**Laura Brown**

**Title: “Mapping School Lottery Inequality”**

**Data sources:** 2014 Census Data: Race and Ethnicity by neighborhood in Boston

2015 Boston Public Schools Race and Ethnicity makeup and performance levels (data will have to be manually collected and entered: see <http://www.bostonpublicschools.org/Page/879> for example)

**Mapping Scenario:**

Boston has long been characterized as a city with racial segregation and strife, with resistance to integrated neighborhoods and a violent history of school busing. This segregation has occurred across various administrative and geographical planes. The map of the city limits and the surrounding towns illustrates an arbitrary geography, drawn by the succession of more affluent counties from Boston city services and school governance, as well as white flight from the city proper. Census data tallies show that counties and towns are usually highly concentrated by race, with minorities found in a few select cities such as Boston, Cambridge, Chelsea, Brockton, Everett, Wocester, and Randolph County. Furthermore, despite being the third most expensive city in the United States, a recent article found half of Boston’s population makes less than $35k per year (<http://www.bostonglobe.com/business/2016/03/14/city-divided/Wt6EnHNIwmNaUnWGgYLMcK/story.html>). The Boston Public Schools likewise notes the challenge of economic and cultural disadvantages, with approximately 50% of students living in poverty and 1/2 speaking a language other than English at home (http://www.bostonpublicschools.org/domain/238). Despite these challenges, BPS touts its reputation as one of the highest performing urban school districts in the US, presumably based on a handful of exceptionally high-performing schools.

In many cities, geographical preference or a guaranteed school assignment has led to segregated schools (at least where forced busing is not the standard policy), with property tax values resulting in a proportional investment in schools in the area. Consequently, areas with high property values receive greater funding, while schools in poorer areas are afforded fewer resources. The lottery system developed in Boston was devised to avoid this economic segregation. In fact, in Boston there is a weak geographic correlation to school placement. A lottery system, in which an applicant lists up to 15 schools, most within one of the four geographic zones, was structured so that students had equal access to high performing schools, despite geographical proximity or lack thereof. Yet, official data and unofficial data indicate that high performing schools and well as failing schools are racially stratified, and often do not reflect the neighborhood population. This map attempts to visualize relationships between school location, school performance, and school makeup, compared to the community population. This study seeks to answer whether the lottery-based policy has succeeded in any way, and whether there is any geographic component to the successes and failures of the Boston Public Schools.

While there are existing maps on the individual topics including racial and ethnic makeup of the neighborhoods, and location and rating of school, this map is likely the first to compare the school location and the community. The goal of this project is, therefore, to create web-based interactive maps for the range of economic and racial diversity for the Boston community and public school system.

**What do I want to get out of this project?**

- A user-friendly interface that visually represents the data in a clear way and that allows for user selection of data according to source

**What do I want the users to get out of it?**

* See a series of maps according to racial and ethnic groups and income.
* Understand geographic relationships between racial and economic segregation and school makeup and performance.
* Identify certain schools that are not reflective of area populations.
* Possibly make assessments of vulnerable populations where school lotteries fail to increase performance or diversity.
* Compare relationships between economic segregation and racial/ethnic segregation.

**Content requirements:**

* Data displayed on basemap that includes Boston’s a chloropleth of either economic and racial data by neighborhood blocks
* Multiple layers are available for users to view via dial
* Block-wide information presented to user in infobox
* School information available in popup or hover
* Legend will inform users of contents
* Information about performance visible in color-coding of school points
* Link to Kenya Data and spreadsheet to download
* Data also available in a chart or pie diagram

**Functional specifications**:

* Data layers tiled and drawn on map
* Ability to zoom manually (user chooses) and dynamically (when user searches address, zooms to address and places marker)
* Popups or hover actions on each neighborhood block or school providing relevant information
* Search bar will allow users to search and pinpoint a specific address
* A UI dial list will allow users to switch between data layers on the map
* If included, chart/diagram/graph, will update dynamically.
* Perhaps provide a summary layer allowing users to see multiple types or ratios at once.