

# Analysis of City Assistance Programs and Businesses Licenses: Early Insights

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**Project Manager:** Sophia Sena



# Project Sponsors and Client

Boston City Council

Julia Mejia is an At-Large City Councilor in Boston, Massachusetts. Driven by a lifelong pursuit of justice and equity, Councilor Mejia has created countless opportunities for others to step into their power and advocate for positive change as a community organizer.



# Project Motivation and Goal

- The city allocates money to various funds designed to offer relief and support to benefit residents and businesses in Boston. Councilor Mejia wants to understand **whether these benefits are being distributed equitably** and **if the money the city said they were going to spend has reached and impacted the people they said it would serve.**
- The goal is to assess whether the money is going and if it is being equitably distributed.



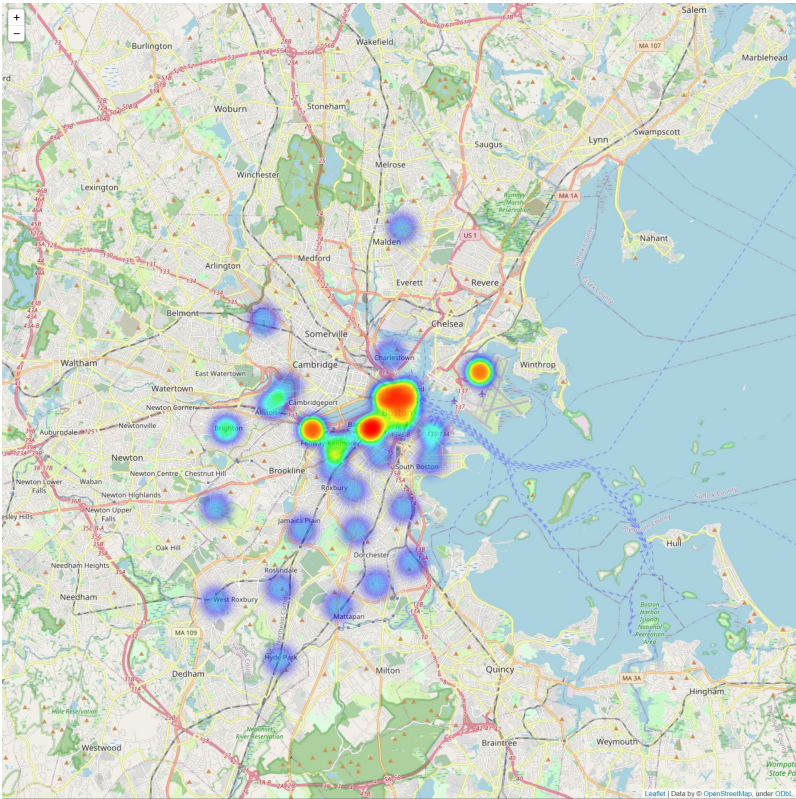
# Project Overview - Data Sets

- **Small Business Relief Fund 2.0**
- Business Licenses data:
  - **Food**
  - **Liquor**
  - Cannabis
  - **Consumer Affairs and other**
  - Residential Kitchen
- Capital Investments
- **17F\_Request-RRF\_funds**
- Census Data: Demographic Info:
  - **boston-neighborhood-data**

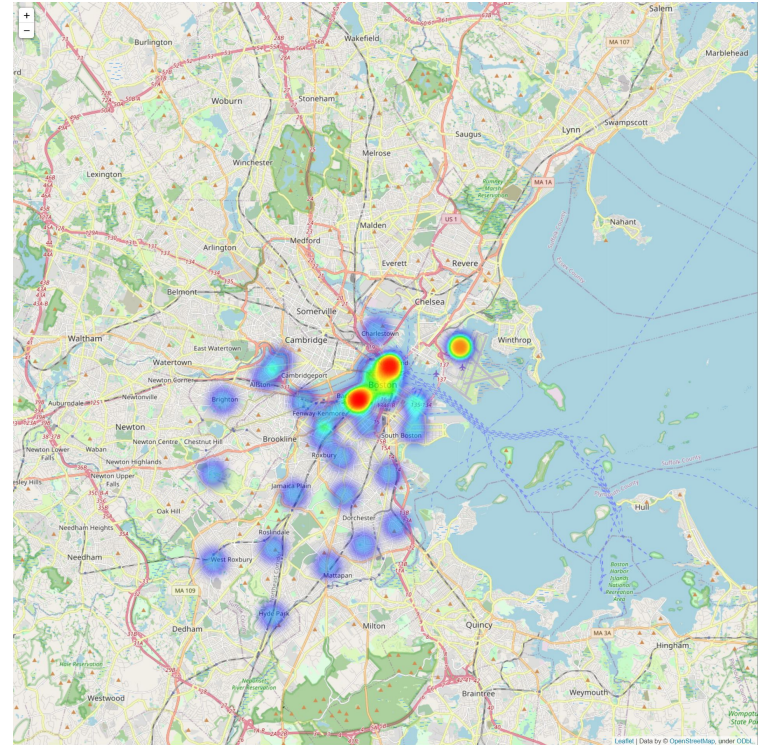
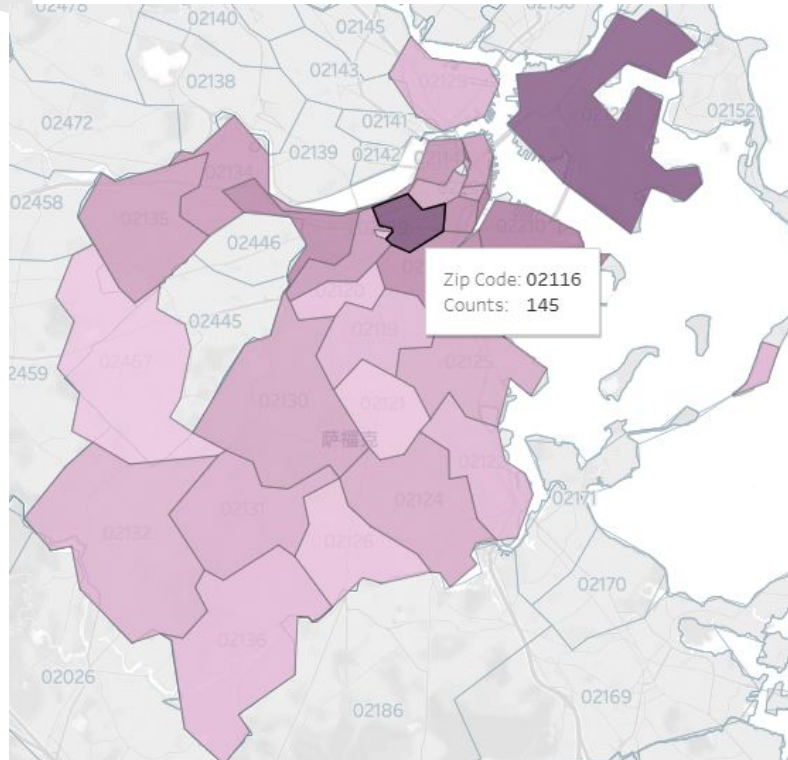


