CITY OF BOSTON:
REMODELING AND UNIT LOSS
TEAM B

BOSTON
UNIVERSITY

MID SEMESTER
PRESENTATION

SPARK!

TEAM BREAKDOWN
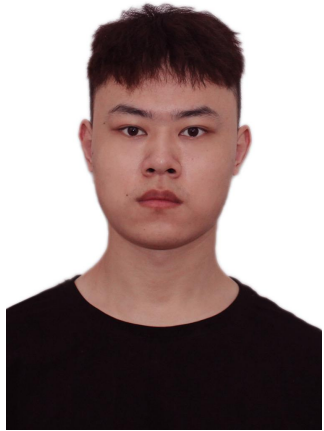
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PROJECT DESCRIPTION

- Our analysis and visualizations focus on improving how the City operates. This project will help the city understand trends that can be addressed at a strategic level. The focus is on how the influx of higher-income individuals, through buying and converting multiple-unit homes into larger, singular units, may be reducing the total number of housing units. Our project looks at the role remodeling and zoning conversions have played in the housing markets in Boston.

WHAT WE HAVE DONE

- **Question Answered:**
  - What communities are building more housing units?
  - Which ones are losing housing units?
  - Where are housing remodels and renovations happening?

- **Data Preliminary Analysis**
  - Analyzed the changes in each type of unit undering 2009 - 2024
  - Analyzed the trend of permits in different regions for each year.
  - Checked out the new data dictionary and found some issues to analyze.

QUERY RESULTS

UNIT
1-A
1-B
1-C
2-A
2-B
2-C
3-A
3-B
3-C
4-A
4-B
4-C
5-A
5-B

HOW MANY HOUSING UNITS ARE LOST TO REMODELS ON AVERAGE, EACH YEAR?

# CHANGES IN TOTAL UNITS FROM 2009 TO 2024 ON AVERAGE EACH YEAR:

Zip Code	
02108	6.800000
02109	6.200000
02110	48.733333
02111	-1.466667
02113	7.266667
02114	-6.133333
02115	27.400000
02116	-637.733333
02118	-89.533333
02119	-9.400000
02120	0.866667
02121	7.066667
02122	23.533333
02124	5.266667
02125	34.066667
02126	-1.000000
02127	64.066667

Zip Code	
02128	135.133333
02129	31.066667
02130	-15.333333
02131	39.333333
02132	-12.000000
02134	24.000000
02135	137.200000
02136	24.133333
02137	NaN
02146	NaN
02199	0.000000
02201	NaN
02210	64.466667
02215	39.533333
02445	NaN
02446	0.000000
02467	-13.266667

CHANGES IN TOTAL UNITS FROM 2009 TO 2024 ON AVERAGE EACH YEAR:

Average Annual Change in Total Units from 2009 to 2024 by Zipcode
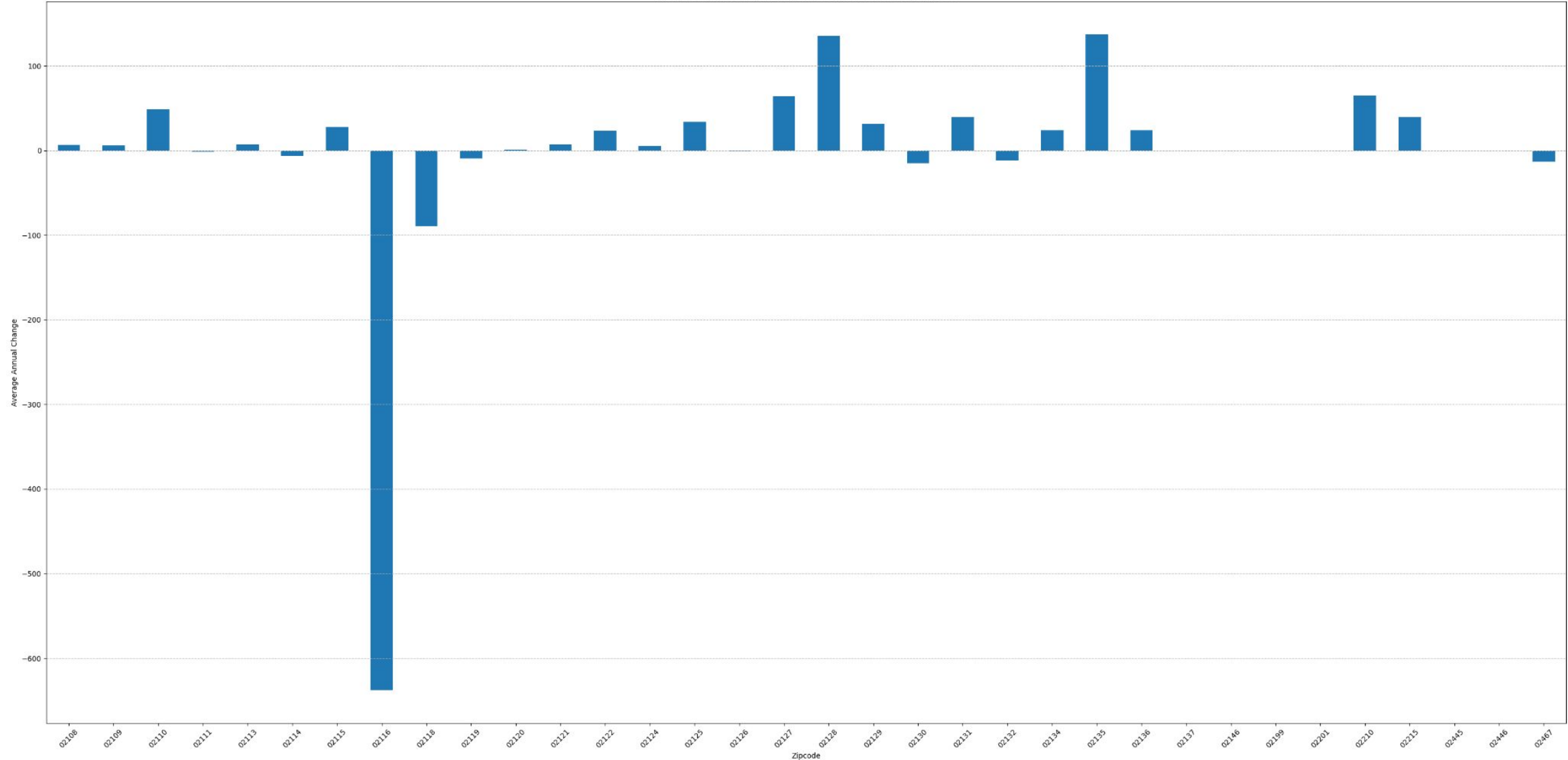
HOW HAS THE REMODELING TAKEN PLACE OVER DIFFERENT YEARS?

# COMPREHENSIVE ANALYSIS REPORT

oved_building_pd[zip].unique().tolist()

