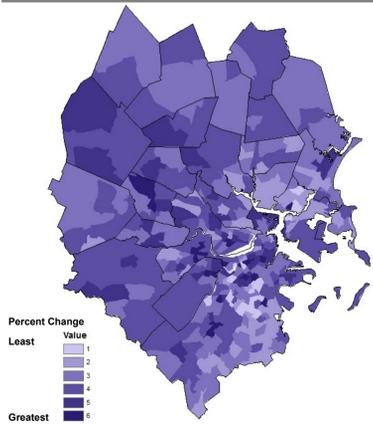


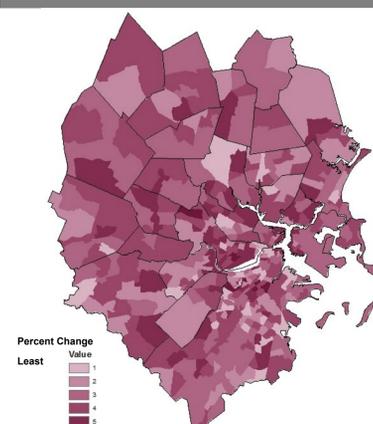
Culinary Markers of Class Transformation: Gentrification and the food landscape of the Greater Boston Area

Metrics of Gentrification

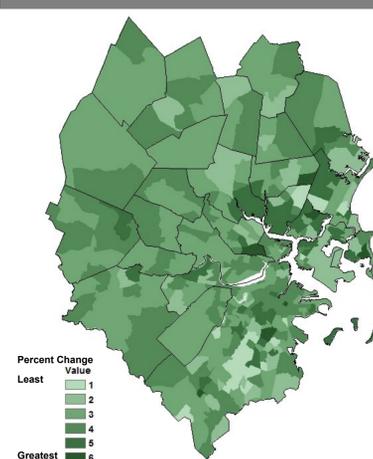
Median Housing Value



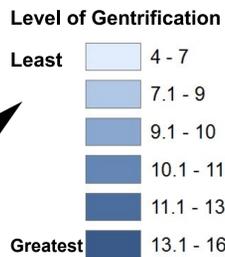
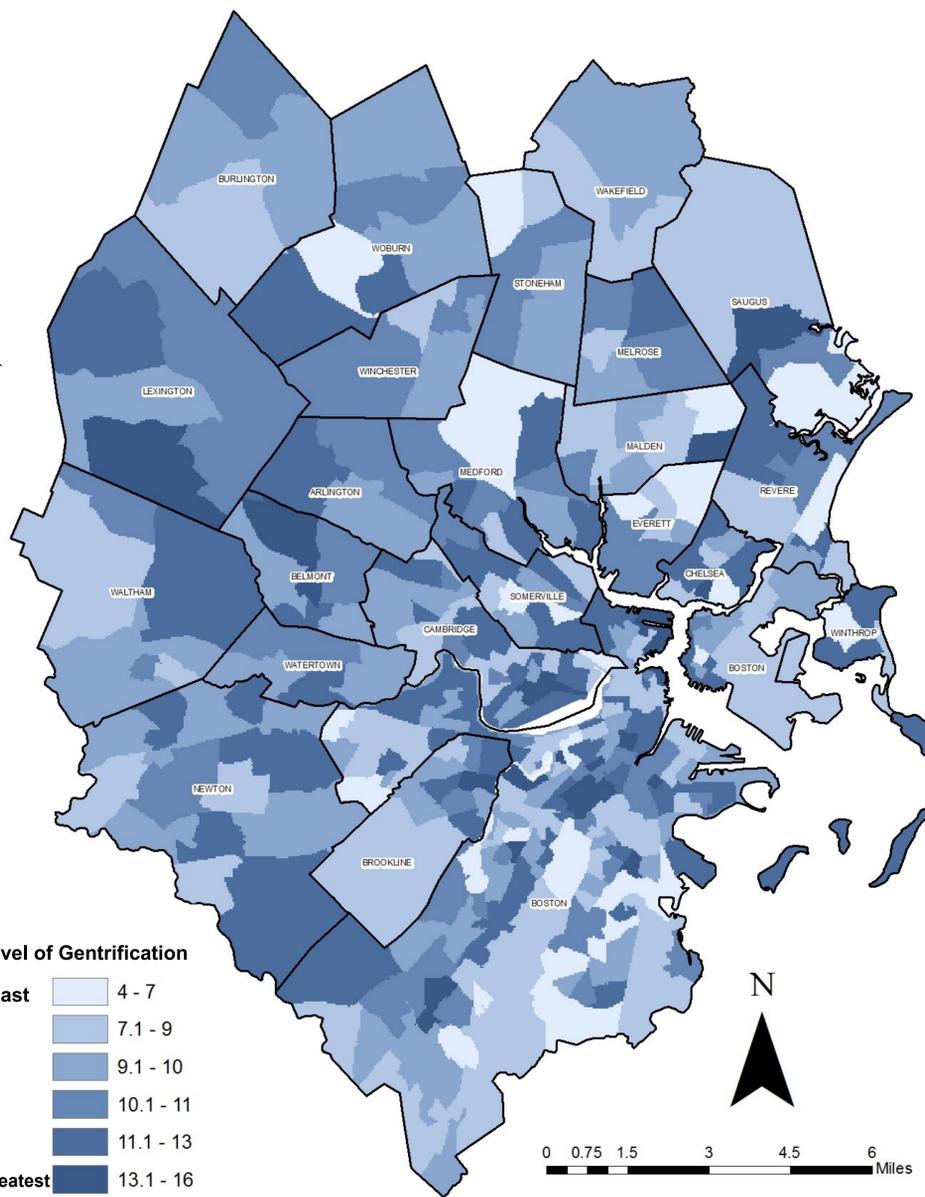
Mean Family Income



