

## DOING JUSTICE

### EXERCISE

#### CREATING A MAP IN SIMPLYMAP

##### **Purpose**

This exercise serves two broad purposes. The first is competency building. The goal is for you to learn how to use SimplyMap to create a choropleth map that groups locations into five equal sized groups (quintiles) based on their scores on an attribute.

The second is conceptual. Given the Black toolbox, what would you expect the demographic composition of the 39th Police District to look like? If you take the view that arresting innocent citizens for victimless vice crimes represents a lot of law being delivered, where are the kinds of places where that is happening? What can you learn about the demographic composition of census tracts or zip codes relative to the rest of the city?

Given the Black toolbox, you will be interested in SES and race/ethnicity/nativity indicators. Those will be specified below.

**NOTE:** *Material in italics means click on this.* Material underlined shows you certain options on the screen.

**HINT:** Take your time and go through each step carefully and you will end up with your own cool map. Don't rush.

##### **Login**

1. Go to the Paley front page, click on databases, go to SimplyMap. Click.
2. If you are doing this off campus you may be asked to enter your TU username and password.
3. The first time you log on to SimplyMap you will need to create a personal workspace. Click on *Create personal workspace*. Enter your tu email and password. The personal workspace means that you can **save your work** SimplyMap remembers what you were last doing, and when you log in in the future, you are right back where you left off.

##### **Orientation to the Main Page: Map View and Zooming**

4. The first page that comes up is a map of the population in the US, by counties, for 2007.<sup>1</sup>
5. Notice on the left side of the page there are two main tabs: maps & reports. You can get either. There are a lot of boxes we will get to in a minute.
6. Notice the floating toolbar with the double left arrow, grabby hand, + and – tools.

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<sup>1</sup> Although the last full (decennial) census was 2000, the Bureau of the Census uses a complicated program to estimate population at the county level for the in-between years of the decade.

- a. Put hand on map to move it around and center on different parts of the map.
  - b. Use +, - to zoom in and out and change the view
  - c. On the floating toolbar, the small zoom (small +) allows you to draw a box, and zoom just to that. Try to use the box zoom tool so that the state of PA takes up most of the view.
  - d. Double left arrow takes you back to the previous view once you have generated a new view.
7. You also can zoom out and in using the gray slider scale just to the left of the map.
8. Notice the distance metric down bottom.

### The Legend

9. Notice the legend, floating somewhere on the map.
10. On the legend: Click on *Edit*
11. You are now in the legend editor. Notice several things.
- a. Name of variable being mapped shows in top box.
  - b. You can group places using different methods. Quantiles (national) means that units will be mapped into equal sized groups based on national percentiles. If the # of categories is 5 that means you are looking at quintiles (1-20<sup>th</sup> percentile, 21<sup>st</sup> to 40<sup>th</sup> percentile, etc). If the # is 4, then you are looking at quartiles (1 – 25<sup>th</sup> percentile, 26<sup>th</sup> to 50<sup>th</sup> percentile, etc.). The frame is national.
    - i. You can switch between national quantiles and local quantiles which will show you quintiles/quartiles based on the units in the view. It looks like what it does is take a sample of the units shown, and draw the group boundaries based on that.
    - ii. It is **hard** to make these local quantiles extremely precise. For example, you might zoom (using the box zoom tool) so that PA fills most of the screen, but there will still be additional counties from adjoining states outside the PA boundary. So, bottom line: my guess is that these quantiles (quintiles, quartiles) based on *local view* are somewhat imprecise.
    - iii. Of course, if you get the data for state or municipality of interest, you can use those cutoffs. This is developed below.
    - iv. After you change the method (e.g. local vs. national quantiles) be sure to hit *recalculate*.
  - c. There are other things you can do here in the legend, like change the color scheme, the outline color, and the outline thickness. You also can change the number of groups that units are being split into.

- d. Click on *done* when finished with editing the legend.
- e. They say in the instructions that you can move the legend around. You can. But it always seems to print in the same place, I fear.

