

# THE BATTLE OF NEIGHBORHOODS IN SEATTLE, WA

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# THE PROBLEM

## OBJECTIVE

We will try to find an optimal location for an Italian restaurant in Seattle, WA

## HOW?

We will analyze neighborhoods in the city and find those that are not already crowded with restaurants.

# DATA

## FOURSQUARE API

Data for venues in the corresponding zip codes

## FOUND ONLINE

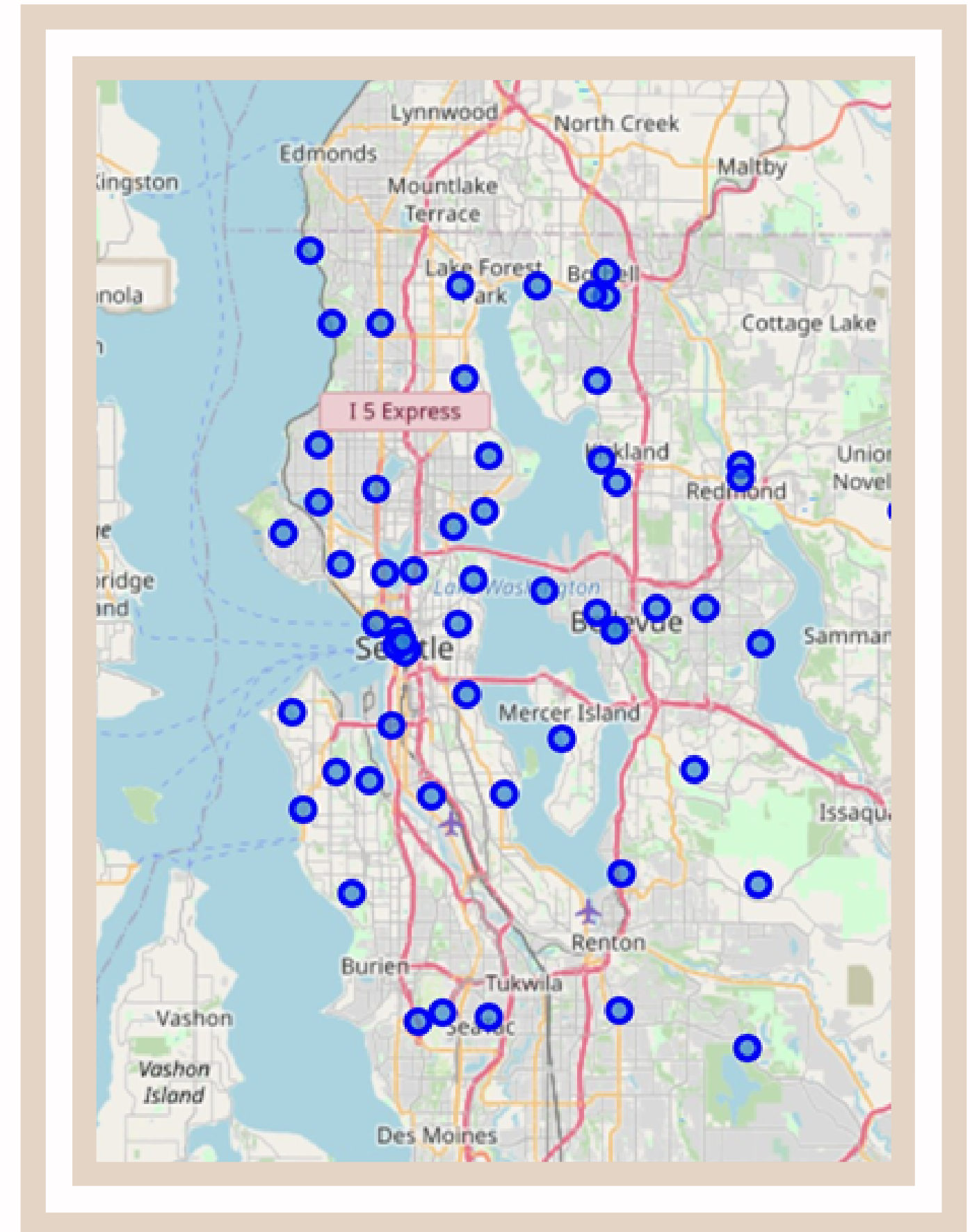
Sub-Regional, City and Neighborhood Designations by Zip Code in Seattle Area

