

Portland, Oregon's Bicycle Traffic

Capstone Project

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Can Portland, Oregon increase Bicycle Ridership?

- help resolve traffic congestion problems,
- alleviate over-crowded parking,
- reduce vehicle emissions, and
- ultimately increase the livability of Portland Oregon

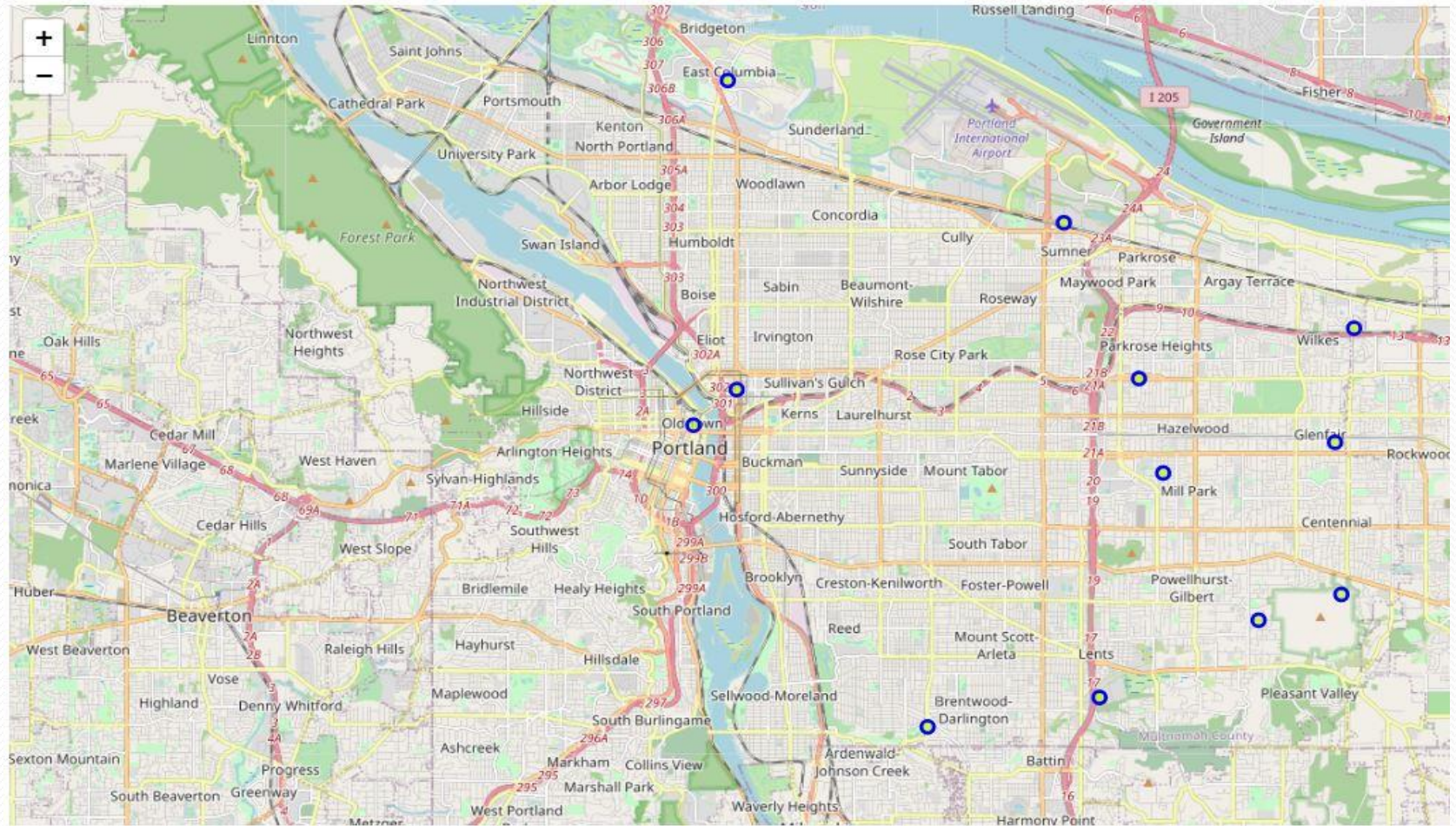
We will analyze at the:

- number of existing bicycle routes,
- number of existing bicycle parking areas,
- number of and distance to existing venues (which are appropriate for bicycle commuters), if any
- median house sale price for each Portland neighborhood for 2019

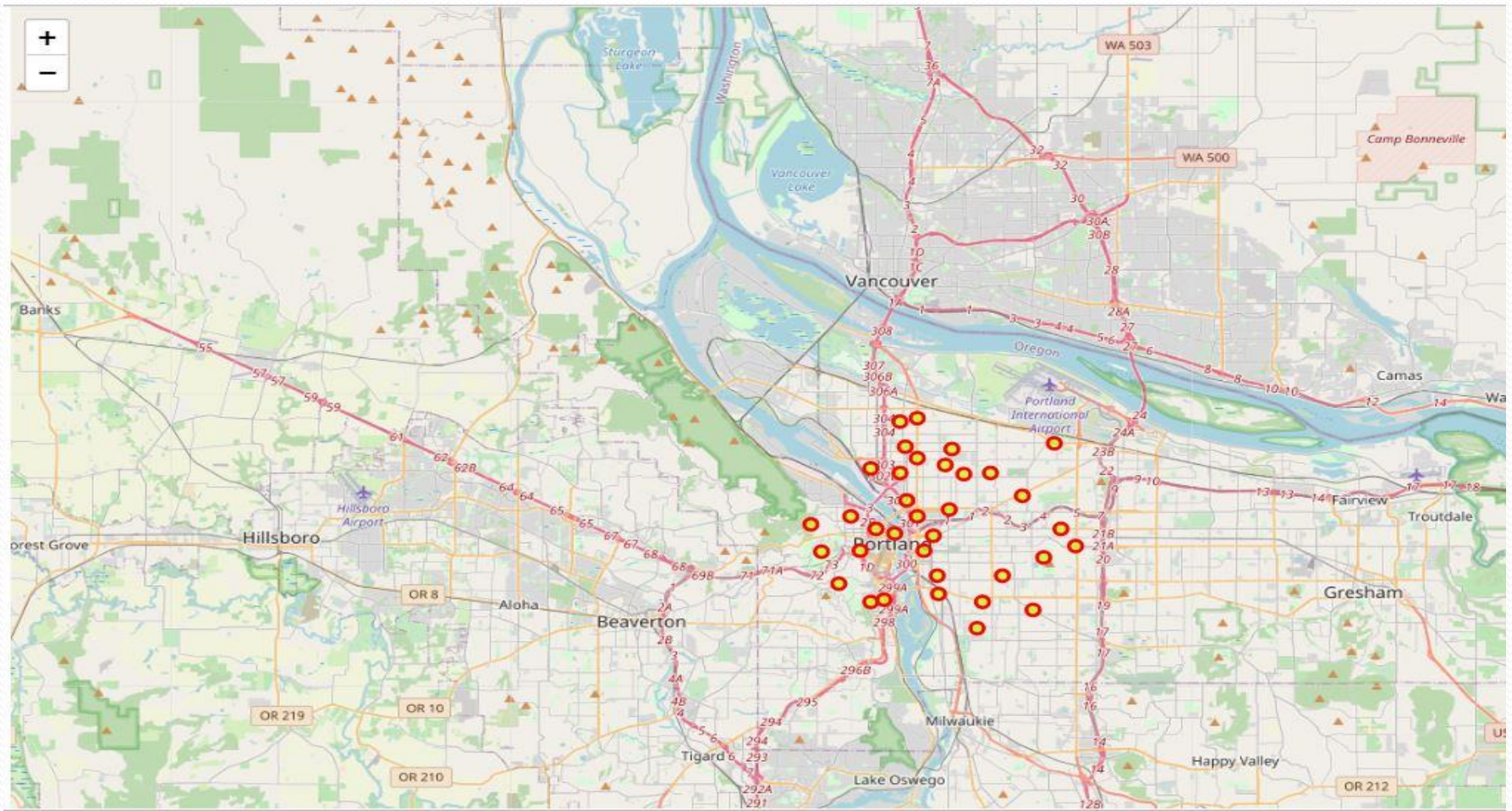
Data acquisition and cleaning