Educational Attainment



Level of Gentrification: 2006-2013



Mapping Methods

To create a map showing the level of gentrification in the Greater Boston Area, three different metrics of gentrification were used. As gentrification is a process that occurs over time, data for each of these metrics was used from the American Community Survey (ACS) 2013 5-year report (2009-2013) and the ACS 2010 5-year report (2006-2010) and displayed by census tract.

Metrics of Gentrification:

- Median Assessed House Value
- Mean Family Income
- Educational Attainment: Percent of population with a bachelors degree or higher

Using both the 2010 and 2013 data, the percent change between years for each factor was calculated, and then mapped using a scale from 1 to 6, from least percent change to greatest percent change, yielding a map of each factor. Individual maps shown at left.

However, as gentrification is caused by a combination of many factors, the three metrics were combined using Map Algebra to create a map of gentrified areas based on the percent change of Median Housing Value, Mean Family Income, and Educational Attainment. 13 different levels of gentrification were found, where the least gentrified areas have a value of 4 and the most gentrified areas have a value of 16.

Introduction

Boston has been determined to be one of the most gentrified cities in the country over the last few decades. Gentrification is a process usually described as the movement of more affluent people into a new, previously low-middle income area. This movement causes rent increases and changes in the character of the neighborhood, and the original residents are often displaced by the higher cost of living. Gentrification is a complicated issue, as many people feel that the gentrification process destroys the individual and unique character of a neighborhood.

One of the major defining factors of a neighborhood is the food options available to residents. As gentrification occurs, there is usually a shift from traditional, neighborhood owned stores to stores with higher price points. In this project, I look at gentrification using food establishments as culinary markers of class transformation. I especially examine "trendy" food establishments, like cupcake bakeries and frozen yogurt stores, to see whether these fashionable establishments are a better indicator of gentrification than other, more classic eateries.

Analysis Methods

Once the level of gentrification was determined for the Greater Boston Area, the location of different food establishments was obtained from the Reference USA database, for both the total number of establishments as well as those created in the last two years. The new locations are to show areas recently or newly gentrifying.

Using Extract Values from Points, the level of gentrification was determined for each location, and then averaged by type of establishment. A t-test was used to determine whether there was a significant difference in the level of gentrification between new locations and all locations, as well as between different types of establishments.

Establishment	Average Value of Gentrification
New Frozen Yogurt Stores	10.55
All Frozen Yogurt Stores	10.36
New Cupcake Bakeries	9.57
All Cupcake Bakeries	10.00
New Starbucks	10.09
All Starbucks	10.64
New Dunkin' Donuts	9.66
All Dunkin' Donuts	10.11
New Grocery Stores	10.33
All Grocery Stores	10.33
New Whole Foods/Trader Joe's	11.00
All Whole Foods/Trader Joe's	10.73

Conclusions

While none of the differences between newly established locations and all locations was statistically significant, it is still interesting to examine the average value of gentrification between them. Statistical significance may have been prevented by the very small sample size for the new locations. Interestingly, it seems that cupcake bakeries are no longer a "trendy" food for gentrifying populations, as the newly established locations are in the least gentrified areas (9.57) compared to all other types of establishments. Frozen Yogurt stores might be the next big trend, as the new locations are in more highly gentrified areas than the old locations. Whole Foods has often been demonized as a gentrifying force, and this data supports that. At 11.00, new locations of Whole Foods and Trader Joe's are located in the most gentrified areas of all the establishments examined.

Interestingly, the only statistically significant difference was between Starbucks and Dunkin' Donuts. Starbucks are more likely to be in gentrified areas than Dunkin' Donuts ($p=.0433$), making the number of Starbucks vs. Dunkin' Donuts in an area the best marker of food gentrification. Overall, with a larger sample size, the presence or absence of certain food establishments could be a good measure for the gentrification of an area.

