Checkpoint 3

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1. A Choropleth map of Chicago, one of the most segregated cities in America, with a relationship between the race of victim that is dominant in those areas
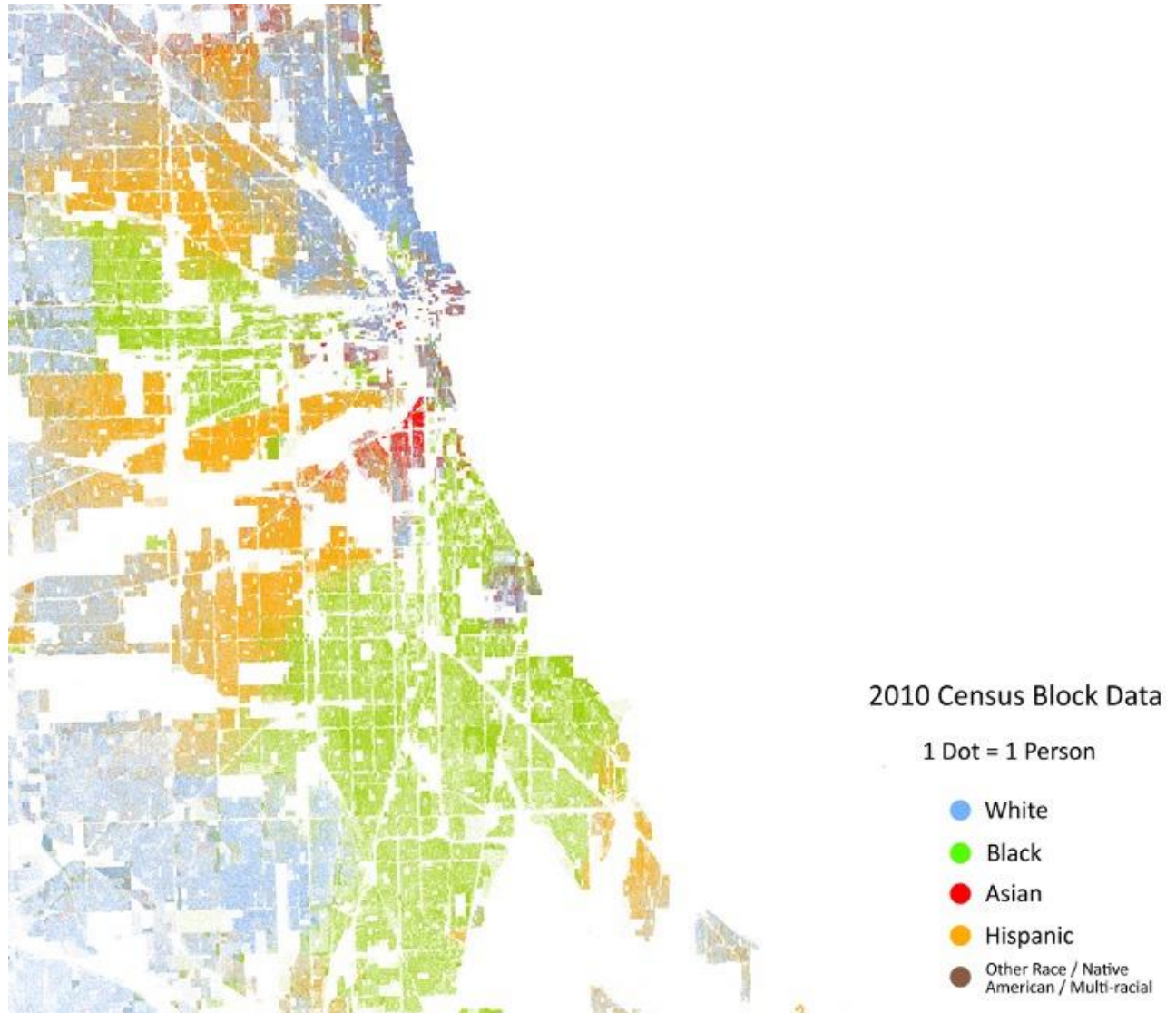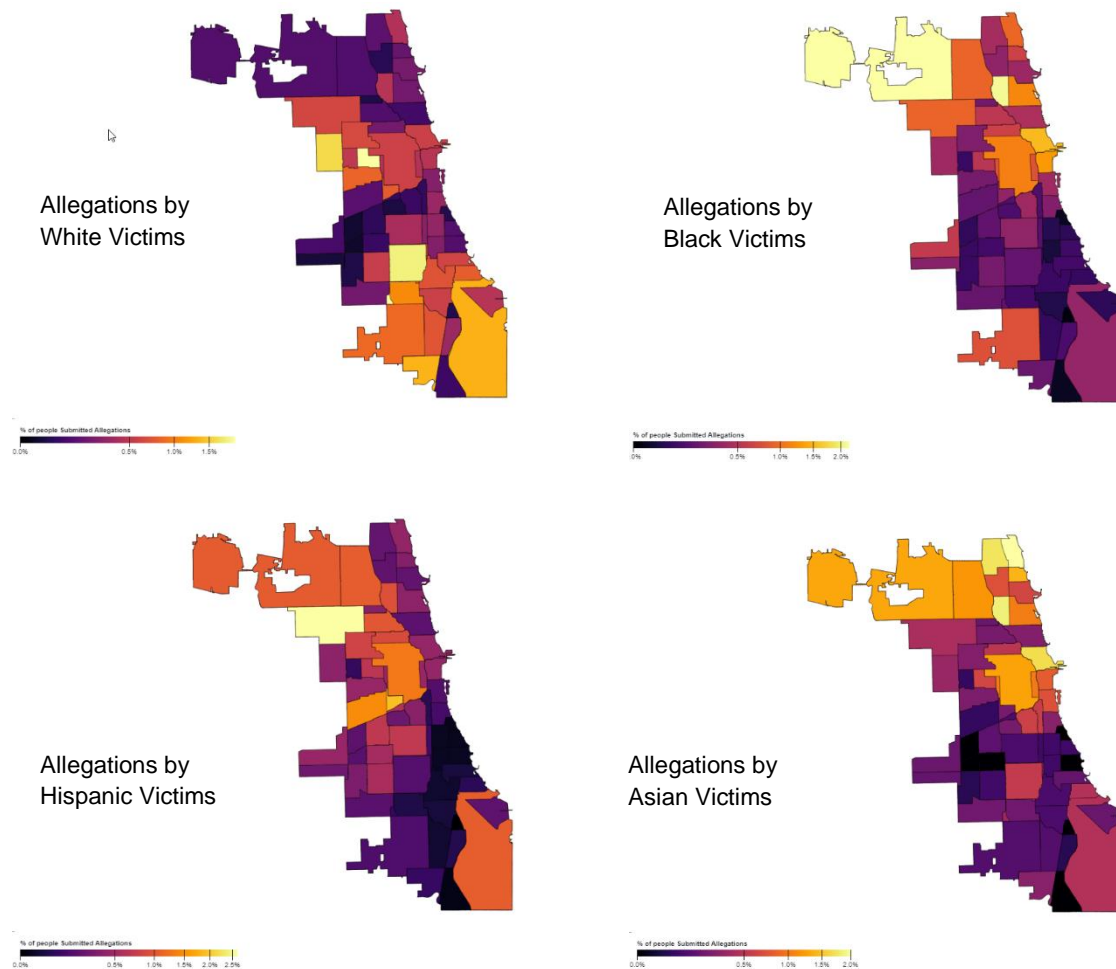

