

Open a asian restaurant in
Seattle

1. Introduction/Business Problem section

Korean food(Asian food) is getting more and more famous in Seattle lately. We can see the Korean dining is everywhere in United States, especially in Los Angeles. We are going to find the best location to open in Seattle and do more research about the business opportunity in Seattle.

This report will try to gather data about other restaurant localization, competitors and best localization.

ii) Problem

As the goal of this is to create a business plan in the end, we need to make sure data from API are correct. We also need to check that customers could be interested in this specific business. In order to do so, a survey in Seattle and Los Angeles will be done in addition to data gathering. I'll go in the cities and check at different hours if restaurants are working, if streets are full and so on, and what kind of restaurant works well. This survey will allow to validate the data analysis done here.

2. Data

I will change some data:

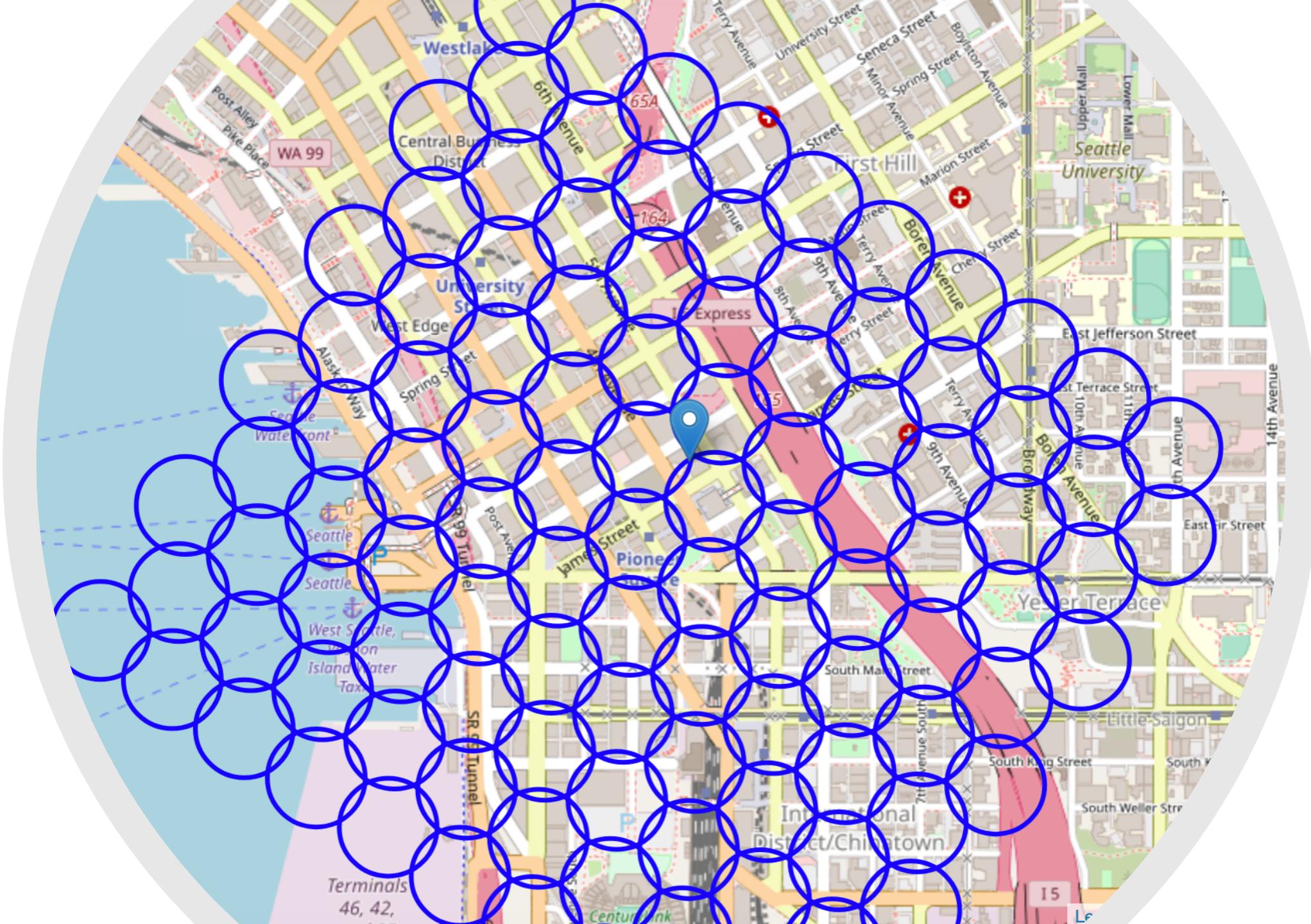
Country/City: United States

Goal: Open a restaurant/little shop for workers in weekday and maybe saturday So, I will cross data from working days, and localisations.

I will use the following API:

