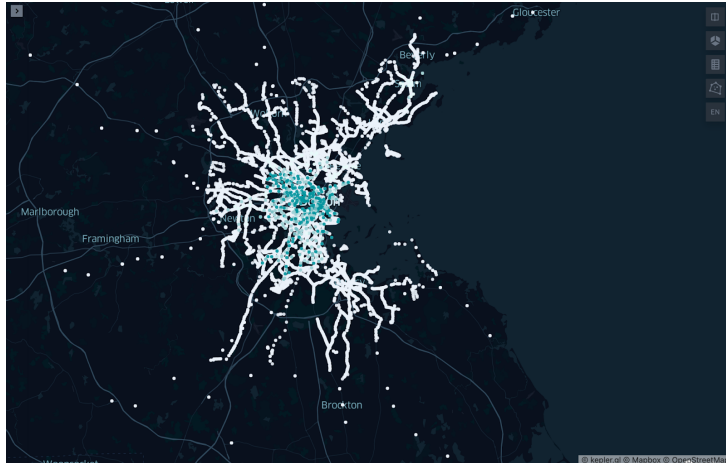


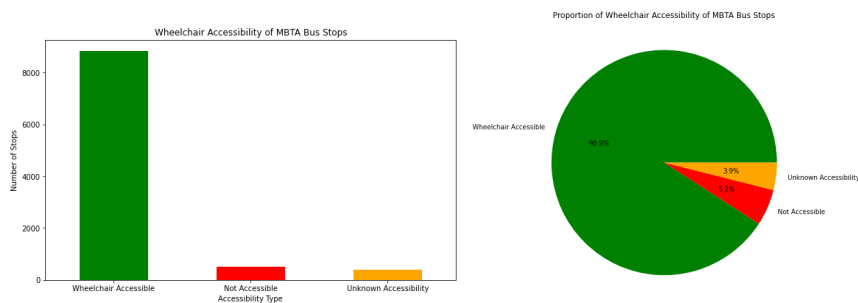
Extension Proposal	
Extension Pitch	We propose to extend our current geospatial analysis of Boston's transit systems by integrating additional datasets that consider factors like service disruptions and accessibility features. This effort aims to provide a more inclusive story of the city's transit dynamics, particularly focusing on how service changes and accessibility influence public transit usage and urban mobility. We also propose to delve deeper into the intersection of public transit data, specifically focusing on Blue Bike and bus data in Boston. The goal is to uncover insights into how different modes of transit interplay and affect urban mobility.
Rationale	Combining our existing geospatial data with information on service disruptions and accessibility will allow us to understand the resilience of the transit network. Understanding the dynamics between different transit systems is crucial for improving urban mobility. It is of particular interest to our team to explore how these modes of transit complement each other and what improvements can be made for better service integration.
Questions for Analysis	<p>What are the accessibility gaps in the current transit network, and how might they affect riders with disabilities?</p> <p>What area does bus stops and blue bike stations covered, and how could that make blue bike a possible alternate for bus?</p> <p>How does the proximity of Blue Bike stations to bus stops affect ridership and transit efficiency?</p>
Data Sets & Sources	Blue_Bike_Stations.geojson Community_Centers.csv PATI_Bus_Stops.csv Hospitals.csv
Additional Information	Our preliminary analysis has shown interesting trends in transit usage across different Boston neighborhoods. This extended analysis will provide a more comprehensive view, potentially guiding city planners and policymakers in enhancing urban transit systems.

Early EDA and Insights of Extension:



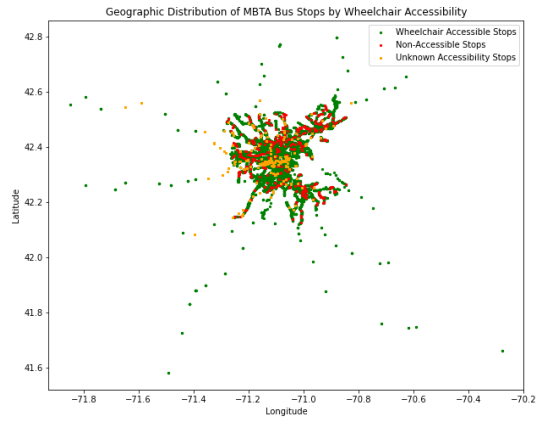
The map visualizing bus stops and Blue Bike stations in Boston was produced by first examining and parsing the geospatial data of bus stops from a CSV file into GeoJSON format. This data was then merged with an existing GeoJSON file containing the locations of Blue Bike stations. The combined dataset was saved as an updated GeoJSON file, which was likely visualized using a mapping platform such as Kepler.gl, as seen in the watermark of the provided map.

