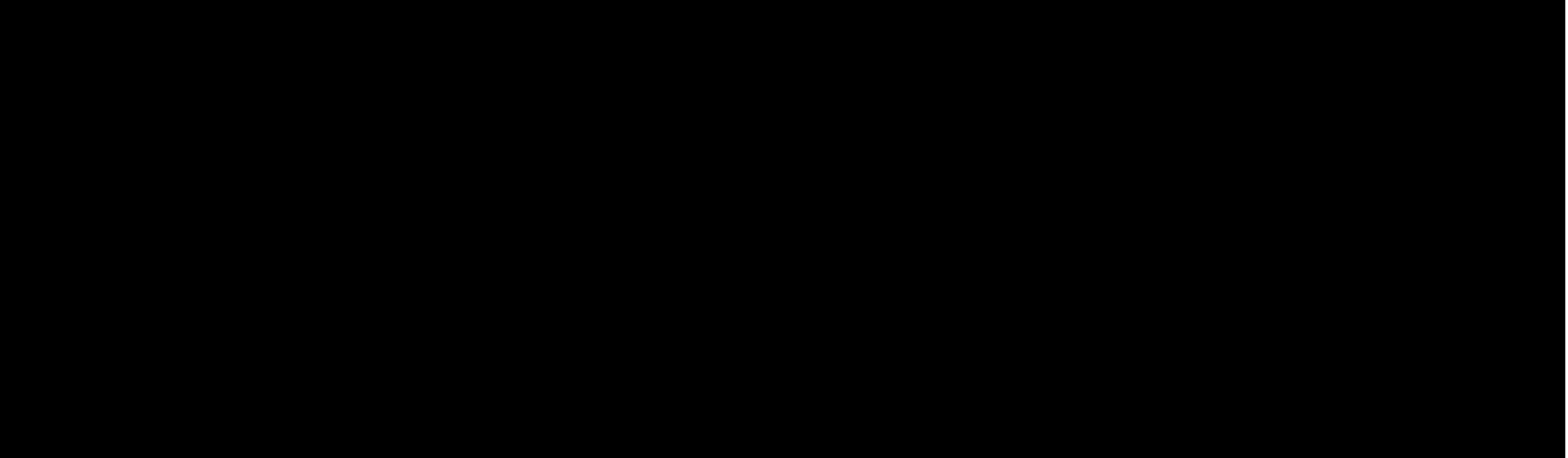



City of Boston: Remodeling and Unit Loss

Team C Final Report

04/26/24





AGENDA

Residential Unit Loss and Gain

Property Loss and Gain per Neighborhood

Relationship between Living Room Area and Bedroom Area

Which communities are most impacted by unit loss and gain

Community Impact

Construction and Development per Neighborhood

Cost of living increase or decrease with remodels

RECAP OF LAST TIME

On average, we observe a net gain of residential properties per year and nearly 99% of remodeled residential properties remained residential after the remodel.

Despite observing a sharp decrease in average number of bedrooms in 2021, we observed an increase in number of bedrooms after units were remodeled.

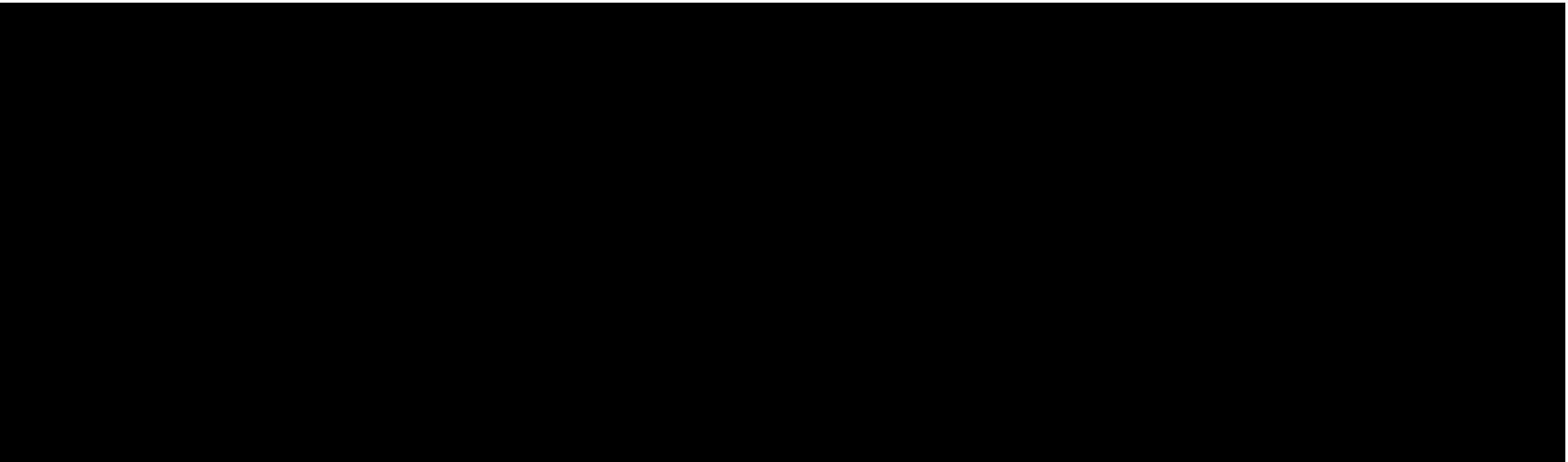
Loss of residential units in the city of Boston is not uniform over all neighborhoods.

We see the greatest number of building permits in Dorchester and South Boston.

We inferred an increase in demand for housing in Brookline, Readville, and Suffolk County by examining the relationship between building appreciation and spending.

