Methodology

To measure access to community gardens, an index was created that incorporated four factors: community garden service areas (≥0.25 miles from gardens along the street network), number of community gardens within the service areas, community garden square feet per 1,000 people living in service areas, and presence of longstanding community garden waitlists at the neighborhood level. These factors were translated to 2010 U.S. Census blocks.

Network analyst was used to create the community garden service areas. A quarter-mile walkable area, a distance which is supported by park equity research, was chosen to ensure that gardens could be accessible to parents with young children and elderly community members.

Walkable areas in some neighborhoods overlapped considerably, which indicated increased garden access. Because there was no clear method to quantify this overlap, garden counts within the walkable areas were used to up-weight these areas.

Factor 1: Within walkable distance to gardens

Factor 2: Garden area/population score (2-8 points)

Factor 3: Garden count score (1-4 points)

Factor 4: Waitlist score (4, 3, or 1 points)

Measuring access to community gardens in a holistic way requires assessing multiple factors: proximity, availability and adequacy. In Boston, a city that continues to be affected by extreme racial segregation, questions have been raised about the equitability of access to the City’s 100+ community gardens. Access to community gardens is an issue of food justice, a concept that includes the right of communities to produce and consume their own food. These concerns motivated this project, which focused on measuring access to community garden spaces and exploring possible connections to race, ethnicity and socio-economic status.

Results and Discussion

The resulting access index map is shown (top left). Areas with very high access are located throughout the city, with notable pockets in Fenway, Roslindale, Roxbury and Dorchester. On the other end of the spectrum, much of the city has low or very low access to gardens.

An analysis of socio-demographic characteristics of census blocks by access score revealed a few surprising patterns (right). A positive correlation was seen between percent black and access (below) and a negative correlation was seen between percent white and access. These correlations were not in the expected directions, as it was hypothesized that people of color have lower access to gardens. Finally, correlation matrices between access and housing status at the block level and access and median household income at the tract level (not shown) indicated a lack of association between these variables.

These results are neither comprehensive nor conclusive. Improvements could be made to the method that may alter the results. Additionally, there might be factors related to access that could not be incorporated here (e.g., individual time constraints). Conversely, this index could be accurately visualizing an on-the-ground reality. Perhaps access is high among some communities of color, but there are other factors that need to be taken into account to encourage gardening (e.g., outreach). Finally, additional community-driven strategies toward food justice may be more effective than a focus on gardens alone.