

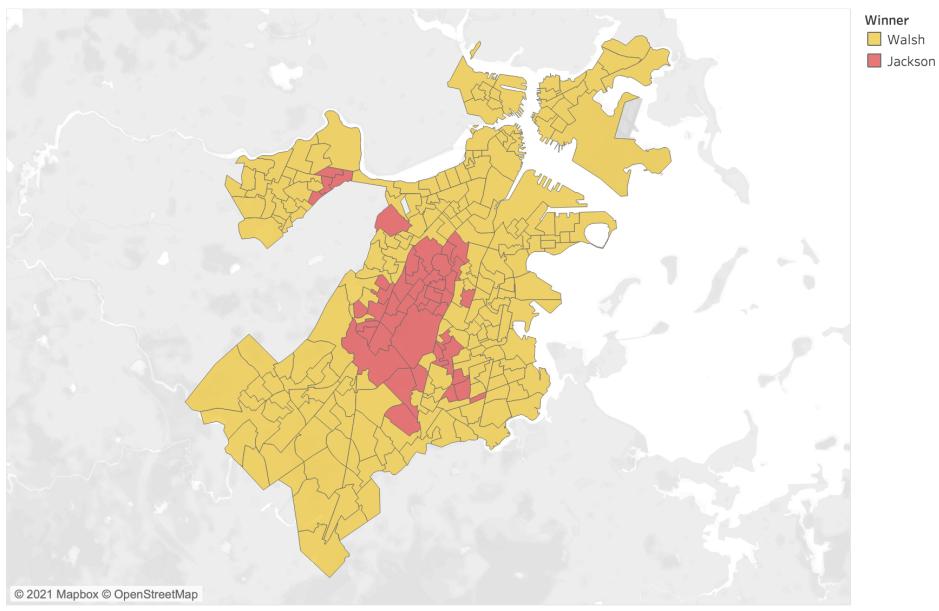
Key Question: What are the key predictors in determining support for Black candidates for Boston?

From our previous analysis, we have found that race plays a key role in determining support for Black candidates. We will now be examining how other factors, such as median income, educational level, and features of neighborhoods may affect support for Black candidates. We will be comparing the outcomes to these maps of three elections with African American frontrunners: 2017 Mayoral Race, 2018 DA Race, and the 2018 US House Democratic Primary.

Part 1: Visualization of Key Races

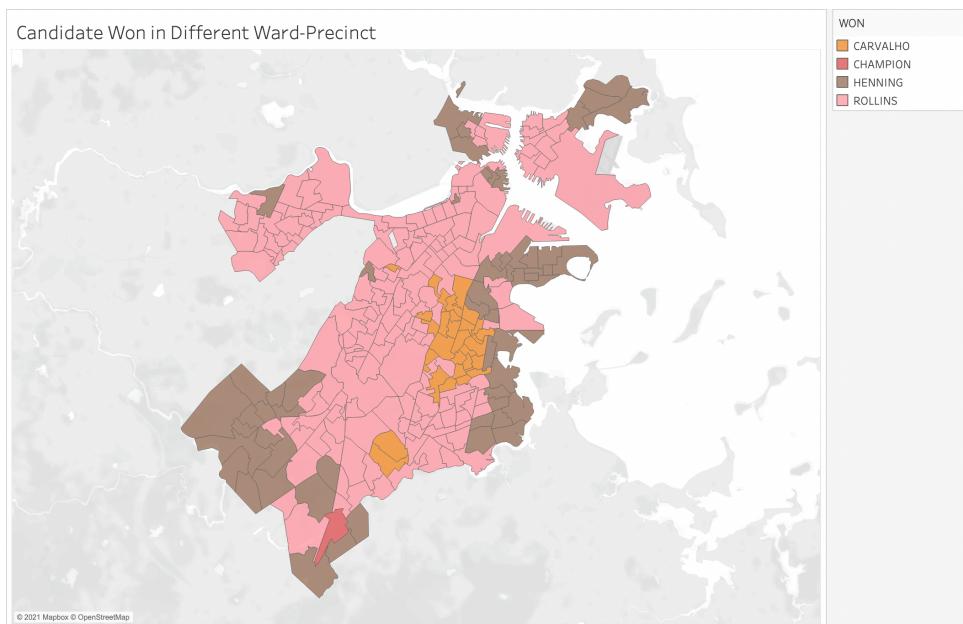
Outcome of the 2017 General Mayoral Race:

Mayoral Race 2017 - Walsh vs. Jackson



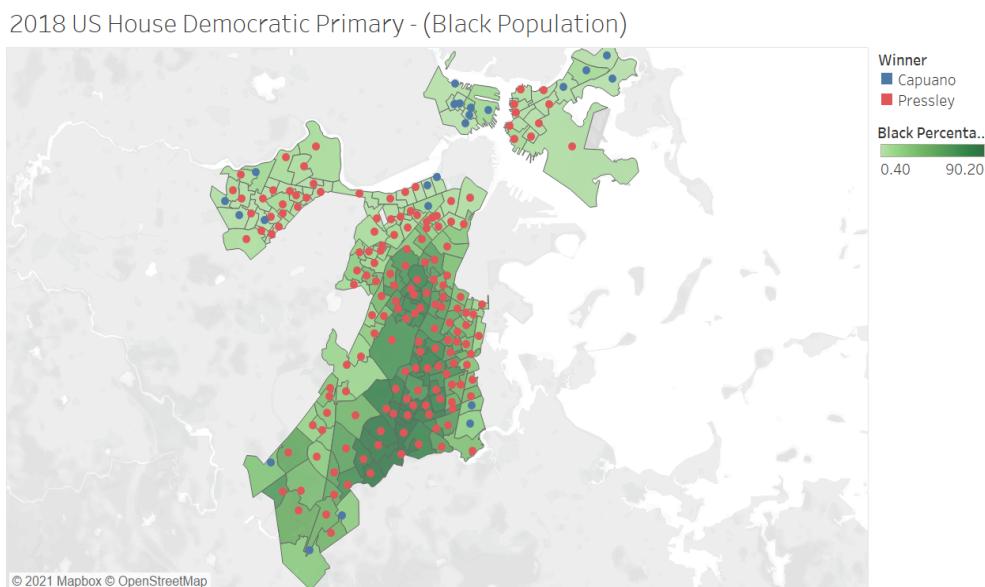
In this race, we will be focusing on Tito Jackson, the Black candidate for mayor in 2017.

Outcome of the 2018 DA Race:



Here, we will be focusing on the performance of the first Black woman DA in Boston, DA Rollins.