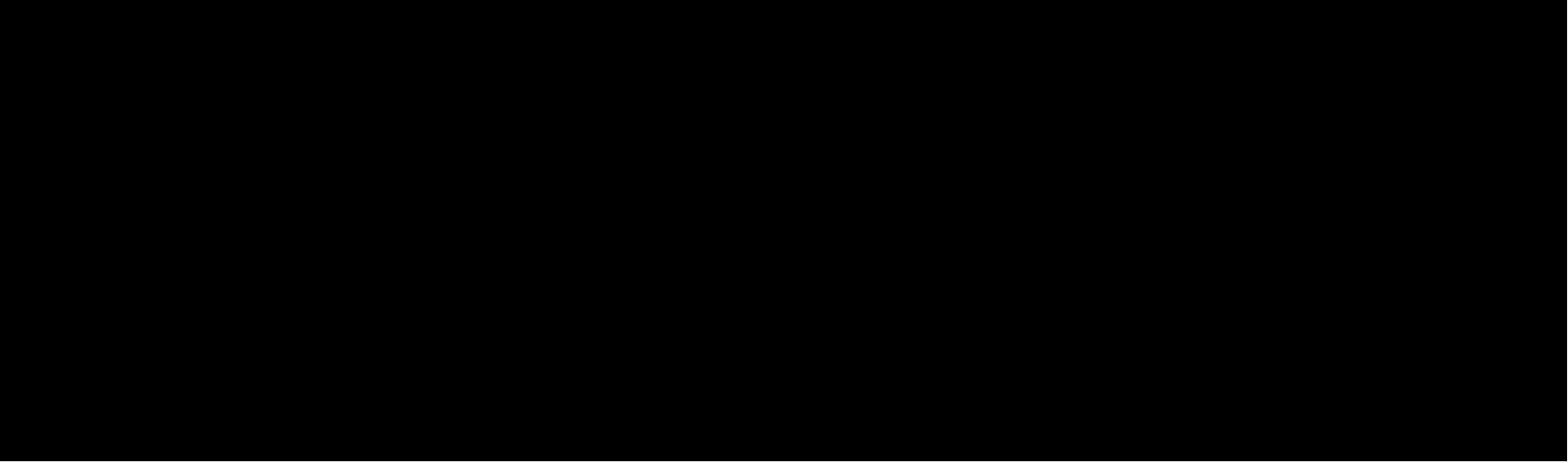


Residential Unit Loss and Gain: Properties and Living Area





Property Loss and Gain by Neighborhood



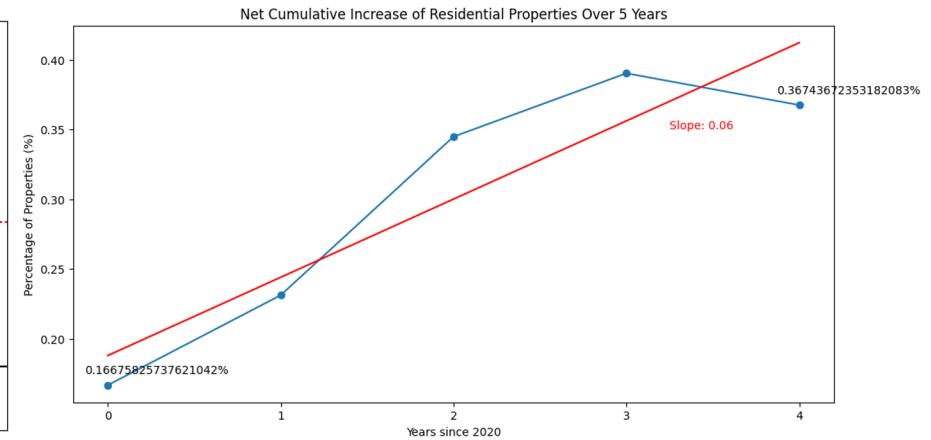
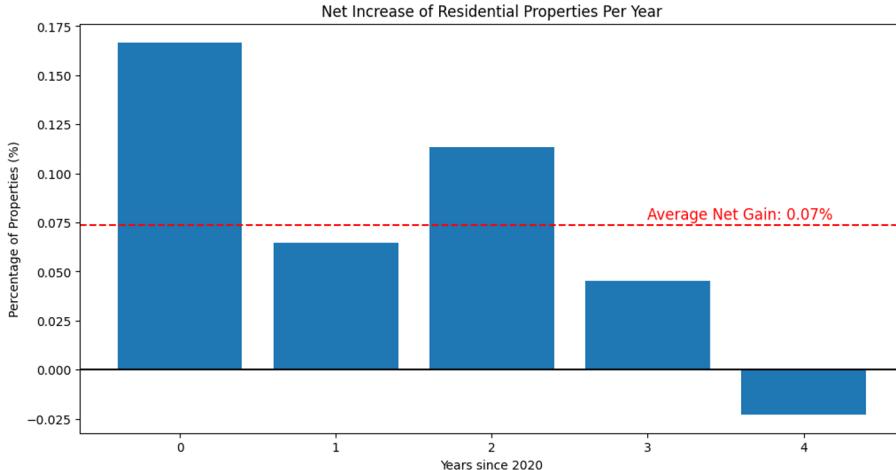
Residential Property Loss/Gain Per Neighborhood

Recall: On average we saw a **net gain** of residential properties per year

We are still looking at property loss and gain per year but instead of looking at the city of boston as a whole, we split the analysis by neighborhood

Note: We do not know the neighborhoods for all the properties that were included in the mid semester analysis of residential property loss. Because of this, we have roughly 33% data loss when splitting the data by neighborhood

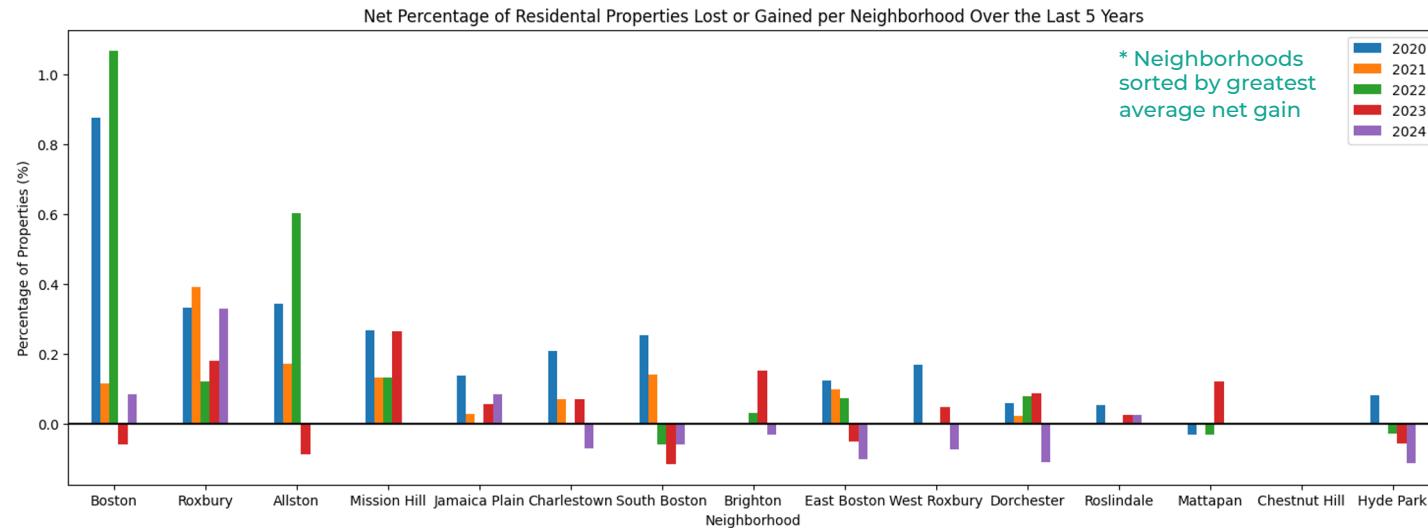
Net Gain in Residential Properties over the Last 5 Years



On average, we have a net gain of **0.07%** per year

Over the last 5 years, we had a net gain of **0.367%**

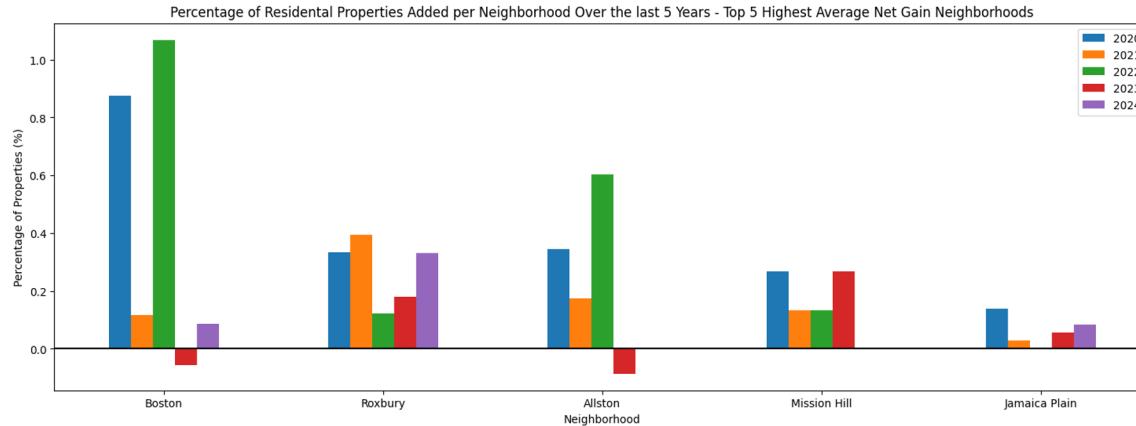
Net Gain in Residential Properties over the Last 5 Years Grouped by Neighborhood



