DEFINING GREENSPACE SERVICES FOR ATHENS-CLARKE COUNTY: A COMPREHENSIVE ANALYSIS AND PROPOSAL FOR MUNICIPAL PARKS AND COMMUNITY GARDENS

by

TAYLOR S. LOGAN LADD

(Under the Direction of Sungkyung Lee)

ABSTRACT

The notion that community gardens can be honed as a type of greenspace remains foreign to the policy-makers in Athens. The unquestioned aspect of stability that can be provided by the municipality is secure land tenure, which is protection that parks in Athens enjoy as providers for recreation and nature preservation. This thesis defines greenspace services to explain how different greenspace typologies can be understood as a system. Thirteen municipal park and thirteen community gardens in Athens were carefully evaluated and found to be limited as a greenspace services system. Context characteristics defined categories for each site, and data was gathered using primarily Geographic Information Systems to evaluate the existing services. Three priority areas in Athens that need to be considered for the addition of new parks or community gardens were then determined based on need.

INDEX WORDS: greenspace services, community garden, park, Geographic Information Systems, Athens-Clarke County, greenspace
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AND PROPOSAL FOR MUNICIPAL PARKS AND COMMUNITY GARDENS

by

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The University of Georgia
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DEDICATION

To Erik.

For his unconditional love and support.
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To my mentor, David Berle, who has taught me that all I need to know in life, I can learn by spending more time outside, talking less, doing more, and just digging in the soil;

To my major professor, Sungkyung Lee, who has been patient, encouraging, and a great teacher;

To my thesis committee, who have helped me make this a better thesis;

To my professors, who have led me through a time of enlightenment;

To my family, for supporting me through the times of radio silence;

To my friends, for supporting me through the all-nighters;

To my husband, who has always offered his opinion and sound advice;

To my sister, Marguerite, who introduced me to landscape architecture...

Thank-you.
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PREFACE

The town I grew up in South Carolina is not what I would call “urban.” Camden is known as the “Oldest Inland City” (City of Camden 2012), and is well known for Revolutionary and Civil War re-enactments and horse racing. I lived in an antebellum home on 12 acres, access to which required driving down a dirt road and up a long, gravel driveway. We moved away from this home when I was 13, but memories around the dinner table with my family always return to when we lived in Kamschatka. The very aspect of Camden not being urban can be easily attributed to the property being named by its first owners after a lonely Siberian peninsula. They felt it was a remote location. In the 1980’s, it was still somewhat remote, though not as it was in the 1860’s before the onset of the automobile.

This sort of a setting in a small town allowed for endless opportunity to explore with little worry from our parents. Thus, my childhood here was full of play outside. We were often kicked out the door with word not to return until sunset. Despite having twelve acres of our own to roam, my two sisters, brother and I often left the property to play in the park across the street. By my recollection, it consisted of about four to five acres with rough grassy areas, a one-acre pond with small island and tattered bridge across to it, a woodland area with bike trails we wore down over the years, no play-sets, and a bramble of native blackberry hedges.

When the blackberries were in season, it was the place to be with all the neighborhood kids, and even kids from several streets over. There were no 4-lane 45 mile-per-hour arterial
streets separating neighborhoods with cul-de-sacs here. Kids could hop on their bikes and ride through yards and down streets that were either un-striped or un-paved. And, despite the thorns, scratches and stains, we could be found shoulder-deep eating berries, squishing overripe berries on each other, and gathering the fruit to take home.

Today, I can only imagine what it would have been like had that blackberry thicket been expanded upon and into a community garden, or even a children’s garden. There were many things that attracted my siblings and I to this park, but what we remember the most is the gatherings around the blackberries. We thought it was just the coolest thing to find something growing that we could eat— and we did not even have to buy it from a store.

This thesis is about parks and community gardens, specifically in Athens-Clarke County, Georgia. I knew of no community gardens in my town growing up. There was a farm where we paid five dollars to pick a few pints of strawberries in the spring, and then pumpkins in the fall. That farm, and the park across from my house were all I knew of where those particular foods come from other than the grocery. Johnson Park in Camden, South Carolina was important to me as a child because it was a place to learn on my own and outside of parental or classroom guidance. It was a place for recreation. It was a place to eat. Even if the discovery of food was by Nature’s hand, and not that of community garden or edible landscape planners, it was still a wonderful and educational discovery.
CHAPTER 1

INTRODUCTION

Over the last decade, it has been difficult to ignore growing concern over food—where it comes from, how far it travelled, and how it was grown or raised. Numerous documentaries, books, and articles exist that tell us how unhealthy we are, how unsustainable the carbon footprint represented on the dinner table is, how we consume too much, drive too much, care too little for quickly depleting resources, and sit on the couch too often. The economic downturn that began in 2007 has taken a toll on communities and raised the percentage of families living in poverty. Athens-Clarke County (ACC) in Georgia has not escaped these predicaments of health and unsustainable eating; however, the rise in community gardening activities over the last decade has started to provide a window of opportunity for making these issues better.

In order to grasp the purpose of this thesis, there are three things about Athens-Clarke County that need to be understood: poverty and food insecurity, the park system, and community gardens. This first topic is a specific context and location characteristic for the county that supports the purpose for the study being conducted in this thesis. Poverty is a problem in ACC, and the USDA designated food deserts constitute a large area of the county. These items will be discussed in detail later in this chapter. Among other limitations in the park system, one is a gap in the park system availability of neighborhood parks. Aware of this, efforts have been made by the municipality to open public elementary and middle schools as
neighborhood parks after school hours. While there is a grant supporting most community gardens in ACC, it is a three-year term and support is not guaranteed to continue at the close of the grant. In addition, the county has a land use policy that neither supports nor recognizes community gardens as a viable land use. As such, their tenure is not secure. The research and analyses conducted in this thesis find the existing greenspace system in ACC, including municipal parks and community gardens, to be limited in number, diversity and access. As such, three priority areas are defined for locating new greenspaces in the county based on need and criteria set by the author.

Research Question and Purpose

An important aspect of this thesis will be the argument that community gardens can and ought to be treated as spaces serving a purpose synonymous to that of parks. While there are many differences exhibited by the two, the areas where they are similar are over-arching. Both parks and community gardens serve as places of recreation, education and leisure. They both can range in size, structure, programming and location. More importantly, they are both spaces void of development, and where the human eye can be graced with green unhindered. As such, community gardens, were they supported by the municipality as a type of leisure space, could begin to fill the void left by a park system encumbered with un-used, mis-used, inaccessible, and limited neighborhood spaces. Athens residents could have access to park spaces that educate, serve a range of interests, provide food, and are found in their own neighborhoods. There would be more opportunities for recreation with the option for local food production, which can offset hunger, and promote health. The research question for this thesis states:
Where can limitations in greenspace services in Athens-Clarke County be addressed through integrating and municipally supporting community gardens?

*Greenspace Services* is a term created by the author to explain those services, either developed by the municipality or improvised by the people, which enhance civic exposure to nature through outdoor leisure activities. These services can be provided by, but are not limited to, parks and open spaces, rogue bike or hiking trails, planned bike routes and greenways, vacant lot gardens, rivers and creeks, or playgrounds. For this thesis, greenspace services are those services specifically provided by the Athens municipal parks and community gardens. Examples of these services are safe spaces for playing, walking, and cycling free from traffic danger or urban monotony; opportunities to experience nature through gardening, nature-play, or education; the provision of space that offers recreational options that are healthful; and the improved quality of life through exposure to natural elements such as water, soil, plants, trees and fresh air. They can exist on public or private land, and have the simple purpose of connecting people with nature and building social capital, for the good of human health, safety and welfare.

The precedent for this research question is a hypothesis developed by Dr. Sungkyung Lee, Assistant Professor in the College of Environment and Design at the University of Georgia, and assisted by Professor David Berle, Associate Professor in the Department of Horticulture at the University of Georgia with the author. Given the lack in municipal support for community gardens in Athens, the author, Lee, and Berle surmise there is a need to “establish a management strategy to sustain existing and future community gardens” (Ladd, Lee and Berle
2012). They feel this may be accomplished through a contextual investigation of Athens community gardens within the park system framework. This investigation is meant to support the hypothesis that community gardens develop in those residential areas underserved by the municipal park system (Ladd, Lee and Berle 2012). This thesis will support this hypothesis through demonstrating there are limitations in the existing park system, which can be supplemented by community gardens. The author will also demonstrate the possibility of using different analysis techniques in order to secure better understanding of two key land uses, parks and community gardens, that are closely related in their greenspace services to Athens residents, but not treated equally.

The purpose of this thesis is to evaluate the community gardens and municipal parks in Athens-Clarke County (ACC) within the context of greenspace services, in an effort to determine where their services are most needed in the county. This entails comprehensive and contextual analyses with two goals in mind. First, to better understand the context of the community gardens as components that may be integrated into the existing greenspace system in the county. A great challenge to the long-term establishment of community gardens is securing land tenure (Milburn and Vail, 2010), which enables the garden to exist into perpetuity and serve a sustainable purpose. The second goal is to find the areas in Athens with the greatest need for the recreation, health, and food resources community gardens can provide. It is intended that the information provided through this study will advocate for a change in municipal policy that will support community gardens in Athens as a viable, valuable, and important land use. Investigating community gardens within the greenspace services framework will contribute to understanding their unique status in Athens-Clarke County.
Definitions

This section provides definitions for terms important to the content within this thesis. In literature, many of these terms have numerous definitions. The author includes here what best represents the meaning of the term as it pertains to the text.

**Community garden**: “Any piece of land gardened by a group of people” (ACGA n.d., n.p.).

**Civic agriculture**: “A commitment to developing and strengthening an economically, environmentally, and socially sustainable system of agriculture and food production that relies on local resources and serves local markets and consumers” (Lyson, 2004).

**Community Sustained Agriculture (CSA)**: The term used to describe an agriculture endeavor, be it produce, dairy, or meat, that is supported primarily through community members who pay for shares in the harvest, and also may volunteer their time for the farm. It is a way for people to develop a relationship with their farmers and support local food efforts.

**Food Desert**: Any residential area where fresh, healthy food is difficult to buy or unavailable due to inaccessibility to full-service groceries or markets; “The Healthy Food Financing Initiative (HFFI) Working Group considers a food desert as a low-income census tract where a substantial number or share of residents has low access to a supermarket or larger grocery store” (USDA Food Desert Locator, Documentation n.d., n.p.).

**Food Security**: “Daily access to an adequate supply of nutritious, affordable, and safe food” (Nordahl, 2009, 5).

**Park**: A parcel zoned as Government and managed by Athens-Clarke County as a programmed space for passive or active recreation, or as a natural area not available for development.
Greenspace: Land that is not developed and in its natural state, or lightly developed to allow for recreation activities.

Open Space: Any green space, parcel, park, piece of land, plaza, courtyard, etc that is free from structures and available for public leisure uses.

Leisure Services: A branch of the municipality charged with management and maintenance of the park and open space system under government ownership; those services provided for citizens by the government that entail passive or active indoor and outdoor recreation with leisure activities that also include the arts.

Public Fabric: The matrix of urban infrastructure that includes streetscapes, parks, schools, libraries, plazas, shopping centers, etc, that are accessible legally and easily by the public for work or leisure activities.

Neighborhood: A small-scale residential hub typically enclosed by collector streets. These residential areas are typically pedestrian oriented.

Geographic Information Systems (GIS): A computerized system consisting of models, data layers, collections of geographic objects that are similar, and maps that are spatially referenced. These systems have shape, size and location, can be displayed at different scales, are linked to information, have spatial relationships, and can be queried, analyzed and utilized to create new datasets (Ormsby, et al, 2010).

Demographics: The statistical population data provided by the U.S. Census Bureau from the 2010 Census. This entails income, population, ethnicity, and race distribution.

Network Analysis: An analysis tool utilized in GIS for analyzing transportation or water-way routes and destinations. For example, a Network Analysis might consist of determining the shortest distance to a hospital from a particular neighborhood or school.
**Spatial Analysis**: An analysis tool utilized within GIS for the purposes of comparing the spatial relationships held by certain entities using set parameters. For example, a Spatial Analysis might consist of isolating all the parcels in Athens-Clarke County that are intersected by a body of water.

**Empirical analysis**: Statistical analysis of data provided by the numeric transcribing of survey and field data.

**Ped-shed**: Short for “Pedestrian Shed”, which is a basic building block in walkability studies and defined as the distance covered by a five minute walk, or about 0.25 miles (Pedshed n.d.).

**Athens Land Trust Community Garden Network**: A community garden network being established in ACC through a three-year grant from the USDA National Institute for Food and Agriculture. The grant was awarded to the Athens Land Trust (ALT) in fall of 2010. According to the ALT, the goal of this endeavor is to “provide healthy, nutritious food for low-income families by providing opportunities to grow their own food” (ALT, Community Garden Network n.d., n.p.).

**Greenspace Services**: A term developed by the author to explain those services, either planned by the municipality or improvised by the people, that enhance civic exposure to nature through outdoor leisure activities. These services can be provided by, but are not limited to, parks and open spaces, rogue bike trails, vacant lots, rivers and creeks, community gardens or school gardens. They can exist on public or private land. Examples are safe spaces for play, walking, and cycling free from traffic danger or urban monotony; opportunities to experience nature through gardening, nature-play, or education; the provision of space that offers recreation options that are healthful; and the improved quality of life through exposure to natural elements such as water, soil, plants, trees and fresh air.
UGArden: A student organization housed by the University of Georgia (UGA) “dedicated to the protection, upkeep, and production of the only student-run CSA vegetable garden on campus” (UGArden, Home n.d., n.p.); the UGA campus community garden

### Athens-Clarke County Context

Athens-Clarke County is located in the piedmont region of Georgia about 65 miles northeast of Atlanta. It is the smallest of Georgia’s 159 counties, and ranks 18 out of 159 in population. The county has a unified government, which means Clarke County and the City of Athens are a consolidated government (ACC n.d.). The following are some key 2011 demographics of the county provided by a *Demographic and Income Profile Report* (ESRI 2011), which is included in Appendix A. Other sources are noted:

- **Population:** 117,188 (includes students)
- **University of Georgia enrollment:** 34,677 (UGA Admissions 2011)
- **Median age:** 26.2
- **Racial makeup:** White- 61.9%, Black- 26.4%, Hispanic- 10.8%, Asian- 4.2%
- **Poverty rate per household income less than $15,000 in 2010:** 23.4%
- **Median household income:** $33,564
- **Unemployment as of April 2012 for ACC and surrounding counties:** 6.5% (GA Department of Labor 2012)
As mentioned at the beginning of this chapter, the context for the analysis in this thesis is a community of people severely affected by poverty, which can be seen by this high poverty rate. With poverty there will be issues of health, and food security. In particular, in Athens there are...
food deserts, where the most accessible option for food for several families in the population is a gas station or fast food restaurant. Given these issues, one response might be for the municipality to foster management strategies in favor of community gardens as a way to offset costs for the food insecure. Another response might be to address the limitations in residential access to recreational spaces.

**The Study Parks and Community Gardens**

For the purposes of the analyses discussed in this thesis, thirteen major municipal parks in ACC, and thirteen community gardens have been chosen, for a total of twenty-six sites. Figure 1.2 is a map of Athens-Clarke County detailing their locations. Throughout the research process for this topic, it was difficult to make observations of these spaces without taking into consideration their inherent similarities or differences; therefore, categories were developed by the author to support the research. The park categories developed for this thesis are based on different aspects of each park’s form, function and size. The community garden categories are based on their relationship with the Athens Land Trust Community Garden Network and function. The basic categories with their constituent sites are listed on Table 1.1. The numbers correspond with the labels on the map, Figure 1.2.
Figure 1.2 Study Municipal Park and Community Garden Location Map
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission
Table 1.1 List of Study Parks and Community Gardens

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<th>Category</th>
<th>Community Garden</th>
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<td>Community Hubs</td>
<td>3. Brooklyn</td>
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<td>5. Thomas Lay</td>
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<td>4. Church and Johnson</td>
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<tr>
<td>10. Rocksprings</td>
<td></td>
<td>5. Friendship Christian</td>
<td>Network Traditional</td>
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<tr>
<td>2. Bishop</td>
<td></td>
<td>6. Garnett Ridge</td>
<td>Traditional</td>
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<tr>
<td>11. Sandy Creek Park</td>
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<td>10. Riverwoods</td>
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<td>3. Dudley</td>
<td></td>
<td>2. Boulevard</td>
<td>Non-network</td>
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<tr>
<td>7. N. Oconee River Park</td>
<td></td>
<td>12. UGA Family Housing</td>
<td>Traditional</td>
</tr>
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<td>12. Satterfield</td>
<td>Sports Specific</td>
<td>11. Tanyard Creek</td>
<td>Non-network</td>
</tr>
<tr>
<td>13. Reese and Pope</td>
<td>Neighborhood</td>
<td>13. UGArden</td>
<td>Specialty</td>
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**Thesis Structure**

The structure for Chapters 1 and 4 through 8 is built around sub-questions derived from the main research question. Chapters 2 and 3 present a literature review and detail the research methodology. The remainder of this section provides a brief synopsis for each chapter.

Chapter 2 is a literature review, serving as the foundation for many of the precedents, citations and ideas generated throughout the research process for this thesis. The review is broken into four categories: use and value of urban parks; community garden benefits and challenges; a brief history and justification for the study of community gardens; and where this thesis fits in the research.
The distinct methodologies adapted for the research in this thesis are discussed in detail in Chapter 3. This includes a description of the research process, and the collection of empirical data through user surveys and site observations. Chapter 3 also includes a detailed description of Geographic Information Systems (GIS), the primary research method used for analysis in this thesis. These methodologies serve to support the research question and many sub-questions presented.

Overviews of the ACC parks and community gardens are outlined in Chapters 4 and 5. The aforementioned categorizations are discussed in detail, as well as the site selection criteria, and general information about the existing context for each greenspace typology. Chapter 4 outlines details about the ACC Leisure Services Department, as well as the current position of the park system according to the Athens Comprehensive Plan adopted in 2008. Chapter 5 includes a description of the neighborhood and community context in ACC, the current lack of municipal support for community gardens, and information about the Athens Community Garden Network being managed by the Athens Land Trust.

Chapter 6 begins the analytical portion of this thesis with the introduction of the GIS analyses utilized for this research. Each analysis process and the findings will be presented. This includes information about demographics, location, network connections, and site comparisons in terms of spatial relationships. This chapter explains the development of service areas for each site using GIS. The process of overlapping these areas with total population and residential land use to develop the three priority areas for new greenspace service locations based on need will also be discussed.
Chapter 7 continues the analytical discussion with an empirical analyses conducted for this thesis. The scope of this portion of the analysis is accessibility. Results from the park site observation accessibility analysis and community garden surveys supports conclusions from Chapter 6.

Chapter 8 concludes this thesis with a topic and chapter summary of key findings and results, as well as a short discussion about the study limitations, with suggestions for future research.
CHAPTER 2

LITERATURE REVIEW

The two integral keywords for this literature review are “municipal parks” and “community gardens.” Municipal parks are open spaces owned and managed by the local government for the expressed purpose of providing public leisure and recreational services, and/or natural space preserved from further development (author). This term is interchangeable with “park”, “urban park”, “open space”, and “greenspace.” Community gardens are understood to be greenspaces of communal interaction, where participants garden for food, education, or recreation. This term may be used interchangeably with “urban garden”, “civic agriculture”, or “urban agriculture”.

There is a growing acceptance of community gardens as new forms of recreation for leisure spaces. In an article about interracial interaction in leisure spaces, Shinew, Glover and Parry hinge their research entirely on the concept that community gardens are a type of leisure space in urban environments (2004). The designation of community gardens as such by scholars creates a place for community gardens in the vast realm of leisure science, urban studies, landscape and urban planning, and social science publications that typically encompass the most recognizable leisure space, parks. The very fact, however, that local governments are slower to embrace community gardens as a viable land use typology, is a major issue confronted by this thesis. To that end, the purpose of this review will be to focus on what evidence there is in literature in support of studying community gardens, and their benefits as
sustainable, cultural, and recreational sites. This exercise will find what is in existing literature to support the research question, and what limitations, if any, are in the literature that this research can fill.

To aid with the review of broad topics, delimitations were created in order to frame the literature review purpose. This is presented in four sections with an urban park review followed by two community garden reviews and a conclusion section. In order to fully understand how community gardens can be integrated as a leisure space, the review will first focus on parks, which are the most refined type of outdoor leisure space. Specifically, the first topic is *urban parks*. Understanding how urban parks are used, not used and valued provides an insight that is needed to fully comprehend how they function as a leisure space. Only then can the possibilities that exist for integrating community gardens with or as leisure spaces be understood.

The first section about community gardens answers the question of why they even need to be researched. This will include a discussion and review of some key information about community gardens, how they are defined, their history and importance. This frames their relevancy and purpose in this thesis, and ultimately to the profession of landscape architecture.