## Progress Tracker - Question 3

Where are the city's economic development licenses? Which communities are benefitting? Which communities are being left out?  
(Food, Liquor, Consumer Affairs and Others)

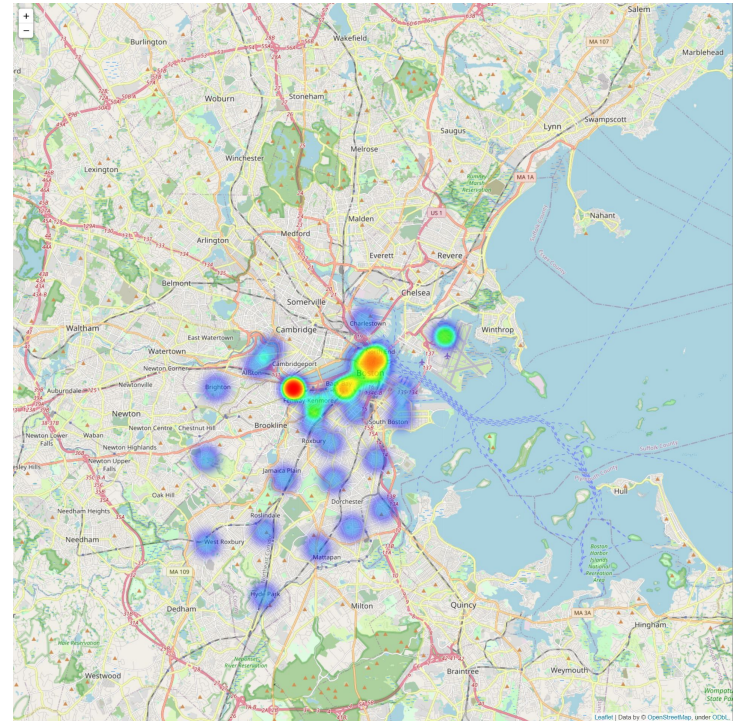
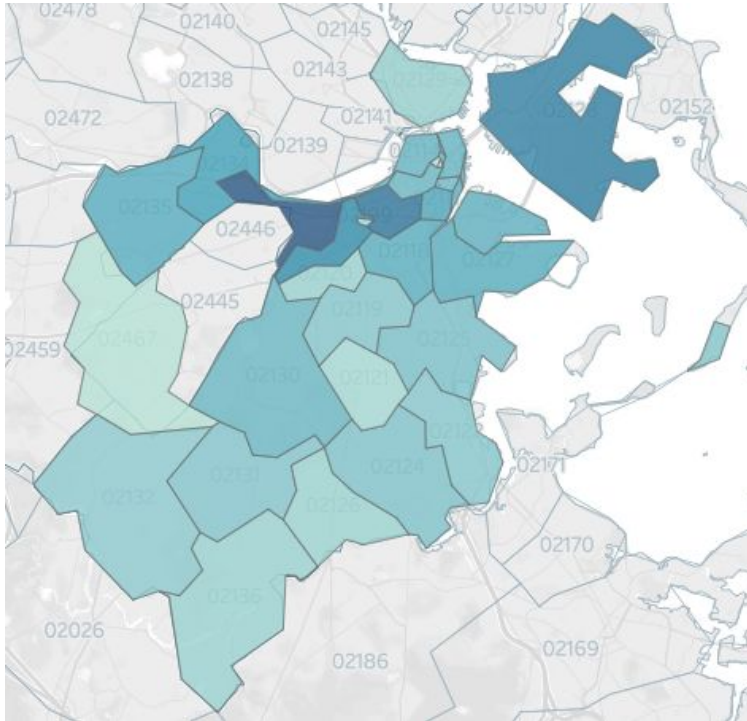


# Liquor license distribution





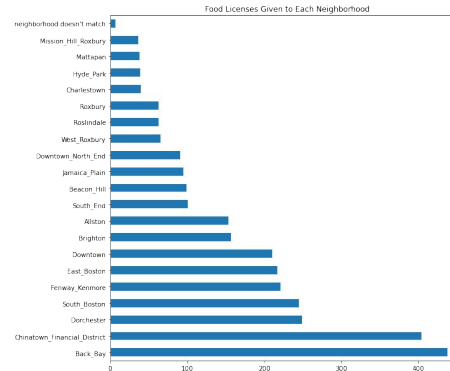
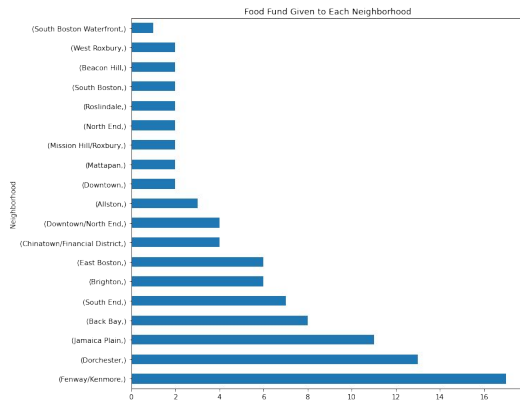
# Consumers and other licenses distribution





# Comparison between funds given to businesses with food licenses and food license distribution across neighborhoods

The top five neighborhoods that got food licenses are Fenway/Kenmore(393), Back Bay(266), South Boston(245), East Boston(217) and Dorchester(216). The top five neighborhoods benefited from the business assistance fund are Fenway/Kenmore, Dorchester, Jamaica Plain, Back Bay, and South End.

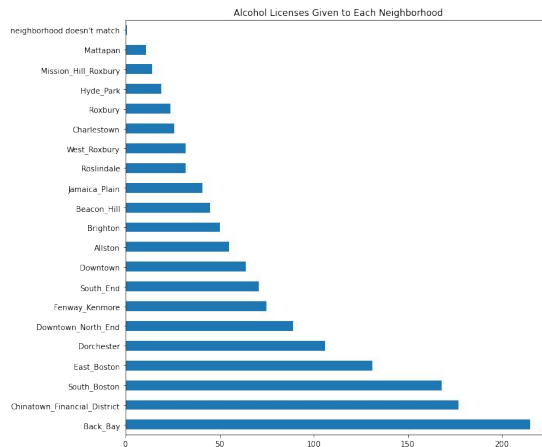


\* All graphs can be found in Deliverable 1 Report



# Comparison between funds given to businesses with liquor licenses and liquor license distribution across neighborhoods

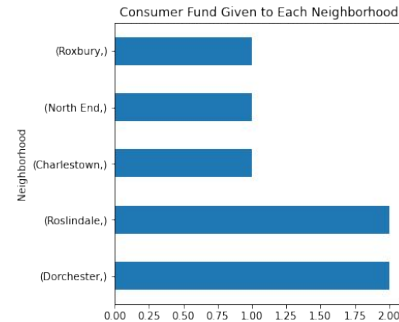
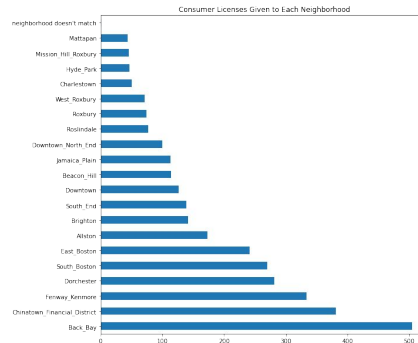
the top five neighborhoods got liquor licenses among all are South Boston(168), Back Bay(160), North End(143), East Boston(131) and Fenway/Kenmore(130). There is only one place got business funds that with liquor licenses, which is the North End neighborhood.



