

SOO INGRISONE
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Investment Property in Minneapolis Neighborhood

Introduction



Minneapolis: a home of big cooperation, various employment opportunities



Rich environment: a desirable place to work and live.



Housing market: very competitive, attracts many investors



The problem: 87 neighborhoods, the 3rd most expensive city in North America.



The purpose of the study: to solve a problem for investors to identify the best Minneapolis neighborhood to own a rental property.

Data



Minneapolis neighborhoods:

https://opendata.arcgis.com/datasets/055ca54e5fcc47329f081c9ef51d038e_0.geojson



Crime data:

<http://opendata.minneapolismn.gov/datasets/police-incidents-2018-pims/data>



Home price:

<https://www.zillow.com/minneapolis-mn/home-values/>

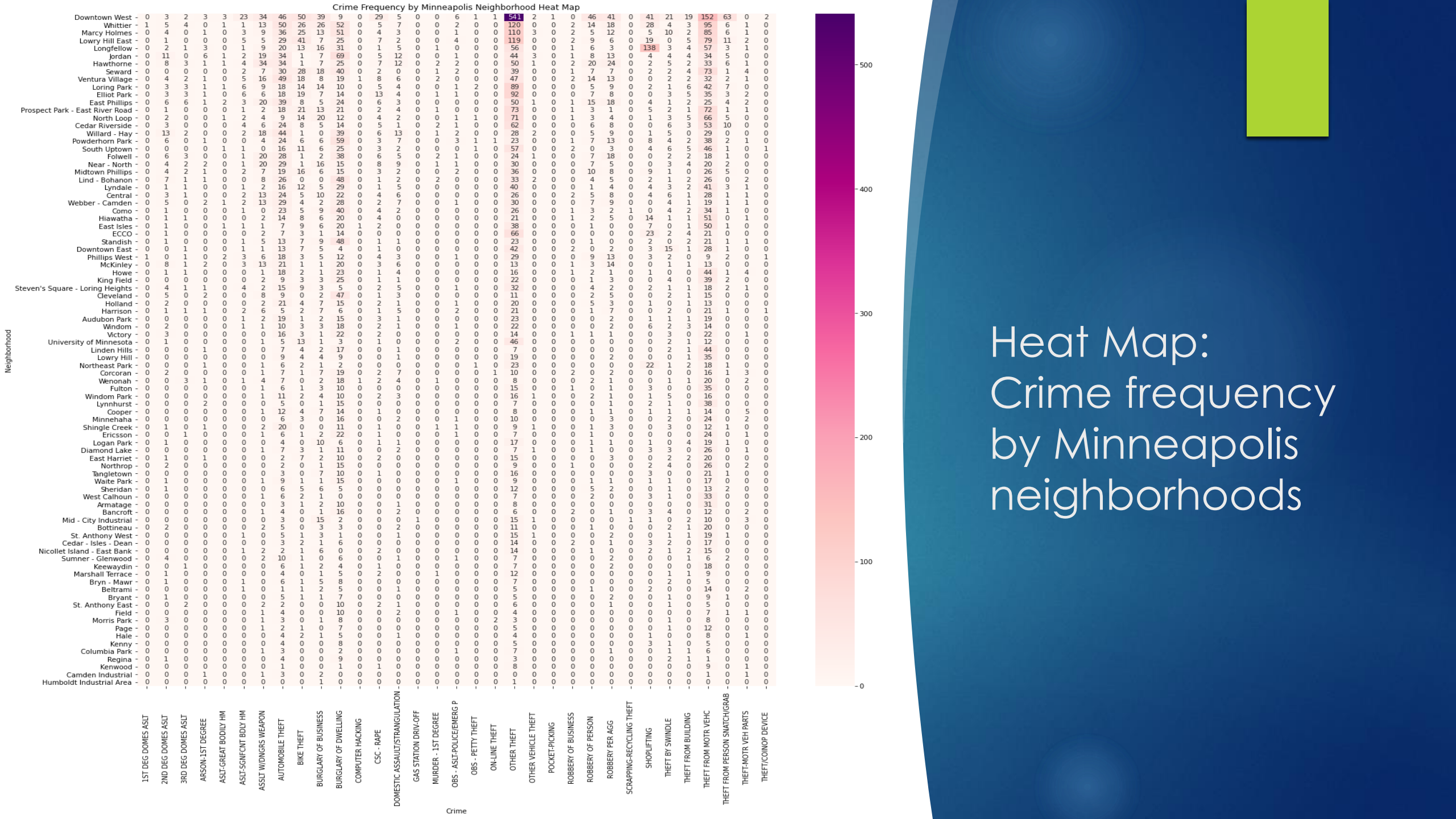


Foursquare API :

