THE IMPACT OF AN URBAN UNIVERSITY AND ITS NEIGHBORHOOD: A CASE STUDY OF GEORGIA STATE UNIVERSITY AND DOWNTOWN ATLANTA

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Abstract: This study examines the interaction between Georgia State University (GSU) and downtown Atlanta. As the university has grown since 2000, the dynamic between GSU and its host city has brought to light many changes. This study investigates how the university and city have changed through economic impact, crime patterns, and sense of community over the past decade of campus expansion. Three distinct, but related projects explore the topics of economic impact, crime patterns, and sense of community. The economic results show that the university's campus expansion has not significantly increased property values surrounding GSU. The crime analysis reveals that the increasing student population and campus footprint have not significantly changed crime patterns on and near campus. The sense of community study shows that students have a greater sense of school pride, and sections of downtown are painted in GSU blue as more students are wearing university-affiliated T-shirts than ever before.

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CHAPTER I

INTRODUCTION

The relationship between a university and its host city can be described as contentious, beneficial, and anything in between. Since the founding of the University of Bologna in 1088, there have been conflicts between town and gown as universities and cities grew and learned how to work with each other. Like cities and universities elsewhere, the City of Atlanta and its relationship with Georgia State University (GSU) has grown and changed since the university's establishment in 1913 as the Georgia School of Technology's (now the Georgia Institute of Technology) Evening School of Commerce.[1] GSU relocated multiple times in downtown Atlanta before finding a permanent space at the intersection of Ivy Street (now Peachtree Center Avenue) and Decatur Street in 1947 when it purchased the Bolling Jones Building.[2] Over the past decade, downtown Atlanta has undergone a metamorphosis as GSU has purchased land to expand its campus and fulfill the university's Main Street Master Plan that will transform campus and downtown at the same time.[3]

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[1] Smith Jr., D. 2010. *Georgia State University: An institutional history, 1913-2002*. Atlanta: Higher Education History.

[2] Reed, M. E. 1996. The struggle for state-supported higher education in a Southern regional center: Atlanta and the 'mother institution,' 1944-1955." *The Georgia Historical Quarterly* 80 (3): 563-94.

[3] Georgia State University. 2006. Main street master plan update 2005-2015. http://www2.gsu.edu/~wwwmsp/index.htm (last accessed 12 July 2014).

The university's expansion has affected downtown Atlanta in multiple ways and the city has impacted GSU, too. As the university and the city continue to influence each other it is important to examine this relationship and gain a better understanding about the interaction between the two entities. Understanding the interaction between the university and the city begins with understanding the unique nature of the GSU campus. Unlike a traditional university campus, GSU does not have a clear boundary separating it from downtown Atlanta. Instead of standing apart from the city, the university is integrated into the city. There are several retail businesses located adjacent to campus, such as Walter's Clothing, a store well-known for its shoe selection, which is across from the General Classroom Building and next to the Science Annex. The presence of retail businesses amidst campus creates a dynamic that regularly leads to interaction between students, faculty, and staff with local residents during the school week. Until the early 2000s, people could walk past GSU buildings without realizing they were in the midst of a burgeoning university because many facilities lacked signage that designated them as part of GSU. The university is more visible in downtown due to increased signage and banners on the exterior of buildings, but that has not changed the disjointed social dynamics of campus.

Since 2002, new residence halls have brought nearly 4,000 students within walking distance of the campus core, but that is only 12.5 percent of the total student population. On-campus student housing has impacted the university's social dynamics, but the majority of students are still commuters and many leave campus almost immediately after attending their classes each day. In addition, GSU has a multi-cultural undergraduate student population that is 37.8 percent African-American, 36.2 percent Caucasian, 10.8 percent Asian, and 7.6

percent Hispanic.[4] With an ethnically diverse, primarily commuter student population, GSU's interaction with downtown Atlanta is different from that of residential universities with more homogeneous student populations, such as the Georgia Institute of Technology (Georgia Tech) that is also located in downtown Atlanta about two miles from GSU.

Any relationship between a university and its host city can be complicated, especially in a principal city with over 400,000 residents anchoring a metropolitan area with over 5.5 million people, so examining GSU's interaction with downtown Atlanta requires multiple investigations. As GSU expands its campus by purchasing neighboring office buildings and constructing new facilities on nearby land, the university is influencing development and property values in the area. As the university moves into new areas of downtown and weaves itself further into the urban fabric, there is potential for increased crime affecting students, faculty, and staff on campus. As part of the Main Street Master Plan to increase enrollment, the university's sponsorship of a varsity football program impacts the students' sense of community and connection with downtown.

These investigations will study GSU's interaction with downtown Atlanta through three distinct, but connected projects. Instead of a traditional monograph dissertation, three articles will delve into the relationship between GSU and downtown Atlanta. The articles draw on different literatures, incorporating concepts from real estate and urban analysis, crime geography and urban crime theories, and community psychology and sport management, but all studies focus on the dynamic between the university and the city.

[4] Georgia State University. 2013. Common Data. http://oie.gsu.edu/institutional-research/institutional-data-2/common-data/ (last accessed 8 February 2014).

Chapter 2 Overview

In order to carry out the Main Street Master Plan, GSU operates as a real estate developer, buying land, redeveloping properties, and constructing new facilities to meet the plan's objectives. The Main Street Master Plan calls to makeover campus, and ultimately impacts development on the eastern side of downtown Atlanta. Some people in the public have criticized the university's growth because when GSU purchases a parcel, the land changes from a tax generating property to nontaxable public property and leads to a decrease in the city's and county's property tax revenue. However, proponents of GSU's expansion argue that the university's growth increases the value of surrounding properties, which offset the city's and county's property tax losses. Previous research suggests that universities serving as anchor institutions for urban development should increase property values of neighboring land parcels. The methodology in this chapter uses local spatial autocorrelation and exploratory data analysis, which provides a two-prong analysis for how property values have changed due to GSU's campus expansion since 2000.

Chapter 2 Objectives:

- Document property value change percentages since 2000 for land parcels in downtown Atlanta
- Determine if there are clusters of high-value or low-value properties and outliers surrounding the GSU campus
- Provide findings that examine how GSU's expansion has affected neighboring property values in downtown Atlanta

Chapter 3 Overview

The first goal of GSU's Main Street Master Plan calls to "integrate the university into the City of Atlanta."[5] Instead of separating the campus from its urban locale, the goal is to make the university part of the city landscape. Another objective is to house 20 percent of a 36,000 student enrollment on campus by 2015, which means 7,200 students would be living in downtown.[6] As the university has expanded, crime on and surrounding campus has become a public safety concerns of students, parents, and the media because of multiple news reports during the past three years highlighting crime incidents involving GSU students. With the public perception that downtown areas are unsafe, it is important to investigate hot spots affecting the GSU campus. The methodology in this chapter utilizes kernel density estimation and repeat places mapping, which provides analysis at the neighborhood and local scale. This research provides the GSU and Atlanta police departments with information to improve their patrols and address crime hot spots.

Chapter 3 Objectives:

- Identify where crimes occur on and surrounding the GSU campus
- Determine what places on and surrounding the GSU are crime "hot spots"
- Provide findings that could aid the GSU and Atlanta police departments with improved patrols to reduce crime on campus

[5] Georgia State University. 2006. Main street master plan update 2005-2015, goal formulation. http://www2.gsu.edu/~wwwmsp/2006/goalformulation/index.htm (last accessed 2 October 2014).
[6] Ibid.

Chapter 4 Overview

Once a commuter school focused on evening and part-time programs, GSU has transformed itself into a leading urban research university and recently added a varsity football program to help meet the Main Street Master Plan's enrollment objective of 36,000 students by 2015 by attracting more traditional-age students.[7] Then-GSU President Carl V. Patton repeatedly rejected the idea of adding a football team during his tenure. However, a feasibility study in 2007 convinced him that adding a football team was critical to continue the university's transformation into a more traditional college campus.[8] Throughout history, athletics has been a rallying point for communities that share little in common. Since taking the field in 2010, the football team has been a focal point of GSU's identity and the students' sense of community. This chapter analyzes how the GSU sense of community has changed since the addition of a football team through online surveys and semi-structured interviews with university employees and students. The combination of surveys and interviews provides different levels of analysis.

Chapter 4 Objectives:

- Understand what components influence GSU students' sense of community
- Determine how GSU students' sense of community has changed since the addition of a varsity football team in 2010
- Provide findings that university administrators can utilize to improve GSU students' sense of community

[7] Ibid.
[8] Bethea, C. 2010. The F word: Georgia State University finally has a football team. So who's gonna win? *Atlanta Magazine*. http://www.atlantamagazine.com/great-reads/georgia-state-football-team/ (last accessed 21 September 2014).

Summary

This dissertation examines the interaction between GSU and downtown Atlanta through instruments studying property values, crime patterns, and students' sense of community. All three components have a link to GSU's Main Street Master Plan that has affected the university's growth since the late 1990s and continues to shape its expansion while impacting the eastern side of downtown Atlanta. As the university continues to expand and change downtown Atlanta, it is important to examine this interaction and understand this evolving relationship.

Overall Dissertation Objectives:

- Understand how GSU's expansion has impacted property values, crime patterns, and students' sense of community
- Provide findings to university and city leaders that will create greater collaboration that benefits both entities

CHAPTER II

ASSESSING THE IMPACT OF GEORGIA STATE UNIVERSITY'S CAMPUS EXPANSION ON PROPERTY VALUES IN DOWNTOWN ATLANTA

Abstract

This study examines the impact Georgia State University (GSU) has upon property values within a one-mile radius of its campus in downtown Atlanta as the university has greatly expanded its campus since 2000. Since moving into the renovated Bolling Jones Building on Ivy Street in 1947, GSU has gradually built a campus. Following the introduction of the Main Street Master Plan in 1997, the university has expanded into areas farther away from its core at the intersection of Peachtree Center Avenue (previously Ivy Street) and Decatur Street. Since 2000, GSU has become a major real estate developer as it follows the Main Street Master Plan that calls to increase its student population and landholdings to meet future demands for office and classroom space. University and local business leaders promote that GSU's growth will spur new development and increase surrounding property values. Local spatial autocorrelation results indicate that GSU's expansion has not significantly increased property values of neighboring parcels despite a marginal increase in property values and an estimated $10 million infusion into downtown Atlanta's economy through student expenditures.

Introduction

Over the past fifteen years, downtown Atlanta has seen tremendous change as Georgia State University (GSU) has expanded its campus footprint. Former GSU President Carl V. Patton's Main Street Master Plan has played a pivotal role in the university's growth since its introduction in 1997 and revision in 2005 (Georgia State University 2006). Since the introduction of the Main Street Master Plan, the university has constructed or renovated over a dozen properties. The university's expansion is changing the look of downtown Atlanta in many ways, as new buildings appear on the landscape and more students fill the streets. The economic impact of GSU's expansion on downtown may not be as visible as new buildings or more student bodies, but GSU affects the downtown economy.

In the United States, many cities and counties rely heavily upon property tax revenues as a key contributor to their general funds (Alm, Buschman, and Sjoquist 2014). The largest source of revenue for cities in Georgia is property tax, and property tax revenues accounts for 33 percent of the City of Atlanta's general fund (Simmonds 1991; Donaldson 2012). As GSU expands its campus in downtown by purchasing property, Fulton County and the City of Atlanta have lost property tax revenue because privately-owned taxable land became nontaxable public property. Supporters of the university's growth, and many GSU administrators, argue that its expansion assists the city because the university's expansion will fuel new development (Mahoney 2006; Cauley 2014).

The conflict between town and gown has existed for generations, but American cities have only encountered these issues since urban redevelopment began in the 1950s

(O'Mara 2012). Prior to the suburbanization of America following World War II, universities relocated from urban locales to more picturesque locations on the urban fringe. Columbia relocated to Morningside Heights in the 1890s and the University of Pennsylvania moved to West Philadelphia in the 1870s (Parsons and Davis 1971). On the other hand, Harvard University and the Massachusetts Institute of Technology initially established campuses far removed from Boston, but were encircled by a bustling metropolis by the 1920s (Parsons 1963a). After decades of capital improvements, universities could not as easily relocate without leaving behind millions of dollars in laboratories and classroom space. The solution for these universities was to expand their footprints within the urban landscape.

