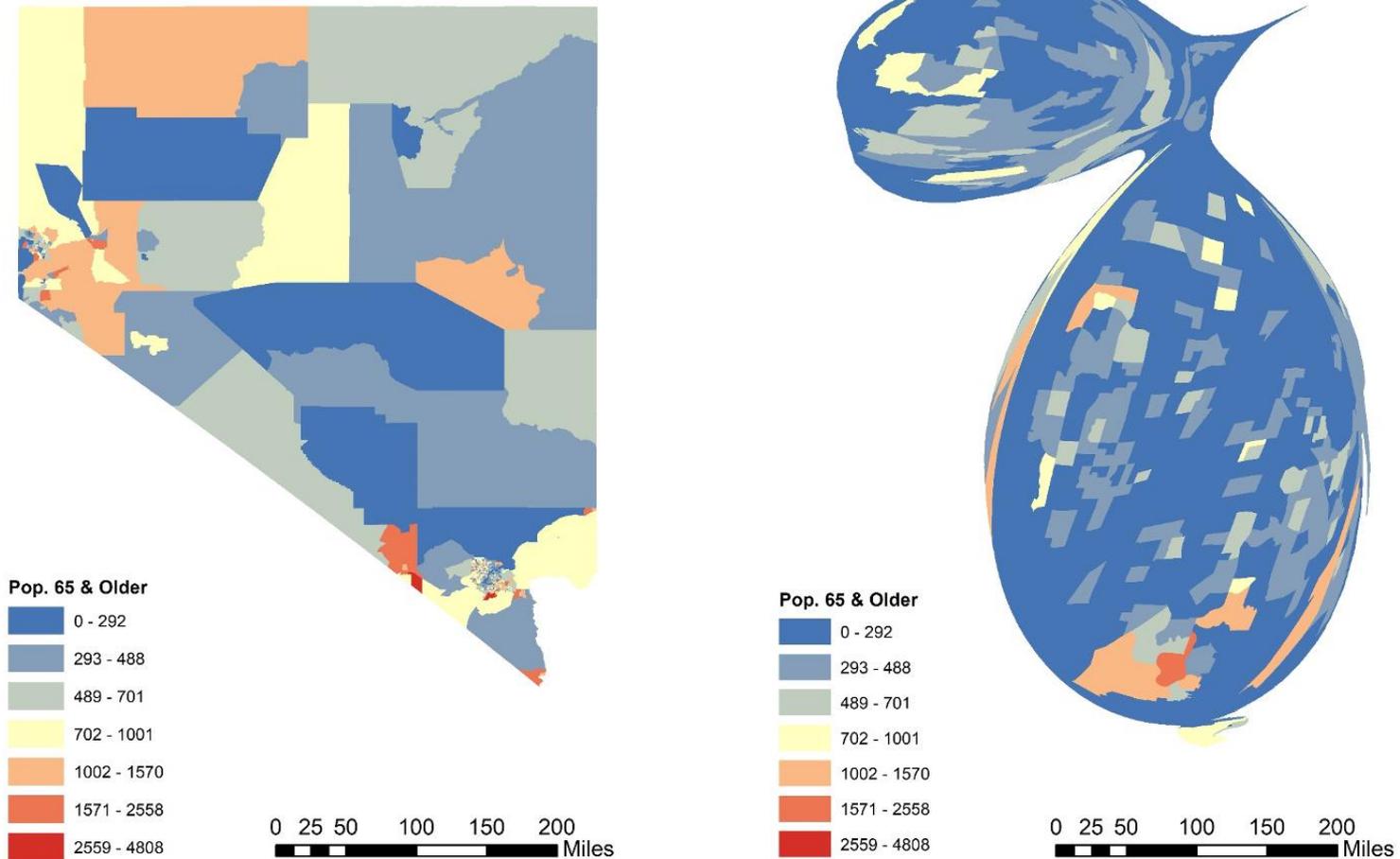
Image 2: Nevada Population Aged 15 to 44 Years Old, by Census Tract, 2015 - 2019
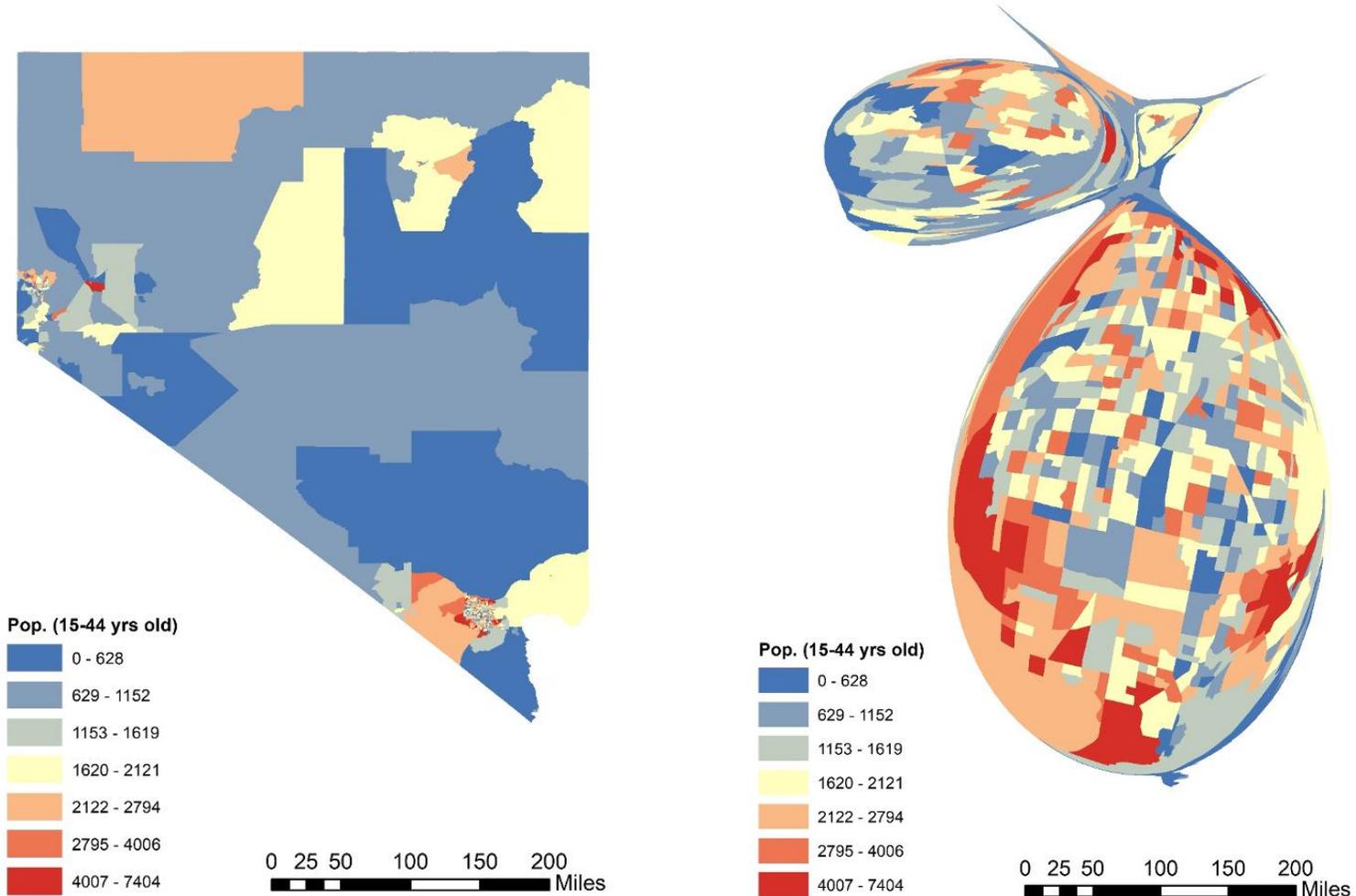
Pop. (15-44 yrs old)

- 0 - 628
- 629 - 1152
- 1153 - 1619
- 1620 - 2121
- 2122 - 2794
- 2795 - 4006
- 4007 - 7404

0 25 50 100 150 200 Miles

Pop. (15-44 yrs old)

- 0 - 628
- 629 - 1152
- 1153 - 1619
- 1620 - 2121
- 2122 - 2794
- 2795 - 4006
- 4007 - 7404

0 25 50 100 150 200 Miles

*Adapted from U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2015-2019, Nevada Counties, *n* = 687

Image 3 shows two maps of the population distribution in the State of Nevada. The map on the left (a choropleth map) illustrates Nevada's population aged 65 years and older, color-coded by census tract. The map on the right (a cartogram density equalizing projection map) displays census tracts in a size proportional to the number of residents aged 65 years and older living in each tract, again with color-coded gradients to reflect the density of population.

Image 3: Nevada Population Aged 65 Years and Older, by Census Tract, 2015 - 2019

*Adapted from U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2015-2019, Nevada Counties, *n* = 687

4