

Lab 10: Final Project

Overview. In the previous lab, you determined the focus of your project and you found data that you could use to create the maps. This lab involves using Social Explorer to create two or three maps and then reflecting on features of these maps. Your project will present its message in a comprehensive way using the techniques we have learned in class. The lectures, readings, in-class activities, and lab assignments have given you the tools and concepts you need to complete a compelling project.

Procedure

1. **Mapping.** Your project centers on two or three maps that you create with Social Explorer. When taken together, these maps must have a single focus, which can be an issue, use, theme, or problem. Be thoughtful about the data you use and how you symbolize, simplify, and analyze these data so that the focus of the maps remains clear to your intended audience.

Design specifics

- You will create maps in a manner similar to the process used in previous labs. This means downloading images from Social Explorer, copying them to your document, and cleaning them up and adding other elements as necessary to create your maps.
 - Keep in mind that the term ‘map’ can refer to a single mapped area, or it may be a single figure on a page that is composed of several maps that work together (e.g., a big map with several small inset maps).
 - **Use most of a full 8 ½ by 11 inch page for each map.** If you have two maps, you’ll have two pages of maps, and if you have three maps you’ll have three pages of maps.
 - Your maps should be **self-contained and self-explanatory**, so one or more of your maps should have a long caption that explains your analysis. More on this below.
 - Keep in mind that your formatting choices will be factored into your grade. Make sure that your maps are laid out well and your formatting is clear. Refer back to the “Maps in Assignment” document and the design principles from Symbolization week.
2. **Deliverable Reflection.** When you make your maps, you will be using data and various forms of symbolization, simplification, and analysis. You will reflect on these choices as well as the broader social dimensions of your project.

Reflection specifics

- Your answers must be at least one page long but no more than two pages.
- You must refer to specific aspects of your maps, detailing why you made certain mapping choices regarding the symbolization and simplification of the map features and what your analysis reveals or suggests about the topic and its social dimensions.

Helpful Information

1. Use symbolization, simplification, and analysis to make the maps work well

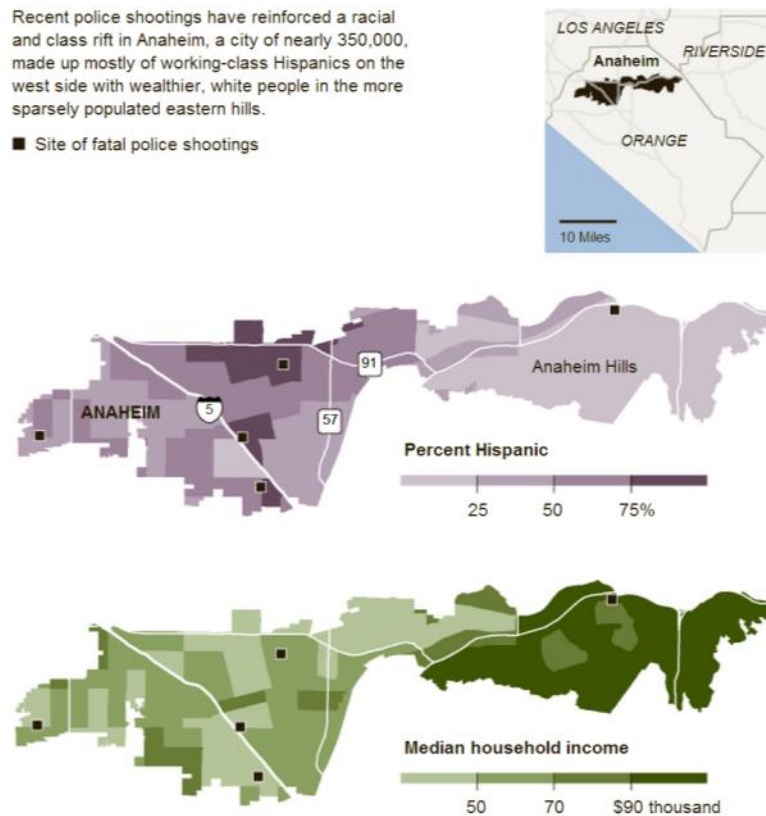
Symbolization. You can choose a range of hues and values to represent your data as choropleth maps. You can also choose some variables in Social Explorer that use proportional symbol and dot-density mapping instead of choropleth mapping.

