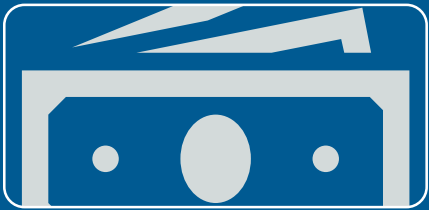




Portland Neighborhood Selection

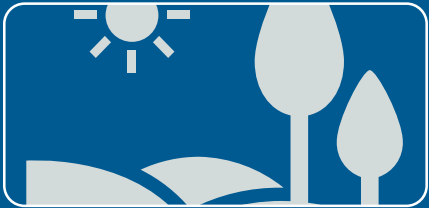
Sean Rumberger

Why Buy Real Estate in Portland?



Affordable

- 3rd most affordable city on the West Coast
- Median home price of \$375,425



Attractive

- Ranked 8th on the Overall best places to live list by US News

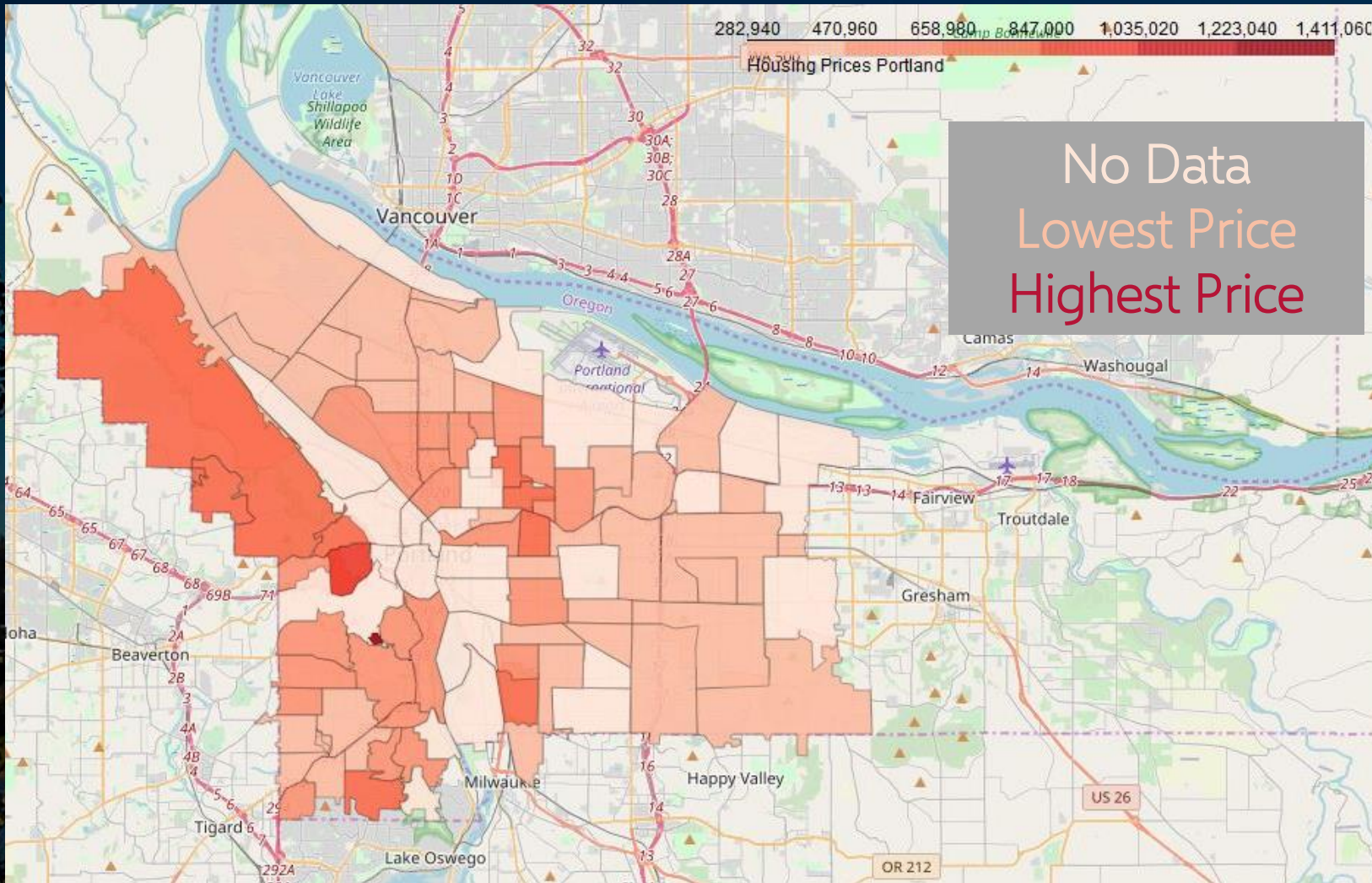


Access to Activities

- Within a two-hour drive of both the Oregon Coast and Cascade Mountains