The second of the two community garden research topics has a specific focus on noted benefits and challenges in terms of collaborative support; economic and sociological aspects; and location. This is highlighted in a few key resources that weigh heavily in the development of this thesis’ research question. While there is a mixture of academic, as well as instructional literature for the topic, including scholarly journal articles, “how to” guides, manuals, books and case studies, it was important to investigate community gardens in this manner. The research question relies on a solid definition and justification for community gardens as they have
existed, as they are now, and could persist into the future. With the endless supply of resources available, the best approach was to narrow down to a few very important resources that inform and provide foundation for this thesis. This approach is also supported by the very redundant and overlapping nature of most recent literature available about community gardens in regard to benefits, challenges, health, and policy. This chapter will conclude with an overview of the material and discussion of where in the literature this thesis needs to contribute and can contribute.

A trend noted by the author as a result of this literature review was that some topics of interest concerning parks for this study were heavily investigated in the 1970s and 1980s, but not revisited until recently. Conversely, community gardens are almost absent from the literature until late 1990’s, with a surge into the last decade. One reason for this might be the exclusivity of terminology used for the literature search, but it could also point to a pattern of literature following trends in social interests over time. A majority of the following discussion about urban parks for example, is from older literature bases.

**Urban Parks: Use, Non-Use and Value**

Most often, the discussion of non-use in urban parks centers on social or cultural issues related to race, ethnicity and age; or to the presence of undesirables and unintended uses, which can drive would-be intended users away. One study investigated the relationship age, race and residential location have in terms of four issues that might interest a park agency. One of these issues is park use. The intention was to discern user preferences in order to inform future park planning, and essentially ensure new parks would be used (Payne, Mowen, and Orsega-Smith 2002). Their results suggest that age was the biggest factor for park use. Study
participants over the age of 50 were less likely to have visited a park in the last year. Race was more of a determining factor for park programming preferences. The study found that African Americans preferred organized sport recreation, like basketball, over conserved natural areas, like hiking trails. Residential location was not found to be an important factor in determining park use. Understanding that the majority of larger community and regional parks typically have all the desired amenities, and are located without serious regard for residential area proximity can support this finding. Most users will access these parks by car. While this is not to say that parks always should be located in this manner, this particular study reveals that age and race demographics might be more important aspects to consider for leisure area locations over placing them in residential areas.

Gobster presents a critique on a prior study that indicates parks resting on the boundary of neighborhoods differing in social or economic groups present a “green wall” (1998, 44). This wall acts a barrier to dissuade the use of the space or passage through by groups that would otherwise not intermingle, and therefore, not use the space, which in turn falls to ruin and disuse. The study he critiques by Solecki and Welch (1995) provides a three step process to how a park becomes a “green wall,” and they measure the validity of these steps through measuring tree condition as an indicator for long-term neglect, whereby no single neighborhood takes ownership to pressure for better maintenance from the municipality. This they presume serves as sign that a boundary has formed, a barrier has been experienced, and the value of amenities in the area has decreased (Gobster 1998).

Gobster provides a counter-argument with a case study of Chicago’s Warren Park, which he feels acts more as a “green magnet” than “green wall” in its role as a boundary park. He argues that the amenities in this park are not devalued due to its location on a boundary
between diverse neighborhoods. He feels the internal factors contributing to the success of this park has to do with the organization of its high-intensity uses around the edges. It has broad ranges, or uses that allow for positive interaction between users, on different levels with a constant flow of activity. It has little to do with tree condition. Parks set along the boundaries of diverse areas have the opportunity to alleviate socio-economic and racial tensions if they are planned well. If it is found that boundary parks are indeed falling out of use, measures could be taken to provide activities that facilitate positive interaction, and to gain perception from the local residents as to the nature of the use, which is something Solecki and Welch neglected to explain. Facilitating activities to draw park use and dissuade racial tensions would seem a lofty enterprise, but is something that can be addressed with careful planning and community engagement.

A sensitive issue beyond race or age that plagues park use in urban areas is the homeless population. Francis briefly discusses the issue of these “undesirables” (Francis 1987, 109) as a type of barrier for intended park use. The point of interest is that he found park users to be more tolerant of the homeless population than non-users. The question remains, however, if the non-users are just not park users, or if they are non-users because of the undesirable presence. The same notion goes for parks that host other illicit activities such as drug dealing or gang gatherings. Again, the argument might be to take some measure of control over the park activities in order to control the non-use or mis-use, and generate a sense of success in the space that draws intended activities.

Jane Jacobs, however, argues in The Death and Life of Great American Cities chapter on “The Uses of Neighborhood Parks” that even if the use is unintended, it is a use. People use a park, and it is therefore successful, or they do not use the park, which dooms it to failure.
Success is not, then, necessarily a measure of acceptable uses. Greenspaces can be barriers, but they can also become active spaces through undesirable uses. A problem park is an empty, or un-used park, and typically is such due to poor location (Jacobs 1992). The topic of park location again rises. In the same chapter, Jacobs queries, “Why are there so often no people where the parks are and no parks where the people are?” (Jacobs 1992, 95). Is location, then, truly a defining factor in park use? Payne, Mowen and Orsega-Smith (2002) did not think so.

A more recent publication about urban parks and geography concludes that it is more a “mix of park types in the appropriate locations” (Brown 2008, 605) that inform a successful park system. It is not location alone that can serve as a determining factor. Brown’s urban park geography theory is based on the theory of island biogeography and poses larger parks and parks closer to areas of high residential use will have more value. His analysis of this theory found that the relationship between park size and value is strong, while the relationship between park location and value is weak. The conclusion he draws as quoted above is a sidenote he mentions after this lengthy analysis, as a way of mentioning the complexities of park planning. He fails to expand upon what this mix of park types might be. What can be drawn from this is not just park size or location need be considered, but also park function.

As the discussion about the parks in ACC continues in this thesis, there will be some parallel between those that struggle with non-use, and those with poor location, size, and socio-economic factors, which include unacceptable uses. Francis explains, “a gap exists between what city officials and users consider to be the value of open space” (1987, 110). This disconnect in value can lead to the true problem of non-use in public parks. A better approach to planning parks might be to design them based on how people actually spend their leisure time (Francis, 1987; Payne, Mowen, and Orsega-Smith, 2002).
What these studies point to is the need for park planners and designers to consider more closely user needs and desires in leisure spaces as a means to address the under-use of parks, which in the past have been uniformly designed with no consideration for user needs. These assertions in the literature range from a critique on park design as a continuation of outdated models (Gold 1972), a call for planners to take into account specific user needs, feelings and values (Cranz 1982), and defining ecological issues as a social problem that might be addressed by a more sustainable park model (Loukaitou-Sideris 1995). The focus, then, turns to investigating the use and value of parks, and the inherent shift that has occurred from designing them just for social needs, to including the needs of the environment as well.

For the most part, the literature about park use and value parallels the greater issues of social health and environmental health that trace through the last few decades. While there is a continual thread of concern about the effects of park design on user groups, starting as early as 1961 with Jane Jacobs (1992), the motivation behind these studies gradually morphs over time. It begins with concern for non-use (Gold 1972) and interest in planning and design (Cranz 1982), then the advent of the sustainability era (Botkin and Beveridge 1997), which led into increased concerns for not only social health (Tinsley, Tinsley, and Croskeys 2002), but also environmental health (Dinep and Schwab 2010). All cases entail some aspect of user perception and value, albeit, they range in focus along the topics mentioned above.

A study conducted from 2006 to 2008 in Southern California, and published in 2010 by Cohen, et al, investigates a good combination of social factors influential in park use. These include population demographics, number of park users observed and perceptions of safety; the physical environment of parks such as the amenities offered, size, and organized activities observed; and governance factors such as the existence of an advisory board for the park
(Cohen et al 2010). It is the only resource in this literature review that strays into the realm of health from a medical point of view. As a publication in Preventative Medicine, it is a true spotlight on the concerns for health that fill our present-day efforts in the fight against obesity and the increased stagnant activity levels of people in the United States. In this study, the research team surveyed park users and local residents, interviewed park directors, and observed 30 parks. The key result of this investigation is that demographic factors like population density and poverty, along with perceptions of safety, and whether or not there was a park advisory board, were not factors influencing park use. The largest draw for park use had to do with park size and activities offered. Again, size and function are heralds of park use. The researchers approached the study with the idea that perceptions of safety would be a major influencing factor for park use, but it was not. Instead, a major influence for park use, and by extension community physical activity, was offering events and organized sports.

The gap in this study, which might be inherent if it had an urban planning approach, is the lack of consideration for access and surrounding land use. From the urban planning perspective, ease of access to a park can be a determining factor for park use. If people are unable to easily access a park, then it will not be used. The larger community and regional parks and sports facilities that host intense programming require more land and might typically be found distanced from residential areas, thus requiring access by car. Taking this study to a level of studying accessibility by walking and public transit can influence understanding trends in use. Also, taking into consideration surrounding land use can strengthen or weaken the argument relating to access. If there are no residential areas in proximity to a park, then it becomes a destination, which can influence not only the level of use, but exclude user groups who do not
have cars. While there is far less empirical data and time available to study Athens parks at this depth, the research conducted for this thesis will take access and surrounding land use factors into consideration for spatial analyses.

In the context of this thesis, the most important aspects of park value have to do with the environment, society, and economics. These three factors encroach on the realm where community gardens can make a contribution to parks, and are therefore important to consider. In the Politics of Park Design, Cranz (1982) describes four historically and socially-based park models. These models focus on society and economics over time, and the affects changes in society have had on park design. In 2004, Cranz and Boland published a fifth model, the “Sustainable Park,” which addresses the “ecological problems [that] are becoming one of our biggest social concerns” (2004, 102). Cranz and Boland explain one problem this new model addresses is the very issue of socioeconomic segregation in parks that has been studied extensively in the last decade. The answer is to “increase social well-being” (2004, 114). They conclude that one method of approaching this is by incorporating community gardens, an avenue for education, recreation, and alleviation from the strain of poverty, as well as valuable spaces that contribute to the surrounding environment, society and economy (Cranz and Boland 2004). Adding to the list, in Urban Green: Innovative Parks for Resurgent Cities, Harnik states that community gardens “make extremely efficient use of space” (2010, 84). A large part of park planning entails making spaces efficient, recreational and educational. In this way, there is not only a place for community gardens to champion sustainability, but also serve as leisure spaces by “effectively increase[ing] the size of a city’s system of parks and park-like spaces” (Harnik 2010, 85).
Why Study Community Gardens?

It is easy to say the subject matter of community gardens is prevalent across many disciplines. Only in the last decade has the profession of landscape architecture started to take note of community gardens as spaces of importance to the public and to individuals. The value of the research in this thesis is that it can add to what is a growing body of knowledge about civic agriculture, community gardens, edible landscapes, and local food systems.

The best way to begin is with a definition. The simplest is by the American Community Garden Association (ACGA), who say a community garden is, “any piece of land gardened by a group of people” (ACGA n.d., n.p.). ACGA further clarifies this land may be rural, urban or suburban. It may be used to grow flowers, vegetables, or community. It can be communal plots, or individual plots at a school, in a neighborhood or at a hospital. It also constitutes a series of plots where the produce is grown to sell at a market. Essentially, community gardens encompass a broad use. The most important point to garner is that their individual purposes are variable, they are part of a community, and they may be located almost anywhere. This is important to understand for a discussion later about integrating community gardens within traditional public spaces, such as parks, that are not generally managed by the users, do not provide subsistence, and are not under communal ownership.

Laura Lawson’s, City Bountiful: A Century of Community Gardening in America, has become a rich resource for understanding the historical context of the community garden. In particular, Lawson makes a key point by referring to these spaces as “urban gardens” (2005, 3), which she feels is a broader term than community gardens. She says, “garden advocates past and present consider urban gardens as ‘commons’ because they are a communal resource to meet current needs associated with subsistence, protection, and civic functions” (2005, 3). If
landscape architects are to be concerned with the health, safety and welfare, and by extension, the sustainability of our human environments, it is clear in Lawson’s terminology there is a call for the profession to pay attention to community gardens, and urban gardens. This will be further supported through consideration of the many benefits community gardens provide for the health, safety and welfare of communities, individuals and the environment.

The history of community gardens in the United States is thoroughly presented in Lawson’s book, and many other sources. As such, the discussion about community garden history will be very brief. Community gardening has played a significant role in American cultural history. Since the time of the American frontier, where the towns shared communal lands for agriculture, to present day, interest in community gardens has risen and fallen, closely following the rise and fall in economic stability (Lawson 2005, 11). Lawson focuses on the three periods of time- 1890’s to 1917, World War I to World War II, and 1945 to the present. Since 1945, there was a surge of activism in support of community gardens in the 1970’s and 1980’s, and then again with urban garden programs in the 1990’s (Lawson 2005, Table of Contents). For this reason, community gardens may be viewed as a cultural landscape typology integral to our societal development. There is a tendency for interest in gardens to fade once the crisis has passed, or the war ended, only to re-emerge in lieu of another downturn in American prosperity. This is not to say, however, Americans are uninterested in community gardens when times are good. There just tends to be less civic interest or even municipal action in their favor (Lawson, 2005, 11).

Currently, there is resurgence in interest, especially in the southeastern United States, as we have become more aware of childhood obesity, adult diabetes, food insecurity, contaminated foods, and the reliance on food from far-away places like South America and
China. Many people affected by the 2007 economic downturn welcome the supplement of food to offset grocery expenses. Once again, a crisis has brought about renewed interest in community gardens.

There is abundant literature in general about community gardens, and even more discussion about the social, environmental, and economical benefits they offer. Hou, Johnson, and Lawson provide a discussion of these benefits as tangible and intangible (2009, 23). Table 2.1 provides a list of benefits in these two categories. This table also lists the benefits suggested by the American Community Garden Association (ACGA) for comparison. Neither of these lists is exhaustive, and other published lists are incomplete. There is, however, understanding that there are many benefits to individuals, environment and communities from community gardens. The table suggests several common over-arching themes tied to health, education, access to nature, and preserving greenspace.
<table>
<thead>
<tr>
<th>Tangible</th>
<th>Intangible</th>
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<tr>
<td>growing food</td>
<td>mental well-being</td>
</tr>
<tr>
<td>creating new open spaces</td>
<td>ecological education</td>
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<td>income</td>
<td>community empowerment</td>
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<tr>
<td>skill development</td>
<td>health and nutrition</td>
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<tr>
<td>connection with nature</td>
<td>companionship</td>
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<tr>
<td>cultural expression</td>
<td>mentoring</td>
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| Table 2.1 Community Garden Benefits         |                              |
| Sources: Hou, Johnson, and Lawson 2009      |                              |
|                                               | ACGA                         |
| Opportunity for intergenerational and        | Opportunity for recreation,  |
| cross-cultural connection                     | exercise, therapy and       |
| Catalyst for community development           | education                    |
| Stimulates social interaction                | Reduces crime                |
| Encourages self-reliance                     | Preserves green space        |
| Beautifies neighborhood                      | Provides income opportunity  |
| Produces nutritious food                     | Provides economic development|
| Reduce family food budget                    | Reduces city heat island     |
| Conserves resources                          | Improves quality of life     |

There are also challenges faced by community gardens. Table 2.2 lists challenges found by Milburn and Vail (2010), and a primer published by the Community Food Coalition’s North American Urban Agriculture Committee (Carter and Brown 2003). Many of these challenges present an opportunity for the skill-set and knowledge of the landscape architecture profession to define this landscape typology. A lot of the charm of community gardens arises from the piece-meal design and patterning they develop over time through different users and uses. For
this reason, a landscape architect may help specifically with design, but the diverse skill-set of landscape architects could help communities address these challenges by facilitating conversation between the public and their municipality.

<table>
<thead>
<tr>
<th>Milburn and Vail, <em>Sowing the Seeds of Success</em></th>
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<tr>
<td>securing land tenure</td>
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<td>sustained interest and support from the community</td>
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<td>location and accessibility</td>
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<td>establishing local leadership and management</td>
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<td>universal access</td>
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<td>design</td>
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<p>| Urban Agriculture and Community Food          |</p>
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<th>Security in the United States</th>
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<tr>
<td>securing land tenure</td>
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<td>financial and material support</td>
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<tr>
<td>site selection</td>
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<tr>
<td>management</td>
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<tr>
<td>participation and diversity</td>
</tr>
<tr>
<td>vandalism</td>
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<tr>
<td>knowledge and skills</td>
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</table>

Table 2.2 Community Garden Challenges
*Sources: Milburn and Vail 2010; Carter and Brown 2003*

A few of the challenges faced by community gardens of interest for this thesis are securing land tenure, financial and material support, and management. These are issues for community gardens that might be addressed by a municipality. Again, according to the ACGA, the most ideal situation for a community garden is to have grassroots management with municipal support (Stone 2009). A municipality can help establish the garden, and then pass the
responsibility over to the neighborhood, which ensures a sense of ownership and helps maintain interest by the gardeners. Successful gardens in many areas rely on this sort organizational and programmatic support.

Municipal support ensures land tenure status, and possibly some material, programmatic, legal or financial support. Support from the municipality can, however, give way to land trusts, non-profits, schools or other organizations (Milburn and Vail 2010), but this is not suggested as the best option by Edie Stone, Director of New York City’s GreenThumb, a program housed within New York City Parks that helps with licensing, workshops, materials and training for over 500 gardens in the five boroughs of New York City. Stone states that in order to have true success, there must be municipal involvement, which is why the community garden program in New York City is so successful, and plentiful (Stone 2009). The community gardens in New York City are on public land owned by the city, but the spaces are planned and maintained by the garden volunteers. As such, they are considered neighborhood parks, and agree to maintain open hours during the week for public visitation (GreenThumb 2012). The Athens Community Garden Network (ACGN) is housed within the Athens Land Trust, a non-profit with a grant to establish the gardens. The greatest concern out of this arrangement is how support for the ACGN will continue after the grant term expires. This can become an issue if the governing organization for the ACGN is not actively looking for financial and material support for the future. More about the Athens Land Trust and ACGN will be discussed in Chapter 5.

There are three reasons why community gardens are an important topic for this study, as well as for the landscape architecture profession. First, gardens are a developing land pattern that is still ignored by municipalities in many places. There is increased grassroots interest, but
little support. In ACC, most of the community gardens are not supported by local ordinances. This can be seen in Table 5.3 on the list of study community garden attributes. Second, community gardens are an answer to food insecurity. Food deserts exist in ACC. (USDA Food Desert Locator n.d.). If the ACGN were large enough and activated to its full potential, it would serve to transition some of the known issues with health and poverty. Third, community gardens serve as possibilities for under-utilized park and open spaces, or as their own oases within the municipal green network.

The sources of values in landscape architecture outlined by Ian Thompson are ecology, community and delight (2000). These values are directly applicable to the three aforementioned reasons about the importance of community gardens. Since landscape architecture meets in the middle of these three values, which overlap the benefits of community gardens, it is safe to reason a natural partnership can be made between the profession and this landscape typology. The ecological impact of taking derelict, vacant or under-used spaces and turning them into vibrant forage for people and wildlife is beneficial to the surrounding environment. These greenspaces have nothing but positive impact on the surrounding communities, and the aesthetic quality is rarely contested as they evolve into delightful spaces of color, culture and respite from the grays of the urban environment.

**Community Gardens: Three Key Sources**

This brief consideration of why there is a need to study community gardens sets the stage for the discussion about gardens in the Athens area. The discussion on urban parks concluded with a focus on incorporating sustainability into leisure spaces as a way to answer environmental issues that plague our society. The suggestion is that one way to incorporate a
sense of well being in park users and surrounding communities is to invite community gardens and urban farming, which is might include people who want to grow food for profit, into park spaces. The Cranz and Boland article is not the only instance of this suggestion. Hou, Johnson, and Lawson (2009), and Francis (1989) share a similar conclusion. Indeed, there is clear evidence that community gardens bring neighborhoods the benefits of social well-being, as well as a wide range of use and value to participants and even passers-by (Francis 1987). They are spaces of culture, beauty and interest that represent diversity, ecology and education. For the context of this thesis, these two reviews about community gardens, a vast topic that encompasses an even larger range of disciplines than parks, have been honed down to look at the benefits and challenges, with specific interest in support, economics and location. This section will focus on these topics through reviewing a few very specific and noteworthy resources.

One of the most valuable resources, that touches on all of these topics and is well cited throughout the community garden literature, is Sowing the Seeds of Success: Cultivating a future for community gardens, by Milburn and Vail (2010). This is an answer to the call that community gardens “must address concerns related to their long-term sustainability to position them for success as permanent and valuable parts of the urban landscape” (2010, 71). Milburn and Vail’s methods determined four “seeds” (2010, 71) key to the success of a community garden. The four seeds are “secured land tenure; sustained interest; community development; and appropriate design” (Milburn and Vail 2010, 71). This study has influenced a lot of critical thought for this thesis, helped point to more resources, and challenged old ways of thinking about community gardens. It is from this article that a true definition for success in a community garden is derived and consistently referred to in more recent literature: “Gardens
are considered successful if they provide benefits to the environment, community and individuals” (2010, 74). This study paved the way for a better understanding of the critical struggle for sustainable community gardens, as spaces for people on unsecured land.

