WANNABE GEOGRAPHER'S GUIDE TO CENSUS GEOGRAPHY

RAVEN MCKNIGHT

WHAT IS "CENSUS GEOGRAPHY?"

You've probably heard of the Census. Maybe you *haven't* thought about how the Census reports data (but you should, and you should sign up to be a 2020 Census Taker!!).

It wouldn't be very helpful if the Census released data about the whole country at once. We want to learn about things like population and income in way more detail. The Census reports its data in smaller and smaller chunks to give us that detail. This guide is about some of those chunks!

You've probably seen lots of Census geographies before: states, counties, and school districts are all Census subdivisions. There are lots of other geographies, but only a few of them come up often. This guide is a crash course to five of those common geographies This is just **the tip of the census iceberg** and you should definitely learn more if you're interested :-)

SO WHAT?

We use census data all the time. It covers all sorts of demographics at all sorts of scales. There are a few key things to understand in order to use this data responsibly. The most important concept is a **Margin of Error (MOE)**.

Some data, like data from the **American Community Survey (ACS)**, are *estimates* with accompanying *errors*. The smaller the unit of geography, the larger these MOEs tend to be.

Scale can affect our understanding of data in lots of other ways, too. **Gerrymandering** is a good example of how geographic units can skew our perceptions. This guide can't teach you how to fix gerrymandering, but it can teach you a few basics!

Spatial data is at the core of lots of important mathematical and scienctific discovery. Census geography is a key component in lots of those discoveries, so let's do some learning!!

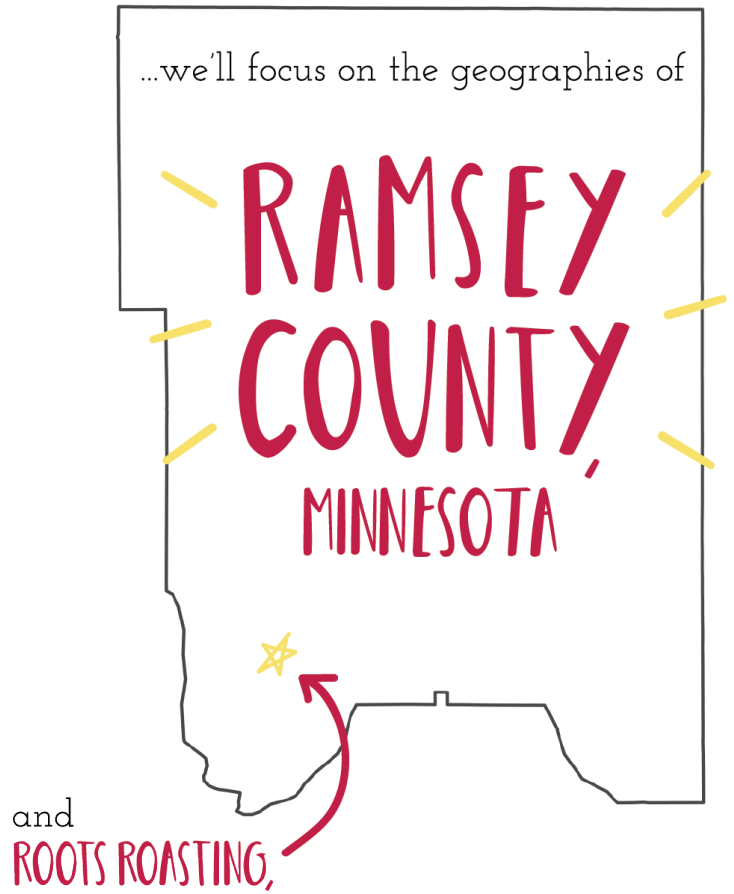
THE BASICS

In general, census geography is...

1. bounded by built features, like streets or political boundaries, or naturals ones, like lakes and rivers
2. Designed to contain approximately the same population in each geographic unit
3. Smaller in urban areas and larger in rural ones (to make #2 true!)
4. Assigned a numerical identifier based on its state, county, tract, and so on

If there are too few people in a unit of geography, the Census or ACS won't release data at that scale, to protect those residents' privacy. Lots of smaller geographies, like blocks and block groups, nest exactly inside one another. Others, like zip codes and voting districts, aren't so nice.