Outcome of the 2018 US House Democratic Primary:

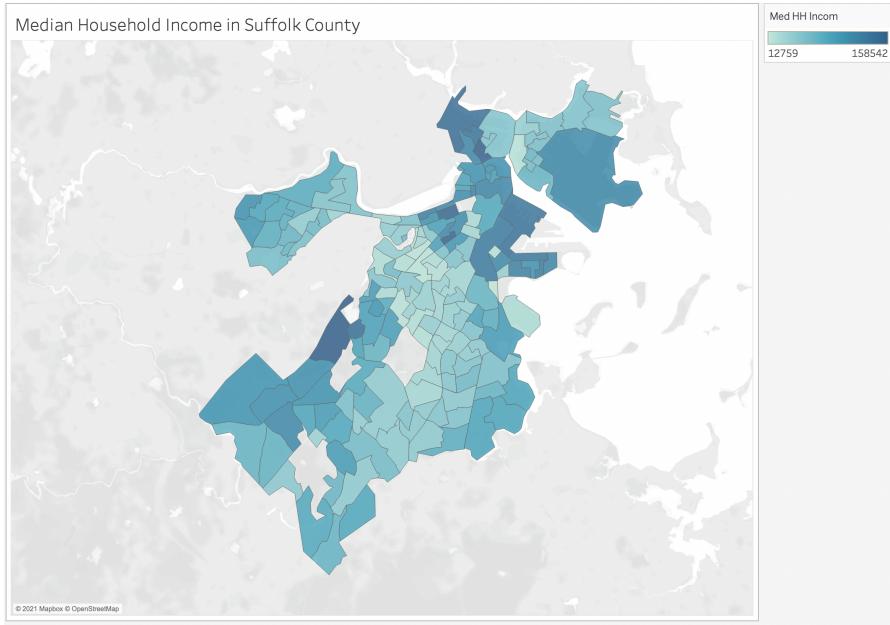


Map based on Longitude (generated) and Latitude (generated). For marks layer Pcnts.shp: Color shows sum of Black Percentage. Details are shown for Ward Prec. For marks layer Pcnts.shp (2): Color shows details about Winner. Details are shown for Ward Prec. The view is filtered on Winner, which keeps Capuano and Pressley.

Here, we will primarily focus on Ayanna Pressley's performance.

Part 2: Median Household Income

We first visualize the median household income across various Boston precincts:



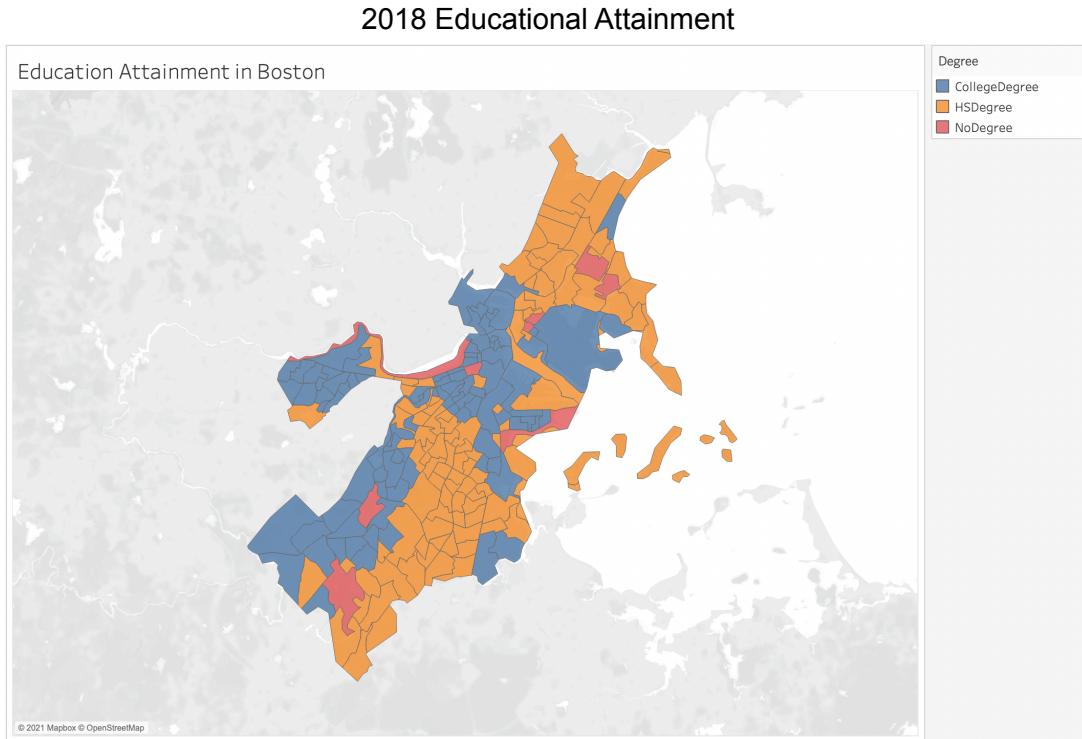
Source:

https://data.census.gov/cedsci/table?t=Financial%20Characteristics&q=0500000US25025.140000&tid=ACSST5Y2019.S2503&moe=false&tp=false&hi_dePreview=true

We compare this median income map with the maps of various elections in which a Black candidate was a frontrunner.

In both the 2017 Mayoral Races and the 2018 DA Race, there seems to be a slight correlation between the median income of a given precinct and a Black candidate winning said precinct. By contrast, however, this does not seem to be the case in the 2018 U.S. House Democratic Primary, as Ayanna Pressley won the majority of precincts regardless of median income.

Part 3: Educational Attainment



Source:

<https://data.census.gov/cedsci/table?t=Education&g=0500000US25025.140000&tid=ACSST5Y2019.S1501&moe=false&tp=false&hidePreview=false>

We now analyze any correlation between the average educational attainment of a given precinct and the performance of Black candidates in that precinct:

2017 Mayoral Race:

In most precincts where Tito Jackson won, the average educational attainment of the residents was a high school diploma. By contrast, Walsh won almost all districts in which the average educational attainment is a college degree.

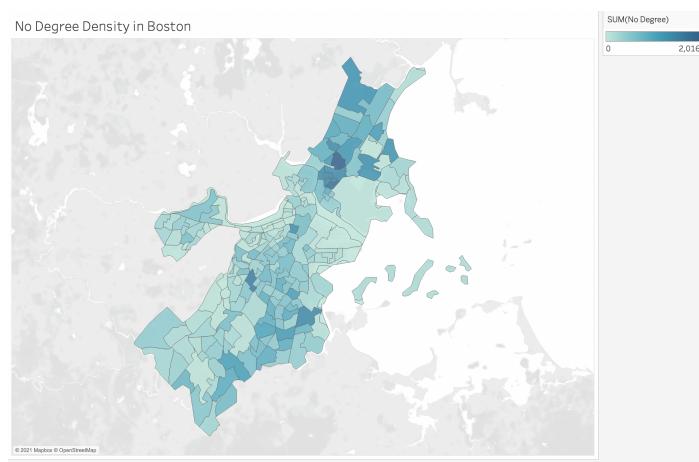
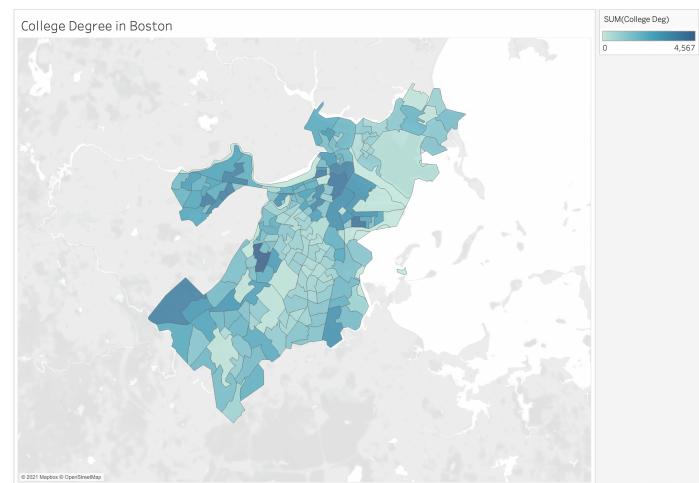
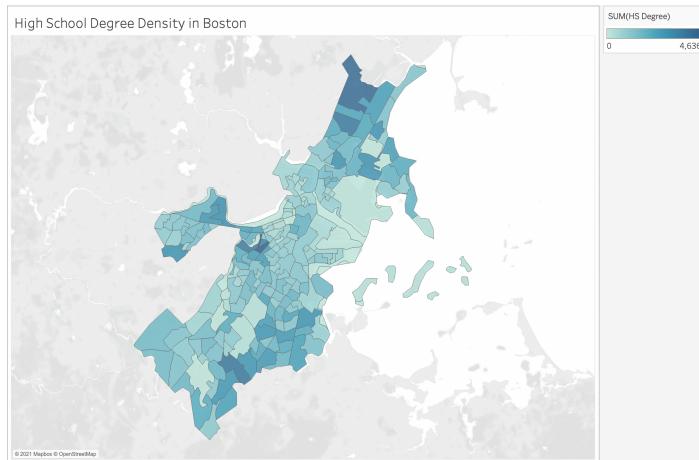
2018 DA Race:

From the data visualization of the educational attainment in Boston compared with the candidate won in each ward-precincts visualization, we could see that most of Henning's precinct that he won over have high density of college degree population; however, Rollin's encompass wide variety of educational attainment population; therefore, it is hard to find correlation between the two variables.

2018 US Senate Democratic Primary:

Again, there is no correlation between the precincts which voted for Pressley and educational attainment, as Pressley won the overwhelming majority of districts regardless of educational attainment.

Lastly we visualize the education levels across all Boston precincts as a gradient:



Does more houses affect voting participation for black candidates?

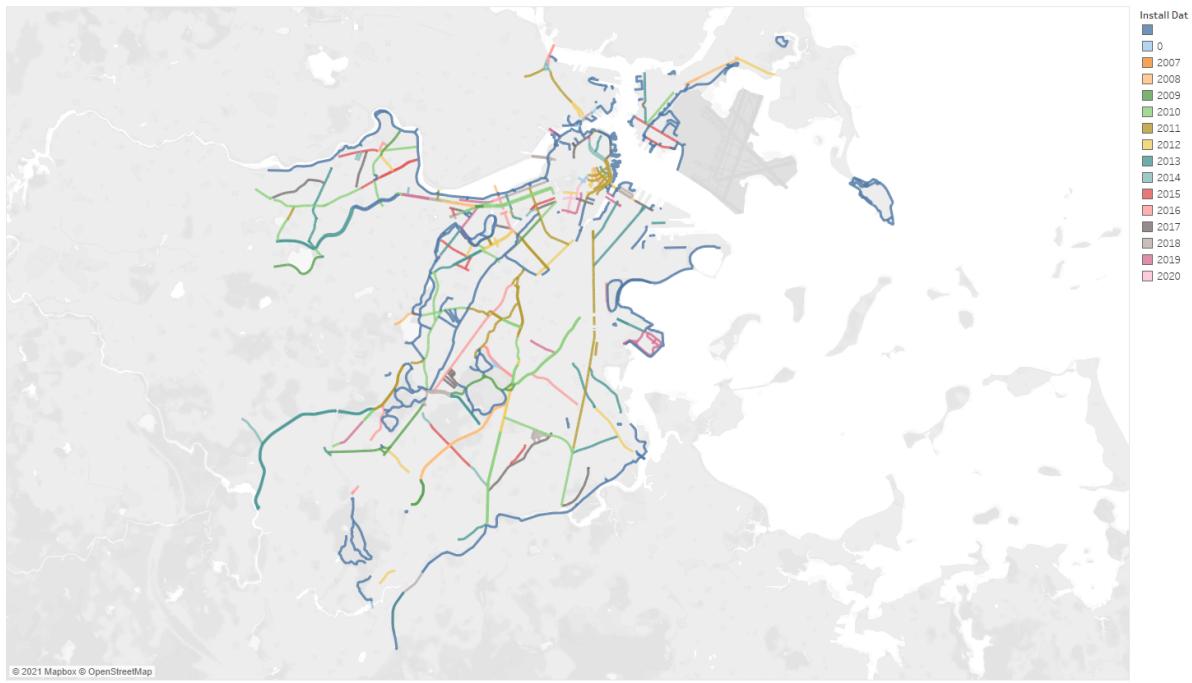
Housing Data



© 2021 Mapbox © OpenStreetMap
Map based on Longitude (generated) and Latitude (generated).

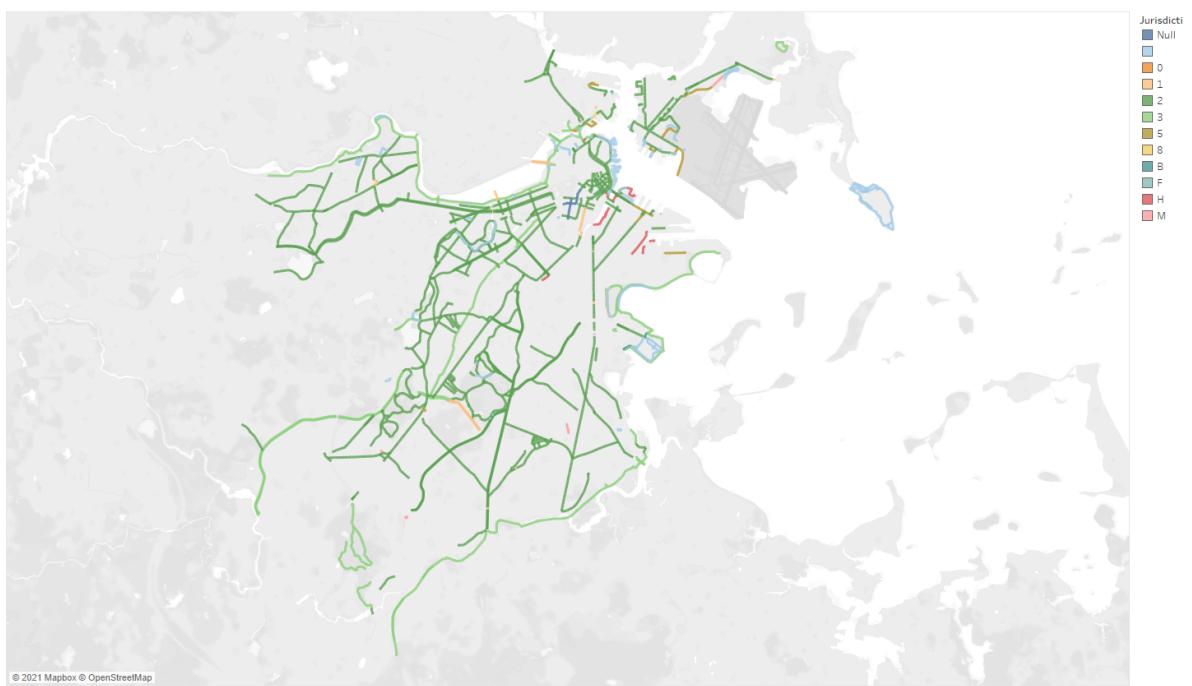
The Bottom of Boston's Building population is around 82% less populated. The Very tip of Boston's Building population is around 56% less populated. This is not a key predictor of black voting participation. There is not a correlation with the amount of houses for both 2017 General mayoral races where Johnson got most votes in the center of the map. And there is no correlation when Pressley received the most votes during the US Democratic party.