During the urban crisis of the 1960s, as cities undertook redevelopment plans to remove dilapidated buildings, some universities partnered with local development corporations to create joint expansion programs that diminished backlash from residents affected by the corresponding university's growth (O'Mara 2012). The collaboration between the West Philadelphia Corporation and the University of Pennsylvania, Drexel Institute of Technology (which became Drexel University in 1970), and other area institutions demonstrated that universities and cities could successfully coordinate urban renewal efforts to benefit both parties (Parsons 1963b). As tax-paying businesses continue to migrate out of central cities, civic leaders have expressed concern about the impact that tax-exempt institutions purchasing properties will have on the local tax base. In response to these fears, governments in many cities created alliances with business leaders to maintain the economic vitality of the central cities (O'Mara 2012).

In 1941, Central Atlanta Progress (CAP) formed as a public-private partnership to preserve land values and employment opportunities in downtown Atlanta (Stone 1989; Central Atlanta Progress 2014). GSU has a history of collaboration with CAP. Former GSU President Carl V. Patton was a member of the executive committee from 1992 to 2008 and served as chair from 2001 to 2003, and current GSU President Mark P. Becker serves on the executive committee (Georgia State University 2014a, 2014b). When GSU announced its revised Main Street Master Plan, A.J. Robinson, president of CAP, hailed the university's expansion as something that will "spur other residential and retail development" and anchor development for the eastern side of downtown. Robinson projected that GSU would mimic the role Centennial Olympic Park has fulfilled for the western portion of downtown, as condominiums and retail development have opened around the park (Mahoney 2006). When GSU purchased the Atlanta Life building, a historic African-American business in downtown, an article in the *Atlanta Journal-Constitution* hailed it as "a move that could add vitality to the endangered Sweet Auburn Historic District" (Poole 2012). A review of GSU's effect on downtown Atlanta in the *Atlanta Business Chronicle* said "the university is having a major impact on downtown's development and revitalization" (Cauley 2014). Public officials and analysts suggest that anchor institutions like GSU can "affect nearby real estate values" and fuel the development of related industries (CEOs for Cities 2007). These expectations imply that GSU's expansion should increase the value of properties surrounding campus. Patton's research on the university's role in the renewal of downtown Atlanta states that the GSU's campus expansion has "pushed up the price of the real estate for university and other stakeholders" (Kelley and Patton 2005, 144).

Despite the noticeable changes on the landscape of downtown Atlanta as GSU has bought multiple properties, renovated many buildings, and built new structures, there has not been a study to examine the impact of GSU's expansion upon nearby property values. If GSU is spurring development as Robinson suggested, property values surrounding the university's campus should be increasing. By implementing Patton's Main Street Master Plan, GSU serves as a real estate developer and anchor institution. However, neither the Atlanta media nor academics have examined GSU's impact on property values in downtown during the past decade.

Literature Review

Researchers have conducted economic impact studies about higher education institutions since the 1960s, but most research builds from a 1971 American Council on Higher Education report (Caffrey and Isaacs 1971). When the media reports a university's economic impact on a city or region the figures seem inflated, and people have difficulty understanding the institution's effect on the local economy. Press releases and news stories tout information that "the Georgia Institute of Technology made a $2.15 billion economic impact," a "study finds $2 billion economic impact from UGA," or "Georgia State University in Atlanta had a $1.6 billion economic impact with 13,710 jobs" (Athens Banner-Herald 2011; Georgia Institute of Technology 2011; University System of Georgia 2013). The figures are correct, but research points out the flaws in the calculations that result in the grossly inflated numbers (Blackwell, Cobb, and Weinberg 2002; Siegfried, Sanderson, and McHenry 2007). One common misstep is double-

counting because many economic impact studies apply a regional multiplier to all university expenditures, which is misleading because a fraction of tuition ultimately becomes faculty and staff salaries but can be counted twice depending upon the model (Siegfried, Sanderson, and McHenry 2007). Additionally, the figures are difficult to calculate and even more "difficult to communicate in a politically compelling way to public audiences" (O'Mara 2012, 238).

Research about the economic impact of universities generally falls into two categories. One category focuses on a university's impact on a metropolitan or regional scale (Booth and Jarrett 1976; Goldstein 1990; Felsenstein 1996; Carroll and Smith 2006; Goldstein and Drucker 2006; Drucker and Goldstein 2007; Goldstein 2010). Even the University System of Georgia's annual economic impact study measures each institution's effect on the corresponding Census-defined metropolitan statistical area (Humphreys 2011). The most commonly used input-output model is the U.S. Department of Commerce's RIMS II, which uses counties as the smallest geographical unit of analysis (U.S. Department of Commerce 1997; Steinacker 2005). The focus on county-level analysis makes conducting an input-output evaluation of GSU's impact on downtown Atlanta's economy nearly impossible.

The other category of research examines a university's effect on a stereotypical college town where the institution is a primary employer and vital cog in the city's economic engine (Cook 1970; Brownrigg 1974; Lewis 1988; Armstrong 1993; Armstrong, Darrall, and Grove-White 1997; Harris 1997; Huggins and Cooke 1997; Sen 2011). GSU is an important part of downtown Atlanta's economy, but it is not the

primary employer with the central business district north of campus, and city, county, and state government offices to the south.

Very little literature examines a university's economic impact on its immediate surroundings (Cortes 2004; Steinacker 2005; Vandegrift, Lockshiss, and Lahr 2012). Furthermore, researchers have only recently examined universities as anchor institutions and their role in urban development (Perry, Wiewel, and Menendez 2009; Pendras and Dierwechter 2012; Goddard et al. 2014). Although there is no consensus definition of anchor institution, the term commonly refers to "large locally embedded institutions, typically non-governmental public sector, cultural or other civic organizations, that are of significant importance to the economy and wider community life of the cities in which they are based" (Goddard et al. 2014, 307). In England, researchers studied the role of universities as anchor institutions related to the geographical development of the country's higher education sector and local economic conditions (Goddard et al. 2014). Case studies of Chicago and Baltimore illustrate different approaches universities used to collaborate with city officials as part of urban redevelopment projects (Perry, Wiewel, and Menendez 2009). Even in less populous cities, universities can facilitate redevelopment like the University of Washington Tacoma (UWT), which is credited with regenerating Tacoma's downtown district (Coffey and Dierwechter 2005). UWT has made such an impact on downtown that it has "become central to redevelopment visions and activities" (Pendras and Dierwechter 2012, 309). Additionally, urban development analysts specifically advocate the use of universities as anchor institutions because "they can play a significant role in anchoring development in areas that may, at first, appear too risky for the private sector" (ICIC and CEOs for Cities 2002, 23).

As they have taken on the role as anchor institution, many urban universities have become a real estate developer. Only in the past decade have researchers started to examine the role of universities as real estate developers (O'Mara 2005, 2007). Two edited books have analyzed the role of urban universities as real estate developers in the United States and around the world (Perry and Wiewel 2005; Wiewel and Perry 2008). Combined the books have twenty-five case studies about universities functioning as an urban real estate developer. Former GSU President Carl V. Patton coauthored a chapter for the first book, which discussed how the university collaborated with city officials, business leaders, and local stakeholders to complete projects like building a new dormitory on land adjacent to campus owned by a hospital that sought to increase its revenues (Kelley and Patton 2005). GSU's campus expansion objectives laid out in the Main Street Master Plan highlight the university's real estate development goals, which allows this research to contribute to the growing literature about the role of universities as real estate developers (Kelley and Patton 2005; Georgia State University 2006).

Considering the multiple tools available to evaluate GSU's impact on property values in downtown Atlanta, the most appropriate techniques are spatial analysis and statistical analysis as part of urban analysis. Pacione (1990) defines urban analysis as cutting across traditional academic boundaries, which mandates collaboration among scholars to address the issues. Chief among these queries is land-use issue, specifically suburban growth versus central city growth, which Pacione (1990) focuses on as an issue of suburban sprawl instead of turning his attention to urban redevelopment objectives. Researching GSU's influence on property values in downtown Atlanta allows scholars to examine the impact of urban redevelopment.

Within urban analysis research there is a limited pool of literature using geographic information system (GIS), statistical analysis, or spatial statistics, but it is growing (Okunuki 2000; Páez and Scott 2004). Okunuki (2000) outlines some benefits of using GIS to conduct urban analysis, ranging from simplistic techniques like calculating the shortest path between two points to the more complex nearest neighbor analysis. Páez and Scott (2004) detail the intertwining history of urban analysis with computers and statistical methods, which leads to the application of more complex calculations that address spatial association, spatial heterogeneity, and modifiable areal unit problem (MAUP).

In the past decade, scholars have followed the suggestions of Páez and Scott (2004) and applied spatial statistics to urban studies. Researchers have examined spatial heterogeneity in urban locales with an emphasis on using geographically weighted regression (GWR) to explain problems (Lu et al. 2014; Nilsson 2014). Literature examining spatial association utilizing GIS has also grown (Weaver and Bagchi-Sen 2013; Mitchell and Lee 2014). Research about MAUP issues in urban areas has flourished, as investigators remove arcane boundaries to find new solutions (Séguin, Apparicio, and Riva 2012; Jacobs-Crisioni, Rietveld, and Koomen 2014). Most relevant to GSU's impact on downtown Atlanta, spatial statistics have been used to analyze property values (Saphores and Li 2012). However, much of the research applying spatial analysis and spatial statistics to property values resides in the real estate literature.

Real estate is geographical in nature, as illustrated by the famous quote attributed to Lord Harold Samuel: "There are three things that matter in property: location, location, location" (Safire 2009). As such, there is a rich literature in real estate journals

discussing the use of GIS, spatial analysis, and spatial statistics that precedes Páez and Scott's (2004) call for their application in urban analysis. One of the earliest pieces in real estate literature calling for the use of GIS advocates its use to calculate shortest-path measurements to create a more robust regression analysis and suggests the incorporation of spatial autocorrelation (Rodriguez, Sirmans, and Marks 1995). The most comprehensive examination of spatial statistics in real estate literature comes from Pace, Barry, and Sirmans (1998), who list twelve spatial statistics that lend a geographic lens to real estate research. Another influential article from real estate literature advocates the use of spatial statistics in the form of spatial autoregression as a way to incorporate space into real estate's space-less research at the time (Dubin, Pace, and Thibodeau 1999).

The use of spatial statistics grew in the late 1990s with an emphasis on spatial autocorrelation because GIS made many calculations easier for researchers (Basu and Thibodeau 1998; Figueroa 1999). The emphasis on spatial autocorrelation research grew because house prices inherently possess this trait because "properties have similar structural characteristics" like building size and age, and "residential properties share location amenities" such as the same public schools (Basu and Thibodeau 1998, 61). Much of the research on spatial autocorrelation focuses on residential properties. Two such articles focus on urban housing (Tu, Sun, and Yu 2007; Conway et al. 2010). Tu, Sun, and Yu (2007) utilize spatial autocorrelation to create new boundaries for urban housing submarkets in an attempt to settle the debate between the use of imposed or modeled boundaries and the use of existing political boundaries. Conway et al. (2010) examine the impact of green space on urban property values in Los Angeles, and demonstrate that proximity to public parks increases property values. The literature

illustrates the clustering of similar housing prices based on amenities and building characteristics, and demonstrates how the application of spatial statistics allows for a more in-depth analysis of property values by accounting for location.

