Possible Future Community Garden Locations

Grocery Store Access, Income Levels, and Existing Parks

Katie Premo
Department of Earth and Environmental Sciences – Spring 2011, Furman University, Greenville, SC

Introduction

Community Gardens have the potential to provide communities with sustainable and organic produce, the creation of jobs, and community vitality. As a part of Greenville's new Community Garden Network initiative "Gardening For Good" in association with Greenville Forward, this project has identified possible future community garden locations based on parameters such as income levels and grocery store accessibility, as well as existing parks and land availability in schools, churches, or other community centers. Studies have shown that community gardens can decrease obesity, reduce crime rates, increase community value and increase income levels by providing communities with fresh produce, the creation of jobs, and an easy way to bring communities together through gardening. ArcGIS and Google Earth allowed this research to illustrate possible new community gardens in hopes of reducing obesity, increasing income levels, and decreasing crime rates.

Methods

In order to identify possible future community garden sites, certain steps had to be taken:
- Import census tract outlines into ArcGIS (Figure 4)
- Download mean income level by census tract data from the census website
- Join the income level data to the Census Tract outlines in ArcGIS (Figure 3)
- Identify Grocery Store locations in Greenville, SC (Figure 1)
- Create a multi-ring buffer around existing grocery stores to evaluate accessibility (Figure 4)
- Identify existing community gardens and park locations (Figure 2)
- Create a map with both income levels and grocery store accessibility to identify target areas of interest (Figure 5)
- Use Google Earth to find existing parks, schools, or churches within the target areas as possible future community garden locations (Figures 6-8)

Data

Figure 2: Illustrates existing gardens and parks in Greenville, SC
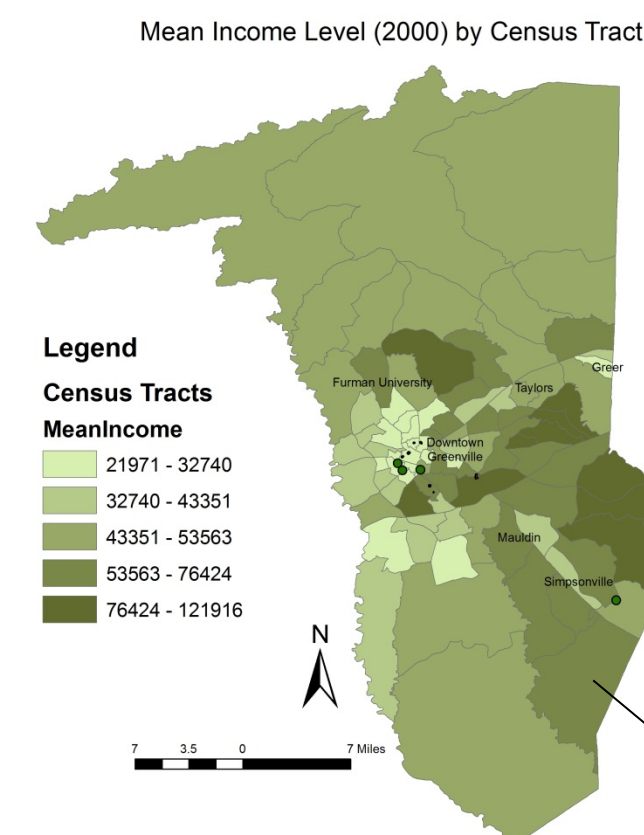
Figure 4: Demonstrates grocery store access within ranges of 1, 2, and 3 mile buffers. Helps to illuminate food deserts and/or poor grocery store access

Figure 3: Illustrates mean income by census tract based on 5 classes

Figure 5: Overlays grocery store access with mean income to illustrate target areas of low grocery store access and low income

