



Analyzing Neighborhood Conditions Using the R Statistical Programming Language

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Echo Zheng | Demographics and Growth Vision



Toolbox
Tuesday

WWW.SCAG.CA.GOV

Housekeeping

1. Meeting length: 1.5 hour
2. This meeting is being recorded
3. All participant lines will be muted
4. At the end, there will be a Q&A session
5. If you have a question during the presentation, please type it into the chat box or press the "raise hand" function
6. We will log all questions and then voice a selection at the end of the presentation
7. A recording of this webinar and the PowerPoint slides will be available on the SCAG website. We will send a link to everyone who has registered after the event



ANALYTICAL GOALS TODAY

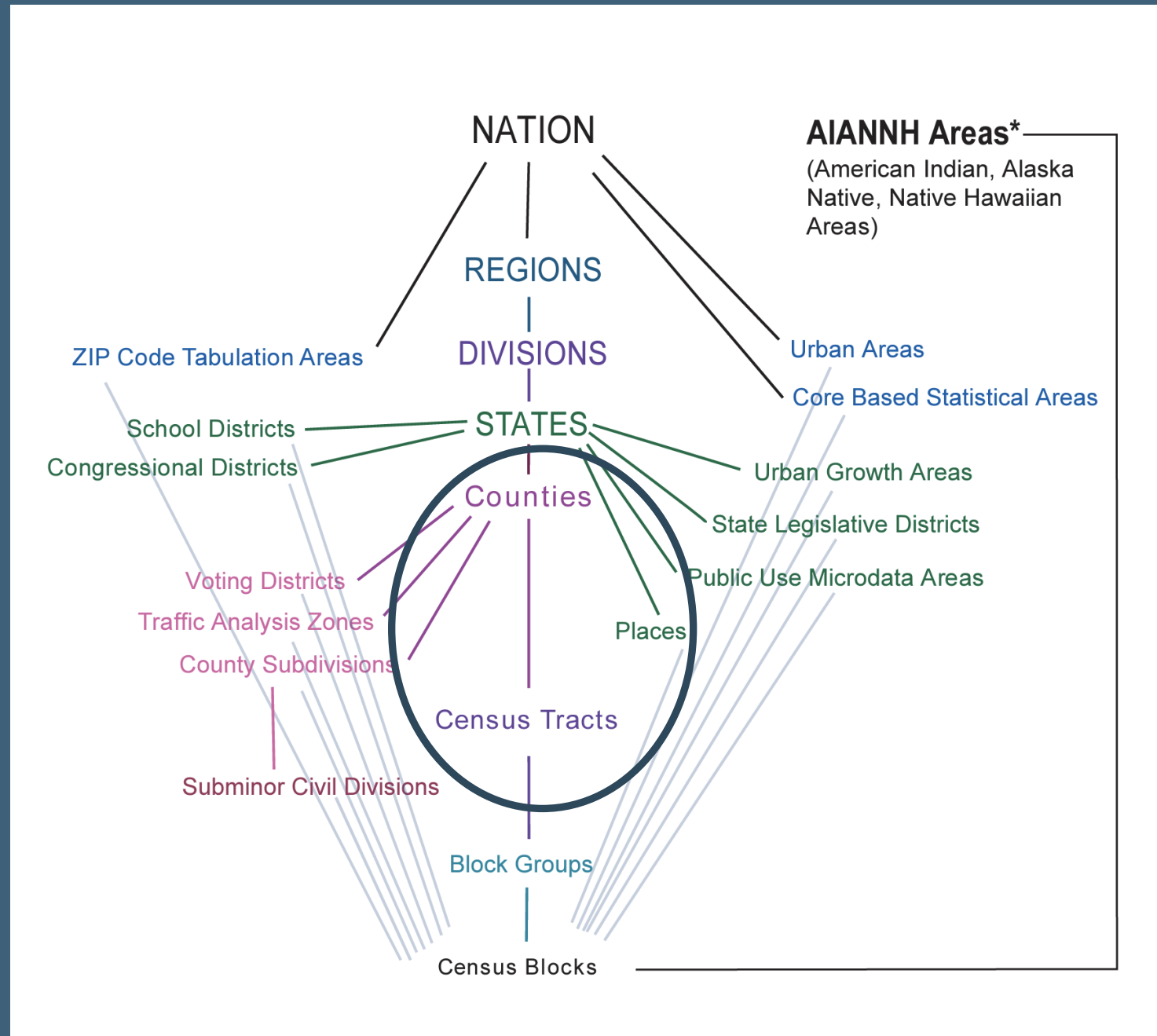
- *Extract, process, and map* neighborhood-level (tract) characteristics within a city
- *Create* a local profile for a city

All the information you'll need today

- Installation instructions:
 - <https://rstudio-education.github.io/hopr/starting.html>
- All training materials posted at:
- ACS data online community and resources:
 - [American Community Survey Data Users Group \(prb.org\)](https://prb.org/american-community-survey-data-users-group)
- ACS APIs information:
 - <https://www.census.gov/data/developers/data-sets/acs-1year.html>
- Tidycensus package
 - <https://walker-data.com/tidycensus/>
- Learn more:
 - <https://walker-data.com/census-r/>

Geographic Hierarchy

- Focusing on:
 - Counties
 - Census Tracts
 - Places (non-nesting)



ACS data for local and regional planning

- Annual releases of the American Community Survey (ACS):

1-year Estimates	5-year Estimates
For geographies of 65,000+ population (e.g., most counties in CA)	For geographies down to census tracts and block groups
Most current data (12 months of collected data)	60 months of collected data (e.g., Jan 1, 2018-Dec 31, 2022) – more reliable than 1-year estimates due to larger sample size

- Use 1-year ACS when the most current data is needed; use 5-year ACS when examining geographies not available in 1-year estimates
- Table shells and table list through [census.gov](https://www.census.gov)

How to get up and running

- Open `ToolboxTuesday-SCAG-Jul2024.R` in Rstudio
- Run a line of code:
 - Type into console: `> print("hello world")`
 - In script file: Select text, or place cursor on a line -> Click "Run," press `Ctrl+R/Ctrl+Enter/Cmd+R`
 - Know the directory where you keep your files
- `ToolboxTuesday-SCAG-Jul2024.R`
 - (1) Read in a local csv file (a place-to-tract crosswalk)
 - (2) Get census data at the tract level (e.g., median household income)
 - (3) Extract census tracts for a selected city (data wrangling)
 - (4) Join city tracts with tract variable(s)
 - (5) Map variable across tracts within the city
 - (6) Advanced: extract multiple variables



THANK YOU!

For more information, please visit:

<https://scag.ca.gov/economic-insights-data-resources>

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Tell us how we did!

Take a quick 2-minute survey to help us improve future Toolbox Tuesdays!



SCAN ME