AIRLINE ACCESS IN UNITED STATES

In this lab we will be making using R. R is an awesome tool for everything, including map making (with a little assist from AI and Photoshop) and being able to manipulate open source software to make maps is a powerful way to create data visualizations regardless of access to ESRI product. I've also found that with a little knowledge of how R works you can find numerous code snippets online you can use with your own data.

For a crash course in R, see the following resources
https://www.kahle.io/r-crash/
https://billpetti.github.io/Crash_course_in_R/
https://www.r-bloggers.com/a-crash-course-in-r/

Data: Bureau of Transportation Statistics
Tools: R, AI, Photoshop

1. First, create a folder on whatever drive you are using a download the airports and routes csv files from canvas. This folder will be your working directory. Open R.

2. Download the flights and airports data you will need to run the script.

Airport data
https://canvas.humboldt.edu/courses/15623/files/648308/download?verifier=Pnsk8UjXyq5gvy2k GMMjQyijWyebMmkfV0BuTl9t&wrap=1

Flights data
https://canvas.humboldt.edu/courses/15623/files/648313/download?verifier=xox4uYHkCtX7UD fr8ZCDoR98mVwdyohPTI3V4R2O&wrap=1

3. Download the R Script and open in a text editor. Copy and paste the code from the airline_script text file into the R interface.
    https://canvas.humboldt.edu/courses/15623/files/648314/download?verifier=Jl8V2HWH 1FY38ZK6CphK8oHhBPUv07u32Ejn8mYs&wrap=1.

    Go one step at a time to get a sense of what the code is doing.

4. Now you will have a number of pdf files of the exact same geographic extent with different airline routes in different colors with a nice gradient to show the most to least popular route. We now want to take these to Illustrator one map at a time and remove the clipping mask and save as AI files. Note, with the gradient you have on it will be difficult to select the lines for further editing, so if you see something you don't like it easier to go back into R and fix.

5. Decide what you want to communicate. Do you want to make a series of small multiples showing each airline? Do you want to combine the big three (Delta, United, American) in

one map and the smaller airlines in another to contrast coverage and route availability? Do you want to toss them all on a map to show the total airline infrastructure across the country?

6. Compile you multiple AI files together, either by stacking the routes on a common basemap and/or arranging the various maps together into a graphic of small multiples. Make the art board the same color as the map background and add necessary text and/or legend information.