- *Bicycle parking* will be extracted from: [PortlandMaps - Open Data](#), updated on 11/4/2020 ... 7618 records.
- *Bicycle routes* will be extracted from: [PortlandMaps - Open Data](#) (Bicycle Routes), updated in 11/5/2020 ... 554 records.
- *Median House Sale Price* will be scraped from a web table: [Portland Neighborhoods by the Numbers 2019: The City...](#) 96 records.
- Number of *venues* and *location* in every *neighborhood* will be obtained using **Foursquare API**.

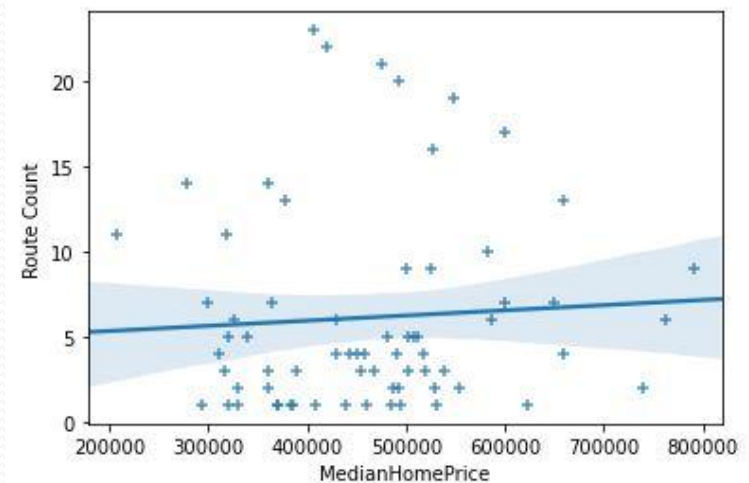
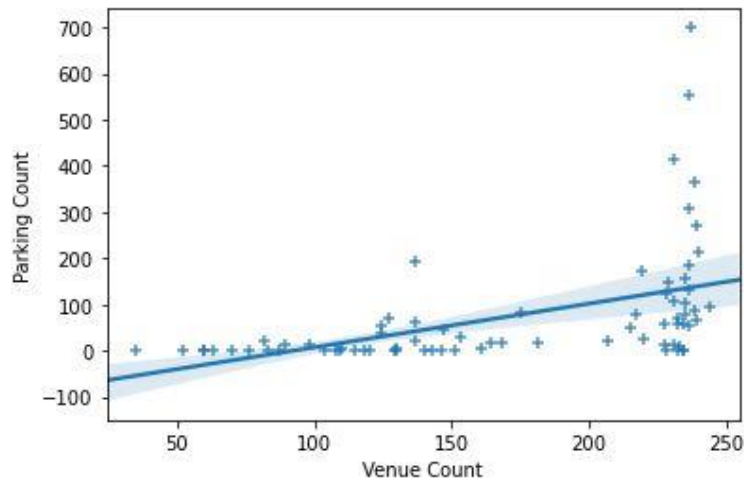
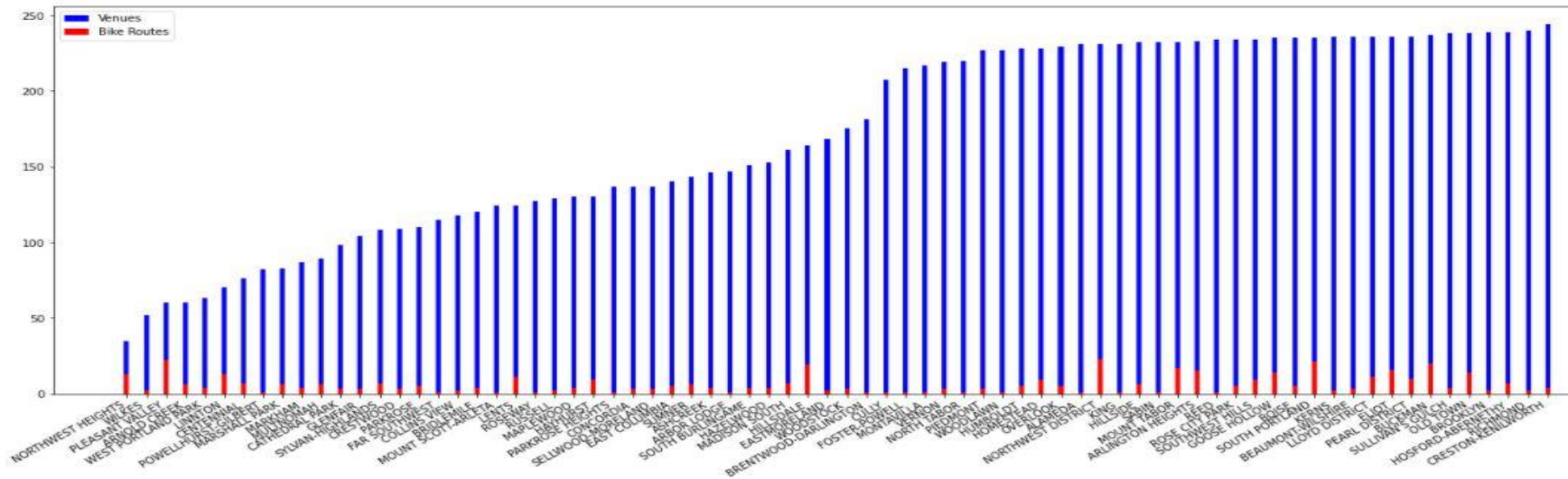
Neighborhoods having Affordable Housing