Census geography covers the whole United States (and its territories). That's a lot of ground to cover (pun intended), so for this guide...



bounded by built features,
like I-94, and by natural ones, like
Battle Creek's Pig's Eye Lake

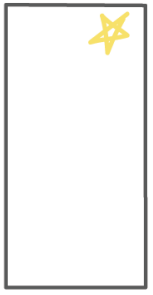
BLOCKS

The honest-to-gosh building blocks of census geography! Census blocks are so small, you can't get ACS data at this scale. They *usually* mirror city blocks in urban areas. In 1990, the Census introduced blocks covering the entire country. This means there are lots of blocks (almost 5 milllion) with **no population at all!**

Not much data is available at this level. You can get basic demographics, like age, sex, and race from the Census, as well as employment data from the LEHD survey. Almost **all other geographies are made up of blocks!**

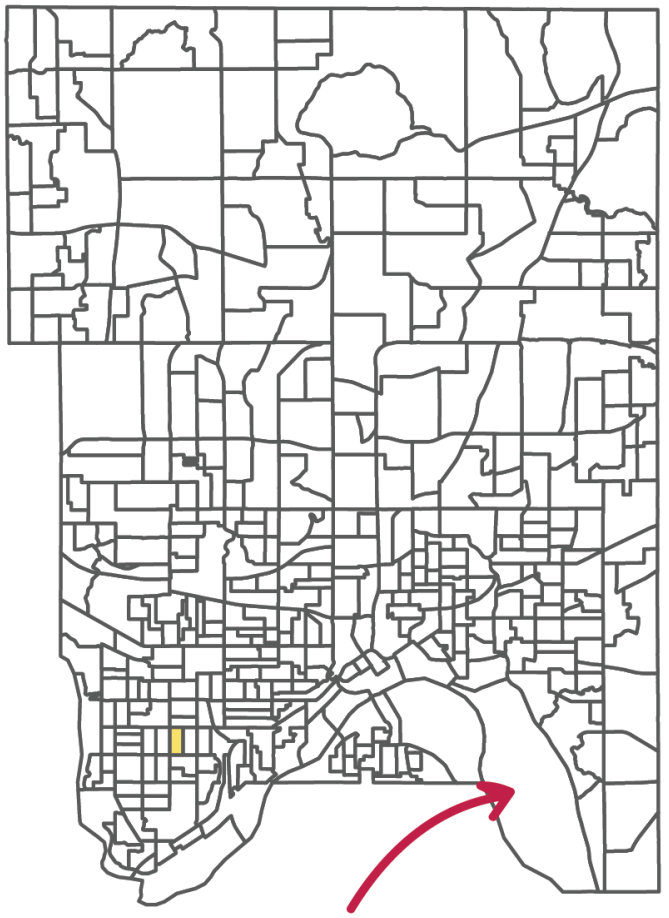
ROOTS ROASTING is in block 271230365002003

state county tract block group block



Area: 0.008 square miles
Population: 51 (2010 Census)
MOE: None - Census data are true counts!

Total in Minnesota: 259,777
Total in US: 11,155,486



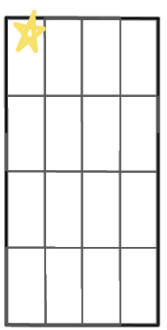
very few block groups have 0 population.
parks can be the exception!

BLOCK GROUPS

You guessed it - a group of blocks! Block groups usually contain 30-60 blocks, depending on the area. This is the smallest unit of geography you can get ACS data for, and sometimes, the data *still* isn't available if there are privacy concerns.

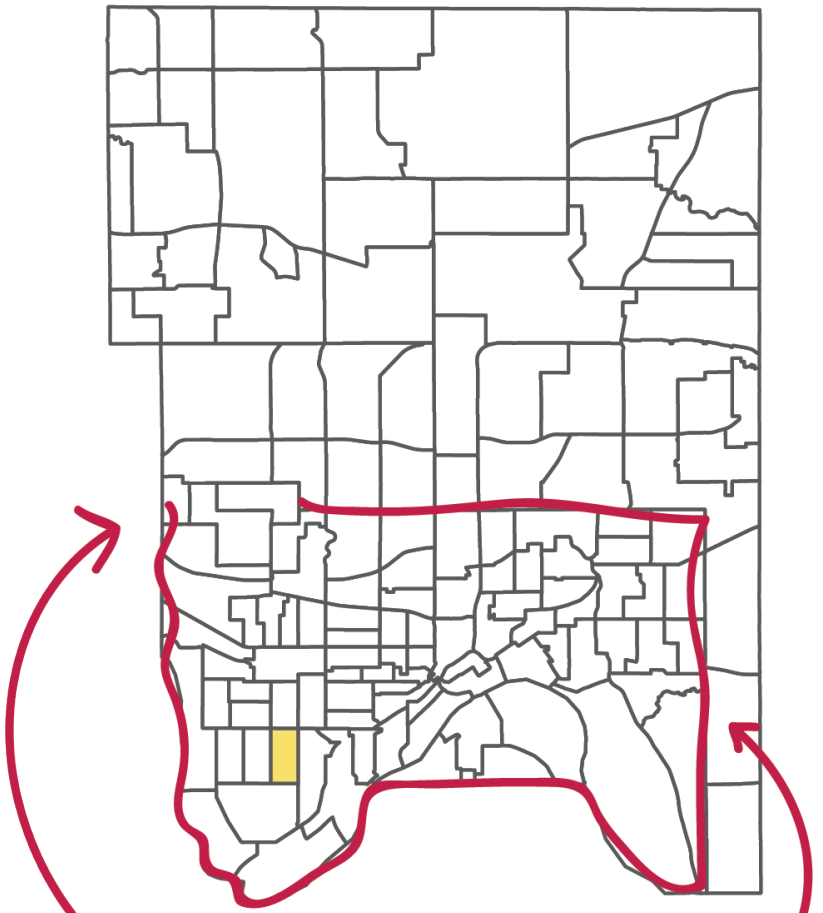
Block groups are designed to contain 600-3,000 people. Their size can vary drastically based on population density! This is generally a "better" scale to use than blocks because there's more data available with smaller margins of error.