Majority net gain per year

Net loss tends to happen in 2023 and 2024

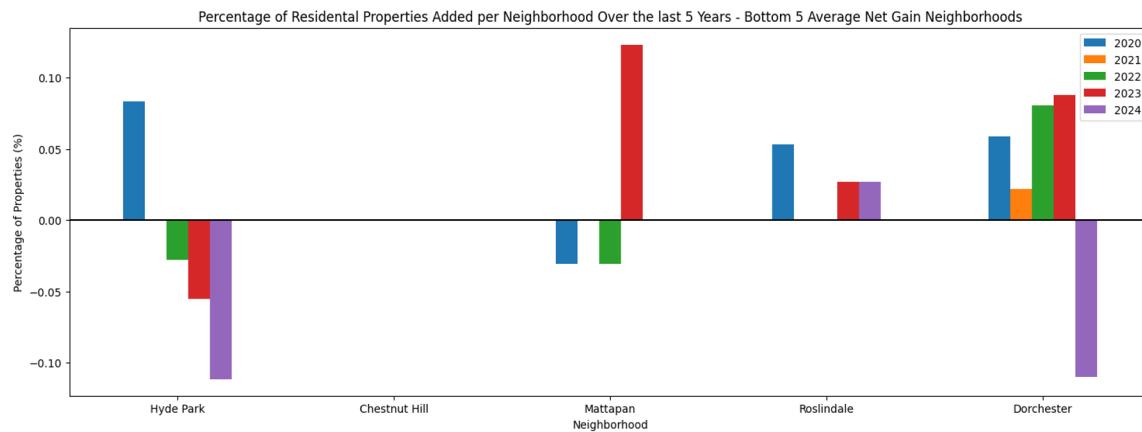
Top 5 Residential Property Net Gain Neighborhoods



Boston has the highest average net gain per year, but it is very inconsistent

Roxbury has the second highest, but it is significantly more consistent than Boston

Bottom 5 Residential Property Net Gain Neighborhoods



Hyde Park has the highest average net loss and has a consistent net loss

South Boston and East Boston also experienced the same pattern of net gain steadily becoming net loss

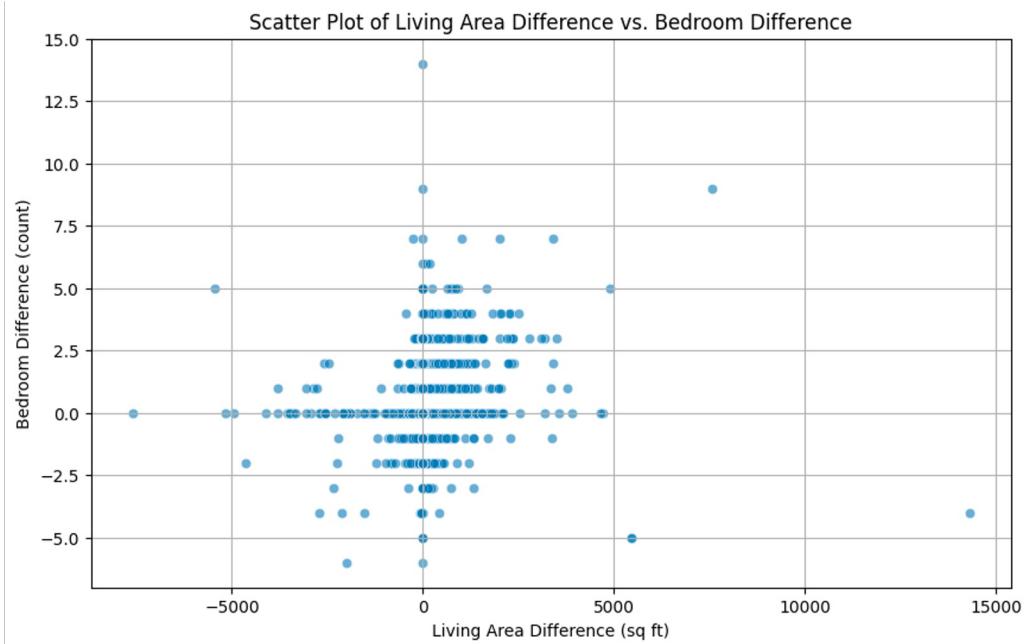


Relationship Between Average Bedroom Area and Average Living Room Area



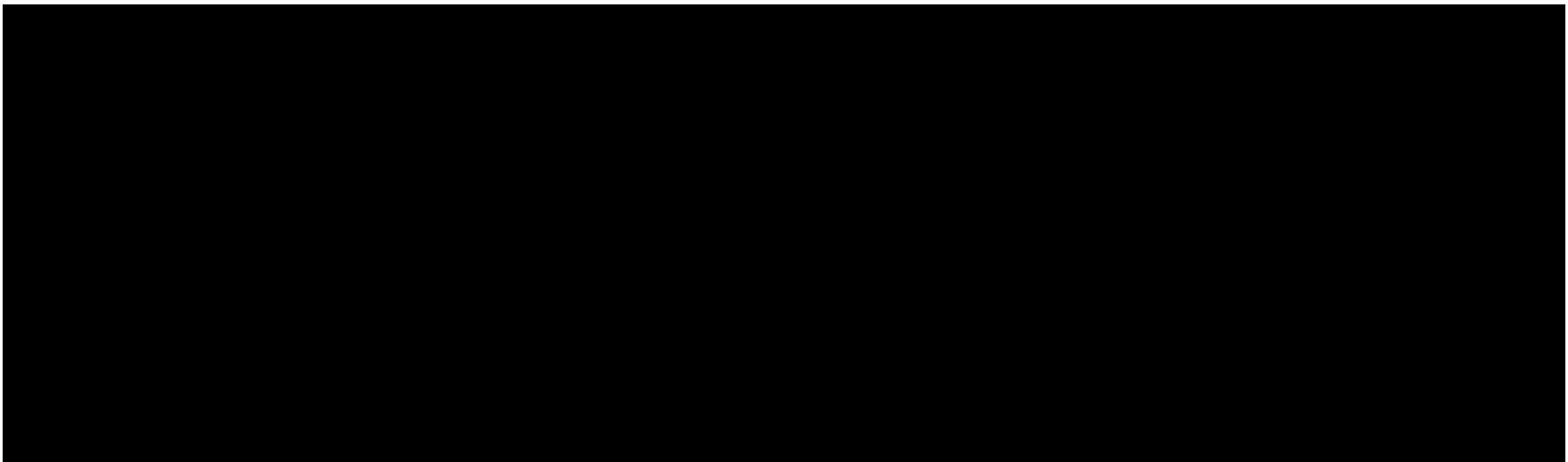
Correlation between Bedrooms/Living Area?

The distribution of points indicates that changes in the living area do not consistently correspond with changes in the number of bedrooms.





Residential Unit Loss and Gain: Community Impact





Demographics in Areas of Loss



Heat Maps From Last Time Updated - Bedrooms

Major Gains in:

Dorchester - 235

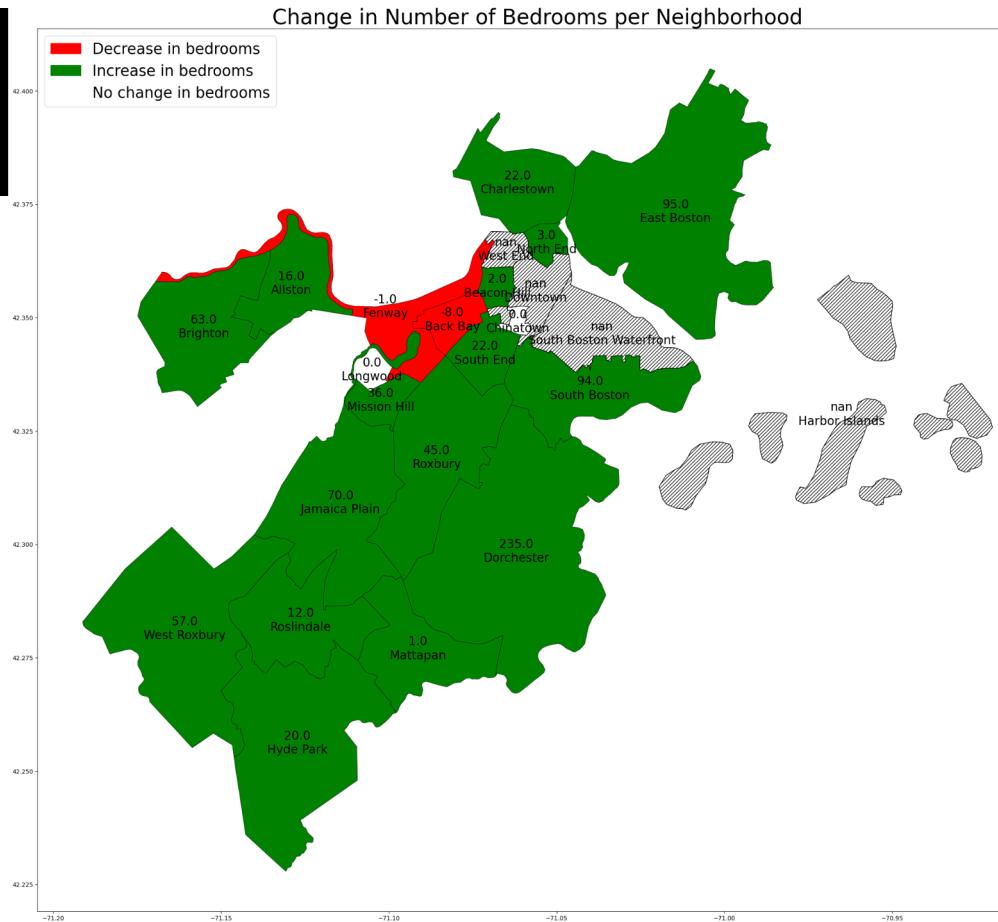
East Boston - 95

Jamaica Plains - 70

Loss in:

Back Bay - 8

Fenway - 1 (very minor)



Heat Maps From Last Time Updated - Res Units

Major Loss in:

Brighton - -47000

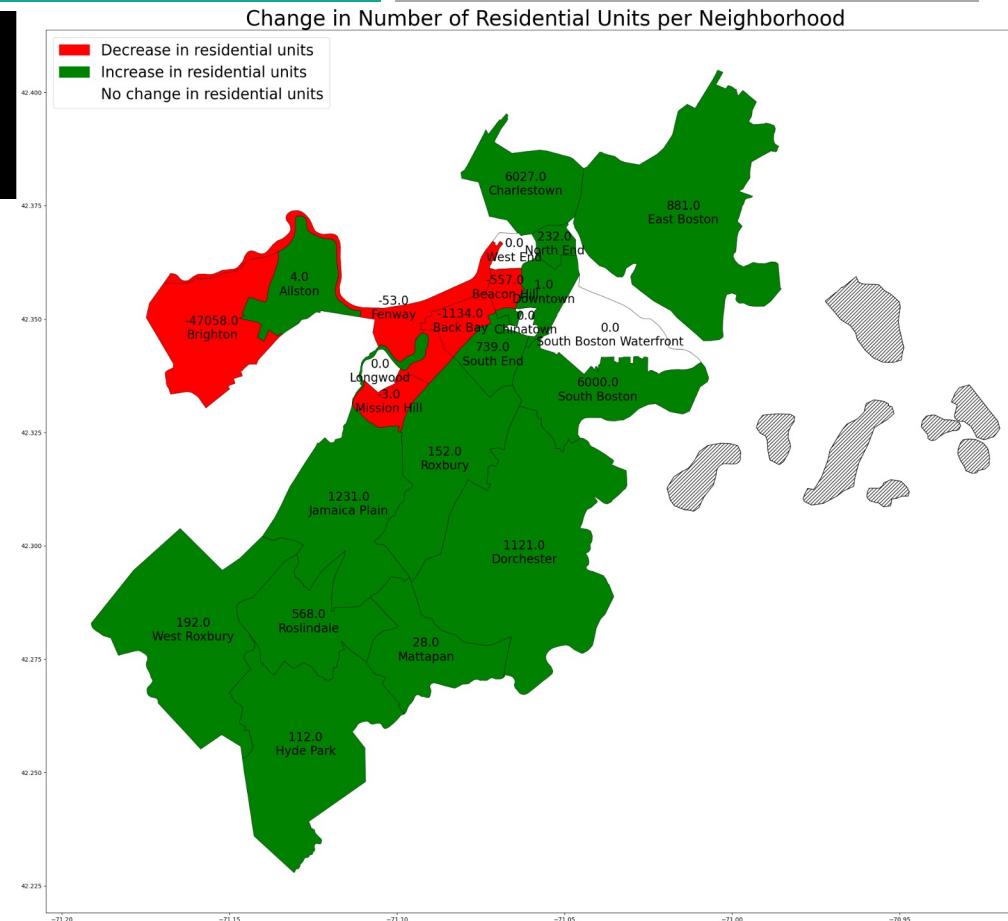
Back Bay - 1134

Jamaica Plains - 70

Gain in:

Dorchester - 1121

Jamaica Plains - 1231

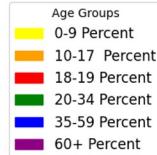


Modal Age Group Per Neighborhood

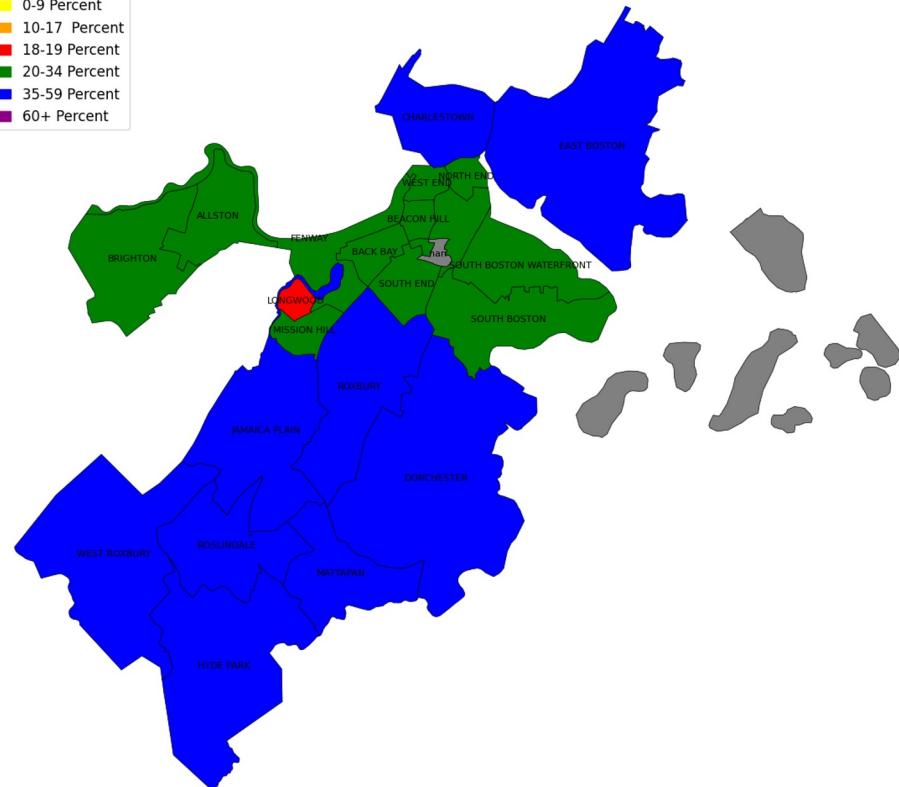
Majority age group is either in the age range from 20-34 and 35-59.

Brighton affected the most by res_unit lost, 20-34 year olds affected the most.