\* All graphs can be found in Deliverable 1 Report

# Comparison between funds given to businesses with consumers and other licenses and consumers and other license distribution across neighborhoods

Fenway/Kenmore, Back bay, South Boston, Dorchester and East Boston are the top 5 neighborhoods that got the licenses for (consumer affairs and others), however, the top 5 neighborhoods that receive the most number of funds for businesses having (consumers & other) licenses are Dorchester, Rosindale, Charlestown, North End and Roxbury.



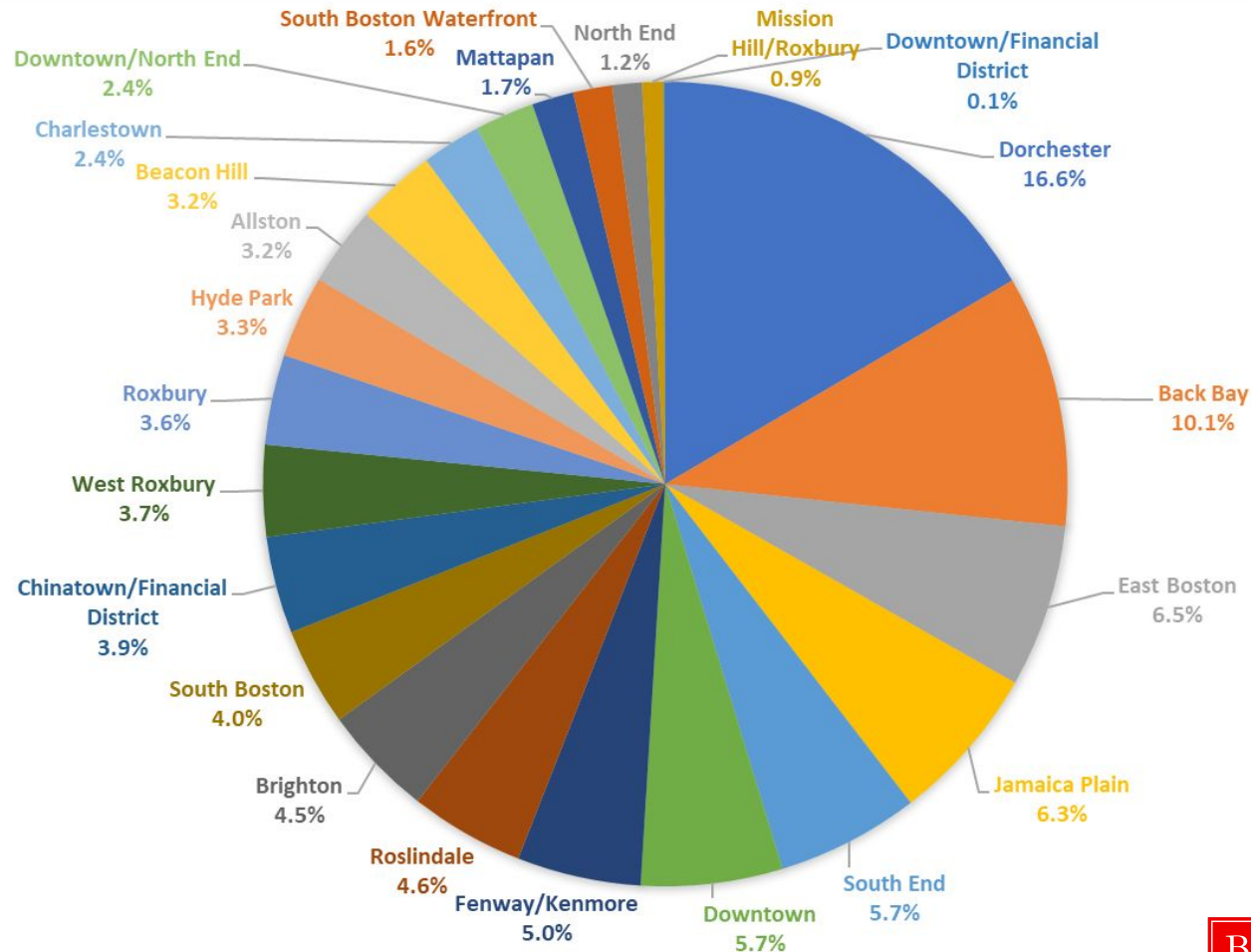
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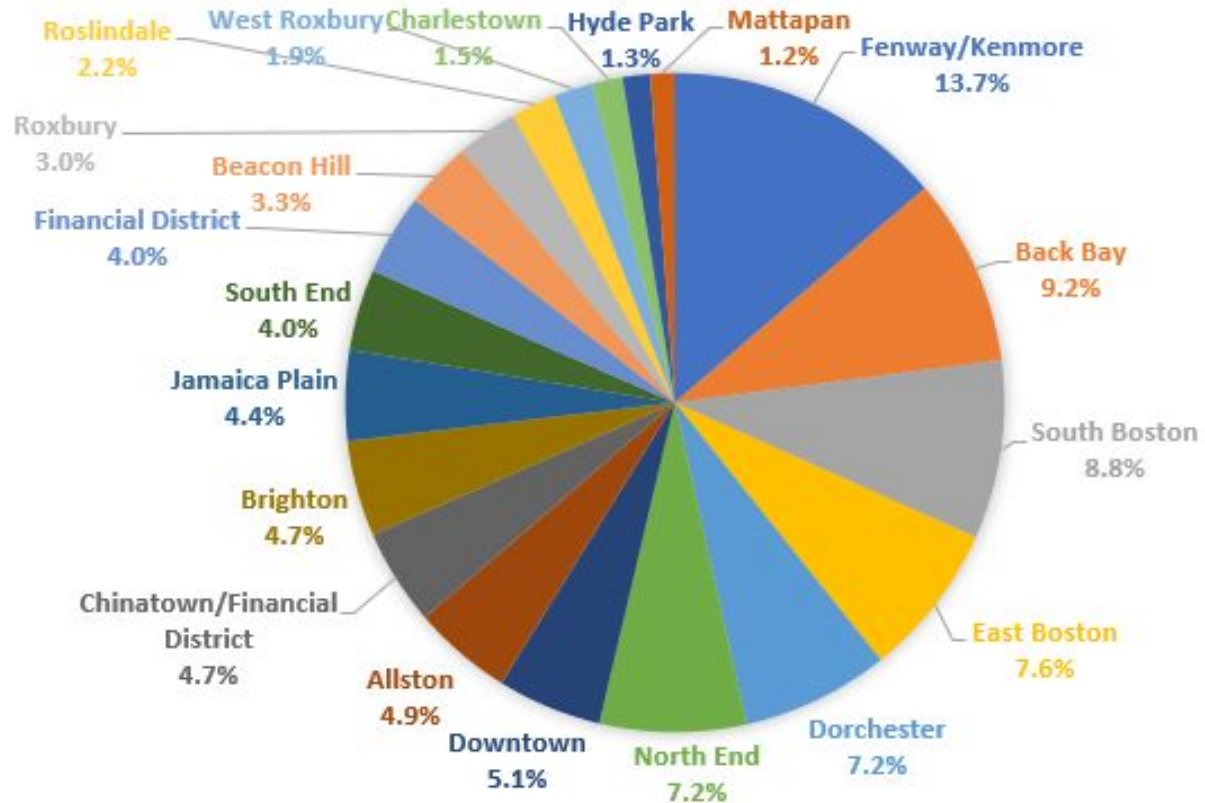
# Progress Tracker - Question 1