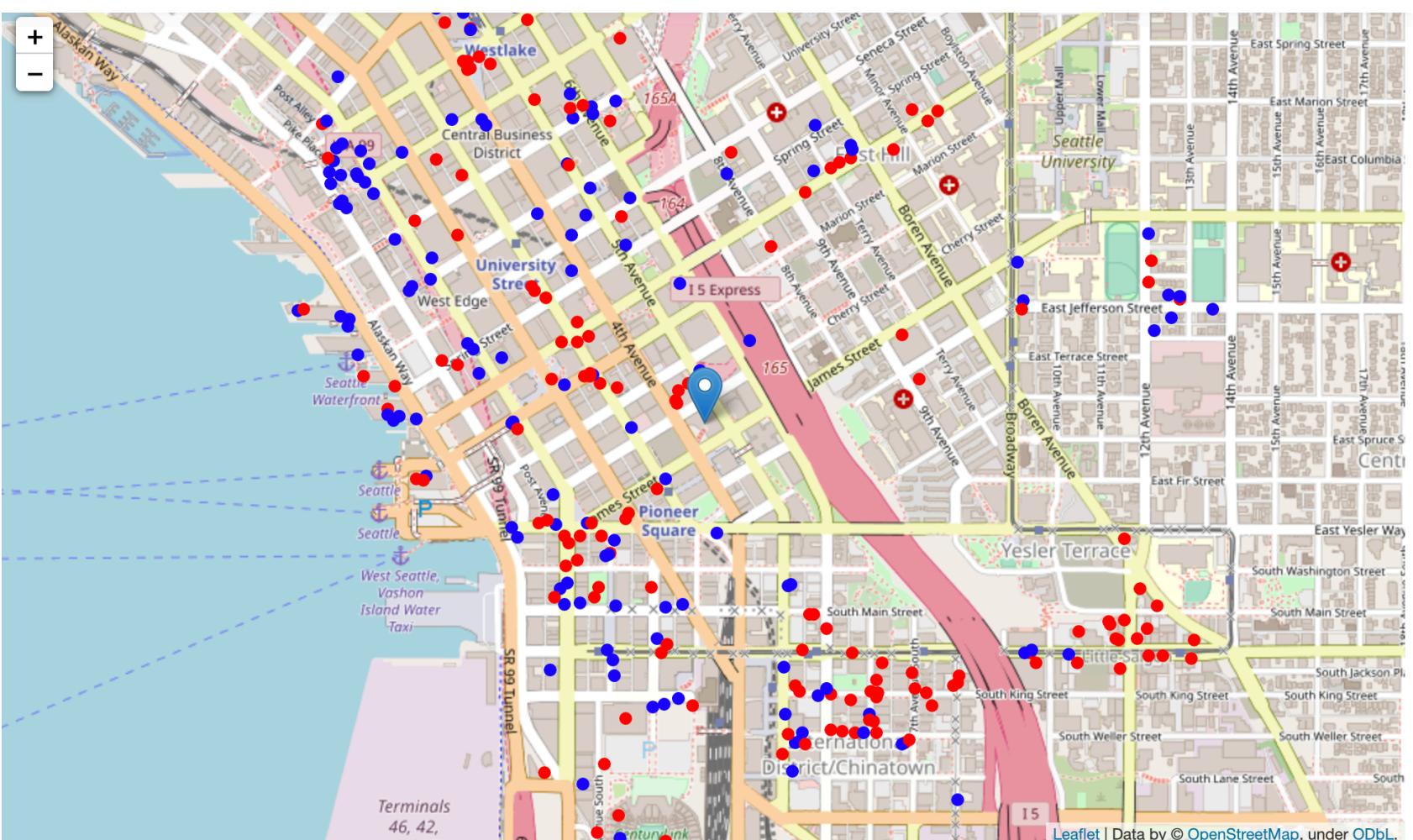
Foursquare API: to find restaurant/venues