Dorchester gained the most units, benefiting 35-59 year olds

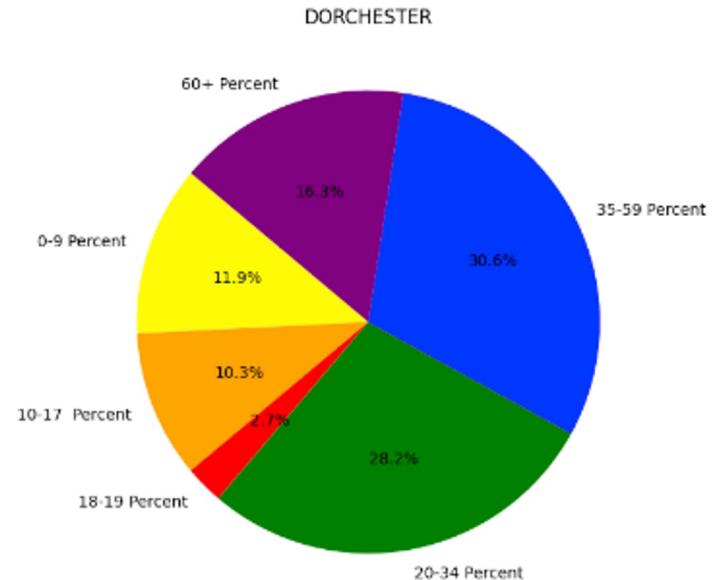
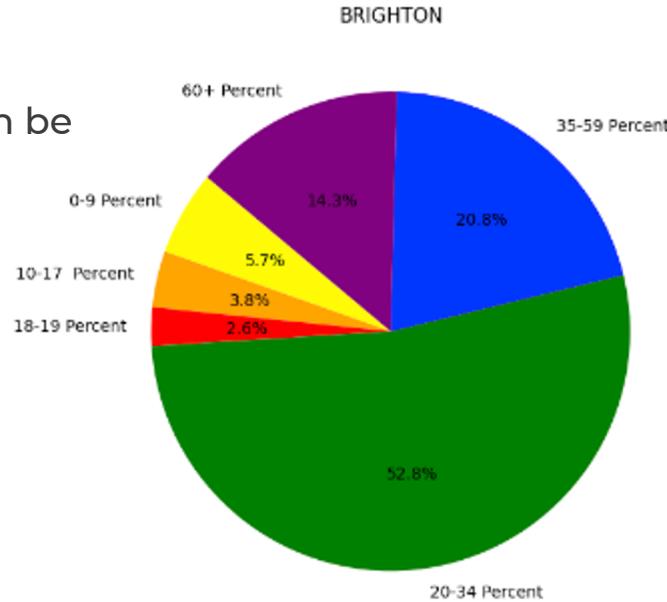


Modal Age Group per Neighborhood



Brighton and Dorchester Age Demographics

All pie charts can be
found [here](#)

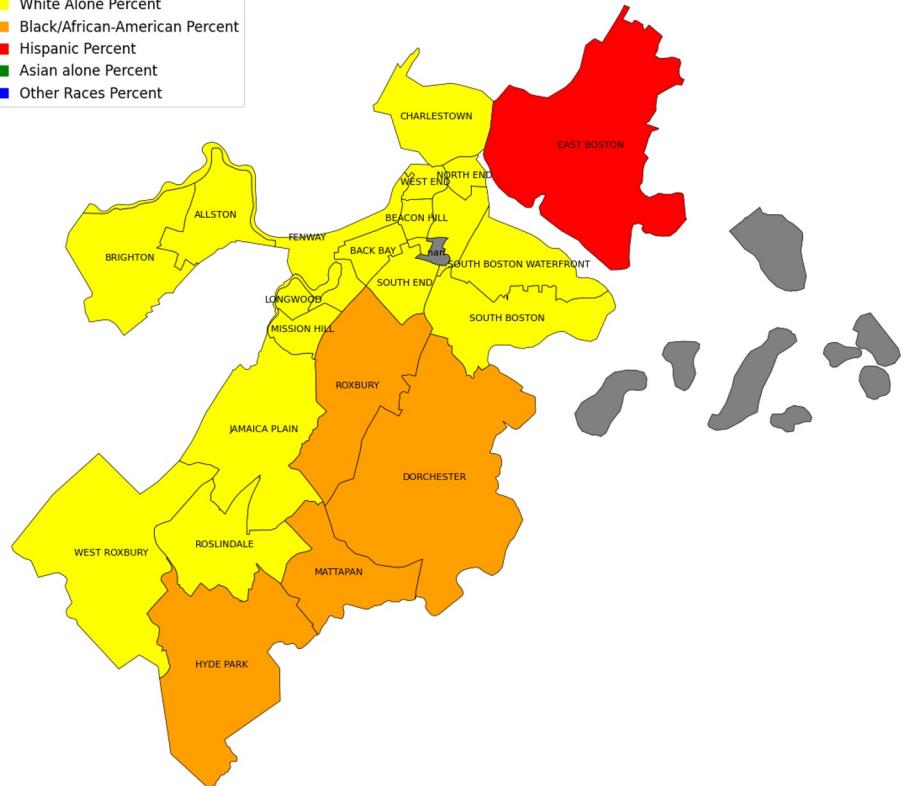
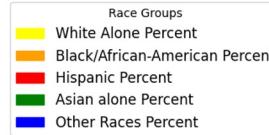


Modal Race Group Per Neighborhood

Majority race group is White Alone or Black/African-American.

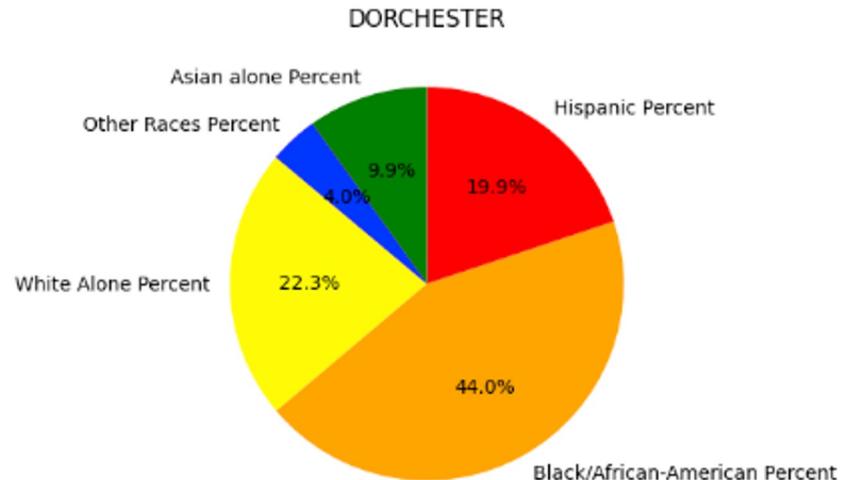
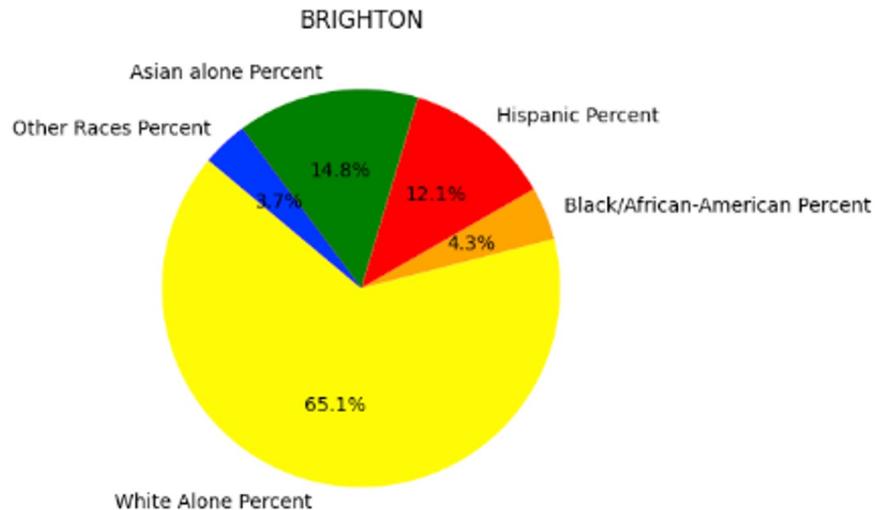
Brighton affected the most by res_unit lost, white people affected the most.
Dorchester gained the most units, benefiting black/African-American people.