- Wind surfing, Surfing, Skiing, Hiking, Mountain Biking, etc.

Data

- **Neighborhood Data:** JSON file and csv file containing the Coalition Names, Neighborhood Names and Area obtained from [ARCGIS](#)
- **Crime Data:** Offense Counts, Offense Category, and Neighborhood of Occurrence csv file obtained from portlandoregon.gov/police/71978
- **Real Estate Pricing Data:** Median home price, Price per Square Foot and Neighborhood Name scraped from [Portland Monthly](#)



Median Home Prices per Neighborhood

The map to the right shows median home prices per neighborhood, the darker the neighborhood the more expensive.

Crime Data Processing

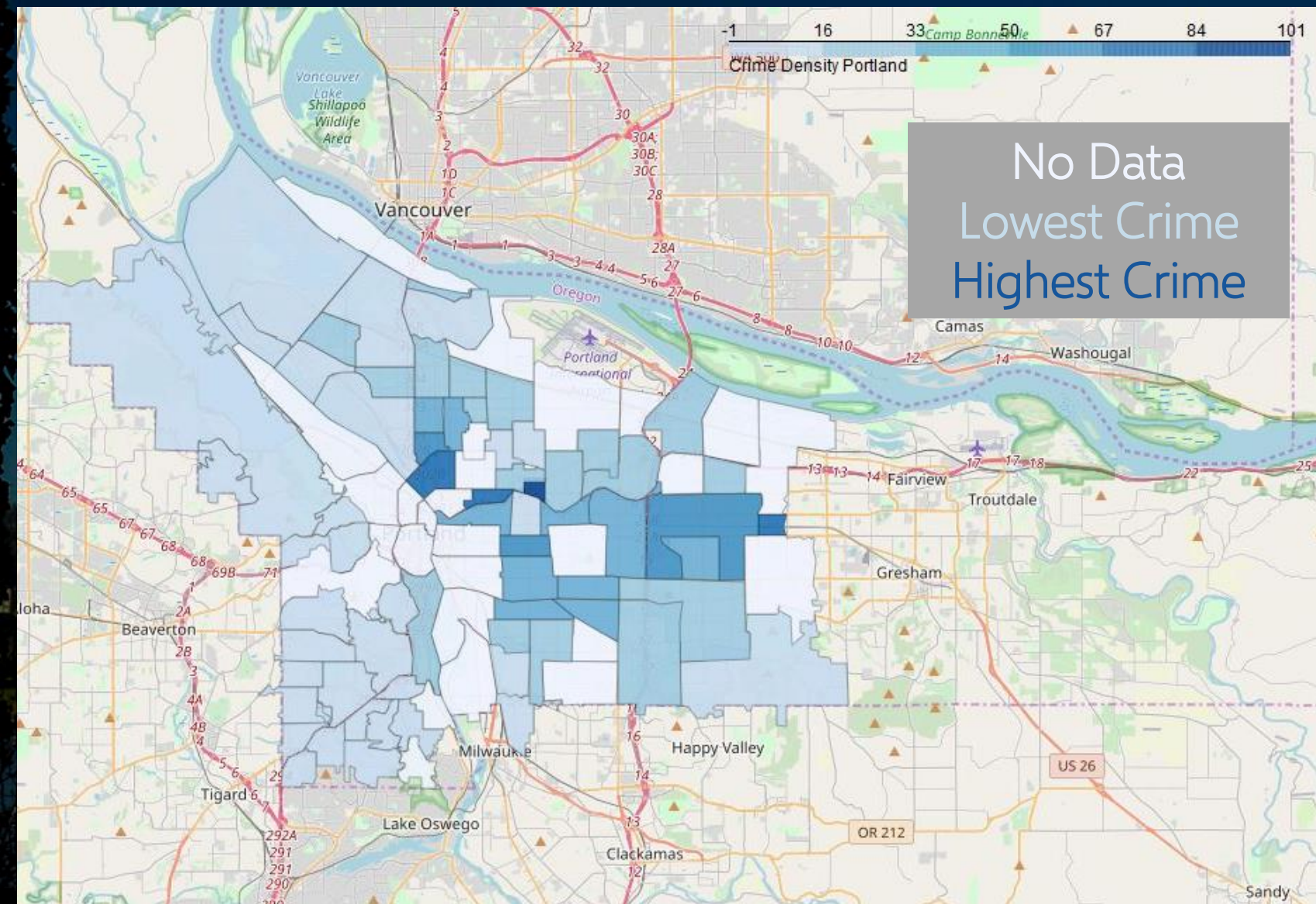
The crime data was weighted by offense category¹, multiplied by the number of counts of each offense, divided by the area of the neighborhood, then normalized to a scale of 0 to 100².



