The Chicago Redlight Camera Project

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ABSTRACT

Through our research, we found a massive issue regarding the redlight cameras in the Chicagoland area between the north and south side. Many of the tickets targeting low-income residents on the South Side.

INTRODUCTION

Our project focuses on the impact of red-light cameras in low-income neighborhoods in Chicago, particularly highly populated Black and Latino areas such as the south side. We will use data sources to analyze the harm caused by these cameras. The city has made $89 Million on these cameras alone in 2021. We chose the two highest trafficked cameras in the north and south, with the south side having the most cameras and generating the most tickets. We will also compare the timing of normal stoplights versus those with cameras and consider the average income of the areas affected. Despite the issues faced by citizens in these communities, the mayor and governor have not taken action. Our goal is to raise awareness and bring attention to these important issues.

METHODS

Prior to developing the statistical and visual models, we ensured that our data was cleaned and organized so that the most efficient outcome can be observed. For example, a camera's geographic location was not as simple as inputting a string of characters, but rather turning to the latitude and longitude values provided by our sources. Creating the statistical model was rather simple after the cleaning stage was complete. Our focus was on determining the variables we assumed were correlated rather than forcing the data to fit into the model. The same could be said about the visualization.

RESULTS
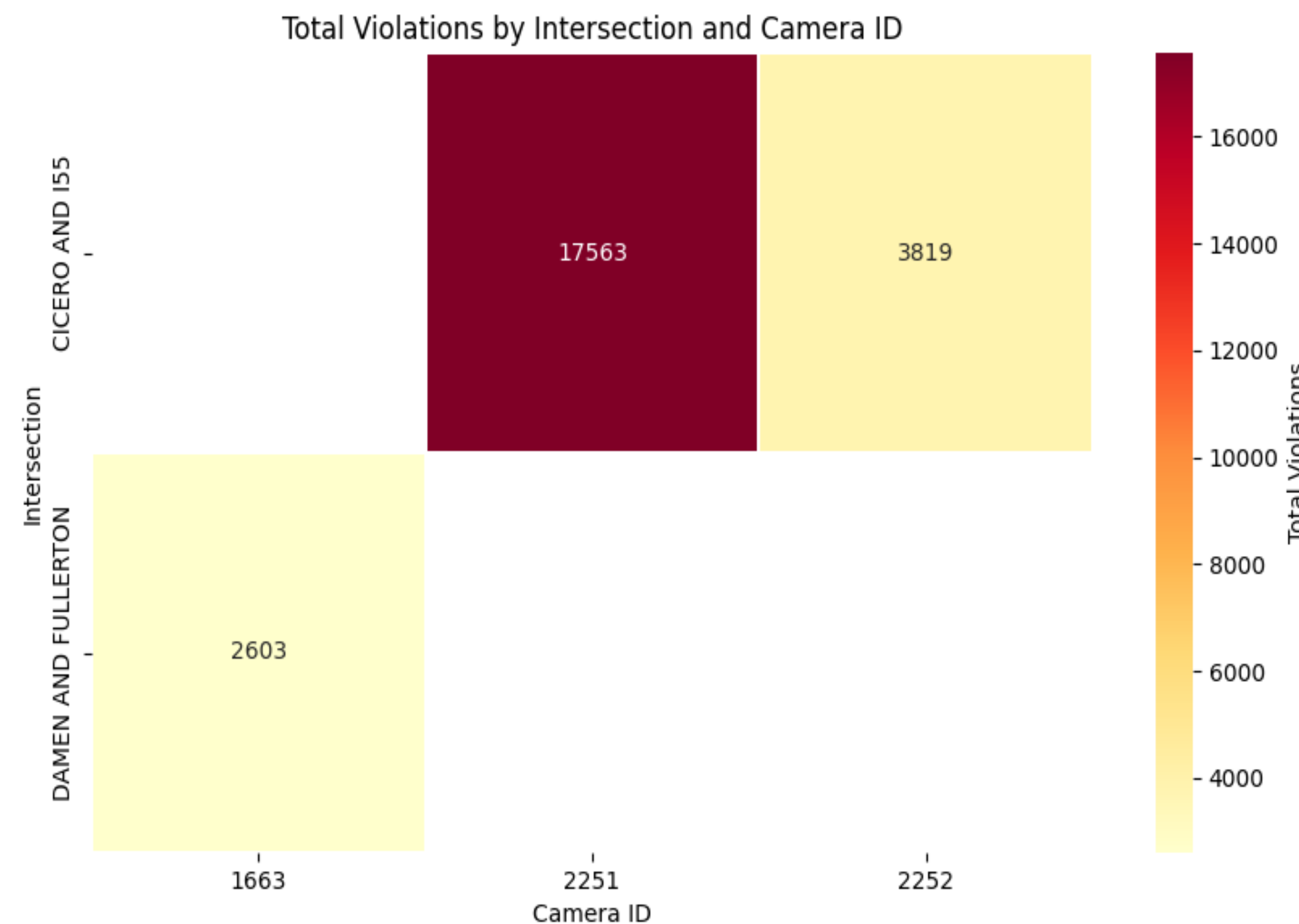
Description: The heatmap chart shows the concentration of traffic camera violations across different intersections in Chicago. The darker shades represent higher volumes of violations.