⧉ Variables   ≡ Outline   ···   🗄 Python 3.9.6

- ALLSTON
- Allston
- Allston/
- Allston/Boston
- Allston/Brighton
- BOSTON
- BOSTON/
- BOSTON/CHINATOWN
- BOSTON/SOUTH END
- BOSTON/Waterfront
- BRIGHTON
- BRIGHTON/
- Back /
- Back Bay/
- Back Bay/Boston
- Beacon Hill/
- Beacon Hill//
- Boston
- Boston's Historic North End
- Boston/
- Boston/Back Bay
- Boston/Beacon Hill
- Boston/Charlestown
- Boston/Chinatown
- Boston/Downtown
- Boston/Fenway
- Boston/Fenway/Kenmore/Audubo
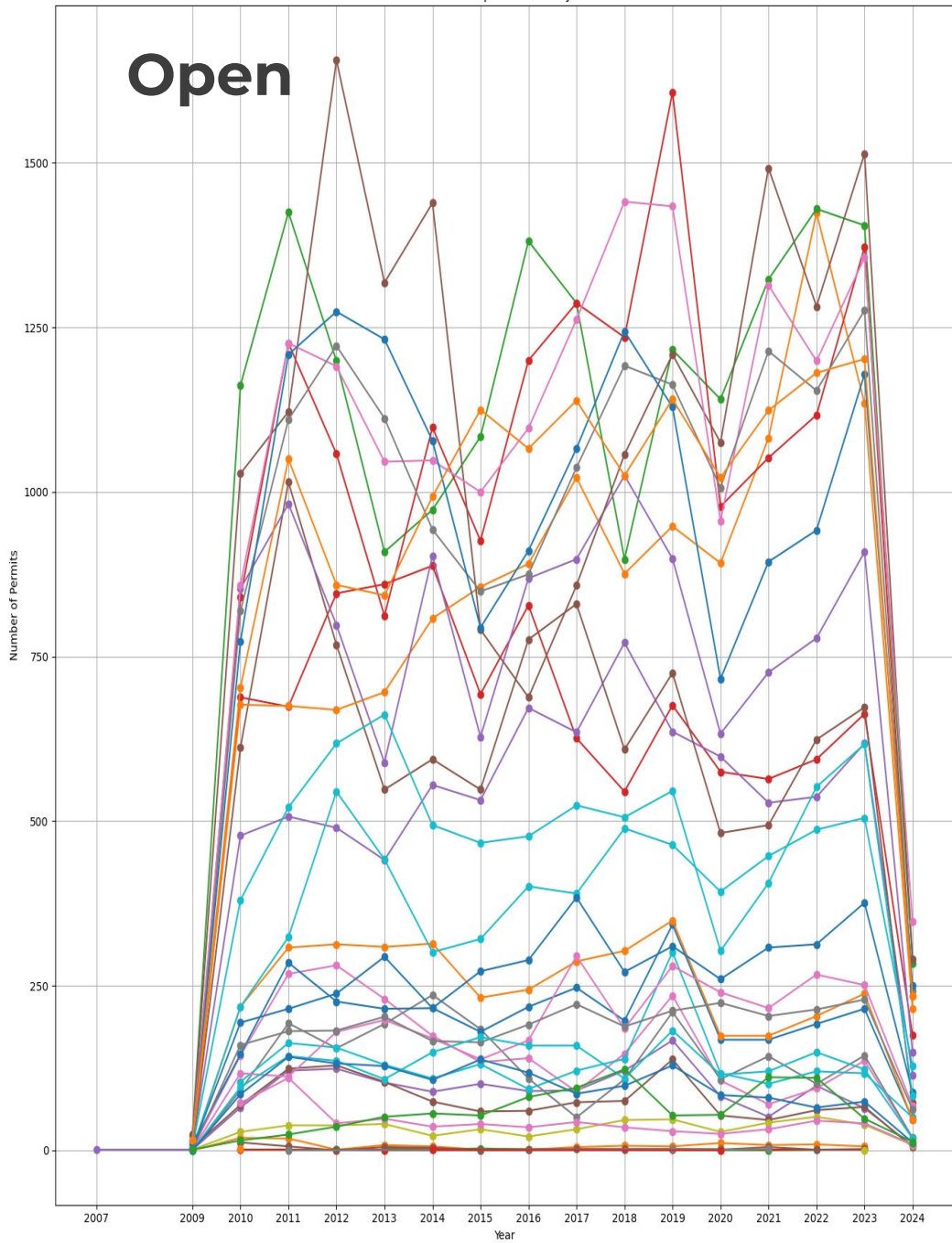- Boston/North End
- Boston/Roslindale
- Boston/Roxbury

It's hard to directly use!