It displays a dense network of bus stops, and Blue Bike stations concentrated in the central city areas, signifying robust multimodal transit options likely catering to higher population densities and commercial activities. As one moves towards the outskirts, a notable thinning of this network indicates potential transit service gaps. The close proximity of bike stations to bus stops in the center suggests good integration for efficient transfers, but this integration appears to diminish outwardly. This spatial data could inform transit authorities about potential areas for infrastructure expansion, aid in urban planning for better service coverage, and support environmental goals by encouraging reduced car usage through accessible public transit options.

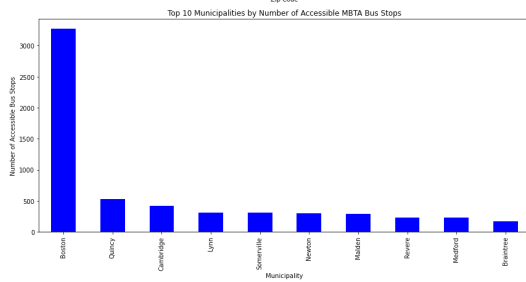
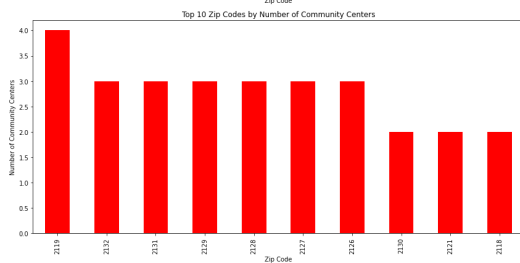
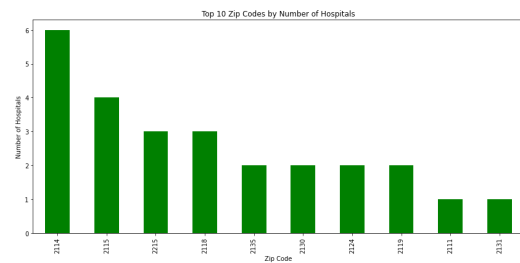


A significant majority of stops are wheelchair accessible, as indicated by the green segments in both charts.

A small fraction of stops are not accessible (red), and a relatively minor portion has an unknown status (orange).



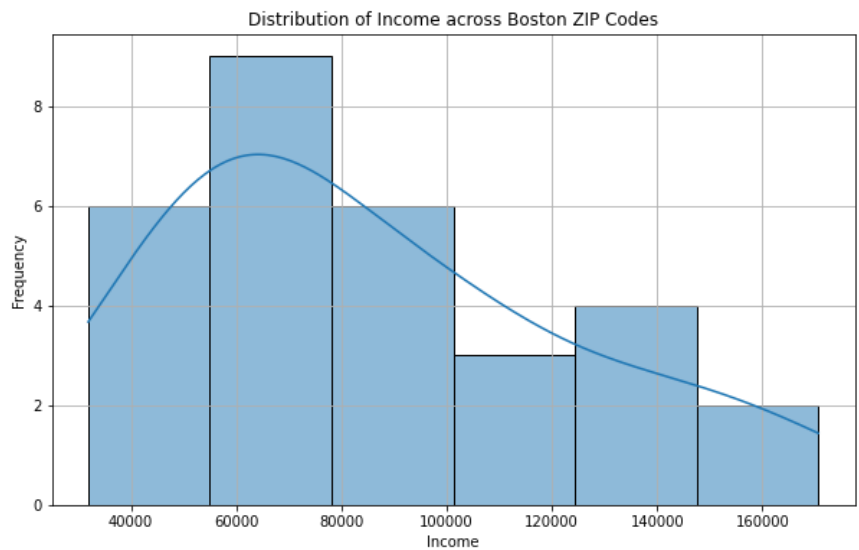
This visualization provides a clear geographic perspective on the accessibility of the MBTA bus network, emphasizing the focus on making the majority of stops wheelchair accessible.