You can add your own symbols to maps. A past student, for example, used MS Word to manually place the location of cities with National Football League (NFL) teams onto maps of population density and household income as part of a project focused on explaining where NFL teams locate. We looked at an example from the New York Times that you could replicate in MS Word by creating a map of household income and ethnicity and then placing symbols by hand on the map (see right).

Simplification. There is a fair amount of choice when it comes to simplification in Social Explorer because you can reclassify much of the data.

You can also comment in your reflection on how the classification scheme works, what it does to your data, and how it affects the display of these data on your map. You also have some control over generalization and spatial data resolution. You manipulate how the program generalizes data choosing spatial resolution (e.g., displaying by tracts vs. counties) and by zooming and navigating around your maps. You can use these forms of simplification in your maps.

Analysis. We examined four kinds of analysis: clustering, proximity, autocorrelation, and correlation. You can do all four of kinds of analysis just through visualization and interpretation. In other words, you do not have to use GIS package to do your analysis, mapmakers have done just fine on their own for centuries.

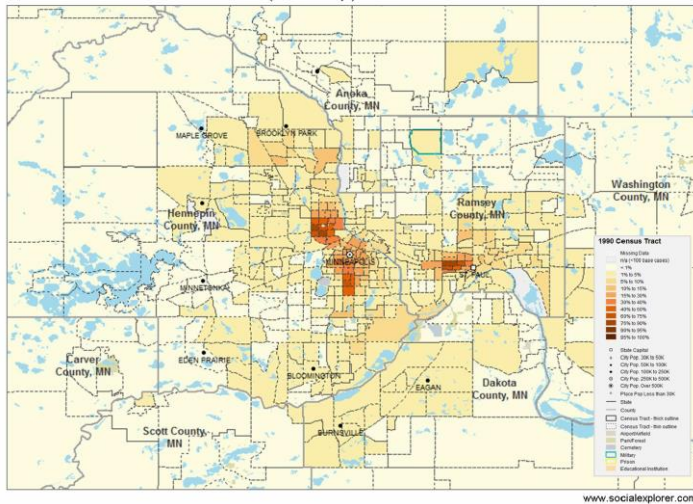


All of your maps should have captions, and at least one of them should have a long caption, on the order of 100 to 200 words, that provides a textual description of your analysis, wherein you describe relationships among the temporal, spatial, and attribute domains.

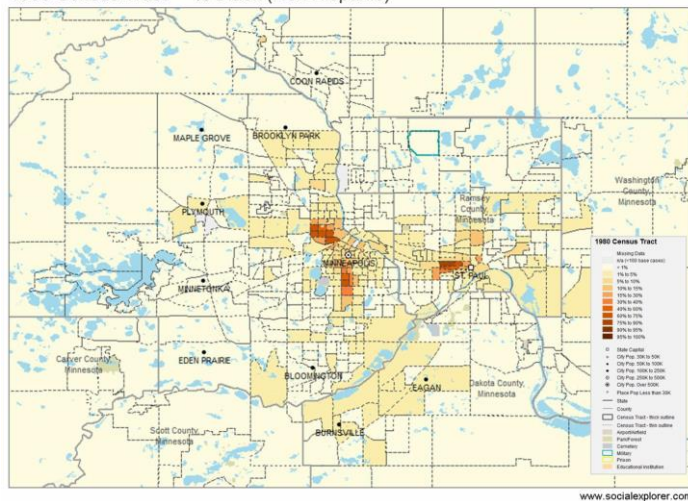
The most common means of doing map-based analysis is by examining in detail a single map or by comparing sets of maps.

- If you are mapping a single kind of data over time, you could examine autocorrelation of a single variable like population density by developing a choropleth map of this variable and then highlighting areas that appear to be highly autocorrelated by drawing attention to groups of counties that have similar values. One past student, for example, wanted to determine whether the African-American community has grown in the Twin Cities, and so mapped the population over four decades. He compared maps over time (below) and linked his analysis of the maps to information from newspaper articles describing reasons for broader movements in the African-American population, such as moving to suburbs for schools that were perceived as being better than those in the core cities.

