

Method Name: Geography Methods**Measure(s) Using This Method:**

Access to Financial Services, Alcohol Outlet Density, Alcohol-Related Mortality, Estimated Drug Poisoning Mortality, Housing Stress, Life Expectancy, Living Within a Half-Mile of a Park, Police Killings, Suicidal Ideation, Suicide Mortality, Third Places, Violent Crime, Voter Participation

Overview:

Geography methods were used to crosswalk data to the ZIP Code Tabulation Area (ZCTA) level for any measure not directly available at that level.

Definitions:

- **ZIP Code:** Postal Codes designated by the United States Postal Service. More information on ZIP Codes can be found on the United States Postal Service site.¹
- **ZIP Code Tabulation Area (ZCTA):** From the Census definition “ZIP Code Tabulation Areas (ZCTAs) are generalized areal representations of United States Postal Service (USPS) ZIP Code service areas.... The term ZCTA was created to differentiate between this entity and true USPS ZIP Codes. ZCTA is a trademark of the U.S. Census Bureau; ZIP Code is a trademark of the U.S. Postal Service.” More information on ZCTAs can be found on the Census website.²

Crosswalk Methods:

Crosswalk methods are necessary to align data reported at various geographic levels into a common geographic format. The relationships and hierarchy of census geographic boundaries can be found on the U.S. Census Bureau website.³

For overlapping boundaries, our methods generally prioritized using population weighted, then area weighted, and then unweighted approaches.

Census Tract to ZCTA Crosswalk

The Census Tract to ZCTA relationship file record (“zcta_tract_rel_10.txt”) for 2010 ZCTA delineations was downloaded from the U.S. Census Bureau website.⁴

Measures with original census tract level data are converted to the ZCTA level following this process:

¹ United States Postal Service. (2021, March 20). *ZIP Code™ – The Basics*. <https://faq.usps.com/s/article/ZIP-Code-The-Basics>

² United States Census Bureau. (2021, October 8). *ZIP Code Tabulation Areas (ZCTAs)*. <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/zctas.html>

³ United States Census Bureau. (2020, November). *Standard Hierarchy of Census Geographic Entities*. <https://www2.census.gov/geo/pdfs/reference/geodiagram.pdf>

⁴ United States Census Bureau. (2021, October 8). *2010 ZIP Code Tabulation Area (ZCTA) Relationship File Record Layouts*. <https://www.census.gov/programs-surveys/geography/technical-documentation/records-layout/2010-zcta-record-layout.html>

To aggregate census tract level data up to the ZCTA level, all data values from census tracts within the ZCTA are averaged using the proportion of the ZCTA population from that the census tract using the `ZPOPPCT` column.

County to ZCTA Crosswalk

The County to ZCTA relationship file record (“county_tract_rel_10.txt”) for 2010 ZCTA delineations was downloaded from the U.S. Census Bureau website.⁵

Measures with original county level data are converted into ZCTA following this process:

To map measures from the county level to the ZCTA level, all ZCTAs that are entirely contained within the county receive the county value. For ZCTAs that span across two or more counties, the county values are averaged using population weights, based on the proportion of the ZCTA population in each of the counties using the `ZPOPPCT` column.

ZIP Code to ZCTA Crosswalk

The ZIP Code to ZCTA Crosswalk for 2020 (“zip_to_zcta_crosswalk_2020.csv”) ZIP Codes were downloaded from the UDS Mapper site.⁶

Measures with original ZIP Code data are converted into ZCTA data following this process:

To map measures from the ZIP Codes to ZCTAs, all ZCTAs that have a 1:1 match to the ZIP Code are directly assigned the original ZIP Code value. For ZIP Codes that have many:1 relationship with a ZCTA, the ZCTA value is calculated with an unweighted average as population weights are not provided in the crosswalk.

For **substate region to ZCTA methods**, please see measure documentation for the Suicidal Ideation measure.

For **precinct to ZCTA methods**, please see measure documentation for the Voter Participation measures.

⁵ Ibid

⁶ UDS Mapper. *ZIP Code to ZCTA Crosswalk*. Retrieved June 21, 2021, from <https://udsmapper.org/zip-code-to-zcta-crosswalk/>