<https://foursquare.com/developers/apps>

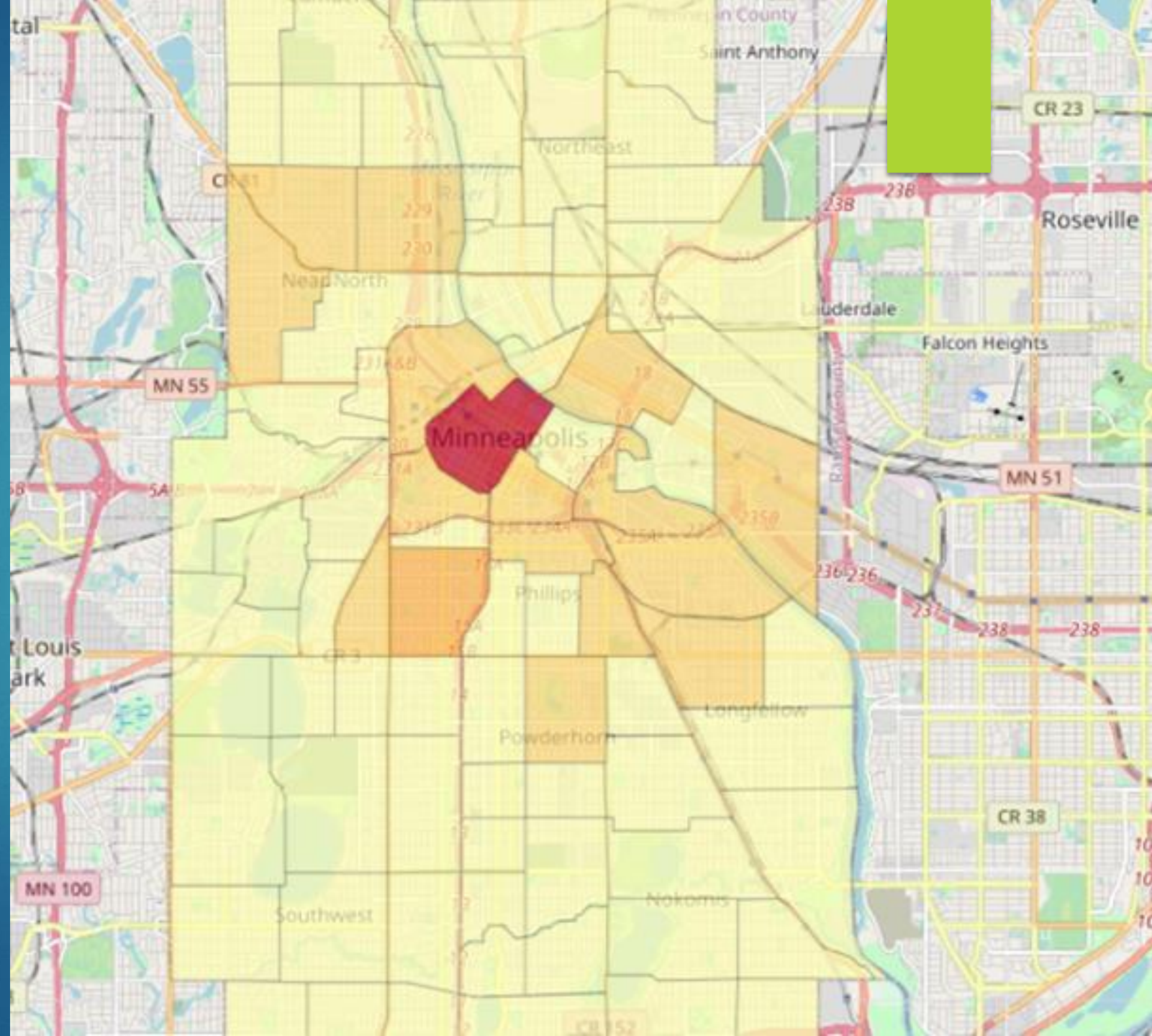


