

# Where the grass is greener: A snapshot of New York City's distribution of community gardens and funding resources

**596 ACRES**

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## I. Introduction

The purpose of our project is to show how the city's government capital funding for parks and open spaces is distributed. Our initial hypothesis was that in places where governmental capital investment is low, New York City residents, greening and grantmaking nonprofits supplement by creating parks and gardens. The maps we created can act as a useful tool for public awareness surrounding the distribution of federal/city funds and its correspondence with the non-profits attention to these areas of high or low funding. It is important to be aware of the distribution of resources as it will act as a catalyst to further fight the battle for more green, just, and equitable cities.

## II. Methods

In order to address this research problem, we downloaded the data for community gardens from the 596 acres website. The data for the funding was downloaded from the website of New York City Department of Parks & Recreation via the Capital Project Tracker.

- Cells with any community gardens were reclassified as 1 and below 0. Funding cells with greater than \$100,000 were classified as considerable funding (1) and below as No/Low funding (0) (see Table 1). This was based on the histograms with \$500,000, \$150,000 and \$100,000 showing that \$100,000 produced the best result.

Garden Reclass Value	Fund Reclass Value	Tabulation Value	Tabulation label
0	0	1	No Gardens - No/Low Funds
0	1	2	No Gardens - Considerable Funds
1	1	3	Gardens - Considerable Funds
1	0	4	Gardens - No/Low Funds

Table 1. Reclassification and tabulation values and label

- The community gardens data contains locations of 1891 community gardens already in place and vacant land for possible use. The location data is in the form of points, converted from building block and lot (BBL) polygons by 596 acres. The data was filtered for the study set for community gardens and community green space to 592 of active gardens.
- The NYC Department of Parks and Recreation capital projects are grouped by project ID, containing 1134 projects with 683 parks and 1602 unique locations, going back to 2010. Each project contains information such as phase [completed, construction, design, procurement, plan], the dates and percentage completed of each phase, summary of the project and funding. There are funding sources but some projects omit their funding sources so we decided not to use it.
- For both data sets are point data, kernel density was made as a surface to see the influence of the park's funds and amount of community gardens.

- The final map was then produced to show areas close to considerable funding and community gardens.
- Further analysis with census was conducted to look at the demographics in the tabulation areas. Zonal Statistics was used to the majority tabulation zone in each of the block groups. This table was joined with income and race data.