Figure 8: Illustrates possible new community garden locations in ArcGIS. Labeled points correspond to Table 2.
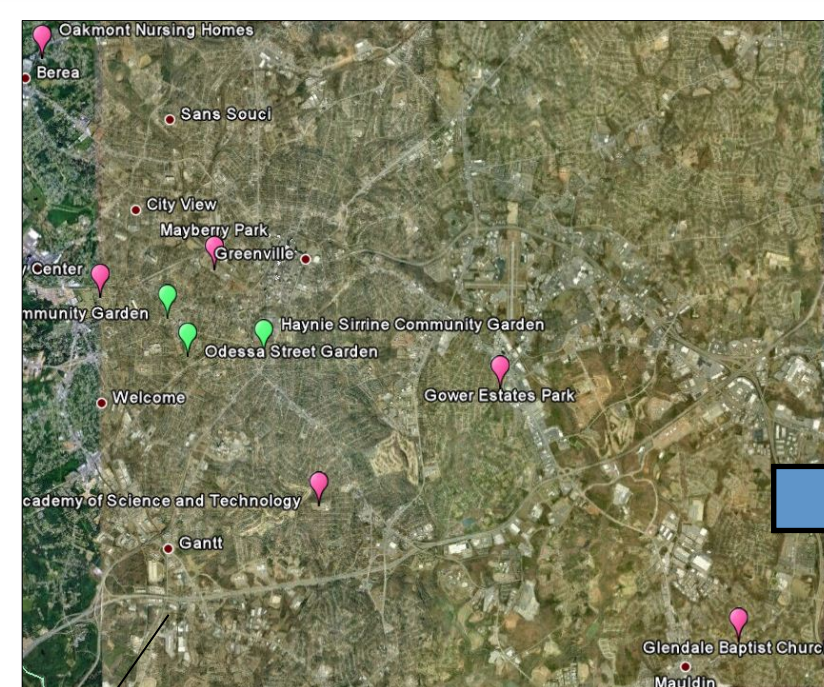