*Greening Cities, Growing Communities: Learning from Seattle’s urban community gardens* by Hou, Johnson, and Lawson (2009), a predecessor to this thesis research, follows much of the same pattern in discussion about history, context, success and failure, with a specific focus on the garden programs in Seattle. What this book concludes with as “hybrid public space” (Hou, Johnson and Lawson 2009, 183), is similar to what Milburn and Vail explain as “open space functions” (2010, 86). In order for spaces like community gardens, which provide so many social, economic and environmental benefits, to remain sustainable, a time comes when they must be embraced as a true public space. The reason for this is because public and civic spaces owned by municipalities are protected from development, and therefore secure. Most resources that discuss this matter concede integrating these two land uses as the next logical step. Lovell states that incorporating community gardens in public greenspace would be a “larger commitment to urban agriculture” (2010, 2508). Francis explained two decades ago, that community gardens ought to be a part of the greater greenspace systems in urban areas (1989), despite the understanding and explanation by Harnik that urban agriculture is very difficult, and can present more issues to deal with than a typical park (Harnik 2010). This statement, however, does not come without suggestions to aid in overcoming these difficulties.

One of the difficulties noted by these authors is the issue of governance. There are many questions about community gardens as public, semi-public or private spaces with private and public activities (Chung et al. 2005), and there are just as many combinations of community garden arranged as public or private spaces and uses (Schmelzkopf 1995). This adds to the
discussion about community garden governance, because questions of ownership will rise, as will the question of leadership. What is most often cited about this issue is that community gardens be supported by the municipality, but managed at the grassroots level (Stone 2009, 136). In this way, the gardens will have the land tenure and material support, yet still maintain the grassroots character, and community sense of ownership and pride so integral to their success.

Research shows that community garden integrated park spaces are not a landscape foreign in Georgia. According to a news article published by the Atlanta Progressive News in July of 2011, the Atlanta City Council approved legislation that allows community gardens in city parks (Wing 2011). Park Pride, a nonprofit organization tasked with helping communities in Atlanta improve their parks, has managed the growth of gardens in Atlanta’s parks. This serves as an example of the type of community engagement and municipal recognition that is needed in Athens to foster the growth of a community garden network and integrated park system. Schukoske asserts that, “designing and implementing effective statutes could solve many of the problems that confront community gardens, thereby enhancing gardening as a tool for community development” (2000, 352). Implementing effective statutes in ACC in favor of community gardens as a recognized greenspace and leisure activity can also solve problems faced by a lack in park availability to Athens residents, in that community gardens could develop effectively in areas of the county not serviced by parks.

The final major resource concerning community gardens is Public Produce by Nordahl (2009). The topic of this book is most accurately described as “municipal agriculture” (2009, xiii). Nordahl believes what has been a largely grassroots effort at initiating answers to issues of food security and social health through the implementation of spaces like community gardens is
becoming integrated more and more into municipal policy. In this manner, municipal agriculture is civic agriculture, urban agriculture, or community gardening that has received support from municipalities, beyond the promise of a vacant lot just to appease the community garden advocates. A major point and driver behind most of this discussion is Nordahl’s assertion that “if a network of locally available, publicly accessible produce is to be successful, the largest single landowner within the city- the municipality itself- will have to be engaged” (2009, 4). This network can consist of any effort to organize the use of public spaces for food production, which goes beyond just one or two community gardens. This thesis employs Public Produce as a resource because it takes the discussion a step further into consideration for what more there could be to make the lives of people better, more sustainable, and healthy.

It is apparent in the literature there are advocates for the positioning of community gardens as viable public spaces. In some places, like Seattle, New York City, Chicago, and Portland, this is already being embraced and implemented by politicians and city planners. While these are larger urban areas than Athens, Georgia, the possibility for similar institution in this county is not far-fetched, and is the ultimate goal of the research presented in this thesis. The next section will introduce community gardens as a research topic, with some discussion as to why they are important to study, specific benefits and challenges, and how research about them is beneficial for the profession of landscape architecture. The next section will offer an overview with conclusions for this chapter.

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1 One of the major issues possibly contributing to poverty in ACC is that the county’s largest land owner is not the municipality. It is the land grant University of Georgia, who does not pay property taxes on its 4,000 acres of county property (Shearer 2010).
A Niche for Municipal Park and Community Garden Research

While there are numerous sources in the literature about parks and community gardens as separate entities that hold a certain level of value and benefit for their users, the search reveals no true comparison of the spaces as juxtapositions of each other. The review on urban parks revealed a need for developing a sense of well-being for park users in order for the parks to be truly sustainable spaces. The literature shows one way to establish such a sense is through participatory enterprises that can break the strain of socioeconomic, race or ethnic barriers put on public urban spaces, and invite positive interaction and agreeable uses. It is suggested that one such enterprise is a community garden.

What is lacking in the literature is an example of detailed research in an area where a successful community garden network exists exclusive of a park system, and is not supported by the municipality in a position of value. It is not known entirely if such a network even exists. Successful community garden networks, like the one examined in Seattle by Hou, Johnson and Lawson (2009), claim at least some support from their municipality.

There are numerous accounts of large urban centers with great achievements in the realm of food security and civic agriculture for their communities. In the community garden literature, there is often a call for change in policy to promote community gardens as part of the municipal open space system, but that is usually after a lengthy investigation of a system that is already successful (Hou, Johnson and Lawson 2009; Nordahl 2009; Schukoske 2000; Irvine 1999; Librizzi 1999; Herbach 1998). What about the fledgling community garden networks in smaller cities across the country? Athens is one of these places with a lot of potential for success, but a lack in research to show this possibility.
The gap in the literature is the lack of comprehensive analyses for park systems in concert with a local community garden network. There is also a gap in investigating local policy for places that are not successful yet. This thesis intends to gather support from the literature about the successes, new policies, and favorable outcomes for community gardens in the public realm elsewhere, and apply it to a local system that has little to no research for the physical spaces in this context. The next chapter will include a research process flowchart for this thesis, with discussion about the key research methodologies being used to conduct the analysis for this thesis.
CHAPTER 3

METHODOLOGY

For purpose of this thesis, ACC municipal parks and community gardens are defined as greenspace services. The research question asks where can the limitations for these defined spaces be addressed through accepting community gardens as a greenspace service and municipally supporting them. The research needed to evaluate and investigate this topic requires extensive comparison and contextual analyses of the existing park system and community garden network in ACC. In order to accomplish this task, three methods of investigation were used. The primary method was a GIS analysis in Chapter 6, followed by two secondary methods, site observation and user survey in Chapter 7. The GIS analysis was conducted primarily using data provided by the ACC Planning Department. In order to gain a sense for the local context and condition of the research spaces, as well as gather some ground support for the GIS findings, it was important to visit each location. The challenge has been to investigate if there are ties between different methods of site analysis.

This chapter consists of four sections based on the research process conducted for this thesis. Figure 3.1 is a flowchart depicting the overall research process. The first section reviews the intention of visiting each site in preparation for determining the subsequent research methodologies and informing the course of the study. The following two sections discuss the two empirical analysis methods: site observation at the parks and user surveys administered at
Figure 3.1 Research Process Flowchart
the community gardens. Specifically, a sample of the survey will be provided, as well as clarification on how these methods were carried out. The final section discusses the GIS analyses in terms of what aspect of how the program was used, and why.

Site Visits

Visits to each site were conducted through the fall of 2011 and early summer of 2012, a span of nine months through three growing seasons. Visits were extended into the early summer to take advantage of more garden activity, which moves at a slower pace in the winter months. Initially, these visits were used to get a sense of park and community garden amenities, functions, users, and activities needed for the content in Chapters 4 and 5. Eventually, the site visits incorporated the two secondary research methods. Each of the twenty-six sites were visited at least once, with subsequent follow-up visits as needed. While site observation was conducted in some manner at the community gardens, it was not done with the intention for use in empirical analysis. The next section will explain the site observation methodology conducted specifically at the Athens parks in more detail.

Municipal Park Site Observation

Site observation determines how people are using the spaces, and if the spaces are meeting their needs; which is not something that can be determined by looking at a map or searching online. Parks have ball fields meant for soccer, but when no one is playing soccer, people may use them for lounging or picnicking. Some spaces have pathways, benches and trashcans not located in useful areas, so people make their own benches and pathways, and throw trash into the shrubs. Understanding specifically how Athenians use their parks will help
to define the greenspace services being offered by the municipal parks and how they can be augmented or assisted through the inclusion of community gardens.

The site visits to the parks entailed taking photographs of the sites and exploring the amenity areas, surrounding uses, and infrastructure. Notes were made about specific aspects relating to the activities occurring or not occurring. For example, in parks, is there litter, high-wear areas through the grass where people wander off the pathways, graffiti, enough benches, universal access, adequate parking, etc? These observations served as notations of neglect or care on the part of the space users, as well as their ability to access the areas. While there, the author also made note of the time of day, the weather and how many users were present, if any. Simple diagrams based on aerial images and field observation were also made to use in Chapter 4 in order to provide a sense of how the spaces are arranged and what amenities they have to offer. The data gathered from the site observations was then organized and analyzed for subsequent discussion in Chapter 7, which is where the analysis process will be presented in detail. For the sake of time, this analysis was not conducted at the community gardens.

**Community Garden Survey**

For this portion of the study, it was important to get specific information about the people using community gardens, including demographics, garden access, and activity levels and preferences. For the sake of time, this was not conducted at the municipal parks. While the initial intention was to hand out the survey at all twenty-six sites, this proved to be too much data collection for one person to accomplish for a thesis, so the surveys were concentrated at community gardens. While the demographic data gathered proved helpful, the questions were
Please circle or check your answers.

Question 1: Gender:  M  F

Question 2: Age:  18-21  22-25  26-30  31-40  41-50  51-60  61-70

Question 3: Select one or more: Race:  ___American Indian or Alaska Native
___Asian  ___Black or African American  ___Native Hawaiian or Other Pacific Islander  ___White

Ethnicity:  ___Hispanic or Latino  ___Not Hispanic or Latino

Question 4: How did you get here today?  Car  Bike  Scooter  Walk  Bus

Question 5: Approximately how many times a week do you come here?  1-2  3-4  5-6  6+

Question 6: Based on your answer to question 5, how easy is it for you to get here?
Very Easy  Easy  Somewhat Easy  Somewhat Difficult  Difficult  Very Difficult

Question 7: Describe your typical level of activity per week. Do you at least walk for 10 minutes once a week twice a week three times a week four times a week everyday

Question 8: Please circle any of the following activities if you do them at least once a week:
jog  walk  cycle  baseball  basketball  futbol/ soccer  tennis  swim  garden

Question 9: What time of day do you visit here most often?
Morning (8-11am)  Lunch (noon-2pm)  Afternoon (2-5pm)  Evening (5pm-sunset)

Question 10: On the next page you will find a map of Athens-Clarke County. Please circle the general area on the map where you live. The parks, community gardens, and labeled roads are for your reference.
written without specificity for community gardens, which limited the usefulness of the analysis that resulted from the survey data. The results are presented in Chapter 7.

The sampling of participants for this portion of the research was intended for people working at the gardens. Since community gardens function as semi-private spaces, surveys were only handed out during workdays or workshops. No personal identification, other than race, age range and gender was collected, and the rest of the survey consisted of close-ended questions. Figure 3.2 is a sample of this survey.

**Geographic Information Systems**

GIS was used for this research because of the many available possibilities for analyzing and understanding spatial data. It provides a unique opportunity to study the public fabric from a cartographic point of view. The power of GIS, and what separates it from simply analyzing aerial maps, is that every aspect of a GIS map has data attached to it. A parcel map for ACC in a vector graphic program is merely polygons and a collection of lines. With vector graphics, one can determine the square footage, and dimensions, but that is all. Click on a parcel in GIS and get the dimensions, plus the address, property owner, land use, property value, and zoning code. It is also possible to assign more data to these parcels, query the data, create new data based on certain criteria, and edit the polygons themselves. For these reasons, GIS is a very important component to the comprehensive analysis of spaces in ACC as they relate to each other and their surroundings on several levels. This not only entails spatial relationships, but also demographic and other quantitative correlations.

For this particular research method, the author studied and considered the methods used by Oh and Jeong (2007) in their publication *Assessing the Spatial Distribution of Urban Parks*
using GIS. While their article is more statistical and comprehensive than what has been done on this study, it affirms the choice in using GIS for this thesis. In the abstract they write,

The total area of urban parks in Seoul is approximately 158 km² which is fairly large compared to those in other cities around the world. Although this figure may seem favorable, in actuality major portions of the parks in the city are located in outer areas so that frequent opportunities to visit them are relatively minimal. Such disparity between statistics and actual usability comes mainly from the inconvenient location of the parks. Using the network analysis method of GIS, this study analyzed pedestrian accessibility to urban parks in Seoul and the subsequent serviceability of the parks (2007, 25).

While ACC is considerably smaller than Seoul, Korea, its park system demonstrates a pattern similar to what they discuss, which can be seen with the GIS data presented in this thesis.

Spatial Analyst and Network Analyst extensions for ArcMap, a GIS software, were used for this analysis. Specifically, ArcInfo Version 10 line of GIS software was used. Data was provided primarily by the ACC Planning Department, with other sources noted on each map. The author also created custom data to use throughout the process. The spatial analyses consist of using this data to draw comparison between site location, surrounding land use, contextual demographics and neighborhoods, size, location relative to other natural areas or populated areas, and accessibility. In particular, modes of accessibility included public transit, bike routes and cars. The pedestrian aspect of accessibility was investigated using Network Analyst.

With Network Analyst, a network database was created consisting of lines and nodes, which were generated from the “Athens Roads Centerline” dataset. Lines are the roads, and nodes are dead-ends or intersections. Unfortunately, the depth of analysis that may be done with this particular tool goes only as deep as the street dataset, which is not very detailed for
ACC. It is possible to take into account topography, crosswalks, stoplights and even congested areas for a network analysis, but these aspects were not included for this study due to data constraints.

Network Analyst did determine a service area for each site. The service area extents are based loosely on the distances from the perspective of a pedestrian. This is based on the author’s observation that a majority of people will not walk more than ten minutes, or half a mile, to reach a destination. Based on this assertion, the service areas were created consisting of a half-mile and mile boundaries. Network Analyst was used for this is because it determined these boundaries based on actual street layouts. Earlier in the research process, half-mile and mile buffers were created around each site, which assumes pedestrians are approaching the site “as the crow flies”, which is not realistic. Figure 3.3 demonstrates the differences in using Network Analyst versus a buffer to create a service area around Bishop Park. The difference in the coverage area is significant.

The next step for the network analysis then consisted of using these boundaries to spatially analyze the types of land use and transportation within the service area proximity for each park. The land use data is based on the American Planning Association Land Based Classification Standard Activity Dimension (APA 2012), which has been applied in Athens. This data, along with the spatial analyses will serve as the major dataset for this thesis.

The process for this thesis entails a primary research methodology with two secondary supporting research methodologies. In no way, however, is the process linear. There are other crucial aspects of the study not discussed here that will be included in following chapters. These include the literature review; taking specific inventory of ACC infrastructure, physical, and demographic characteristics; developing study site criteria to choose which community gardens
Figure 3.3 Bishop Park: GIS Buffer and Network Analyst Analysis Comparison
Sources: Athens-Clarke County GIS Department
and parks to use for the study; and incorporating this information with the GIS, survey and observation data to create an answer for the research question. The next chapter will present the contextual information for Athens municipal parks, introduce the study parks, discuss the criteria for choosing the parks, and explain the park categories developed for this thesis.
CHAPTER 4

ATHENS-CLARKE COUNTY MUNICIPAL PARKS

The purpose of this chapter is to introduce the planning and municipal context for municipal parks in Athens, and specifically the study parks and categories being used for research. A collective review of the ACC Leisure Service Department and ACC Unified Government websites, along with site visits, provide a large portion of the information presented here. Sources will be cited respectively.

The first section in this chapter will introduce the Leisure Services Department to provide the municipal context for the study parks. This will also include some discussion about how the parks are seen as resources by the local planning community, with the objectives outlined for the park system by the Athens-Clarke County and City of Winterville Comprehensive Plan (Comprehensive Plan) adopted in 2008. Apart from Figure 4.1, a map locating the department facilities, this chapter will not discuss in detail the specific location of the study parks. Chapter 6 presents the locations and detailed spatial data associated with each study park in concert with the rest of the GIS data. The purpose for withholding specific location information is so the focus for this chapter will remain objective, and free from judgments of the system based on location.

Following the introduction of the municipal and planning context for parks in ACC will be a section about the criteria utilized for choosing the thirteen study parks, along with their specific amenities and functions. This information serves as a guide for creating the park
Figure 4.1 Athens-Clarke County Leisure Services Facilities
Sources: ACC Planning Department, Atlanta Regional Commission
categories. Before the categories are introduced, however, there is a small section about the public school neighborhood parks in Athens, which is needed to distinguish why these parks are not included in the study. The final section will present the definitions and process for developing the park categories: Community Hubs, Multi-Use, Nature Specific, Sports Specific and Neighborhood. The categories were determined by investigating each study park’s form, function and size.

**Municipal Parks in Athens-Clarke County**

The first thing a visitor will read on the official Athens-Clarke County Leisure Services Department website is a mission statement saying it, “...enhances the quality of life for residents by offering diverse programs and facilities that meet the community’s needs” (ACCLSD n.d.). This department is committed to ensuring the community leisure needs in ACC are met. This is very apparent in the *Program and Events Guide* (ACCLSD Administration 2011) distributed seasonally with almost thirty pages of activities listed for Athens residents, and even non-residents, of all ages to engage. The last couple pages of the Guide present a list of the parks and facilities along with a map of almost all the official facilities, and the seventeen neighborhood/school parks. The Georgia Recreation and Park Association have named Athens Leisure Services Agency of the Year for five of the past seven years (ACCLSD n.d.).

With about forty-one facilities, encompassing 3,400 acres, 1.21 million visitors a year (Visit Athens n.d.; ACC From A to Z, 5), and an activity guide full of exciting things to do, the Leisure Services Department houses 77 full-time staff and 100 to 200 seasonal staff. According to their organizational chart, the department has four divisions under one director. These are, in descending order of staff allocation, Park Services, Recreation, Arts and Nature Programs,
and Internal Services. Each has a division administrator, who in turn oversees certain facilities pertaining to their division, as well as a few others that need to be overseen, but do not fall into a specific category (ACCLSD Organizational Chart 2011).

In general, ACC residents, those in adjacent counties, and visitors to the area, can rely on a department aimed at creating leisure spaces and activities to meet their needs. With a few facts about the department in the municipality that houses the parks, there remains some discussion about what is in store for the next twenty years. The *Athens-Clarke County and City of Winterville Comprehensive Plan*, adopted in 2008, is intended to serve as a growth and development guide for ACC over the next twenty years. It includes vision statements, issues and opportunities, policies, and short-term work plans. Concerning the parks in ACC, it establishes the development of park facilities in terms of a Leisure Services Master Plan, and encourages that parks be located on a neighborhood scale as a guiding principle (ACC Comprehensive Plan 2008, Section 3). It also recognizes that life for Athenians could be improved with the addition of parks. Though it does not specify where new parks need to be located, it does say the parks need to be a supported system of various park types including linear parks, pocket parks and even public squares (ACC Comprehensive Plan 2008, Section 4). The discussion continues with recognition that recreation is an important aspect of Athens communities, which should continue to be supported through developing parks and adding more greenspaces. Also, concurrent opportunity notices in the plan mention the need to make ACC communities and neighborhoods more walkable, with residential access to parks, among other things (ACC Comprehensive Plan 2008, Section 4).

The short-term work plans that support these opportunity statements from Section 4 in the *Comprehensive Plan* are simply a call to streamline a property management program, to
develop a recreation master plan, or leisure services masterplan, and to continue to connect the sidewalk system. It is apparent in the Comprehensive Plan that the general impression is the parks are insufficient and access to them is wanting, but there is little budgeting available to build brand new parks. The current state of the parks in terms of this plan as of summer 2012 is that a masterplan is in the works, and Special Purpose Local Option Sales Tax (SPLOST) funding has been put towards re-developing playgrounds at some of the public schools, now designated as neighborhood parks, and building Reese and Pope Park.

This information is important for this study because it provides insight to the planning aspect of parks in ACC. The Comprehensive Plan is an extensive document mandated by the state of Georgia for every city, and includes endless input from Athens citizens with adaptations and approvals from the government. It is the “roadmap” (ACC Comprehensive Plan 2008, Introduction) for development in the county. As a road map it is worth noting what is and is not included. The essential point to take from this discussion is that the county recognizes the park system is limited. Efforts are being made to address it, but slowly. The next section presents the specifics of the department programs and facilities in more detail, in terms of the process utilized to choose the study parks.

