

Background:

Guns have never been a morally easy topic to discuss. To some, they represent a necessary tool to help humanity; to others, guns represent nothing but violence. The City of Rochester is no exception to this. Along with other urban issues such as hunger, and education quality, Rochester, in particular, has struggled with the issue of gun violence over the past couple of decades.

Question:

As students studying at the University of Rochester, we wanted to use this opportunity to conduct a statistical analysis on our surrounding community. Specifically, is there a relationship between food insecurity and gun violence within the City of Rochester? If so, what kind of relationship/correlation exists?

- What zip codes are most prevalent with gun violence?
- What zip codes have the highest food insecurity rates?
- The most recent data on food insecurity is from
- How should we narrow parts down? By Zip Code? By Latitude/Longitude Clustering?
- The found data is from 2018 - how have things changed since?
- Are there other hidden factors that may also play into this relationship (e.g.: education)
- Can we use measures of similarity/dissimilarity (e.g.: Sorensen-Dice Coefficient) to test the amount of overlap between these two variables?
- Can we extrapolate our findings to a broader range, or is this Rochester-specific?

Possible Graphic and Table Representations:

- Comparative Histogram showing the relative frequencies of food insecurity and gun violence rates in Rochester
- Comparative Scatter Plot using Latitude and Longitude Coordinates to compare clusterings of food insecurity and gun violence incidents (color-labeled)
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Datasets:

We will be using data acquired from the RPD Open Data Portal and FoodLink.org. The former is a government maintained site offering public domain datasets relating to the City of Rochester's Police Department. The latter comes from a company located in Rochester that's dedicated to helping feed city residents in need. We will reference both sources as needed:

RPD Open Data Portal: <https://data-rpdny.opendata.arcgis.com/>

FoodLink.org: <https://foodlinkny.org/new-food-insecurity-data-show-level-of-need-in-rochester-other-communities/>

Rochester Gun Violence Proclamation: <https://www.cityofrochester.gov/gunviolencestateofemergency/>