Google API: reverse geolocalisation

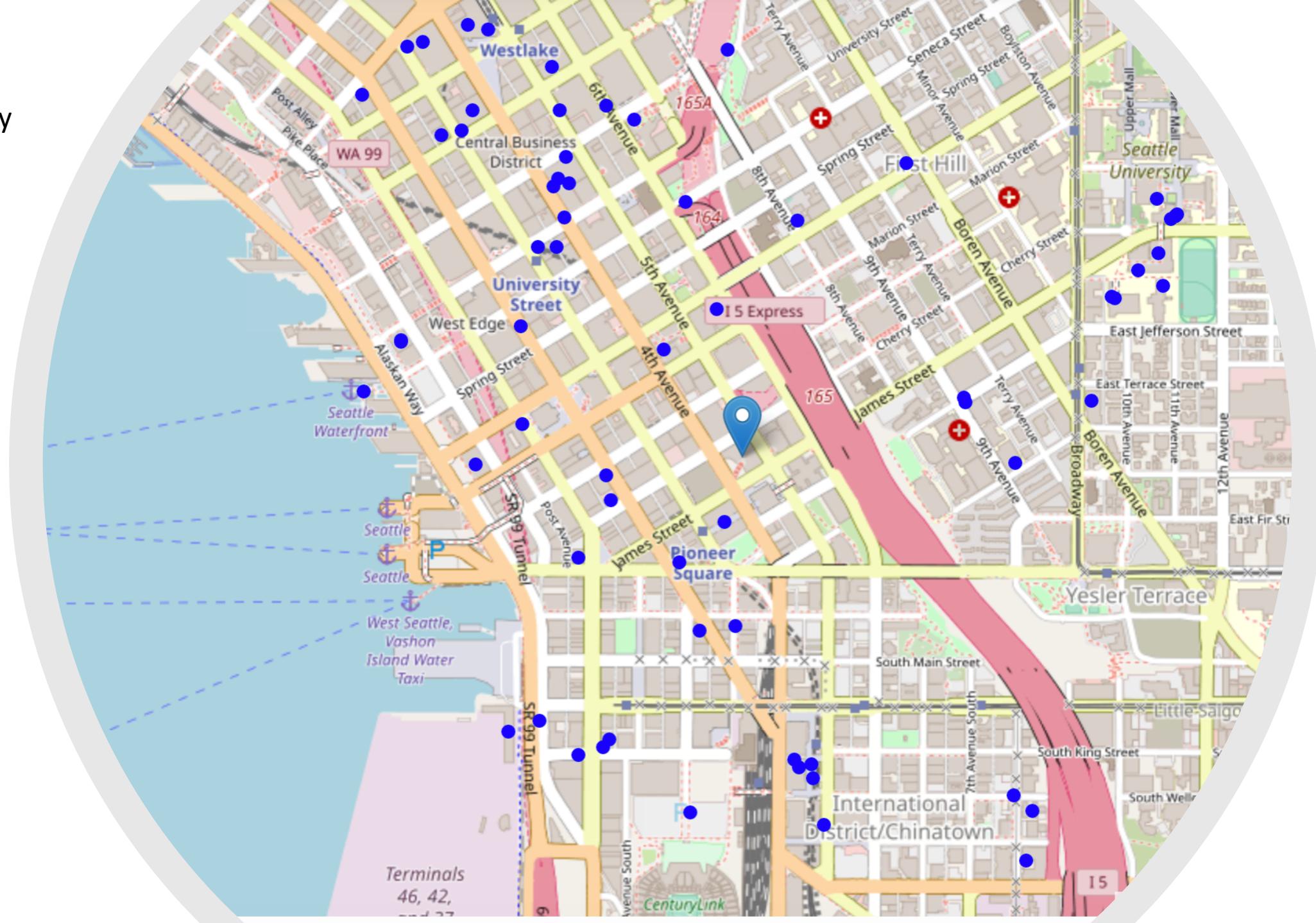


3. Methodology

Blue:non-asian restaurant
Red:Asian restaurant



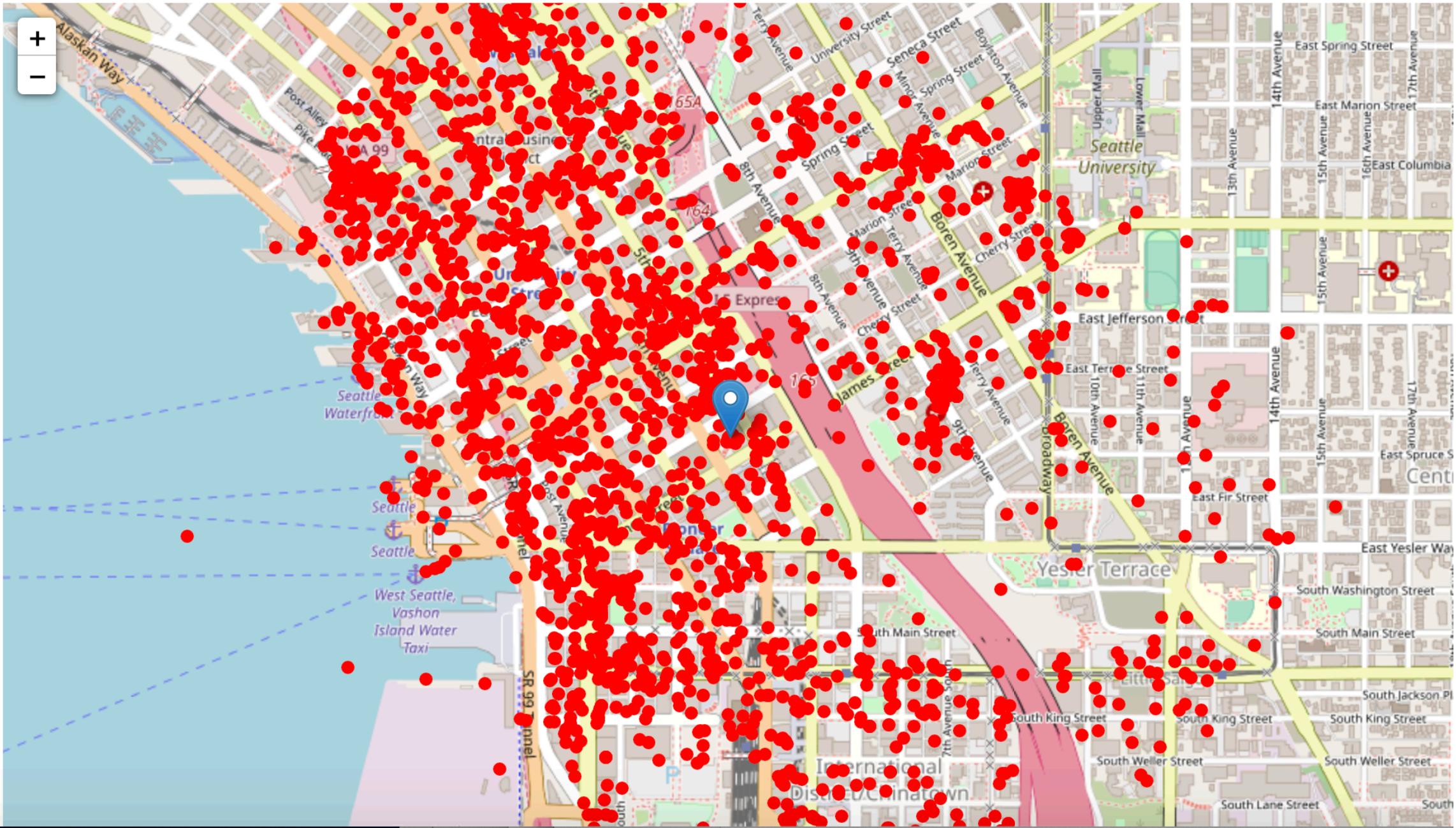
university

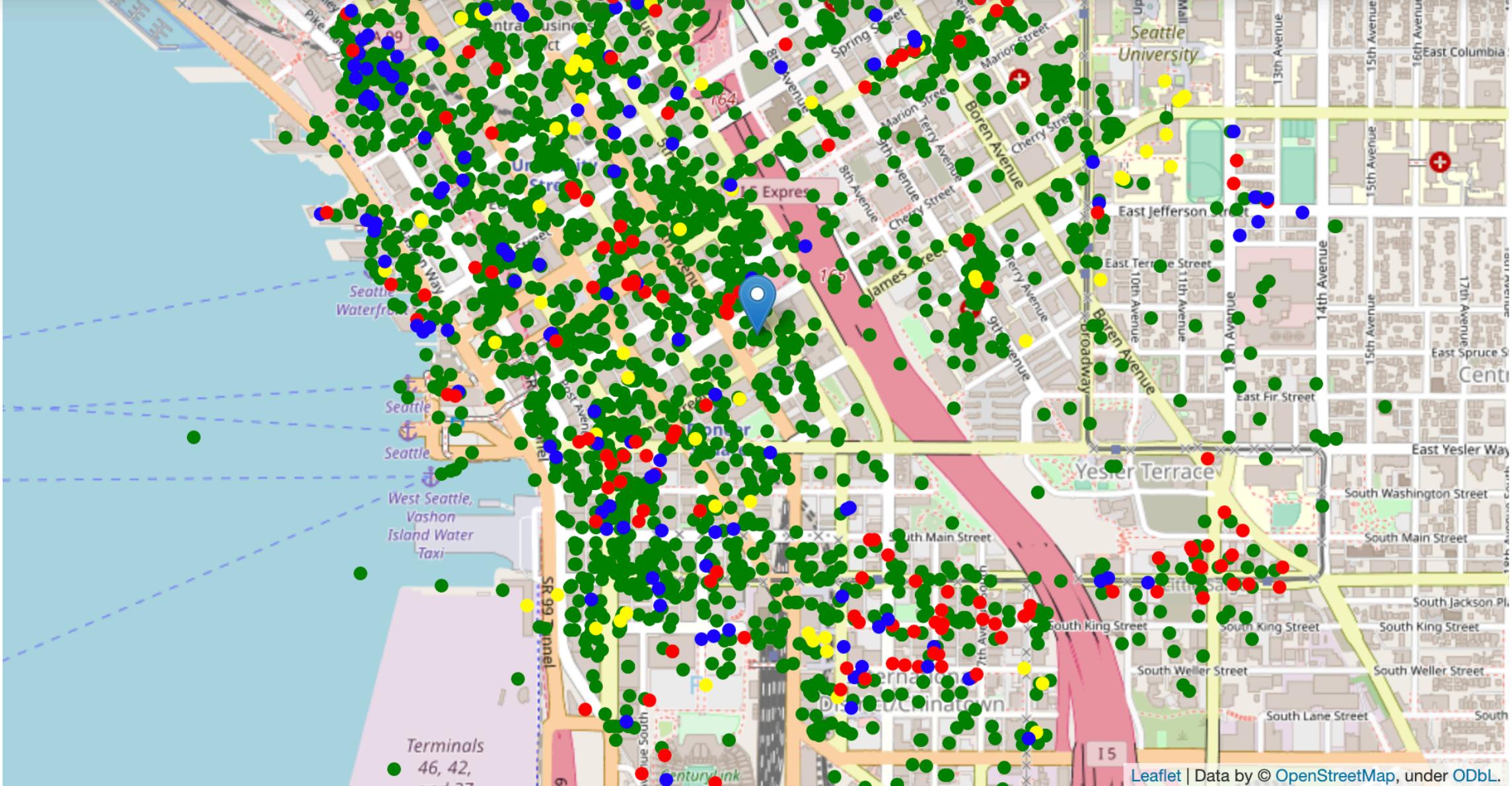


Companies data loaded.