Image 1: Map showing Chicago's segregation

Image 2: Map showing allegations by race

Quantitative Analysis:
The visualization shows that the greatest number of allegations were against black people, followed by white, Hispanic, Asian/pacific islander. The allegations against black people are all over Chicago, with them being the race with the most number of allegations, however, as is clearly seen through the heat map, it is concentrated in the southside and in the westside. The allegations with white victims have mostly occurred in the northern parts of Chicago. The trend for Hispanic victims is very similar to that of white victims, with most allegations having occurred in Brighton Park and upwards, and a few geographically below that.
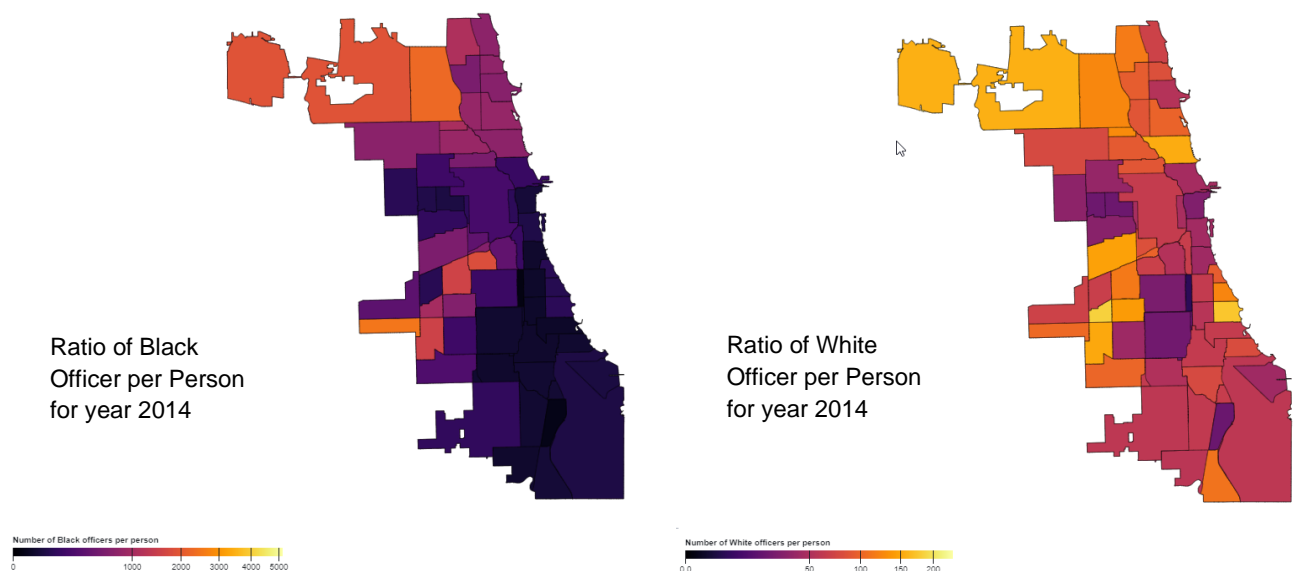
Qualitative Analysis:
The Asian/pacific islander population is much lesser than the population of the other races, so it's only logical that the number of allegations of against them will be lesser than for the other races. The differences in number of allegations among the races points to the difference in population among different races in the city of Chicago.

The map not only indicates population, but also the concentration of races of people in various parts of Chicago which is representative of how the city has been segregated. Comparing the visualization to Image 1, we can clearly see that this pattern of accusations follows Chicago's map of segregation to a high level of similarity. Even the small number of Asian allegations have happened in the segregated part of Chicago. This could indicate over policing of certain areas that are predominantly black and brown as compared to other neighborhoods. The Hispanic allegations almost exactly follow the orange parts of Image 1.

We cannot draw definitive conclusions about population concentration of american/pacific & native american/alaskan races because the data points are far too scarce and there is no clear indication of segregation due to lack of data from Image 1. There are next to no allegations by white victims in the southside of Chicago, which could indicate apprehending the victims based on racial bias.