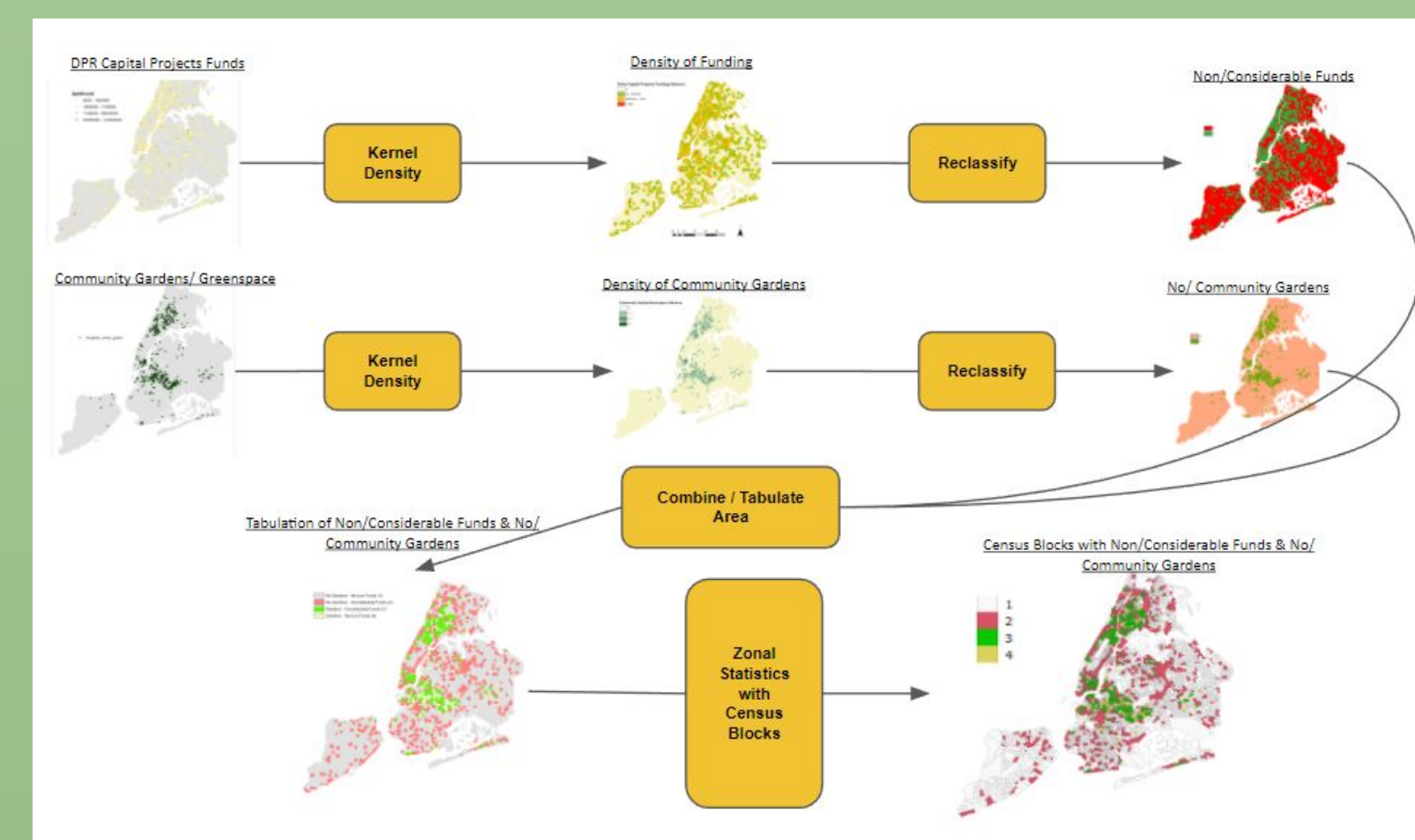


Figure 1. Cartographic model to lay out methodology of research

## III. Results

The statistical analysis yielded a classification of 4 zones, each representing a combination of High/Low distributions of funding and community gardens. These results were examined against demographic data of race and median income at the census block group level.

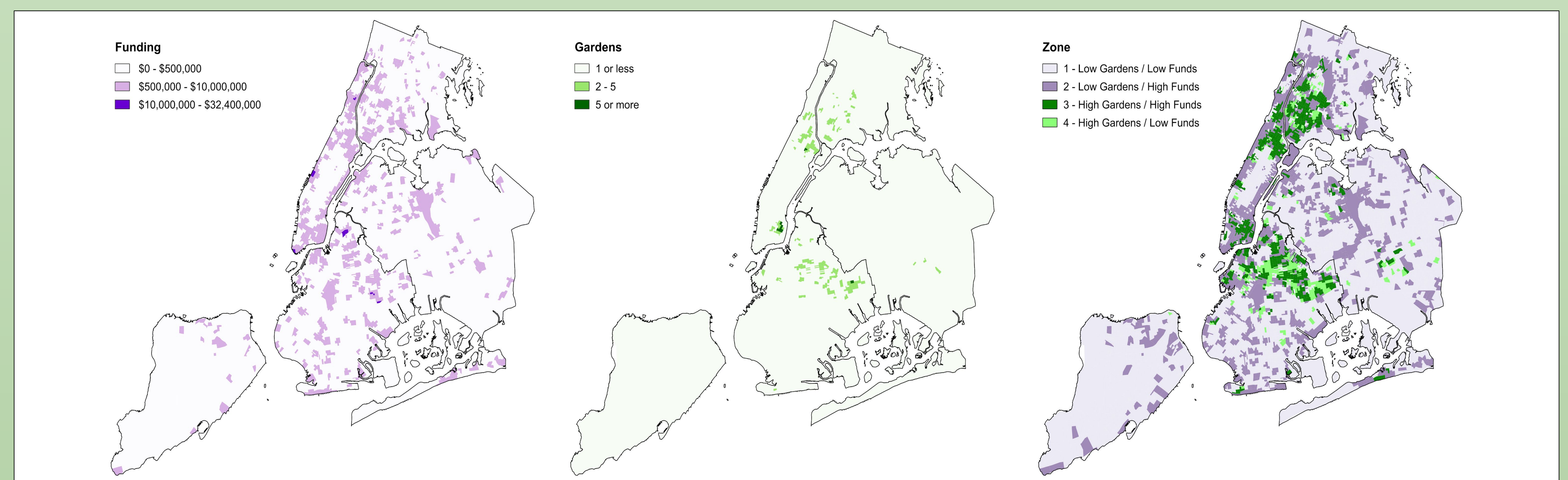


Figure 2. These maps show the interpolated distributions of funding and community park locations that were used to create the zones. The first (left) represents the amount of parks projects funding within 1500 ft, the second map (middle) shows the number of community gardens within 1000 ft, the last (right) is the result layer showing concentrations and deficits of funding and gardens.