Bike Lanes Based On Install Date



We do not believe bike lanes installation dates affect support for Black candidates. There is no clear correlation for bike lanes and the 2017 General Mayoral Race nor the US House Democratic Party.

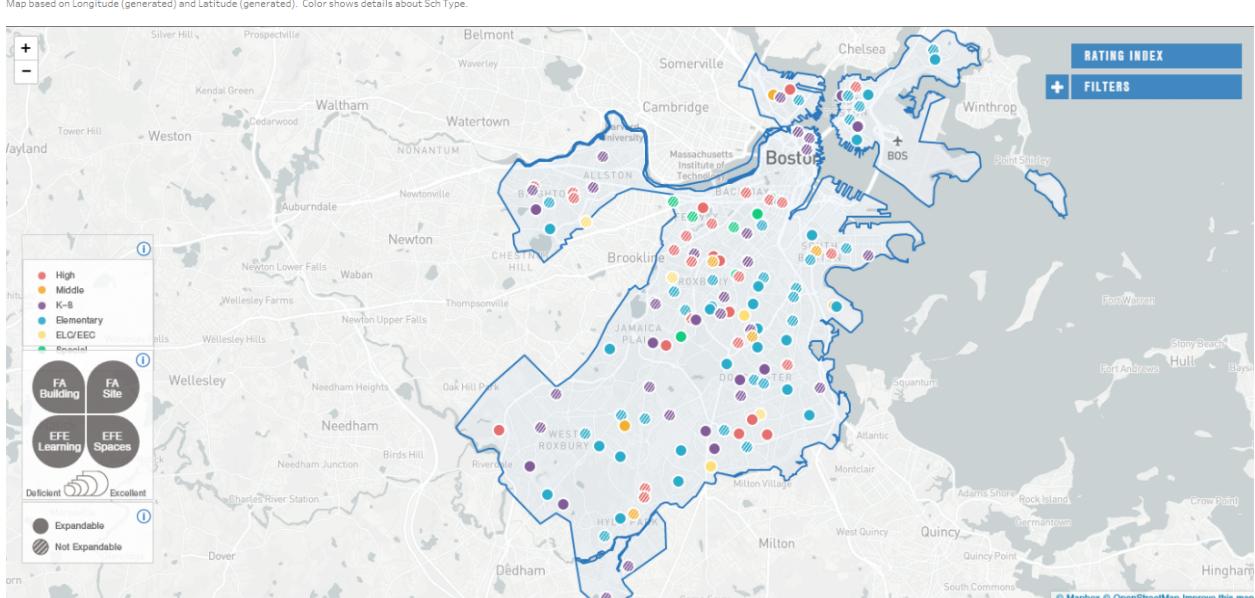
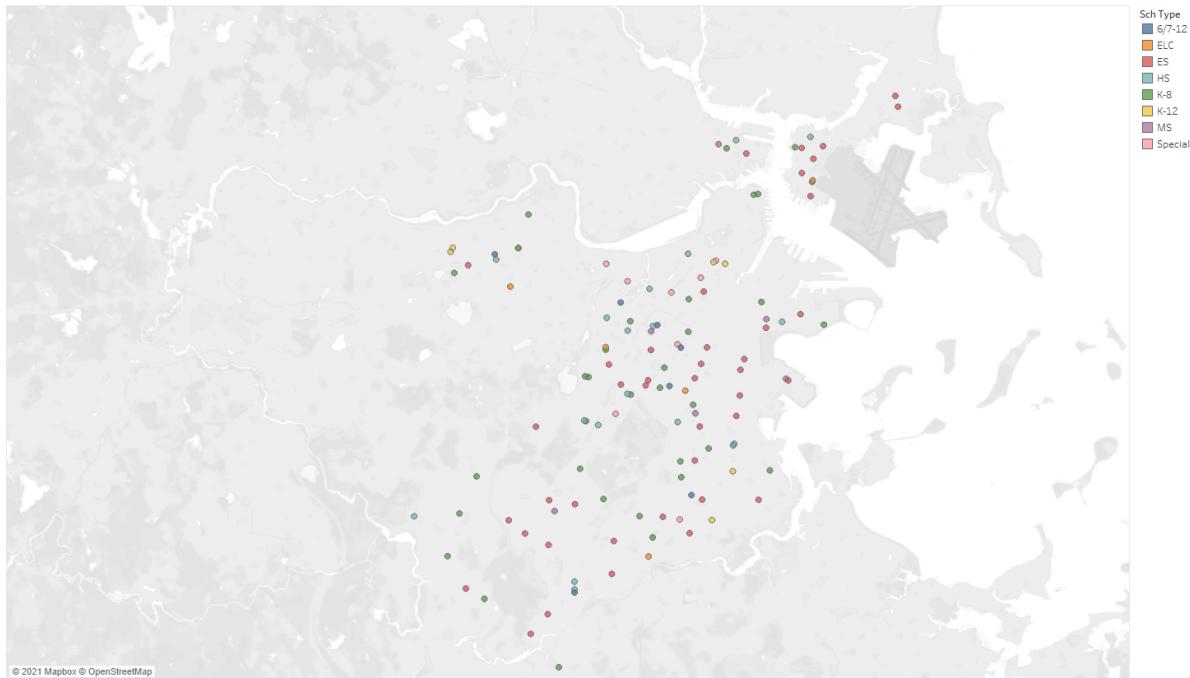
Bike Lanes Based On Jurisdiction



We do not believe bike lanes affect support for Black candidates. There is no clear correlation for bike lanes and the 2017 General Mayoral Race nor the US House Democratic Party. This shows that there is more transit on the left side of the map.

Does Public Schools Affect the Support for black candidates?

Public Schools



<https://data.boston.gov/showcase/buildbps-dashboard>

There is no clear correlation for the number of schools and the 2017 General Mayoral Race nor the US House Democratic Party nor the 2018 DA race. This shows that there are more schools in the center/top of the map.

Do Park Trees Affect the Support for black candidates?



No clear correlation. There is no clear correlation for park trees and the 2017 General Mayoral Race nor the US House Democratic Party nor the 2018 DA race. This shows that there are a few spots that are empty/void of trees, which does not correlate to voting data.