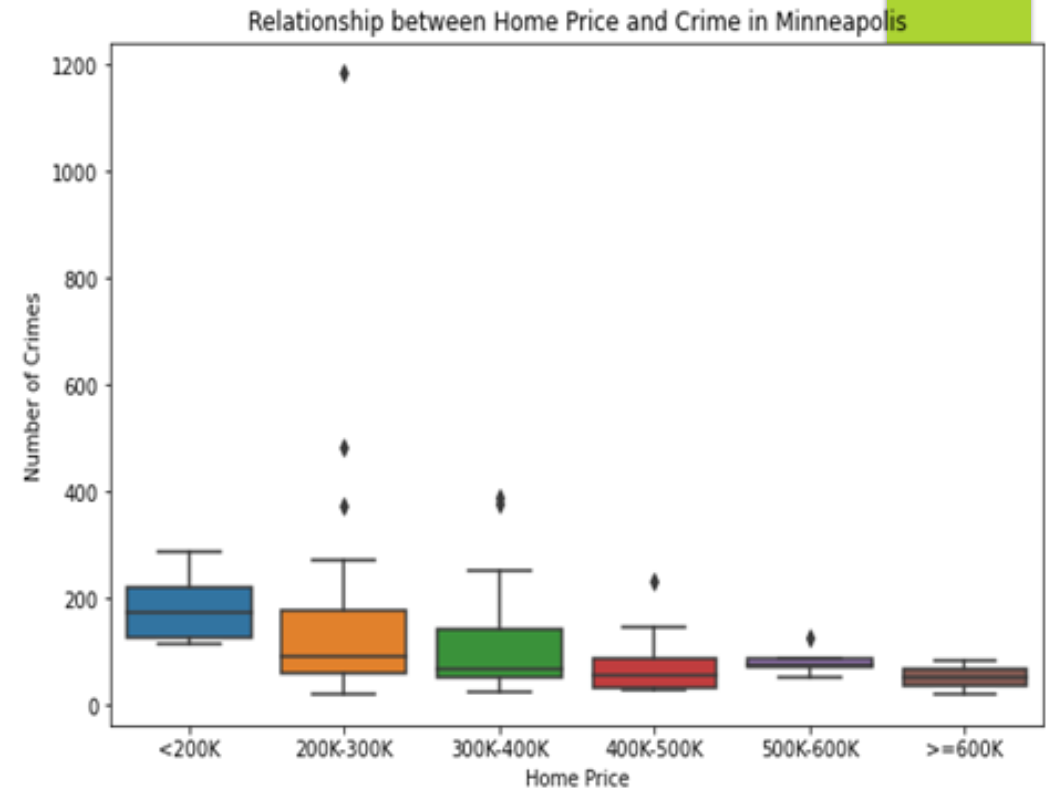
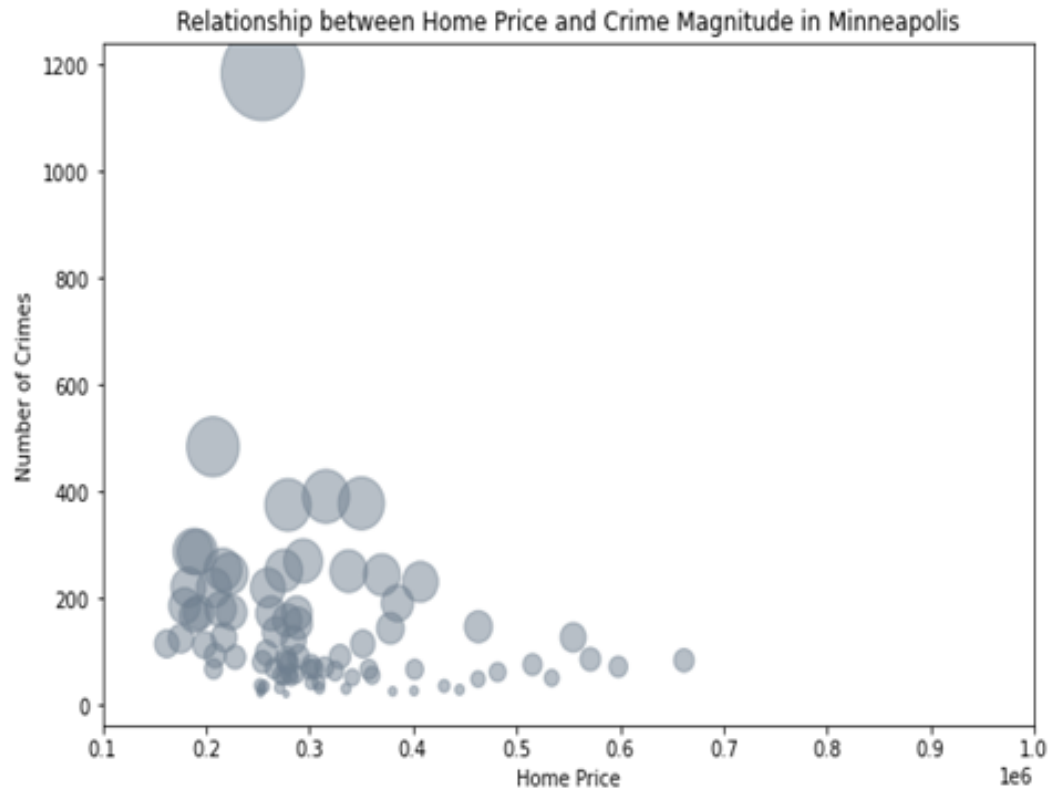
Final data consists of 29 features across 78 neighborhoods.