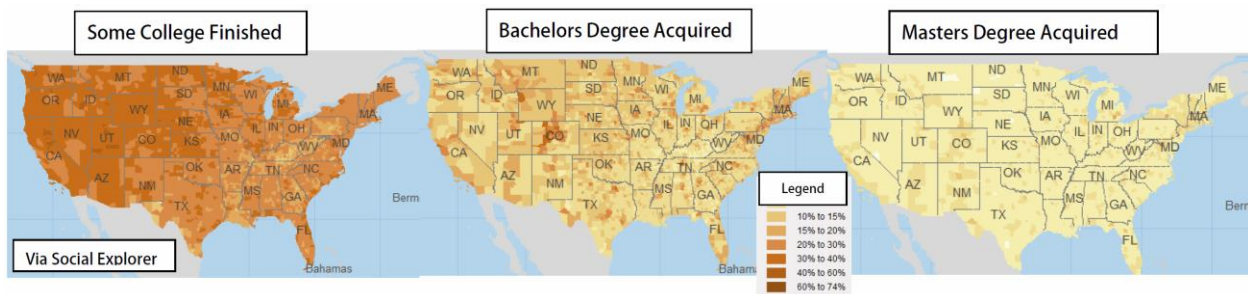
1990 Census Tract - % Black (Non Hisp)



1980 Census Tract - % Black (Non Hispanic)



- If you are mapping two or three kinds of data, you can do a correlation analysis of two variables, such as population density and median income, or you can compare them over time. The aforementioned New York Times article analyzed the change over time of two variables, race and ethnicity, in Los Angeles. You could have two maps side-by-side on a page and then highlight locations where the two variables seem to be positively correlated (i.e., high values in one variable go along with high values in the other variable) or negatively correlated (i.e., high values in one variable go along with low values in the other variable). Mapping four or more variables tends to be pushing it, but don't rule it out if you think it is necessary for your project. The figure below shows part of a project that examined educational attainment and how it correlated with other household variables; here the student used three similar variables together to speak to a larger demographic measure, educational attainment.



In addition to using captions to describe your analysis, you should use drawing tools in Social Explorer and your word processor to visually highlight elements of your maps for your analysis. You can use arrows to point to specific locations or circles to encompass regions, for example, or use cropping and resizing to show the map reader specific areas. It can be very effective to have one small-scale map, such as the entire US, to make your general point and then have a couple of larger-scale maps that zoom into specific areas that you feel really bring your analysis home.

2. Think about the social dimensions of your maps

We discussed a wide variety of social dimensions of mapping over the course of the semester. In your reflection, you will have to address at least one dimension of your mapping project in depth. Here are some questions you could ask about your map.

- What kinds of assumptions is your analysis based on? If you are looking at relating two different variables about people, for example, how much do you know about the processes at work from dealing with a variety of sources? Do some research on your topic so you can lay out some of the underlying issues, keeping in mind that in most cases, correlation does not mean causation.
- How would your map add to social discussions about your map focus? If you were writing about a problem or debate, what would your map add to conversations or arguments about the problem? If your map has a single use, who would use it and why? If you have a map dealing with a question, how does your map answer it?

Finishing Your Lab

Take note that late work is due *earlier* than usual; you only get *two* extra days beyond the due date to submit a late assignment. It is usually better to submit an almost complete assignment on time than a complete assignment late.

There are four steps to finishing this lab:

1. Answer the questions posed in the separate lab deliverable document, which is available in MS Word format via the **Lab 10: Deliverable** link on Moodle.
2. Complete this deliverable document in MS Word or another word processing program.
3. Save or print the deliverable as a PDF file with the title, “Lastname_lab10”. Jill Smith, for example, would title her file **Smith_lab10.pdf**.
4. Submit your document to Moodle via the **Lab 10: Submission** link. Your lab will be submitted via Moodle’s TurnItIn function. Don’t forget to hit the “Submit Now” button.