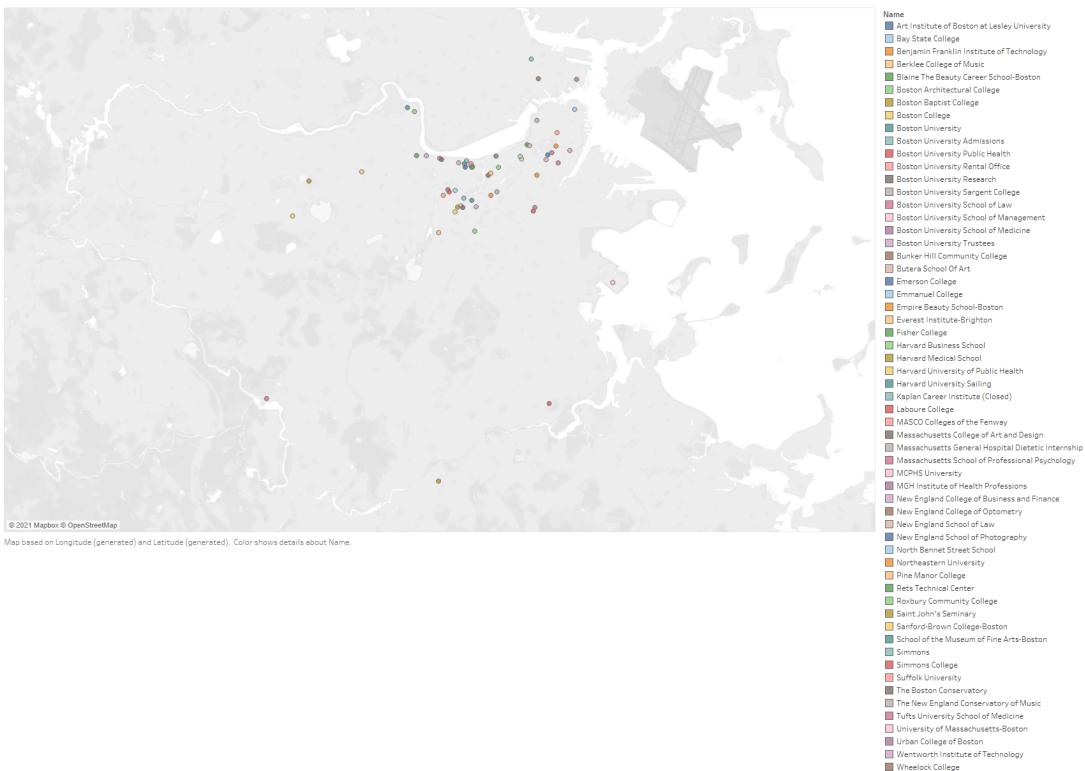
Street Trees



Map based on Longitude (generated) and Latitude (generated). Color shows details about Type. The view is filtered on Type, which keeps STREET-TREE.

Street trees do not have a correlation. There is no clear correlation for street trees and the 2017 General Mayoral Race nor the US House Democratic Party nor the 2018 DA race. This shows that there are a few spots that are empty/void of trees, which does not correlate to voting data.

Universities



Universities do not affect support for black candidates.

For the following Tableaus Social vulnerability during a climate event:

Population Definitions:

Older Adults:

Older adults (those over age 65) have physical vulnerabilities in a climate event; they suffer from higher rates of medical illness than the rest of the population and can have some functional limitations in an evacuation scenario, as well as when preparing for and recovering from a disaster. Furthermore, older adults are physically more vulnerable to the impacts of extreme heat. Beyond the physical risk, older adults are more likely to be socially isolated. Without an appropriate support network, an initially small risk could be exacerbated if an older adult is not able to get help.

Data source: 2008-2012 American Community Survey 5-year Estimates (ACS) data by census tract for population over 65 years of age.

Children:

Families with children require additional resources in a climate event. When school is cancelled, parents need alternative childcare options, which can mean missing work. Children are especially vulnerable to extreme heat and stress following a natural disaster.

Data source: 2010 American Community Survey 5-year Estimates (ACS) data by census tract for population under 5 years of age.

People of Color:

People of color make up a majority (53 percent) of Boston's population. People of color are more likely to fall into multiple vulnerable groups as well. People of color statistically have lower levels of income and higher levels of poverty than the population at large. People of color, many of whom also have limited English proficiency, may not have ready access in their primary language to information about the dangers of extreme heat or about cooling center resources. This risk to extreme heat can be compounded by the fact that people of color often live in more densely populated urban areas that are at higher risk for heat exposure due to the urban heat island effect.

Data source: 2008-2012 American Community Survey 5-year Estimates (ACS) data by census tract: Black, Native American, Asian, Island, Other, Multi, Non-white Hispanics.

Limited English Proficiency:

Without adequate English skills, residents can miss crucial information on how to prepare for hazards. Cultural practices for information sharing, for example, may focus on word-of-mouth communication. In a flood event, residents can also face challenges communicating with emergency response personnel. If residents are more socially isolated, they may be less likely to hear about upcoming events. Finally, immigrants, especially ones who are undocumented, may be reluctant to use government services out of fear of deportation or general distrust of the government or emergency personnel.

Data Source: 2008-2012 American Community Survey 5-year Estimates (ACS) data by census tract, defined as speaks English only or speaks English "very well".

Low to no Income:

A lack of financial resources impacts a household's ability to prepare for a disaster event and to support friends and neighborhoods. For example, residents without televisions, computers, or data-driven mobile phones may face challenges getting news about hazards or recovery resources. Renters may have trouble finding and paying deposits for replacement housing if their residence is impacted by flooding. Homeowners may be less able to afford insurance that will cover flood damage. Having low or no income can create difficulty evacuating in a disaster event because of a higher reliance on public transportation. If unable to evacuate, residents may be more at risk without supplies to stay in their homes for an extended period of time. Low- and no-income residents can also be more vulnerable to hot weather if running air conditioning or fans puts utility costs out of reach.

Data source: 2008-2012 American Community Survey 5-year Estimates (ACS) data by census tract for low-to- no income populations. The data represents a calculated field that combines people who were 100% below the poverty level and those who were 100-149% of the poverty level.

People with Disabilities:

People with disabilities are among the most vulnerable in an emergency; they sustain disproportionate rates of illness, injury, and death in disaster events.⁴⁶ People with disabilities can find it difficult to adequately prepare for a disaster event, including moving to a safer place. They are more likely to be left behind or abandoned during evacuations. Rescue and relief resources—like emergency transportation or shelters, for example—may not be universally accessible. Research has revealed a historic pattern of discrimination against people with disabilities in times of resource scarcity, like after a major storm and flood.

Data source: 2008-2012 American Community Survey 5-year Estimates (ACS) data by census tract for total civilian non-institutionalized population, including: hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, and independent living difficulty.

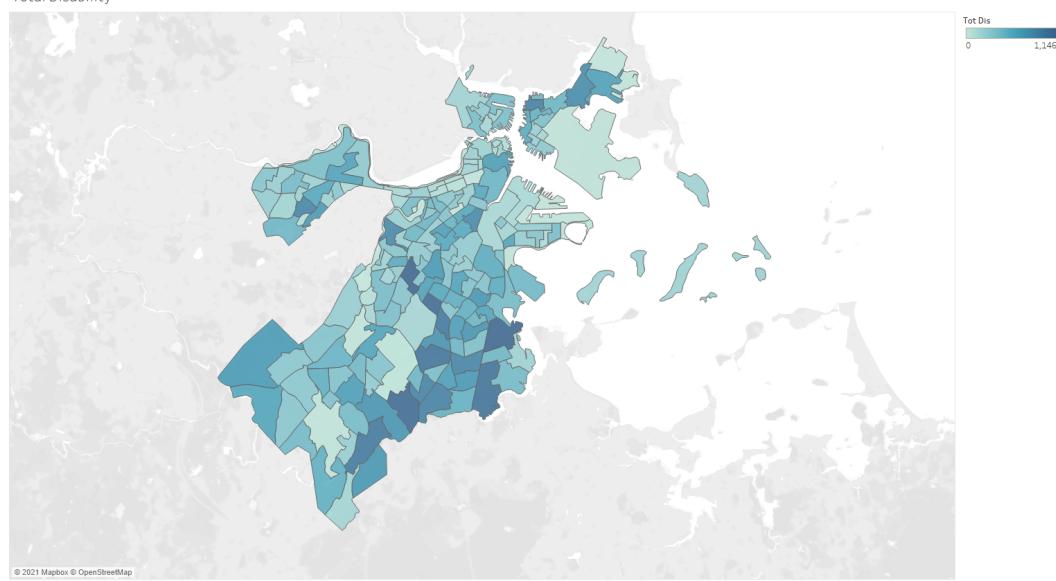
Medical Illness:

Symptoms of existing medical illnesses are often exacerbated by hot temperatures. For example, heat can trigger asthma attacks or increase already high blood pressure due to the stress of high temperatures put on the body. Climate events can interrupt access to normal sources of healthcare and even life-sustaining medication. Special planning is required for people experiencing medical illness. For example, people dependent on dialysis will have different evacuation and care needs than other Boston residents in a climate event.