Modal Race Group per Neighborhood



Brighton and Dorchester Race Demographics

All race charts can be found here:



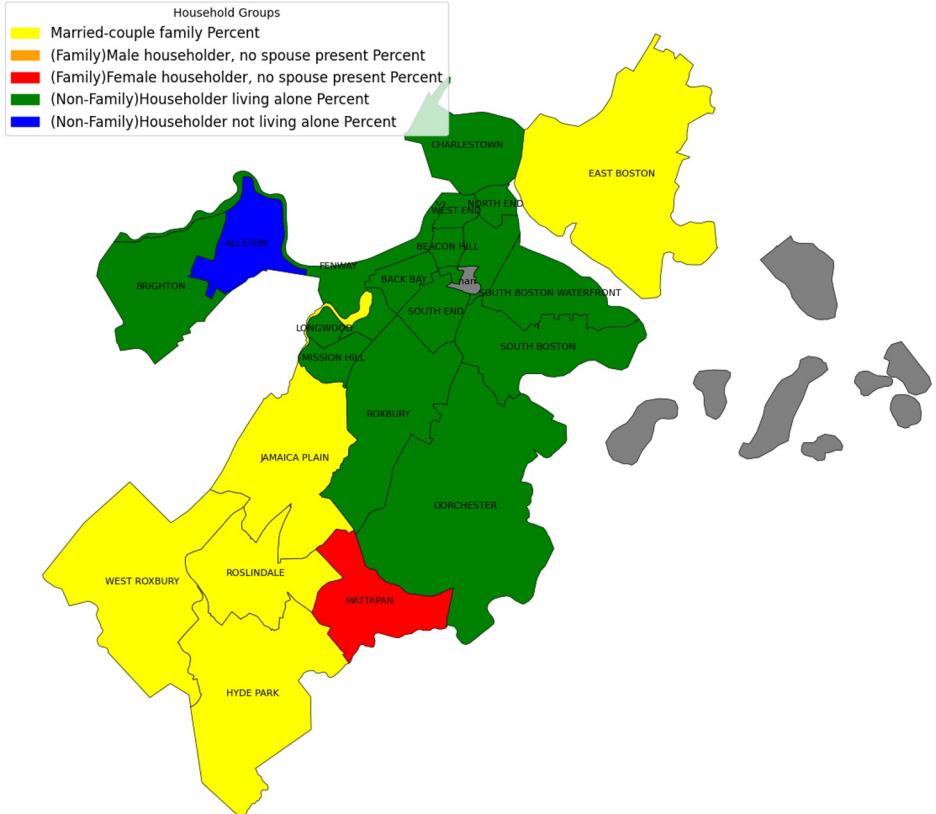
Modal Race Group Per Neighborhood

Majority household group is Married-couple families and Householders living alone.

Brighton affected the most by res_unit lost, people living alone affected the most.

Dorchester gained the most units, benefiting people who live alone.

Modal Household Group per Neighborhood



Brighton and Dorchester Household Demographics

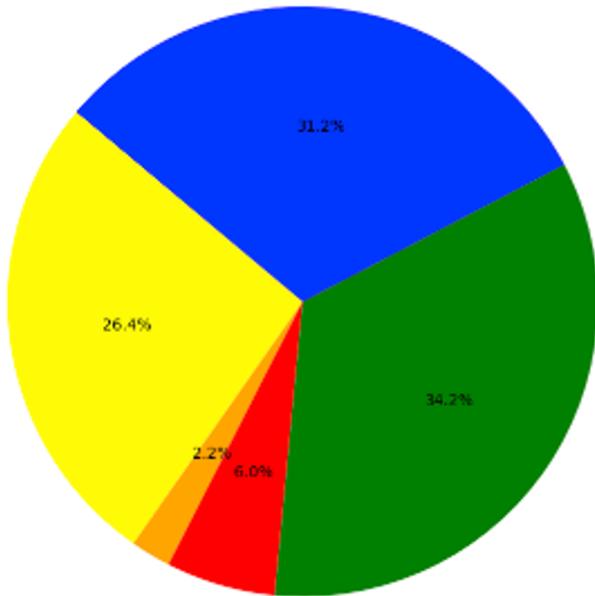
All pie

charts can

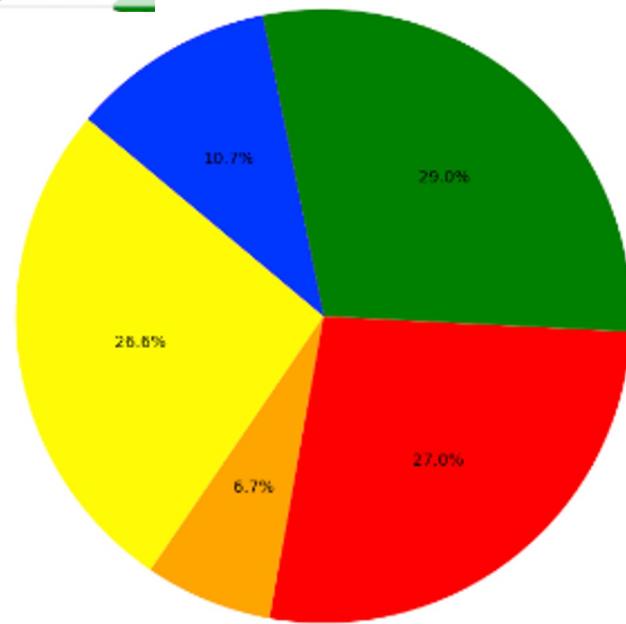
be found

here

BRIGHTON



DORCHESTER



So what does this all mean?

Brighton is losing the most units/bedrooms due to renovations

Young White people around the age 20-34 who live may live alone or have roommates are being affected the most.

Dorchester is gaining the most units/bedrooms due to renovations

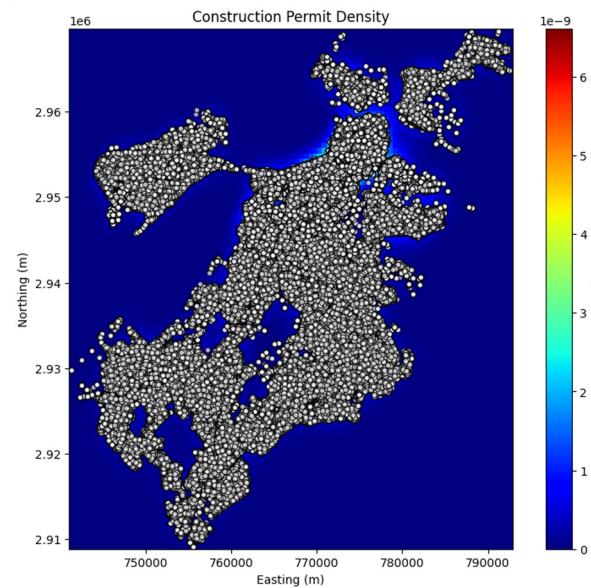
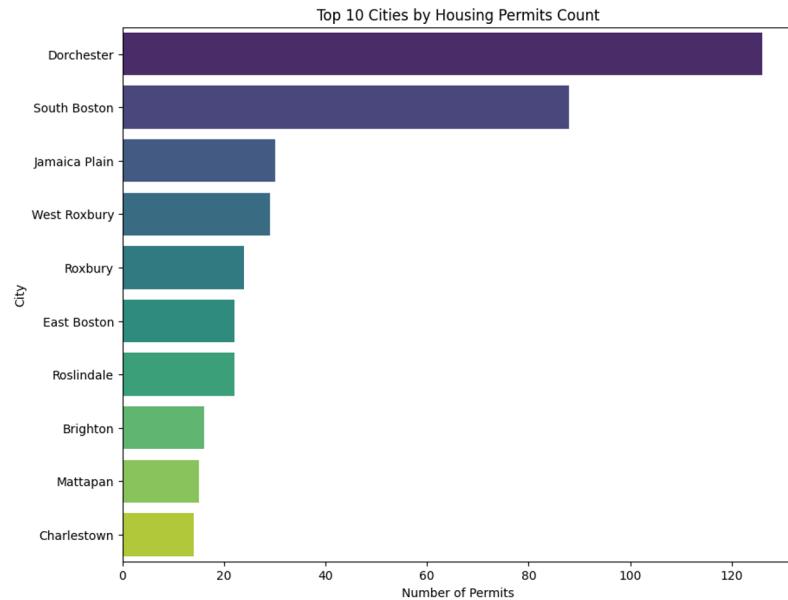
Middle aged Black/African-Americans around the age 35-59 who either live alone or with family are gaining the most.