Where did business assistance go during the pandemic? What were the demographic profiles of the communities where the businesses were located?

Overall Percentage of  
the Total Number of  
**business funds** in  
Each Neighborhood



Overall Percentage of  
the Total Number of  
**business licenses** of  
all categories in Each  
Neighborhood







# Comparison between overall percentages of business funds and percentages of business licenses of all categories

The top five of the number of business licenses of all categories among all neighborhoods are Fenway/Kenmore, Back Bay, South Boston, East Boston and Dorchester. The top five of the number of business assistance funds received of all categories across all neighborhoods are Dorchester, Back Bay, East Boston, Jamaica Plain and South End.

Our conclusion that Fenway/Kenmore region needs more business funds during the pandemic.



# Ethnicity ratio of the top 5 neighborhoods

## Fenway/Kenmore

white: 54.21%   black: 6.35%   hispanic or latino: 9.65%  
asian: 24.43%   other or multiple: 5.35%

## Back Bay

white: 71.76%   black: 3.67%   hispanic or latino: 6.77%  
asian: 13.29%   other or multiple: 4.51%

## South Boston

white: 76.85%   black: 4.03%   hispanic or latino: 10.25%  
asian: 5.48%   other or multiple: 3.39%

## East Boston

white: 71.76%   black: 3.67%   hispanic or latino: 6.77%  
asian: 13.29%   other or multiple: 4.51%

## Dorchester

white: 22.43%   black: 34.96%   hispanic or latino: 20.69%  
asian: 10.93%   other or multiple: 10.98%

## Funds top 5:

### Dorchester

### Back Bay

### East Boston

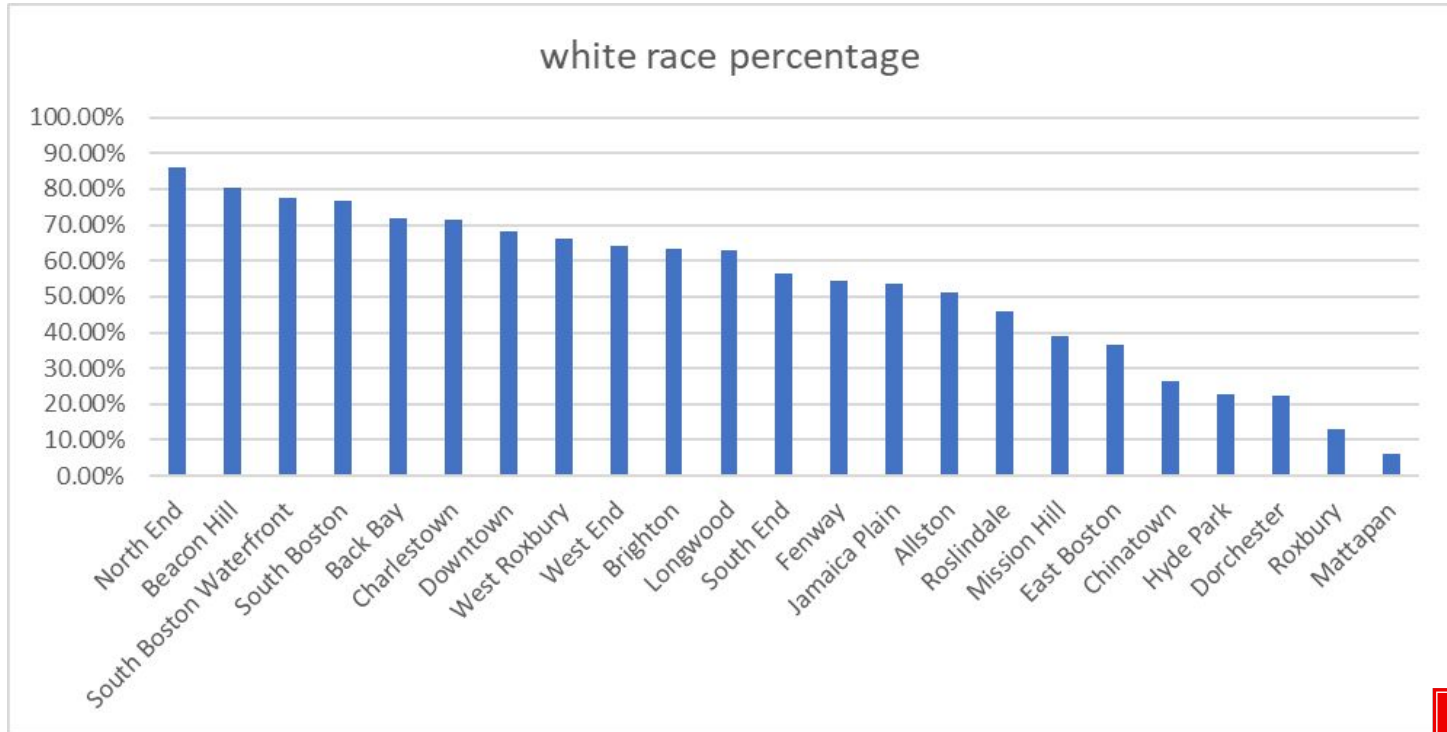
### Jamaica Plain

white: 53.72%   black: 11.43%  
hispanic or latino: 21.75%  
asian: 7.28%   other or multiple: 5.82%