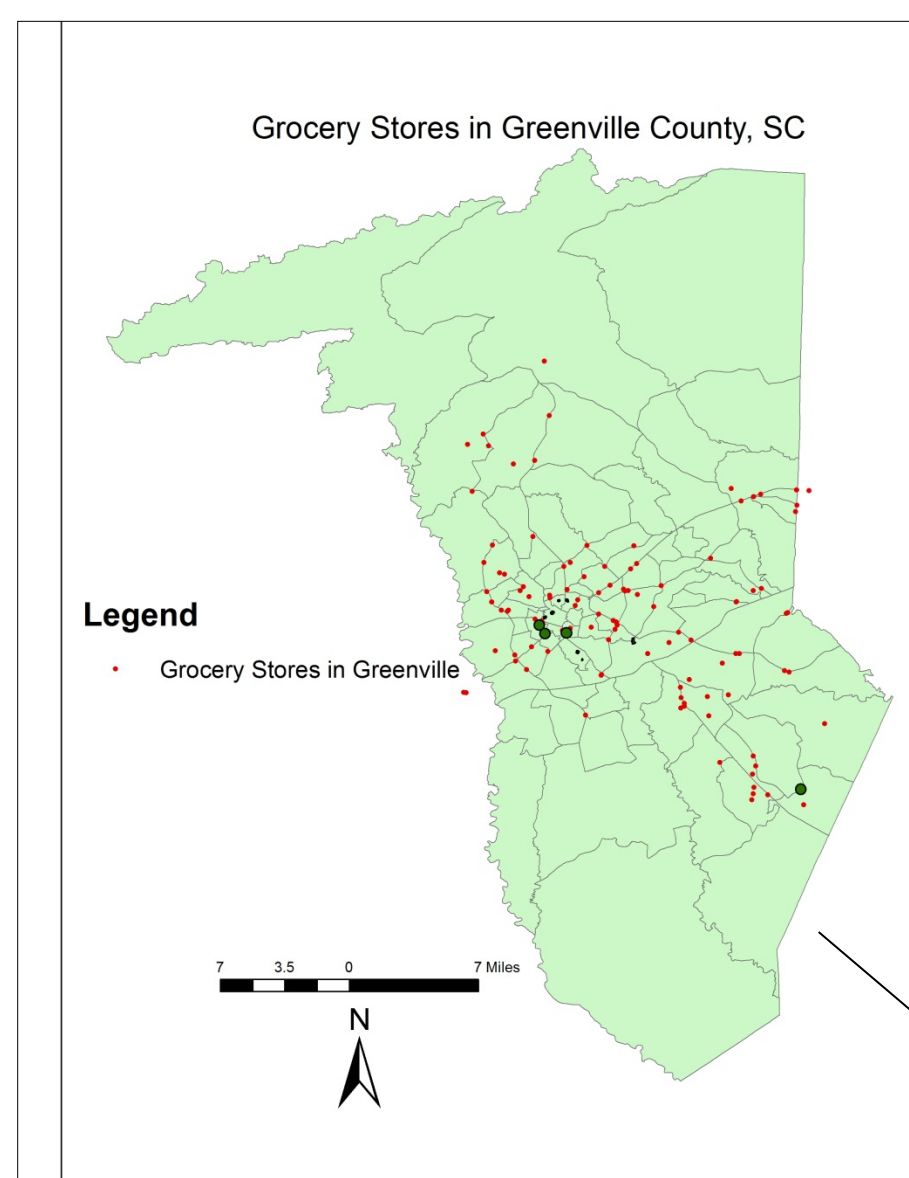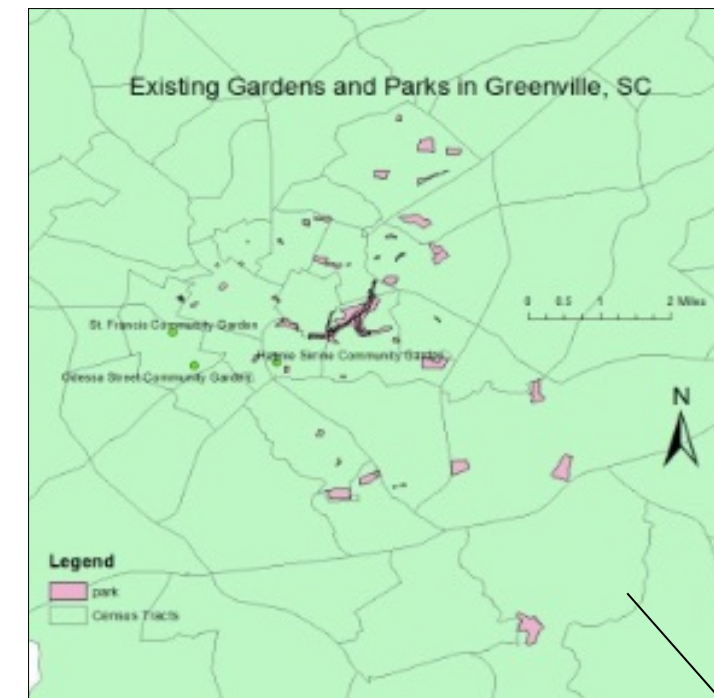