**Capstone Project – Finding a Seattle Brewery Location**

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1. **Introduction / Business Problem**

People in the Pacific Northwest love beer, with over 150 breweries operating in the Seattle / Tacoma metropolitan area. The goal of this project is to find a neighborhood in Seattle proper to open up a new brewery / taproom . Because there are already so many breweries already operating in Seattle, we would prefer neighborhoods that are currently not heavily saturated with other breweries. Additionally, we would like to find locations with good population density, has a relatively high household income and do not have a large number of breweries/bars nearby that might compete with our brewery (the taproom plans on having rotating food trucks.)

1. **Data Sources**

The data I will be using comes from the city of Seattle website <https://data-seattlecitygis.opendata.arcgis.com/datasets/a-community-reporting-areas-profile-acs-5-year-2013-2017>. The data is available in several forms including csv, shapefile, kml and GeoJSON. There is quite a bit of useful information available for each Community Reporting Area (CRA) in the data set. For each CRA (or neighborhood), a few examples of data available include: size of the neighborhood, population, population density, median household income and average gross rent. In order to make the analysis using Python a bit easier, I first took a shapefile of the Community Reporting Areas (CRA) and created a latitude/longitude centroid for each neighborhood using the QGIS software.

This would allow searching for bars / restaurants in each CRA using the Foursquare location data a bit easier. This centroid latitude / longitude information was added to the CRA csv file. Because there are a significant number of fields, I edited my csv file to only contain information that was deemed relevant to the analysis. This csv file (along with the GeoJSON file) were the basis for the analysis.

Table

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Venues data of breweries/bars in each CRA were obtained using Foursquare. The number of breweries/bars in each CRA were aggregated. As noted earlier, we are trying to avoid areas that are already saturated with breweries/bars, so this information is very useful for our analysis.

**A picture containing application

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