## ZIP-CODES.COM

Geographical and socioeconomic data by zip code

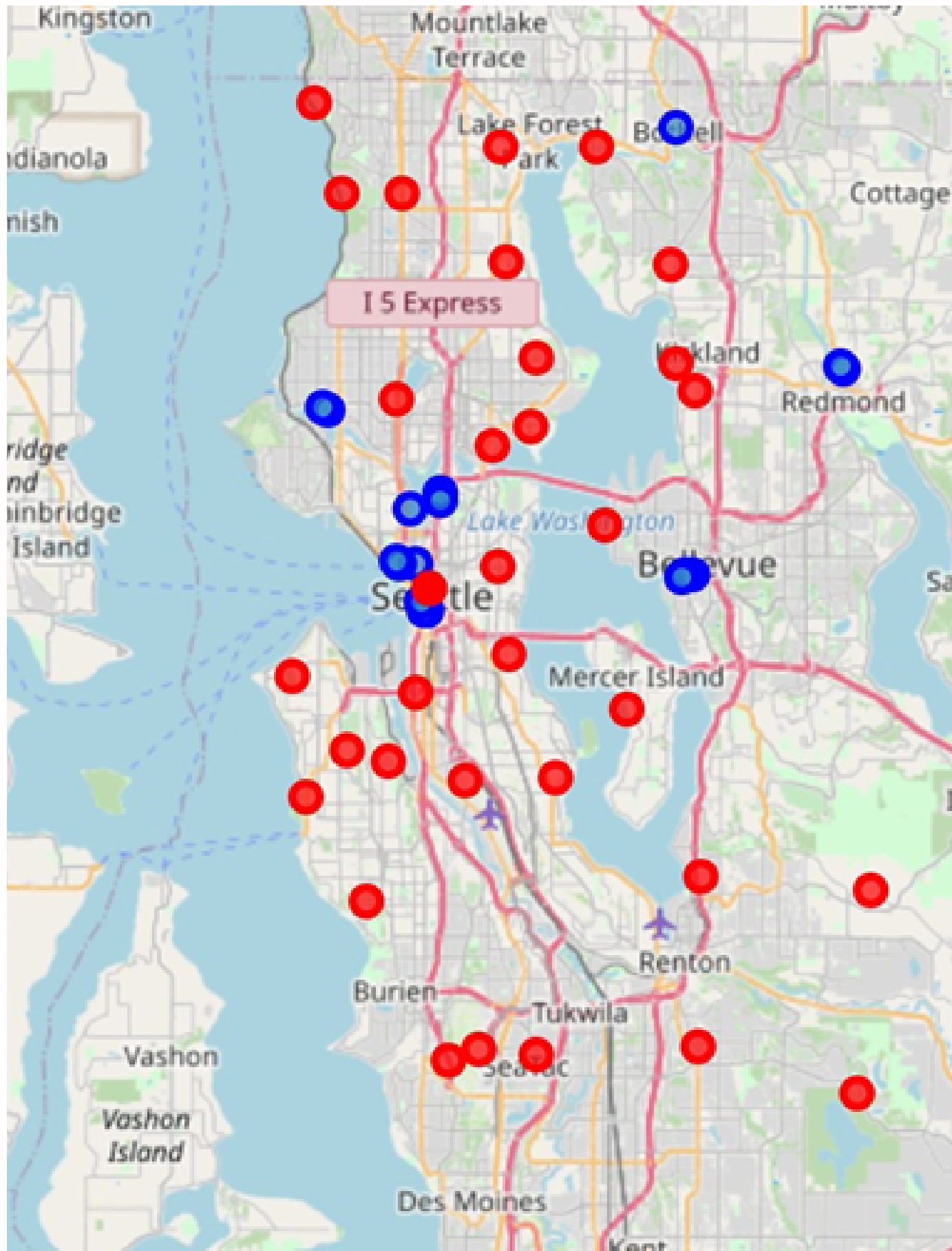
# SEATTLE AND ITS NEIGHBORHOODS

Visualizing all the zip code areas  
found



# Finding the venues

We gathered data for 100 venues in radius of 500 meters from each zip code geographic coordinates. Then we sorted it to have only Italian Restaurants left. The following map shows Italian Restaurants in blue and Neighborhoods without any in red