### Changing Geographic Units

12. On the left hand side, under Variables toward the bottom you will see Geographic Unit. *Counties* is currently in the box. Change it to *Census Tracts*. Wait a bit and the map will recalculate. You will see that you have a lot more detail. Sometimes the units are so small that the detail gets lost, as happens in the Philadelphia and Pittsburgh areas. This is because census tracts have approximately the same number of people in them (3,000 to 4,000 max) and in city and dense suburbs these become very tiny areas. At this point you should be looking at something like what you see in Map 1.
13. Use the grabby hand to bring the city of Philadelphia into the center of your view, and start zooming in until Philly takes up most of the view. Or, alternatively, on the left, under locations, select *Pennsylvania* as a state and then *Philadelphia* as the city.

### Getting Additional Variables

14. Click on the vertical tab just to the left of the map view that says Variables. A new window should open up.
  - a. Click on the tab that says *All*. A whole bunch of variable groups should pop up.
  - b. Click on the group *Census 2000 Data*.
  - c. Click on *People and Households* then click on *Income* then click on *HH Income* and then check the box for the variable **HH Inc., Median (\$), 2000**. This is 2000 Median (50<sup>th</sup> percentile) Household Income.
  - d. After you have clicked the box for this variable click on the light blue tab just above the white box that says Add Selected Variables. You should see that new variable show up in the white box at left under the header Variables.
15. Let's add another variable.
  - a. Click on *Census 2000 Data* to close up folders then click on *People and Households* and then click on *Race and Ethnicity*.
  - b. Click on the folder *Black* then click on box for variable **% Black HHs, 2000**. Click on *Add Selected Variable* and that variable should show up in the variables box at left. You now have two additional variables you can map if you want.
16. There are some other variables you could also get that would be relevant to either Black's horizontal or vertical dimensions. Here are some of the variables and what folders to find them in:

HH Inc., Median (\$), 2000	under <u>Income / HH Income</u>
% Pop, Citizenship - Foreign Born - Naturalized, 2000	under <u>Citizenship Status</u>
% Pop, Citizenship - Foreign Born - Not a Citizen, 2000	under <u>Citizenship Status</u>
% Pop, Citizenship - Native, 2000	under <u>Citizenship Status</u>
Housing, Median Rent (\$), 2000	under <u>Housing / Rent</u>

17. When you are done selecting variables, click on the big red X at the top of the center panel and it goes away.

### Displaying Additional Variables

18. To map a new variable do this. In the Variables box at left, just put your cursor on the new variable, so the new variable is backgrounded in blue.

19. Then click the Update button right next to Variables. The map should update.

20. Click on Open Legend under Settings on the bottom left. Change the Classification Method to local quantiles then click on Recalculate. Click on Done.

### Making a Map Showing 2000 Percent African-American

21. One of the variables you selected was **% Black HHs, 2000**. Highlight the variable as described above, click *update* and the map should show.

22. We want to make a change, here, however. We want the cut points to correspond exactly to the quintiles for the city. The table immediately below was built from online Census data at the Census Tract level for Philadelphia based on 2000 population data.<sup>1</sup>

**Statistics**

		PCT_BLA	PCT_NONW
N	Valid	370	370
	Missing	11	11
Mean		43.0199	53.8708
Median		32.2304	54.7659
Percentiles	20	4.7355	11.6342
	40	18.1835	36.1701
	60	51.7002	74.4090
	80	91.9581	96.4643

Open the legend on your map and **key in these cut points**. When you are done your ranges should be:

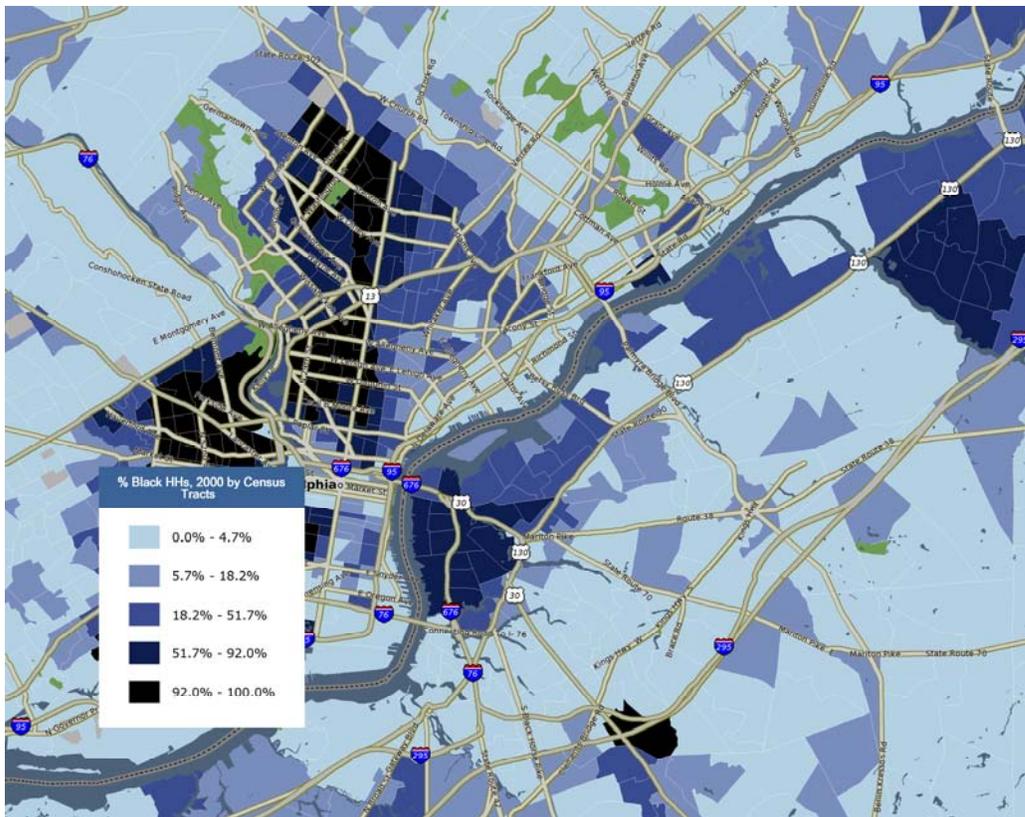
- 0 - 4.7355
- 4.7356 - 18.1835
- 18.1836 - 51.700
- 51.701 - 91.9581