Data: American Community Survey 2013 5-year estimates, American Community Survey 2010 5-year estimates, ReferenceUSA All Businesses, ReferenceUSA New Businesses, Tiger Shapefiles, MassGIS. Projection: NAD_1983_2001_StatePlane_Massachusetts_Mainland_FIPS_2001

References:
 "Cupcake Gentrification" Edible Geography, Nicola Twilley, 2009. <http://www.ediblegeography.com/cupcakegentrification/>

"Gentrification and Financial Health" Daniel Hartley, 2013. <http://www.clevelandfed.org/research/trends/2013/11/13/01/regco.cfm>

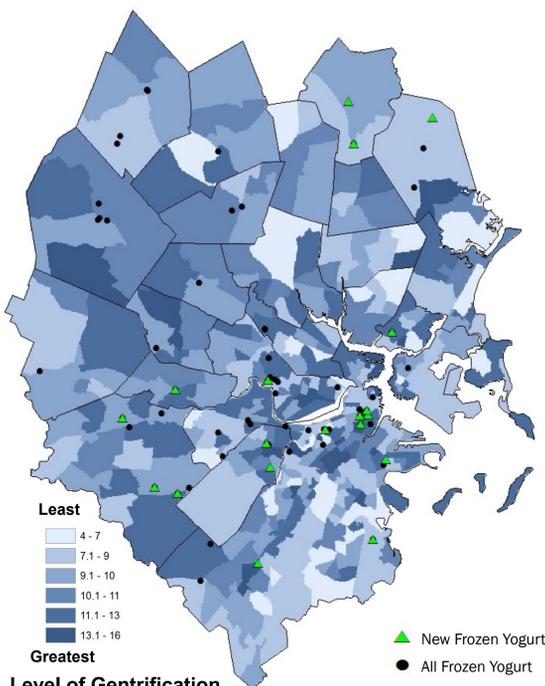
Katharine Lynch

Introduction to GIS, Fall 2014

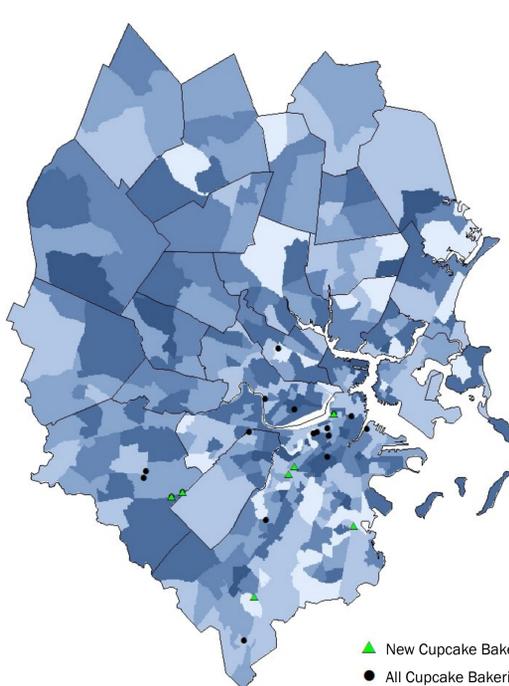
Spatial Analysis: Level of Gentrification and locations of food establishments

Each map below shows the level of gentrification in the Greater Boston Area using the percent change of Median Housing Value, Mean Family Income, and Educational Attainment from 2006-2013. New and Old locations of each type of food establishment are shown. The only statistically significant difference between average level of gentrification and food establishment is between Starbucks and Dunkin' Donuts.

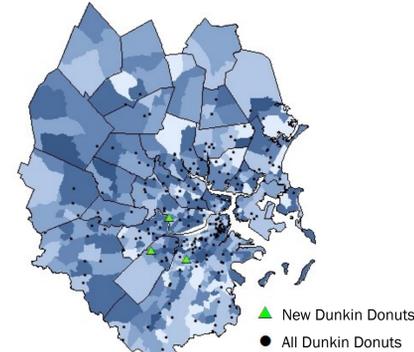
Frozen Yogurt



Cupcake Bakeries



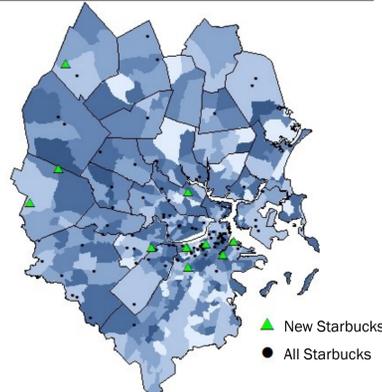
Dunkin' Donuts



Grocery Stores



Starbucks



Whole Foods & Trader Joe's