# CLUSTERING THE NEIGHBORHOODS

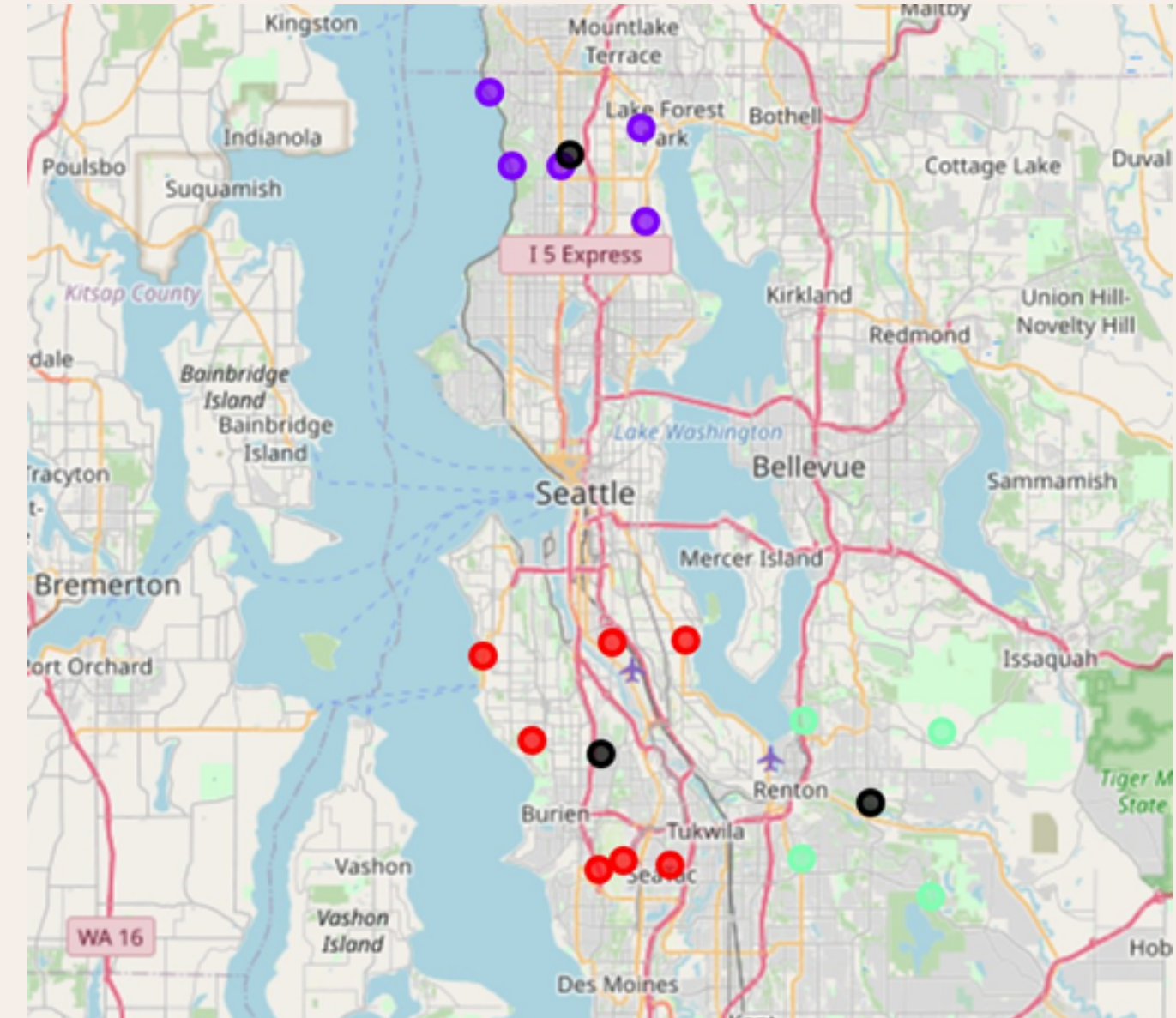
We now want to cluster the neighborhoods without any restaurants as it would be rational to open a restaurant in close proximity to more than one.