¹ For example Homicide was weighted as 5 while petty theft was weighted as 1

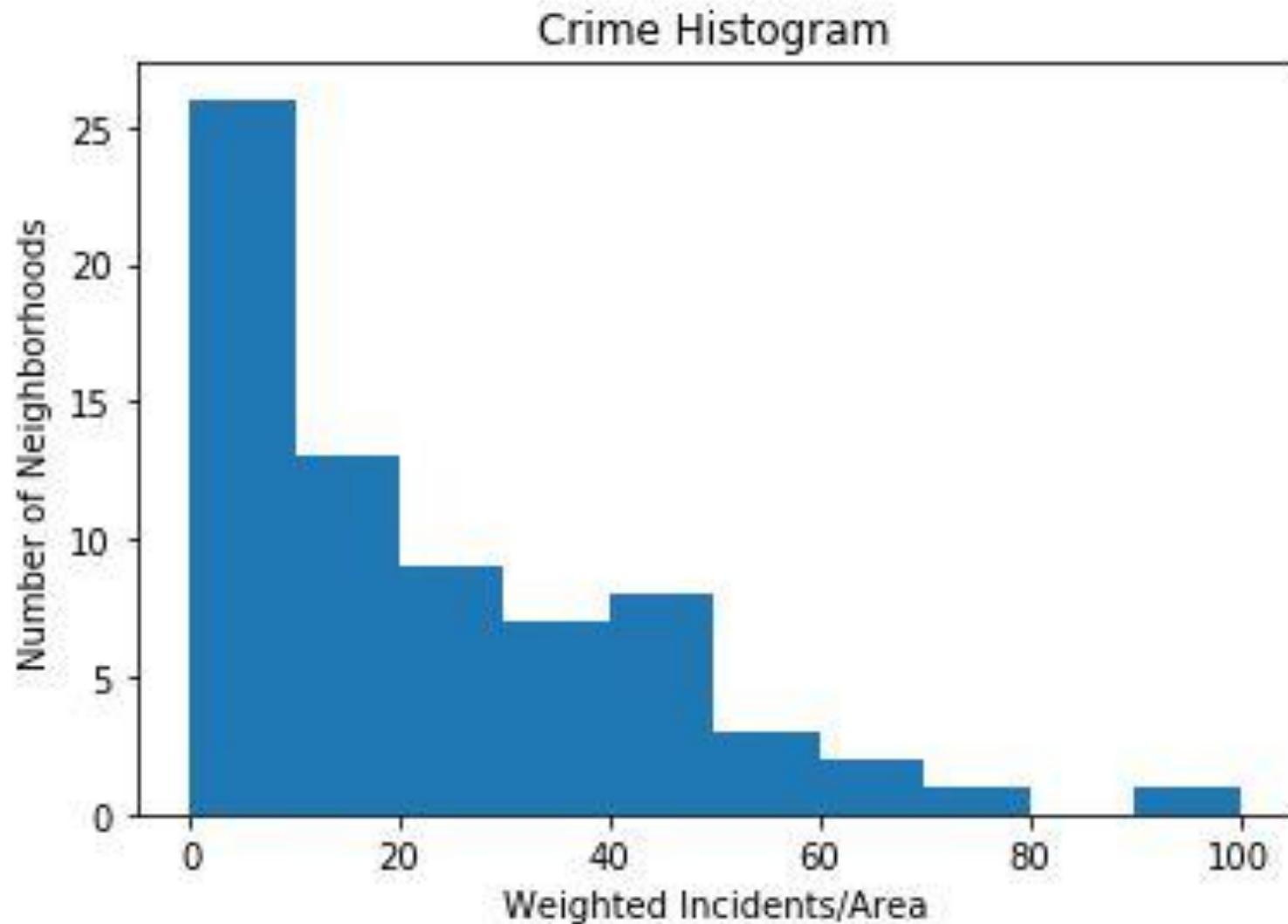


² The data was divided by the maximum value of weighted offense/unit area to then multiplied by 100 to achieve this normalization