The section of downtown Atlanta closest to GSU does not possess many residential properties, much less single-family dwellings. GSU owns dormitories housing nearly 4,000 students, and apartments marketed to students are being built within a one-mile radius of the university such as One 12 Courtland and Pencil Factory Flats (Young 2014). However, commercial properties dominate the area surrounding the GSU campus. Much of the real estate literature focuses on residential property values, so it is difficult to find research on commercial properties relevant to this study. A special edition of the *Journal of Real Estate Finance and Economics* in 1998 (Volume 17, Issue 1) spurred the development of spatial statistics in real estate research, but five of the six articles focus on residential studies and the other paper provides an overview of using spatial statistics in the discipline. In 2004, a special edition of the *Journal of Real Estate Finance and Economics* (Volume 29, Issue 2) revisited the use of spatial statistics in real estate research, but all five papers examine residential property values (Pace and LeSage 2004). Montero-Lorenzo, Larraz-Iribas, and Páez (2009) detail much of the existing commercial real estate literature, and create a technique to predict commercial property values with the assistance of housing prices. None of the residential or commercial studies examine change in property values, which is important to assess the influence of GSU's campus expansion on the revitalization of downtown Atlanta. Patton's statement that GSU has "served as an engine for downtown renewal" implies that campus expansion should increase nearby property values (Kelley and Patton 2005, 144).

Data and Methodology

To assess whether GSU's campus expansion has increased surrounding property values, I obtained shape files from the Fulton County Board of Assessors for all properties in Fulton County on an annual basis from 2000 to 2012, when I requested the data. I wanted to measure the change in assessed property values at key points during GSU's campus expansion, so I isolated the 2000, 2007, and 2012 shape files for this study. The first and last year book end the accessible data, and I chose 2007 because it marked the year before GSU opened the University Commons, a dormitory that houses 2,000 students. Using ArcMap 10, I clipped the shape files to contain only parcels within a one-mile radius of Dahlberg Hall, which until recently housed the president's office and more importantly is a central location on campus linking the core buildings along Decatur Street with the new additions along Piedmont Avenue.

Due to inconsistencies within the data, I was unable to calculate the percentage of change for each parcel from 2000 to 2007 to 2012. I attempted to create spatial joins between the three shape files, but encountered problems because some parcels in the 2000 dataset were not part of the 2007 dataset, but may be part of the 2012 dataset. The splitting and merging of parcels is another problem complicated by inconsistencies in the datasets. In order to address these problems, I utilized the square subdivision of property for my analysis. In Georgia, the largest division of land is a tax district, which is subdivided into landlots and then squares and then parcels. Although the parcels comprise the squares, the data issues are minimal when conducting analysis at this level.

I started my analysis by using the 2000 dataset as a baseline. It contains 5,279 land parcels and 159 squares within a mile-radius of Dahlberg Hall. I removed all parcels and squares that were not in all three datasets, which led to the removal of 93 parcels and seven squares from the original 2000 dataset. Removing the 93 parcels left 5,186 in the analysis dataset, which means that 98.2 percent of the parcels are consistent throughout the data. Removing seven squares left 152 for the analysis dataset, which means that 95.6 percent of the squares are consistent across the research.

Real estate studies tend to utilize market values for analysis, but that data is contingent upon properties being sold during the study period. I used county tax values because the Fulton County Board of Assessors calculates property values on an annual basis, which allows the study to reflect the changing values of lots that have not changed ownership, but have seen growth because of development during the study period. GSU's proximity to city, county, and state government offices means that many properties are unlikely to be sold during the study, but these properties could see an increase in value due to nearby improvements.

The existing real estate literature does not provide a clear technique to analyze property value change over time, as much of the research aims to predict future property values based upon historic sales data. Considering that proponents of GSU's expansion state that the university's growth has increased property values surrounding campus, the change in property values around the university should create clusters of higher percentage changes near campus (Kelley and Patton 2005; CEOs for Cities 2007; Cauley 2014). The best method to measure the clustering of like values is conducting local spatial autocorrelation tests, such as LISA (Local Moran's I) or the Getis-Ord (G_i and

G_i*) statistics (Getis and Ord 1992; Anselin 1995; Ord and Getis 1995). I chose to use LISA because it measures outliers in addition to detecting clusters of like values while the Getis-Ord statistics only detect clustering of similar values. I conducted LISA operations on the analysis dataset using a fixed distance-band spatial relationship with a Euclidean distance method and a 1,320-feet (quarter mile) distance band.

Findings

Examining the appraised value percentage change from 2000 to 2007, there is a high-value hot spot and a high-low outlier cluster, but neither is close to the GSU campus and a majority of the study area is statistically not significant (Figure 2.1). The cluster of high values is just north of Centennial Olympic Park and focused around the Centennial Place Apartments, which has monthly rents ranging from $1,115 to $2,555 (Centennial Place Apartment Homes 2014). The spatial outlier cluster centers on City View Apartments in the Old Fourth Ward with listed monthly rents between $950 and $1,574 (City View 2014). The clustering around each square is not surprising as the focal point of both clusters is an expensive apartment complex. Centennial Place Apartments are north of some of the most desirable real estate in Atlanta, Centennial Olympic Park and its surrounding museums, where the Georgia Aquarium opened in 2005. City View Apartments is located in the Old Fourth Ward, which is a historically African-American residential neighborhood that has undergone gentrification during the last ten years. The results indicate that City View Apartments increased significantly in value, but surrounding squares did not increase at the same rate over the seven-year period.

The results of the appraised value percentage change from 2007 to 2012 are different from the 2000 to 2007 change results, but a majority of the study area proves to be statistically not significant. The only area of note is a spatial outlier that includes the Castleberry Hill neighborhood near the Atlanta University Center (AUC), which is a hub of historically black colleges and universities (HBCUs) that includes Clark Atlanta University, Morehouse College, and Spelman College (Figure 2.2). The outlier includes residential complexes like Centennial Station Lofts and Duo Atlanta Condos in an area that has undergone gentrification during the past decade that has also led to the development of restaurants (Duo Atlanta Condos 2013). The outlier indicates that the gentrification has a very limited effect in the neighborhood and illustrates that the surrounding squares, which include the AUC, have not developed at the same rate.

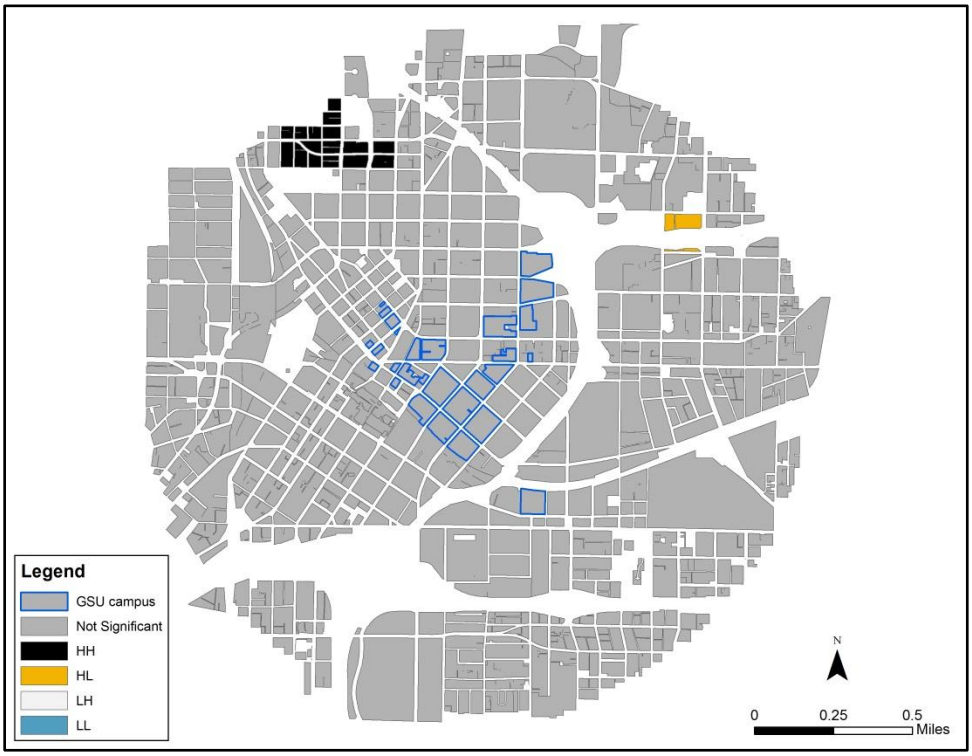

Figure 2.1: LISA analysis of property value change percentage from 2000 to 2007.

Figure 2.2: LISA analysis of property value change percentage from 2007 to 2012.

Reviewing the results of appraised value percentage change from 2000 to 2012 shows a hot spot of high values and two spatial outliers that are on the fringe of the study area (Figure 2.3). The cluster of high values is located north of Centennial Olympic Park centered on the Centennial Place Apartments. The first outlier contains part of the Centennial Place Apartments that are just south of the Georgia Institute of Technology's North Avenue Apartments housing complex (previously the GSU Village and the Olympic Village during the 1996 Atlanta Summer Olympics). Although Centennial Place Apartments has rents starting at $1,115, the complex is a mixed-income community that includes public-assisted housing for residents that helps explain why high-value squares cluster next to a low-value square. The other spatial outlier centers on an apartment complex, Montage at Old Fourth Ward. The Old Fourth Ward is a

neighborhood undergoing gentrification and redevelopment, but the presence of a spatial outlier indicates that properties neighboring Montage at Old Fourth Ward have not undergone redevelopment or have been gentrified recently and property values have not increased yet.

Figure 2.3: LISA analysis of property value change percentage from 2000 to 2012.

Discussion

The local spatial autocorrelation results reveal that GSU's campus expansion has not significantly increased the value of surrounding properties. Over none of the timeframes is there a clustering of high values near the university. There is one cluster of significantly increasing property values near Centennial Olympic Park and the

neighboring museum district on the western side of downtown Atlanta, but none of that growth can be attributed to GSU. The three spatial outliers of high-value squares surrounded by low-value squares are all located in areas that have undergone varying levels of gentrification and redevelopment since 2000, but are far enough from the GSU campus that the residential properties dominating these areas are not being built to attract student residents. The spatial outlier of a low-value square bordered by a high-value square is just north of the high-value cluster by Centennial Olympic Park, which is an area that has seen massive redevelopment since the 1996 Atlanta Summer Olympics. Yet again, the development in this area is unrelated to the growth of GSU's campus.

Despite the lack of high-value clusters near the university, assessing GSU's impact on surrounding properties values can be measured in other ways. Examining the change in property values over the study period reveals that land near the university has increased in value, although not at significantly higher rates than other properties in the study area. From 2000 to 2007, most properties bordering the GSU campus increased in value. However, the increase ranged from 1 to 100 percent, which is not a statistically significant spatial autocorrelation.

From 2007 to 2012, the properties bordering the university increased in value (Figure 2.5). Like the change from 2000 to 2007, most properties surrounding GSU saw a 1 to 100 percent increase in value from 2007 to 2012. The most significant event during this period was the opening of the University Commons and Piedmont North dormitories in 2007 and 2008, respectively. Opening University Commons and Piedmont North brought nearly 3,000 student residents into downtown, but has not significantly increased property values around GSU. The Fairlie Poplar District, which is along the

northwest edge of GSU with the Aderhold Learning Center classroom building within walking distance, has many eateries frequented by students and business people, but saw a decline in property values over this period.