## K-MEANS

We are going to use K-Means algorithm to cluster our zip code areas without an Italian Restaurant. K being 3

## CENTERS OF THE CLUSTERS

Can be used as reference points for optimal locations. Shown as black dots on the map



# ADDING SOCIOECONOMIC DATA INTO THE MIX



## CLUSTER 0

Average Income - ~\$70K  
Population - 138,918

## CLUSTER 1

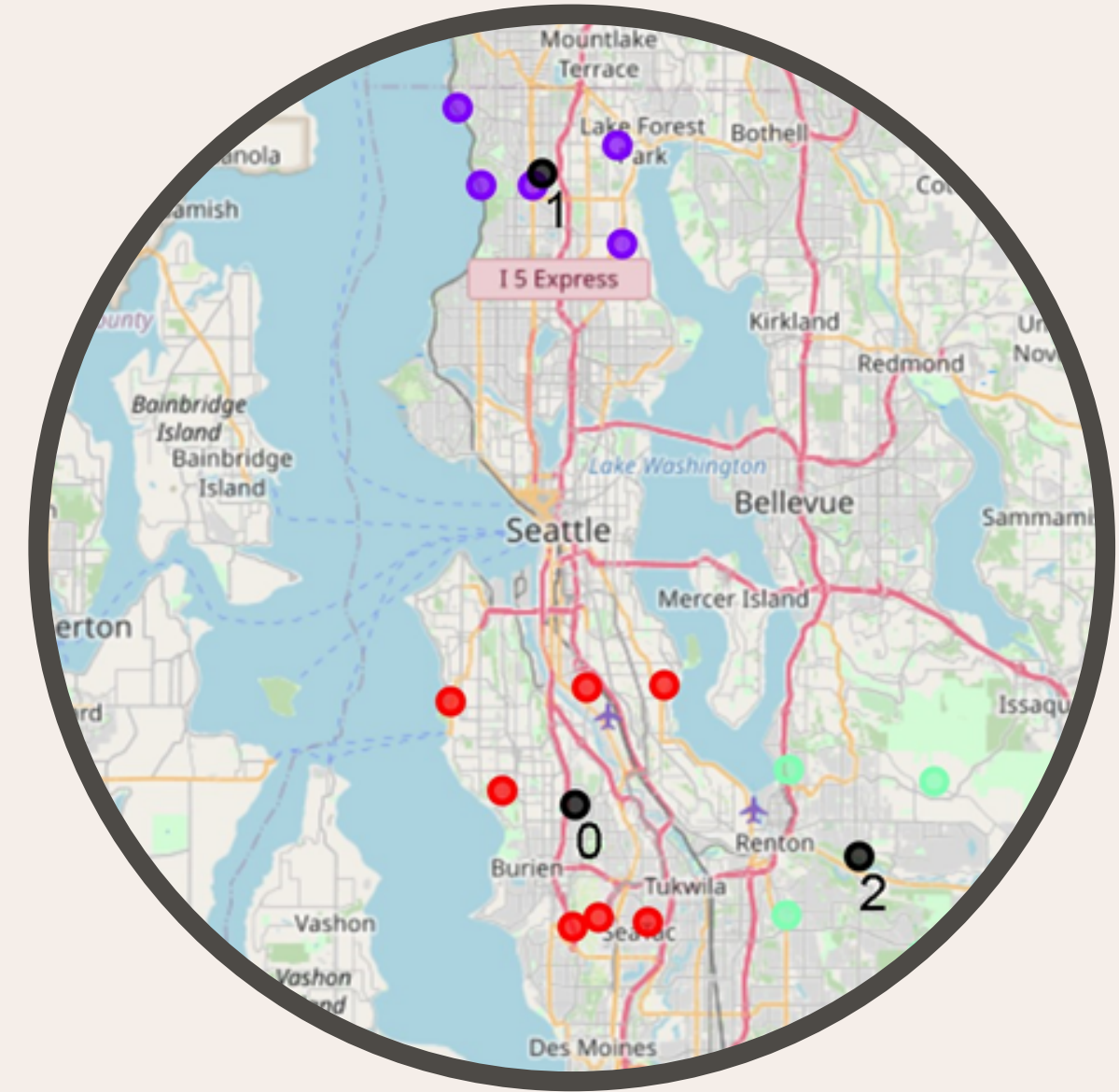
Average Income - ~\$81K  
Population - 133,444

## CLUSTER 2

Average Income - ~\$87K  
Population - 130,794

# RESULTS

In the end we have 3 clusters – areas which do not have any Italian restaurant. One might see Renton or Shoreline areas as more preferable due to the socioeconomic indicators.



Cluster centers can be used as starting points for final exploration by stakeholders