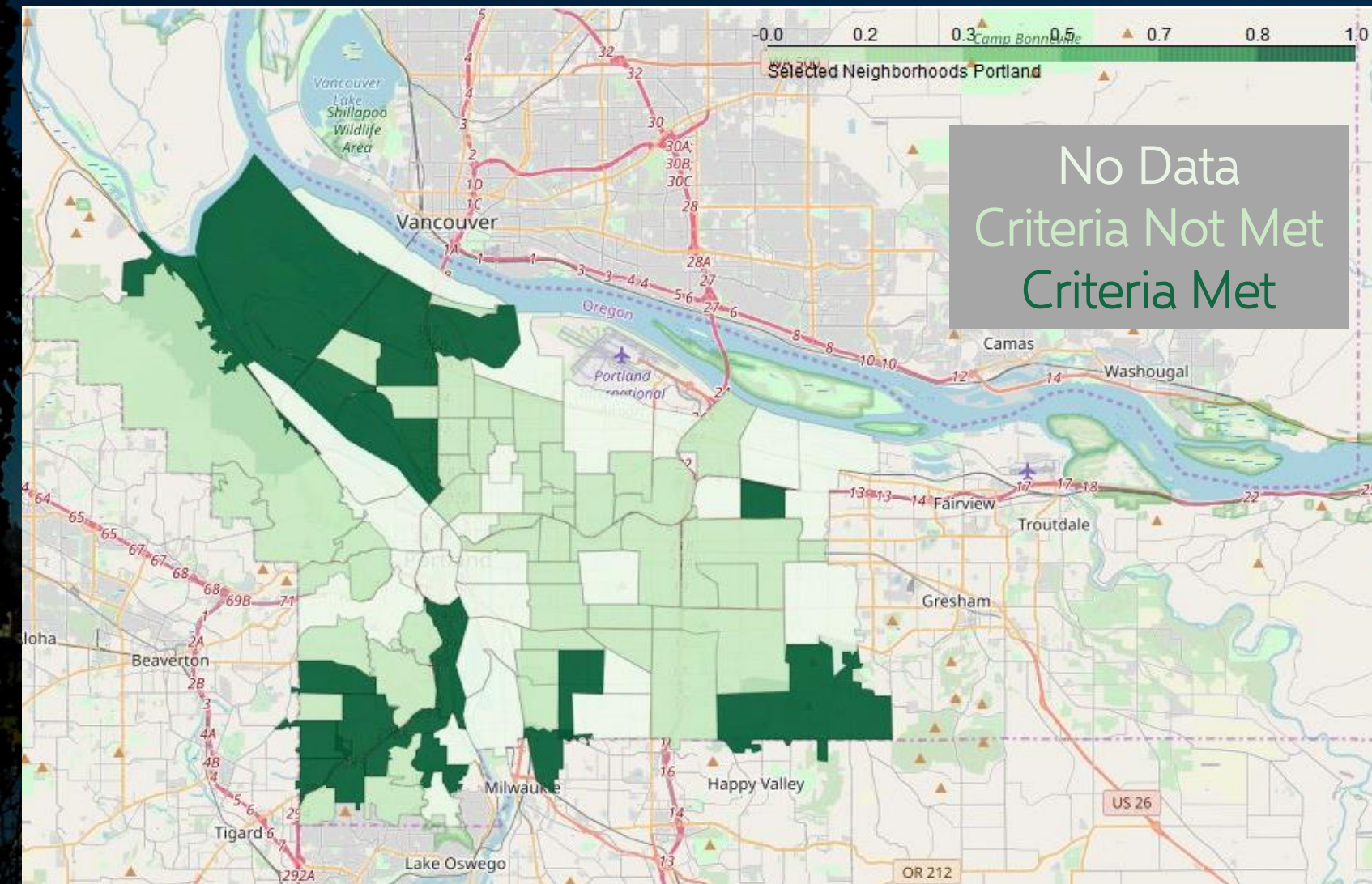
Crime Data by Neighborhood

Weighted crime incidents per unit area normalized (See previous slide for explanation)