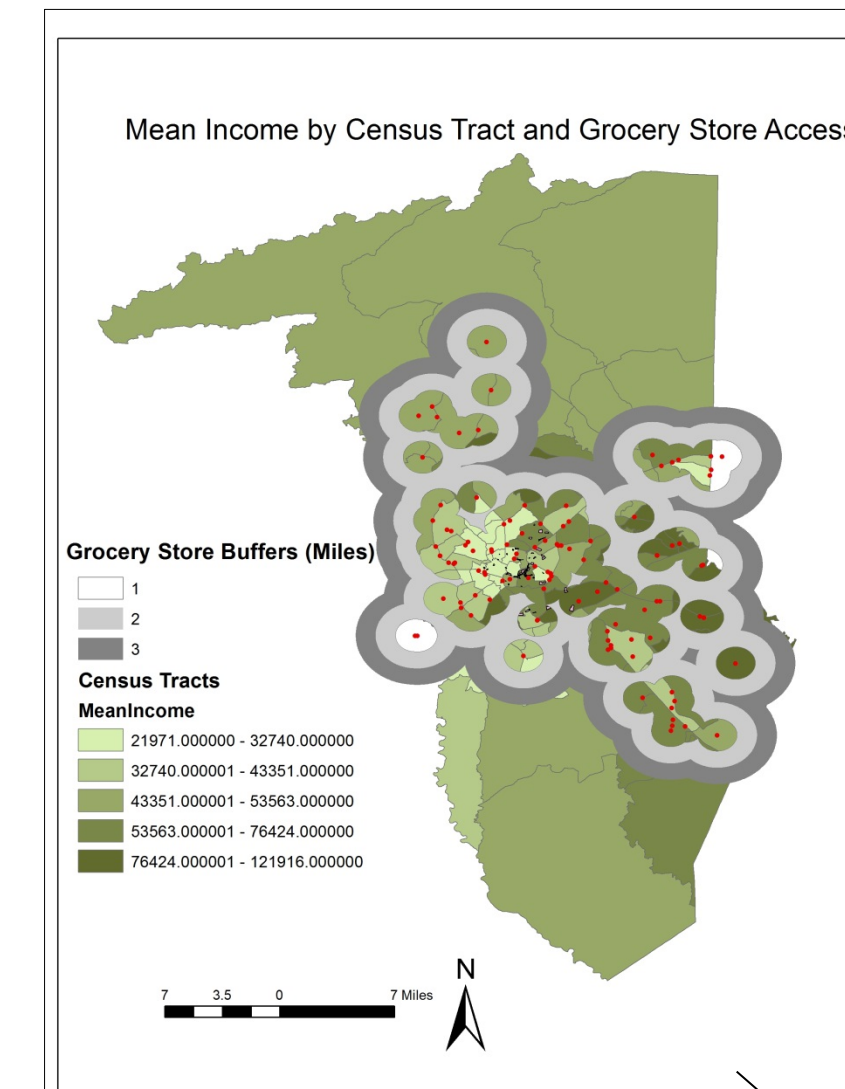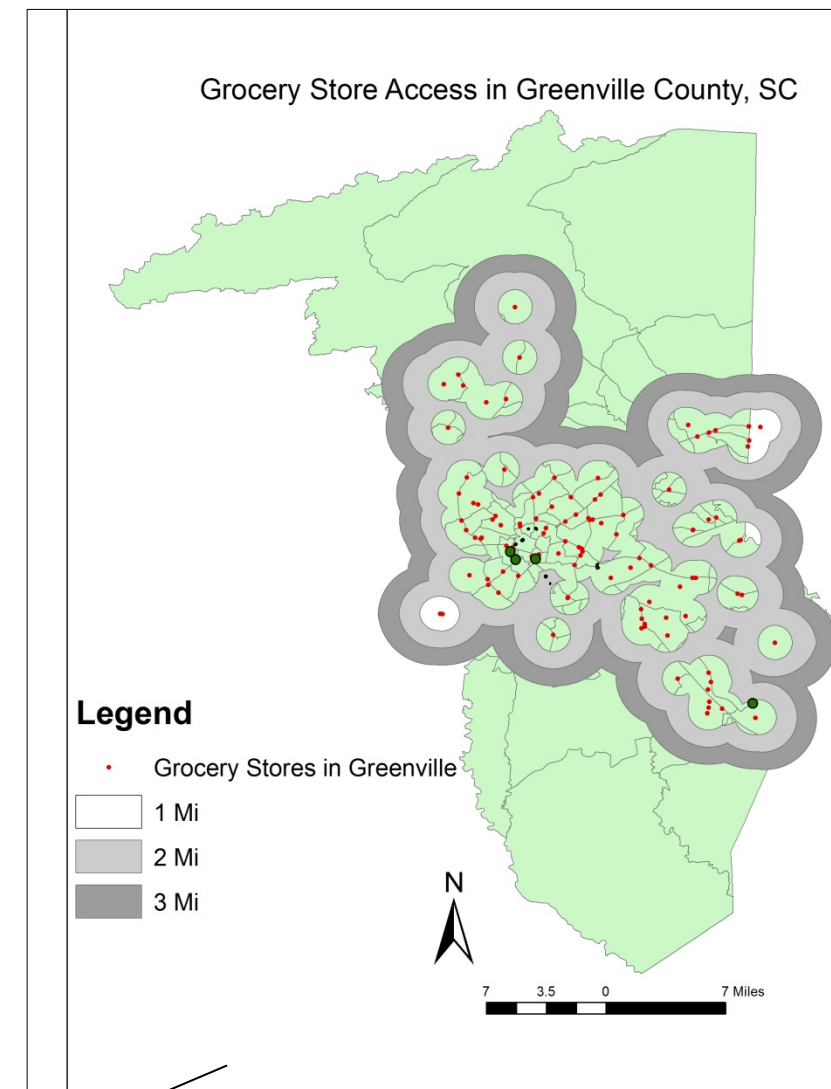