

Deliverable 1

What businesses exist?

- According to the BPDA business listing dataset, the most common businesses for Roslindale, Mattapan, and Jamaica Plain within district 4 are retail trade. (figure 4)
- As for Roslindale town, besides retail trade, professional, scientific, and technical services, accommodation and food services, healthcare, and social assistance are dominant business types. Whereas construction, public administration, administration, support, waste management, and remediation services are rather rare than other business types. (figure 3)
- As for Mattapan town, besides retail trade, healthcare, and social assistance, finance, and insurance, are dominant business types. Whereas construction, wholesale trade, administration, support, waste management, and remediation services are rather rare than other business types. (figure 1)
- As for Jamaica Plain town, besides retail trade, accommodation and food services, healthcare and social assistance, and real estate rental and leasing are dominant business types. Whereas mining, public administration, and wholesale trade are rather rare than other business types. (figure 2)
- There are also many healthcare, social assistance, and professional, scientific, and technical services. This is expected since many health-related and science-related companies are providing such services around the area.
- There is a lack of agriculture, forestry, and hunting, as well as mining, but this can be understood through the fact that Boston is a city with high land costs. Therefore this type of industry has difficulty competing with firms outside of the city.
- The following graph shows all types of business recorded that exist in

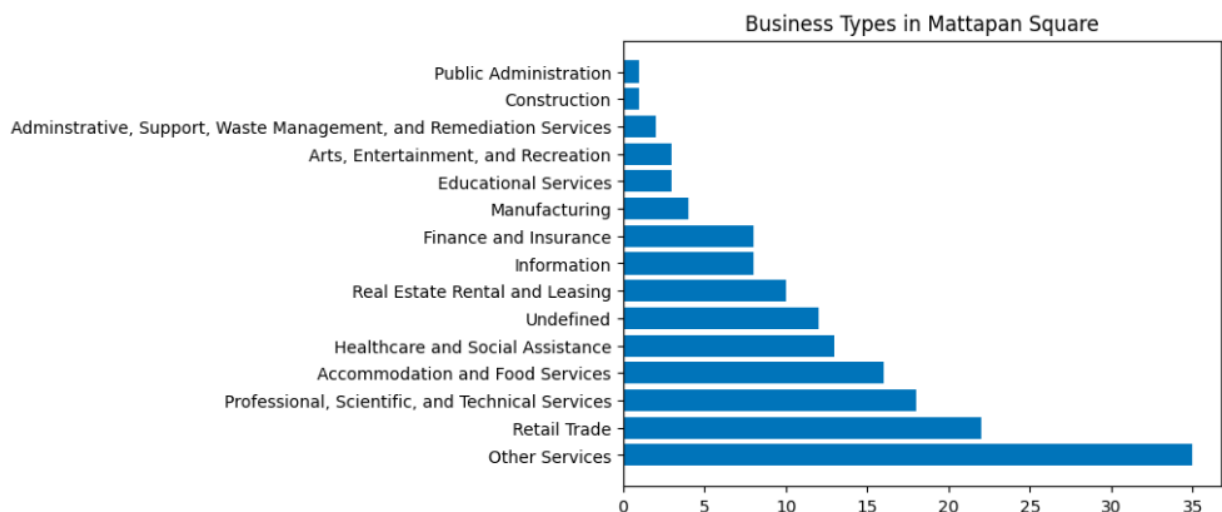


Figure 1



Figure 2

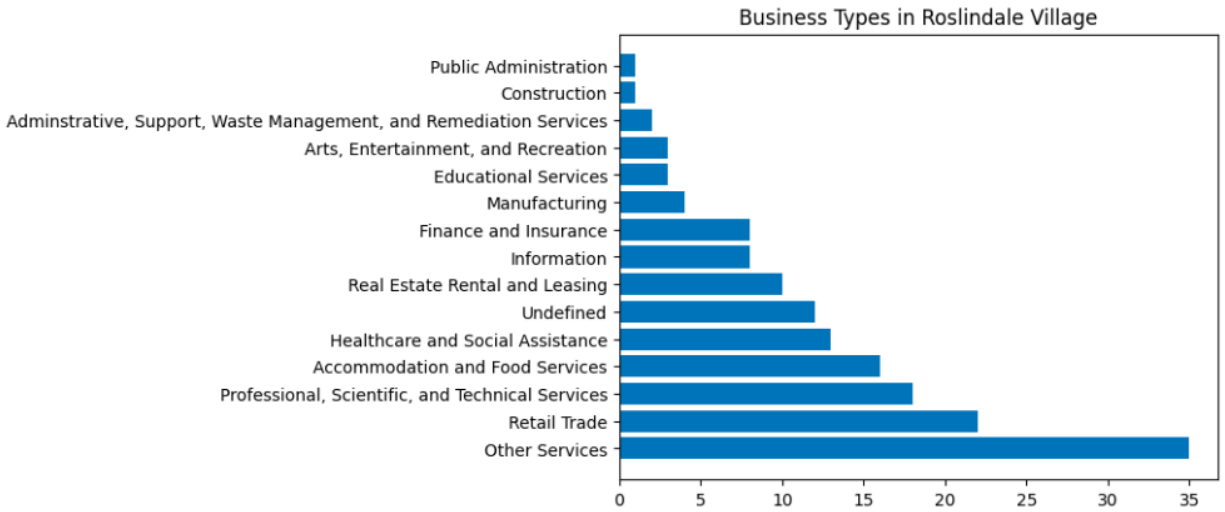


Figure 3

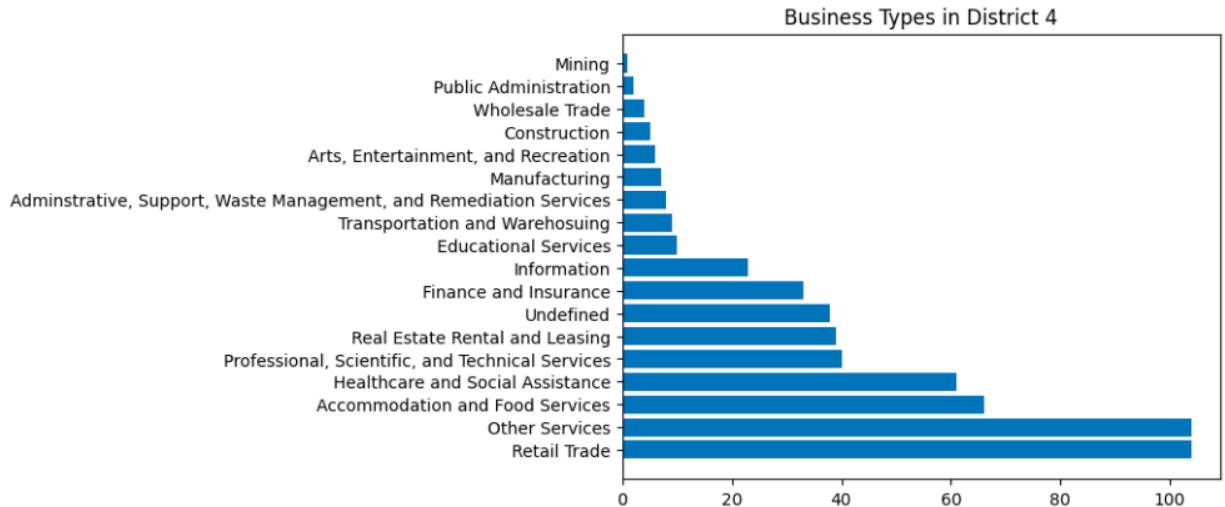


Figure 4

What businesses are over-represented?

- Group business by the main street and NAICS 2017 6 digit desc to illustrate the types of businesses among each main street
- On a surface level, retail trade is the most present single business type within Mattapan, Roslindale, and Jamaica Plain
 - We would expect this age group to visit food service and retail establishments more frequently than the average Boston resident.
 - Thus, the increase in demand matches the illustrated supply of establishments in these categories.
- Within Mattapan, there is also a large presence of healthcare and social assistance businesses
- Within Roslindale, there is a large presence of professional, scientific, and technical service businesses
- Within Jamaica Plain, there is a large presence of accommodation and food service businesses