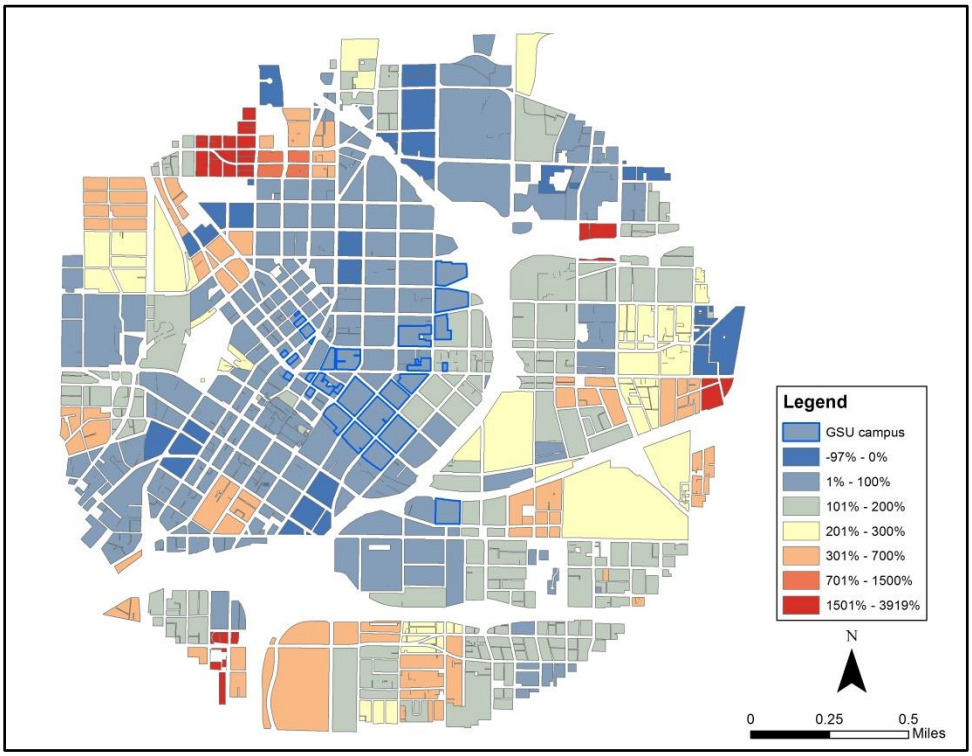

Figure 2.4: Property value change percentage from 2000 to 2007.

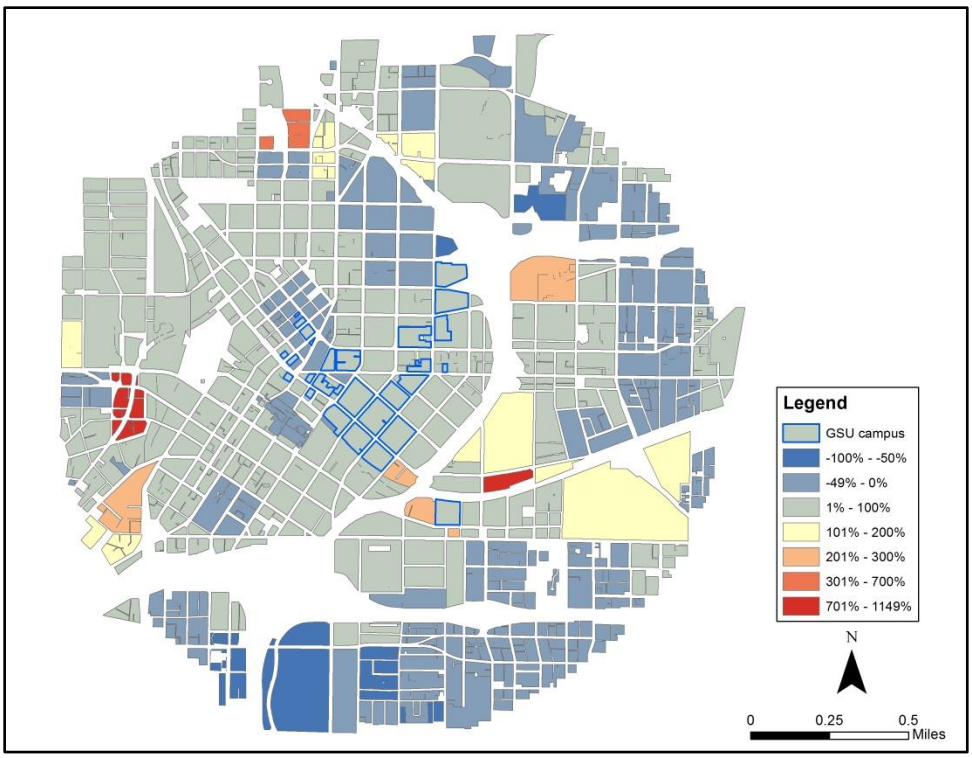

Figure 2.5: Property value change percentage from 2007 to 2012.

Examining the change in property values over the past decade reveals that land near GSU's campus has increased in value (Figure 2.6). From 2000 to 2012, most of the properties bordering the university saw values increase between 1 and 100 percent, and a few properties saw values increase between 101 and 300 percent. The Fairlie Poplar District, which saw a decline in value from 2007 to 2012, increased in value from 2000 to 2012. It is accurate to say that GSU positively influenced property values on the eastern side of downtown Atlanta. However, there has not been such a dramatic increase in values that would create hot spots of significantly more valuable properties.

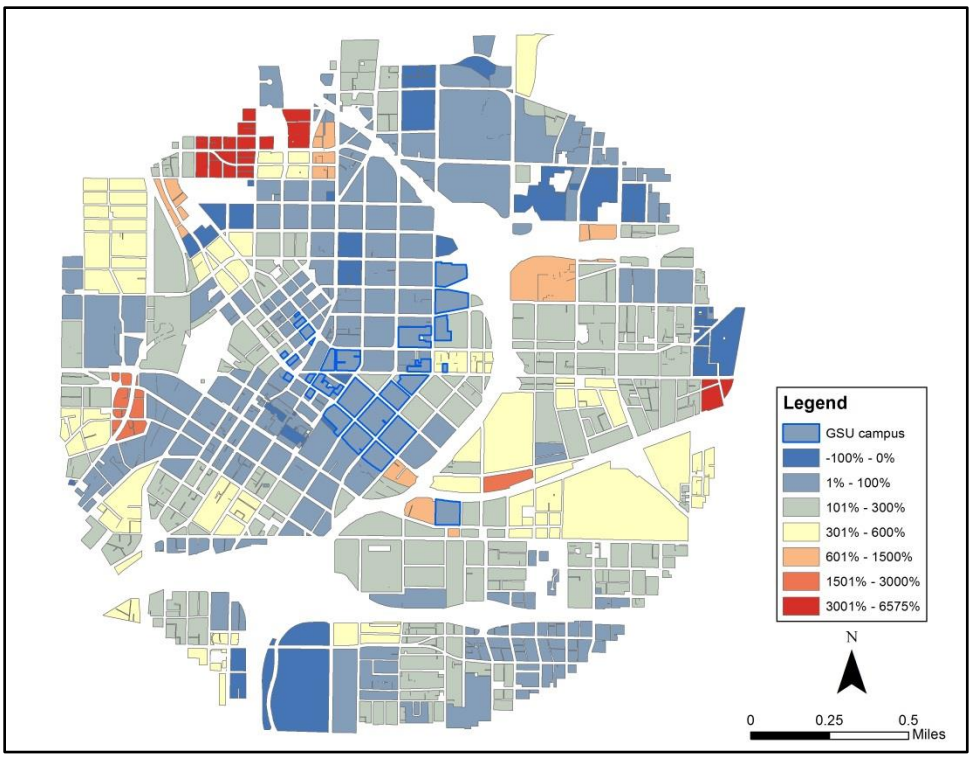

Figure 2.6: Property value change percentage from 2000 to 2012.

Beyond mapping the property value change percentage, delving into the data reveals the changes occurring in downtown. The 2000 to 2007 property value change percentage shows that ten of the 152 squares decreased in value while 142 squares (93.4 percent) increased in value. From 2007 to 2012, sixty-two of the 152 squares declined in value with ninety squares (59.2 percent) becoming more valuable. Overall, fourteen of the 152 squares in the study area saw a decline in value from 2000 to 2012. This means that 138 of 152 squares (90.8 percent) saw an increase in value during the study period. GSU may not be significantly increasing the value of neighboring properties, but it does play a role in maintaining downtown's economic vitality. For example, GSU has acquired office buildings from businesses relocating to newer suburban facilities, which has helped the area maintain and marginally increase land values.

Another way GSU's campus expansion brings revenue into downtown is through student expenditures. According to 2011-12 academic year data, GSU has an undergraduate enrollment of 24,101 and a total enrollment of 32,022 (Georgia State University 2013). The university's common data set provides estimates for student expenditures during the academic year. According to these estimates, a resident spends $3,384, a commuter living at home spends $5,974, and a commuter not living at home spends $13,774 (Georgia State University 2013). It is not likely that each student would spend that entire amount in downtown Atlanta, but it is reasonable to assume that some of that money flows into the local retail economy. Based upon data available through the GSU common data set it is difficult to calculate the total expenditures by undergraduates because the university does not keep statistics differentiating a commuter living at home from a commuter not living at home. However, approximately 4,000 students reside in dormitories, and assuming that the remaining 24,000 undergraduates are evenly divided between commuters living at home and commuters not living at home it is possible to conduct some basic calculations on student expenditures. A conservative estimate suggests that no less than $10 million enters downtown Atlanta's economy from GSU's student population each academic year (Table 2.1).

Percentage of Expenditures	Residents	Commuters (living at home)	Commuters (not living at home)	Total
5%	$676,800	$2,987,000	$6,887,000	$10,550,800
10%	$1,353,600	$5,974,000	$13,774,000	$21,101,600
25%	$3,384,000	$14,935,000	$34,435,000	$52,754,000
33%	$4,466,880	$19,714,200	$45,454,200	$69,635,280

Table 2.1: Estimated student expenditures within downtown Atlanta.

Conclusion

Assessing the economic impact of GSU's campus expansion since 2000 is difficult because property values around the campus have increased, but not necessarily at the rate that university administrators or public supporters might have touted. The lack of positive local spatial autocorrelation near the GSU shows that businesses aimed at meeting students' needs either have not opened or do not result in significant property value increases. Examining property value change with choropleth maps and studying the property value percentage change show that property values around GSU increased during the study period, but not at a statistically significant level to create hot spots of high-value properties.

Detecting development changes around the GSU campus may be best measured with qualitative techniques by examining the number of student-geared businesses that have opened near the university in the past decade. For example, there are apartment complexes that have opened within the past two years near the GSU campus that advertise as being student-friendly options and offer floor plans like a four-bedroom suite with individual leases such as One 12 Courtland (Young 2014). However, the redevelopment of this property is not accounted for in the analysis because it opened in 2013. Even if it had opened in 2012 it is unlikely the appraised value of the property would be reflected until at least a year after its opening or possibly longer.

Ultimately, GSU's campus expansion is having a positive impact on surrounding property values, but that influence has not significantly increased land values. Former GSU President Carl V. Patton's assertion that the university "has served as an engine for

downtown renewal" is true when considering that a majority of properties increased in value over the past decade (Kelley and Patton 2005, 144). A conservative estimate of student expenditures illustrates that the university contributes to the overall health of downtown Atlanta's economy. However, expectations that GSU's campus expansion would anchor development on the eastern side of downtown Atlanta have fallen short.

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CHAPTER III

CRIME ON THE CONCRETE CAMPUS: AN EXAMINATION OF CRIME PATTERNS AROUND THE GEORGIA STATE UNIVERSITY CAMPUS

Abstract

This study examines patterns of crime around the Georgia State University (GSU) campus from January 2007 to July 2012. Since moving into the renovated Bolling Jones Building on Ivy Street in 1947, GSU has built a campus by purchasing surrounding land and buildings in downtown Atlanta. Following the introduction of the Main Street Master Plan in 1997, the university has expanded into areas farther away from its core at the intersection of Peachtree Center Avenue (previously Ivy Street) and Decatur Street. With the university's expansion and opening of residence halls within walking distance of the core academic buildings, crime on and surrounding campus has gained more attention in the local media. This study examines the influence of routine activity and social disorganization theories on the GSU campus and its surrounding area. Hot spot analysis is performed utilizing geocoded data from the GSU and Atlanta police departments with a one-mile buffer around the GSU campus. This research provides analysis at two scales (repeat places and KDE), and highlights potential collaboration between university researchers and the GSU and Atlanta police departments.