Choosing the Study Parks

This section details the specific programming ACC leisure spaces have to offer through the Leisure Services Department, and introduces the process of selecting study parks to research. Eventually, this process, along with the discussion in the following section, helped to generate the park categories. An important part of this research has been to create categories
for the study parks, in order to ensure some measure of objectivity and equality between sites that range in size, use and programming.

Table 4.1 presents an outline of the eight program areas offered by Leisure Services, and facilities hosting these events. The Program and Events Guide provides location information for the activities listed in each program area, which has been translated in Table 4.1. A few facilities- Memorial Park, Rocksprings, Thomas Lay Park, East Athens Community Center, and Bishop Park, house facilities on their grounds which are recognized as separate activity facilities by the Leisure Services Department. These facilities are listed on Table 4.1 in italics under their respective locations. While they are separated out here, each study park containing these sub-facilities will be treated as a whole entity for research purposes. For example, Memorial Park, one of the study parks, will subsequently be referred to as Memorial Park, with the understanding it includes Bear Hollow Zoo, Athens Creative Theatre and the Memorial Park Rec Hall. The purpose for this table is to present the first step in the process of selecting study parks for this thesis. This table determines the concentration of facilities engaged with organized activities for Athens communities. It was used to select study parks encompassing a range of very active event calendars to very passive ones.

Besides the organized activities, a major criteria in selecting which of the facilities to use for this study was that sites have a major portion of their programming devoted to outdoor uses, such as trails, ball fields, picnic areas, or playgrounds. In this way, they fall easily into the over-arching category of park, or open space. Chapter 6 includes the term “greenspace services” for these sites, and it is necessary they have green spaces serving Athens residents. For this reason, facilities such as the East Athens Education Dance Center, Columbus Avenue Senior Center, Morton Theatre, Parkview Community Center, and Lyndon House Arts Center
**Facilities**

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<thead>
<tr>
<th>Arts</th>
<th>Camps and Mini-Camps</th>
<th>Fitness and Wellness</th>
<th>General Recreation</th>
<th>Nature/Science Education</th>
<th>Outdoor Recreation</th>
<th>Special Events/Holiday Events</th>
<th>Sports</th>
<th>Not Listed</th>
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<tbody>
<tr>
<td>Ben Burton Park</td>
<td>Bishop Park</td>
<td>Bishop Park Gym</td>
<td>Columbus Avenue Senior Center</td>
<td>Dudley Park</td>
<td>East Athens Community Center</td>
<td>East Athens Community Park</td>
<td>East Athens Education Dance Center</td>
<td>Holland Youth Sports Complex</td>
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**Table 4.1 Athens-Clarke County Leisure Services Department Program and Event Areas and Facilities**

*Source: Leisure Services Fall/Early Winter 2011 Program and Events Guide for September-December 2011*
were easily excluded, as they have specialized uses, with little to no interactive outdoor spaces. All of the sites chosen are easily recognizable as parks, and all except one say as much in their title. Table 4.2 lists the study parks, as well as their respective amenities and uses, or functions. The range in what each space has to offer Athens is clearly visible in this table.

Notice the choice to use East Athens Community Center (EACC), and not East Athens Community Park (EACP). The EACC has a range of offerings to the community, including outdoor recreational spaces. The site was developed long before the EACP, and has served its community as a public park for many years. The EACP was built very recently, and is still only in its first phase, with little more than a few ball fields. While it is a park in name, the EACC has been chosen to represent park space in the east Athens area due to its greater variety in functions offered for the Athens community.

A quick comparison of Tables 4.1 and 4.2 shows two other sites that should meet the study criteria of providing outdoor programming, yet are not part of the study: Sandy Creek Nature Center, and Holland Youth Sports Complex. The Nature Center is a hub for the Leisure Services nature and science education activities. It also has a large number of trails linking the North Oconee River Greenway to the south, with Sandy Creek Park to the north. These trails are not, however, barrier free, and are thus exclusive only to those who can manage uneven terrain. This is a very program specific site. The Holland Youth Sports Complex has a very specialized active recreation use, and was not even considered for public activities by Leisure Services, in that there is no mention of it in the Fall/ Early Winter 2011 Program and Events Guide as an activity or event location. For these reasons, these two sites are not included in the study.
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<th>STUDY PARKS</th>
<th>TENNIS</th>
<th>BASEBALL</th>
<th>MULTIPURPOSE</th>
<th>SOCCER/FOOTBALL</th>
<th>SOFTBALL</th>
<th>INDOOR BASKETBALL</th>
<th>OUTDOOR BASKETBALL</th>
<th>BEACH, BOATING</th>
<th>DISC GOLF</th>
<th>DOG PARK</th>
<th>FISHING</th>
<th>GAME ROOMS</th>
<th>PUBLIC LIBRARY BRANCH</th>
<th>PICNIC SHELTER FOR RENT</th>
<th>PICNIC TABLE/GRAILS</th>
<th>PLAYGROUND</th>
<th>SKATE PARK</th>
<th>SWIMMING POOL</th>
<th>LAKE</th>
<th>WALKING PATH/HIKING TRAIL</th>
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<td>Reese-Pope Park</td>
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<td>Rocksprings Park</td>
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<td>Sandy Creek Park</td>
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<td>Southeast Clarke Park</td>
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</tbody>
</table>

Table 4.2 Study Municipal Park Amenities

*Source: ACC Leisure Services Department*
A Word on the Public School Neighborhood Parks

This is a brief discussion about the allocation of sites described as neighborhood parks by Leisure Services. In 1995, a Special Purpose Local Option Sales Tax (SPLOST) project was implemented to develop the grounds of the seventeen middle and elementary public schools in ACC as neighborhood parks. Mostly, this meant the playground areas were updated. This project is known as Project 19: Neighborhood Park Development, and is considered a completed project (ACC SPLOST n.d.). Figure 4.1 notes the location of these school/neighborhood parks as Leisure Services Department facilities. This effort makes sense for a county notably void of neighborhood parks. While this is a decent effort at establishing intimate park settings in Athens, there is a caveat in their being located at schools. During the school year, the grounds are not open to the public until the weekends, or after 6PM on school days. By definition, ACC designated neighborhood parks are not open after dark, either. This means that in the winter months when it gets dark at 5PM, the park cannot be used at all during the week. While some observe school grounds as the perfect opportunity for park space acquisition (Harnik 2010), which they can be, it is not the scope of this thesis to utilize spaces with such limitations for would-be users. For this reason, these sites are not included in the research.

While traveling around the county to observe parks, the schools were noted, or driven by after school hours or on weekends. Rarely was there anyone using the grounds. Figures 4.2 and 4.3 are photos taken on a Sunday afternoon with sunny weather and 70 degrees temperature. Located at the cross-roads of several diversely populated neighborhoods just northeast of downtown, the Chase Street School Neighborhood Park was void of users on a nice weekend afternoon.
Figure 4.2 The Chase Street School Neighborhood Park welcomes the public year-round after 6PM on weekdays, and during daylight hours on weekends. *Photo taken by the author.*
Study Park Physical Characteristics, Comparison, and Categorization

The thirteen study parks range in size from one acre to 782 acres. They also range from highly programmed, to very open, to very rustic and natural, as seen on Table 4.2. Programming, in this case, means the division of space into specified uses like ball fields, trails or picnic shelters. This section will differentiate several key aspects of each park in terms of its size, form and function, which were used to define the park categories.

Given the study parks range in size so drastically, the first step in developing categories is to group them based on their total acreage. At this point, the groupings are done without consideration for programming or uses, and these designations are objective. As outlined in Table 4.3, for the first size bracket, there are two parks. Five parks are included in the second
bracket, two parks in the third, two parks in the forth, and two in the fifth. Since the North Oconee River Greenway is a linear park, the total acreage of the parcels that comprise it has been calculated. The range in functions provided by these leisure spaces is vast; therefore, physical size is not the only item to consider, despite the seemingly even distribution of the parks into five size categories.

<table>
<thead>
<tr>
<th>Size (acres)</th>
<th>1-10</th>
<th>11-25</th>
<th>26-50</th>
<th>51-100</th>
<th>101+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Parks</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4.3 Number of Parks per Size Category

To continue the size discussion and introduce park form, there is a park comparison map, Figure 4.4. The idea for this figure came from Big Parks, in a chapter by Julia Czerniak (2007, 24-25). The park images in Figure 4.4 have no specified scale, but all are in scale relative to each other. The white void spaces represent water. The power of a figure like this rests in the ability to discern much about each park’s physicality apart from its context, and in comparison with its counterparts. It is very easy to see the size differentiation, as well as begin to sort out those parks more organic in form, against those that are not. This begins possible groupings having to do more with form, and less with size, because the forms can be stronger representations of park characteristics than the size categories.

This discussion about size and form, along with the functions outlined in Table 4.2, establishes the research categories for the study parks. Table 4.4 outlines these categories, and Figures 4.5 - 4.9 have a simple site plan for each park by category. These plans were drawn by Erik Ladd, based on the author’s site observation, and the 2008 aerial imagery with 2010 parcel
Figure 4.4 Park Form and Size Comparison, Not to Scale

Source: Athens-Clarke County Planning Department
and building footprint GIS data provided by the ACC Planning Department. None of the drawings are to scale, nor are they oriented relative to north. They are meant to be simple line drawings for reference and spatial comparison, regardless of true north and size. Each category takes into consideration park size, form and function, though each aspect is not weighted evenly or consistently. Function is the biggest determining factor for the categories, followed by
form, then size. Also, there was no consideration for the Athens Leisure Services Department categories of Regional, Community, Neighborhood and Linear/ Greenway in determining the categories for this study. Please refer to the site plans in the figures for further reference with each description. Appendix C is a foldout of the park and community garden categories for use as a reference. The categories are as follows.

Community Hubs, Figure 4.5: These parks provide a large range of indoor and outdoor recreation activities. Most notably, they all house a community center, which hosts events and other passive or active programs for Athens residents of all ages. In this manner, they play a crucial and active role within their respective Athens communities. A community center on site guarantees constant activity, and therefore constant use. These sites were observed to be well maintained and mostly active indoors. All these parks also have an outdoor pool that is open in the summer months, which greatly increases the outdoor activity, and nice playgrounds that attract local daytime use. The parks range in size from 6 acres to over 12 acres, and cross the boundary of two size brackets listed on Table 4.3. Size, in this case, is less of a determining factor, and function is more important. There are no other parks in the study that have a community center. The parks in this category are East Athens Community Center, Rocksprings Park and Thomas Lay Park.
Figure 4.5 Park Categories: Community Hubs

Drawn by: Erik Ladd
Multi-Use, Figure 4.6: This category is broader than the other categories. These are parks offering a large range of passive and active uses, much like the Community Hubs, and are highly programmed, but do not have a community center on site. Again, site function is important here, which in turn generates a common inorganic form shared by these and the Community Hub parks. Size is not a factor as the parks range from 33 to 782 acres. The parks in this category are Bishop Park, Memorial Park, Sandy Creek Park and Southeast Clarke Park. All of these parks offer some sort of a specialty amenity, such as the Zoo at Memorial, World of Wonder Playground and Skate Park at Southeast Clarke, the Farmer’s Market at Bishop, and a 200+ acre lake at Sandy Creek. These were observed to be the most consistently used sites out of all thirteen. It can easily be argued most of the parks in this category serve Athenians as destination parks because of the multi-use nature and specified amenities, that include walking paths, pools, tennis courts and sports fields.
Figure 4.6 Park Categories: Multi-Use Parks

Drawn by: Erik Ladd
Nature Specific, Figure 4.7: These parks have area greater than 80% devoted to passive recreation and natural areas. There is no specific event calendar for these sites, and one is even a wildlife preserve with a stream-bank restoration project. The parks in this category do have a more organic form in keeping with their proximity to a river. They are also all in the “Not Listed” column on Table 4.1. In this case, form and function play a role in determining this category. The sizes range from 12 to 60 acres, which is not weighed heavily as a factor for this category. Their functions primarily are as natural areas with pathways, picnic tables and scenic views of the river. The parks are Ben Burton Park, Dudley Park, North Oconee River Park, and the North Oconee River Greenway.

Of all the parks, these were observed to be the least utilized, except by the active homeless population at the North Oconee River Park and Dudley Park. There is a common perception of problems resonating with many of these parks having to do with safety and illicit populations or activities. This may be due to issues of lighting or lack of attractive programming. This is not to say these sites need to be Multi-Use parks, because not everyone wants to negotiate soccer players when out for an afternoon walk, but actions might be taken to enliven these spaces.
Figure 4.7 Park Categories: Nature Specific Parks
Drawn by: Erik Ladd
Sports Specific, Figure 4.8: There is only one park in the study that is over 80% devoted to sports, with no other specified programming. As such, this category is totally dependent upon function. The park in this category, Satterfield Park, is however, considered a community park by the municipality, which means it ought to offer a diverse palette of activities. Two site observations at this park revealed a site devoid of use, but for little-league on the weekends. It is 13 acres, and mostly ballfields. The Holland Youth Sports Complex and East Athens Community Park might also fall into this category if they were part of the study.

Figure 4.8 Park Categories: Sport Specific Park
Neighborhood, Figure 4.9: The final category is the only one dependent upon size, with little regard for form or function, because a neighborhood park should be a free-form place for chance encounters and family activities. The requirements for this category is the site be less than five acres and adjacent to a majority of residential land uses. This is important, as neighborhood parks are typically less of a destination, and more meant to support a population in the immediate vicinity. If there is no neighborhood with some population in the vicinity, then there is little point to have a neighborhood park. The size and land use designation for this category is important, because the whole purpose of a neighborhood park is that it is simple, small, unobtrusive, and easily accessible on a neighborhood scale, that is, walkable from a few streets over. Were the seventeen school neighborhood parks part of this study, they would easily fit into this category.

Figure 4.9 Park Categories: Neighborhood Park

The park in this category is Reese and Pope, which is under consistent habitation by a local homeless population, despite or because of a SPLOST funded renovation in 2009. The
homeless occupation is due to a combination of local neighborhood issues and little use by other residents. They were hanging out there before the renovation, and now they hang out under the pavilion. Occasionally, other people play basketball a few yards away. The brand new playground is not used. There are few to no children in the neighborhood, which consists mostly of a senior population and university students.

**Conclusion**

Before attempting to analyze any feature, pattern, or space, it is important to ensure a complete understanding of the system to which it belongs. In this case, before choosing a set of study parks for the next step of analytical research, the ACC Leisure Services Department as a whole, as well as the planning community intentions, needed to be understood. From there, certain aspects of their facilities and activities that do not pertain to the study were ruled out, while being sure to not leave out something important. In order to choose the study parks, all the offerings, services and options available to Athens citizens had to be considered, so that a good representation of parks services would be available for research. The final step in developing categories for the study parks entailed combining aspects of their size, form and function.

The role of park categorization for this research, along with that of the community garden categories explained in the next chapter, is to create a measure of checks and balances. This research is attempting to answer a question that, if answered in certain terms, could paint an award winning park system in poor light. Having the parks designated into categories, allows for certain grievances against an individual park based solely on its spatial arrangement, to be harsher or lighter given the support, or lack thereof, from its counterparts.
The next chapter will follow a similar discourse for the study community gardens chosen for research purposes. However, as the community gardens are small sites and exist under different management schemes, the approach will be different, and more dependent upon their support systems, function, and progress. Again, apart from an overview map, there will be no discussion about their location context. That information will be in Chapter 6 with the GIS presentation.
The purpose of this chapter is to address community gardens in the context of Athens-Clarke County. The focus here is not on spatial location or demographic context. That information follows in Chapter 6 with the presentation of GIS data. In an effort to describe the process used for the selection of study community gardens, this chapter identifies the general nature of neighborhoods and communities in ACC, followed by a brief explain of the selection criteria used in the study. There is also background information about the Athens Community Garden Network and the issue of unsupported gardens. This chapter concludes with definitions and interpretation of the community garden categories.

The Nature of ACC Neighborhoods and Communities

There are three problems faced by anyone who wishes to study neighborhoods in ACC. First, there are no true municipality-specified neighborhoods based on population residence, other than what is determined through zoning and land use. Like most places, ACC has political boundaries drawn for voting, and districts for schools, commissioners, and historic areas. All of these areas are drawn based on population, except for the historic districts, which follow separate guidelines. Being drawn for different purposes, none of them coincide with each other, and therefore do not easily provide some notion of neighborhood groupings. Spread throughout these political and historic districts are sub-divisions, apartment complexes, public
housing, and typical residential streets intermixed with various other land uses. There are also areas, like Boulevard, Brooklyn, East Athens and North Avenue, that are informally known by the local population, but not delineated by the municipality.

What the municipality does provide, however, is Community Character Areas, which are outlined in Section 3 of the Comprehensive Plan (ACC Comprehensive Plan 2008). These character areas include Community Centers and Neighborhood Centers listed under the “Local Centers” heading. Figure 5.1 shows the now familiar map of the county with the garden locations, neighborhood centers and community centers noted for reference. These character areas are based on the “Growth Concept/ Character Areas Map” in Section 3 of the Comprehensive Plan. While these centers do not specify neighborhoods per se, they do define nodes of activity based on development, where the commercial activities, greenspaces, and residential areas relate to each other. Where they differ primarily is in scale, and also in function. The Commercial Centers serve as a hub for several neighborhoods, are auto-centric and have a service area of three miles. An example is the Normaltown area, labeled on the map. The Neighborhood Centers are pedestrian-oriented with a service area of one mile, and are focused on a specific neighborhood. An example is Fivepoints, labeled on the map. The Neighborhood Centers, of which there are 14, are truly where an idea of what neighborhoods in ACC look like can begin to develop. Sadly, based on Figure 5.1, few correlate with where community gardens are located.

Figure 5.2 displays the Land Based Classification Standard (LBCS) for the county using the Activity Dimension, according to standards set by the American Planning Association (APA). According to the Standards, the Activity Dimension presents the “actual use of the land based on its observable characteristics” (APA 2012). This dimension along with the Site Dimension,
Figure 5.1 Study Community Garden Locations with Community and Neighborhood Centers
Sources: ACC Planning Department, Atlanta Regional Commission, ACC Comprehensive Plan

Downtown Athens
Community Gardens
Community Centers
Neighborhood Centers
Major Roads
Major Rivers

0 1 2 Miles

Commerce Rd
US 29
Hull Rd
Broad St
Milledge Ave
Loop 10
Prince Ave
Lexington Ave
North Oconee River
Middle Oconee River
Five Points
Normaltown

0 21 Miles
Residential, Shopping, Business, Industrial, Manufacturing, Social, Institutional, Travel or Movement, Mass Assembly of People, Leisure, Natural Resources, Unclassifiable/No Activity.

Downtown Athens, Major Roads, Major Rivers.

Sources: ACC Planning Department, APA, Atlanta Regional Commission.
which describes the “overall physical development character of the land” (APA 2001), have been detailed for each study community garden on Table 5.1. The LBCS Activity Dimension will also be utilized in Chapter 6 for further investigation of the land use proximal to each study site. Figure 5.2 is available for consideration in this discussion about the complexity of land uses throughout the county that either contribute to or prohibit the ability for residents to develop a sense of community within their neighborhoods.

Second, since over half the ACC residential occupancy are renters, it is difficult to discern if there are any true neighborhoods or communities. According to the Demographic and Income Profile Report for ACC, Appendix A, 58 % of the occupied housing units in Athens are rentals (ESRI 2011). With a median age of 26.6 in 2010, it is easy to guess a number of these renters are students, which means a high turnover rate. While renters are certainly able to be a part of a community, they are typically they are short-term residents. Large turnover in neighborhoods and sub-divisions does not preclude a sense of cohesive belonging or a sense of community among neighbors. This can make it difficult to define or develop a local sense of ownership in where one lives in ACC.

The final problem faced by someone wishing to study ACC neighborhoods is that the race and age demographics suggest very little diversity in most residential areas. In areas where demographics do overlap, it is typically very segregated or gentrified, which can be seen on the Race Distribution demographic inventory, Figure 6.3. A good example of this is the Reese and Pope Street neighborhood, loosely defined by a six-block area designated a historic district. This neighborhood is dotted with newly constructed homes, mostly occupied by students, the Kappa Alpha fraternity house, a few half-way homes, several vacated properties, and very few inhabitants that might speak to the African American heritage and history of the area. Two of
the study community gardens and one study park are located in this neighborhood. These spaces all face challenges associated with the disconnected nature of this area’s inhabitants.

Another sort of neighborhood designation in ACC is the Neighborhood Notification Initiative (NNI). According to the ACC government website, this initiative was established in 2005 by the Mayor and Commission in an effort to foster communication between ACC neighborhoods and construction developers for projects proposed adjacent to or within a neighborhood boundary (ACC NNI, 2005). These neighborhood boundaries can be seen on a map on the website, but are not available as raw data, and therefore remain unavailable for use in this thesis. An older version of this is the Athens Federation of Neighborhoods (AFN), which was established in the 1960s as a “coalition of neighborhood and citizens’ groups,” with the purpose to “study and inform neighborhood groups and citizens about local issues that affect them” (AFN n.d.).

