Flashlight: A Property Assessment Visualization for the City of Boston

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Summary

- Our project, Flashlight, helps you undertand Boston Neighborhoods.
- Created a shiny app that maps features related to property tax values.
- Most real estate websites focus on the individual properties rather than their neighborhoods.

Methods (I): Where did we find the data?

- Property Assessment data for Boston is available on the city's Open Data Hub called Analyze Boston
- Additional coordinate values for properties were found using OpenAddresses.io, a free and open global address collection
- Geographic neighborhood boundaries were found using Zillow's Neighborhood Boundary Shapefiles

Methods (II): How did we prepare the data?

- Data Audits are performed on all incoming data
- tidyr and dplyr was used to clean and manage the CSV data
- geojsonio was used for parsing GeoJSON, a format used by the interactive mapping library Leaflet
- Python was used for converting and merging CSV files with GeoJSON

Methods (III): How did we model the data?

- Created Interior Detail Score for each region.
- Calculated assessment value increase in square-feet by each region.
- To get an estimate of land values we grouped the average land values by regions, calculated the yearly increase and extrapolated the average value for 2018.

Methods (III): How did we visualize the data?

- Our app was created using Shiny
- Interactions are organized by Shiny Dashboard
- Mapping is done using Leaflet for R
- All data visualization is done using R code and snippets of HTML

Results

- Let’s take a look at our app:

https://sichenghao1992.shinyapps.io/DS5110/

Any Questions?