Introduction / Business Problem

Cleveland is a major city in the U.S. state of Ohio. It is located on the southern shore of Lake Erie and after its founding grew into a major manufacturing center due to its location on both a river and lake shore. The city is home to a vibrant arts and culture scene, internationally recognized hospital systems, abundant city parks, and several major league professional sports teams. The estimated 2019 population was 381,099 and ranks as the 53rd-largest city in the United States.

Like many cities once reliant on manufacturing, it is considered a 'rust belt' city, so-called because of the economic devastation caused by the disappearance of manufacturing jobs due to automation and offshoring. Cleveland has seen a resurgence in the recent decade; however, the economic prosperity widely differs between neighborhoods. Housing prices vary widely depending on the neighborhood. Some neighborhoods have robust amenities, while others sorely lack basic amenities such as grocery stores.

This analysis will focus on the ties between available amenities and the effect those amenities have on housing pricing, through the lens of neighborhoods. What types of amenities have the most influence on housing prices? Which neighborhoods are currently doing well and what can we learn from those neighborhoods to help those that are struggling? This information is beneficial to city planners and community development corporations as they aim to create more equitable neighborhoods to help advance the economic prosperity of Cleveland as a whole.

Data Collection

To consider the above state problems, the following data was collected:

- Housing Prices: Zillow provides smoothed, seasonally adjusted measures of the typical home value and market changes across a given region on a monthly basis. It reflects the typical value for homes in the 35th to 65th percentile range.

- Amenities: The Foursquare API provides lists of venues with location data that will be used to map an amenity to a neighborhood.

- Neighborhood Boundaries: For mapping purposes, a .geojson file of Cleveland neighborhoods was obtained from GitHub. These neighborhoods match the neighborhoods provided in the Zillow Housing Prices data.