On paper, the ACC NNI serves a role in terms of city planning to keep citizens informed about proposed construction projects. Citizens from different residential areas may apply to have their neighborhood registered within this initiative. The government does not otherwise mandate or maintain neighborhood boundaries. The citizens create these boundaries, and there are many residential areas that are not part of the NNI. In reality, many of the registered neighborhoods have well-managed websites, a contact person, and list-serves that keep residents well informed of community gatherings and events beyond development proposals. For the AFN, there is little information available on their website about the distribution of neighborhoods, what they are, and what their involvement entails.

A very important aspect for the success of community gardens is the support they receive from their communities, it is important to note the nature of residential areas in ACC. If
there is no community and no neighborhood, then there is some hope that a garden can serve as catalyst to build social capital in the area, or band together what might otherwise be an unconnected community. However, if there is no community, then a community garden can also fail, as is the case with some of the gardens in ACC where interest has dwindled down to only one or two participants.

The question then arises: How many people need to benefit from a garden in order for it to be deemed a successful aspect of the community? Does participation from one or two people carry the same meaning as twenty or thirty? Or, can participation from one or two proximal residents be fostered by continual support from outside volunteer support groups? Unfortunately, at several of ACC’s community gardens with little neighborhood support, even with a lot of outside help from volunteer groups, are not successful. Milburn and Vail say “while securing land is critical to protecting the future of community gardens, they would not exist without the interest and support of gardeners and their surrounding communities” (2010, 76). Stone says “the success and long-term sustainability of community garden projects depends entirely on the vested interest of neighborhood-based grassroots volunteers” (2009, 128). Successful community gardens need secured land, municipal support, grass-roots organization, and local initiative and interest.

Finally, MacNair explains that the location of a garden should be proximal to the gardeners, or within reach by bike or walking (2002). Now, add smart location to that list for successful community gardens. This is similar to guidelines set forth for neighborhood parks, at least in terms of proximity to their intended user groups. How can a park or community garden for a neighborhood be expected to succeed if it is not located in a place where people can get to it? And, how can it succeed if there is not neighborhood to support it? Emerson says “a
garden located within walking distance of its gardeners will receive more activity and therefore will be safer and better maintained” (n.d., 12). Walking distance is typically understood to be the range of a five to ten minute walk, which is a neighborhood scale (BFA 1998). Indeed, there is great challenge in Athens to locate community gardens for people living in residential areas with little neighborhood ties or connections.

These aspects of ACC neighborhoods and communities are a challenge for those working to establish successful gardens for ACC residents and especially the poor. This raises a question about the importance of location and sustained interest from the would-be gardeners. It will be interesting to see the outcome for ACC community gardens that are in locations without neighborhoods and communities, or are in a neighborhood that is dis-interested. Important to this discussion is that similarly, poor location or community interest can also affect the successes of municipal parks. Community garden placement should be considered in some way similar to park planning. If park planning takes into account some of the charge set forth for garden location, and if the two greenspace services can work together within the residential areas, then the result will be better for the community. It can also serve as a means to building community in disjointed residential areas.

**Study Community Garden Criteria**

The preceding discussion, in concert with the review from Chapter 2, indicates there are certain benefits and challenges inherent to community gardens that are not unlike those for parks. The nature of ACC communities, with a disconnected system of residential areas and poorly designated neighborhoods, presents a unique challenge to planners. Both park and garden planners, have much to learn from one another about siting greenspace services to
increase a sense of community. All of these things have been kept in mind for establishing the criteria for choosing the study community gardens for this thesis.

A three-year grant for the amount of $287,690 from the USDA National Institute for Food Agriculture’s (NIFA) Community Food Projects program was awarded to the Athens Land Trust in November of 2010 (ALT n.d.). Now in its second year, the Athens Community Garden Network is flourishing. New gardens are cropping up every month as of the drafting of this thesis in summer of 2012. For this reason, the first criterion is a cut-off date set for December of 2011. Any garden that existed prior to 2011, or was proposed to break ground in 2011 was considered. Otherwise, as new gardens are added, the analysis for this thesis would be never-ending. Unfortunately, this criterion also serves as a limiting factor to the analysis. The second criterion is that a garden space must fulfill the definition set by the ACGA for a community garden as “any space gardened by a group of people” (ACGA n.d., n.p.). This does not mean that it must be gardened by a residential group of people, because that would exclude some community gardens serving a key role for their unique communities. Whether or not the community garden is part of the Athens Land Trust managed ACGN is not a criterion. There are many significant gardens in the Athens area that are either beyond the scope of the ALT grant program, or were established before the time span for the grant. Also note that there is a garden located in and near the main entrance for Sandy Creek Park. This garden is not considered for the study because access to the park is fee-based, which may be a hindrance to accessing the garden for some members of the community. Also, the credential of this being a community garden is uncertain. These criteria were used further to develop the community garden categories, which are based on their functions and relationship with the Athens Community Garden Network.
<table>
<thead>
<tr>
<th>Study Community Gardens</th>
<th>Year Established</th>
<th>Approx. Size</th>
<th>Row Crops, Raised/ Built Beds, or In-Ground Beds</th>
<th>Land Use - Activity</th>
<th>Land Use - Site</th>
<th>Zoning</th>
<th>Network</th>
<th>Communal or Individual</th>
<th>Tool Shed</th>
<th>City Water Connection</th>
<th>Rain Collection System</th>
<th>Compost System</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC Community Council on Aging Boulevard</td>
<td>2010</td>
<td>1 acre</td>
<td>Raised Beds &amp; Rows</td>
<td>C - G</td>
<td>Y</td>
<td>C</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>135 Hoyt St</td>
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<tr>
<td>ACC Community Council on Aging Boulevard</td>
<td>2009</td>
<td>2 acres</td>
<td>In-Ground Beds</td>
<td>C - N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>900-1000 Boulevard</td>
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<td>2003</td>
<td>.75 acre</td>
<td>Raised Beds</td>
<td>G - C</td>
<td>Y</td>
<td>I</td>
<td>Y</td>
<td>?</td>
<td>N</td>
<td>N</td>
<td>170 Julius Dr</td>
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<td>Brooklyn</td>
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<td>In-Ground Beds</td>
<td>G - B</td>
<td>Y</td>
<td>I</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
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<td>Friendship Christian Church</td>
<td>2011</td>
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<td>In-Ground Beds</td>
<td>R - G</td>
<td>Y</td>
<td>I</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>327-329 Tallassee Road</td>
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<td>Garnett Ridge</td>
<td>2011</td>
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<td>In-Ground Beds</td>
<td>R - G</td>
<td>Y</td>
<td>I</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<td>Neighborhood/ Handmade Garden</td>
<td>2008</td>
<td>.75 acre</td>
<td>In-Ground Beds</td>
<td>R - B</td>
<td>N</td>
<td>C</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>250 North Pope St</td>
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<td>Pine Woods</td>
<td>2010</td>
<td>.5 acre</td>
<td>In-Ground Beds &amp; Rows</td>
<td>G - A</td>
<td>Y</td>
<td>I</td>
<td>C</td>
<td>Y</td>
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<td>N</td>
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<td>In-Ground Beds</td>
<td>G</td>
<td>Y</td>
<td>C</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>1692 W. Broad St</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rev. Bascoe Jackson Memorial Garden</td>
<td>2011</td>
<td>.25 acre</td>
<td>In-Ground Beds</td>
<td>G</td>
<td>Y</td>
<td>C</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>130 Cole Manor Dr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riverwoods</td>
<td>2011</td>
<td>.5 acre</td>
<td>Raised Beds</td>
<td>G - P</td>
<td>Y</td>
<td>I</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>670 W. Broad St</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UGA Family Housing</td>
<td>2007</td>
<td>.5 acre</td>
<td>In-Ground Beds</td>
<td>G</td>
<td>N</td>
<td>C</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Behind Bldg Q, Rogers Rd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UGarden</td>
<td>2009</td>
<td>1 acre</td>
<td>Rows</td>
<td>G</td>
<td>N</td>
<td>C</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>2500 S. Milledge Ave</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LBCS Land Use: Activity
- Residential
- Shopping, Business
- Industrial, Manufacturing
- Social, Institutional
- Travel or Movement
- Mass Assembly of People
- Leisure
- Natural Resources
- Unclassifiable/ No Activity

LBCS Land Use: Site
- Natural State
- Developing Site
- Developed Site: Crops, Grazing, Forestry, etc
- Developed Site: No Buildings
- Developed Site: Non-building Structures
- Developed Site: With Buildings
- Developed Site: With Parks
- Not Applicable
- Unclassifiable

Zoning*
- Single-Family Residential
- Mixed Density Residential
- Neighborhood Commercial
- General Commercial
- Agriculture Residential
- Government
- Parks

* See Table 5.4 for complete Zoning Key

Table 5.1 Study Community Garden Attributes and Key
Sources: Site visits, ACC Planning Department GIS Data

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Table 5.1 provides a list of the study gardens chosen based on the aforementioned criteria, along with some pertinent attribute information about each site, the Land Based Classification Standard (LBCS), and zoning for the garden parcel. The gardens will be discussed in more detail later in this chapter. The next two sections provide information about the Athens Community Garden Network, and the issue of illegal gardens.

**Athens Community Garden Network (ACGN)**

At this juncture, the nature of the ACGN deserves brief mention. According to an application provided to would-be gardeners by the Athens Land Trust, the ACGN is “a group of gardens across Athens with a common goal of growing healthy, local produce” (ALT Application n.d., n.p.). Resources, education opportunities, and support are provided to network members, and it is free to join. The stipulations listed on the application are that at the time of application, there must be five committed gardens signed up, and ten at the time of garden construction. Thus, a neighborhood where only one or two people want to start a garden would not be able to apply.

Once the garden application is approved, the garden members sign a contract, which in return, guarantees them access to resources like tools, seeds and compost. It does not guarantee, however, a water source. The contract agreement includes sending one representative to at least eight of twelve workshops held once a month throughout the year. The workshops meet at a different garden each month and host a work session so that gardeners can visit other spaces in the network, support each other, and continue their education. Each garden can decide whether they want communal or individual plots, and they must choose a manager in order to streamline communication with the ALT. For the purposes
of reporting required by the grant providers, the gardens maintain records of volunteer hours, member hours, harvest, water use, fertilization or pesticide application\(^2\), and planting logs. Communities that wish to start a garden must be considered low-income, which is almost anywhere in the county. The purpose of the grant is to target low income families with the most need for a fresh food resources.

**Unsupported Gardens**

The issue of land tenure security is a major challenge faced by community gardens, and there is lack of clear definition of these greenspaces in the ACC planning code and ordinance. The local ordinance does not specifically define community gardens, nor does it specify community gardens as a land use. What is written is largely open to interpretation, which leaves a loose definition for permitted use of land as a community garden. Many gardens are on land serving little other purpose to the landowner, or are located in some proximity to the users. None of the garden groups own their land, and most are not on land zoned specifically for community activities. Herbach notes the issue of support as, “Very few gardens are owned by the community groups that run them. Still fewer are held in trust or are owned by the cities that plan on keeping them gardens in perpetuity” (1998, Section VI). Despite this 14 year-old quote, the fact remains an unfortunate truth for community gardens in many areas of the country.

Details about the ACC zoning for each garden location explain the local ordinance in terms of agriculture uses (Table 5.1 and 5.2). While land use is not a designation used for ordinances, it can give some clue for the characterized use according to national standards. A

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\(^2\) It is the author’s observation that all of the community gardens in ACC abide by organic gardening standards in the use of pesticides and fertilizers, though none of the gardens are certified organic.
comparison between city zoning and land use can demonstrate discrepancies between the traditional Euclidian zoning methods and the actual land treatments. For example, the Tanyard Creek community garden resides on parcels zoned for Park, but the land use designation is Residential. The Garnett Ridge garden has an unclassifiable land use with Single-Family Residential zoning. According to Table 5.2, just under half of the gardens reside on land where their zoning permits agriculture.

Were the definition for agriculture updated to acknowledge community gardens, then the information about where in the county agriculture is a permitted use would be very important. For now, community gardens and agriculture are not the same unless the municipality says they are. The system does allow for special uses, which is a common designation for activities like community gardens, but maintains a vague acceptance for a land use that deserves more recognition.

According to a source at the ACC Planning Department, the truth of the matter is that none of these gardens will be cited for their violations unless complaints are lodged against them. Essentially, code enforcement across the board within residential areas is complaint driven. This is true for many of the illicit agriculture activities, like raising chickens or goats, that fall outside of ordinance for the zoning designations of the properties where they occur in the county. For sites with zoning that could allow for community gardens under a new agriculture definition, there may be further discrepancy around what is considered the primary or secondary use for the parcel. For example, a garden operating on land owned by a church could be determined the primary activity because the garden is attended every day, and the church is attended only once a week. In that case, the garden may not be permitted as a primary use. The exciting news is that there are expectations the planning department will be asked by the
<table>
<thead>
<tr>
<th>District</th>
<th>Minimum Lot Area, SF</th>
<th>Agriculture*</th>
<th>Sale of Products Grown on Site</th>
<th>Single-Family Dwellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS 40</td>
<td>40,000</td>
<td>P (L1)</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>RS 25</td>
<td>25,000</td>
<td>P (L1)</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>RS 15</td>
<td>15,000</td>
<td>N</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>RS 8</td>
<td>8,000</td>
<td>N</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>RS 5</td>
<td>5,000</td>
<td>N</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>RM 1</td>
<td>5,000</td>
<td>N</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>RM 2</td>
<td>5,000</td>
<td>N</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>RM 3</td>
<td>5,000</td>
<td>N</td>
<td>N</td>
<td>P</td>
</tr>
<tr>
<td>C-G</td>
<td>2,500</td>
<td>N</td>
<td>N</td>
<td>S (L11)</td>
</tr>
<tr>
<td>C-D</td>
<td>NONE</td>
<td>N</td>
<td>N</td>
<td>S (L11)</td>
</tr>
<tr>
<td>C-O</td>
<td>5,000</td>
<td>N</td>
<td>N</td>
<td>S (L11)</td>
</tr>
<tr>
<td>C-N</td>
<td>5,000</td>
<td>N</td>
<td>N</td>
<td>S (L11)</td>
</tr>
<tr>
<td>C-R</td>
<td>20,000</td>
<td>P</td>
<td>P</td>
<td>S (L11)</td>
</tr>
<tr>
<td>AR</td>
<td>10 acres</td>
<td>P</td>
<td>P</td>
<td>P</td>
</tr>
<tr>
<td>G</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no specifications in the Athens-Clarke County Code of Ordinances for permitted or prohibited uses for these districts. Assume agriculture permitted.

*The production, raising, breeding or maintenance of plants and animals including, but not limited to: forage and sod crops; grain and seed crops; dairy animals and dairy products; poultry and poultry products; livestock, including beef cattle, sheep, swine, horses, or goats, game animals, exotics, fish, and any mutations or hybrids thereof, including the breeding and grazing of any or all such species; bees and apiary products; fur animals; trees and forest products; fruits of all kinds, including grapes, nuts, and berries; vegetables; nurseries; florals; ornamental and greenhouse products; or lands devoted to a soil conservation or forestry management program. This does not include the commercial slaughter of poultry, livestock, or other animals. (ACC Code of Ordinances Sec. 9-2-1, Definitions, General, Agriculture)

**Table 5.2 Athens-Clarke County Zoning Key**

Source: *ACC Code of Ordinances, Chapters 9-5, 9-7, 9-8, 9-9, and 9-10*
city Legislative Review Committee to review the subject of community gardens within the ordinance, as well as to re-evaluate their current definition for agriculture sometime in the summer of 2012. Unfortunately, this is just an expectation. The ACC Planning Department is not pro-active. Changes are made when requested by the Mayor and Commission. If this comes to pass, then the next step will be to engage the municipality in some discussion about incorporating the gardens into the park network.

The purpose of noting these issues about the gardens in this study is to make a point of encouraging change for the current system in favor of community gardens. Establishing these gardens on sites without municipal support puts them in danger of being demolished or discontinued. Establishing the gardens on parkland, or designating community gardens as greenspaces, could increase their chances of survival, as well as mitigate a major threat to their success through issues of land tenure. Or, establishing community gardens where they are needed or truly wanted can alter community support for the gardens into perpetuity. The remaining thought is how can an existing garden be designated as a municipal greenspace if the land is privately owned?

**Study Community Garden Categories**

The categories determined for the study community gardens follow a different trend than that of the parks. First, the categories have been determined based on each garden’s affiliation with the ACGN, managed by the ALT. Second, they are categorized based on function as either specialty or traditional community gardens. In total, there are four possible outcomes for each garden as Network Traditional, Network Specialty, Non-network Traditional or Non-network Specialty, Table 5.3. The reason for developing the categories in this manner is in large
part due to the need to maintain an understanding that the support available for gardens is largely based on their involvement with the ACGN. Also, it is interesting to see the different types of gardens that can emerge beyond a tradition function. Interestingly enough, a majority of the gardens fall within the first category. What follows is a short description of each category with figures featuring photos of each community garden listed for the category.

Table 5.3 Community Garden Categories
Network Traditional, Figure 5.3: The gardens in this category represent what most envision community gardens as being: raised boxes or in-ground beds billowing with assorted vegetables and personal items. Some gardens in this category also have row crops that are communal, but most often they have rectangular beds tended by individuals. These gardens also represent groups of people who have applied to be part of the ACGN, and thus operate under terms set by contract with the ALT with its benefits. This is the largest category including Brooklyn, Church and Johnson Family Foundation, Friendship Christian Church, Garnett Ridge, Reverend Bascoe Jackson Memorial Garden, and Riverwoods.
Figure 5.3 Community Garden Categories: Network Traditional
Photos: Taylor Ladd
Network Specialty, Figure 5.4: These gardens operate within the confines of parameters established for the ACGN, but have evolved into different special functions based on characteristics, needs or interests of their gardeners. There are two gardens in this category. Pinewoods started as an in-ground communal garden for a latino community before the ACGN started. While it later became a member of the network, it has struggled with maintained adult interest. It has, however, evolved into a children’s garden due to the sustained interest the local children have for the garden. Out of this, the ALT has developed a Junior Master Gardener’s Program and embraced a possible successful future as a place of learning for children.

The other garden in this category is in fact two gardens located on the premises of the Athens Community Council on Aging. The original garden developed behind the facility as a demonstration universal access garden with special attention to engaging seniors. This is one of
the gardens where it is not necessarily a residential group active in the space, but still a group who engage with other daily activities at the center. Currently, there is a senior garden group meeting at the site being instructed by a staff member from the ALT. The other garden at this site was built in February of 2012 with intention of serving as a demonstration and learning garden for any interested persons near or far.

Non-network Traditional, Figure 5.5: Very simply, these community gardens existed before the onset of the ACGN and cannot apply to be part of the network. Otherwise, they are traditional in function and nature. The first of the two gardens in this category is the Boulevard Community Garden, which has been discussed previously in the text. The whole parcel is available for gardening. New gardeners need only to till up a plot no larger than twenty by twenty feet and start gardening. No one questions where they are from in town, as long as they maintain their area. If a plot goes untended for up to six months, then it is turned back over to the community. This garden also has a communal plot tended by whomever wants to take care of it until November of each year. This is a very laid back system, and seems to be working well for the garden, though there are rarely people to be seen there. In fact, it is so laid back, one might question how much community there is to be had at this garden other than sharing land. This information was provided by a “Boulevard Community Garden Plot Agreement” handout found in a plastic bag at the entrance. The garden was visited multiple times, and no one was ever there. There is no designation as to who is using the space.
The second garden is the University of Georgia Family Housing Community Garden established behind family and graduate student housing on south campus. As this garden is maintained by campus housing and receives some material support, it has no need to join the network. Most of the gardeners at this site are international students and their families. The only people allowed to use the garden spaces are residents in the University of Georgia family and graduate housing areas. There is water available, and the site receives a large delivery of compost from the university at the beginning of the season. Otherwise, the gardeners customize their beds with cultural flair and found objects, and the garden remains a very active place. It is one of the most beautiful community gardens in the county.
Non-network Specialty, Figure 5.6: This is the second largest category with three gardens. Each is as unique as the category title might suggest. First is the Neighborhood/Handmade Garden, which appears to be a traditional garden, but falls out of range due to its inherent adoption by the community as a neighborhood garden. It is located in a very diversely inhabited historic district. Most residents enjoy the garden as on-lookers, and as passers-by, but few participate.

Figure 5.6 Community Garden Categories: Non-network Specialty
Photos: Taylor Ladd
Very few take ownership of garden spaces, which are largely maintained by the couple that started the garden in 2008 and live in the area six months out of the year, yet it remains a communal space that has brought beauty and pride to the neighborhood. The garden straddles six parcels in a ravine once overrun with kudzu and is adjacent to a church, which has essentially adopted and supported it. It has grown into a real community space in this neighborhood and is a beautiful example of terraced gardening. Any are welcome to harvest, but the harvest is mostly distributed throughout the community by the couple and whoever approach them with interest in helping, as well as by the small homeless community that resides in Reese and Pope park across the street.