How many remodeling taken place in different area over different years

Number of Total Permits by Year
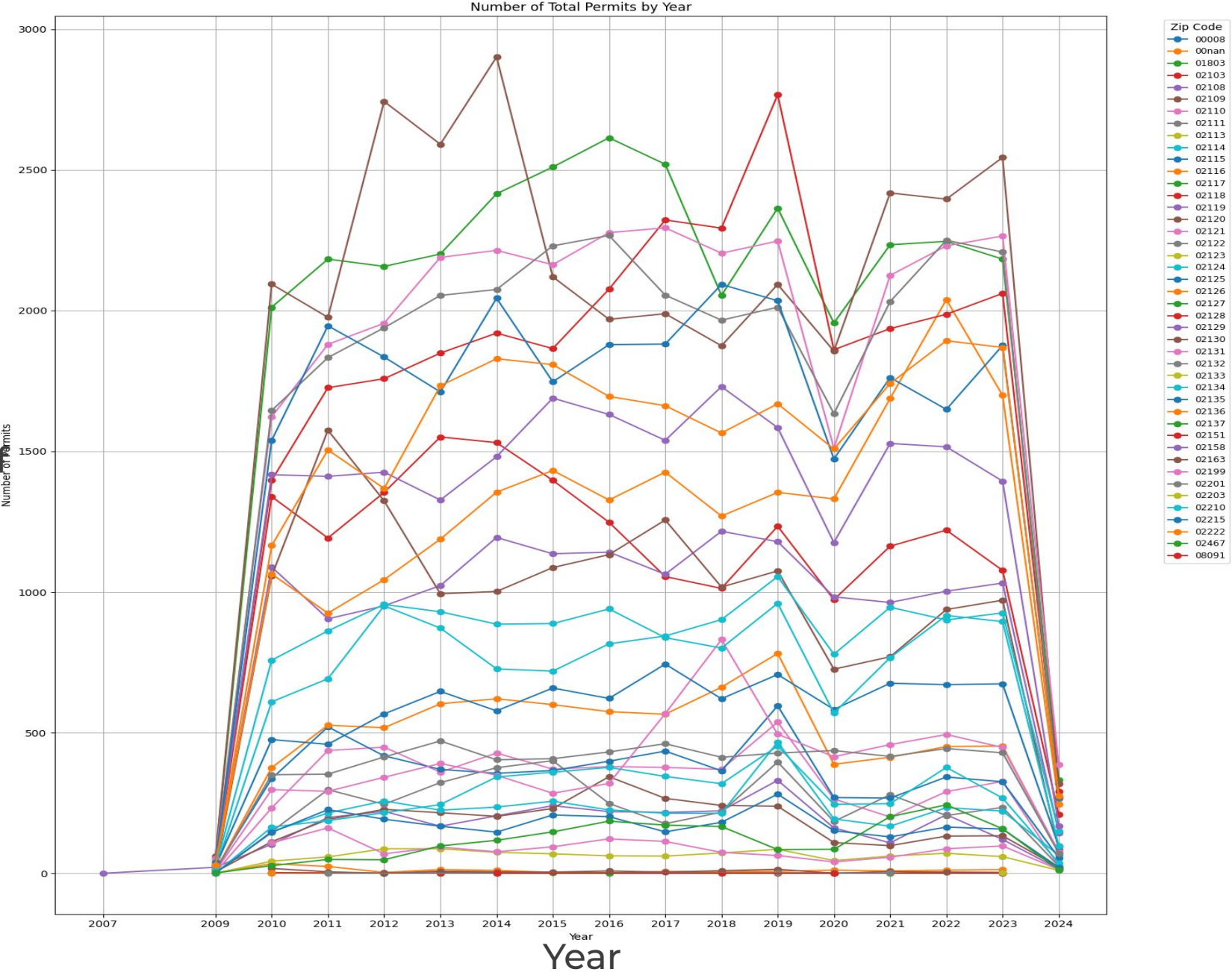
Number of permits