Introduction

Over the past few years the Atlanta media has reported numerous stories about student safety at Georgia State University (GSU) that make the front page of the *Atlanta Journal-Constitution* or air during the first few minutes of the six or eleven o'clock newscasts (Fehely 2011; Garner 2011; Marsh 2011; Morris 2011). Newscasts shape people's mental maps, which influences people's perception of safe and unsafe areas of a city (Yanich 2004). Not only do media reports shape people's perceptions of a place, newscasts and newspaper articles can heighten people's fear of crime (Liska and Baccaglini 1990; Chiricos, Eschholz, and Gertz 1997). The Atlanta newscasts and newspaper articles leave people with the impression that the area surrounding GSU is unsafe. Despite recent declines in crime rates, public opinion polls indicate that crime is an enduring fear of urban America (Yanich 2004). Studies show that students place crime among their top concerns (Buselle 2003; Janosik 2004; Gover et al. 2011; Tomsich, Gover, and Jennings 2011). Research also suggests that crime affects the decisions of prospective faculty and staff members and most important, potential students (Fisher and Nasar 1992; Hummer and Preston 2006).

There have been numerous studies about crime in Atlanta, but the research focuses on specific types of crime, the distribution of public housing related to crime, or the role of rail transit in crime (McNulty and Holloway 2000; Ihlanfeldt 2003; Holloway and McNulty 2003; English 2011). The literature overlooks crime patterns around the city's universities. The absence of studies about crime affecting Atlanta universities is noteworthy because the city has two major public universities (the Georgia Institute of Technology and GSU) with combined enrollments of over 50,000 students, a consortium

of historically black colleges (Clark Atlanta University, Morris Brown College, Morehouse College, Morehouse School of Medicine, and Spelman College – collectively known as the Atlanta University Center) with a total of almost 10,000 students, and several other lesser-known institutions. While Atlanta does not meet the typical definition of a college town, it is important to recognize the large number of college students who spend time in the city and how crime affects this population.

Literature about crime on university campuses commonly examines national trends, perceptions, and causation, but overlooks the spatial patterns of crime on and near a university campus (McPheters 1978; Fox and Hellman 1985; Sloan 1994; Bromley 1999; Price, Evans, and Bates 2003; Barton, Jensen, and Kaufman 2010; Gover et al. 2011). Two studies have examined campus crime in an urban setting, but both investigations ignore crime beyond the university's campus (O'Kane, Fisher, and Green 1994; Henderson and Lowell 2000). My research combines on-campus and off-campus crimes gathered from university and city police departments to provide a fuller picture of hot spots that may impact students and others affiliated with the university.

As GSU continues to increase its enrollment and its footprint in downtown, it is important to examine crime patterns around campus so the university may better serve its population (Figure 3.2). Using data from the GSU and Atlanta police departments, I geocoded crimes within a one-mile radius of the GSU campus (Figure 3.1). The analysis examines hot spots at two levels, place and neighborhood scales, while most crime studies utilize one technique. The purpose of the research is to reveal hot spots on and near the campus, highlighting higher crime areas that will allow the police departments to coordinate efforts and reduce the number of incidents.

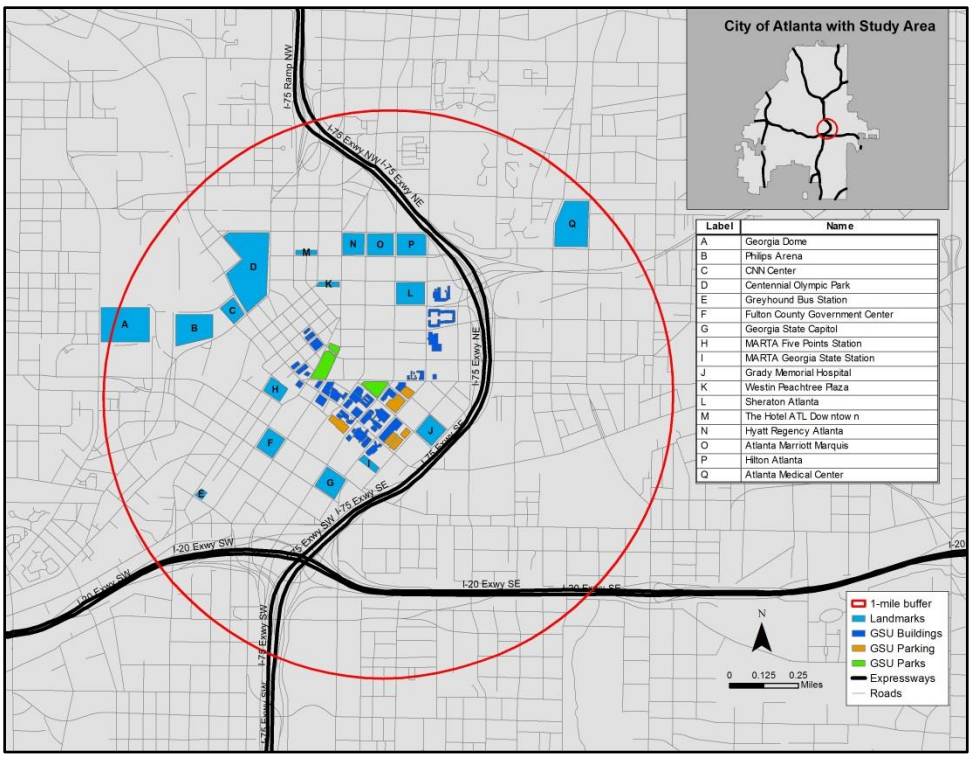

Figure 3.1: Study area with major landmarks in downtown Atlanta.

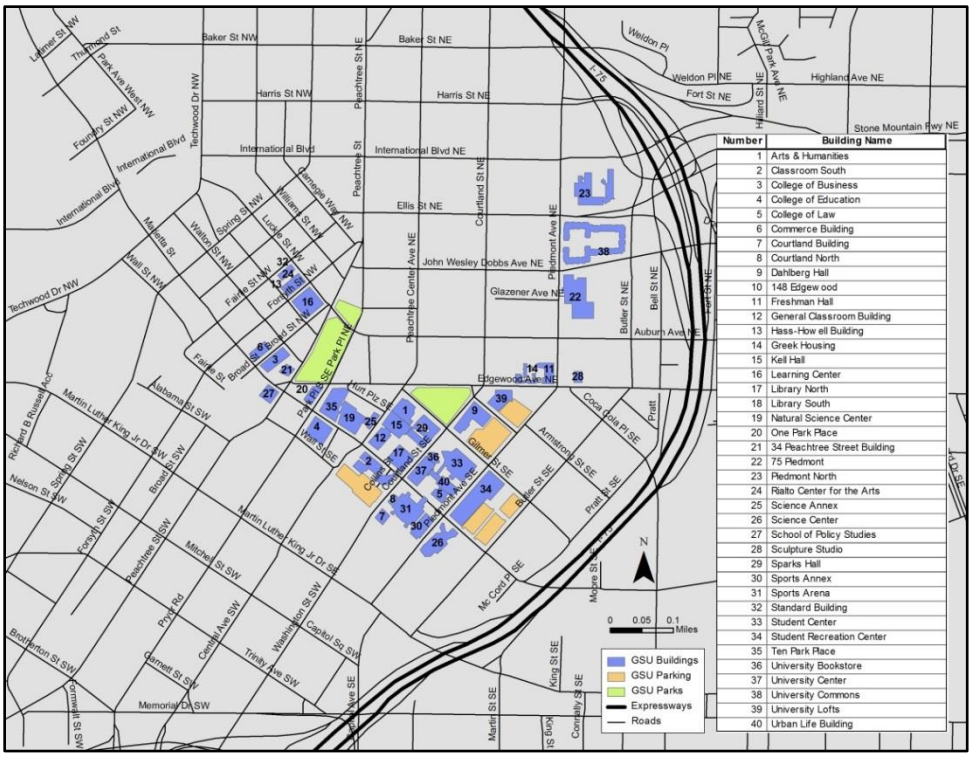

Figure 3.2: GSU campus and surrounding area.

Literature Review

As the GSU campus is woven into the fabric of downtown Atlanta, it is best to examine the causes of crime and potential deterrence programs through urban crime literature. Unlike some urban universities, GSU's campus does not have a noticeable border delineating it from the remainder of downtown. Until the university started a makeover process about ten years ago, people could walk through campus without knowing they had set foot on GSU property. Now all buildings have GSU flags and signage, but the campus remains accessible not only because it is a public university but because of its location at the edge of the city's business core, government center, and mass transit hub. GSU's proximity to the central business district, state, county and city government offices, and the Metropolitan Atlanta Rapid Transit Authority's (MARTA) Five Points Station illustrates that the university's urban locale make urban crime theories more applicable than crime theories affecting suburban or rural university campuses.

Multiple theories apply to urban crime, but the theories of routine activity and social disorganization are the two most relevant to GSU. Routine activity theory applies because there are multiple offenses at the same location as a majority of crimes occur in a few places and police are called repeatedly to the same places (Sherman 1987; Sherman, Gartin, and Buerger 1989; Eck et al. 2005). Within the dataset, there are 1,841 locations that have at least two crime reports. Routine activity theory focuses on the combination of a motivated offender, suitable target, and absence of a guardian. Places that draw large numbers of people are most susceptible to routine activity theory (Chainey and Ratcliffe 2005). The literature discusses locations that apply to the GSU campus and its surroundings, such as schools, shopping malls, and subway stations (LaGrange 1999;

Ouimet 2000; Nelson, Bromley, and Thomas 2001). The GSU campus and its surroundings possess a largely transient population, which makes it difficult to distinguish between residents and strangers and to determine the nature of their activities (LaGrange 1999). With a student population of 32,000, nearly 2,000 faculty and staff members, and numerous visitors on a daily basis, the campus has many potential victims. The university's location near major subway stations, such as the MARTA Five Points, Georgia State, and Peachtree Center stations provides access to potential offenders. The transient population of a college campus weakens the guardianship of students, faculty, and staff on campus. Ultimately, the GSU campus serves as a convergence point for potential offenders, potential victims, and weakened guardianship.

Additionally, the GSU campus and its surroundings possess the qualities of a neighborhood because college campuses are neighborhoods with student communities, which make social disorganization theory pertinent (Barton, Jensen, and Kaufman 2010). The campus covers 48 acres, but faculty, staff, and students interact with numerous businesses neighboring the campus (U.S. News & World Report 2013). Developed by Chicago School sociologists, social disorganization theory proposes that areas with weak social networks are more vulnerable to crime because community members lack strong social control over the area (Eck et al. 2005; Chainey and Ratcliffe 2005). According to social disorganization theory, three factors influence the strength of social networks: poverty or concentrated disadvantage, resident mobility, and ethnic or community heterogeneity (Shaw and McKay 1942; Barton, Jensen, and Kaufman 2010).

People attending a four-year institution of higher education possess a certain level of social privilege and capital, but as more students work part-time or full-time to pay for

their education there are fewer opportunities for socializing, which limits the strength of the community (Pascarella and Terenzini 1998; Barton, Jensen, and Kaufman 2010). A college campus has a naturally transient population. Even universities that require students to live on campus during part of their academic career witness high turnover rates in their residential population, as students eventually move out of dorms into nearby apartments and eventually graduate. Of GSU's 32,000 total students, just 4,000 (12.5 percent) live in residence halls. Due to the scarcity of student housing, GSU does not require students to live in the dormitories, which diminishes opportunities to form strong social bonds. The weaker community structure makes the GSU campus more vulnerable to crime (Barton, Jensen, and Kaufman 2010).

With the neighborhood aspect in mind, college campuses are typically diverse places, and GSU is no exception. According to 2010-2011 academic year data, there is no majority racial group. Of the 24,101 undergraduates, 37.8 percent are African-American, 36.2 percent are Caucasian, and 10.8 percent are Asian (Georgia State University 2013). While traditional social disorganization research discusses heterogeneity based upon ethnic and racial components, college campuses are prone to influences beyond ethnic and racial elements. The amount of part-time and non-traditional students also affects the strength of social networks (Pascarella and Terenzini 1998). GSU's history as an evening college is still evident in current enrollment figures, as 27.12 percent of undergraduate students are enrolled part-time. The diversity of GSU's community can lead to diminished social bonds, making the greater neighborhood prone to more crime.