ROOTS ROASTING is in block group 271230365002



Area: 0.125 square miles
Population: 1,142 (2017 ACS)
MOE: +/- 168 (15%)

Total in Minnesota: 4,111
Total in US: 217,740



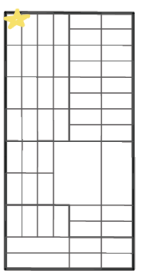
tracts often follow city boundaries,
but not always perfectly.
(that's Saint Paul!)

TRACTS

If you've heard of any census geography, you've heard of tracts. You can get almost all Census and ACS data at this scale. It's the most common geography you'll encounter, and it has much smaller margins of error than blocks or block groups.

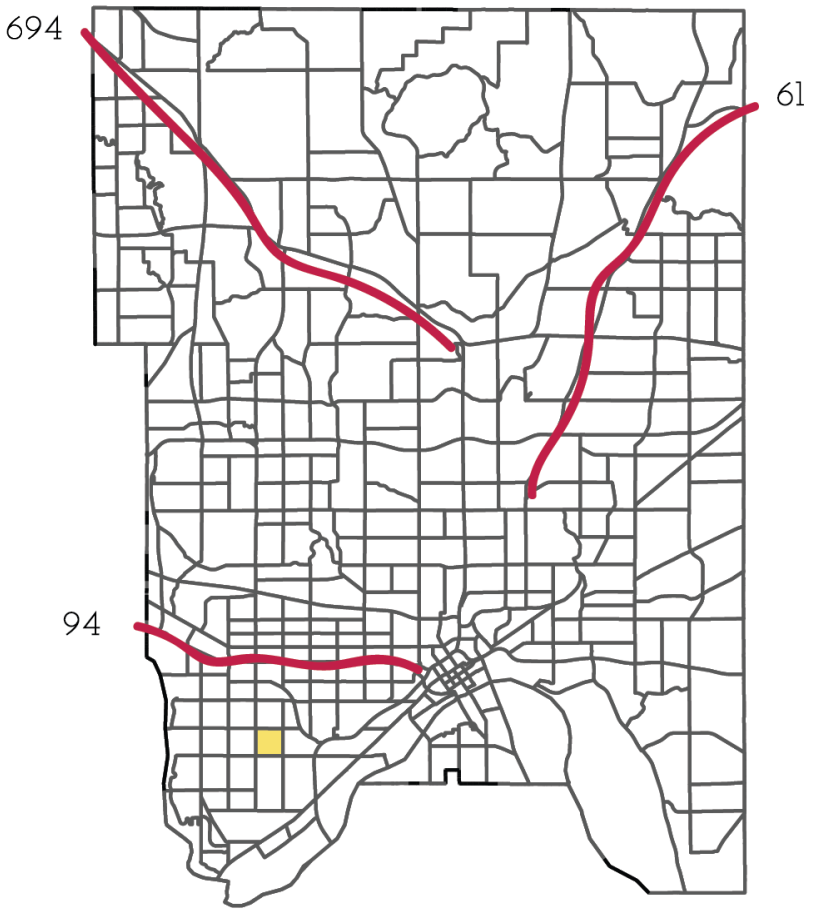
Tracts usually contain 1,500-8,000 people. They're meant to be fairly **homogenous** in terms of the demographics of people living in each tract. Each tract contains around 4-5 block groups. This is the last (almost) perfectly nesting geography we'll see in this guide!

ROOTS ROASTING is in tract 27123036500



Area: 0.5 square miles
Population: 3,788 (2017 ACS)
MOE: +/- 231 (6%)

Total in Minnesota: 1,338
Total in US: 50,690



similar size to block groups.
still bounded by roads!