Magnitude of
crimes per
neighborhood:

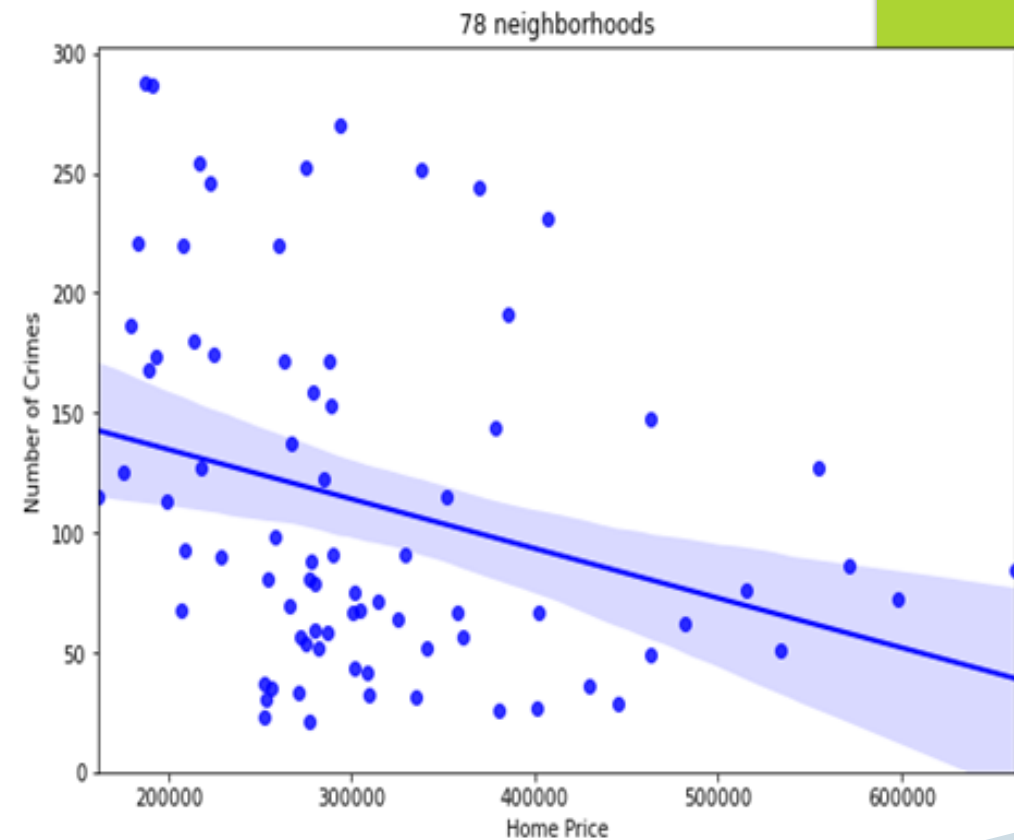
Downtown
Minneapolis has
unusually high crime
rate.