23. Open the legend on your map

24. Under Classification highlight *User defined*

25. Enter the cut points above

26. Click on *done*. Legend should close and you should go back to your map. It should look like the map below.



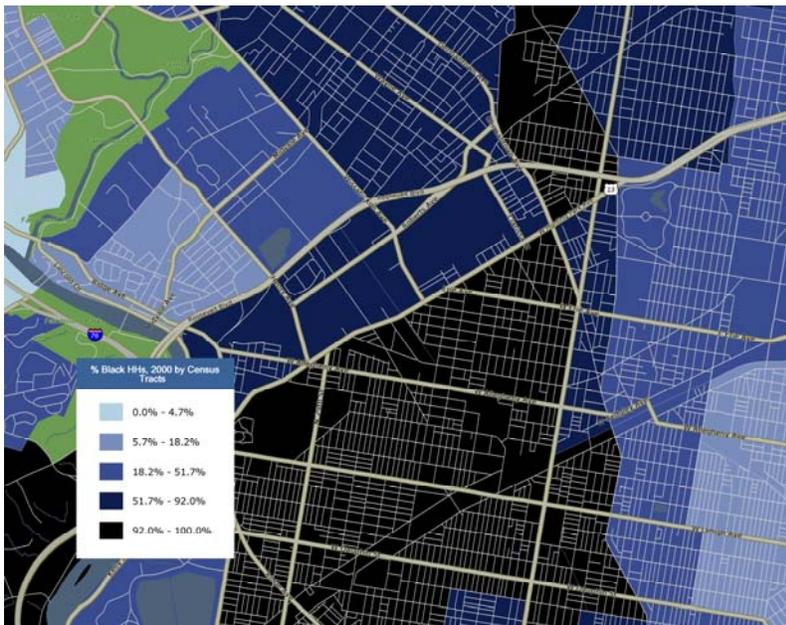
### Saving the file

27. If you want to export the file to yourself, click on *Export* then click on *Image*.

28. At this point a **separate window** opens, which can sometimes get hidden behind the main SimplyMap page. You may have to hunt around for it. **DO NOT** bother adding titles of subtitles. SimplyMap puts these wherever it wants on the map, and it can be disconcerting. The option highlighted should be GIF. This is fine. This is a picture that you can later import into a Word file if you want.
29. You have the option to save it to disk or email it to yourself.
- If you opt to email it to yourself, *enter your email address, add in your message about what the map is, and click done*. When you start having lots of maps they can become hard to keep track of.
  - If you save it as a file you will need a flash drive with about .7 mb free for each image you save. It may **not** permit you to specify a location. If you are on your home computer, it will **automatically** save it to your desktop. If you are on a lab computer, I am not sure what it will do, or even if it will allow it.

### Focusing in more closely on 39<sup>th</sup> District

30. To focus in more closely on the 39<sup>th</sup> District you use the small + tool on the floating toolbar to draw a box, or the large + tool on the floating toolbar to focus in more closely. You should be able to get something that looks like this:



### Feel Free to Map Other Variables

31. The above table of cutoffs gave you quintile cutoffs if you wanted to use **percent nonwhite** instead of percent African-American. If you are interested in **percent foreign born** or **percent native born** the table with quintile cutoffs for both of those appears below.

### Statistics

		P_NAT_B	P_FOR_B
N	Valid	370	370
	Missing	11	11
Percentiles	20	87.666211	2.490777
	40	92.407834	4.751006
	60	95.248994	7.592166
	80	97.509223	12.333789

### A Simpler Alternative, But One that Has Key Limitations

A simpler alternative is to go directly to the census:

<http://factfinder.census.gov>

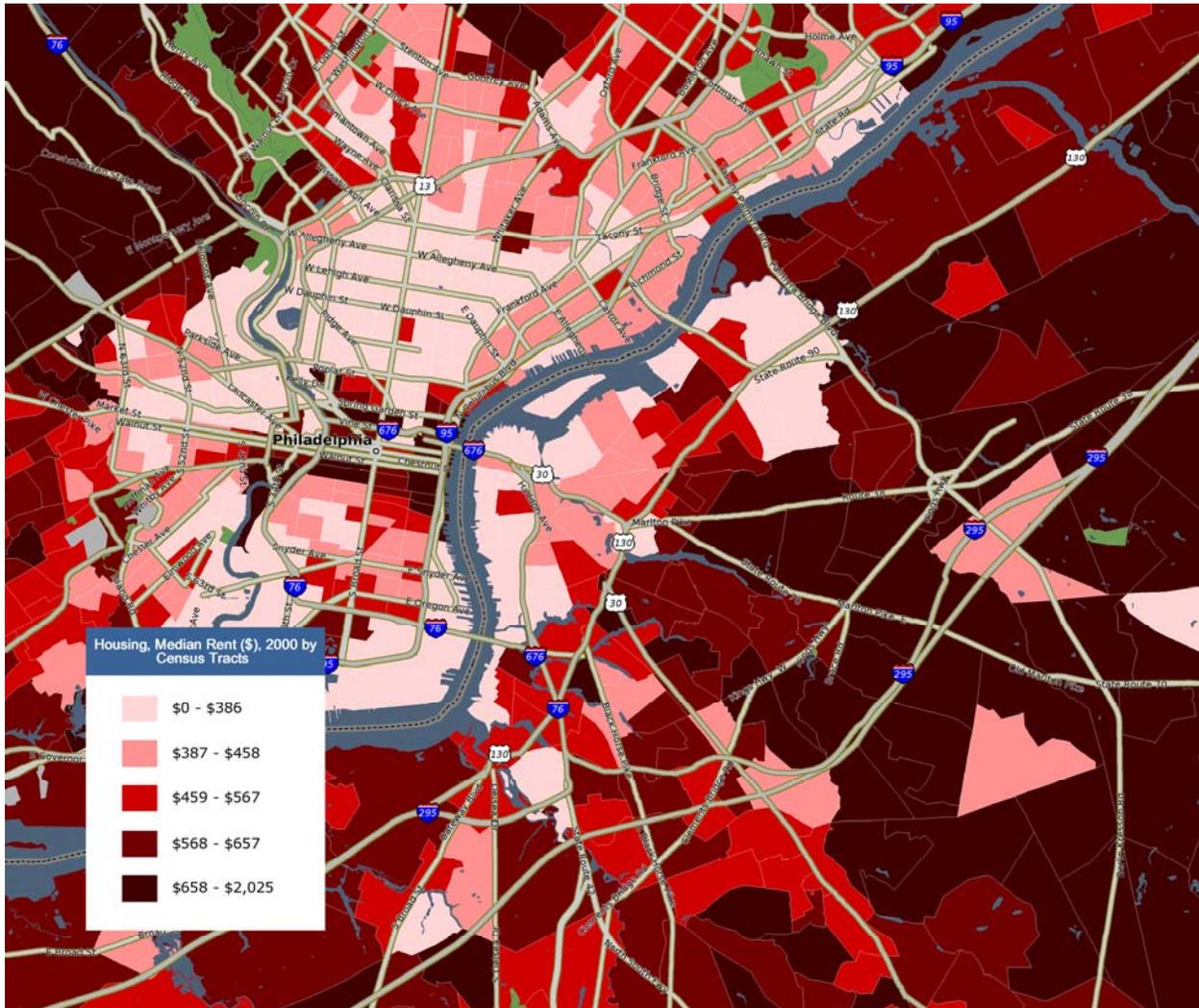
Under Get a Fact Sheet for your community