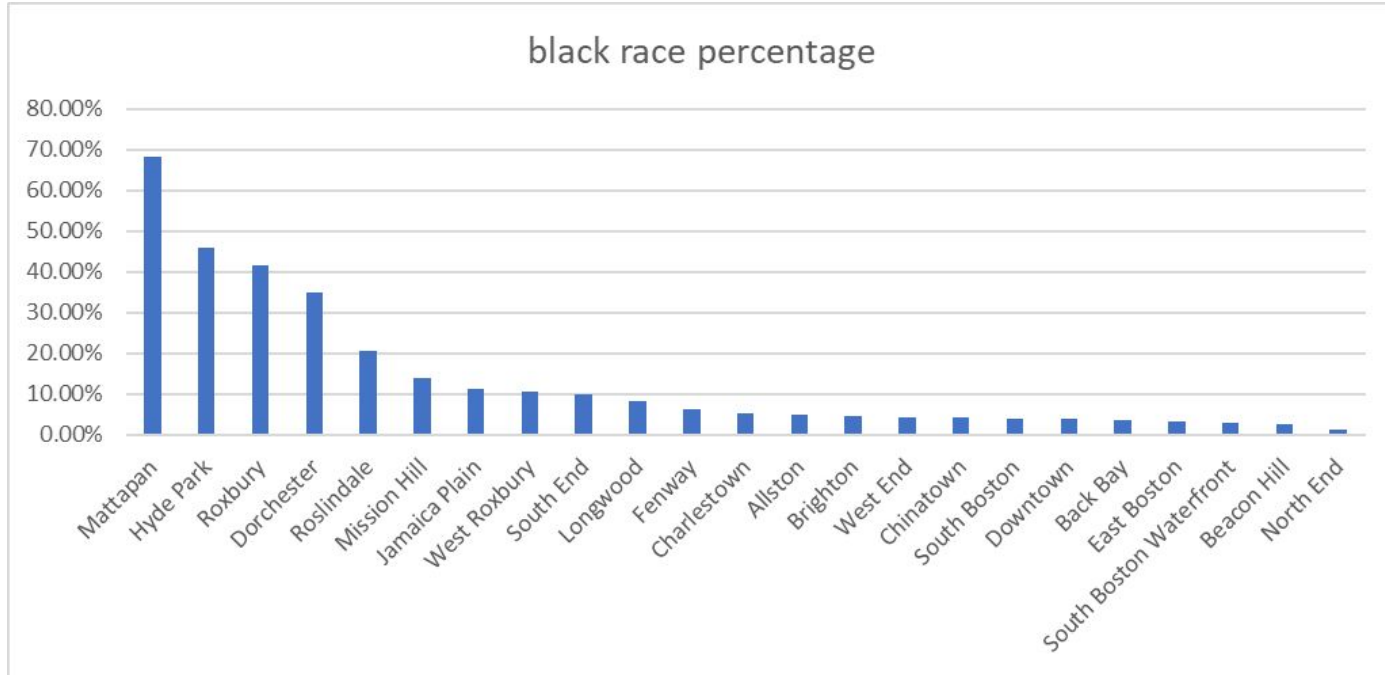
### South End

white: 56.58%   black: 10.07%  
hispanic or latino: 12.88%  
asian: 15.92%   other or multiple: 4.55%

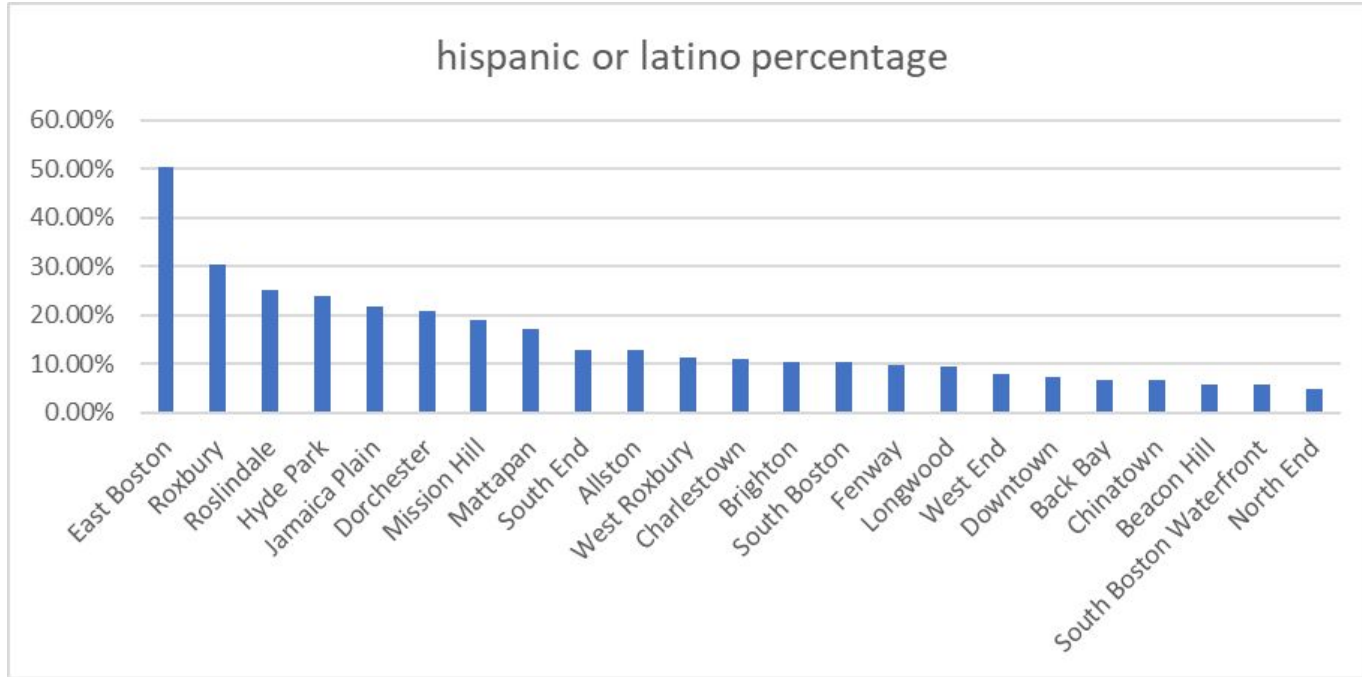
# Demographic profiles analysis of neighborhoods