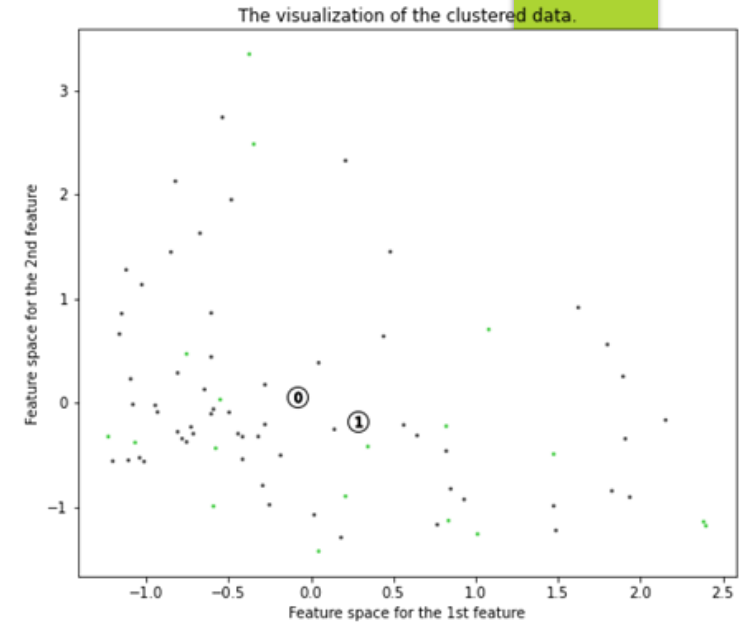
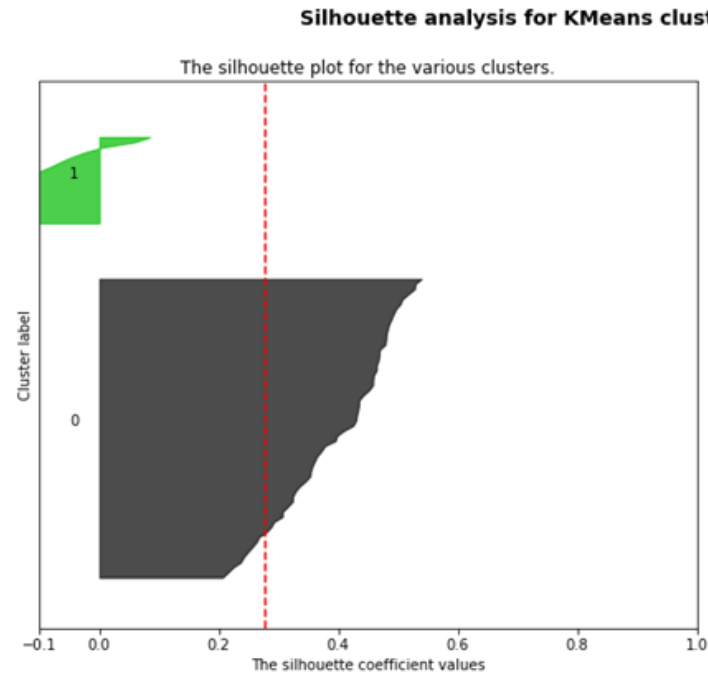
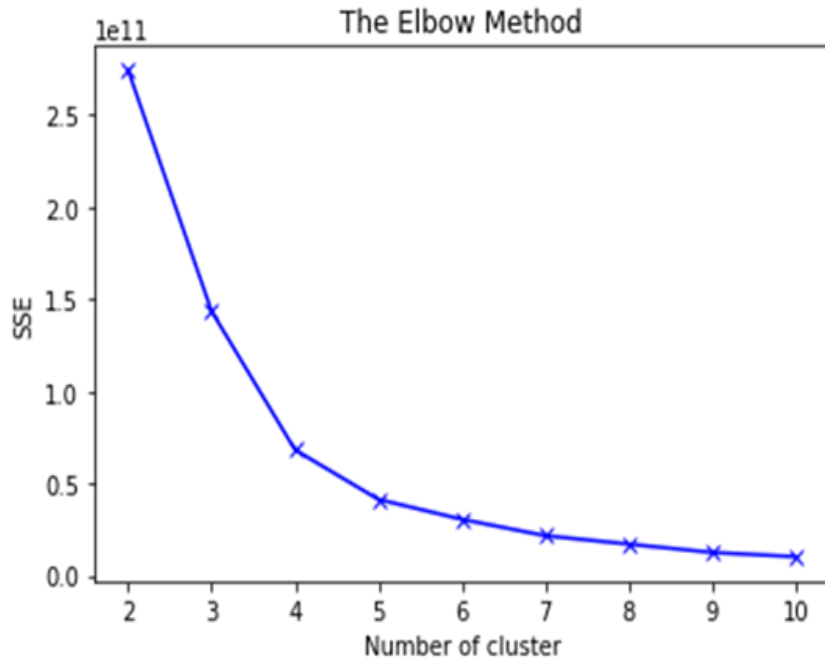