Also across the street is the Tanyard Creek Community Garden, which is still mostly in its planning stages. Some ground has been broken through volunteer groups of students working to rid the site of invasive plants, and by tenants in the adjacent commercial building. This is a specialty garden because the intention is for it to serve as more a park space with a range of flowers and edible perennials, which are lower maintenance than annual vegetables. This garden space is more in tune with the broader definition of community gardens as gardens that grow not just food, but also community.

The final garden in this category is the UGArden. Initially, it was not determined a good fit for this study due to its unique character as a UGA student-run CSA and community garden; however, “it is a piece of land gardened by a group of people” (ACGA n.d., n.p.). As such, it is worthy of consideration for this study. The UGArden does in fact work closely with the ACGN through its provision of resources and volunteers, but is not a member of it. Students work the one-acre plot, and a majority of the harvest goes to needy families in the area through organized food delivery programs and the Northeast Georgia Food Bank.
Conclusion

This chapter has presented some detail about the nature of neighborhoods in the Athens area as a way to set the stage for how community gardens are situated in the county, with some argument in favor of considering the factors of success for gardens in light of those needed for successful parks. The ACGN and issue of garden illegality were both discussed to frame the study garden criteria and garden categorization methodology. The community garden categories were developed in order to lend some standard of understanding to thirteen sites that are inherently unique, but will need to be understood as a collective for the following analyses. The following two chapters build on this information with that of Chapter 4 and develop an analysis of each site as individual and member of its category, in an effort to synthesize an answer to the research question.
CHAPTER 6

DETERMINING LIMITATIONS AND PRIORITY AREAS

Categories were developed within each greenspace typology in order to provide some semblance of order for what are otherwise twenty-six very unique spaces. Translating twenty-six sites into nine categories helps provide a quick overview of each site’s form, function and inter-relationships. The next step is the take what has been learned about each site and apply it to answering the question: where can limitations in greenspace services for ACC be addressed through integrating and municipally supporting community gardens? This chapter will investigate the limitations and provide analysis with recommendations for areas in the county where greenspace services are needed. Collectively, the community gardens and municipal parks will be referred to as greenspace services throughout this chapter. At times, the park system will be singled out for discussion, because it represents the existing condition of the municipally supported greenspace services in ACC today.

This chapter is divided into three sections based on process. Recall the research process flowchart, Figure 3.1. First, physical, infrastructure and demographic inventories, such as population, land use, and location at the county scale are collected to use as a point of reference and overview. Some of these inventory maps were used in the final analysis. Residential land use was then extracted and combined with site location and transit to determine if the greenspace services are proximal to ACC residential areas, distributed evenly, and accessible by alternative transportation. This provides an initial visual representation of the
limitations in greenspace services that exist, and investigates the implications of spatial relationships the greenspace services have within the context of ACC residential areas and transportation networks.

Second, ArcGIS Network Analyst Service Area solver was used to create service areas for each site, based loosely on parameters often used for walkability analyses in urban planning (BFA 1998), which are based walking distances, like a half-mile walk is ten minutes and a plausible distance for accessing a destination as a pedestrian. The outer-most range, one mile, for each site describes its study service area in order to illuminate exactly what exists in the proximity, which can either strengthen or devalue the success of the site as an individual or part of the whole system. These study service areas were combined with land use, public transit, and bike route inventories from the county. These inventory maps with some statistics, such as miles of street network and number of bus routes in each service area, help to build a better understanding of the possible influence, or contribution each greenspace service has.

Finally, the one-mile study service areas were then dissolved into one conglomerate area representative of those places, and more specifically those residential areas, in the county with access to a greenspace service. The inverse of these areas were then used to determine the greenspace service deserts, or specific locations in the county without parks or community gardens. Questions such as what percentage of residential areas have access to greenspace services and what percentage does not, as well as what percentage of residential areas excluded from park service areas have a greenspace service because of a community garden are answered.

The results from this inventory and analysis process are a series of three composite overlay maps using the service areas and residential land use with total population to show the
priority areas in ACC in need of greenspace services. This analysis demonstrates there are limitations in the existing greenspace services for Athens. The findings show that the area of highest need for greenspace services, particularly with an emphasis for food production, are those areas outside the greenspace service area and within a USDA determined food desert. The findings in this chapter provide the key answers for the research question.

**Athens-Clarke County Inventory**

This section begins with simple inventory maps of select physical, infrastructure and demographic characteristics of the county, as well as a site location map to use as a reference, Figures 6.1 -6.3. For the next step, the residential land use areas are extracted and displayed with park locations, Figure 6.4, and greenspace service locations with transit, Figure 6.5. These maps focus on the site locations as they relate to residential land use areas, and to public transit, bike routes and streets. This part of the inventory will begin to determine limitations in the greenspace services, and in particular in the existing park system, along with an idea of whether or not the greenspace services are proximal to ACC residential areas, distributed evenly, and accessible by alternative transportation. An explanation of the inventory figures is as follows:
Figure 6.2 Athens-Clarke County Physical and Infrastructure Characteristics Inventory
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission, Reference USA, Athens Transit, Google Maps, American Planning Association
Figure 6.3 Athens-Clarke County Demographics Inventory
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission, USDA, US Census Bureau, American Community Survey
Figure 6.4 Residential Land Use and Study Municipal Park Locations

Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission
Downtown Athens
Bike Routes
Bus Routes
Streets
Major Rivers
Community Gardens
Municipal Parks
Residential Land Use

Figure 6.5 Residential Land Use with Transportation and Study Site Location
Sources: ACC GIS Department, Atlanta Regional Commission, Athens Transit, Google Earth
Figure 6.1 The site locations are noted with an area outline and green point for each park, and a blue point for each community garden. The Athens Loop 10 has been highlighted red for reference. It serves as a virtual boundary for most of the population density in ACC. Notice a majority of the parks and community gardens in the county are located inside the loop, and a few gardens and parks are scattered outside the loop. Without any other information, it appears there is a poor distribution of greenspace services through the county, especially outside the loop.

Figures 6.2 and 6.3 These two figures display the over-arching physical, infrastructure, and demographic characteristics at the county scale that are relevant to this study. The physical and infrastructure characteristics include land use, public transit and bike routes, Agriculture-Residential zoning and retail grocer locations. The demographic inventory includes total population, percent income less than $15,000, race distribution, and the USDA determined food desert locations. The residential land use areas in yellow, public transit and bike routes, food deserts, total population and race distribution will be used for further analysis in this chapter. The remaining retail grocer and percent income inventories are provided to lend context for the USDA food deserts, which take into account income by census tract and access to food retailers as determining factors for food desert locations (USDA Documentation n.d.).

Figure 6.4 This map adds an overlay of the yellow residential land use areas from the land use inventory map with just the park points. What this begins to show is a gap in the existing municipally supported greenspace services for Athens residents. Removing all the community gardens and schools, while taking into account the one park in the Neighborhood Park category
noted with a black point, strongly reveals large tracts of residential areas not being served by a municipal park. The county could be better served with more neighborhood parks- a category the public schools do not truly fulfill, and community gardens can provide.

Figure 6.5 This figure incorporates Athens Transit bus routes, bike routes and streets with residential areas and greenspace service locations. Athens Transit provided the bus route data, and the bike route data was digitized based on route information from Google Maps. According to Bike Athens, there are eighteen miles of bikes lanes, six miles of multi-use paths, and fifty-four miles of shared lane roads in the county (Jason 2011). According to Athens Transit, there are 18 bus routes planned through major shopping destinations, neighborhoods, and key locations like Athens Technical Institute to the north, Georgia Square Mall to the west, and along Lexington Road to the east, with stops in downtown and UGA (Athens Transit n.d.). The transit inventory map notes several of these locations in an effort to display what alternative transportation options may be available to Athens residents with key destination points. The bus routes are designated with a heavy red dashed line and bike routes by a lighter red dashed line.

The fact that the public transit system exists at this extent shrinks some discrepancies in the access Athens residents have to the existing park system, although there are still caveats in the bus system where not all buses run seven days a week, and not all routes are linear. Given that the Athens buses are equipped with bike racks, however, it might be possible to reach all the sites inside the loop and one outside the loop using a combination of biking and bus riding. Being constrained to just one of these options, however, limits further the locations accessible
depending upon where one lives, with one’s ability to cycle or access bus stops. People living in areas with no greenspace services or transit are wholly dependent on a car. The author observed most users at the parks arrive by car or scooter. A smaller percentage of people actually ride a bus, bike or walk to the parks. In some cases this is due to the distribution of the existing greenspace services, and in most cases this is because our culture is trained to drive everywhere (Walkscore, Live More 2012).

Walkscore.com is a website where one can input their neighborhood or location and get a score rating the walkability of the area based on spatial analyses similar to those utilized for this research. It incorporates proximity to amenities such as restaurants, groceries, shopping areas and businesses into the score, in an effort to determine how dependent the area is on using a car to access these locations. Athens-Clarke County has an overall score of 35 out of 100 (Walkscore, Athens n.d.), which means it is car-dependent. This score is a reflection of the scale of one’s inquiry. Some neighborhood centers in the county score much higher, and some score lower. For example, downtown Athens scores 97 out of 100 (Walkscore, Lumpkin and Broad, Athens, GA n.d.). An increase in neighborhood greenspace services could provide more opportunity for residents to choose a healthier or more sustainable option for accessing greenspaces. If one’s greenspace is in walking distance, her or she would have the option to walk, instead of no option at all.

This look at location has clarified there are limitations in the existing greenspace services. There are just too many residential areas disconnected from transit that also are not proximal to existing parks, or even community gardens. This inventory has shown that the parks are poorly distributed among the residential land use areas, and that there is a concentration of transit and existing greenspace services inside the loop. Seven of the twenty-six sites are
beyond the range of public transit access. The largest park, Sandy Creek Park, is one of these, which poses a problem for a Leisure Services Department defined Regional park meant to serve a breadth of visitors from ACC, as well as neighboring counties, who must access it by driving to it. At this point, the noted gap in services remains objective because it has only taken into account land use, and not actual land occupation. The population demographic will be taken into account in the final analysis. The next section will introduce the greenspace service areas.

Network Analysis: Greenspace Service Areas

As discussed in the methodologies chapter, using a network analysis for this study is integral to understanding some important aspects of each site. It is to show further how the park system is not serving Athens residents, who can benefit from more greenspace services in the right locations. This section will present the greenspace service areas for each site as it has been determined by using the ArcGIS Network Analyst Service Area tool. Each service area is synonymous to a walkability analysis, encompassing a range of one half mile and one-mile increments, which roughly correspond with a ten-minute walk and twenty-minute walk respectively. The one-mile extent will be used to describe the study service area for each site.

Using the network analysis helps to build a better understanding of the possible influence or contribution each greenspace service has. Are there people living in Athens who area willing to walk a mile in order to reach a greenspace? What about a half mile? The reality is most people will walk about a quarter mile, or five minutes, depending upon terrain, to reach a destination point (BFA 1998). The service areas, however, include half mile and mile extents. A quarter mile extent would not be visible at the study scale, and is unfortunately non-existent for a few of the sites. If the half-mile extent were the only consideration for the analysis, it
would not only be very clear how little each park and community garden reaches into ACC public fabric, but also provide little area with which to work for the GIS analysis. Adding the one-mile extent, while a less realistic walking distance, allows for some flexibility within each service area. For the parks, it provides an opportunity to prove a better status of success. For example, without the one-mile network, Ben Burton Park would have virtually no service area at all, Figure 6.6. For the community gardens, a one-mile network range sheds light on the possibilities for outreach into other neighborhoods and possible connectivity with the park system. Overall, the one-mile range reveals better the relationships shared by land uses proximal to each site.

![Figure 6.6 Ben Burton Park: Example Street Service Area Network](image)

The ideal design consideration for greenspace services is to be embedded within the public fabric and available to the lowest common denominator in transportation: a pedestrian. The pedestrian might choose that mode of transportation, or only have that choice for
transportation due to circumstance. This ideal is truest when applied to neighborhood parks intended to primarily service residents within a walking distance of one-half mile, plus or minus (ACC Comprehensive Plan, Community Assessment 2008, Chapter 4). It is understood municipalities determine there own park service areas depending upon the size and amenities offered by each park. Central Park on Manhattan Island realistically has a much larger service area than Pedro’s Plaza, a community garden park situated on a half-acre in the South Bronx. In Athens, however, where there are widely distributed residents, a range of park sizes and amenities, and only one true neighborhood park, it is important to hold all the sites to the same standard. With a lack in neighborhood parks, and community gardens not yet serving this purpose, in order to be a successful system, the existing sites must be accessible and available to residents as if they were serving a neighborhood scale purpose. The rest of this section will be figures of each park and community garden service area inventoried with land use, public transit and bike routes, and the resulting service area street network.

Figure 6.7 provides an overview of the street network resulting from the service area analysis for each study group. Each park network origin is on the main access point or entrance to the park. The assumption is upon reaching the entrance to a park, one has accessed it. Each garden network origin is on the centroid of each garden space. The garden sizes are marginal in comparison to the parks, and placing the origin for each garden network at the center of the garden versus the entrance does not impact the output significantly. In these figures, overlaps in the service areas are apparent, as well as the concentration of the areas inside the loop. Also, with the incorporation of the street network, it is apparent there are areas of dense road
networks outside the service areas, which signifies subdivisions and residential areas outside the greenspace services. This is very apparent in the western portion of the county, and to the southeast of the loop.

Figures 6.8 and 6.9 contain inventories of each park and community garden service area, individually, and grouped into their categories. This inventory has also been compiled with larger scale maps in the Appendix B, along with a Category Reference Foldout, Appendix C, for your reference. The inventory includes an enlargement of each street network, transportation, and land use. The transportation bus and bike routes with bus stops are included on the transportation maps to provide context transit options in proximity to each site.

The land use inventory is derived from the same Land-Based Classification Standard (LBCS) discussed in Chapter 5 and used for Table 5.3. The land use site inventory provides a snapshot of each location’s spatial context within the county. Paying attention specifically to the residential areas around each site will begin to show where true gaps in the system may be. This is particularly evident with Sandy Park, Southeast Clarke Park, and Satterfield Park. On the other hand, residential zoning is prevalent in proximity to most of the community gardens, except for the UGArdens, which is tended by students. An access issue faced by the UGArdens is the lack of Athens Transit or UGA transit supported bus routes on this section of South Milledge. The other gardens mostly fulfill a need and purpose for accessible greenspace within their locations. Some examples include, Garnett Ridge, Church and Johnson Family Foundation, Friendship Christian Church, Riverwoods, and Pinewoods, most of which are in the Network Traditional garden category.

Some supporting evidence for these findings may be found by the statistics listed on Table 6.1. The numbers on this table represent data gathered based on each site’s study service
Figure 6.8 Municipal Park Service Area Inventory
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission, USDA, US Census Bureau, American Community Survey
Figure 6.9 Community Garden Service Area Inventory
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission, USDA, US Census Bureau, American Community Survey
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<th>Total Area (acres)</th>
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<th>Total Street (miles)</th>
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Table 6.1 One-Mile Service Area Inventory Statistics
area. The information includes total area; total area designated as residential land use; total
distance of the combined street network; total number of bus stops; total number of bus
routes; and total distance of combines bike routes. The data on this table is intended to support
and reflect what is depicted by the inventory maps, Figures 6.8 and 6.9, as well as Appendix B. A
pattern emerges where the sites that are closer proximity to Athens downtown area have
higher numbers. This area in the county has a denser population and dense street network,
which contribute positively to the service areas proximal to downtown. Community Garden
sites that very consistently rank in the top five for these statistics are the Neighborhood/
Handmade Garden, Tanyard Creek, and Rev. Jackson Memorial Garden. The parks are Reese
and Pope, North Oconee River Park, Rocksprings, and Thomas Lay. In terms of the categories,
the Non-network Specialty gardens, Neighborhood park, and Community Hub parks tend to
have higher numbers. This means these sites have more bike routes, bus stops and bus routes,
along with good proximity to residential land use areas. Having this infrastructure supports the
accessibility for each site, which can be a contributing factor their success as greenspaces. The
sites located further away from the downtown area tend to have lower numbers.

At the level of analysis presented in this section, it is possible to draw correlations such
as these about the context for each space, how accessible they are, and where the gaps in
services provided by the existing park system exist. It is also possible to see garden network
areas developing in places outside of the park networks. The next section will start to combine
and analyze the inventory and service area analyses to develop composite overlays.
Inventory + Greenspace Service Areas Composite Analyses

The reason for combining the study site service areas with land use and transit inventory is to answer questions about exactly where ACC population is in proximity to greenspace services and where it is not, which is important for the research question. Eventually, as a means to justify the important role community gardens are playing as greenspace service to some areas, the percentage of residential land use areas outside of park service areas but within a garden service area has been calculated.

To begin, Figure 6.10 has been prepared to show the polygon service area increments for the parks in green and community gardens in blue. The light green and light blue one-mile areas represented here were then combined to create one large service area in the county representative of the all the land in the county that falls within a one-mile greenspace service area. Figure 6.11 was made by using this conglomerate service area coverage to mask the residential land use areas. What remains is about 24,432 acres of residential land outside of the conglomerate greenspace service area, or 81.4% of the total 30,031 acres in the county devoted to residential land use, and 31.5% of the total 77,550 acres comprising Athens-Clarke County. The conglomerate greenspace service area contains a mere 5,598 acres of residential land use.

Another representation of these figures can be found on Figure 6.12. Statistics concerning the park and community garden service areas were calculated as a percentage of the 30,031 acres comprised residential land use. These are as follows: 12.7% of residential land use is within the total municipal park one-mile service areas, and 11.5% of residential land use is within the total community garden one-mile service areas to provide 18.6% of residential land use within the total greenspace service area conglomerate. The final statistic on the figure
Figure 6.11 Residential Land Use Outside the Greenspace Service Areas

Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission
Of the 30,031 acres of land designated as residential land use:

- 12.7% within municipal park one-mile service areas
- 11.5% within community garden one-mile service areas
- 18.6% within park & garden service areas combined
- 81.4% left without access to a green space service
- 5.8% within a mile of a green space service because of a community garden

Figure 6.12 Greenspace Service Areas and Residential Land Use Statistics
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission
draws attention to the 5.8%, or 1,740 acres, of residential land use areas that are within a mile of a greenspace service solely because of a community garden. Otherwise, this 5.8% is outside the municipal park service areas. This number should and could be higher, as well as more evenly distributed throughout the residential areas in the county, especially in areas struggling with food security.

These findings provide concrete statistics in favor of realizing that one, there are limitations in the greenspace services for Athens residents, and two, without the presence of community gardens, the percentage of residential land use outside a service area would be higher. The next section concludes the chapter analysis by combining this information with inventory overlays to develop three priority areas in need of greenspace services. These areas will show need-based locations where the limitations in the greenspace services for ACC are most prevalent.

**Greenspace Service Priority Areas**

Up to this point, this chapter has discussed the process of taking inventory and analysis through the use of GIS to determine the limitations of the greenspace services in ACC. Were this analysis completed in terms of the existing conditions being that community gardens are not a part of the municipal greenspace system, the outcome would be worse. Where the community gardens are mostly contributing to the greenspace services is in outlying areas of the county, Figure 6.10. These areas are that 5.8%. Were the community gardens that are being established in these outlier communities supported by the municipality as neighborhood parks, the greenspace services for Athens residents would be strengthened. In some communities
where the municipality is less able to establish a neighborhood park, supporting community
garden efforts and encouraging it would strengthen the greenspace services.

To conclude, the remaining figures present the top three areas the research findings
show to be the areas in the county with the most need for establishing greenspace services.
These are the residential areas, one, in the food deserts; two, outside the existing service areas
and not Agriculture-Residential zoned; and three, outside the existing service areas and
Agriculture-Residential zoned. Essentially, any residential land use area outside of an existing
greenspace service area is priority, but they have been ranked into three priority areas based
on need criteria. These areas were determined by combining different aspects of the food
desert, Agriculture-Residential zoning, service area conglomerate and total population
inventories, Figures 6.2 and 6.3. The total population by census block was used as the
determining factor for creating these priority areas with residential land use as a reference
because it is important to know at this point exactly where people in Athens are living.
Knowledge of the populated areas serves as a means to truth the residential land use.
Explanations for each are as follows:

Figure 6.13 The first priority area recommended for new greenspace services is within the USDA
designated food deserts for Athens-Clarke County. The USDA derives the food deserts based on
census tract population and income, and access to a supermarket or grocery store. Low access
is considered to be residing more than a mile from a healthy food retailer in urban areas (USDA
Documentation n.d.).