Exploring the Crime Data

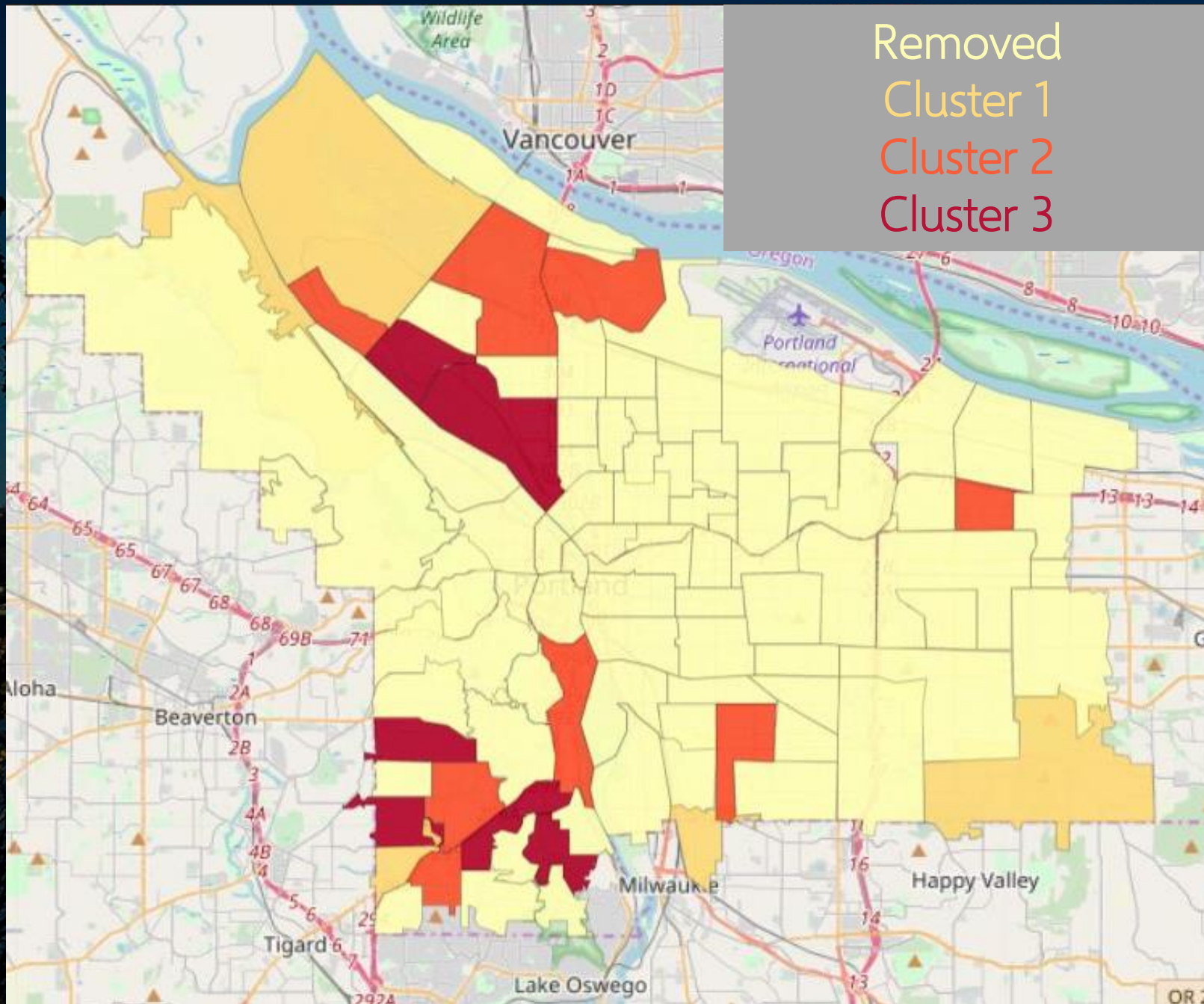
- Crime data was separated into 10 bins
- A histogram plot was rendered to visualize the distribution
- From this plot neighborhoods with a score of less than 20 were selected as candidates



Acceptable Neighborhoods

Neighborhoods with a median home price of less than \$500,000 and Weighted Incidents per Unit Area of less than 20 were selected as potential candidates.

- Dark green neighborhoods are those which fit the above criteria
- All either had no data or did not meet the criteria



Removed
Cluster 1
Cluster 2
Cluster 3

Neighborhood Clustering

- Foursquare API used to retrieve top 5 venues in each "acceptable" neighborhood
- Kmeans applied to data to produce 3 clusters
- Clusters shown in map on the right
- Removed data that did not meet previous selection criteria

Cluster 1 Data

Neighborhood	MEDIAN PRICE	COST/SQ_FT	CRIME SCORE	Common Venue 1	Common Venue 2	Common Venue 3	Common Venue 4	Common Venue 5
PLEASANT VALLEY	420000	182	3.1	Snack Place	Park	Deli / Bodega	Nature Preserve	Stables
ST. JOHNS	360000	242	0	Dog Run	Park	Disc Golf	Yoga Studio	Fish Market
LINNTON	377450	183	0.48	Food	Convenience Store	Bar	Trail	Forest
ARDENWALD-JOHNSON CREEK	434500	185	0	Garden	Stables	Hotel	Nature Preserve	Dive Bar
CRESTWOOD	388500	230	2.2	Gym / Fitness Center	Park	Bank	Smoke Shop	Playground

Conclusion

- Cluster 1 chosen for the following reasons:
 - Low median price
 - Low Crime Score
 - Access to natural settings such as parks, trails, and nature preserves