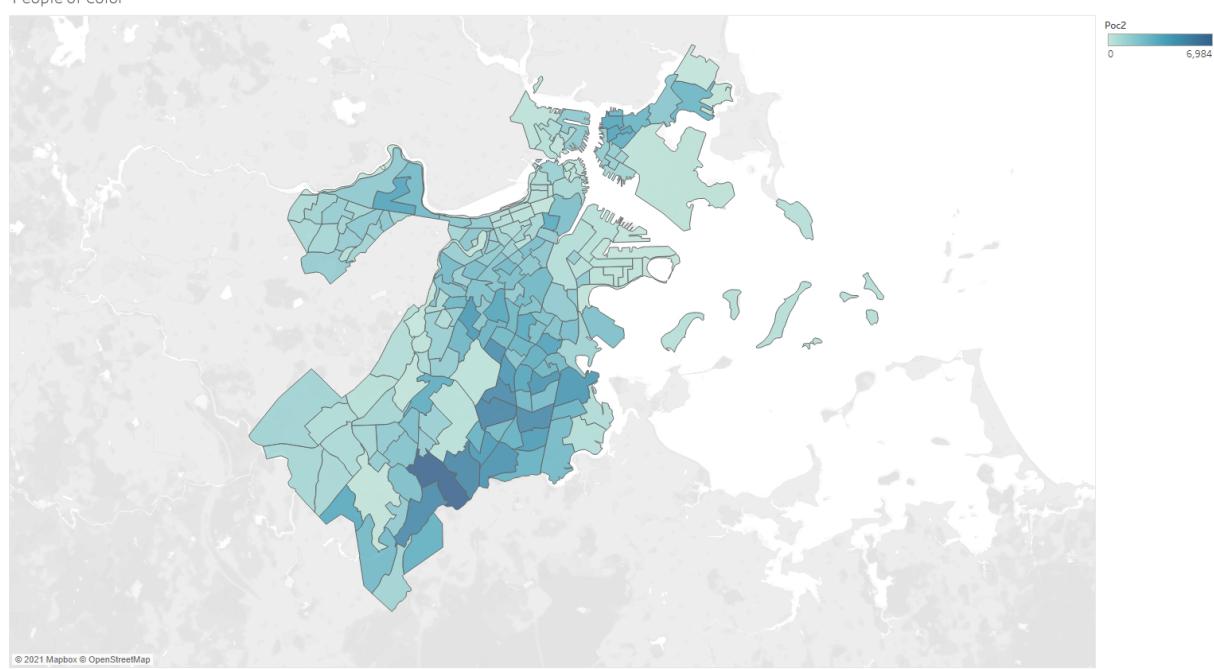
Data source: Medical illness is a proxy measure which is based on EASI data accessed through Simply Map. Health data at the local level in Massachusetts is not available beyond zip codes. EASI modeled the health statistics for the U.S. population based upon age, sex, and race probabilities using U.S. Census Bureau data. The probabilities are modeled against the census and current year and five year forecasts. Medical illness is the sum of asthma in children, asthma in adults, heart disease, emphysema, bronchitis, cancer, diabetes, kidney disease, and liver disease. A limitation is that these numbers may be over-counted as the result of people potentially having more than one medical illness. Therefore, the analysis may have greater numbers of people with medical illness within census tracts than actually present. Overall, the analysis was based on the relationship between social factors.