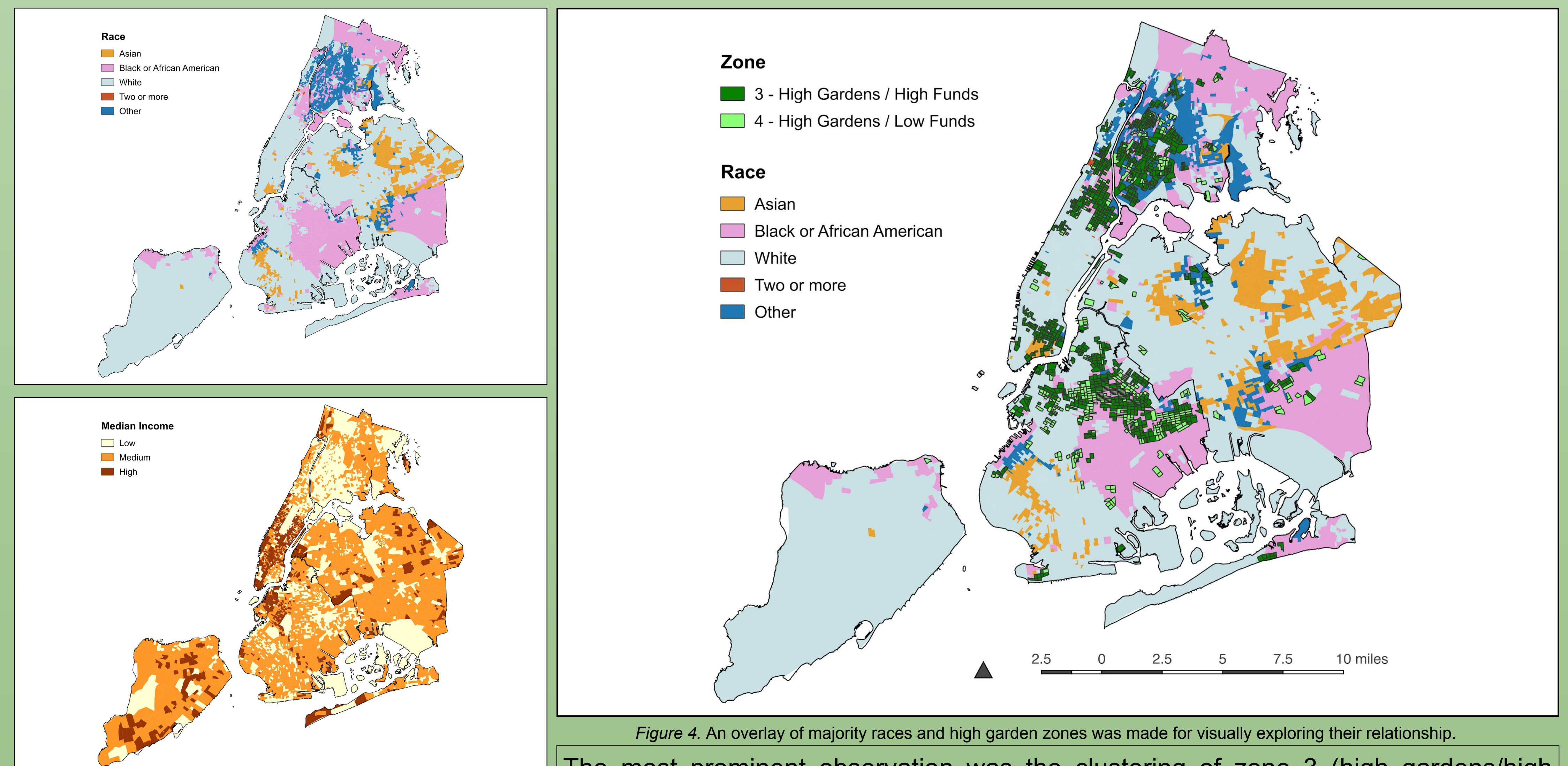


Figure 3. The first map (top) shows the majority race of a block group, the second (bottom) shows its median income.

The most prominent observation was the clustering of zone 3 (high gardens/high funds) and zone 4 (high gardens/low funds) that occur largely in areas with minority races, the most being in predominantly black or African American neighborhoods. These same patterns are similar to those displayed of low median income, suggesting that the highest densities of community gardens and park funds (zone 3) are present in African American low income neighborhoods. In addition, statistical analysis revealed a grouping of high park funding in low income neighborhoods.

- Sources:
- U.S. Census Bureau, 5-year American Community Survey (2016) [csv], <https://factfinder.census.gov/aces/nav/jsf/pages/index.xhtml#none>
  - 596 Acres, Living Lots NYC (2017) [csv], <https://livinglotsnyc.org>
  - NYC Department of Parks and Recreation, Capital Project Tracker, NYC Open Data (2017) [json], <https://data.cityofnewyork.us/Recreation/Capital-Project-Tracker/qjw-12jk>