This area in ACC has been singled out as criteria for first priority because by nature of
being in a food desert, it is understood that a larger number of residential areas within are low
Figure 6.13 First Priority Area
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission, US Census Bureau
income, and have poor access to healthy food. For this reason, the criteria to create this priority area is first, those census blocks falling within a food desert census tract, and second, specifically outside the community garden service areas. Park service areas are not taken into consideration because as of now, parks in the county may not host community gardens, and their inclusion does not draw a drastic difference in the results. This is a priority area not only in need of greenspace services, but also in need of service areas that can support healthy food production. This graphic also includes a tally of the race distribution. In total, about 23,639 people live in this priority area.

Figure 6.14 The second priority area in need of greenspace services in ACC starts by subtracting the residential land uses within both park and community garden greenspace service areas from the total population. Those areas falling within agriculture-residential zoning are excluded because this zoning area encompasses residents with a minimum ten-acre lot size where produce may be grown and/or sold from the property. See Figure 5.2. The remaining areas in the county that are outside of a greenspace service area thus having a higher need. This priority area does overlap with the first one, which is allowed due to its lower status, and different set of criteria. The total number of people residing in this area is about 68,668.
Figure 6.14 Second Priority Area
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission, US Census Bureau
Finally, the third priority area is the *Agriculture-Residential* zoned census blocks that are outside both the park and community garden greenspace service areas. While this area has the lowest need for greenspace services due to the expanse of land available to most residential lots, some lots have been opened to planned developments or sub-divisions, and there is a significant population here left without access to a municipal greenspace service. The total number of people in this priority area is 13,612, and there is some overlap with the first priority area.
Figure 6.15 Third Priority Area
Sources: Athens-Clarke County GIS Department, Atlanta Regional Commission, US Census Bureau
Findings and Conclusion

This chapter uses GIS as a tool for determining the extent of the limitation within the existing greenspace services in ACC, and to recommend areas in the county in need of greenspace services. In general, the research demonstrates there are limitations in the existing greenspace services for ACC, and three priority areas in need of greenspace services have been determined.

The inventory section provided a glimpse at some demographic and physical characteristics of the county, along with residential land use overlays with park location and transit. These inventories determined while the existing greenspace services are proximal to Athens residential areas, they are not distributed evenly. It also determined that while most of the study sites are accessible by alternative transportation, there are problems, such as the largest park residing outside of the public transit access areas, and a majority of residential areas lacking transit to connect them to greenspace services.

The network analysis generated service areas for each study site. The outer-most range, one mile, for each site describes its study service area in order to illuminate exactly what exists in the proximity, which can either strengthen or devalue the success of the site as an individual or part of the whole system. These service areas were combined with land use, public transit and bike routes, and street network inventories from the county to build a better understanding of the possible influence or contribution each greenspace service has. The inventories and data table suggest that almost half the sites maintain a large percentage of service area devoted to residential land use, are accessed by a transit network, and encompass a dense street network. All of these factors serve to increase the success of the greenspace. A few of the parks that falter in one or all of these areas are Sandy Creek, Ben Burton, Satterfield
and Southeast Clarke. The community gardens that falter are the Church and Johnson Family Foundation, Pinewoods, and UGArdcn, which are also three of the four garden contributing to the 5.8%. The fourth garden is Garnett Ridge.

The third section utilized elements of residential land use and a conglomerate greenspace service area to generate statistics supporting the recognized limitations in the greenspace services. What this shows is that without the contribution of the community garden service areas, the amount of residential land use areas that are left out would be higher. The local ordinance does not support community gardens as a viable land use when thus far, 5.8% of the residential land underserved by municipal parks is gaining greenspace services because of a community garden. Municipal support for community gardens ensures their persistence as a viable land use. Otherwise, gardens develop on land that is not promised to endure, which is an unsustainable way to treat such a beneficial landscape.

Finally, all the elements of this study, inventory, analysis and composite, were considered for the development of three priority areas in need of greenspace services. Specifically, this study finds that within the 24,432 acres of residential land use falling outside of a greenspace service area, the area of highest need, particularly with an emphasis for food production, are those areas outside the greenspace service area and within a food desert.

It is known this is a poor county. What is known now is this is a poor county with a limited park resource and fledgling community garden resource, but with potential to have greenspace services that serve the communities as educational, aesthetic, recreational and healthy landscapes. This potential can be met if an integrated, municipally supported planning approach is taken for locating new community gardens or parks programmed with food
production. A next step would be to evaluate the populations in these priority areas and locate vacant lots or easements that might start to build and distribute the greenspace services evenly.

The next chapter takes a closer look at the greenspace services based on field observation and user surveys, in order to gauge if the accessibility limitations observed through GIS, and specifically noted by Table 6.1, in this chapter can be observed and supported through empirical methodologies.
This chapter utilizes two empirical research methods, field observation and user surveys, to support the findings from Chapter 6 in terms of accessibility. Only one of these methods was applied to each of the two greenspace service types. The municipal parks were visited multiple times and observed, and a sample of community garden participants were administered user surveys.

Accessibility has been chosen as the determining factor for this aspect of the study because it is understood to be an important factor in site use. In general, studies show people are more likely to visit a park if it is close by (Harnik 2010), regardless of whether they drive there or walk. In the park planning process, many municipalities mandate intention to ensure all residents live within $x$ distance or $x$-minute walk of a park. For example, in Atlanta, where there is 7.4 acres of park land per 1,000 residents (Harnik 2010, 19), the city goal is that every resident be no more than two miles from a park (Harnik 2010, 28). ACC has no such designation listed in its Comprehensive Plan in these terms; however, the Growing Sustainably in Athens-Clarke County IV Progress Report and Further Recommendations section of the ACC Comprehensive Plan recognizes that the “urban parks and open spaces are insufficient” (Growing Sustainably Report 2007, 10). This document also does not list Urban Parks as a high priority issue as of 2007.
This thesis recognizes the current park system is poorly distributed, and 81.4% of residential areas are outside the conglomerate park service areas (Figure 6.12); therefore, the ability for residents to access the parks as they exist, be it on foot, by bike, car, or bus, is important. This also is true for resident access to community gardens. In fact, according to the current ACC Comprehensive Plan, while it is recognized there needs to be a stronger system of greenspaces, at this point it is only in the research and management redevelopment stage. The county is more focused on ensuring that a strong sidewalk network is developed and maintained in an effort to improve walkability (ACC Comprehensive Plan, Community Agenda, Section 5: Consolidated Short-Term Work Program 2008). Since an analysis of site observation and user surveys can be extensive, and this is the secondary research methodology for this thesis, accessibility has been utilized to concentrate the focus of the analyses.

The first section explains the site observation and analysis, which determines how the parks are serving ACC in terms of accessibility. Here, the half-mile, or ten-minute walk, service area increments established through the GIS Network Analysis in Chapter 6, served as a point of reference for comparison with site observation at each park. These are the dark green areas on Figure 6.10. The second section will discuss the community garden user survey method and results, which gathered information about garden participant demographics, activity levels, and garden access.

These empirical investigations found two key results. Concerning municipal parks, the site observation and analysis revealed a collection of municipal parks that struggle with success in terms of accessibility as a system. There are three individual parks, however, that might serve as good examples for future green service planning considerations to follow. These were found to be Bishop, Dudley and Southeast Clarke Parks. The least accessible parks are Sandy Creek
and Satterfield Parks. The community garden user surveys found a large number of participants are active individuals who visit their gardens at least once a week, and drive to their garden.

Access conditions for most parks in ACC are limited, and community gardens suffer from poor location, with participants who live beyond a walkable distance. At this point, garden location is the discretion of the applicants and ACGN coordinators, who should be taking into consideration locations that are most favorable for the communities, along with land availability. The research methods utilized for this aspect of the analysis do support findings in the previous chapter. The next section will explain the details of the municipal observation method and results.

Municipal Park Site Observation and Analysis

Site observation is a key component to any place-based or site-derived research project. In *Inquiry by Design*, John Zeisel explains, “observing behavior in physical settings generates data about people’s activities...; about regularities of behaviors; about expected uses, new uses, and misuses of a place; and about behavioral opportunities and constraints that environments provide” (2006, 191). By integrating site observation into this study, the hope is that a similar data set regarding ACC parks will start to develop and serve as a basis for analyzing the specific successes and issues within the park system. Due to time constraints and aforementioned reasons, the specific observation elements related to access have been utilized for the analytical aspect of the research. In the future, this method can be expanded upon to take into account more characteristics relating to infrastructure and activity.

While all the park and community garden study sites were visited at least once for developing the content in chapters 4 and 5, the thirteen municipal parks were visited more
often and for longer time increments, in order to gather enough information for this research methodology. Site visits occurred from November 2011 through March 2012. Each park was visited at least twice, with one visit on a weekday and one on a weekend. At each of these visits, the researcher spent at least thirty to forty-five minutes walking through the park observing the activity. The activities, amenities, infrastructure, and physical elements of the park were noted, along with a loose estimate of user numbers and concentrated nodes of activities. All sites were driven by at least once for a glimpse of activity to confirm notes from previous visits. A few of the observed elements were supplemented or confirmed by the land use and transit inventories from Figure 6.8, in regards to the half-mile service area extents, Figure 6.10.

After visiting each site, the next step entailed developing a list of elements in order to organize what was observed. There are thirty-two elements based upon site observation, with a few elements added as determined by the author to be important for the context of this study. Each element was organized into one of three categories as seen fit by the author: physical, infrastructure, and activity. The results can be seen in Table 7.1, which organizes a tally of observed elements from the site visits at each park. Out of the thirty-two elements, five were chosen for the accessibility analysis, Table 7.2. These five observation elements were tallied for each park, scored and then graded as a percent of the total available number of points. Based on these scores, the individual parks were ranked. The park categories were then ranked based on the average of their constituent park rankings. The rankings are used finally as basis for determining how the parks are serving the county as accessible sites. The remaining portion of
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<tr>
<td>Has space for possible community garden</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X O</td>
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<td>Paved walking and or biking path</td>
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<td>Park map available</td>
<td></td>
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<tr>
<td>Planned &amp; maintained woodland trails</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Rogue trails</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Sidewalk to entrance</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
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</tr>
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<td>Large playground</td>
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<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
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<td></td>
</tr>
<tr>
<td>Pool</td>
<td>X</td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Public restrooms open on weekend</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active recreation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennis and basketball</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Destination uses (unique programs)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Weekday use</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekend use</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good for dog walking</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Farmer’s market</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community garden on site</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Exotic population</td>
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<tr>
<td>Exotic user group</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diverse user group</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X O</td>
<td>X</td>
<td></td>
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</tr>
</tbody>
</table>

Table 7.1 Municipal Park Site Observation Matrix
Table 7.2 Municipal Park Accessibility Analysis Matrix

<table>
<thead>
<tr>
<th>Category</th>
<th>Observation Elements</th>
<th>Possible Points</th>
<th>Ben Burton</th>
<th>Bishop</th>
<th>Dudley</th>
<th>East Athens</th>
<th>Greenway</th>
<th>Thomas Lay</th>
<th>Memorial</th>
<th>N. Oconee River</th>
<th>Rocksprings</th>
<th>Reese and Pope</th>
<th>Sandy Creek</th>
<th>Satterfield</th>
<th>Southeast Clarke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>adjacent to public housing</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>adjacent to residential area</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>paved walking and or biking path</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>bus stop near entrance</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>sidewalk to entrance</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>TOTAL</td>
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<td>4</td>
<td>4</td>
<td>3</td>
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<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>SCORE</td>
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<td>100</td>
<td>20</td>
<td>80</td>
<td>80</td>
<td>60</td>
<td>60</td>
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<td>40</td>
<td>60</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>80</td>
</tr>
</tbody>
</table>

RANK

1. Bishop
   Dudley
   Southeast Clarke
2. East Athens
   Greenway
   Thomas Lay
   Rocksprings
3. Memorial
   N. Oconee River
   Reese and Pope
4. Ben Burton
5. Sandy Creek
   Satterfield

Table 7.2 Municipal Park Accessibility Analysis Matrix
this section details the different elements of the Municipal Park Site Observation Accessibility Analysis Matrix, and conclude with an explanation of the results. Explanations of the categories for the observation elements in Table 7.1 are as follows:

**Physical Category:** Observation elements in this category are general descriptors of the parks, or noted physical characteristics within the park or surrounding it. These elements were observed to play some role in drawing users to the park, or provide a positive social influence on the surroundings.

**Infrastructure Category:** This category consists of those elements that provide infrastructural support for the park through amenities or external influence. These observation elements were perceived to contribute in accessibility to the park, or the possible influence the park has for drawing users to the site.

**Activity Category:** This category consists generally of the activities observed while on site visits. These elements were observed to be mostly popular, or potentially serve as positive influence for the park as a whole. Here, “illicit populations” refer mostly to an overwhelming presence of homeless in some parks. While is it possible for the homeless population to co-exist peaceably with park users, in the ACC parks, their presence was observed to decrease the use of the park by others. In this case, this observation element is not a positive influence for park use.
The following is an example to guide the reader through the tally and scoring process for the accessibility matrix:

![Image of matrix example](image)

**Figure 7.1 Dudley Park- Matrix Example**

For each accessibility element observed at Dudley Park, the corresponding point was placed in the matrix in the “Dudley” column. Adding these up gives Dudley Park a score of 4 out of 5, or 80%. This score ranks Dudley Park in first place with Bishop and Southeast Clarke Parks.

The results from this method of observation and analysis found Bishop Park, Dudley Park and Southeast Clarke Park to be the most accessible. The parks with the least accessibility are Sandy Creek and Satterfield. The highest-ranking park categories based on the average rank of its individual members are Multi-Use and Nature-Specific, followed by Community Hubs and Neighborhood, and finally Sport-Specific. By totaling the number of parks out of thirteen that contributed to the matrix for each element, Table 7.3, it is of note that the average number of parks out of thirteen contributing to the Physical Category is 4.5, the Infrastructure Category is
<table>
<thead>
<tr>
<th>Category</th>
<th>Observation Elements</th>
<th>Total Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>river park</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>water feature</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>nature park</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>large park</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>pocket park</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>adjacent to public housing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>adjacent to residential area</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>has space for possible community garden</td>
<td>6</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>sports facilities</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>community center on grounds</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>with designated dog area</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>paved walking and or biking path</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>park map available</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>planned &amp; maintained woodland trails</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>rogue trails</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>bus stop near entrance</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>sidewalk to entrance</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>large playground</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>pool</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>public restrooms open on weekend</td>
<td>3</td>
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<tr>
<td>Activity</td>
<td>active rec only option</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>active recreation</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>tennis and basketball</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>destination uses (unique programs)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>weekday use</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>weekend use</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>good for dog walking</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>farmer’s market</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>community garden on site</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>illicit population</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>exclusive user group</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>diverse user group</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 7.3 Total and Average Number of Parks per Observation Category
4.5, and the Activity Category is 4.75. This means that only one-third of the parks on average are contributing to any one of the observation element categories, which speaks to the park system’s diversity and range of amenities.

The observation elements with the lowest representation on the matrix are the two relating to food: “farmer’s market” and “community garden on site.” Other elements with low representation are “designated dog area,” “water feature,” and “park map available.” For the accessibility specific observation elements, there are only three parks adjacent to public housing, five with a bus stop near the entrance and five with a paved walking/bike path on site. On a positive note, a majority of the parks are located adjacent to residential areas. This correlates with the land use inventory for each park from Figure 6.8.

These results mean several things for this study in terms of the access observation elements in the physical and infrastructure categories. The first two physical elements are determining park proximity to public housing and residential areas. A majority of the parks are adjacent to residential areas, which is a positive aspect. It is important to note this because parks need to be where people are. The three parks that are located adjacent to public housing are supporting the quality of life for a lower income demographic, and also happen to be the three parks serving as Community Hubs. While this demonstrates the current park system is not hugely limited in its proximity to residential areas, the limitation resides in the fact there are still many residential areas without parks, as well as public housing areas outside of park service areas.

The three access observation elements in the infrastructure category reveal a concrete analysis for limitations in the park system. A priority in the push to connect the sidewalk system in the county should be to ensure all the existing parks have sidewalk access. Currently, less
than half of the study sites have city sidewalks leading to the main entrance. In tandem with sidewalk access to the entrance is the fact that only five of the parks have a paved trail surface. Rocksprings and Thomas Lay Parks both have sidewalk access to the parks, but no paved trails for recreational or universal access. Bishop Park, observed to be a very successful park, has both. A paved walking or biking trail may be beyond the scope of the programming for several of the parks, but a point to ensure connectivity and universal access not only to the entrance but also into each parks needs to be made. An unfortunate reality is that there are parks with fifteen or more bus stops in their one-mile service areas, Table 6.1, but no stop near the entrance. Two examples are Thomas Lay and Reese and Pope.

Finally, less than half of the parks have a bus stop near the entrance. With a majority of Athenians residing beyond the major park service areas, providing bus routes proximal to parks with stops at or near the parks should be a priority. Not everyone has a car. Not everyone feels comfortable riding a bike. Parks should not be wholly dependent upon car access. More reliance on buses relieves park surfaces of car congestion and provides another option to compete with car reliance.

What these observations provide in concert with the GIS inventory and analysis for Athens municipal parks in Chapter 6 is unique insight to the uses, misuses and non-uses that occur. This is not something that can be measured using GIS. While the GIS physically shows limitations in the reach the municipal parks have into the residential fabric of ACC, these site observations were used to develop a way to analyze the relative success of each municipal park in Athens based on accessibility. GIS analysis is powerful, but falls short in analyzing very specific site impressions. The fact alone that even the highest-ranking parks only had a score of 80% out of 100% is telling of a park system that overall is falling short in serving Athens
residents as accessible sites. With more research, this method could be applied to other observation elements to determine the overall successes of each park individually and as categories. Also, if a measure of objectivity can be developed, the observation elements can be weighted to provide an overall understanding of success for each park. While the GIS has demonstrated a limited system from a broad point of view, this collection of observations begins to pinpoint where the failure is occurring, and more specifically where it is occurring in terms of accessibility. The empty spaces in the matrix next to all the observation elements in Table 7.1 shows this very clearly, as do the totals and averages on Table 7.3. Having a system of parks that differ as much in amenity availability as they do in potential to engage and invite use does not signify a successful park system. With no neighborhood parks to relieve some of the pressure these thirteen major parks have to serve all the needs of their proximal communities, along with their programmed and intended uses. The next section will continue this analysis with the user surveys conducted at community gardens.

Community Garden Surveys

According to Zeisel, surveys are “used to discover regularities among groups of people by comparing answers to the same set of questions asked of a large number of people” (2006, 257). In order to gain a better understanding about how or if community gardens are accessible from the perspective of the users, utilizing the survey method provides a means to find regularities, as well as gather valuable demographic information. While this method can prove to be useful, it is not the major methodology for this research due to a few limitations.

Community gardens have been on the rise in Athens, and many new gardens grew over the course of 2011 with the initiation of the Athens Community Garden Network. In the
summer of 2011, when the research for this thesis began, a majority of the gardens chosen for this research were gaining momentum. The surveys, however, were not administered until the spring of 2012, which proved a smaller return showing of gardeners and workdays available for the author to attend and gather information at the study gardens. The sample size, therefore, for this survey consists of twenty participants.

The human subjects criteria for the survey was that it must be administered on site at one of the study gardens in the event of a workshop or work session, whereby the largest number of garden participants might be sought. With most gardens functioning as semi-private spaces on private land, it was less intrusive to approach gardeners at an open and public work session. The limitation with this is that the time available to hand out surveys was contingent upon the gardens having work sessions, many of which did not during the study period. A lot of efforts, time and resources by the ACGN were being put into new 2012 gardens that are beyond the scope of this study. Eight of the thirteen study gardens contributed surveys. Also, while anyone was welcome to fill out a survey, there were many people present at work sessions who were there as a volunteer for a class, and therefore, were not regular participants in the garden, nor members of the surrounding community. There is a “volunteer” column in the results table to show the few participants who noted they were volunteers. This was not a question on the survey. The survey sample was therefore, not systematic and not random.

Another limitation is that these survey questions were written prior to the full development of the research question for this thesis; therefore, some questions are not as useful for this aspect of the analysis.

Along with the limitations, the results from the survey data provide only a little information that contributes to supporting the findings from Chapter 6. Figure 7.2 has the table
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>ANSWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Age</td>
<td>18-21</td>
</tr>
<tr>
<td>Race and Ethnicity</td>
<td>Native American</td>
</tr>
<tr>
<td>How did you get here today?</td>
<td>Car</td>
</tr>
<tr>
<td>Approximately now many times a week do you come here?</td>
<td>1 to 2</td>
</tr>
<tr>
<td>Based on your answer to question 5, how easy is it for you to get here?</td>
<td>Volunteer</td>
</tr>
<tr>
<td>Describe your level of activity per week. Do you at least walk for 10 minutes...?</td>
<td>Once a week</td>
</tr>
<tr>
<td>Please circle any of the following activities if you do them at least once a week.</td>
<td>Jog</td>
</tr>
<tr>
<td>What time of day do you visit here most often?</td>
<td>8 to 11am</td>
</tr>
<tr>
<td>Please circle the general area on the Athens map where you live.</td>
<td>Inside the Loop</td>
</tr>
</tbody>
</table>

Figure 7.2 Community Garden Survey and Results
of survey questions and results. While not all the questions pertain directly to the topic of accessibility, this section includes a description and general results for each question that was on the survey for reference. The items in bold correlate with accessibility:

**Age and Gender:** These are general demographics questions. Results show that among the survey participants, gender and age were not a determining demographic pattern for community garden participation. A larger sample size would be necessary to determine the overall demographic pattern for community garden participation.