Construction and Development

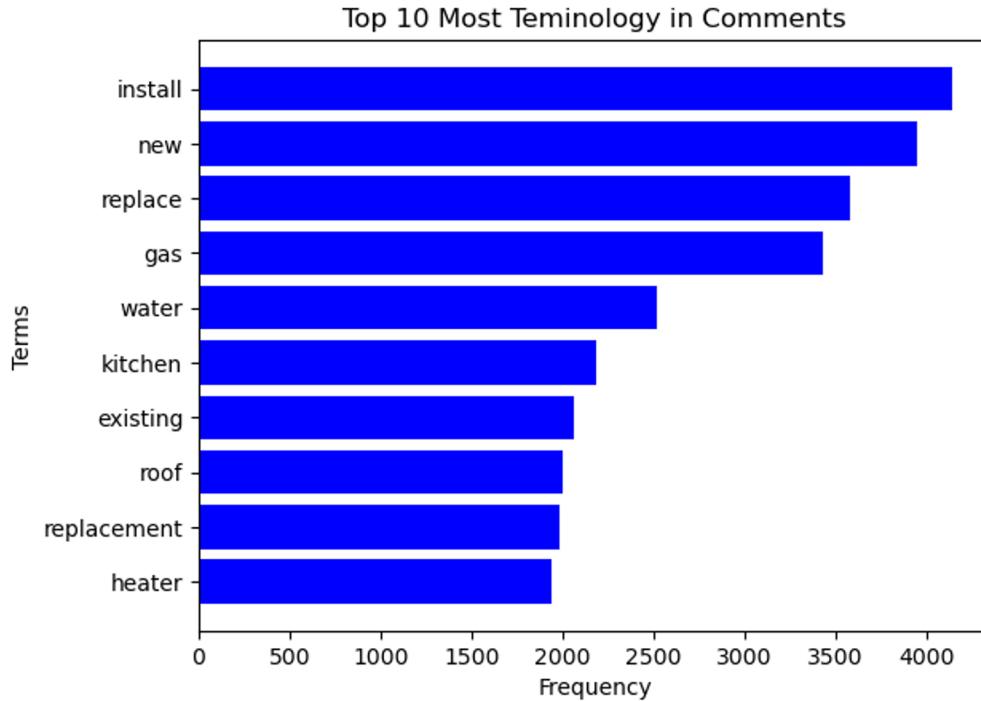


Top 10 Cities with Housing Permits



Dorchester and South Boston being the top area with request of Housing permits.

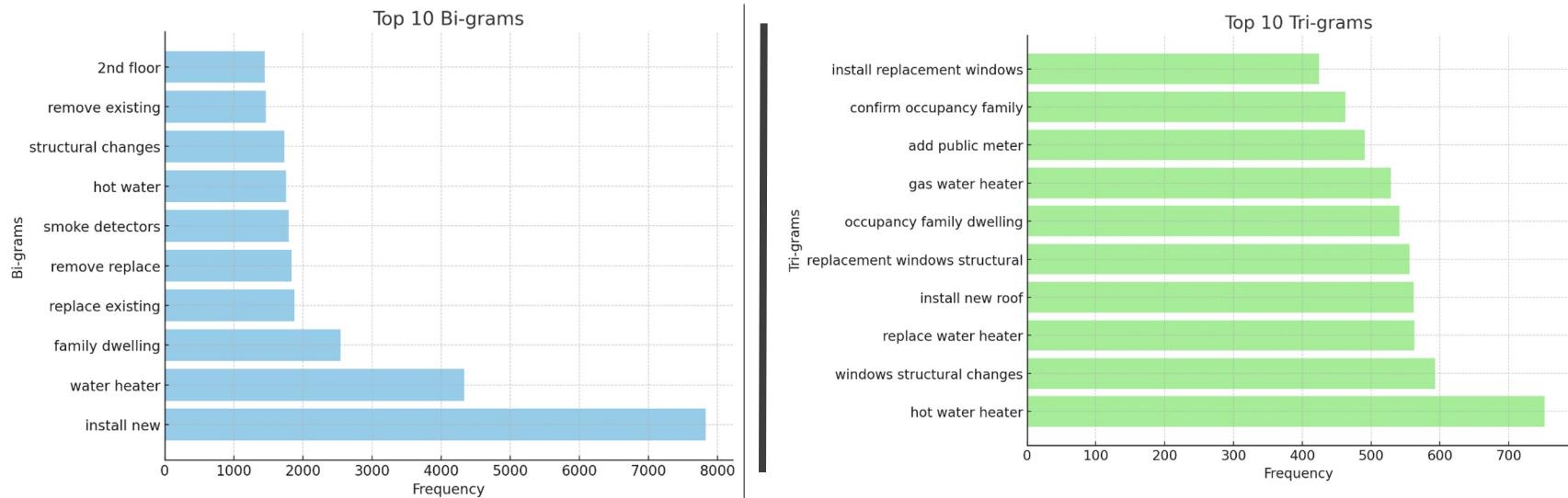
Sentimental Analysis



Examples of the comments

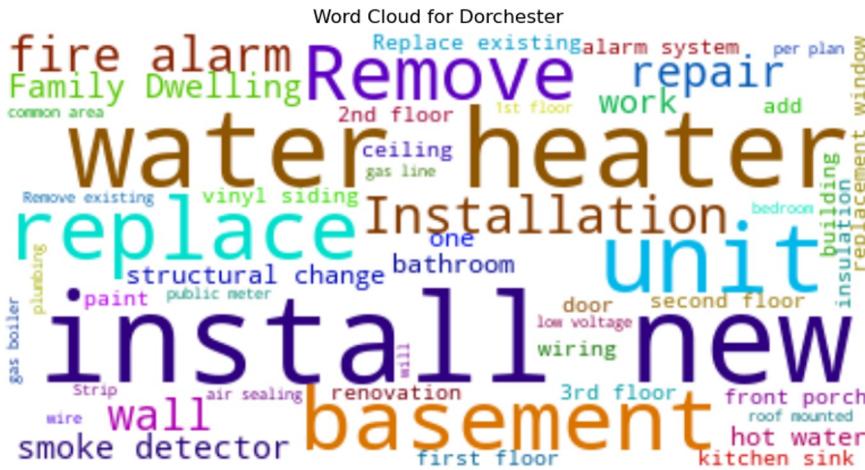
1. Installation of 18 Roof mounted solar panels
2. Install security system
3. Purchase and install (11) new Interior 6 panel doors.
4. Replace roof deck removed for EPDM roof replacement.

Bi-grams vs Tri-grams



The bi-grams and tri-grams reveals a focus on installation, maintenance, and upgrades of various home and building components, often with a significant lean towards safety, energy efficiency, and compliance with standards or regulations.