Put in *Philadelphia*.

It will generate a 2000 and 2006 fact sheet with many variables. You can **map** the 2000 variables down to the census tract level. **The problem is that you cannot change the cut points used to group the units.** (Or at least I have not yet figured out how to do this.)

### MAP 3

#### Philadelphia Census Tracts: 2000 Median Rent, Local Quintiles



<sup>1</sup> These cut points are based on population rather than households. For now, we are going to ignore that difference.

## Doing Justice (H) February 28, 2008

### Your assignment:

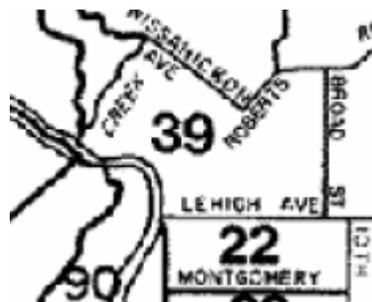
- Create using SimplyMap a map of Philadelphia Census Tracts using local quintiles. You map can “view” just census tracts in and around the 39<sup>th</sup> district. See outline map below.
- Use the cut points that appear below to create local quintiles.
- You want to map just **one** of the following variables:
  - 2000 % Nonwhite households (PCT\_NONW)
  - 2000 Median Household Income
- Answer the following question in 100 – 150 words: Does the score, relative to the rest of the city, of census tracts in the 39<sup>th</sup> police district on the variable you selected fit with Black’s model and help explain why police could act so aggressively towards (at least some) citizens in this area? How. You can think of police acting very aggressively as police delivering a lot of law.
- Insert your map into the word document.
- Upload the whole document, with the map, using Turnitin on the Blackboard website.
- To get full credit for this assignment you will: create the proper map with the proper cut points; describe what you see correctly; link it to Black correctly; get it all uploaded.

NOTE – you can save stuff to a directory on the hard drive called **work** I believe; *follow the SimplyMap work guide.*

#### Statistics

P053001 2000 Median HHold Income

N	Valid	368
	Missing	14
Median		30976.00
Minimum		6311
Maximum		200001
Percentiles	20	20721.80
	40	27785.00
	60	34050.40
	80	41541.40



#### Statistics

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Percentiles	20	4.7355	11.6342
	40	18.1835	36.1701
	60	51.7002	74.4090
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