Neighborhoods having the Most Venues



Feature Relationships



Venues with high Frequency

----ALAMEDA----

	venue	freq
0	Coffee Shop	0.07
1	Bar	0.06
2	Grocery Store	0.05
3	Pizza Place	0.04
4	Café	0.04

----WILKES----

	venue	freq
0	Coffee Shop	0.06
1	Harbor / Marina	0.06
2	Sandwich Place	0.06
3	Intersection	0.04
4	Thai Restaurant	0.04

----ARBOR LODGE----

	venue	freq
0	Coffee Shop	0.09
1	Bar	0.08
2	Park	0.07
3	Food Truck	0.05
4	Pizza Place	0.04

----WOODLAWN----

	venue	freq
0	Coffee Shop	0.09
1	Food Truck	0.06
2	Pizza Place	0.05
3	Bar	0.04
4	Park	0.04

...

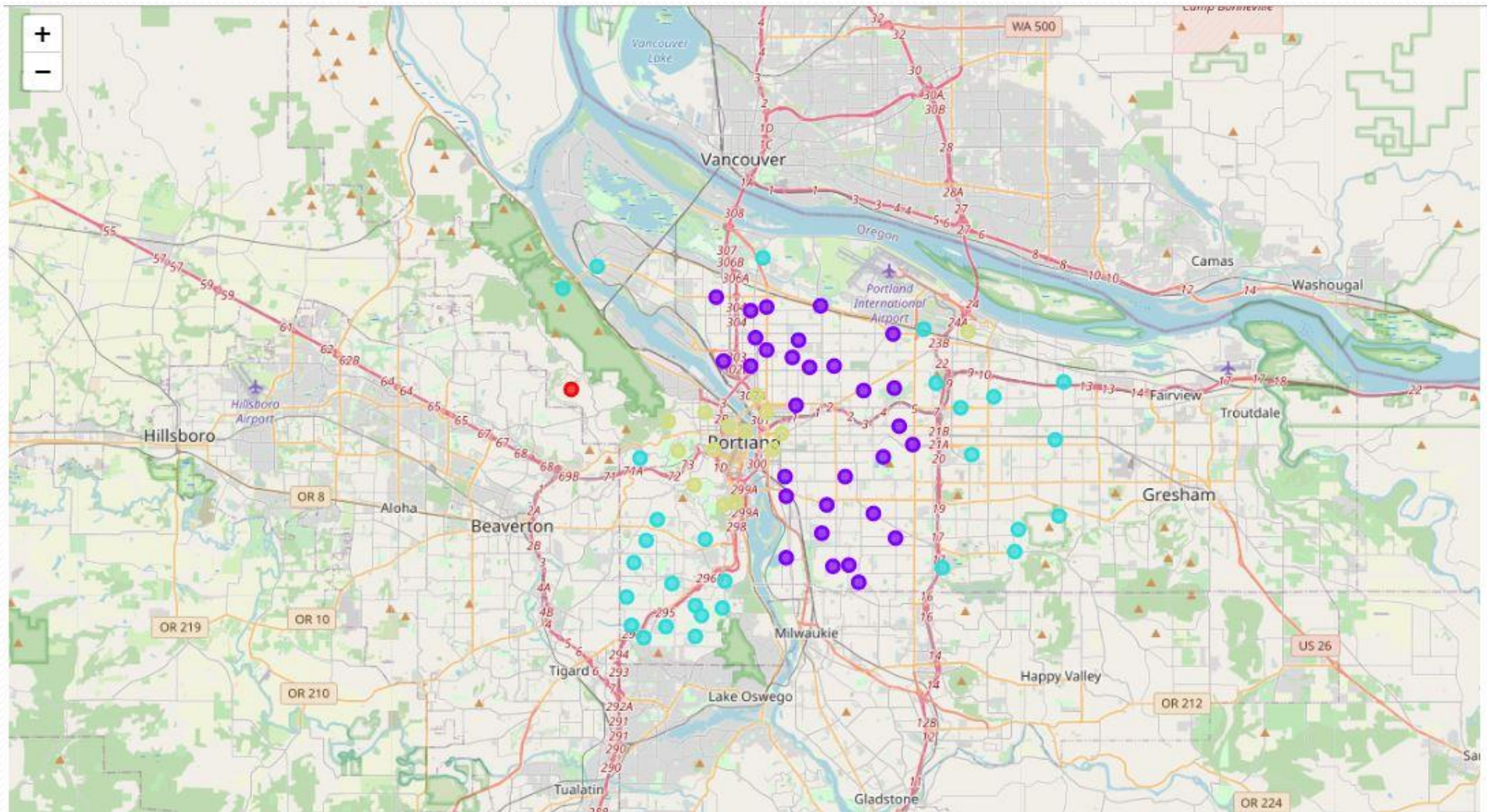
----ARLINGTON HEIGHTS----

	venue	freq
0	Park	0.09
1	Coffee Shop	0.07
2	Brewery	0.04
3	Bookstore	0.04
4	Grocery Store	0.04

----WOODSTOCK----

	venue	freq
0	Food Truck	0.06
1	Brewery	0.05
2	Vietnamese Restaurant	0.04
3	Park	0.04
4	Mexican Restaurant	0.04