Each zip represents a different area in Boston

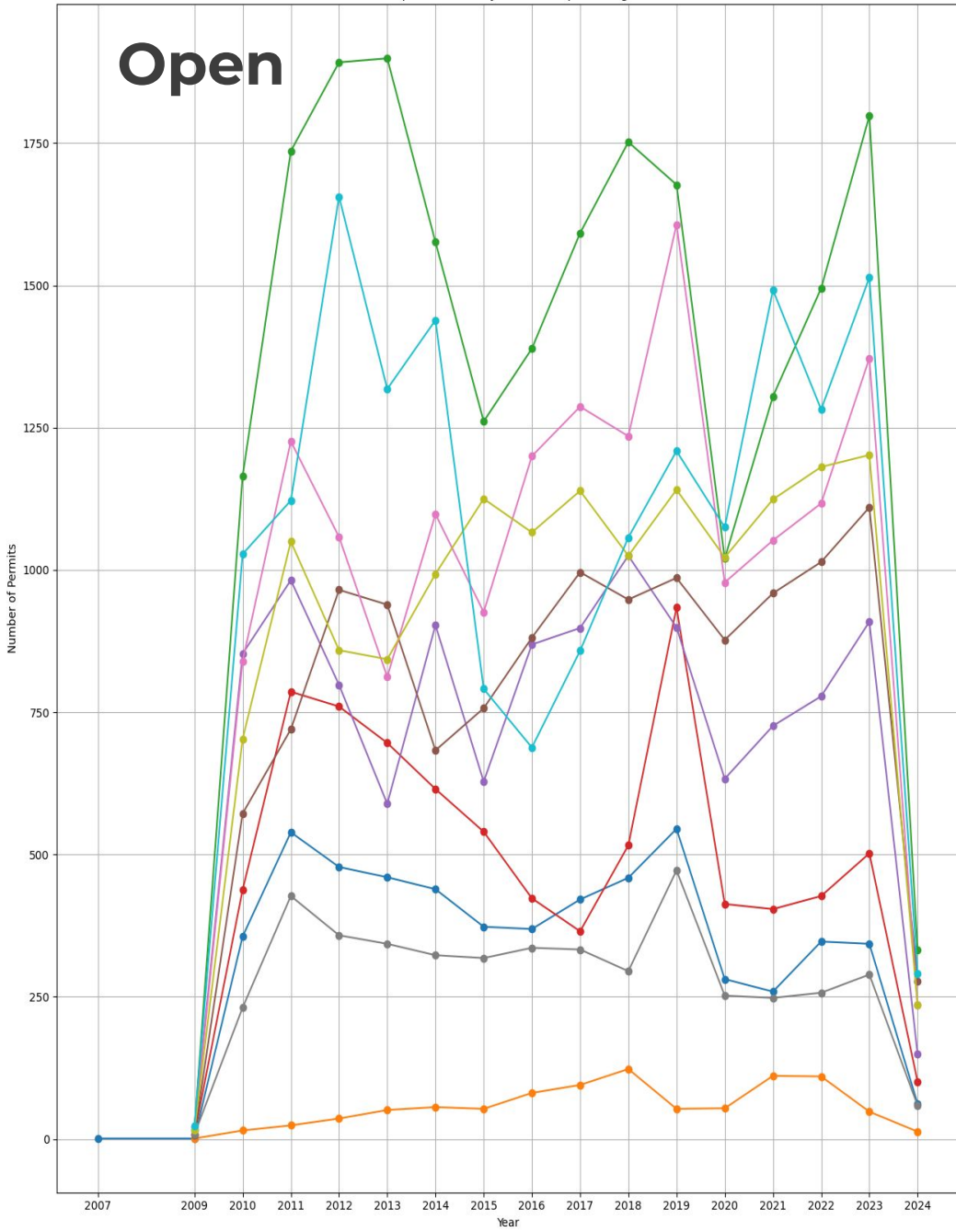Number of Open Permits by Year

Number of Closed Permits by Year

Open

Close