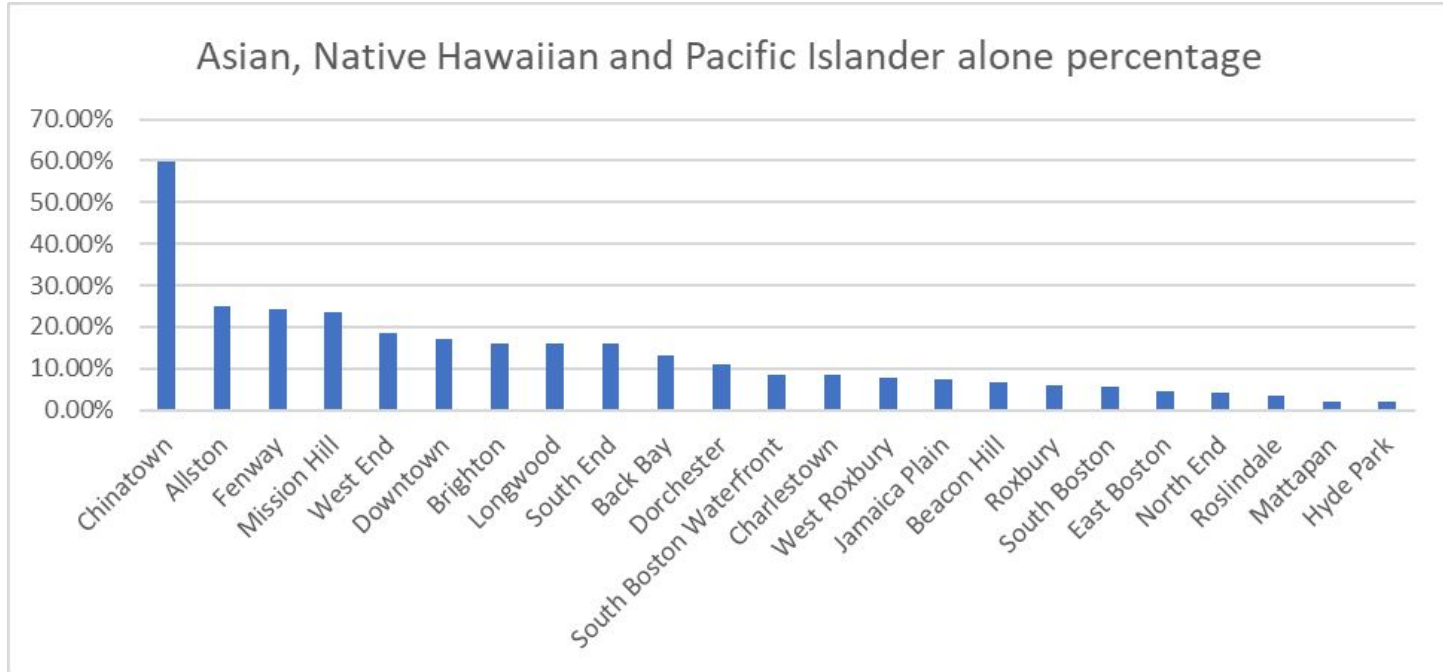
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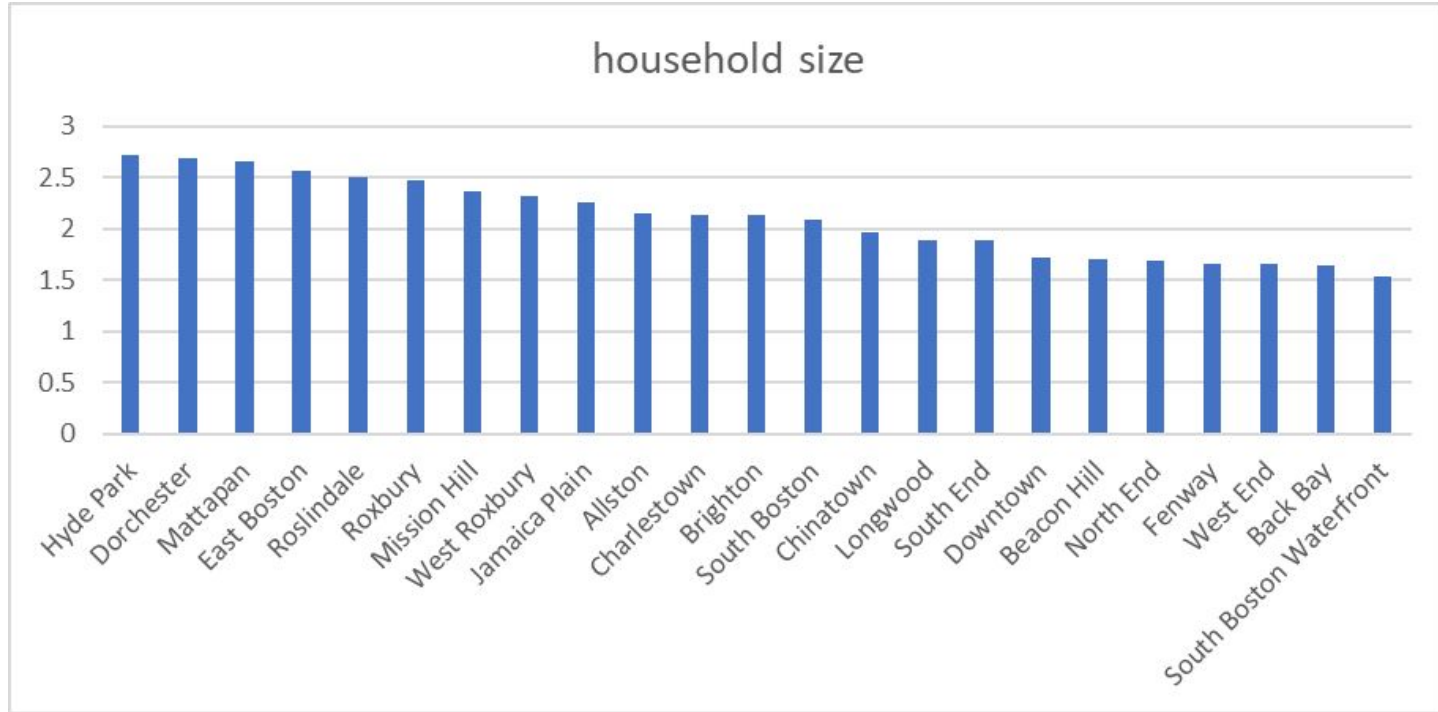


# Demographic profiles analysis of neighborhoods





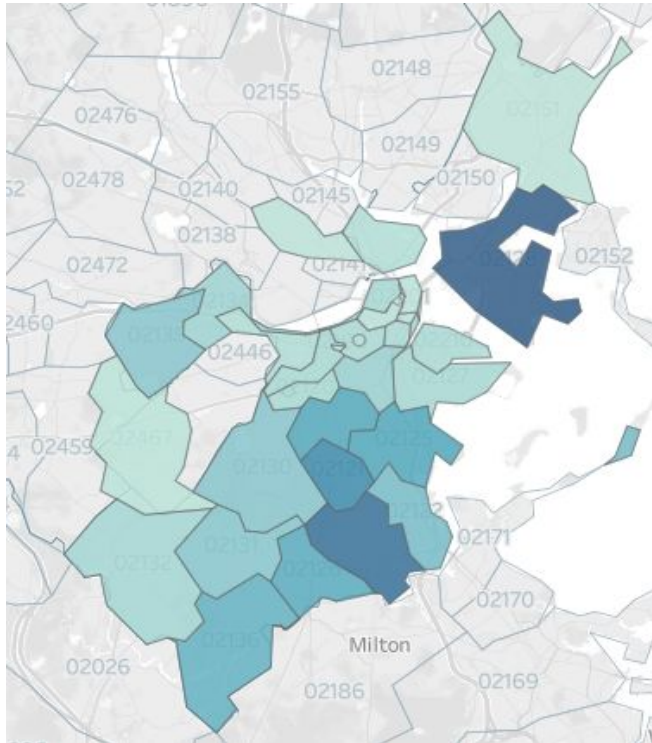
# Demographic profiles analysis of neighborhoods





## Progress Tracker - Question 2

Where did the city's rental assistance go during the pandemic? What were the demographic profiles of the recipients of these funds?