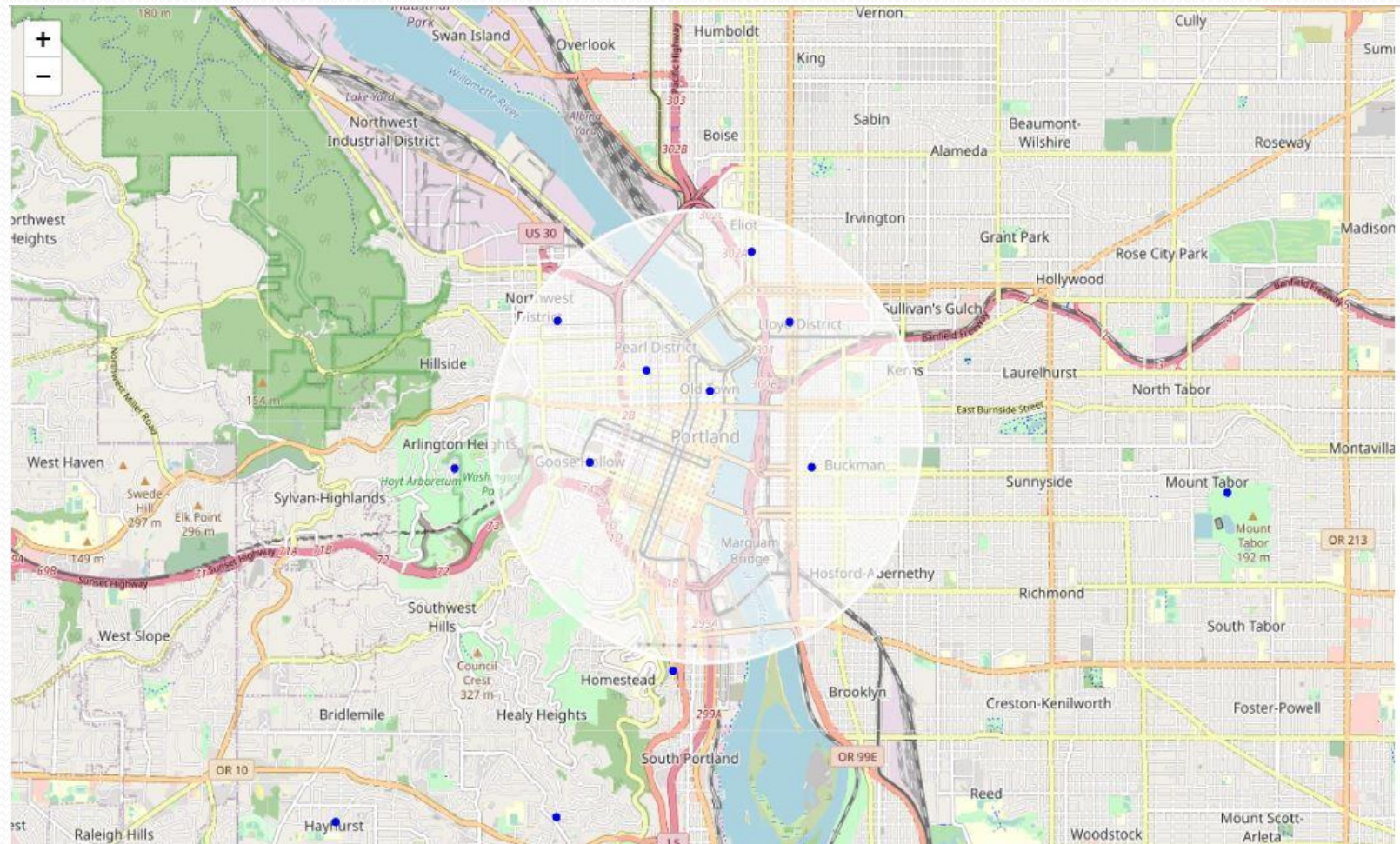
Clustered Distribution of Similar Neighborhoods



Summary of Data

	Venue Count	Route Count	Parking Count	MedianHomePrice
count	74.000000	74.000000	74.000000	74.000000
mean	170.864865	6.040541	74.229730	476762.378378
std	63.721209	5.727701	127.586291	131667.628946
min	35.000000	1.000000	0.000000	207450.000000
25%	121.000000	2.000000	0.000000	371862.500000
50%	171.500000	4.000000	20.500000	470990.000000
75%	232.750000	7.000000	82.000000	529500.000000
max	244.000000	23.000000	700.000000	862500.000000

Center of Portland has the most potential for improvements



Conclusion/Recommendations:

- targeted bicycle routes in the downtown area
- targeted bicycle routes in the areas where they connect younger cyclist with essential shopping,
- targeted bicycle routes near work/school and affordable housing
- develop bicycle routes closer to park and ride locations