How many remodeling taken place in different area over different years
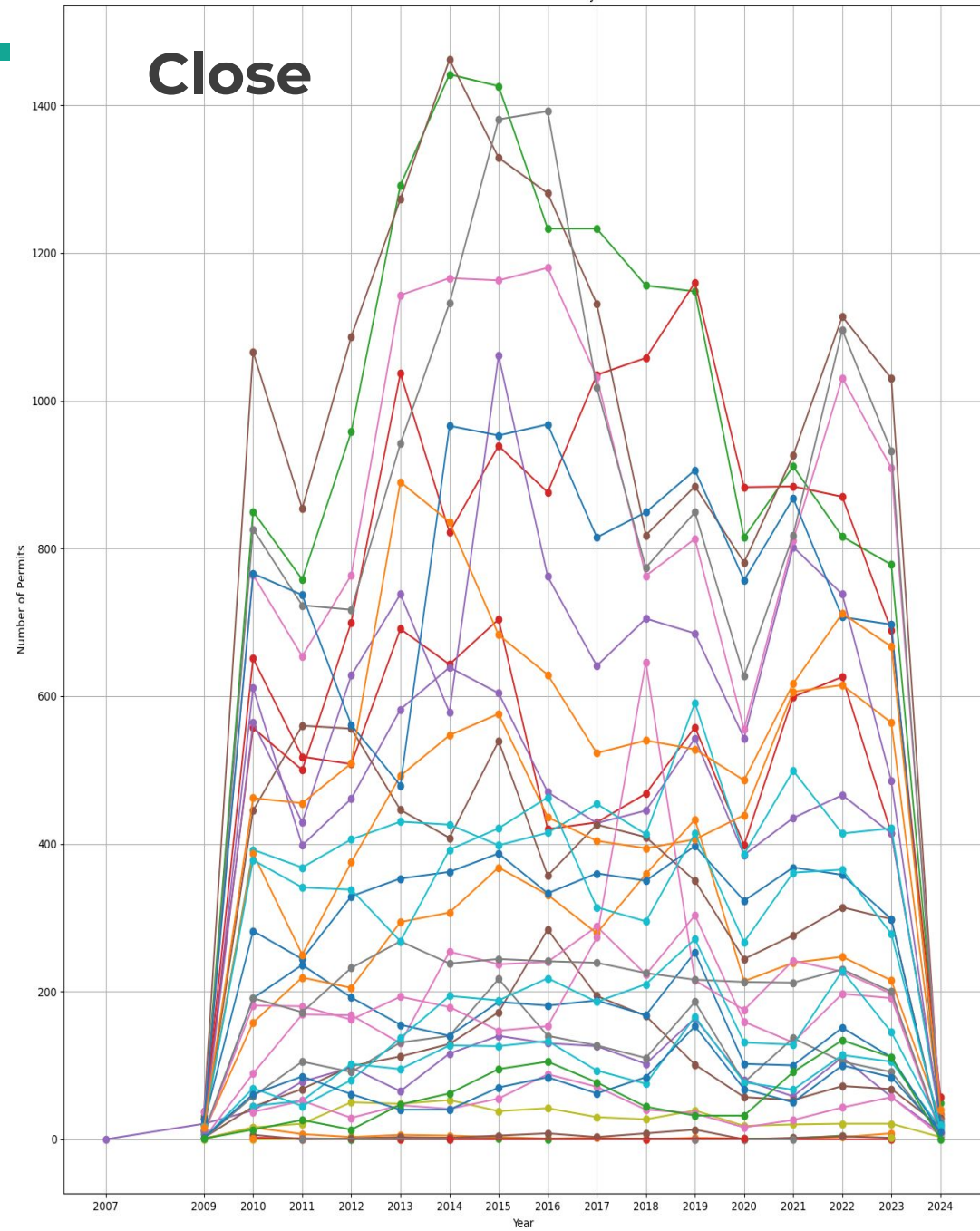
Number of Total Permits by Year for Top 10 Neighborhoods

