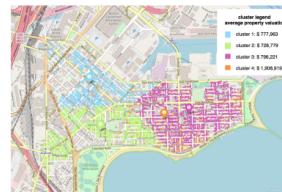# Analyzing South Boston Affordable Housing

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Introduction

Gentrification has long been a problem of the Greater Boston area. South Boston Neighborhood Development Corporation (NDC) aims on preserving and creating affordable housing in order to improve the quality of life in the neighborhood. In this project, our goal is to identify target buildings so that South Boston NDC can find and contact the property owners.

Datasets

1. Boston Street Address Management
2. Boston property assessment
3. Zillow Search Results Data
4. Zillow Property Results Data
5. Boston Permit Database

Methodology & Visualizations

a. Map : K-means statistics

We performed kmeans clustering on the data to visualize the relationship between property value and different regions of South Boston as shown on the map.

b. Chart

Comparing to the statistics of the entire South Boston.

STATISTICS	SOUTH BOSTON
Average (Mean)	$860,603.44
Standard Deviation	$405,760.96
Total Properties	11,478

Data Analysis & Problem Solution

We utilized constraint satisfaction to filter and narrow down the target properties based on property valuation, property type, overall property condition, and the number of rooms/bedrooms. We used greedy algorithm approach upon the filters to optimize the maximum and minimum number of properties to buy within a certain budget.

Both features are used in the interactive web service we created to generate an individualized search result list for our client (NDC). The client can efficiently utilize budget to purchase target properties and maintain the affordable housing in South Boston neighborhood based on the optimized choices of property result list.

Limitations and Future Work

a. Using more filters for narrowing target housing (e.g., transportation proximity)
b. Generating a data set of property owners' contact information (e.g. census, WhitePages API)

Interactive Web Interface

https://bit.ly/2WkrKBA

South Boston Neighborhood Development Corporation