Total number of companies: 2752

Average number of companies in neighborhood: 16.318181818181817



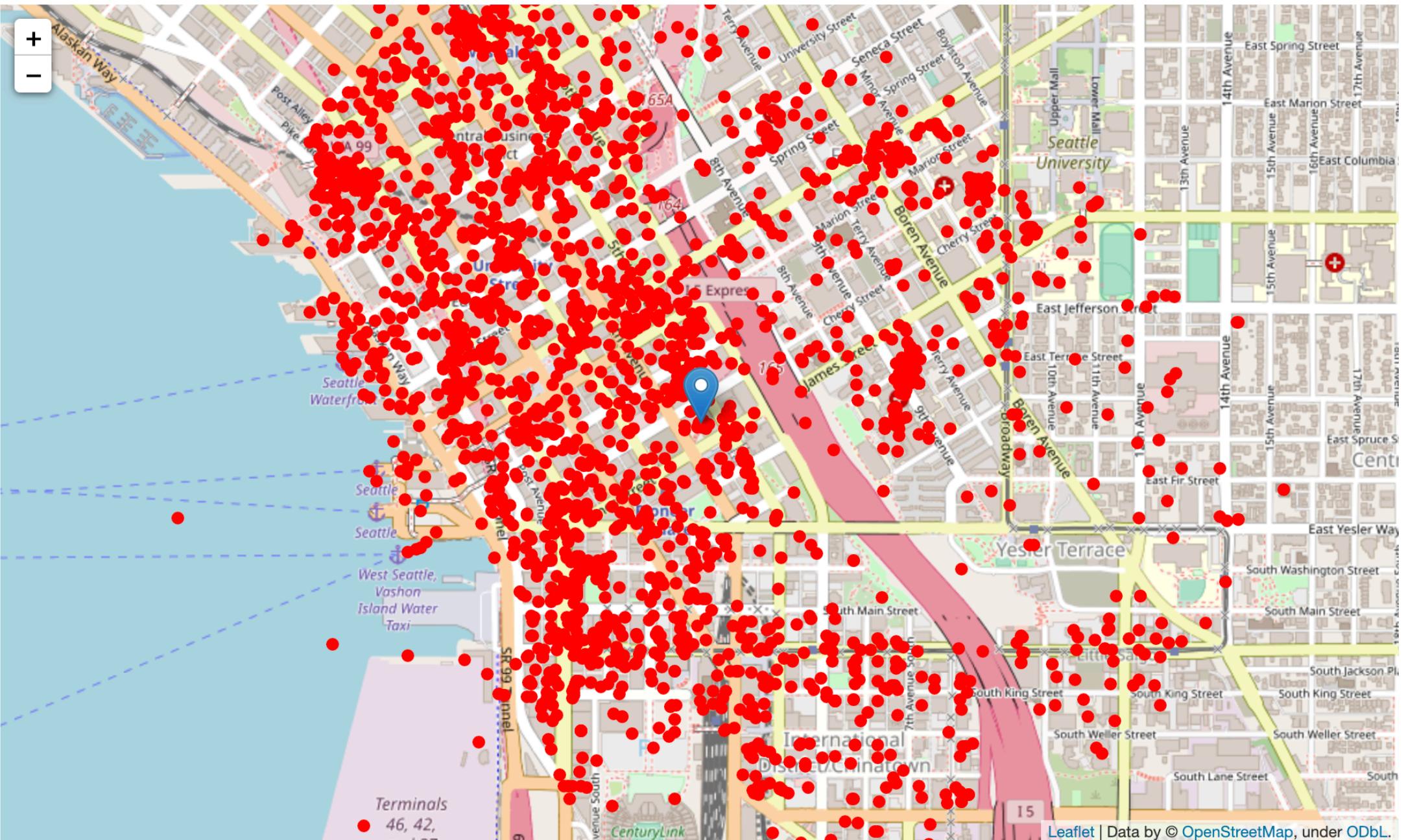


green:company
yellow:university
red:asian restaurant
blue:non-asian restaurant

Companies data loaded.