Attribute label: Median

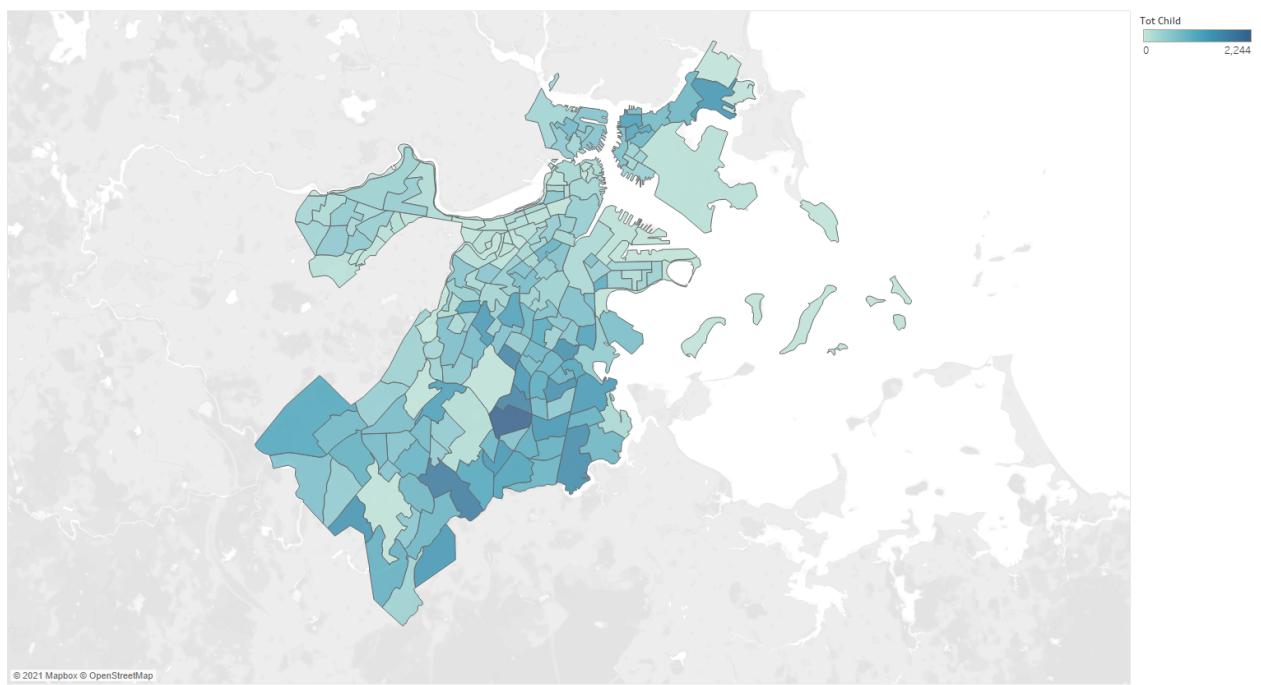
Total Disability



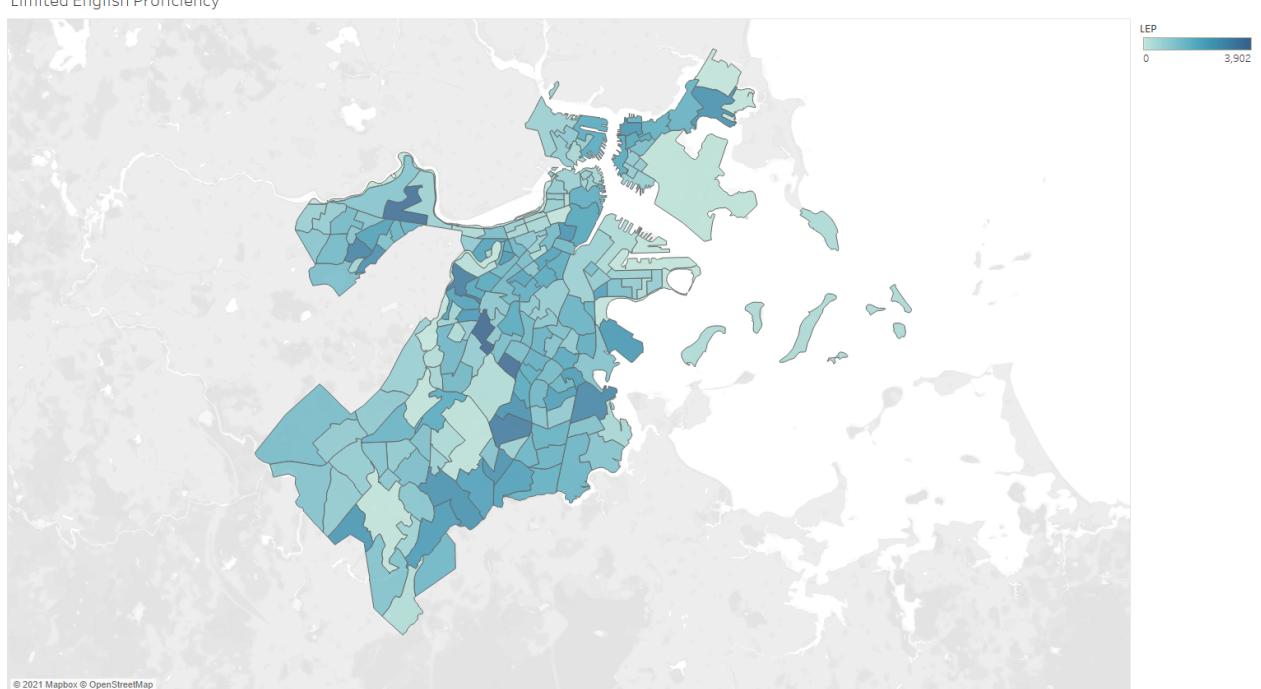
People of Color



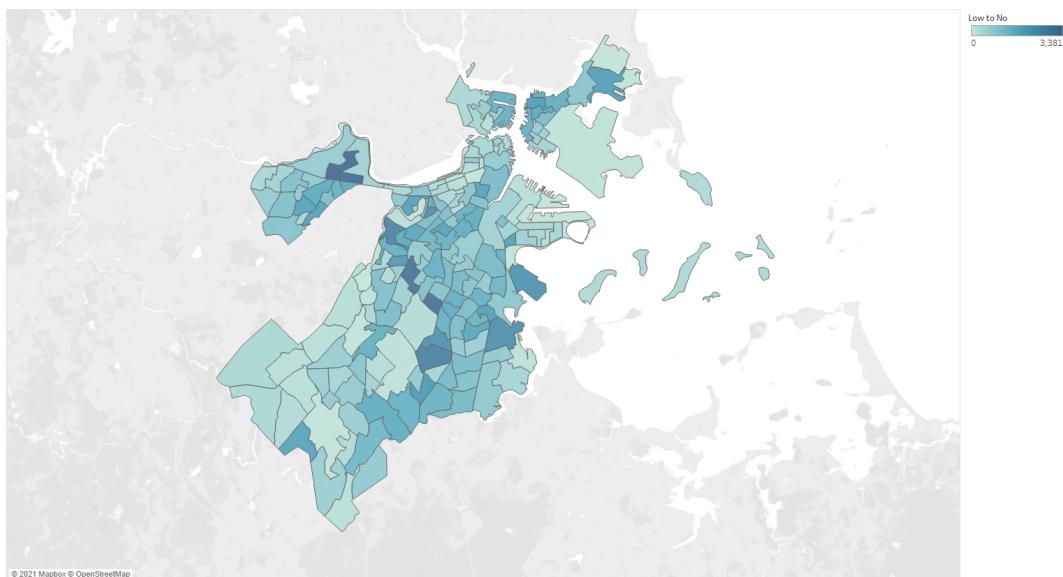
Children



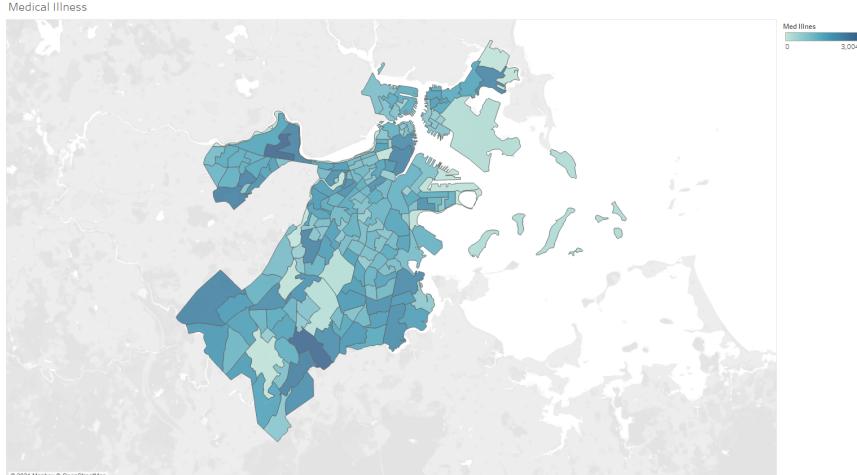
Limited English Proficiency



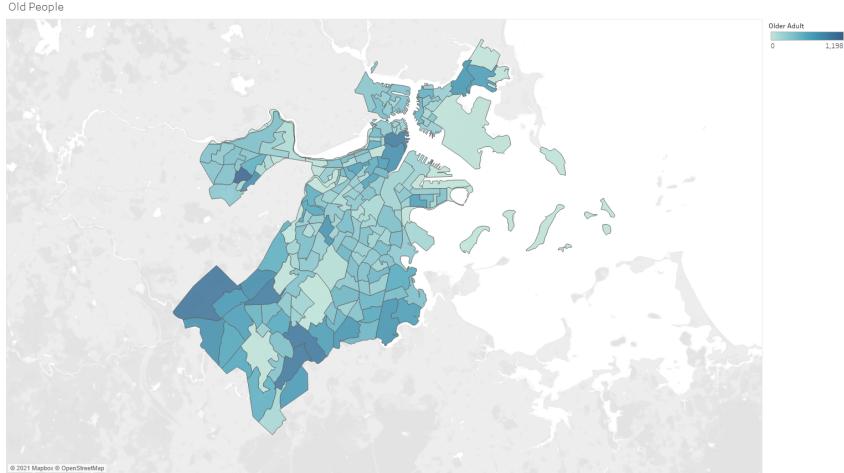
Low to No Income



Medical Illness



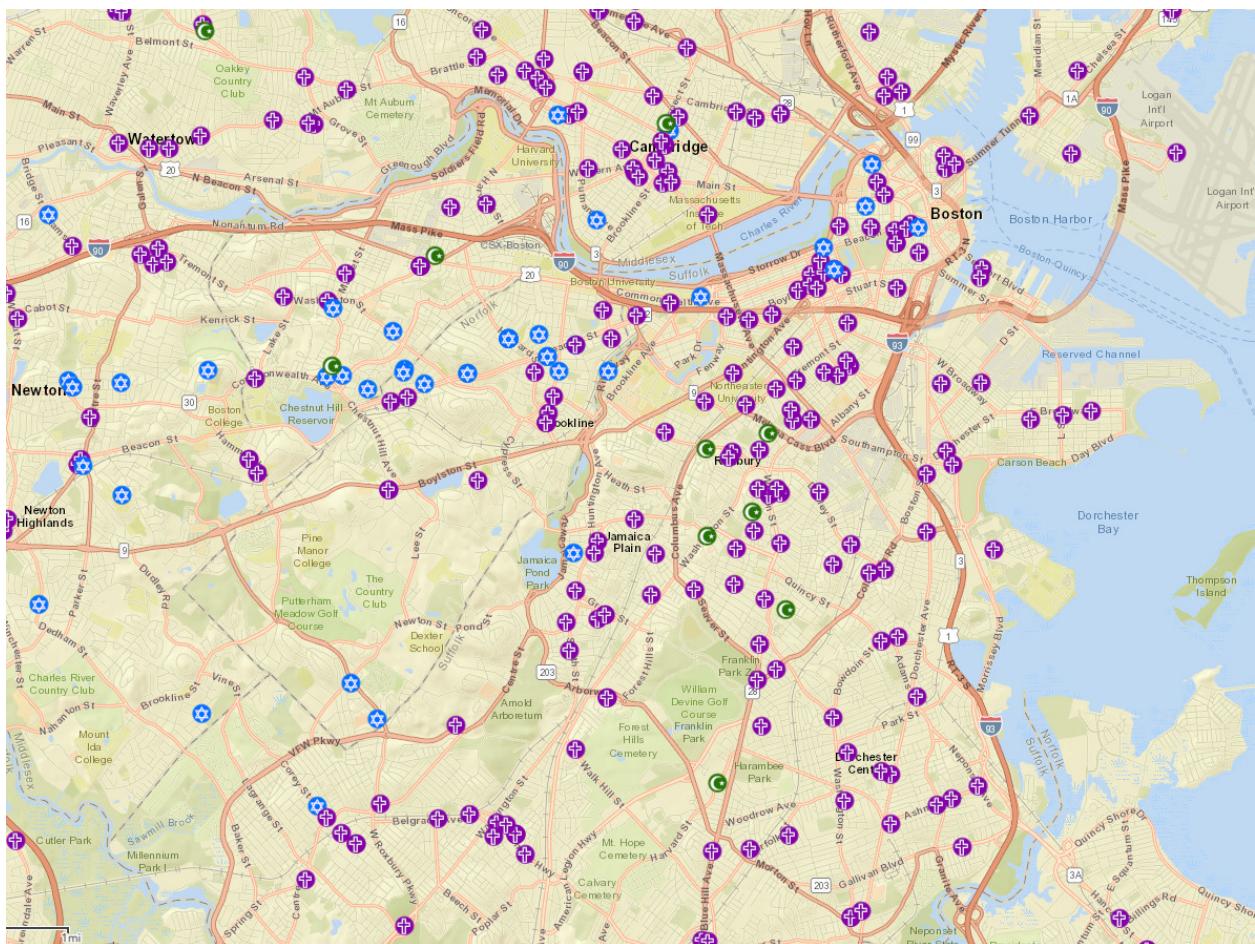
Old People



There is no clear correlation for Total disability/People of Color/Old People/ Medical Illness/Low To No Income/ English Proficiency and the 2017 General Mayoral Race nor the US House Democratic Party nor the 2018 DA race. What this shows is that Disabilities and Medical Illnesses are more apparent and are more prone to climate changes. There might be a slight correlation between people low to no income vulnerable to climate change voting for Jackson in the 2017 General Mayoral Race.