2. Choropleth Map of how officers relate to the population of different areas of Chicago.

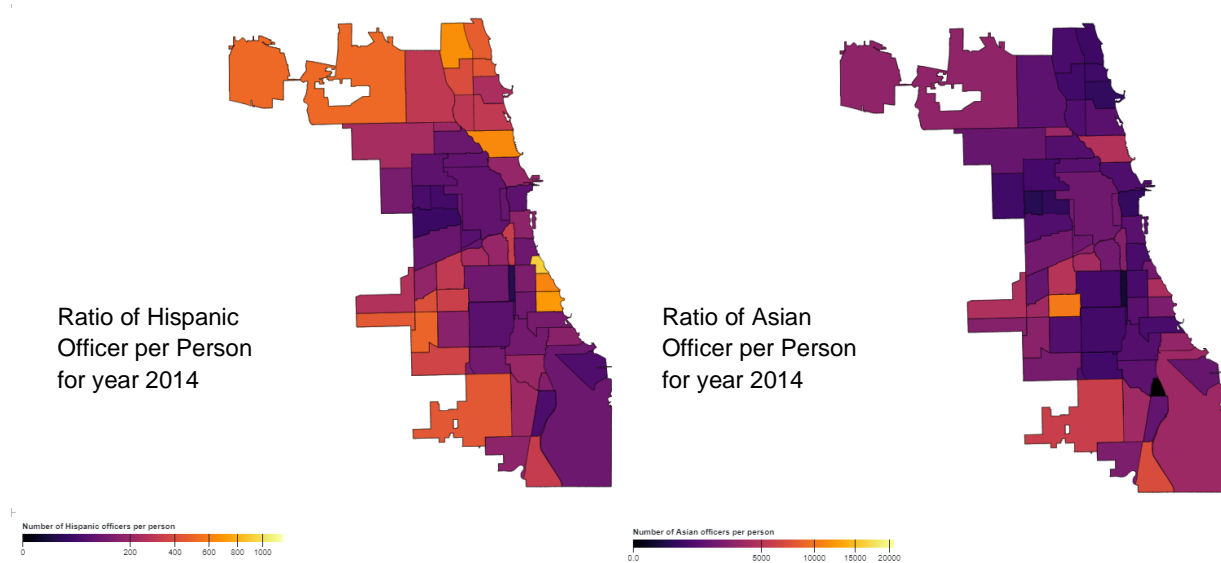

Ratio of Black Officer per Person for year 2014

Number of Black officers per person

0   1000   2000   3000   4000   5000

Ratio of White Officer per Person for year 2014

Number of White officers per person

0.0   50   100   150   200

Ratio of Hispanic
Officer per Person
for year 2014

Ratio of Asian
Officer per Person
for year 2014

Number of Hispanic officers per person

0   200   400   600   800   1000

Number of Asian officers per person

0.0   5000   10000   15000   20000

Image 3: Map showing ratio of officers to each person.

Quantitative Analysis:

As shown by the above visualization focusing on the year 2014, this shows that breakup of the ratio of the number of people per officer of the selected race for each area. Looking at this break up we find that the following break up

Race of Officer	Minimum Person / Officer	Maximum Person / Officer
Black	2287:1	9:1
White	185:1	21:1
Hispanic	917:1	50:1
Asian	10301:1	403:1

This above table shows the break-up of person to officer ratio, and how the value ranges from the maximum to the minimum officer per person.

Qualitative Analysis:

Tying this data to the demographics for each area to find the most prominent race for each area we find the following break-up

	Minimum Person / Officer		Maximum Person / Officer	
Race of Officer	Ratio	Prominent Race	Ratio	Prominent Race
Black	2287:1	Hispanic	9:1	Black
White	185:1	Hispanic	21:1	Black
Hispanic	917:1	Black	50:1	Hispanic
Asian	10301:1	Hispanic	403:1	Black

Looking at this data we deduce two things:
1. There seems to be some disparity assigning the officers to certain areas, for example the greatest number of Black and Hispanic officers were assigned to the areas where the prominent race was their respective race. Therefore, pointing to the fact that your race plays a role during your assignment.
2. Another observation to make here is that the out of the 4 races considered here 3 of them show that the maximum officers assigned to an area is one where the prominent race is Black. Which points to the fact of over-policing of the areas where Black population is in majority.a

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