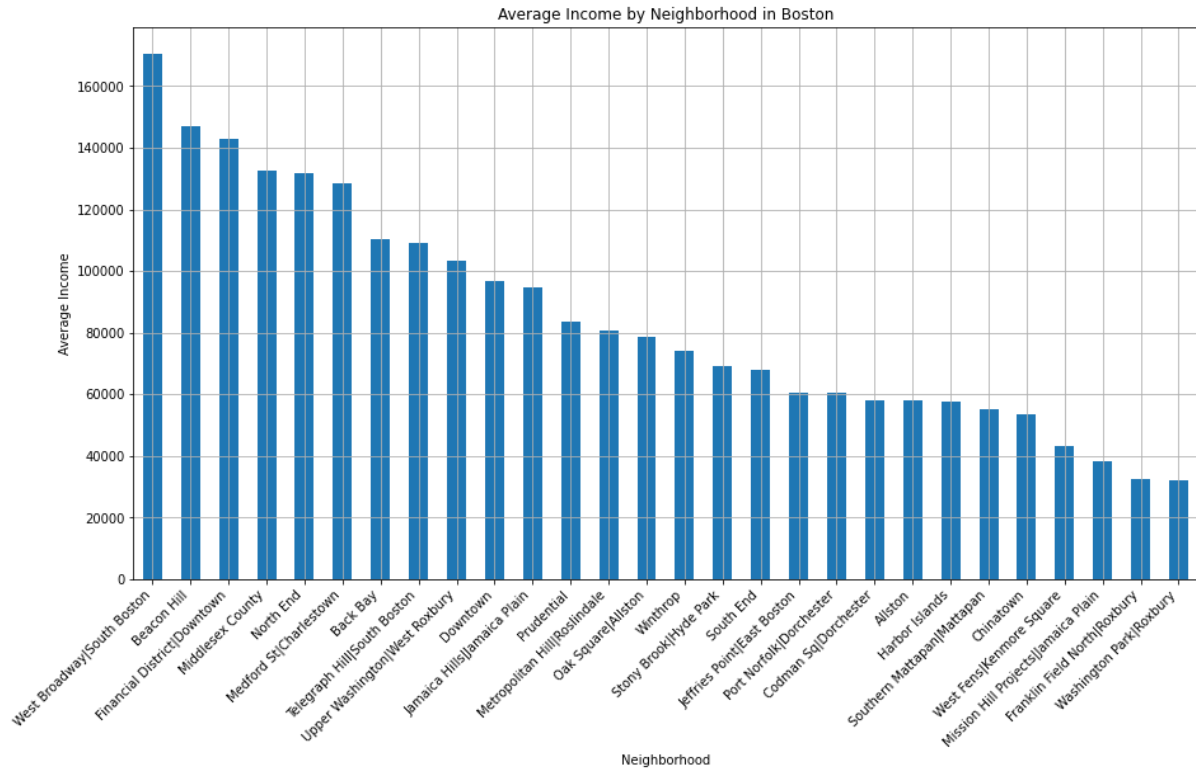


Concentration of Hospitals: Certain zip codes have a notably higher concentration of hospitals, indicating areas that are major healthcare hubs. This information is crucial for understanding which areas might offer better healthcare accessibility, especially for individuals reliant on public transportation.

Availability of Community Centers: The distribution of community centers varies significantly by zip code, with some areas having a dense presence. These centers are essential for local community activities and services, and their accessibility via public transportation is vital for inclusive community engagement.

Accessible Public Transportation: The chart showing the number of accessible bus stops in different municipalities highlights the areas with enhanced public transport accessibility. This is particularly important for individuals with disabilities, as it impacts their ability to access essential services like healthcare and community activities.





The histograms and summary statistics depict a right-skewed income distribution across Boston neighborhoods, with an average income of approximately \$85,316 and a wide range from \$31,900 to \$170,588. This suggests significant economic diversity, with a concentration of wealth in neighborhoods like West Broadway/South Boston and Beacon Hill, contrasted by lower-income areas such as Chinatown and Washington Park/Roxbury. The observed income disparity highlights the varying economic challenges and affluence across the city, which could inform policy decisions related to urban development, social services, and resource allocation to address the needs of different communities.