Relationship between Home Price and Number of Crimes in Minneapolis:

- The number of crimes reduce as the home price goes up.
- Neighborhoods with home price higher than \$400K seem to be relatively safe.



- A significant negative relationship between home price and number of crimes in Minneapolis ($r=-.294$, $p < 0.01$).
- After outlier neighborhoods are removed, the final data consists of 29 features across 78 neighborhoods.

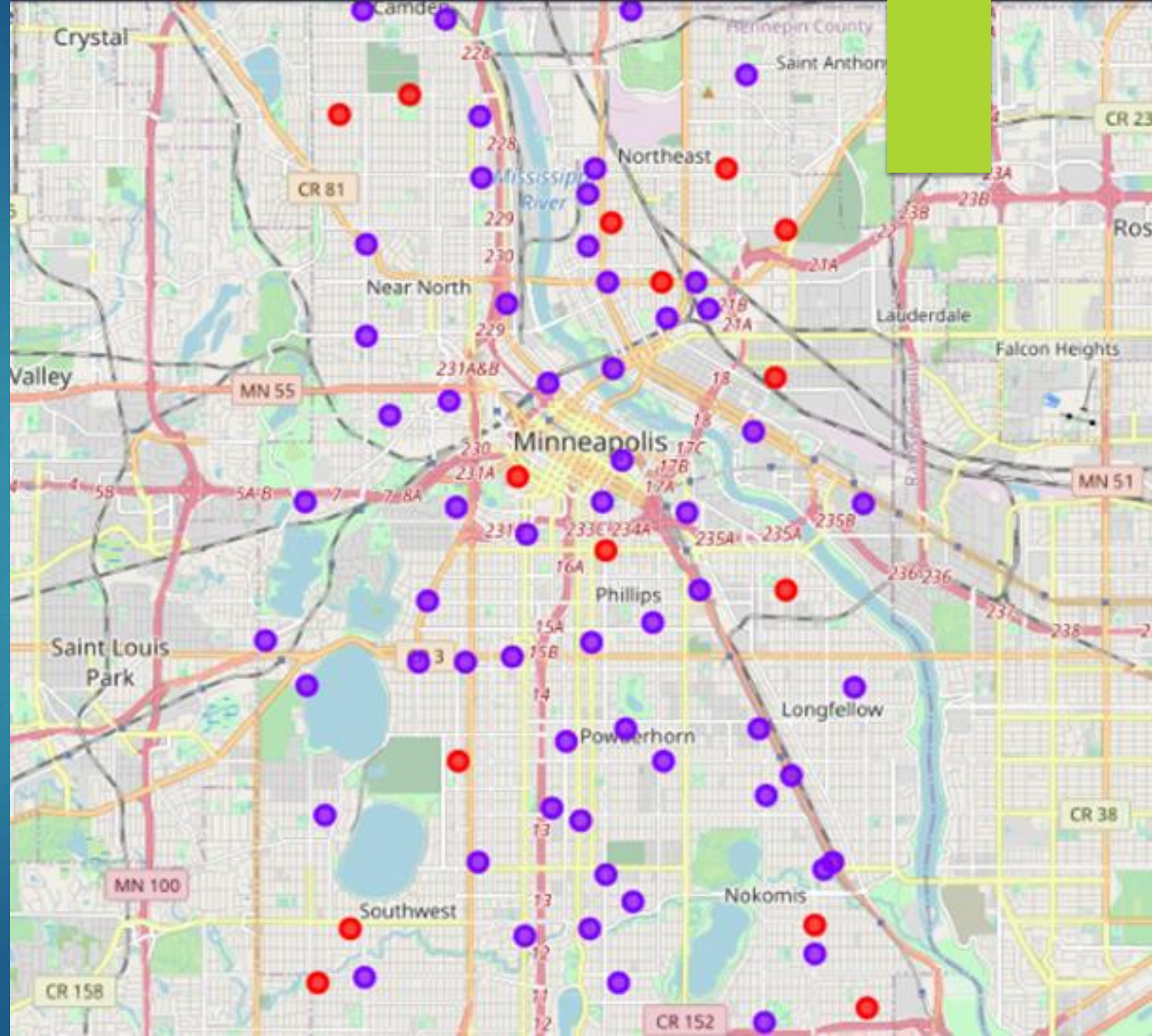


K-Means Clustering

- discover insights from unlabeled Minneapolis neighborhoods data.
- Elbow method seems to suggest $K=3$
- Silhouette analysis shows best fit at $K=2$ with obtained score = .28. $K=2$ is used to cluster the neighborhoods.

K- Means Clustering results

(K=2 neighborhood
segmentation)



Results



Cluster areas: N=15 & N=63.

More restaurant options in area with N =63 which is desired for a rental property.



Two criteria for potential neighborhoods for a rental property:

Distance from the center of the city ≤ 1.5 miles & Number of the crimes ≤ 50 .

Three neighborhoods emerged from N=63.



The best neighborhood to own a rental property:

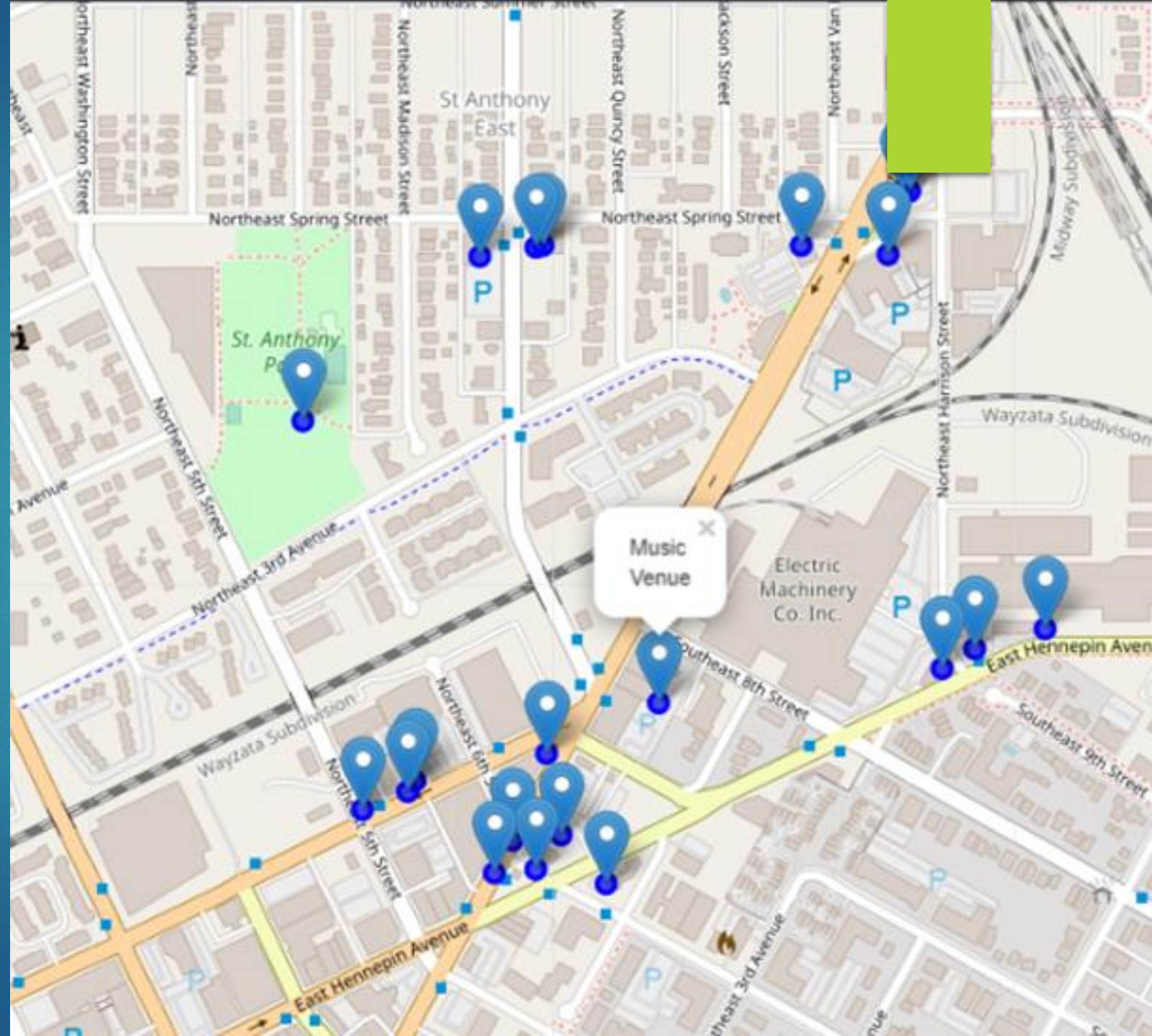
St. Anthony East neighborhood

The safest neighborhood with various venues, economical choice among three

Discussion

St. Anthony East neighborhood

- ▶ 21 different venues
- ▶ Low crime rates even with 3 bars and 2 music venues
- ▶ Suited for a young adult or visitors rather than a family
- ▶ Nice restaurants with high ratings
- ▶ Recommendation: Avoid bars, music venues, train, roads, commercial properties and electric machinery due to noise and traffic



Conclusion



The safety measure via crime rates, home price in each neighborhood, & proximity to the downtown are the main characteristics to pinpoint the best neighborhood for investors to own rental property.



St. Anthony East neighborhood is best neighborhood to invest: 1.5 miles from downtown, Home price around \$300K, Safe, Various venues for different lifestyle.



K-Means clustering ambiguous. Hard to uncover the deciding factors for two clustered areas.



Future study: Include more data, i.e., ethnicity, gender, employment status, and school performance, to distinguish the neighborhoods better.