

Introduction

- Gun homicide in 2021 was at its highest level in 25 years, with 118 homicides in Connecticut.
- CAVG, in working towards addressing this, wanted to understand how factors such as violence intervention programs and neighborhood characteristics may influence shootings across Hartford.
- Utilizing this information would allow future violence intervention programs to be targeted to the areas that need them the most.

Research Questions

- 1. How do the reported shootings across the city of Hartford correlate to the presence of violence intervention programs?
- 2. How do neighborhood characteristics correlate or serve as indicators for gun violence?

Characteristics such as:

- Historical Red Lining
- Hospitals
- Green Spaces
- (Trees, Parks, Community Gardens)
- Entertainment Spaces
- (Movie Theaters, Community Spaces, Arts)
- Police Stations
- Empty Lots
- Household Income
- Average Home Prices

Publicly Available Data Sources

- Locations of the violence intervention programs were provided by the organizations' Compass Collaborative Hartford Programs, Youth Communities that Care, Our Piece of the Pie, and ROCA
- The shooting data was collected from the Police Crime Data provided by the City of Hartford through ArcGIS
- Economic data for neighborhoods were collected from the US Census Bureau.

Research Process

- Utilizing literature published in other cities, trends between characteristics and gunshots were obtained.
- From then, the maps were built using publicly available databases and GIS mapping software in order to visualize any trends seen in the city of Hartford.

- gunshot neighborhoods.

Gun Violence and Schools Barboza. G. (2018)

- Racial shooting incidents.
- elsewhere in the city.

Gun Violence and Green Spaces Breetzke, G., Pearson, A., Tao, S., & Zhang, R. (2020)

- across the city.
- violence.

Gun Violence and Physical Features Xu, J., & Griffiths, E. (2017)

- decreased.

Mapping Gun Violence in Hartford

Scott Alexander and Joshua Jacob

Community Partner: Connecticut Against Gun Violence Advisor: Dr. Sarah Raskin

Gun Violence and Redlining Benns, M., et al. (2020)

• Examined locations of gunshot victims between 2012-2018 and their distribution across the original HOLC neighborhood grades in Louisville, Kentucky. • Low-graded neighborhoods had five times as many victims as the higher-graded

Study on Boston schools aiming to quantify the concentration of shootings near schools to understand the place-based dynamics.

composition of the neighborhood significantly predicted both the mean distance from shootings to the nearest school and the number of

• Six times as many shootings occur within 400 metes of schools than would be expected

Examined the association between gun violence and green space in Detroit.

 Greenspaces were associated with lower levels of gun violence when compared to other locations

 No evidence was found that the deprivation levels of the neighborhood in which the greenspace was located significantly impacted the risk of gun

• Study measuring the spatial influence of physical features on gun violence in Newark, New Jersey • Results showed that features like liquor stores, grocery stores, bus stops, and residential foreclosures were shooting attractors.

• The immediate vicinity of each location displays the strongest magnitude.

• As the distance from the physical attractors increased, the occurrence of gun violence





Map of school locations overlayed with the occurrence of gunshots in Hartford.



Map recreation spaces overlayed with the occurrence of gunshots in Hartford.

Major Findings





Map of grocery store radius overlayed with the occurrence of gunshots in Hartford.



Map Redlining grades overlayed with the occurrence of gunshots in Hartford.



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Next Steps

- Further research is needed in order to determine whether the similarities between the neighborhood characteristics and the gunshots are indicative of a relationship or if it is just a correlation.
- Greater investment in violence intervention programs is needed to continue to address the issue prevalent in the city of Hartford. As shown, there are many areas in which gun violence is prevalent without nearby intervention programs.

Limitations

- When mapping the locations of the violence intervention programs, the locations of the physical offices were used, which likely minimized some of the organization's footprints in Hartford.
- From the maps, the only conclusion that can be made is the presence of a correlation between gun violence and specific neighborhood characteristics. To determine if there is a relationship and the nature of the relationship would require additional research.
- The shooting data in this study came from Hartford Police data that utilizes ShotSpotter technology. These devices use acoustic sensors to approximate the locations of the gunshots. If an area does not have sufficient coverage of devices, then it can result in less accurate mapping.
- When comparing the observations seen in Hartford across the literature, all studies examined shootings in other cities across the country. With different cities being studied, the connections between the perceived similarities of gun violence occurrence and neighborhood characteristics may be inconclusive.

Acknowledgements

We would like to thank all who have supported our project, including Dr. Sarah Raskin, Professor Laura Holt, Professor Erica Crowley, Jeremy Stein, Sean Reeves, Larry Love, Cheryl Cape, Sam Burg, and David Tatem.