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Final Presentation Report
Viz Wiz

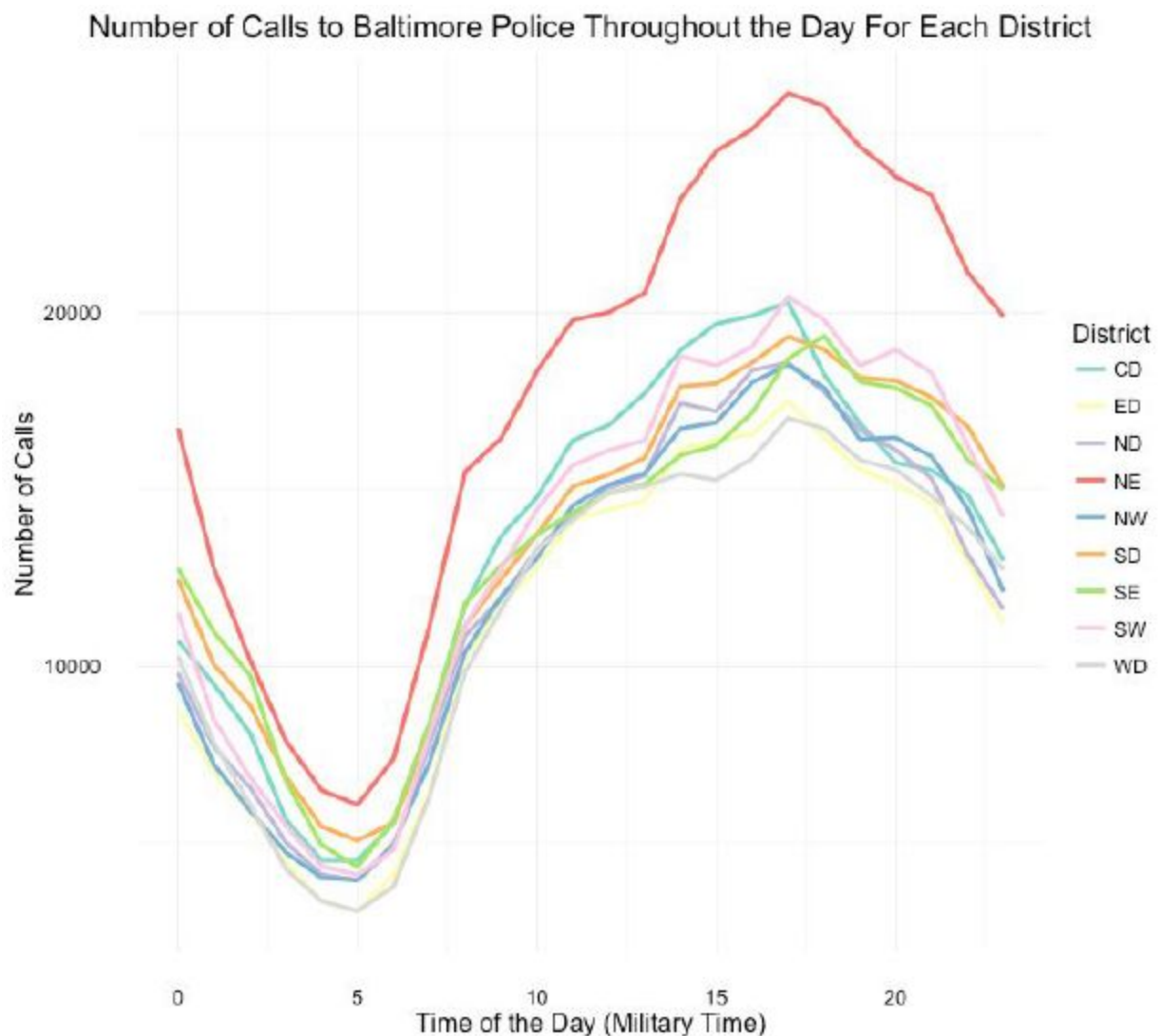Number of Calls to Baltimore Police Throughout the Day For Each District

