SOC 4650/5650: Lab-03 - Mapping Owner Occupied Housing in St. Louis

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Directions

Using data from the data/lab_data/ folder available in the module-1-cartography repository, create a static ggplot2 map using RStudio. Your entire project folder system should be uploaded to GitHub by Monday, February 22th at 4:15pm.

Analysis Development

The goal of this section is to create a self contained project directory with all of the data, code, map documents, results, and documentation a project needs.

Download Data

a. **Clone** the module-1-cartography repository from GitHub using GitHub Desktop.[1]

[1] If you are not sure where your GitHub Desktop data has download to on the computer, you can right click on the repo's entry in GitHub Desktop and have it take you to the repo in Windows File Explorer. By default, this should be within your Documents/ directory.

Create a Project Folder System

b. Using RStudio, add an R Project to the *existing* directory in your assignments repository named Lab-03. To do this, you will want to go to: File ▷ New Project ▷ Existing Directory and find your *existing* Lab-03 folder.

c. In the Files tab on the lower right-hand side of RStudio's screen, add a New Folder using the New Folder button right below Files. Name this new folder docs. Add two others named data and results.

d. Reduce RStudio for a moment. Using the Windows File Explorer app, find your project as well as the repository you cloned previously. It is easiest if these are in two separate windows.

e. Drag the lab data from data/lab_data/ into your RStudio Project's data/ subdirectory. Verify using RStudio that all of these data are accessible from within your project. You should also bring over the city boundary data from the data/ folder.

Create an R Markdown File

f. Back in RStudio, create a new notebook by going to File ▷ New
    File ▷ R Markdown. Choose the SLU Sociology template and save
    it within that `docs/` subdirectory you just created. The notebook
    should be named `Lab-03`.

g. Expand the YAML heading by adding your name and the assign-
    ment title "Lab 03".

h. Use RMarkdown syntax to create your first assignment notebook!
    Make sure it has an introductory section, a section for loading
    packages, a section for loading data, and sections for parts 1 and
    2 below. These sections should be second-level headings (e.g. `##`
    `Introduction`).

i. When you are done, "knit" your document by clicking the Knit
    button in the toolbar at the top of the notebook.

Load Data

j. Import all of the data for the assignment into your global environ-
    ment.

Part 1: Exploration

The goal of this section is to initially explore the data. You should
produce an interactive visual preview of the data using the `mapview`
package. You *do not* need to include this exploration in your note-
book, but can do it in the console instead. Do provide a written
description of what types of data (point, line, or polygon) are rep-
resented by these various layers.

Part 2: Mapping

The goal of this section is to create an appropriately normalized
map using `ggplot2` of owner occupied housing in St. Louis. You
should use either the `RColorBrewer` the `viridis` package for your
color palette and should include a title, subtitle, and caption. Also
add and thoughtfully symbolize the other contextual data as ground
layers. Make sure to save your map in the `results/` folder when it is
complete!

Analysis Development Follow-up

Don't forget to knit your document when you are done!