We see that the south end of boston is the most prone to climate, there's no clear correlation.

Boston Churches:



<https://massgis.maps.arcgis.com/apps/webappviewer/index.html?id=9fc18ba7901546a1b342393b6486cf31>

There is no clear correlation for Number of Churches and the 2017 General Mayoral Race nor the US House Democratic Party nor the 2018 DA race.

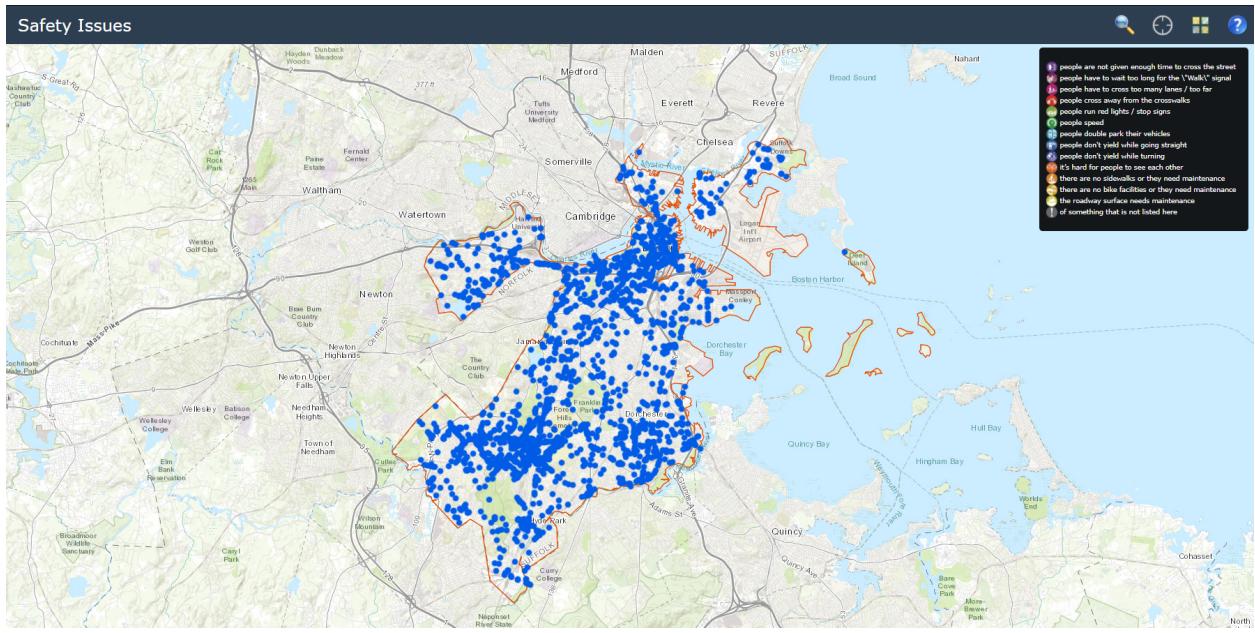
Link to More Geospatial data (Not Correlated):

<https://docs.digital.mass.gov/dataset/massgis-data-layers>

311 Reports Trash areas in Boston

<https://jhaddadin.github.io/trashcity/garbagemap.html>

There is no clear correlation for Trash Areas and the 2017 General Mayoral Race nor the US House Democratic Party nor the 2018 DA race.



<http://app01.cityofboston.gov/VZSafety/>

There is no clear correlation for Safety Issues and the 2017 General Mayoral Race nor the US House Democratic Party nor the 2018 DA race.