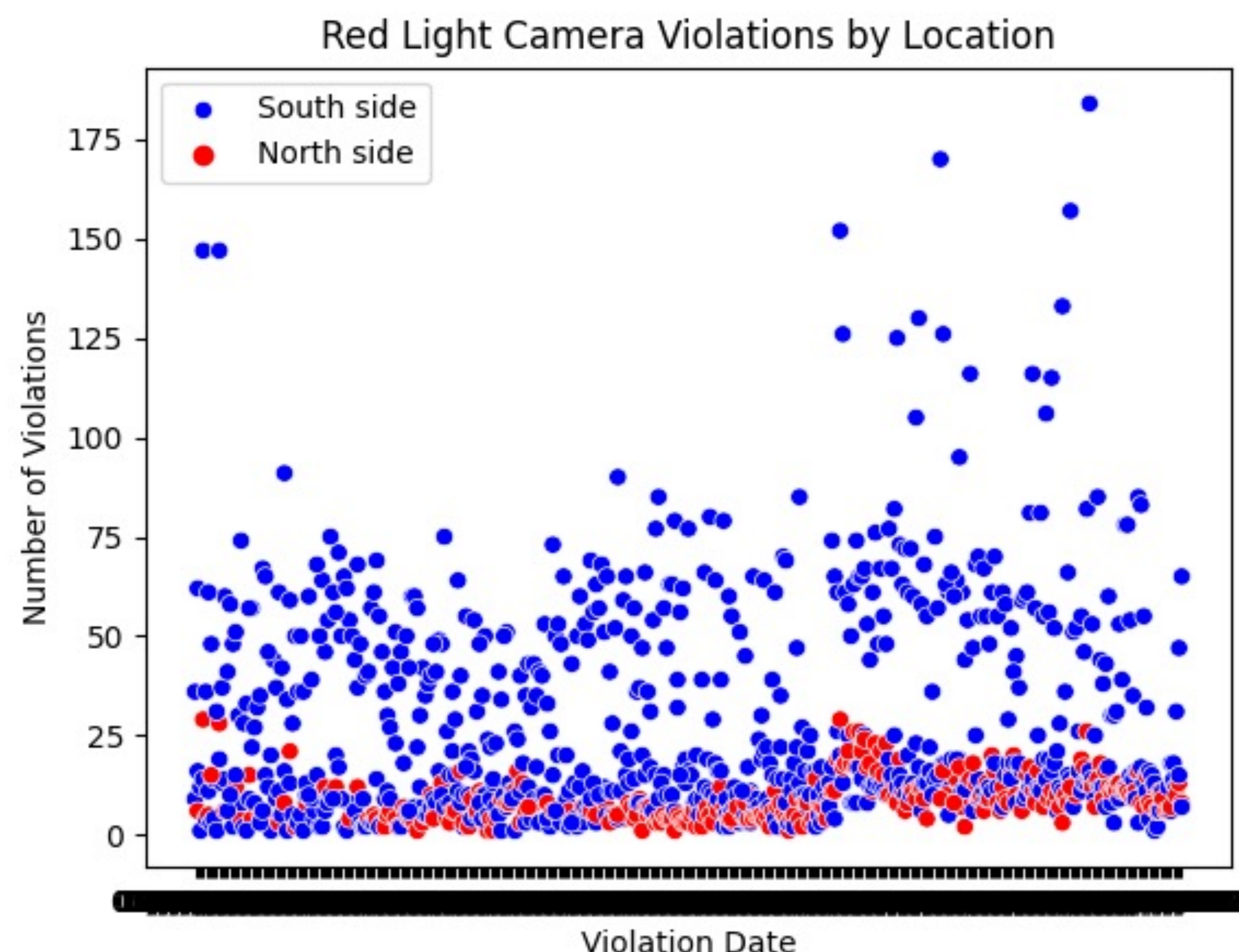
Description: This scatter plot represents the number of violations and the date of each violation on the north and the south side. From this visualization, we can interpret that the number of violations tend to be higher in the south side and that gives us an insight to a potential discrepancy between the two neighborhoods.

CONCLUSION

• Based on our findings, communities located in the south side of Chicago have experienced a greater number of violations when compared to communities in the north side. The two red light cameras that we have chosen for our project, differ greatly in terms of number of violations. However, it is difficult to determine the revenues generated by these cameras for the given year due to data unavailability, hence it is insufficient to conclude the financial burden the set cameras are taking on the communities. For future analysis, it is noteworthy to consider whether red light camera enforced intersections are near a major freeway. The number of violations in each intersection could potentially be affected by the surrounding environment. It is recommended to consider factors such as intersections with high volume of activity, close proximity to major freeways and neighborhoods with high density in population when examining the relationship between red light camera enforced intersections and the revenues generated by those cameras.

REFRENCES

- https://data.cityofchicago.org/Transportation/Red-Light-Camera-Violations/spqx-js37/data
- https://www.chicago.gov/content/dam/city/depts/cdot/Red%20Light%20Cameras/2018/Active_RL_Camera_Approaches_2018_0219.pdf
- https://data.cityofchicago.org/Transportation/Red-Light-Camera-Locations/thvf-6diy/data
- https://www.cmap.illinois.gov/data/community-snapshots