

Urban Data - Initial Project Proposal

Team: Amy Boncelet (ajb347@cornell.edu), Matthew Shen (mds377@cornell.edu), Thomas Wallace (tw526@cornell.edu)

For our Urban Data final project, we will look at if there is a correlation between 311 complaints and the gentrification of neighborhoods. We will look at data from NYC.

First, we will compile a set of factors that tend to change when a neighborhood is deemed to have become more gentrified. Gentrification, first proposed by Glass ([Glass R. Aspects of Change London: MacGibbon & Kee, 1964](#)), is “the succession and replacement of classes”, where “the middle class returns to the inner city”, attracted by “convenient transportation, bustling commerce, and specific cultural atmosphere”. For analyzing this, we specifically are going to identify census tracts as “gentrifying” - where the average income level, education level, age, percent of the population that is white, and median rent change more relative to that of the mean of the city (specifically, if those factors increase, increase, decrease, increase, and increase, respectively). Using the five “gentrification factors”, we will analyze, by census tract, which areas of New York City have gentrified over the last 12 years.

Next, we will analyze the location and year of 311 calls in New York City and compare them to the census tracts to see if there is any correlation between the 311 calls and the gentrified locations. It could be that an increase in 311 calls is a leading indicator of gentrification, a lagging indicator of gentrification, or has no relation to gentrification. We expect to use linear regression in our analysis to determine if they correlate with each other.

For this project we plan on using the following datasets:

1. For the gentrification data:
 - a. ~~Age~~ [DP05: ACS DEMOGRAPHIC AND HOUSING ESTIMATES](#)
 - b. ~~% of the white population/race~~ [DP05: ACS DEMOGRAPHIC AND HOUSING ESTIMATES](#)
 - c. ~~Income~~ [S1901: INCOME IN THE PAST 12 MONTHS](#)
 - d. ~~Immigration status~~ [DP02: SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES](#)
 - e. ~~Education~~ [DP02: SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES](#)
 - f. ~~Rent~~ [DP04: SELECTED HOUSING CHARACTERISTICS](#)
2. For the 311 complaints: NYC: [here](#) (available from 2010 to present)

3. ~~We'll also use geospatial census tract data from NYC open data to join the census data to map our findings and join with the 311 calls.~~

We expect to review the following papers as part of our project. We will compare their findings with our analysis and discuss the differences/similarities they found with our results:

- [Unsupervised On The Streets of New York](#)
- [NYC 311: A Tract-Level Analysis of Citizen-Government Contacting in New York City](#)
- [Bias in smart city governance: How socio-spatial disparities in 311 complaint behavior impact the fairness of data-driven decisions](#)
- [Equity in 311 Reporting: Understanding Socio-Spatial Differentials in the Propensity to Complain](#)
- [Coproduction of Government Services and the New Information Technology: Investigating the Distributional Biases](#)