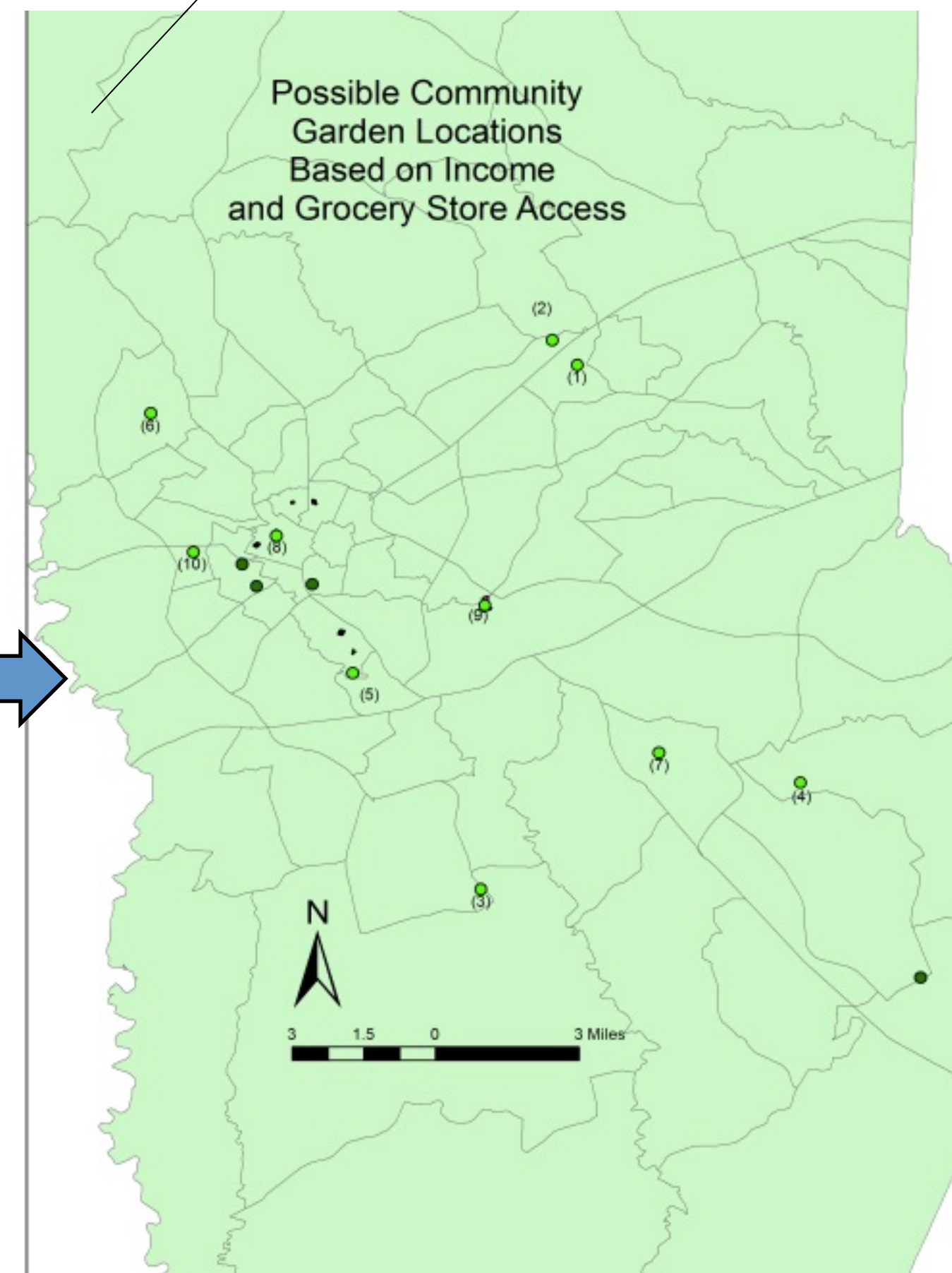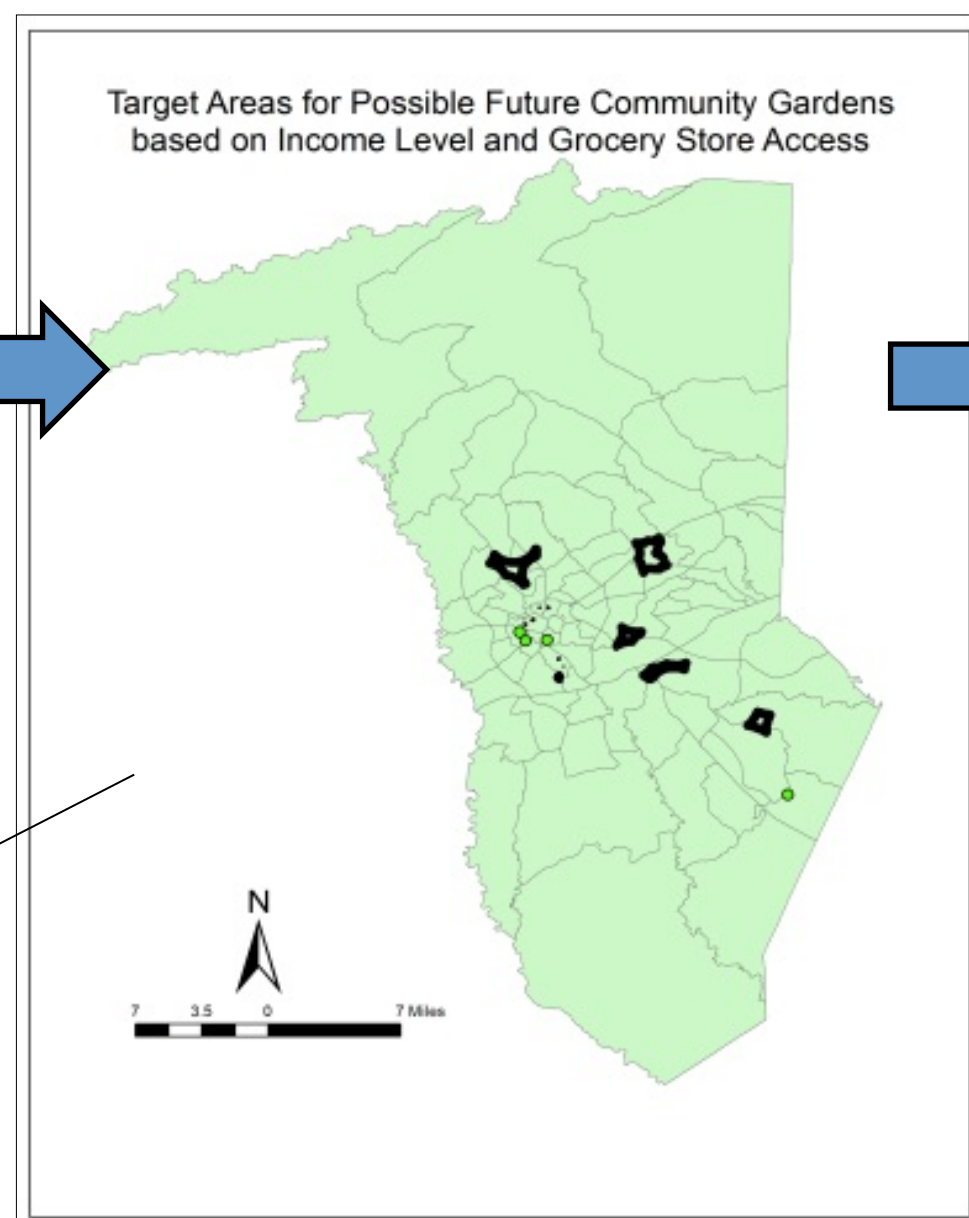