Total number of customers: 5

Average number of customers in neighborhood: 110.0



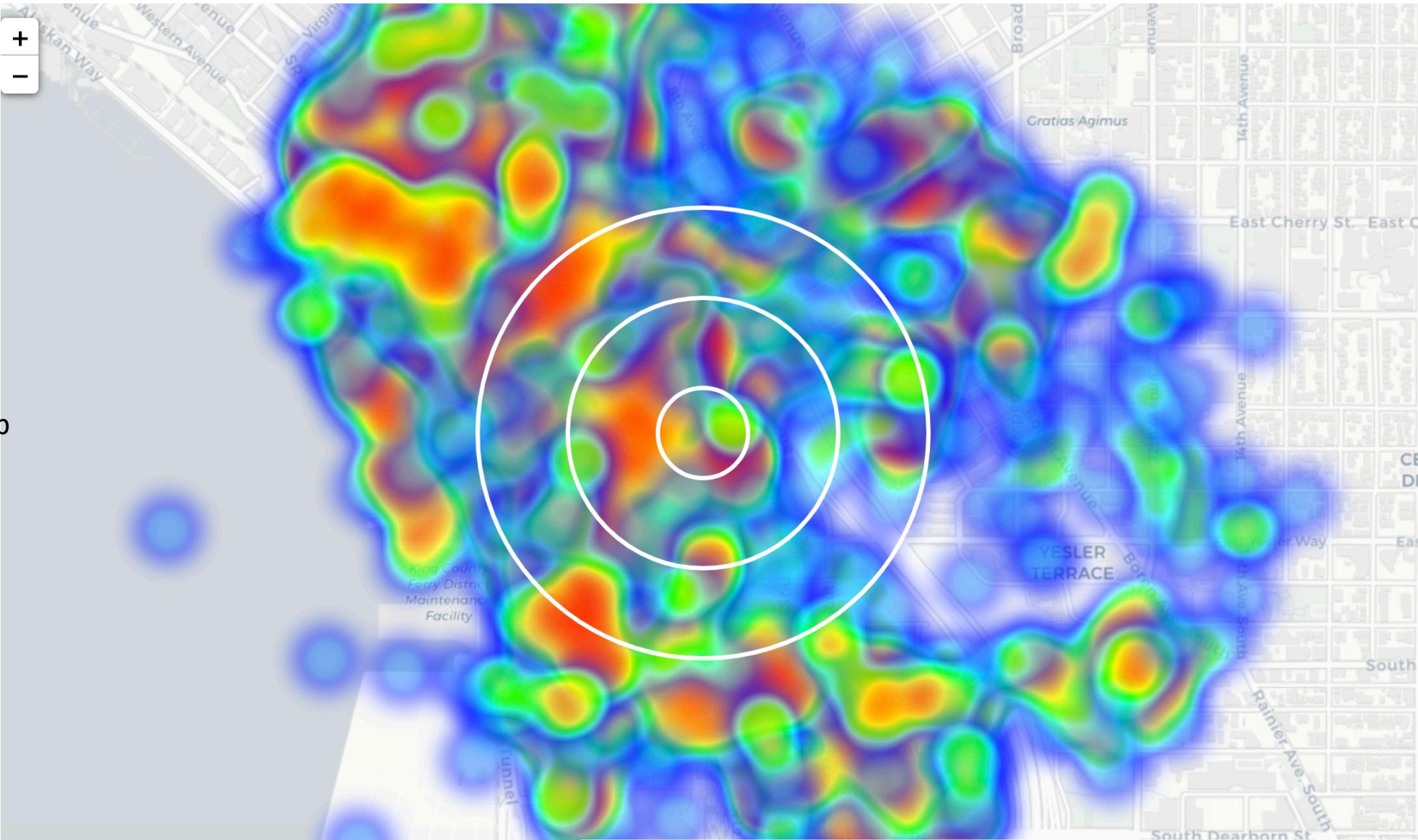
Average number of customers in every area with radius=100m: 16.490909090909092

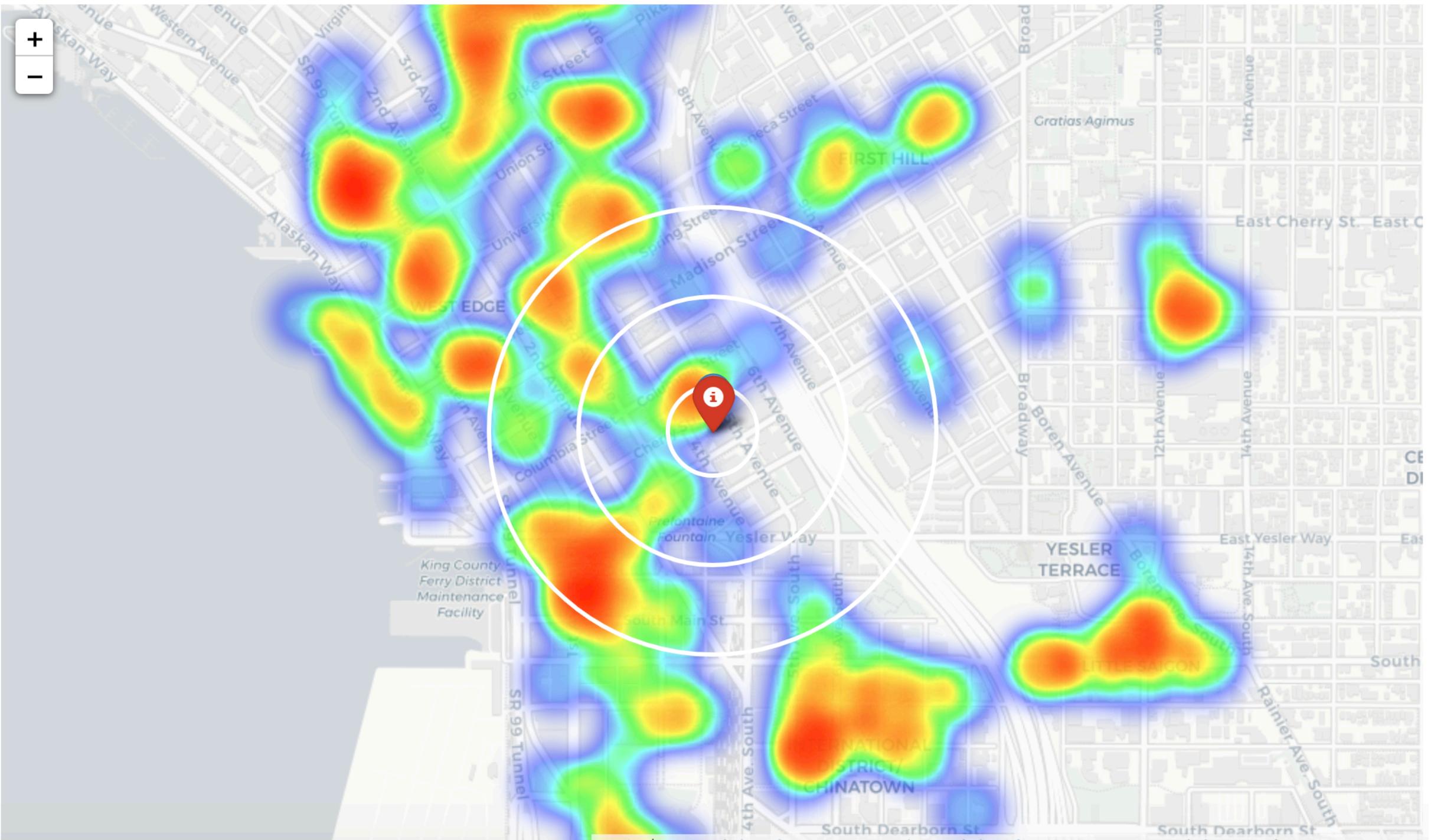
	Address	Latitude	Longitude	X	Y	Distance from center	Customers in area
0	217, 12th Avenue, Central Business District, Y...	47.604092	-122.316915	-2.653123e+06	1.377251e+07	1111.720843	5
1	300, 10th Avenue, Central Business District, Y...	47.604993	-122.318870	-2.652923e+06	1.377251e+07	957.038784	2
2	412, Broadway, Central Business District, Yesl...	47.605895	-122.320825	-2.652723e+06	1.377251e+07	822.145506	23
3	Swedish First Hill Medical Center, 747, Broadw...	47.606796	-122.322781	-2.652523e+06	1.377251e+07	718.277964	9
4	O'Dea High School, 802, Terry Avenue, Central ...	47.607697	-122.324736	-2.652323e+06	1.377251e+07	660.244828	9