- An interesting observation is that while Mattapan, Jamaica Plain, and Roslindale are within close proximity to each other, the difference in which businesses have the highest presence after retail is interesting and worth being further studied, as there may be currently unknown features that could reason about why each of these businesses prospers in their respective towns.

Refine Project Scope

For our base project, we want to find out what attracts small businesses to the area and understand what current issues small businesses face. We will first identify business owner demographics by analyzing the list of minority-owned businesses in Boston and minority business enterprises. We will also analyze business operations by checking cell phone traffic and the licenses of District 4. Then, based on our analysis, we will create visualizations of the businesses. We think it will be hard to find the factors that attract small businesses with this data, but we will report any results we can find.

Within our project scope, classifying business types is extremely small since there are many large-scale businesses that open businesses with fewer employees as automation or other technological improvements are made. Without coming to a clear definition of small business in order to distinguish between genuine small businesses and large corporations running small businesses, our analysis will likely be biased.

Furthermore, we should also consider what it means for a business to be “over-represented”. From one perspective, the high presence of retail and food service establishments may be over-represented, but there are several factors that explain the high supply of these business types, so a clear definition should be developed.

List of Limitations of Data and Potential Risks of Achieving Project Goal

One of our current data limitations is based on the scope of our data usage within this deliverable. At the moment, we are unsure of how to proceed with limiting our analysis of business data to strictly district 4. Clearly using all the data gathered for Boston would be too broad to generalize for district 4. Instead, we have limited our observations to Mattapan and Roslindale. For the Jamaica Plain, only parts of it belong to District 4, but there is currently no way to determine precisely which part of Jamaica Plain is included in District 4 while which part does not, therefore, we could only analyze the data for the whole Jamaica Plain. For Dorchester, we do not currently know any data about it in the dataset. In the future we hope to be able to filter through the data to strictly include businesses within district 4.

Another limitation is the number of businesses of different types related to people’s demand, and which are somehow subjective. Other than the possible directions, there are many other different factors that might impact the business in District 4, and the data would not be able to reflect all factors.