Data and Methodology

The study uses data from the GSU Police Department and Atlanta Police Department covering all crime incidents from January 1, 2007, to July 31, 2012, within a one-mile radius of the GSU campus. Due to data collection during the summer of 2012, I only have partial year data for that year. The radius is a one-mile buffer with the centroid at Dahlberg Hall, which is a central location on campus. Original records from the Atlanta Police Department exist in an Excel format with 28 fields of information. I trimmed the fields to nine, keeping the most useful information such as location, incident description, reported date, earliest possible date of incident, earliest possible day of week of incident, earliest time of incident, latest possible date of incident, latest possible day of week of incident, and latest possible time of incident. Original records from the GSU Police Department exist in a PDF format that breaks down the information based upon the reported location. I converted the GSU records into the same format as the Atlanta Police Department files, which allowed for easier use with ArcMap 10. Converting the reports into a user-friendly format for ArcMap 10 allowed me to create a geographic information system (GIS) with all of the incidents during the study period.

I geocoded the incidents based upon the street address or intersection through ArcMap 10's U.S. Streets Geocode Service, which resulted in the removal of some incidents because they lack geocodable addresses. The original GSU dataset contains 5,721 incidents, but I eliminated 846 entries because they could not be geocoded, which left the final dataset with 4,875 events (a hit rate of 85.2 percent). A majority of the unmappable addresses contain the street name, but no street number. The initial Atlanta dataset has 22,097 reports, but I eliminated 332 incidents because they could not be

geocoded, which left the final dataset with 21,765 entries (a hit rate of 98.5 percent). Due to relatively new construction, ArcMap 10 could not locate some incidents in the Atlanta dataset. The final geocoded dataset consists of 26,640 incidents out of the original 27,818 reports (a hit rate of 95.8 percent). Despite the difference between the GSU and Atlanta datasets, the overall hit rate corresponds with ideal hit rates (Brimicombe, Brimicombe, and Li 2007).

Many criminology studies commonly focus on certain types of crimes, but I chose to examine all incidents around the GSU campus. Categorizing the incidents reveals that theft is annually the most common type of crime within the study area, and during the entire study period (Table 3.1). There are 94 different types of crimes in the dataset divided into eight categories. Categorizing the crimes shows that theft accounts for 74.3 percent of incidents during the six-year study period (Figure 3.3).

Year	Drugs & Alcohol	Nonlethal	Personal Safety	Property	Sexual Offense	Theft	Vehicle Theft	Violent Action
2007	78	50	266	30	12	3,906	625	283
2008	57	35	293	43	14	4,269	556	252
2009	105	38	353	55	20	3,538	562	204
2010	80	21	281	37	12	3,188	438	207
2011	85	37	332	50	18	3,385	542	190
2012	48	16	164	19	8	1,505	221	112
Overall	453	197	1,689	234	84	19,791	2,944	1,248

Table 3.1: Categorical breakdown of crimes by count.

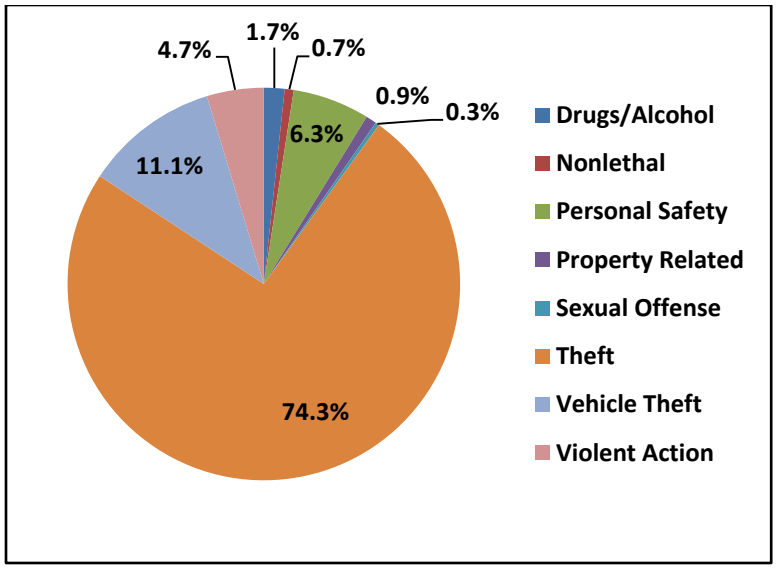

Figure 3.3: Categorical breakdown of crimes by percentage.

Crime studies utilize numerous hot spot mapping techniques dependent upon the scale of the study. Eck et al. (2005) recommend different mapping techniques for repeat places, repeat victimization, repeat streets, and neighborhood hot spots. Before considering which type of mapping technique to employ, it is important to acknowledge that a hot spot lacks an absolute definition. There is no specific threshold a location must exceed to become a hot spot. Instead, researchers agree that a hot spot is "an area that has greater than average number of criminal or disorder events" (Eck et al. 2005). Many researchers assume that crime clusters and immediately perform a hot spot analysis, but it is important to test the hypothesis of random distribution before conducting further analysis (Chainey, Reid, and Stuart 2002). Based upon visual analysis of the geocoded points, crime incidents around the GSU campus appear clustered (Figure 3.4). I performed a nearest neighbor analysis (NNA) on the point data with ArcMap 10 on the annual and overall data to assess the null hypothesis of random distribution. Results

show that the distribution of crime incidents is highly clustered, whether analyzed on a yearly basis or for the entire study period (Table 3.2).

Year	Z-score	NN Ratio	Observed Mean Distance (ft.)	Expected Mean Distance (ft.)
2007	-116.99	0.16	11.75	71.73
2008	-117.55	0.18	12.70	69.31
2009	-113.19	0.16	11.90	72.95
2010	-105.71	0.17	13.14	79.53
2011	-114.76	0.13	12.98	100.06
2012	-64.67	0.27	30.69	112.60
Overall	-290.57	0.08	2.67	33.02

Table 3.2: Results of nearest neighbor analysis on point data.

NOTE: Z-scores confirm that crime clusters in the study area, meriting further analysis. The 2012 results differ because they contain only six months of information.

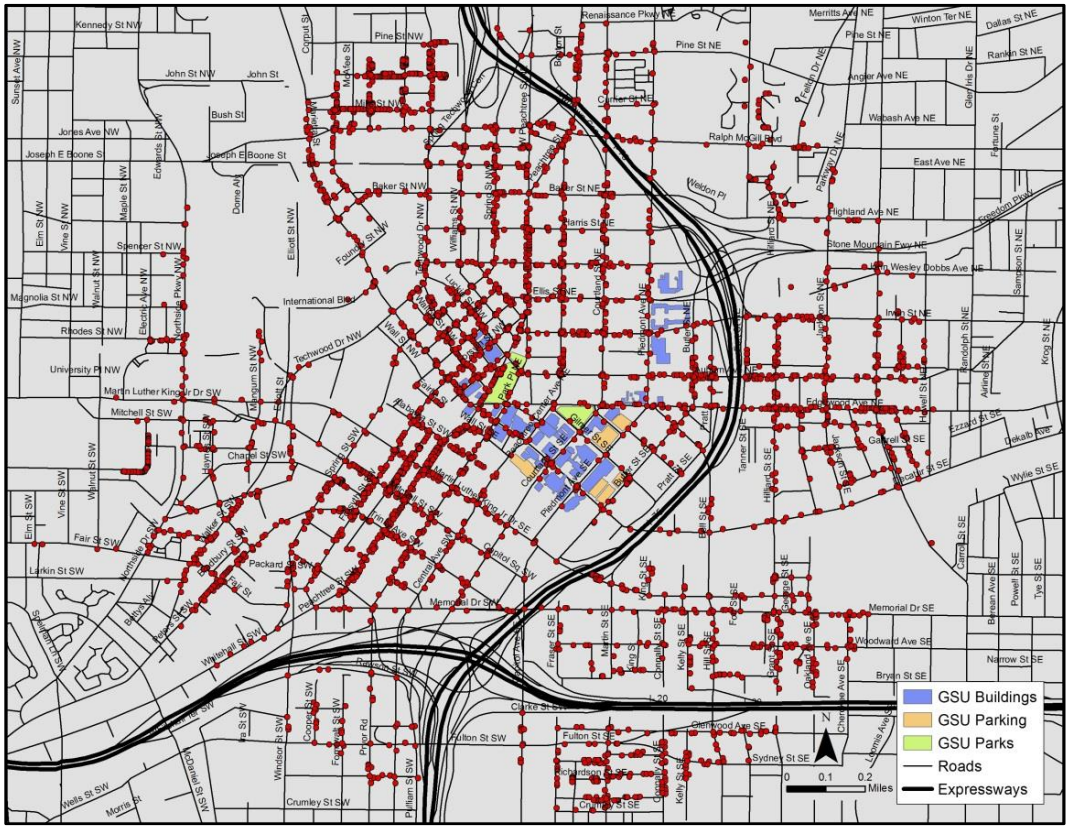

Figure 3.4: Crime incidents from January 2007 to July 2012.

NOTE: One point is one incident, but there may be multiple points at the same location.

Researchers utilize numerous mapping techniques in hot spot analysis, but the most desirable method depends upon the level of analysis. In order to address multiple issues, I chose to examine place theories and neighborhood theories because I want to examine specific locations around the GSU campus with the highest numbers of crime incidents, but I also want to study the areas around campus with higher levels of crime events. Place theories focus on why crimes occur at precise locations such as a specific street intersection or an address (Eck et al. 2005). Neighborhood theories address crimes that occur in an area larger than a specific place or street, but has multiple units of analysis such square blocks, census tracts, or communities (Eck et al. 2005). The community aspect is parallel to a university campus, which makes this level of analysis appropriate for the study. Analyzing results at the place and neighborhood levels allows me to provide insight at multiple scales by combining visual representation and statistical analysis (Grubesic 2006). Conducting two levels of analysis allows for the creation of more effective action plans that combine the resources of the GSU and Atlanta police departments to decrease crime incidents around the GSU campus.

To map repeat places, Eck et al. (2005) suggest three options: graduated symbols, color gradient dots, and repeat addresses. I combined elements of all three options to create a unique mapping technique that accentuates their strengths and minimizes their weaknesses. I combined graduated symbols with color gradient dots to display the top-one percent of addresses with the most crime incidents. A weakness of graduated symbols is larger dots obscuring smaller dots and other nearby features (Eck et al. 2005). To compensate for overlapping, I utilized color gradient dots. Regarding repeat addresses mapping (RAM), Eck et al. (2005) recommend selecting the most serious hot

spot addresses, such as 10 percent chosen by the authors. I opted to map the top one-percent of crime locations because this emphasizes the locations with the most crimes around the GSU campus. RAM creates maps that clearly identify locations for policing, but overlooks lesser locations (Eck et al. 2005). Combining aspects of all three options creates a map showing color gradient dots on a graduated scale, which allows overlapping points to be distinguished while highlighting the locations with the highest numbers of crime incidents.

For a large study area like a university campus, the best scale to view hot spots is at the neighborhood level with kernel density estimation (KDE). KDE is the most used mapping method for this type of analysis because of its availability in many computer software packages, its perceived accuracy of identification, and the artistic appeal of the output map (Eck et al. 2005; Chainey, Tompson, and Uhlig 2008). Although KDE mapping has many benefits, the technique requires technical decisions such as selecting the grid cell size, bandwidth, and creating an appropriate legend for interpretation of the results.