top 10 area

	Address	Latitude	Longitude	X	Y	Distance from center	Customers in area
36	Daniels Recital Hall, 801, 5th Avenue, Central...	47.605613	-122.331132	-2.652023e+06	1.377303e+07	240.192379	62
75	Grand Central, 107, Occidental Avenue South, W...	47.600130	-122.333791	-2.652223e+06	1.377372e+07	559.807621	56
6	Virginia Mason Hospital & Seattle Medical Cent...	47.609500	-122.328648	-2.651923e+06	1.377251e+07	718.277964	56
65	The Halal Guys, 105, Yesler Way, West Edge, In...	47.601726	-122.333616	-2.652123e+06	1.377355e+07	399.326338	53
16	782, Madison Street, Central Business District...	47.607904	-122.328824	-2.652023e+06	1.377268e+07	519.467306	52
45	701, 4th Avenue, Central Business District, Fi...	47.604017	-122.331308	-2.652123e+06	1.377320e+07	107.774892	51
22	Harborview Medical Center, 325, 9th Avenue, Ce...	47.603604	-122.323133	-2.652723e+06	1.377285e+07	586.318455	46
37	Central Library, 1000, 4th Avenue, Central Bus...	47.606514	-122.333088	-2.651823e+06	1.377303e+07	421.535739	43
19	U.S. Bank Centre, 1420, 5th Avenue, Central Bu...	47.610607	-122.334692	-2.651423e+06	1.377268e+07	932.655500	42
9	Hotel Theodore, 1531, 7th Avenue, Central Busi...	47.612203	-122.334516	-2.651323e+06	1.377251e+07	1111.720843	41

Customer heatmap



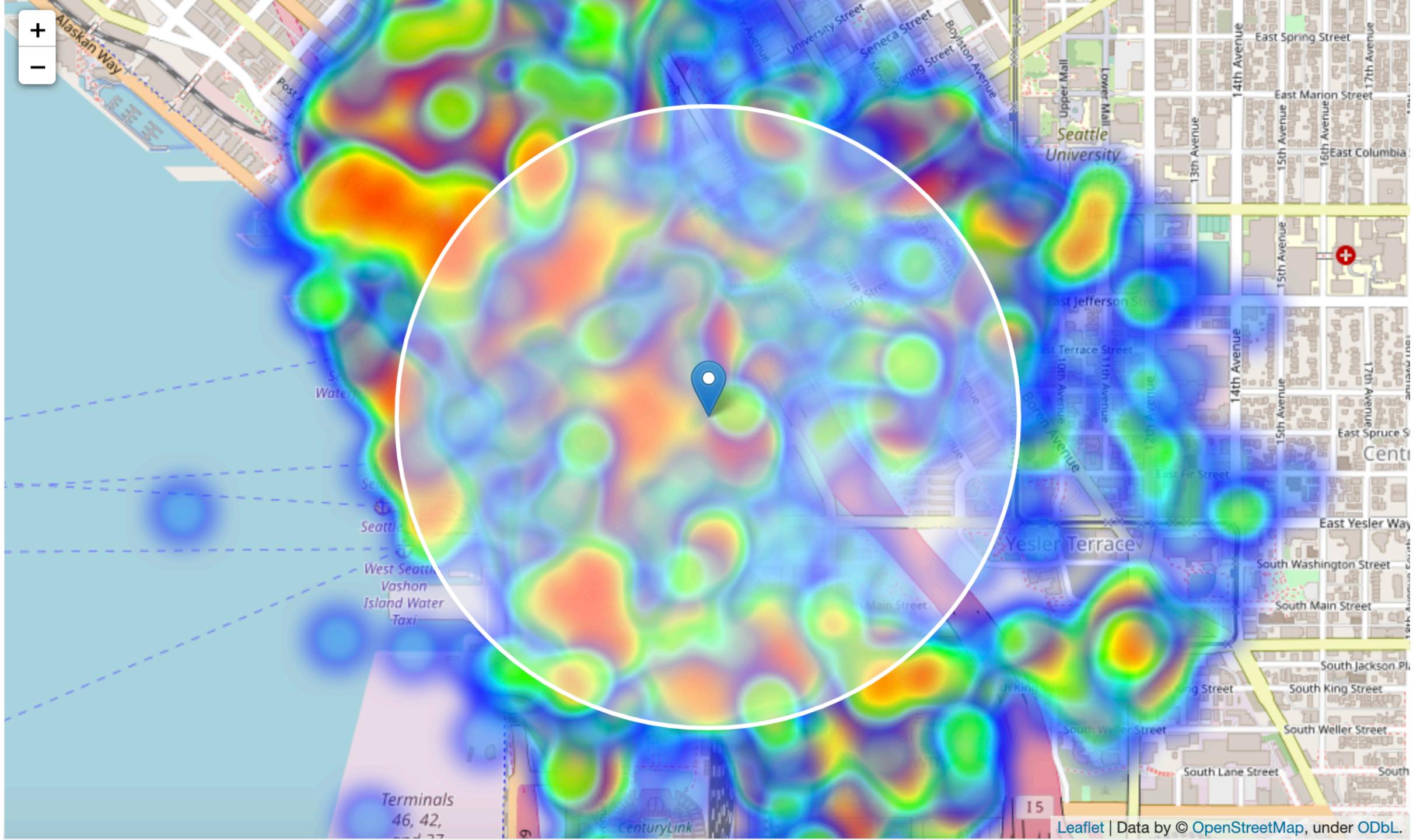


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K-mean cluster

	Latitude	Longitude	X	Y	Restaurants nearby	Distance to Asian restaurant	Customers
186	47.605353	-122.331393	-2.652023e+06	1.377307e+07	0	113.335435	153
311	47.602575	-122.334464	-2.652004e+06	1.377350e+07	3	91.689117	143
185	47.604903	-122.330415	-2.652123e+06	1.377307e+07	5	30.687867	125
335	47.601466	-122.333877	-2.652123e+06	1.377359e+07	14	14.976102	122
384	47.599870	-122.334053	-2.652223e+06	1.377376e+07	6	72.177583	122
310	47.602125	-122.333486	-2.652104e+06	1.377350e+07	8	39.721710	120
210	47.604416	-122.331178	-2.652104e+06	1.377315e+07	4	26.981858	119
408	47.598933	-122.333837	-2.652304e+06	1.377385e+07	4	176.485481	118
289	47.604414	-122.336635	-2.651723e+06	1.377341e+07	3	104.479281	117
211	47.604866	-122.332156	-2.652004e+06	1.377315e+07	2	56.481524	116



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Terminals
46, 42,
and 27

CenturyLink

Leaflet | Data by © OpenStreetMap, under ODbL.