Word Cloud



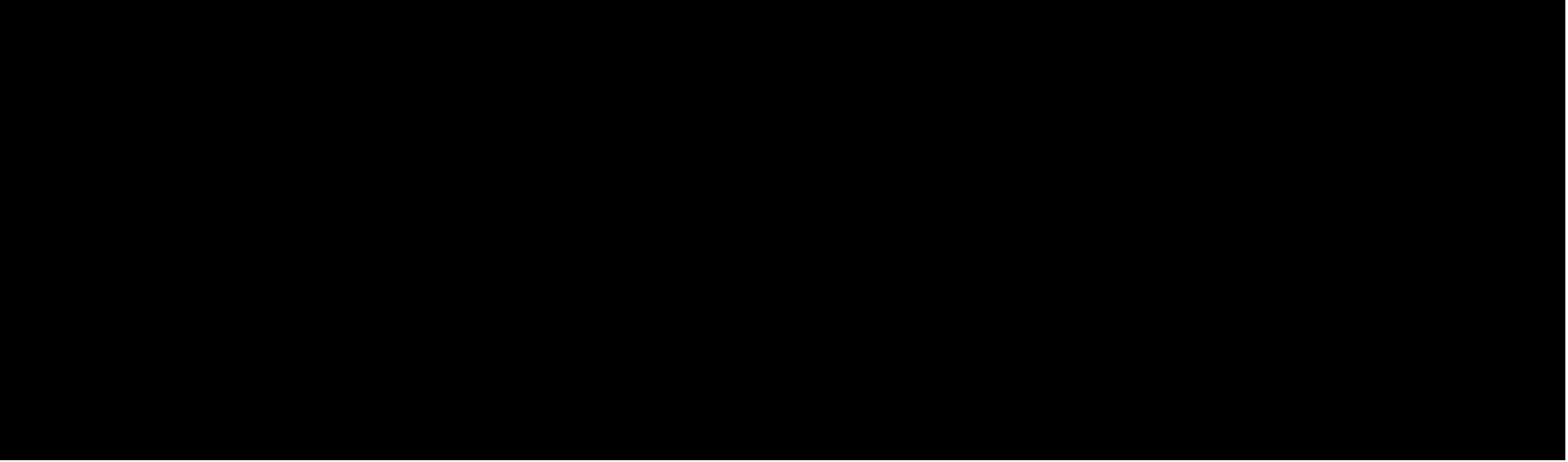
Word Cloud for South Boston



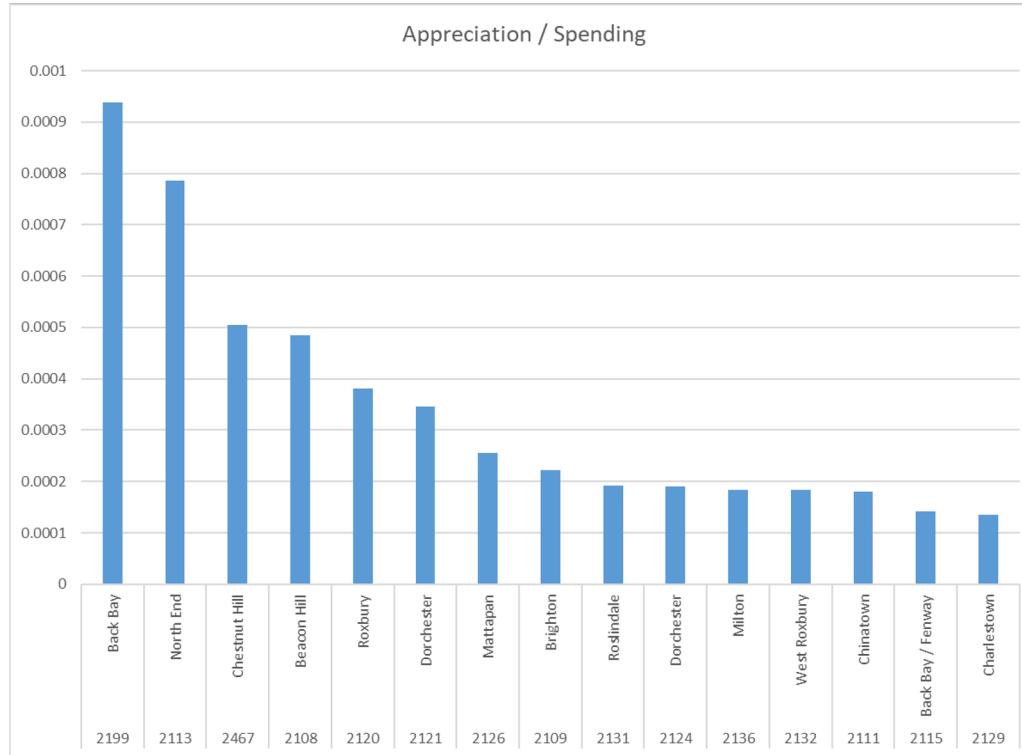
Reveal a focus on residential maintenance and safety compliance, emphasizing installations and upgrades of essential home systems within a regulatory framework.



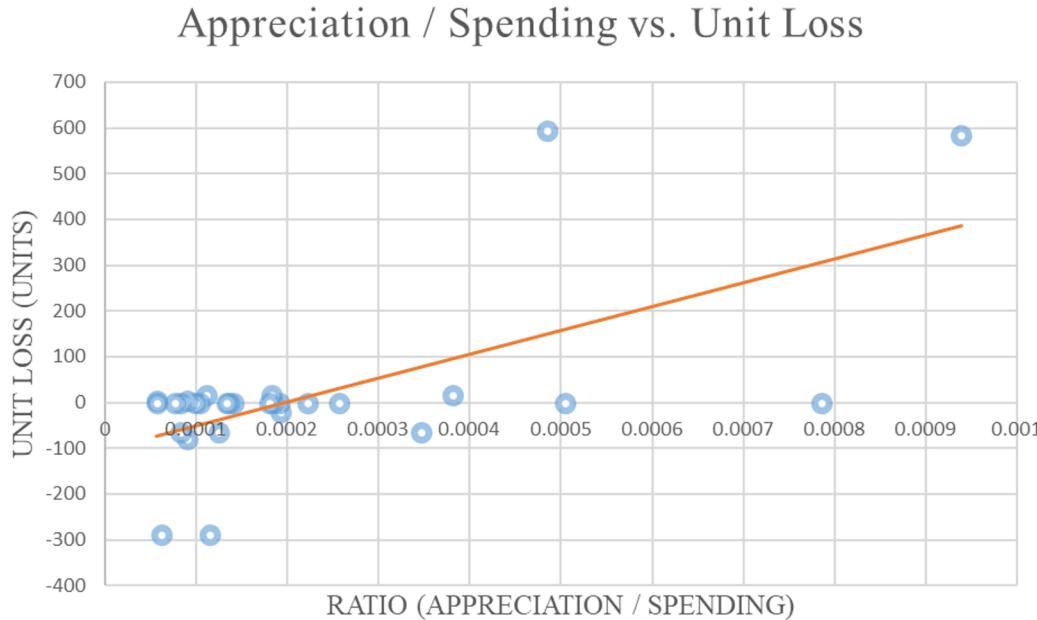
Cost of Living



Appreciation Vs Expenditure



Appreciation Vs Expenditure - In regards to unit Loss



KEY TAKEAWAYS

Boston, Roxbury, and Allston have the highest average net property gain per year, and Hyde Park, Chestnut Hill, and Mattapan have the lowest average net gain, but South and East Boston are also steadily losing residential properties.

When properties are renovated they tend to gain living area/ bedrooms. Brighton lost the most residential units while Dorchester gained the most. Specifically young white people around the age 20-34 seem to be affected the most.

There's a significant emphasis on updating and maintaining residential properties, focusing on safety features like smoke detectors and water heaters, as well as energy-efficient upgrades such as replacement windows and new roofing, aligning with Boston's stringent building codes and safety regulations.



Thank You!