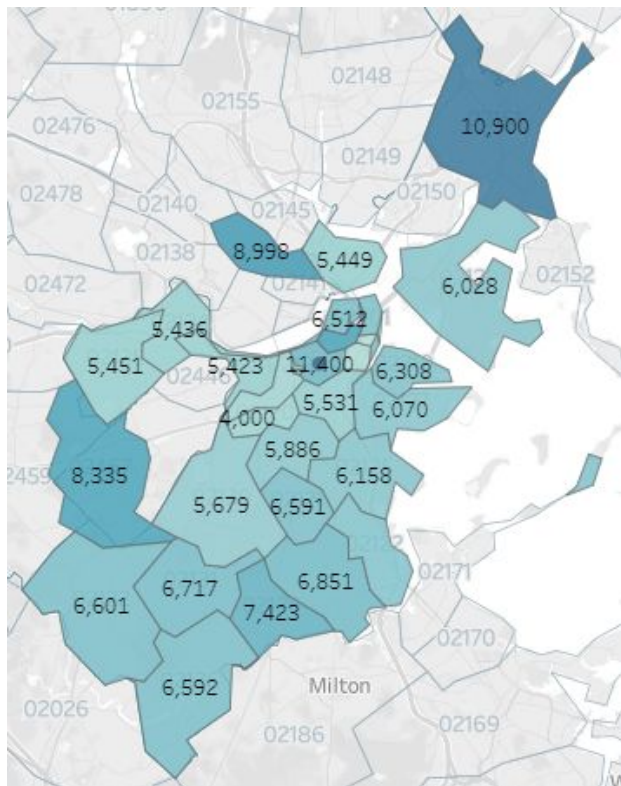
Top 5 neighborhoods of most total amount of rental assistance:

Dorchester	11566826.67
East Boston	4955249.44
Roxbury	2750995.58
Mattapan	2226937.41
Hyde Park	1977620.6

Bottom 5:

Fenway/Kenmore	287436.14
Charlestown	234290.97
North End	210123.37
Beacon Hill	92245.62
Financial District Downtown	17339.34

# Average amount of rental assistance in each zip code/neighborhood (individual)



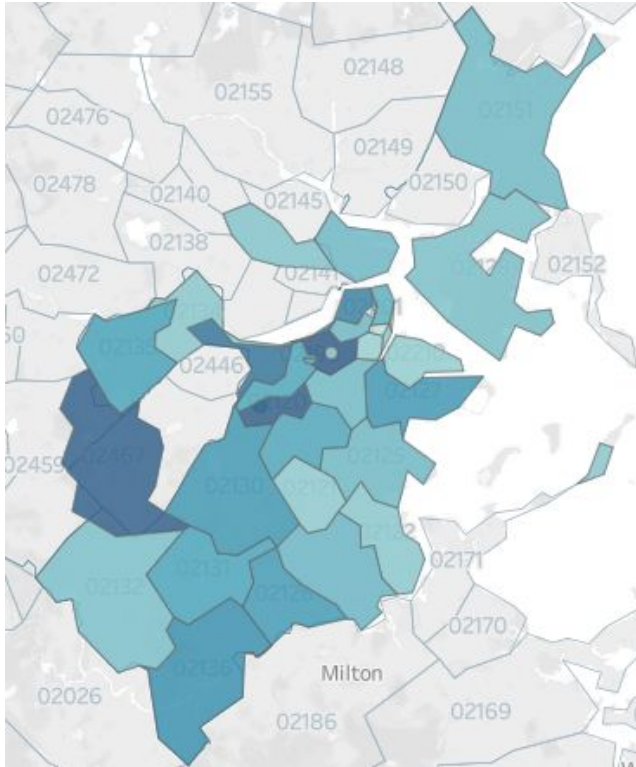
Top 5 neighborhoods of most average amount of rental assistance excluding outliers:

Beacon Hill	8385.965
Mattapan	7423.12
Roslindale	6717.128
West Roxbury	6601.008
Hyde Park	6592.069

Bottom 5:

Charlestown	5448.627
Allston	5436.277
Fenway/Kenmore	5423.323
Chinatown	4587.124
Financial District Downtown	4334.835

## Average income of applicant of RRF in each zip code/neighborhood

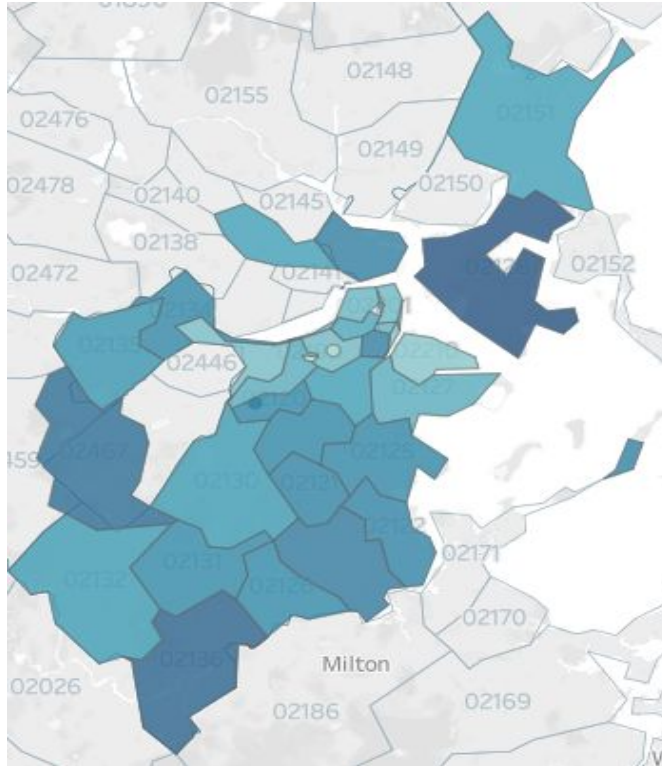


Top 5 neighborhoods of most average income:

Fenway/Kenmore	4237.78
Back Bay	3707.357
Hyde Park	3534.508
Jamaica Plain	3343.262
South Boston Waterfront	3327.855

Bottom 6:

Dorchester	2256.79
West Roxbury	2235.943
East Boston	2224.645
Allston	1989.26
Chinatown	1713.94
Financial District Downtown	1150



Top 5 neighborhoods of most average household size:

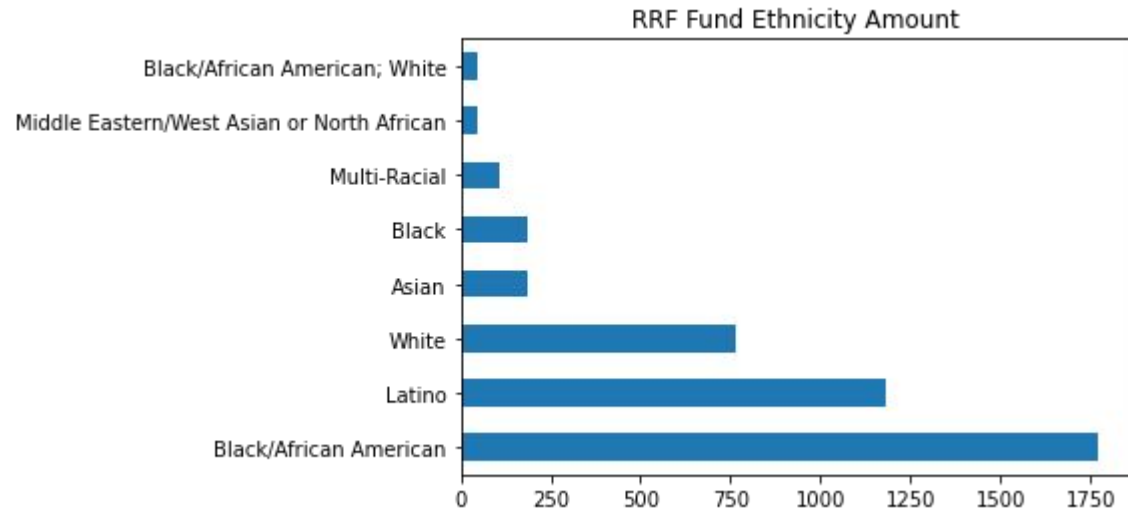
East Boston	3.003
Hyde Park	2.828
Charlestown	2.442
Chinatown	2.434
Dorchester	2.404

Bottom 5:

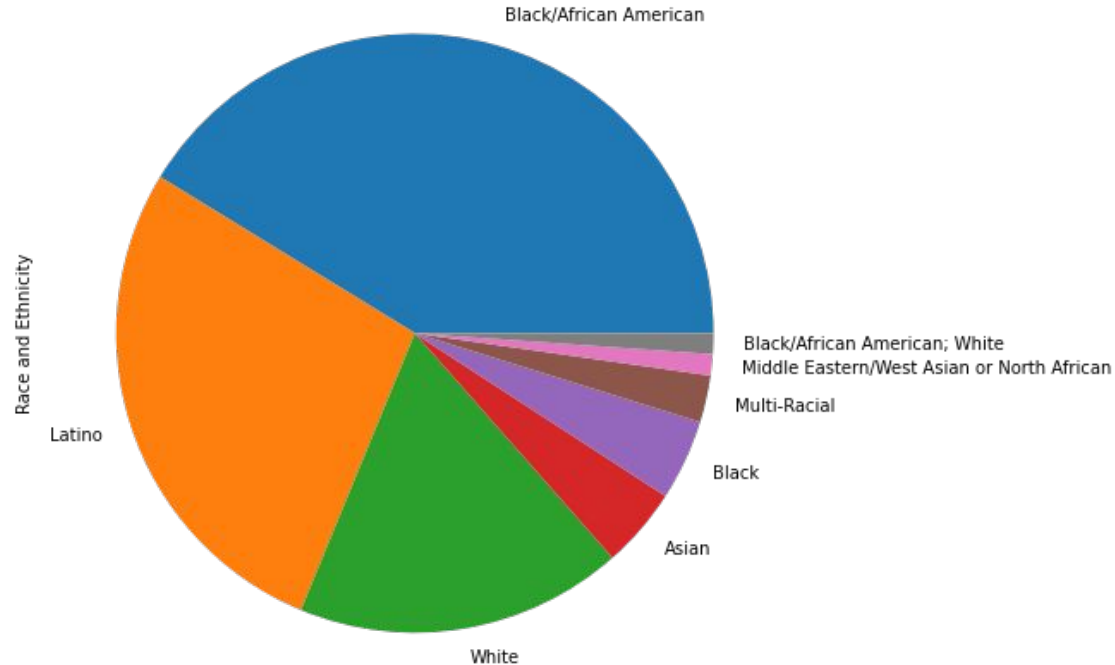
South Boston Waterfront	1.826
Financial District Downtown	1.75
Back Bay	1.73
South Boston	1.552
Fenway/Kenmore	1.549



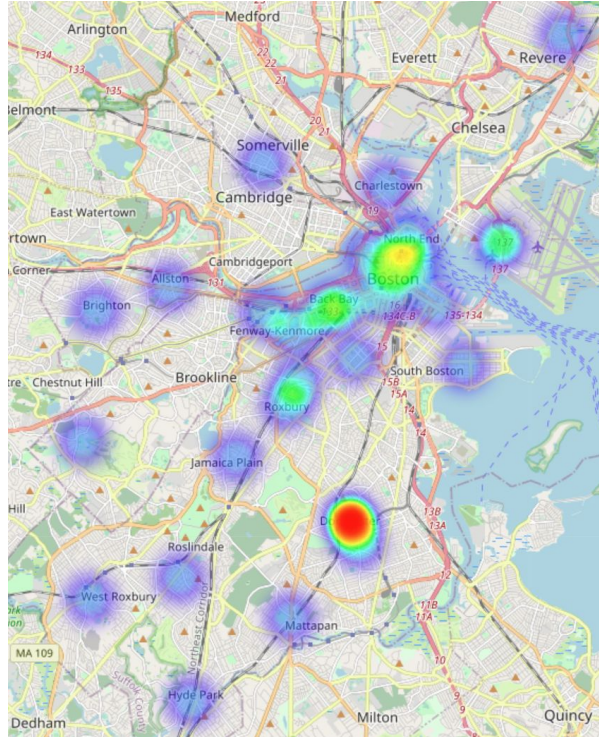
# Approved fund amount of each ethnicity (top 8)



# Pie chart of ethnicity ratio of approved fund amount of RRF



# Heatmap of total RRF amount of each district





# Conclusion from individual RRF

Bottom 5 neighborhoods with lowest average income of the applicants are: Chinatown, Allston, East Boston, West Roxbury and Dorchester, compared with the total amount of RRF and average amount of RRF, we conclude that **the rental assistance was given as needed in Dorchester, West Roxbury and East Boston**, also due to the fact that Dorchester has the highest number of applicants(1769), and East Boston has the 2nd highest number of applicants(822).

However, **Chinatown and Allston with lowest average income are among the lowest 5 of average rental assistance, so we conclude that the rental funds are not given sufficiently to these 2 neighborhoods.**



# Challenges and Limitations

- Convert Zip Code to Neighborhood
- Some of the data is incomplete and unclear.
  - Deal with missing value was painful
  - Same data resource didn't have the same data fields
- Datasets lack of description, which make it difficult to analyze.



## Next Step - Extension Project

- Boston 311
- **Question to Answer:**
  - the difference in the city's responses to service requests based on demographics: income, home ownership level, race/ethnicity.
  - what are the characteristics of communities being served best and slowest





**Thank You!**