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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

- a. Boston Street Address Management
- b. Boston property assessment
- c. Zillow Search Results Data
- d. Zillow Property Results Data
- e. Boston Permit Database

Methodology

K-Means

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

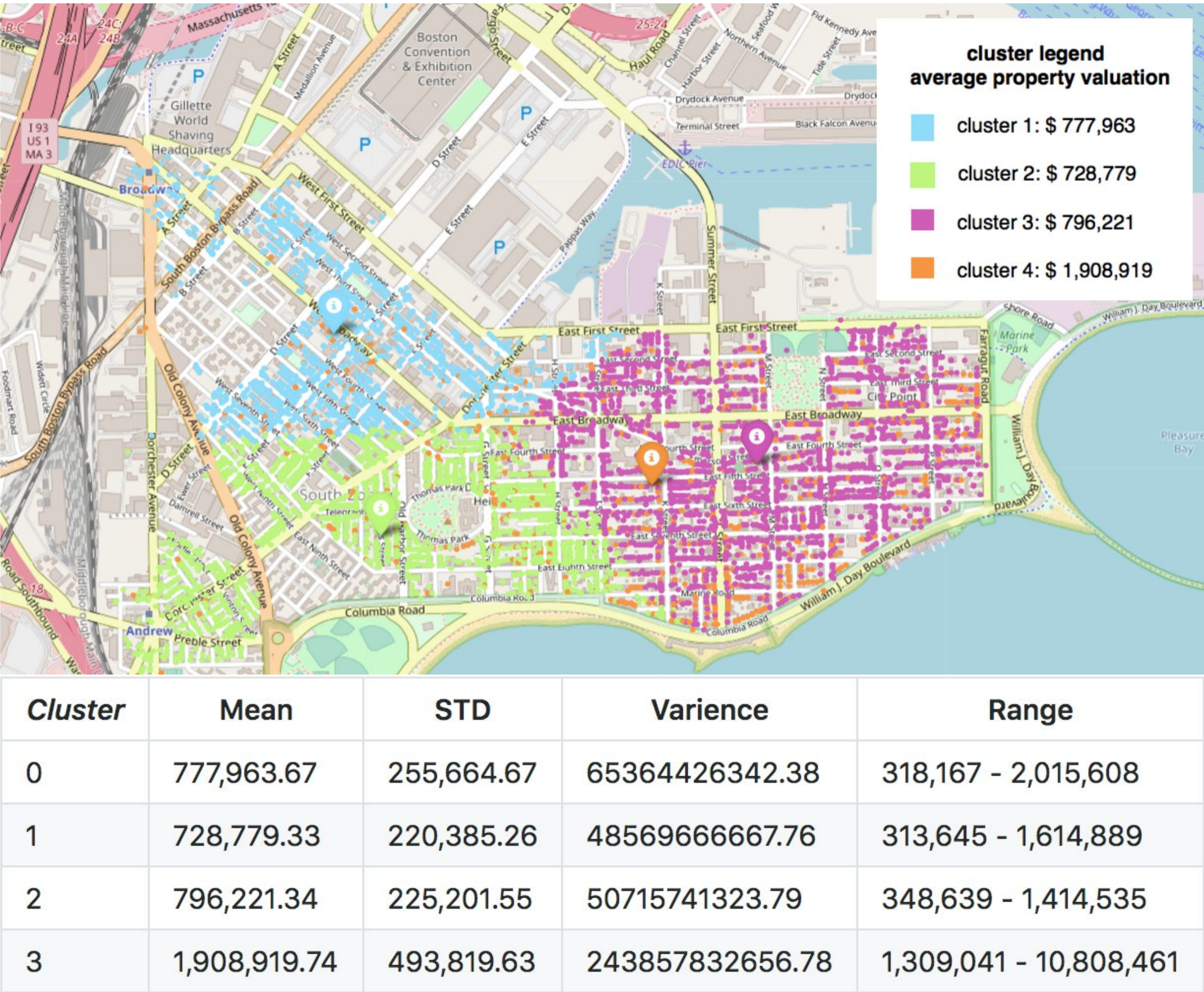
We utilized constraint satisfaction to filter and narrow down the target properties based on **property valuation, property type, overall property condition, and the number of rooms/bedrooms**. We used greedy algorithm approach upon the filters to optimize the maximum and minimum number of properties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

Results and Data Analysis

Both features are used in the interactive web service we created to generate an individualized search result list for our client (SBND). 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.