OK. Let us now filter those locations: we're interested only in locations with no more than two restaurants in radius of 250 meters, and no asian restaurants in radius of 100 meters, and more than 10 customers.

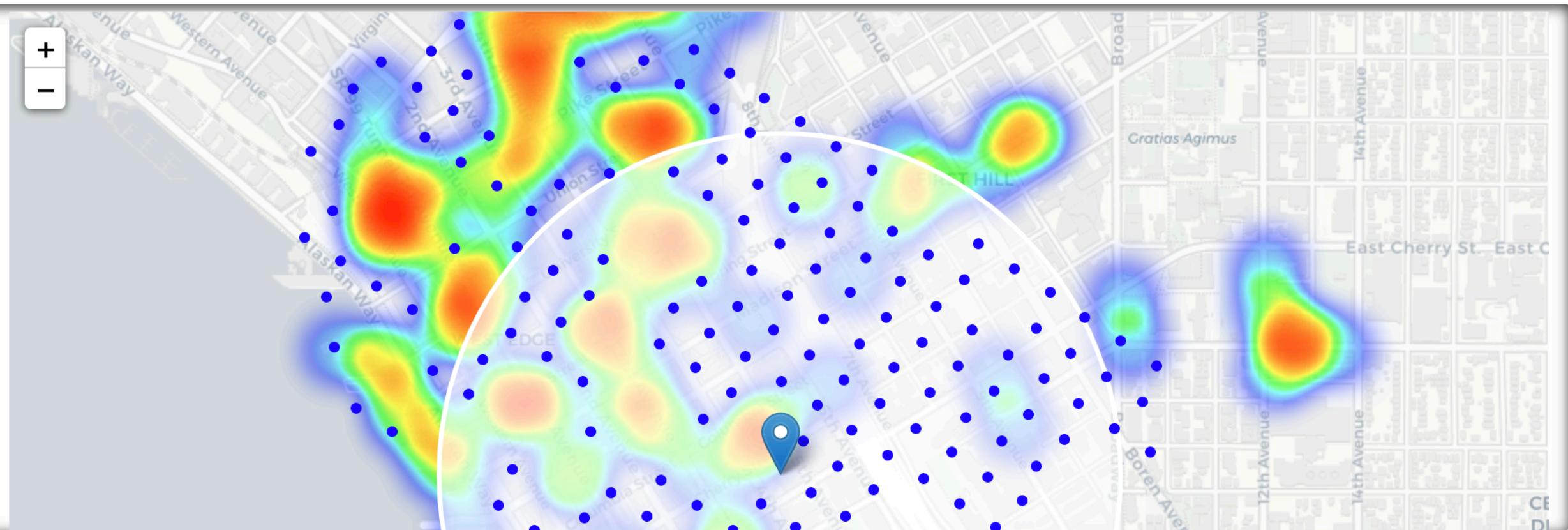
Locations with no more than two restaurants nearby: 430

Locations with no Asian restaurants within 400m: 362

Locations with more than 10 customers: 351

Locations with both conditions met: 220

Let's see how this looks on a map.



Let's see heatmap:

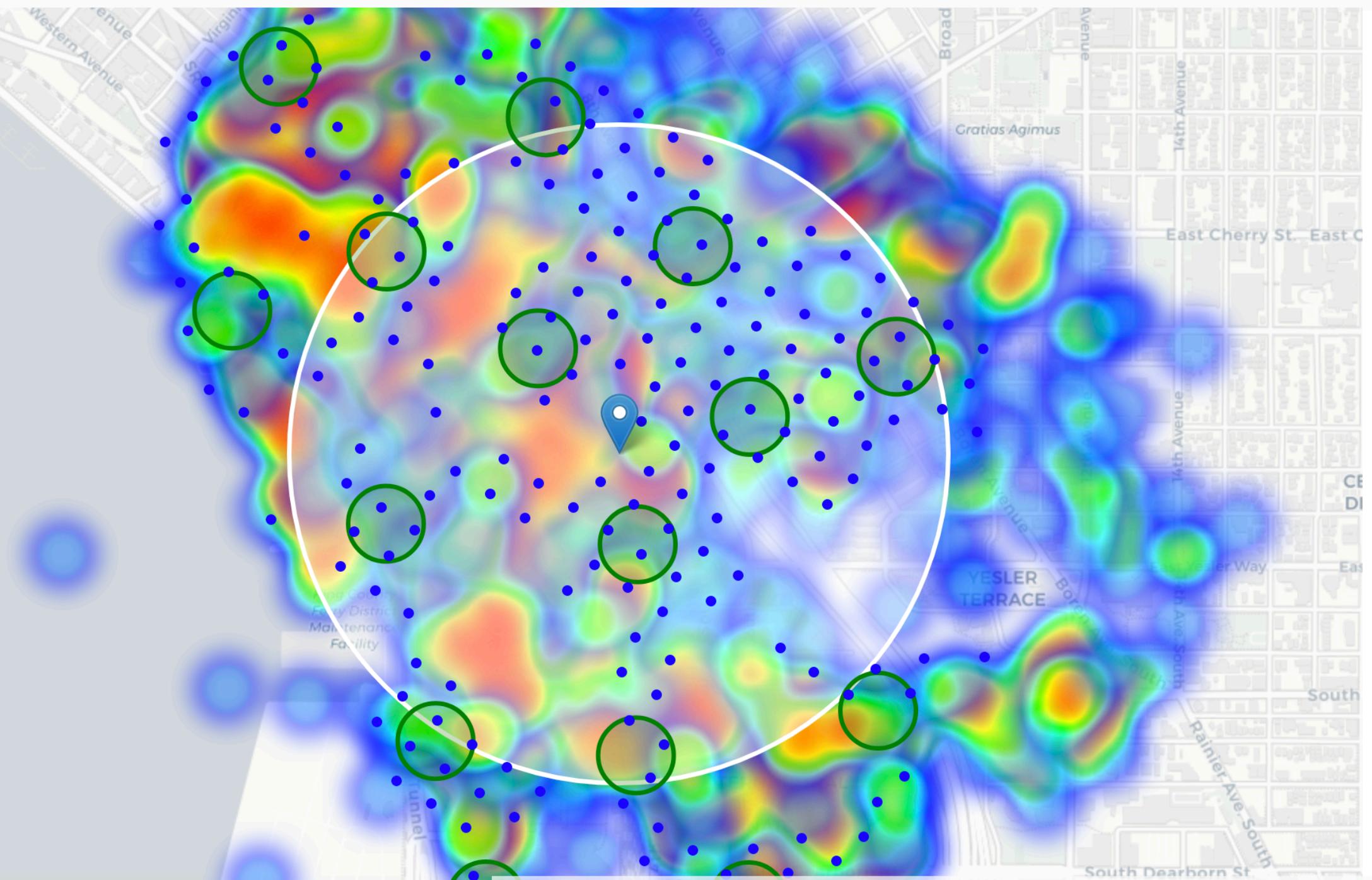


Looking good. What we have now is a clear indication of zones with low number of restaurants in vicinity, and no Asian restaurants at all nearby, and good

