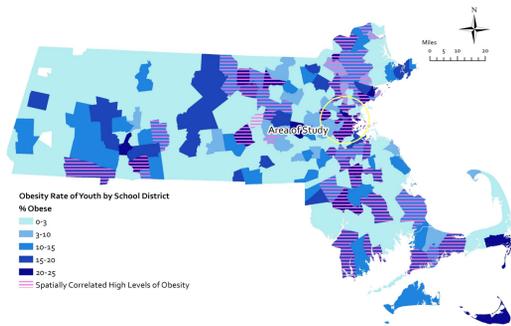


The Power of Food Bringing Community Food Centers to Massachusetts

INTRODUCTION

A Community Food Center is a space where people come together to grow, cook, share and advocate for good food and offers multifaceted, integrated and responsive programming to build health, hope, skills and community.

In light of the growing obesity epidemic, communities look to innovative approaches to shift towards healthier livelihoods. One approach is to foster the development of Community Food Centers. A growing body of literature supports the necessity of such community interventions to combat overweight and obesity. Situating Community Food Centers in areas with higher youth obesity rates and other established contributors to obesity establishes a site of positive community intervention and the possibility for a healthier community. This project builds a model that can be used throughout the U.S to site community food centers in areas which serve the most people.



METHODOLOGY

Step One: Determining the Geographical Location of Study

Using youth obesity rate, spatial autocorrelation of community level obesity was assessed. The spatial analyst tool Moran's I was used. Medford, Somerville, Cambridge, and Boston school districts were chosen for the study field.

Step Two: Using Regression Analysis to Determine Weights

For the entire State of Massachusetts, variables population density, %limited language, %nonwhite, %highschool and %lowincome were calculated for each block group. These constituted the independent variables for a regression on the variable *youth obesity rate*.

Step Three: Demographic Suitability Analysis

After turning each polygon layer into a raster data layer, the layers were reclassified. The block groups with the highest population density, plimited language, pnonwhite, phighschool and plowincome values were given a 9. A weighted overlay, with popdens= 30%, plowinc= 20%, pnonwhite= 30%, plimlang= 15%, phighschool= 5%, revealed suitable sites based on demographic indicators.

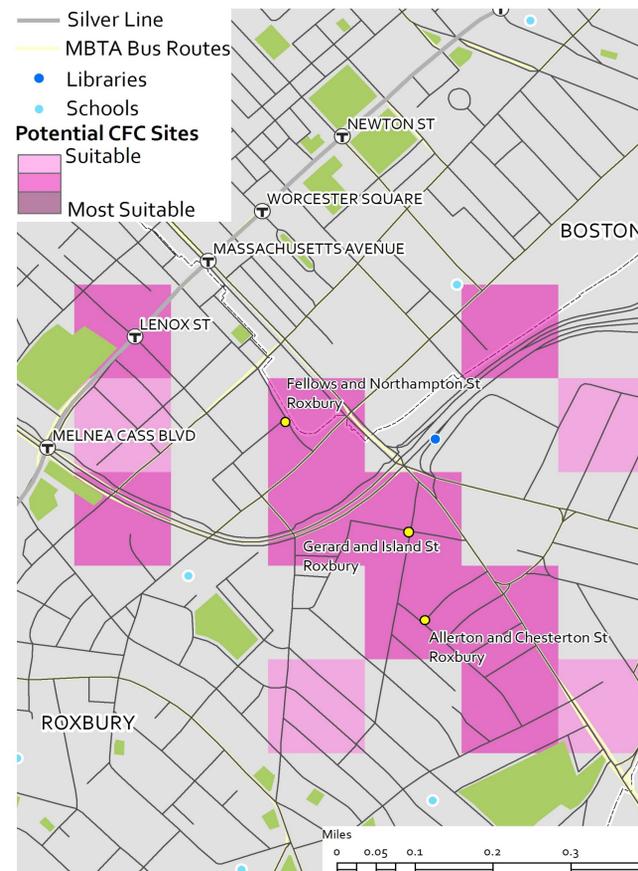
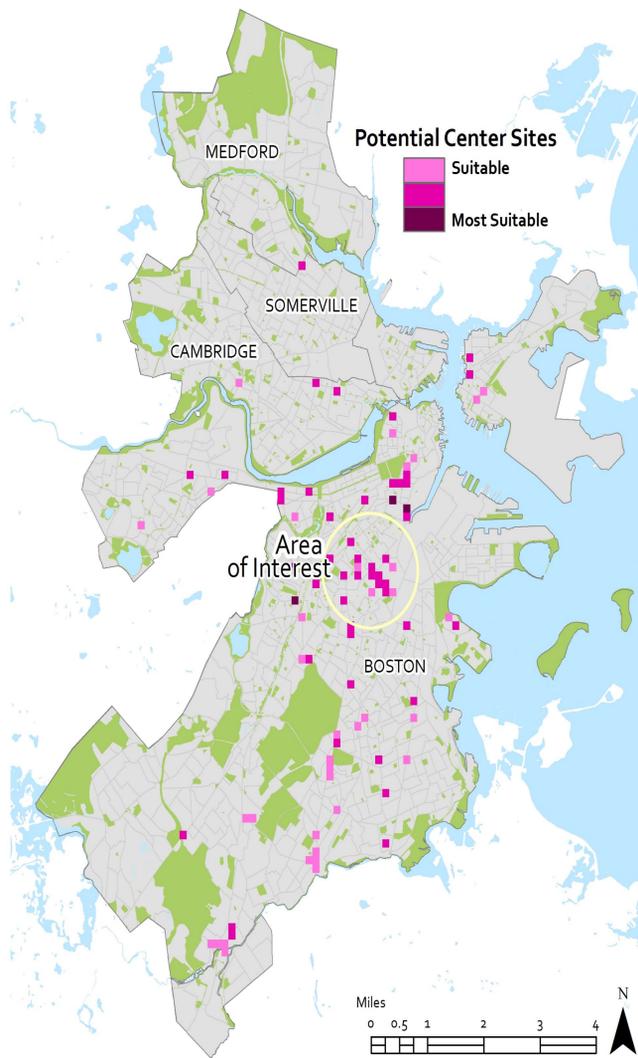
Step Four: Infrastructure Suitability Analysis

Each infrastructure variable was reclassified; lower values of distance were given higher values to portray the desired walkability factor. A weighted overlay, with commercial land=25%, schools=10%, libraries=15%, transit Access=50%, revealed suitable sites based on infrastructure indicators.