The necessity of selecting grid cell size and bandwidth (search radius) is a potential pitfall of utilizing KDE because researchers cannot agree on the ideal grid cell size or bandwidth (Ratcliffe and McCullagh 1999; Chainey and Ratcliffe 2005; Eck et al. 2005). However, there is justification for selecting the default settings that use the distribution area to determine the appropriate grid cell size and bandwidth. The default settings are appropriate for those who are not experts in spatial analysis, which allows police department analysts to easily duplicate this study (Chainey, Tompson, and Uhlig 2008). Like Hotspot Detective, a specialized software package for mapping crime hot

spots, ArcMap 10 utilizes the input data to calculate the default settings for cell size and bandwidth (Chainey, Tompson, and Uhlig 2008; ESRI 2011). In ArcMap 10, the default cell size is the shortest side of the width or height of the output extent divided by 250, and the default bandwidth is the shortest of the width or height of the output extent divided by 30 (ESRI 2011). The lack of definitive baselines for declaring a location a hot spot makes creating an appropriate legend difficult. Two methods for displaying hot spots have developed: incremental mean and incremental standard deviation (Chainey, Reid, and Stuart 2002; Eck et al. 2005). Both methods use kernel size as a baseline for analysis. The mean is an easily understood statistic, so increasing values connected to the mean display an obvious connection to the relative significance of the hot spot (Eck et al. 2005). Following this logic, I divided the legend into classes based upon the incremental mean, which allows for easy interpretation by those unfamiliar with KDE.

Findings

Repeat Places Hot Spots

With 3,333 unique locations in the dataset, the top-one percent of crime incidents represents thirty-three addresses in the study area (Figure 3.5). Fourteen of the thirty-three addresses are GSU properties, and account for 3,258 (43.6 percent) of the 7,464 crime events during the study period (Table 3.3). Three of the GSU-related locations are residence halls. The University Commons, University Lofts, and Piedmont North ranked second, seventh, and tied for 20th respectively. Three classroom buildings are among the top-one percent with the General Classroom Building ranked sixth, the Helen M.

Aderhold Learning Center ranked tied for 13th, and Classroom South ranked 27th. Residence halls and classroom buildings appear among the top repeat addresses due to the large volume of people at those places. The University Commons houses 2,000 residents while Piedmont North has 1,100 residents and University Lofts has 550 residents, which accounts for over 90 percent of GSU's student housing population.

In addition to the residence halls and classroom buildings, the other high incident locations on campus are community gathering places like the University Center, Student Center, Library North, and the Student Recreation Center. The University Center houses a large food court, the university bookstore, and services such as parking, the career center, and the student-operated media outlets like the newspaper, a movie theater, and the radio station. The Student Center houses several university services like housing and student affairs, contains a small food court, plus chairs, benches, and lounges that students utilize between classes.

The third category of GSU properties appearing among the top-one percent of addresses is mixed-use buildings like the Urban Life Building, Sparks Hall, and the Arts & Humanities Building. Each building primarily serves as office space for faculty and staff, but each also has classroom space. Each facility houses some academic departments such as the Department of Geosciences in Sparks Hall, the College of Law in the Urban Life Building, and the Ernest G. Welch School of Art & Design in the Arts & Humanities Building.

Among the hot spots not located on the GSU campus, transportation plays a key role. The Greyhound Bus Station and the Metropolitan Atlanta Rapid Transit Authority

(MARTA) Five Points Station are in the top-ten repeat addresses. The Five Points Station is the lone transfer point between the north-south and east-west MARTA lines. Additionally, three parking garages are among the top-one percent of crime locations, and all sit across from GSU properties.

Address	Description/Building Name	Incidents
12 Broad Street NW	MARTA Five Points Station	772
141 Piedmont Avenue NE	University Commons (GSU campus)	655
50 Alabama Street SW	Underground Atlanta	398
100 Decatur Street SE	Library North (GSU campus)	383
80 Jesse Hill Jr. Drive SE	Grady Memorial Hospital	363
38 Peachtree Center Avenue SE	General Classroom Building (GSU campus)	282
135 Edgewood Avenue SE	University Lofts (GSU campus)	281
66 Courtland Street SE	University Center (GSU campus)	278
303 Parkway Drive NE	Atlanta Medical Center	230
232 Forsyth Street SW	Greyhound Bus Station	217
190 Marietta Street NW	CNN Center	204
49 Boulevard SE	Auburn Glenn Apartments	202
44 Courtland Street SE	Student Center (GSU campus)	191
60 Luckie Street NW	Aderhold Learning Center (GSU campus)	191
75 Martin Luther King Jr. Drive SW	Near Fulton County Government Center	185
140 Decatur Street SE	Urban Life Building (GSU campus)	183
265 Peachtree Center Avenue NE	Atlanta Marriott Marquis	171
165 Courtland Street NE	Sheraton Atlanta	166
100 Luckie Street NW	100 Luckie Street Parking Garage	162
175 Piedmont Avenue NE	Piedmont North housing (GSU campus)	161
95 Martin Luther King Jr. Drive SW	Near Fulton County Government Center	161
210 Peachtree Street NW	Westin Peachtree Plaza	154
265 Peachtree Street NE	Hyatt Regency Atlanta	150
180 Jackson Street NE	Camden Village Apartments	148
33 Gilmer Street SE	Sparks Hall (GSU campus)	145
80 Jesse Hill Jr. Drive NE	Near intersection with Auburn Avenue NE	144
95 Decatur Street SE	Classroom South (GSU campus)	131
10 Peachtree Center Avenue SE	Arts & Humanities Building (GSU campus)	128
15 Peachtree Street SW	15 Peachtree Street Parking Garage	128
101 Piedmont Avenue	Student Recreation Center (GSU campus)	126
255 Courtland Street NE	Hilton Atlanta	126
300 Spring Street NW	The Hotel ATL Downtown	125
121 Collins Street SE	G Deck Parking Garage (GSU campus)	123

Table 3.3: Top-one percent of repeat addresses.

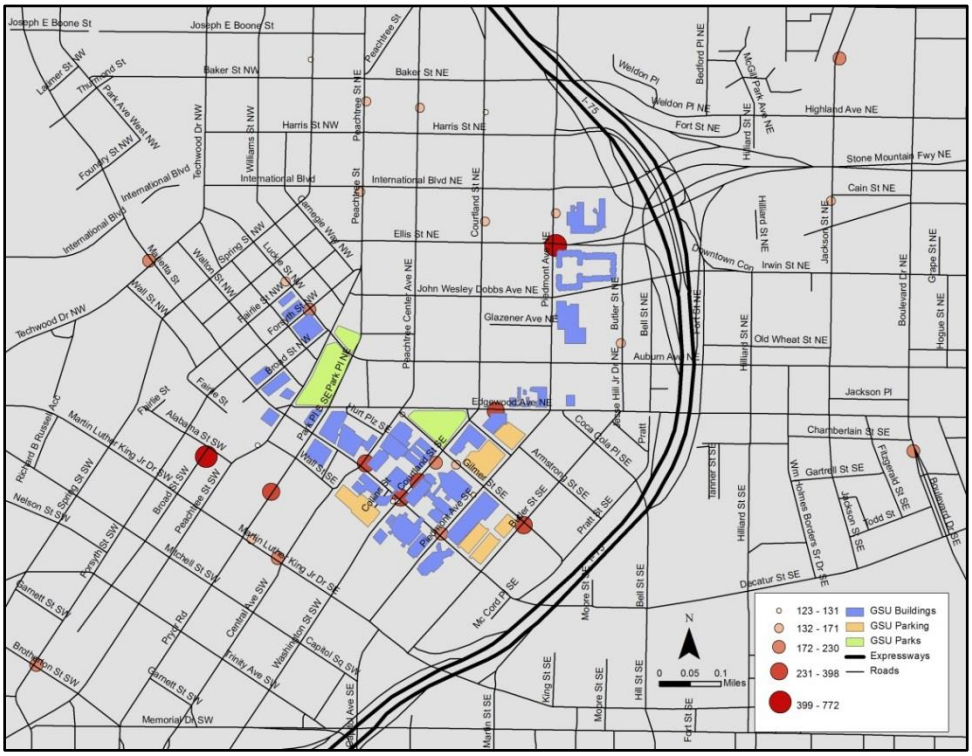

Figure 3.5: Top-one percent of repeat addresses.

Multiple addresses fall under the community gathering umbrella, and two are well-known landmarks in downtown Atlanta: CNN Center and Underground Atlanta. CNN Center houses the headquarters of CNN along with a hotel, a large food court, and numerous restaurants. The facility also connects to Philips Arena, a nearly 20,000-seat venue that hosts the Atlanta Hawks of the National Basketball Association, and sits across the street from Centennial Olympic Park. CNN Center's role as an entertainment venue and proximity to other venues leads to a steady flow of people through the facility. Underground Atlanta is a shopping and entertainment center that connects to the MARTA Five Points Station. The draw of several food establishments and retail options plus Underground Atlanta's proximity to the Five Points Station influences the volume of people at the facility.

Two hospitals rank among the top locations, but each has a different relationship with GSU. Grady Memorial Hospital, which ranks fifth in the dataset, abuts the GSU campus. The facility is across the street from three GSU parking decks. The Atlanta Medical Center ranks ninth, but is nearly a mile away from the center of GSU's campus. Due to their nature as medical facilities, Grady Memorial Hospital and the Atlanta Medical Center attract high volumes of people traffic.

Six hotels within the one-mile radius rank are among the top-one percent of addresses with repeat incidents. Students are not likely to frequent these locations, but the hotels are some of the most prominent places for tourists. The Atlanta Marriott Marquis and Sheraton Atlanta Hotel rank 17th and 18th, respectively. Hotels always attract large numbers of people, but it is surprising to see the number of incidents reported at these locations.

These results display the accumulation of crime during the entire study period, but it is also important to examine annual trends. Thirty-three addresses appear on the aggregated list of locations, but nine do not show up on an individual annual list of top-one percent of crime locations. These addresses have consistently semi-high levels of crime, but do not crack the top-one percent during a given year. Five addresses (General Classroom Building, Grady Memorial Hospital, MARTA Five Points Station, Underground Atlanta, and University Commons) appear on each year's list, and three locations (Library North, University Center, and University Lofts) are on an annual list five times. These places occupy the top-eight spots for the most crime events during the study period.

Repeat places hot spot mapping highlights the addresses that have the most crime incidents, which allows police to create crime reduction programs to pinpoint specific problem locations. While repeat places hot spots are important to reducing crime levels, when studying a college campus it is important to examine hot spots on a larger scale to capture the complete picture. Repeat places hot spots provide cover only a portion of the canvas. It is critical to step back and examine the entire portrait to grasp the significance of the hot spots.

Neighborhood Hot Spots

While repeat places mapping focuses on specific locations and does not measure the impact a point has on its surrounding area, KDE incorporates multiple points to create a raster layer illustrating the large-scale effect of multiple locations creating a hot spot that best illustrates crime on the neighborhood scale (Chainey, Tompson, and Uhlig 2008; Eck et al. 2005). The resulting map provides more insight to the breadth of hot spots than initially appear with repeat places maps (Figure 3.6). The map displays four major hot spots, which possess cells that are ten times greater than the mean.

Two hot spots are centered around prominent places on the GSU campus – the University Commons and Piedmont North residence halls plus the Library North-University Center core. The University Commons and Piedmont North, which are next to each other on Piedmont Avenue NE, are the two largest dormitories at GSU, containing 2,000 and 1,100 student respectively. The other hot spots, the MARTA Five

Points Station and Underground Atlanta, are close to each other and share a physical connection via an underground pathway.