TAZ

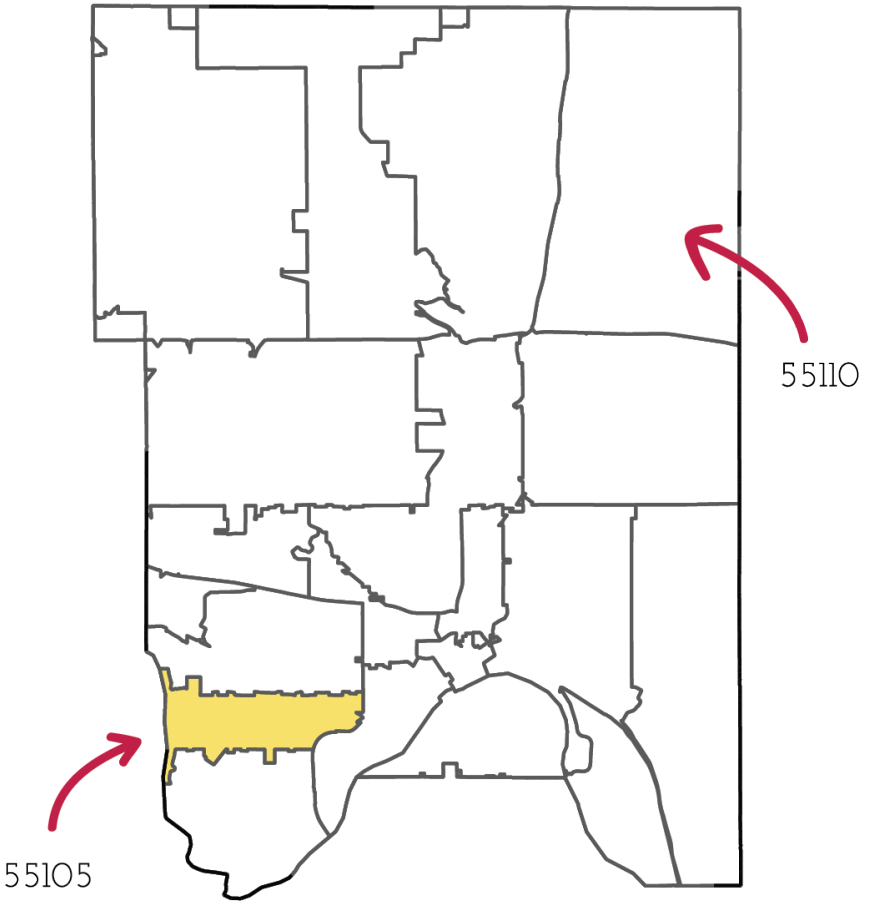
Nobody likes traffic. That's why we have **Traffic Analysis Zones**. TAZs are designed to be used with **Census Transportation Planning Products (CTPP)**. They're usually about the same size as block groups and contain around 3,000 people. Generally, TAZs are made up of blocks, block groups, or tracts, but not always.

TAZs are most often used for transportation planning. For the most part, the only data you'll get at TAZ level is from the CTPP. This is a good geography to know about if you're at all interested in urban planning or public transit!

ROOTS ROASTING is in TAZ 271230000032

Area: 0.25 square miles
Population: 2,140 (2016 CTPP)
MOE: +/- 161 (8%)

Total in Minnesota: 3,659
Total in US: 217,526



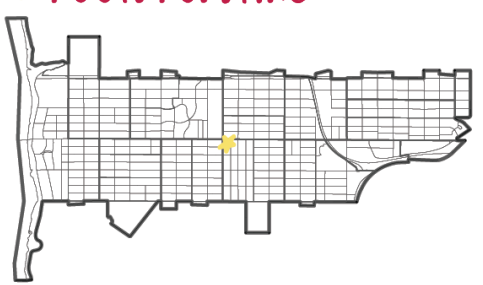
wonky lines!

ZCTA

The geography you've always used but never heard of. Without getting too detailed, **Zip Code Tabulation Areas** are generalizations of US Postal delivery routes. You've probably been writing them on letters and postcards your whole life!

Other Census geography doesn't nest perfectly into ZCTAs. Not too much data is released at the this level. Sometimes, data about people – like students or customers – are aggregated to ZCTAs because they're specific enough for researchers to understand spatial distributions without losing privacy. You'll notice ZCTAs are by far the largest geography in this guide (and therefore, have the smallest MOE!).

ROOTS ROASTING is in ZCTA 55105



Area: 3.8 square miles
Population: 27,077 (2017 ACS)
MOE: +/- 896 (3%)

Total in Minnesota: 1,023
Total in US: 41,702

NOW GO
FORTH AND
LOVE
THE CENSUS

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