Step Five: Final Suitability Analysis

The results from each prior suitability analysis were combined into a final weighted overlay, each layer receiving equal weights, to show the most suitable sites based on both infrastructure and demographic indicators.

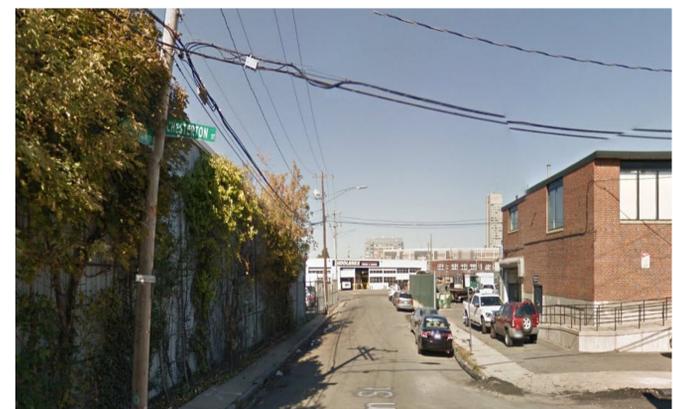
SUITABLE SITES



RESULTS

The map portrays only the sites with the highest "suitability score", highlighting spots with a final score between seven and nine. This shows many potential center sites, located throughout the study field, but concentrated in Boston near the neighborhoods Roxbury and Jamaica Plain— especially seen in the area of interest. This reveals a cluster of suitable sites, all in Roxbury near the MBTA Silver Line. Possible sites include the corner of Fellows St. and Northampton St., Gerard St. and Island St., and Allerton St. and Chesterton St. While informative and could easily be replicated in different geographic areas, the model is really only the beginning of siting Community Food Centers. It should be used as an initial analysis. Siting of Community Food Centers also requires in-depth qualitative data gathering to ascertain the community's specific wants and needs, ground-truthing to determine if appropriate buildings are available, and discussion of possible community based private-public partnerships able to raise funding and support.

Images from Google Earth



The corner of Allerton and Chesterton Streets, Roxbury, MA



The corner of Fellows and Northampton Streets, Roxbury, MA

SOURCES

NAD 1983 Massachusetts State Plane Projection

Demographic Data Census Blockgroups: U.S. Census Bureau, American Community Survey (ACS) 2014.

Infrastructure Data MassGIS, 2014.

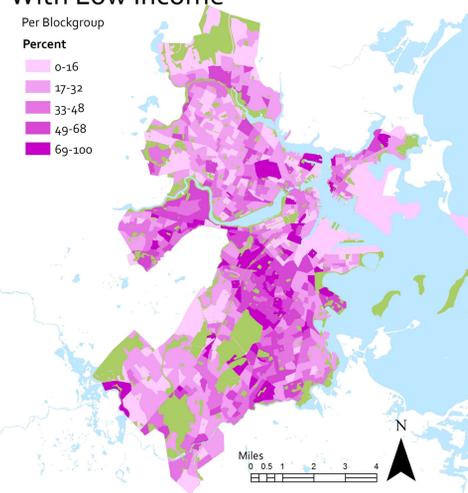
Obesity Rate MassCHIP Youth Weight Status 2010. Massachusetts Department of Health and Human Services, 2012.

Emily Miller

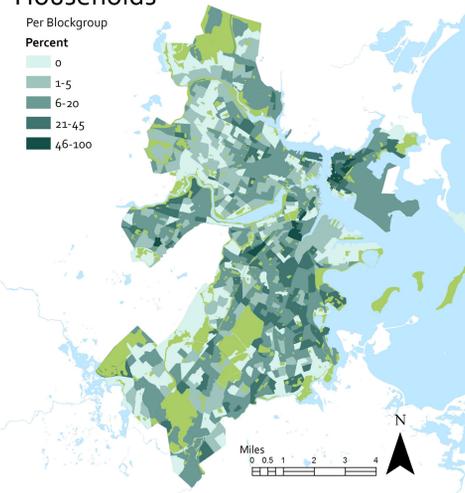


Friedman School of Nutrition Science and Policy

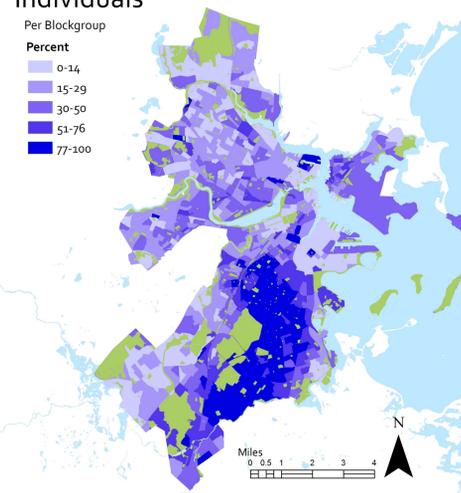
Percent of Households With Low Income



Percent of Language Limited Households



Percent of Nonwhite Individuals



Percent of Individuals with HS Education Attainment Level