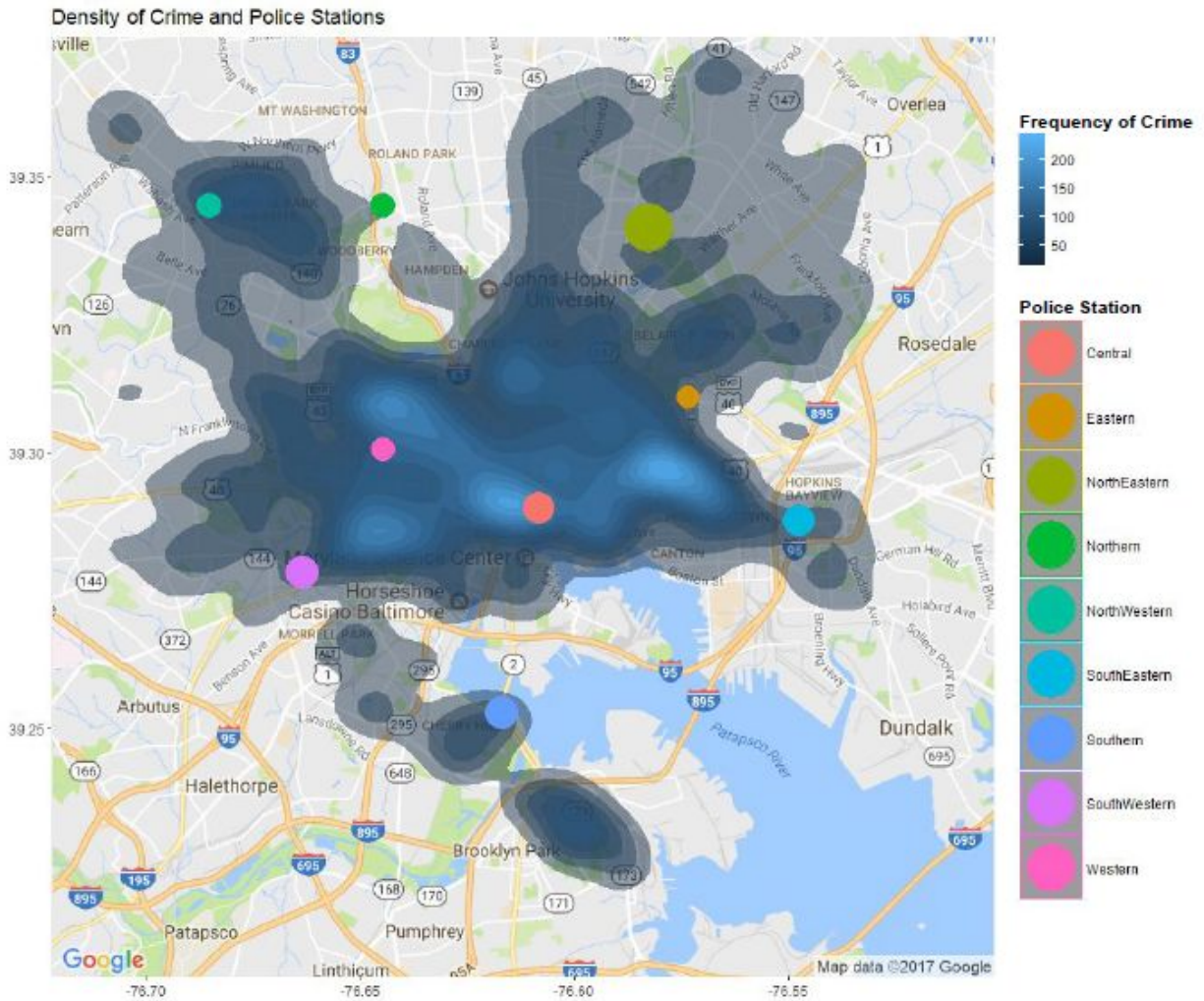*Figure 1: Amount of Calls to the BPD throughout the Day for each Baltimore District*

Figure 2: Density of Crime and Police Stations

Discussion of Visualizations

Figure 1: All calls to 911 for the Baltimore police stations were labeled with district (area where the call came from) abbreviations corresponding to compass coordinates (i.e. CD is central district, NE is northeast). Calls that were labeled with districts not of a specific area were removed. The hour of each call was used to analyze crime in each district over the course of a day. In general, the lowest frequency of calls occurs around 5 AM and the highest frequency of calls around 3-4 PM across all districts. There are psychological study explanations that indicate a correlation between increased aggression during hotter and more uncomfortable environments. The hottest time of the day is usually around 3 PM with the heat starting to build around noon.

Figure 2: The instances of victim crime from 2015-2017 were plotted on a map of Baltimore. The location of Baltimore police stations that were plotted differ in size according to the total number of calls received by the specific station during 2015-2017. Although the stations were labeled to serve a specific districts and the stations mainly respond to calls from their region, it is possible for the stations to respond to calls outside of their region in certain cases. Thus, the size serves an approximation of the actual demand of calls that the station responds to. There seemed to be higher frequencies of victim crime around Western, Central, Eastern, and Southeastern police stations. More safety precautions could be implemented for both citizens and officers in those areas with better distribution of police resources for the stations that cover larger geographical areas.

Discussion of Decisions

Figure 1: A simple line graph of the frequencies of calls over time was appropriate to convey the pattern of calls throughout the day of each district in a concise and straightforward manner. Graphing the data across time by the hour in military time (number more clear/less confusing without AM & PM) indicated change in crime frequency across the course of a day. There were not too many districts, so separating districts by color and graphing on the same visualizations allowed for comparison of patterns of the districts. Although the general trend among most of the districts was redundant, it was important to visualize to determine which districts were most similar and which districts contrasted most.

Figure 2: A heat map of the density of victim crime seemed essential in this case, especially to be able to hypothetically suggest implementations to the Baltimore police department. The victim crime data was used instead of the 911 call data because the 911 calls dataset could be more biased towards uninteresting calls (i.e. "no voice"). The police station locations were easily assessed amidst the density of victim crimes to better understand the geographical relationship between distribution of police resources and frequency of crime while taking into account the total number of calls specific stations receive. The latitude and longitude values placed on the x and y-axis is redundant, as it does not convey a meaningful message to the reader and it is assumed that the respective axis are latitude and longitude value. This information was left

because it added an additional level of information without disrupting other elements in the visualization.