South Boston Statistics

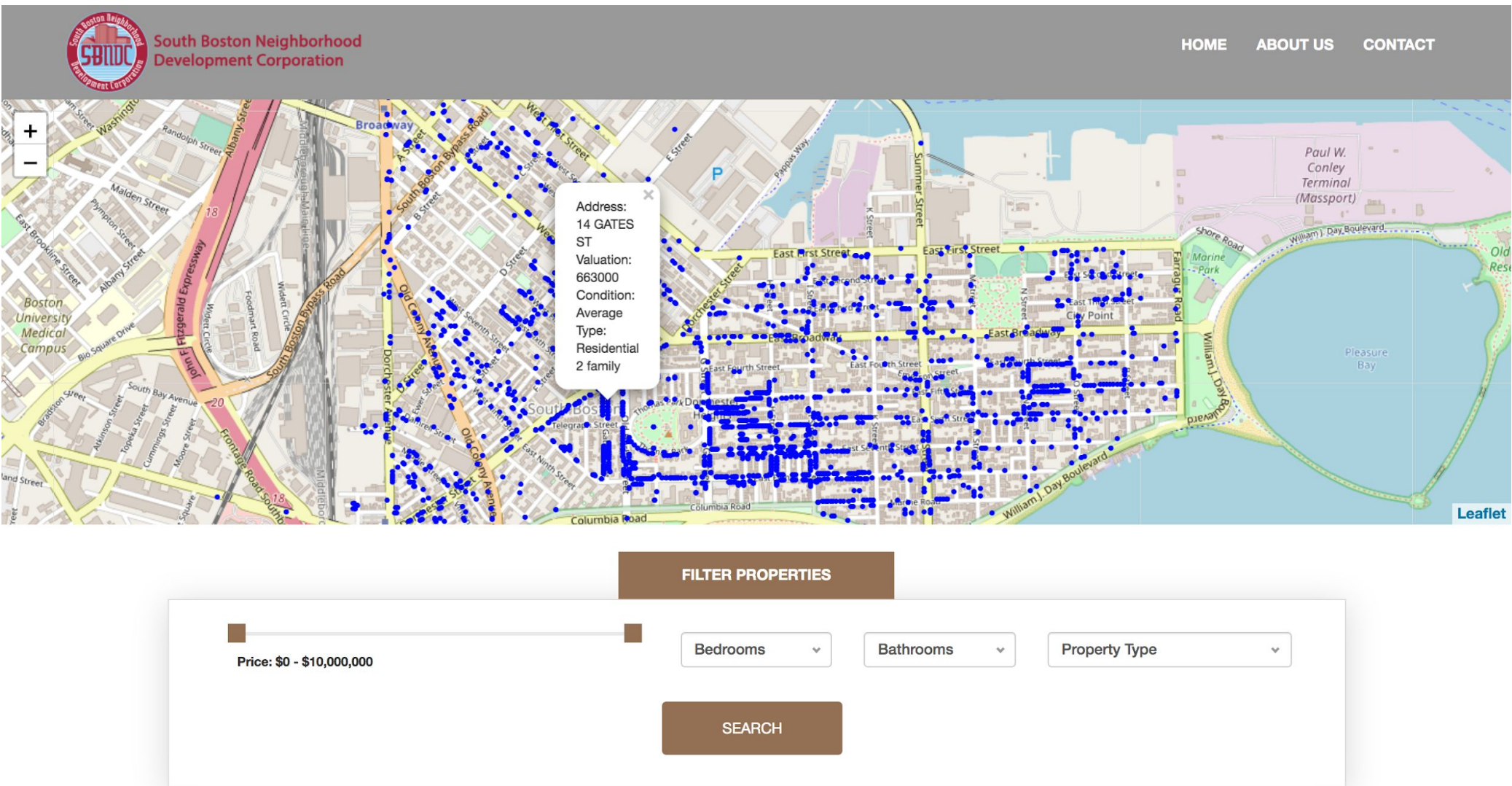
Average (Mean)	\$860,603.44
Standard Deviation	\$405,760.96
Total Properties	11,478



Limitations & Future Work

In the future, we would like to implement more filters to narrow target housing (e.g., transportation proximity). A limitation we encountered was we did not have access to owner data freely. We hope to one day generate a data set of property owners' contact information (e.g. census, WhitePages API) to automate the contact process.

Web Service



Conclusion

Our analysis indicates that there is a correlation between property location and price. While we were unable to build an automated contacting service due to our restricted API usage, the interactive web service acts as an aggregated data portal that lists property owners in a user friendly manner. With the data and analysis we collected, we hope that this can be of use to the South Boston Neighborhood Development Corporation in their commitment towards making South Boston a safe and affordable community.