**Race and Ethnicity:** This is a general demographics question. A majority of participants were white and non-Hispanic, however, which mostly draws from the fact that locations where surveys were taken had a majority white population in attendance. Also, the author found other races were less interested in participating in the survey. This was especially true for the Hispanic population.

**Transportation:** This question is intended to gauge the mode of transportation participants are using to travel to community gardens. Most participants arrived by car, with a few preferring biking or walking. No one took the bus.

**Weekly Attendance at the Garden:** This question describes the intensity of use on the garden. The results showed a well distributed range in how many times a week participants visited their garden, the highest ranges being 1 to 2 and 2 to 4 times a week. Already, at least one time a
week is more times than many people visit a park per week. By nature, gardening annual plants like vegetables requires active attention everyday.

**Ease of Access to the Garden:** This question also determines ease of access, but is based on their answers to the question about transportation to the garden. Most participants felt they were easily able to access the garden. Some survey participants offered that difficulty in access was attributed to getting lost, cycling through high traffic areas without bike lanes, or walking without sidewalks.

**Personal Level of Activity and Type of Activity per Week:** This and the next question are meant to understand the general level of activity and what types of activities garden participants engage themselves every week. The original intention of these questions was to determine the plausibility that gardens can serve as a recreational activity. Specifically, participants were asked if they walk for ten minutes at least x-times per week, as well as noting from a list which activities they participate in each week. A majority of participants walk for ten minutes every day. The top three weekly activities were walking, cycling and gardening.

**Typical Time of Day to Visit the Garden:** A question about time of day begins to develop the idea that there are preferred times of day for leisure activities. A more intense survey might reveal a user group preferring to garden in the morning. If there is ever consideration to place community gardens on public school grounds, this will be important to know, because people might prefer to use the garden when the ACC “neighborhood parks” are closed. Results from this survey show that the survey participants like to garden any time of day.
**Where the Gardeners Live:** This is a loose demographic question to gauge where garden participants live in ACC. The county was divided into four quadrants: inside the loop, outside the loop NW, outside the loop NE and outside the loop SE to help organize the results. A map designating the location of these quadrants is provided on Figure 7.3. The last question on the survey was a map of the county for the participant to circle where they live, Figure 3.2. Due to restraints with the survey process concerning anonymity, there was no way to correlate the gardens where the survey was given with the where the participant lived. Therefore, these results just show the distribution of survey participants within the county. A majority or the participants live inside the loop, which is also where a majority of the community gardens are located.

The survey sample group is generally a white population of gardeners who are active and visit a garden at least once a week. Almost half the participants listed gardening as one of their weekly activities, next to walking and cycling. If most gardeners already walk every day, it is important to note that they are willing to walk, and their community garden should be in walking distance and accessible on foot. This begins to shed light for issues of accessibility for the community gardens, despite the fact the survey was not written with this entirely in mind.

That a majority of survey participants drove to the gardens speaks to a willingness people have to drive places. This finding suggests either the community gardens are not easily accessible by other means of transportation, which speaks to limitations in their locations. Also, they may be attracting users beyond their immediate surroundings, and participants are not confined to the boundary of the specific community garden supporting neighborhoods. In this case, it can be said community gardens are needed at a more prevalent scale, or need to be
located in proximity to residential areas with sidewalk access. The hope is that a community garden will be located in such a way that gardeners do not feel the need to drive. That any survey participants drove at all speaks to the limitations in terms of accessibility for the community gardens that are part of this study. A more comprehensive survey, with specific questions aimed at understanding other types of limitations as they pertain to location, demographics, and activity preferences, along with a larger survey sampling, could detail this research further. It could also aid community garden planners in their efforts.

Conclusion

The analyses in this chapter find the municipal park system in ACC to be limited in access options. The results show there are a few parks succeeding as individual entities, with the Multi-Use and Nature Specific categories providing the largest number of parks with good access. The community garden results provide some insight into demographic and activity levels of a small sample of garden participants, along with a glimpse into the access preferences for gardens, which can begin to speak to greater issues. The addition of focused survey questions, more garden site visits, and a more intense survey schedule could provide better data to inform the research.

Within the framework of the overall research question for this thesis, the findings from these analyses begin to build a foundation of understanding for the specific ways the greenspace services in ACC are limited, and about the people who are engaged with the community gardens. In Chapter 6, the network analysis section found there is only some limitation in accessibility, but another level of scrutiny needs to be had in order to determine the extent of the accessibility issue for the greenspace services. One way to do this is by site
observation, which has been addressed in this chapter. The same can be said for the accessibility and use at community gardens. One cannot ascertain from GIS the needs and wants of residents who are using the spaces, nor the depth of accessibility issues. The analysis in this chapter, therefore, adds more meaning to the limitations found in Chapter 6, which found accessibility at a majority of the sites to be only somewhat limited. The findings from this chapter show it to be an even more intense issue.

The ultimate goal of this portion of the study has been to find out if the results observed in Chapter 6 through the use of GIS are also observed and supported through empirical methods. Due to time constraints, the site observation and user survey methodologies were analyzed with a specific focus on accessibility. The final chapter of this thesis delineates areas within the county that are ideal, necessary, and available locations for greenspace services, and propose recommendations that may be used by Athens-Clarke County to address the greenspace service limitations through better support for community gardens.
CHAPTER 8
CONCLUSION

Research Context

Research for this thesis focused on a combination of three essential factors in Athens-Clarke County, Georgia: issues of poverty and food security, the park system, and community gardens. In 1998, a report titled *Athens-Clarke County Demographic and Economic Analysis*, summarized the plight of ACC very clearly when it stated, “Clarke County’s demographic and economic trend lines are disturbing. The county is drifting with minimal population growth and a weakening economic mix... The county has 40% of its population with household incomes under $20,000” (Market Street Services 1998, 24). Today, almost fifteen years later, the prognosis is much the same. The poverty rate as of 2010 is 24% (U.S. Census Bureau), and with this is the ever-present problem of food insecurity, as seen in the food desert and food retailer inventories for the county (Fig. 6.2 and 6.3). The USDA recognizes several large census tracts in the county as food deserts, and a majority of the food retailers are gas stations. Combined, these issues present a community situation where people have few healthy food options.

There is a park system that is limited in accessibility, distribution and availability to residents. Its limitations are recognized by the municipality and described in the *Athens-Clarke County and City of Winterville Comprehensive Plan* (2008). This *Comprehensive Plan* clearly demonstrates the intention to encourage an accessible and prolific greenspace system consisting of a variety of pocket parks, linear parks (greenways), public squares and greens, and
open spaces. It acknowledges that additional park space would improve the quality of life in ACC, and that passive and active recreation is important for communities (ACC Comprehensive Plan 2008, Section 4). Thus far, the response has been limited to renovating a few existing facilities and updating the recreation master plan. Considering the Comprehensive Plan is a twenty-year plan and budgeting for new parks is small or non-existent, this makes sense. To address the concern of insufficient parks, and under the guise of greenspace preservation, seventeen public elementary and middle schools were designated as neighborhood parks. Unfortunately, due to limited public access to school grounds during the day (until 6 PM weekdays), these neighborhood parks are only accessible after dark during much of the year, or on weekends.

Community gardens can play a role in alleviating some of the issues of poverty and limited parks.; however, three factors present a problem for community gardens at the political level: community gardens are not mentioned in the Comprehensive Plan, there is designation for them in the municipal definition for agriculture, and agriculture is identified as a rural activity. As a land use, agriculture is considered a rural use that ought to be protected and supported as a vital part of the community, with a short-term work plan dedicated to promoting small-scale local farming. What escapes the Comprehensive Plan is that agriculture can be an urban activity, and that community gardens are essentially small-scale local farms. Even with the addition of the Growing Sustainably Report (2007) as a supplementary document to the Comprehensive Plan, there is no mention of agriculture, and certainly no mention of community gardens as a sustainable, vital, beneficial or greenspace activity.
Despite these problems, community gardens are thriving in ACC. They contribute to local communities in many ways:

1. Provide space for gardening for people who do not have the space at their homes.
2. Hubs for growing food to help offset the food needs of impoverished residents.
3. Beautiful landscapes that attract wildlife and pollinators.
4. Educational landscapes.
5. Provide opportunities for engagement that supersede typical social-economic barriers.
6. Provide an alternative avenue for recreation and socializing.

With so many benefits already in place through these green spaces, it is difficult to contest the contribution they could have for the green network in ACC. There is a growing presence of community gardens in Athens that are serving a vital role as greenspaces being used for leisure activities and food production. Community garden benefits have been shown in literature to improve the quality of life for individuals, the environment and communities. These issues of poverty, the park system, and community gardens, which are specific to Athens-Clarke County, drive the purpose of this thesis.

**Summary**

The purpose of this these has been to evaluate and analyze the municipal parks and community gardens in ACC as greenspace services in an effort to consider where their services might be needed most in the county. For this thesis, greenspace services (term coined by the author) are those services specifically provided by the county’s municipal parks and community gardens. Examples include: safe places for outdoor leisure that are free from traffic danger and
urban monotony; opportunities to experience nature; or the improved quality of life through exposure to natural elements. Services can be provided through public or private land, and have the simple purpose of connecting people with nature. The goals of this thesis have been to:

1. Evaluate community gardens as a land use that contributes to the needs of Athens communities under-served by the parks system and suffering from food insecurity;
2. Propose priority areas for community gardens to offset these issues.

These priority areas begin to answer the “where” aspect of the research question. This was accomplished through each subsequent thesis chapter, contributing to the research question.

The objectives were to:

1. Inventory existing county and greenspace service conditions;
2. Inventory existing park planning conditions;
3. Develop greenspace service areas;
4. Analyze Athens demographics under-served by the greenspace service areas;
5. Develop three priority areas.

There are numerous accounts of large urban centers with great achievements in the realm of food security and civic agriculture, such as in Seattle, WA, Portland, OR, and Madison, WI. In the community garden literature, there is often a call for change in policy to promote community gardens as part of the municipal open space system, but that is usually after a lengthy investigation of a system that is already successful. What about the fledgling
community garden networks in smaller cities across the country? Athens, GA is one of these places with potential for success, but a lack of research to show this possibility.

Background research for this thesis revealed that while there are numerous sources for parks and community gardens as separate entities that hold a certain level of value and benefit for their users, there were few studies comparing parks and community gardens as land uses juxtaposed with each other. Current literature is lacking a good example of detailed research in an area where community gardens exist exclusive of a park system, are successful, but not supported as a position of value by the government. There is also a gap in the study of local policy to support and foster community gardens in places lacking a successful program. In particular, landscape architecture should take notice of this greenspace typology as a growing trend in the literature, and incorporate the potential for community gardens to make a contribution to greenspace services.

It was important to first understand the various entities that house the parks and community garden systems in ACC before defining them as a conglomerate. Then, for the thirteen municipal park study sites, five categories were determined based on form, function and size: Multi-Use, Community Hub, Nature Specific, Neighborhood and Sport Specific. For the thirteen community garden sites, four categories were determined based on Athens Community Garden Network relationships and function: Network Traditional, Network Specialty, Non-network Traditional and Non-network Specialty. Since there are twenty-six study sites, each with inherent differences and characteristics, these categories were developed as a means to dissuade bias or undue subjectivity for an individual site. The categories were also used in the GIS analysis process.
The contribution of GIS to the research question provides evidence of limitations in the greenspace services for ACC residents, and suggests that integrating community gardens into these areas with municipal support will alleviate many of the limitations that exist. These limitations were found to be:

1. Current greenspace services are not distributed evenly;
2. Greenspace service areas are comprised mostly of residential land use, but have some sites with limited public transit service and bike route access;
3. Over 80% of the ACC residential land use area is not within a mile of a greenspace service; and
4. Almost 6% of residential land has a greenspace service because of a community garden.

This analysis provides insight for where greenspace services are needed in Athens. While 6% is a low number, it does represent residential areas that are receiving beneficial greenspace services that could be better with municipal support.

**Recommendations**

The following are recommendations for ACC to consider for their future greenspace service planning efforts:

1. Change local ordinance and the municipal definition of “agriculture” to favor community gardens.
2. Within each priority area, the next step should be to locate the impoverished neighborhoods, like public housing areas, which are currently without a greenspace service.

3. Allow residents to use under-utilized open spaces in ACC parks for community gardens.

4. Make the public school neighborhood parks more accessible and overt, and allow community gardens on their grounds.

The third recommendation, while adding community gardens to areas that already have some greenspace services, provides an opportunity for the municipality to try managing land that houses a community garden. It is a less expensive landscape to maintain, and could enliven some parks that suffer from neglect or illicit activities. Parks are very expensive landscapes for a municipality to manage. Inviting residents to build a community garden, which attracts wildlife, rejuvenates soil, does not require mowing with constant treatments, and attracts daily use, in a park on under-utilized space could curtail some cost.

The final recommendation extends the consideration for community gardens in parks, but suggesting they be allowed to take root at the public school neighborhood parks. The top map of ACC in Figure 8.1 provides a glimpse of the half-mile and one-mile service areas made possible through the current locations for the seventeen public school neighborhood parks. The bottom map of ACC on this figure is an updated residential land use map that shows the residential areas not within a mile of a park, community garden, or a public school neighborhood park. Compare this to Figure 6.11. With the addition of these seventeen sites, the percentage of residential areas not included in a service area drops to 73.6% from 81.4%. This means that another 2,330 acres of residential land use area could have access to
community garden greenspace services. This recommendation is plausible because many of the public schools in ACC have extra land that would be perfect for gardening, and could easily be partitioned to not interfere with school activities. The schools are also carefully located in proximity to residential populations and with ease of access in mind.

Contributions, Limitations, and Further Research

This thesis contributes to park research and community garden literature, the profession of landscape architecture, and to Athens-Clarke County. It is a unique study that simultaneously considers community gardens and parks through an examination of how two green resources can be integrated to work together within a greater system. The profession of landscape architecture can learn from the combined systematic and scientific methodology that uses a multi-tiered analysis with GIS and field analysis. While the research done for this thesis is place-based and specific to ACC’s context, character and issues, the methodologies can be also be applied to other locations.

This thesis was limited primarily by the small survey sample, survey questions in need of a new focus, and a limited number of observation visits for each site. This was mostly due to time constraints. A more thorough investigation could take into account the new gardens, and other greenspaces in Athens that adhere to the greenspace services definition. Or, fewer sites that are representational of the categories could be used for the study so as to allow for a more thorough investigation, depending upon what time allows
Final Thoughts

The notion that community gardens can be included as a type of greenspace remains foreign to the policy-makers in many municipalities. The unquestioned aspect of stability that can be provided by the municipality is land tenure, which is protection that parks in ACC enjoy as providers for recreation and nature preservation. Instead of forcing community gardens into a park-like mold, this thesis has developed a category to explain how different greenspace typologies can interact and relate, form a support network, and be understood on a broader level as greenspace services. The priority areas presented here hinge on the willingness of the municipality to recognize community gardens as a greenspace service, which they are more than qualified to be. There are parks and vacant lands in ACC that could benefit from the resurgence that can be brought forth by community gardens. If ACC continues to abide by what has been set forth in the Comprehensive Plan for the parks, while taking a closer look at community gardens first as a contribution to the greenspace and second as a type of small-scale local farm that can be an urban land use, then the greenspace services in ACC will develop into a good support system for public and environmental health.

Situation Update

First, the good news is that as of the summer 2012, the municipality is already taking strides to update how they define “agriculture.” The current progress, what the new definition will entail, and how it will be interpreted concerning community gardens remains closed to public purview.
REFERENCES


Cohen, Deborah A., Terry Marsh, Stephanie Williamson, Kathryn Pitkin Derose, Homero Martinez, Claude Setodji, and Thomas L. McKenzie. 2010. "Parks and physical activity: Why are some parks used more than others?" Preventive Medicine no. 50, Supplement (0):S9-S12.


Librizzi, Lenny. 1999. *Comprehensive plans, zoning regulations, open space policies and goals concerning community gardens and open green space from the cities of Seattle, Berkeley, Boston, and Chicago.* http://7d8ca58ce9d1641c9251f63b606b91782998fa39.gripelements.com/docs/cg_policies.pdf [accessed March 12, 2012]


APPENDIX A

2010 DEMOGRAPHIC AND INCOME PROFILE REPORT FOR CLARKE COUNTY BY ESRI
Demographic and Income Profile Report
Clarke County, GA
Clarke County, GA (13059)
Geography: County

<table>
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<tr>
<th>Summary</th>
<th>2010</th>
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<th>2016</th>
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<td>117,188</td>
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<td>Households</td>
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<tr>
<td>Families</td>
<td>22,044</td>
<td>22,134</td>
<td>22,770</td>
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<tr>
<td>Average Household Size</td>
<td>2.37</td>
<td>2.37</td>
<td>2.37</td>
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<td>Owner Occupied Housing Units</td>
<td>19,166</td>
<td>18,953</td>
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<td>Renter Occupied Housing Units</td>
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<td>26.1</td>
<td>26.2</td>
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<th>Area</th>
<th>State</th>
<th>National</th>
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<tr>
<td>Population</td>
<td>0.82%</td>
<td>0.94%</td>
<td>0.67%</td>
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<td>Households</td>
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<td>1.00%</td>
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<td>0.84%</td>
<td>0.57%</td>
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<td>Owner Hhs</td>
<td>1.09%</td>
<td>1.20%</td>
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<td>Median Household Income</td>
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<td>3.56%</td>
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<th>Households by Income</th>
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<td>Number</td>
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<td>Number</td>
</tr>
<tr>
<td>&lt;$15,000</td>
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<td>$15,000 - $24,999</td>
<td>7,132</td>
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<td>5,610</td>
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<td>$35,000 - $49,999</td>
<td>6,706</td>
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<td>$50,000 - $74,999</td>
<td>6,843</td>
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<td>$75,000 - $99,999</td>
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<td>$100,000 - $149,999</td>
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<td>1,173</td>
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<td>$200,000+</td>
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<td>Median Household Income</td>
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<td>Percent</td>
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<tr>
<td>0 - 4</td>
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<td>10 - 14</td>
<td>4,894</td>
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<td>15 - 19</td>
<td>11,940</td>
<td>10.2%</td>
<td>11,922</td>
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<td>20 - 24</td>
<td>26,376</td>
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<td>25 - 34</td>
<td>19,584</td>
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<td>35 - 44</td>
<td>11,744</td>
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<td>45 - 54</td>
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<td>55 - 64</td>
<td>9,185</td>
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<td>65 - 74</td>
<td>5,414</td>
<td>4.6%</td>
<td>5,573</td>
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<td>75 - 84</td>
<td>3,116</td>
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<td>85+</td>
<td>1,422</td>
<td>1.2%</td>
<td>1,429</td>
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<th>Race and Ethnicity</th>
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<th>2016</th>
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<tbody>
<tr>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>White Alone</td>
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<td>Black Alone</td>
<td>30,988</td>
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<tr>
<td>American Indian Alone</td>
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<tr>
<td>Asian Alone</td>
<td>4,869</td>
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<td>4,870</td>
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<tr>
<td>Pacific Islander Alone</td>
<td>84</td>
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<td>84</td>
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<tr>
<td>Some Other Race Alone</td>
<td>5,763</td>
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<td>5,968</td>
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<tr>
<td>Two or More Races</td>
<td>2,525</td>
<td>2.2%</td>
<td>2,536</td>
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<td>Hispanic Origin (Any Race)</td>
<td>12,192</td>
<td>10.4%</td>
<td>12,625</td>
</tr>
</tbody>
</table>

Data Note: Income is expressed in current dollars.  
APPENDIX B

MUNICIPAL PARK AND COMMUNITY GARDEN SERVICE AREA INVENTORIES
Appendix B.1 Study Parks Service Area Street Network
Sources: Athens-Clarke County GIS Department, Athens Transit, Google Maps
Appendix B.2 Study Community Gardens Service Area Street Networks
Sources: Athens-Clarke County GIS Department, Athens Transit, Google Maps
Appendix B.3 Study Parks Transportation
Sources: Athens-Clarke County GIS Department, Athens Transit, Google Maps
Appendix B.4 Study Community Gardens Transportation
Sources: Athens-Clarke County GIS Department, Athens Transit, Google Maps
APPENDIX C

PARK AND COMMUNITY GARDEN CATEGORIES REFERENCE FOLDOUT
Appendix C Park and Community Garden Categories Reference Foldout
Sources: Tables 4.4 and 5.5