Top 10 neighborhoods

Number of permits
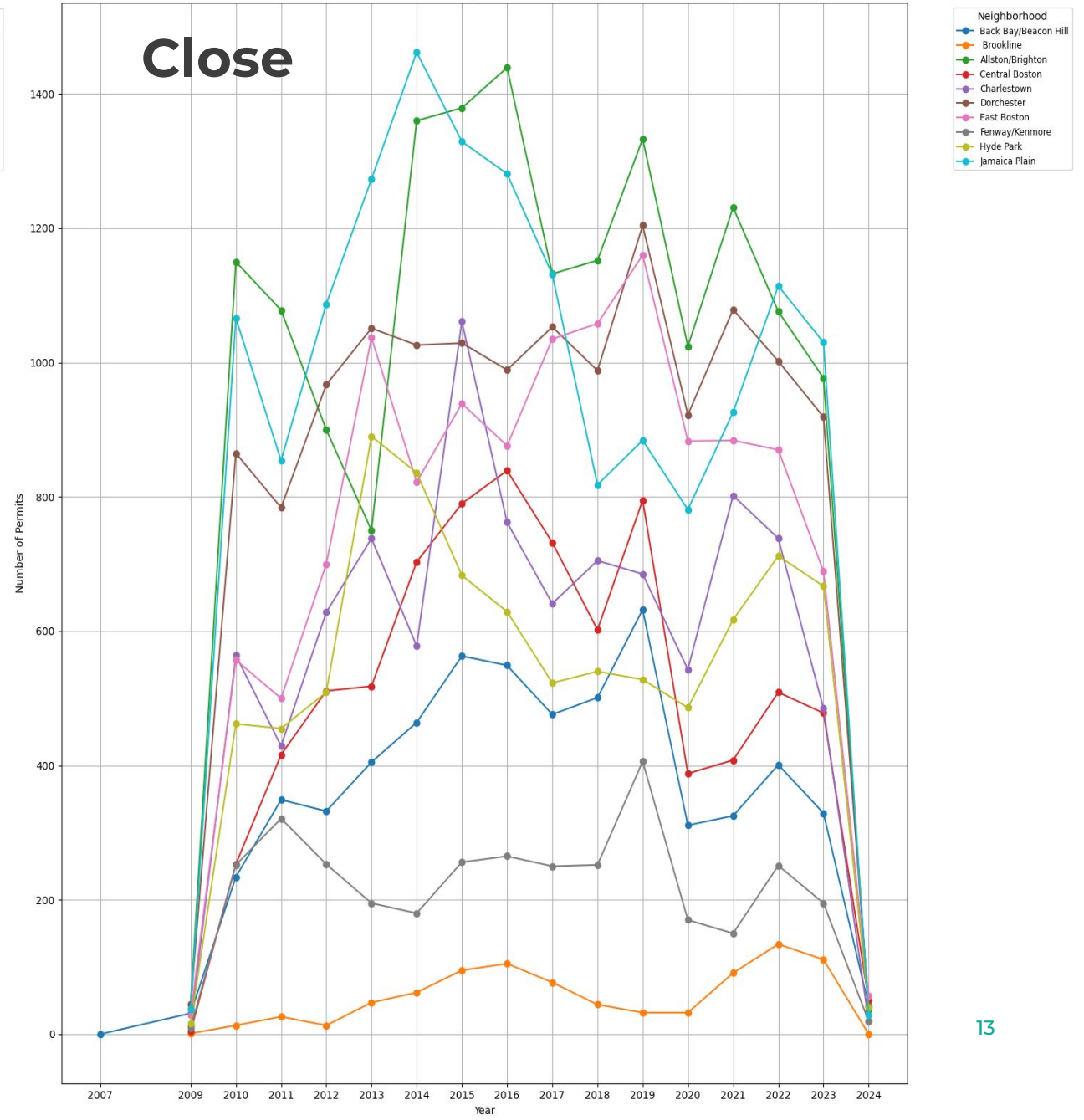
Number of Open Permits by Year for Top 10 Neighborhoods

Number of Closed Permits by Year for Top 10 Neighborhoods

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TASKS FOR NEXT 2 WEEKS

- Start writing draft of final report

- Display the findings of the final report through visual representations

- Analyze and research the datas and keys in the database.

- Come up with more meaningful questions and solve them.
  eg.
  How has the area of a specific geographic location changed over different years?

PROJECT OVERALL TIMELINE

Project Kick off

Begin weekly scrum reports

February 28th

Mid-Semester Report
Comprehensive analysis of project

May 1st

January 29th

Now - April 8th

Early Insights Report

Preliminary analysis

Final Report
final report with visualizations,
3-4 key questions answered, and
discussion of project findings.

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PROCESS OF WORKING TOGETHER

- Meet for weekly client meetings
- Discuss progress during weekly lab sessions
- Team meet weekly every Friday to go over progress
- Keeping track of and engaging with Trello board & Slack
- Communicating with PM as needed

TOOLS AND DOCUMENTATION

- Github: https://github.com/BU-Spark/ds-boston-remodeling/tree/team-b

- Pandas Cheat Sheet: https://pandas.pydata.org/Pandas_Cheat_Sheet.pdf

- Datasets: Property Assessment - Dataset - Analyze Boston
  Approved Building Permits - Dataset - Analyze Boston
  Addresses (Sam database)

- Meeting Notes: Weekly Team Meeting Notes

- Project Description Doc: City of Boston: Remodeling and Unit Loss

Thank you!