Best location cluster (green circle)

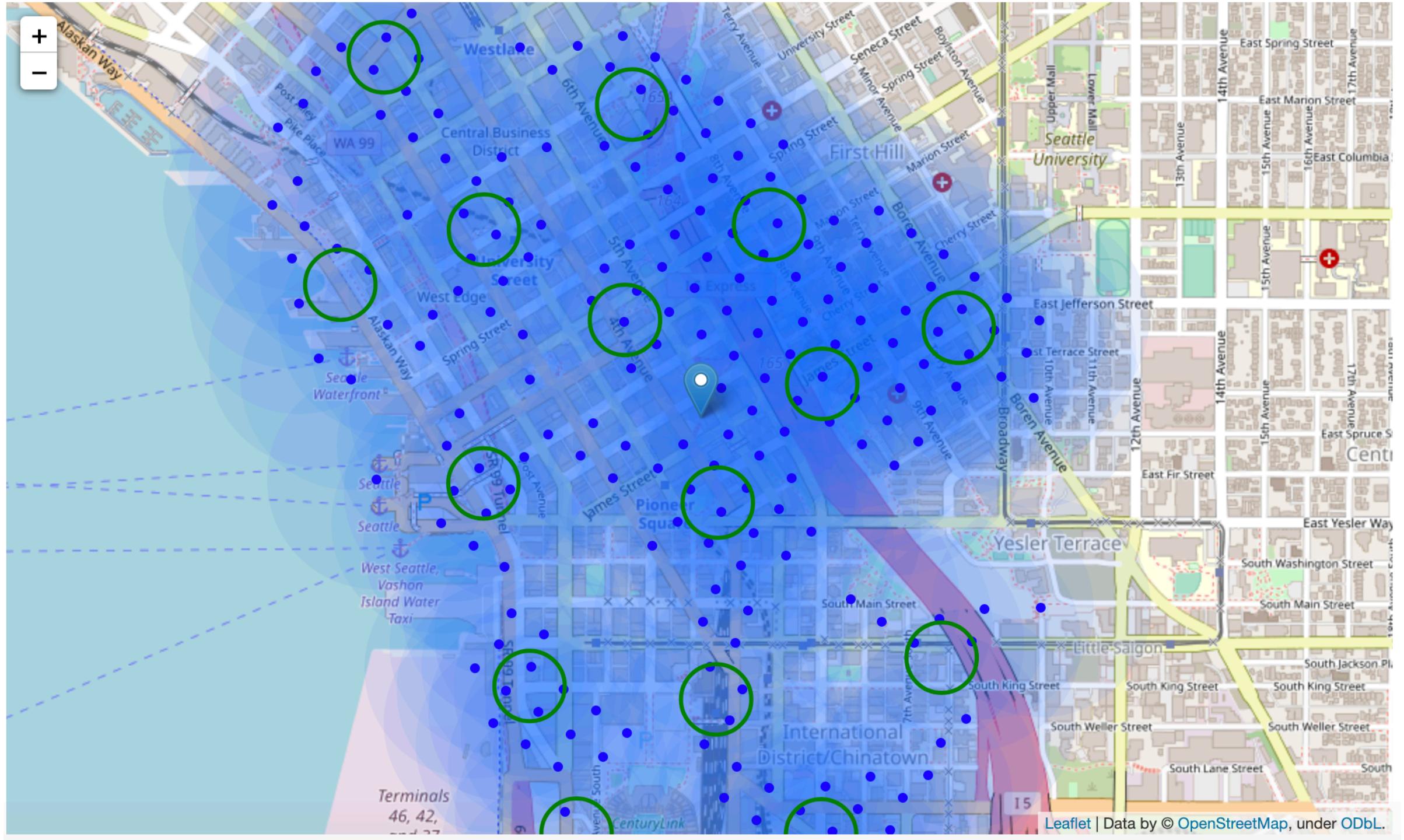
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Addresses of centers of areas recommended for further analysis
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Hambach Building, South King Street, West Edge, International District/Chinatown, Seattle, King County, Washington, 98104 => 0.8km from Prefecture

5th and Madison Condos, 909, 5th Avenue, Central Business District, First Hill, Seattle, King County, Washington, 98164 => 0.3km from Prefecture

1086, Jefferson Street, Central Business District, First Hill, Seattle, King County, Washington, 98104 => 0.7km from Prefecture

Third and Stewart Garage, 3rd Avenue, Central Business District, Belltown, Seattle, King County, Washington, 98181 => 1.2km from Prefecture

Seattle King Street, 301, South Jackson Street, West Edge, International District/Chinatown, Seattle, King County, Washington, 98104 => 0.7km from Prefecture

741, James Street, Central Business District, First Hill, Seattle, King County, Washington, 98104 => 0.3km from Prefecture

M Street Medical Building, 910, 8th Avenue, Central Business District, First Hill, Seattle, King County, Washington, 98104 => 0.5km from Prefecture

61, Columbia Street, West Edge, International District/Chinatown, Seattle, King County, Washington, 98104 => 0.6km from Prefecture

398, Dilling Way, West Edge, International District/Chinatown, Seattle, King County, Washington, 98104 => 0.2km from Prefecture

Two Union Square, 601, Union Street, Central Business District, First Hill, Seattle, King County, Washington, 98101 => 0.8km from Prefecture

House of Hong, 409, 8th Avenue South, West Edge, International District/Chinatown, Seattle, King County, Washington, 98104 => 0.9km from Prefecture

Benaroya Hall, 200, University Street, West Edge, Belltown, Seattle, King County, Washington, 98101 => 0.7km from Prefecture

814, 6th Avenue South, West Edge, International District/Chinatown, Seattle, King County, Washington, 98134 => 1.1km from Prefecture

Coastal Environmental Systems, 820, 1st Avenue South, West Edge, International District/Chinatown, Seattle, King County, Washington, 98134 => 1.1km from Prefecture

Waterfront Park, 1301, Alaskan Way, Pike Place Market Area, Belltown, Seattle, King County, Washington, 98101 => 1.0km from Prefecture

Thank you!