Figure 7: Illustrates the use of Google Earth to determine garden locations

Figure 1: Presents Grocery Store locations in Greenville County

Figure 6: highlights target areas with low income, low grocery store access, or both.

Results

Based on income level by census tract, grocery store access, and existing parks, possible future community garden locations were identified. In Figure 6, areas with low income and low grocery store access are outlined, then existing locations within the outlined areas were identified as possible future garden locations. These locations included schools, churches, nursing homes, parks, and community buildings. The specific locations were chosen based on their proximity to target areas, possible interest and land availability. Future studies would benefit from researching median income levels by census tract and block groups to further assess the best possible locations for community gardens.

Assumptions:
- Locations found visually in Google Earth
- Areas of low income with good grocery store access also considered as target areas for community garden locations

Table 1: Existing gardens and their associated mean level based on location in census tracts

Existing Community Gardens	Mean Income Level based on Census Tract Location
Synergy Garden	$49,903
Haynie Sirrine Community Garden	$45,319
St. Francis Community Garden	$28,848
Odessa Street Garden	$28,848

Table 2: Possible new community gardens and their associated mean income level based on location in census tracts.

Possible New Community Garden Locations (Figures have corresponding numbers to indicate location)	Mean Income Level based on Census Tract Location
1) Lee Road United Methodist Church	$41,723
2) Greenville County School Maint	$59,475
3) Robert E. Cashion Elementary School	$29,742
4) YMCA Golden Strip Branch	$48,961
5) Hughes Academy of Science and Technology	$41,636
6) Oakmont Nursing Homes	$31,776
7) Glendale Baptist Church	$43,351
8) Mayberry Park	$22,516
9) Gower Estates Park	$48,961
10) Freetown Community Center	$24,284

Works Cited: Gahin, Randa, and Chris Paterson. "Community Indicators: Past, Present, and Future." National Civic Review 90.4 (2001): 347-353. Print. Tranel, Mark, and Larry B. Handlin. "METROMORPHOSIS: DOCUMENTING CHANGE." Journal of Urban Affairs 28.2 (2006): 151–167. EBSCOHOST. Web. 22 Feb. 2011. Van Hurzele, Ann, and Torsten Wiedemann. "A monitoring tool for the provision of accessible and attractive urban green spaces." Landscape and Urban Planning 63 (2002): 109–126. Print. Whitmire Study at Gateway . "City of St. Louis Website Has Moved to stlouis-mo.gov. N.p., n.d. Web. 22 Feb. 2011. <http://stlouis.missouri.org/501c/gatewaygreening/new_green/whitmire_study.html>. Wolch, Jennifer , John P. Wilson, and Jed Fehrenbach. "PARKS AND PARK FUNDING IN LOS ANGELES: AN EQUITY MAPPING ANALYSIS." University of Southern California. Sustainable Cities Program, GIS Research Laboratory, n.d. Web. 22 Feb. 2011. <college.usc.edu/geography/ESP>