Kenji Logie DATA 73200

How Artificial Boundaries Change The Narrative: Staten Island Hate Crimes & Noise Complaints 2006-2021

Abstract

The project allows users to see the number of noise complaints, the number of hate crime charges, and the location of hate crimes in Staten Island from 2006-2021. The project allows users to see how changing the geographical boundary of an area can change it from above-average to below-average unless a high concentration of hate crimes or noise complaints in an area that cannot be subdivided into a lower geographical boundary. The results of this project are intended for anyone interested in hate crime, the effects of geography on hate crime/ concentration of hate crime, hate crime in New York City. The effects of policing policies, re-zoning policies, education policies, health policies, and political policies have on hate crime in the Borough of Staten Island. Users can compare and draw their own conclusions on how the concertation of hate crime changes on Staten Island depending on the artificial geographical boundary used.

Narrative

Hate crimes have generally been described as illegal acts of violence and intimidation against intentionally selected individuals or their property based on a perpetrator's bias or prejudice against a victim's race, religion, national origin, sexual orientation, or other perceived group affiliation. Additionally, hate crimes typically have a spatial component that is usually overlooked. However, the concepts of borders, boundaries, territory, and the appropriate geographical space for individuals of a particular race are included in the literature relating to hate crimes where the motivating bias is race. At the federal level, the collection of hate crime data was legislated in the Hate Crime Statistics Act of 1990, which mandated the collection of data on crimes with evidence of bias based on race, religion, sexual orientation, or ethnicity. The 1994 Violent Crime Control Act increased the penalties for crimes committed based on perceived or actual bias. The 2009 Hate Crime Prevention Act added sexual orientation, gender, gender identity, and disability to the general list of offenses. At the local and state level, many of their laws mimic the federal legislation; however, they also include additional categories to reflect each state and cities unique situation.

Why it matters

- Data collected in California in 2007 showed the significant decline from reported crimes to convictions when "2,000 hate crimes were reported to police, yet prosecutors filed only 330 complaints, and only 110 convictions were obtained" (Gerstenfeld, 2013).
- In a hearing with FBI Director Wray, Senator Blumenthal expressed concerns that based on current reporting practices, 87 percent of hate crimes are under-reported under the current system.
- Staten Island presents a unique problem for ascertaining areas of concentration for hate crimes. Utilizing statistical methods and performing statistical analysis on Staten Island data generally or using annual results leads to statistically insignificant results. By utilizing only Staten Island data and different geographical boundaries, we can identify areas with a high concentration of hate crime and observe how the tensions within these areas with a high probability of hate crime are reflected in the above-average number of noise complaints from 2006-2020.

Design Decisions

Initially, I intended to present the data regarding hate crime on Staten Island using tables and graphs. However, after an initial analysis of the data, I became concerned that presenting the data in a table or graph, breaking it up into the number of hate crimes per year, would not tell the story of hate crime on Staten Island. I decided to display all the available hate crime data (2006-2021) on a map to show how hate crime affects different parts of Staten Island. To highlight these differences, I knew I would need maps that would demonstrate the geographical component of hate crimes. These maps were available on NYC Open Data; however, they contained all five boroughs. A decision was made to extract the Staten Island features from these maps. From the statistical analysis I have previously conducted at the borough level, I knew that Staten Island crime rates are statistically insignificant compared to other boroughs. Initially, 20 ShapeFile maps were available, ranging from the Borough map of Staten Island to the Census Block map (the smallest available unit of geographical analysis on official maps). The decision was made to use maps with an educational, political, health, or emergency response component. A decision was made to show the importance of geographical boundaries when analyzing hate crimes by selecting maps with five or more geographical boundaries.

The first visualizations for the data were point data of the hate crime data on the different maps of Staten Island. While it did tell a story of the concentration of hate crime, it did not draw the audience in to focus on any particular area. The count data of hate crime within each geographical boundary was added to the

Shapefiles/ GeoJson files, and chloroplast maps were made using this data. While this allowed users to focus on different areas, much of the color selection and the data divisions were left up to d3, and a coherent story was not present.

The initial map also lacked a point of comparison or data showing a measurable predictor or correlation with hate crimes. In order to apply neighborhood-level crime theories to the visualization, a variable was needed to show neighborhoods with an unusually high level of tension and heterogeneity. Initially, the racial composition of a geographical boundary was selected; however, this tends to transform the discussion from hate crime generally to racially motivated hate crimes. There was also no indication in the data that racially motivated hate crimes were the only ones occurring on Staten Island. After looking at the available data, I decided that noise complaint data was one of the best ways to capture different types of conflicts within a neighborhood. The 311 data from 2006-2020 was collected, and the data was filtered and cleaned until only Staten Island noise complaint data remained. The data was further filtered to remove noise complaints about helicopters, garbage trucks, and commercial buildings. The data was initially presented on the maps using points; however, this left no room to distinguish one area from another due to the number of points displayed. The data was then presented as chloroplast maps using the count data for each geographical boundary. While this improved the presentation of the data, there was a disparity between the hate crime count data and the noise complaint data. A decision was made to use the average number of noise complaints and the average number of hate crimes for each geographical boundary to show areas with an above-average number of complaints and an above-average number of hate crimes. It was still important for the users to identify the number of hate crimes in a specific geographical area. A hover box was created and placed in a fixed location on the page showing the average number of complaints/hate crimes, the geographical location name/code, and the number of complaints/ hate crimes. Finally, while a side-by-side comparison presented the data in an easily comparable manner, I determined that the user would benefit from seeing both datasets presented on the same map. The above-average and below-average noise complaints were presented using a chloroplast map. The hate crime data points were placed on the noise complaint choropleth map at each location of a hate crime on Staten Island. The size and color of the points were selected to allow each point to be identifiable on the map, and locations with clusters of hate crimes were conspicuously displayed. Finally, the legend location on each page was selected to maximize the use of the page and minimize large areas of unused white space. At the same time, it ensures users must look at both the top and bottom of the page when analyzing the map.

It was decided to maintain the same layout and color scheme for all three maps. Initially, it was decided to use two maps side-by-side and a drop-down menu

to compare different maps. This was changed due to d3's preference for a single data source with maps. Instead, an index page was created, and the hate crime and noise complaint chloroplast maps were next to each other in individual 49% width iframes. The combined map of the noise complaints and hate crime data was placed directly below these two maps creating the visual impression that they had merged to form a new map. Movement between the maps of the seven geographical boundaries was made possible by using hyperlinks at the top of each group of maps allowing a user to move to the map of their choice quickly.

Critiques Effect on the Project

The initial one on one critique pushed the project toward using maps. The written description and feedback taken by the other student were used regularly during different project iterations to ensure the original vision was being implemented or improved. The weekly group meetings provided feedback but, more importantly, showed the different stages other projects had gotten to, difficulties, and methods used to overcome these obstacles that could also be potentially useful in my project.

Differences Between Final Project and Project Prospectus

The significant differences between the project prospectus and the final project were the number of maps presented and how the maps were displayed on the screen. A user would only see two maps on the screen in the prospectus and mix & match which two maps were displayed. The final project displayed three maps in a group and required users to use hyperlinks to view different maps on different page sections. While it would have been better in some instances to have the two maps and the drop-down menu if it was not for the need to display all three maps on the page, I probably would not have used the above and below average chloroplast maps or combined the noise complaints and the crime data. Working with fewer maps led to more innovation and creative ways to present the limited number of geographical boundaries.