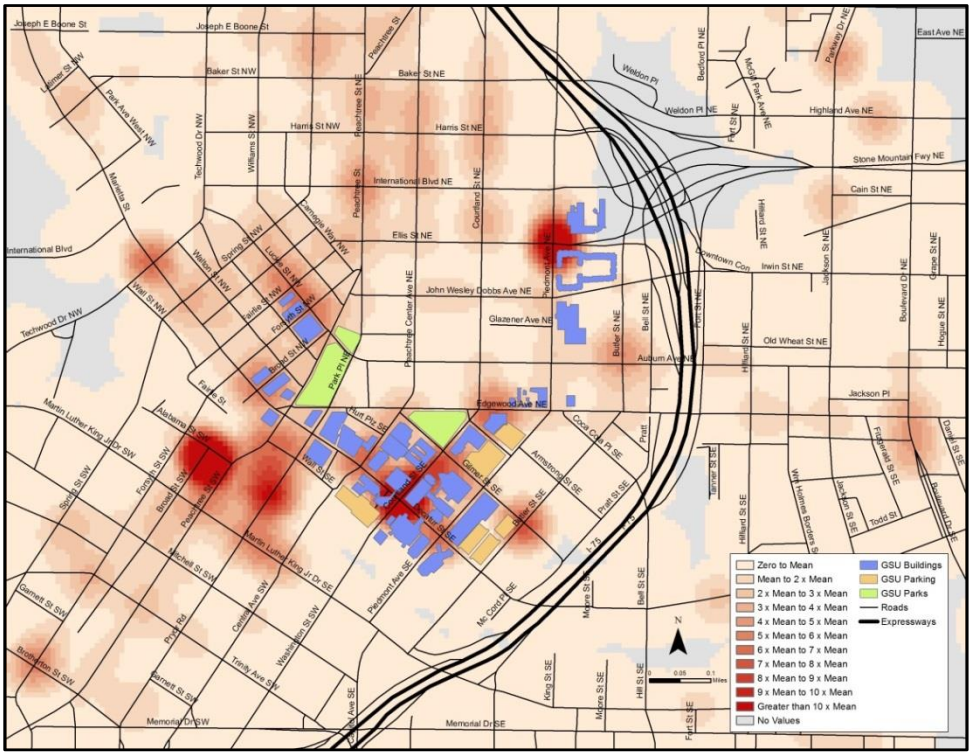

Figure 3.6: Kernel density estimation results.

The repeat places hot spots are apparent with the KDE map, but the density shows that some hot spots extend beyond the sole location highlighted through repeat places mapping. The hot spot around the MARTA Five Points Station merges with the hot spot at Underground Atlanta, and extends south toward the Fulton County Government Center. The proximity between Library North and the University Center shows that the hot spot spreads toward the Student Center and Library South, covering more ground than seen through repeat places mapping. The KDE map illustrates the intensity of the hot spot near the University Commons and Piedmont North compared to its surroundings.

Discussion

Scope of Hot Spots

Studying crime at the local and neighborhood levels provides greater insight into hot spots than examining the phenomenon at a single scale. Repeat places maps reveal high crime locations while KDE provides context to the intensity and geographic composition of the hot spot. In tandem, repeat places and KDE mapping illustrate the existence of localized and large-scale hot spots around the GSU campus. Repeat places mapping displays five hot spots on the GSU campus, but KDE differentiates these hot spots into repeat addresses with a localized effect versus larger-scale hot spots that encompass surrounding locations.

KDE shows that the repeat places hot spots at Library North and the University Center merge with surrounding points to create a large hot spot at the center of the GSU campus. Similarly, a hot spot at the University Commons combines with a hot spot at Piedmont North and creates a larger hot spot on the northeastern edge of campus. KDE mapping demonstrates that crime incidents extend beyond just the specific address appearing in the repeat places map. Examining the repeat places hot spot at the University Lofts with KDE shows that crime incidents rapidly drop off away from that location, which illustrates that the hot spot is localized. The same can be said of the hot spot at the General Classroom Building.

Away from the GSU campus, the repeat places hot spots centered on the MARTA Five Points Station and Underground Atlanta merge into a contiguous hot spot that extends southeast along Martin Luther King Jr. Drive SW near the Fulton County

Government Center. The KDE hot spot encompasses multiple points along Martin Luther King Jr. Drive SW, which shows that crime occurs beyond the scope of the transit hub (MARTA Five Points Station) and entertainment center (Underground Atlanta). The repeat places map displays four points that contribute to the extremely large KDE hot spot, which provides greater context to the intensity of crime reported along these streets.

Some addresses that rank among the top-one percent of locations with the repeat places technique can be overlooked with KDE mapping because the values are comparatively low when examined with a mean-increment legend. The area by the Greyhound Bus Station does not appear as a notable hot spot on the KDE map, although it has the tenth-most crime reports during the study period. The same can be said about the hotels among the top-one percent, such as the Atlanta Marriott Marquis, Hyatt Regency Atlanta, Sheraton Atlanta Hotel, and Westin Peachtree Plaza. While KDE may overlook these locations, it can confirm the localized effect of similar hot spots like the Atlanta Medical Center and Grady Memorial Hospital, as the raster layer reflects values below the mean when moving just one block away from each address.

Potential Crime Reduction Programs

Places with a high volume of people traffic create the repeat places and KDE hot spots, especially transportation oriented locations like the MARTA Five Points Station and the Greyhound Bus Station. Similarly, places with large residential populations contribute to hot spots around the University Commons, Piedmont North, and the University Lofts. Despite the lack of transportation connections or a residential

population, the hot spot concentrated on Library North and the University Center exists because these are two of the most trafficked buildings on the GSU campus. The cause of the library-oriented hot spot should be self-evident, as a university library is a major gathering place. The University Center hot spot exists because of the many services in the building like a food court, the university bookstore, a computer lab, and several meeting rooms.

Developing crime reduction programs for some of the hot spots is difficult because reducing the number of people passing through transportation-oriented hubs or the geographic and social center of the GSU campus is nearly impossible. Despite numerous theories addressing the underlying causes of crime, it is difficult to pinpoint a singular cause and address the issue with an appropriate program. Before addressing any potential crime prevention programs, it is critical to acknowledge the complexity of crime and that crime prevention must reflect this complexity (Brantingham, Brantingham, and Taylor 2005).

Since the 1980s, researchers have criticized standard policing techniques and developed three alternative approaches to reduce crime (Visher and Weisburd 1998). According to Weisburd and Eck (2004) the most common alternatives are community policing, hot-spots policing, and problem-oriented policing. Community policing is widely adopted, but is difficult to define because of the numerous innovations incorporated under the term (Weisburd and Eck 2004). However, a general principle is the usage of multiple resources beyond traditional law enforcement power with community involvement to define crime problems and to prevent and control crime (Weisburd, McElroy, and Hardyman 1988; Weisburd and Eck 2004). Hot-spots policing

focuses police efforts on identified high-crime locations and focusing resources on those locations (Braga 2001; Weisburd and Eck 2004). Problem-oriented policing involves police departments focusing on specific problems and developing strategies aimed at addressing these specific issues (Goldstein 1979; Goldstein 1990; Weisburd and Eck 2004).

Each method has varying levels of success reducing crime, disorder, and fear. Due to the numerous tactics incorporated into community policing, it is difficult to measure its effectiveness to deter crime, but it successfully reduces fear of crime (Weisburd and Eck 2004). Hot-spots policing has the strongest evidence that it decreases crime and disorder (Braga 2001; Weisburd and Eck 2004; Braga 2005). A large body of research shows that problem-oriented policing diminishes crime, disorder, and fear (Weisburd and Eck 2004). While problem-oriented policing is effective, in many studies it was part of geographically focused patrolling, which makes it difficult to separate its effectiveness from the hot-spots policing utilized in the research (Weisburd and Green 1995; Braga et al. 1999; Weisburd and Eck 2004).

Due to the nature of a university campus as a community, the first step in developing an effective crime reduction program for GSU is community-oriented policing. Community-oriented policing allows campus stakeholders to interact with campus police officers and identify important issues and problem areas on campus (Bromley 2007). The interaction between stakeholders and police will allow the GSU Police Department to create and implement problem-oriented policing and hot-spots policing programs. The multi-pronged approach will decrease crime reports on the GSU campus and reduce fear of crime.

Conclusion

The two mapping techniques reveal four major hot spots surrounding the GSU campus. Two of the hot spots are on campus and relate to two highly trafficked areas: residence halls that house over 3,000 students, and the crossroads by the library. Routine activities and social disorganization theories help explain why these hot spots exist, but do not provide a ready-made solution. Crime is complex, and multiple tactics are needed to address the causes (Brantingham, Brantingham, and Taylor 2005).

Attempting to address the issues facing GSU is difficult, but accepting the complexity of crime proves that multiple methods are necessary to effectively reduce crime on campus. A combination of community-oriented policing, problem-oriented policing, and hot-spots policing provides the GSU Police Department with a blueprint to reduce campus crime and create a community that feels safer. The results from the research provide the GSU Police Department with a baseline for crime activity around campus as the university's footprint expands and as the student population grows. Equipped with a baseline, the GSU Police Department can study which techniques have been most effective reducing crime to better serve its community.

The research-practitioner collaboration offers a model that researchers and university police departments can follow at a variety of other institutions. The results best suit universities that belong to the Coalition of Urban Serving Universities, the Great Cities' Universities coalition, and other urban universities. Specifically, universities like Cleveland State University, Portland State University, and the University of Wisconsin-Milwaukee could benefit from this research, but the analysis can also benefit institutions

within the City of Atlanta. Atlanta Metropolitan State College, Emory University, and the Georgia Institute of Technology are some of the institutions that could gain from this research. Georgia Tech may benefit the most, as its campus is about two miles from GSU, and some of its students have been victims of high-profile crimes that have garnered headlines on television broadcasts and in the local newspaper (Suggs 2009; Stevens and Morris 2011; Morris 2013).

Additionally, this research answers the call of LeBeau and Leitner (2011), encouraging further examination of the geography of crime by geographers. Much of the literature about the geography of crime is found in criminology or criminal justice journals. The research has a geographic focus, but often lacks geographic concepts beyond the use of GIS. Following Peet's (1975) criticism that pushed geography of crime research into criminology and criminal justice journals, it is important for researchers to incorporate a geographic approach into the research of crime geography.

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CHAPTER IV

USING ATHLETICS TO PROMOTE SENSE OF COMMUNITY: A CASE STUDY OF GEORGIA STATE UNIVERSITY

Abstract

This study examines the sense of community at Georgia State University (GSU) since the university began a football team in 2010. Since its beginning as the Georgia School of Technology's Evening School of Commerce in 1913, GSU has undergone a metamorphosis and become a four-year, major research university in downtown Atlanta. Despite starting a National Collegiate Athletic Association (NCAA) Division I athletics program in the 1960s, GSU struggled to generate widespread student interest in its athletics teams until launching a football team in 2010. University administrators promoted the addition of a football team as something that would attract a more traditional student body and change the sense of community on campus. Following online student surveys and semi-structured interviews with student volunteers and selected university employees, this study examines how the GSU sense of community has changed since the addition of a football team. This study is the first public assessment of GSU students' sense of community following the addition of the football team in 2010.

Introduction

Since it began in 1913 as the Georgia School of Technology's Evening School of Commerce, Georgia State University (GSU) has systematically acquired land in an effort to provide real estate space for classrooms, labs, offices, athletics facilities, and residence halls (Smith 2010). Early on, GSU had an athletic program that emphasized intramural competitions and general fitness. However, in 1946 the university hired Herbert "Stoney" Burgess to serve as director of athletics and coach some sports teams (Flanders 1955). Despite the hiring of Burgess and increased popularity of athletics, GSU did not begin sponsoring varsity athletic teams until the 1963-64 academic year when it joined the National Collegiate Athletic Association (NCAA) as a Division I member (Flanders 1955; GeorgiaStateSports.com 2013).

In spite of having a burgeoning athletics program, an expanding campus, and a growing student population, GSU administrations did not emphasize sports in the manner commonly associated with the benefits of intercollegiate athletics. Proponents of intercollegiate athletics make several arguments for how programs benefit the university. Some people argue that athletics represents the university on a national stage by attracting prospective students and helping maintaining connections with alumni (Murphy and Trandel 1994; Toma 1998, 1999; Toma and Cross 1998; McEvoy 2005). In the case of GSU, it gained exposure on a variety of fronts because of its football team. A story aired on the NPR program *All Things Considered* about efforts to compose a new fight song; a baby wearing a diaper appeared on the cover of *ESPN The Magazine*'s 2010 College Football Preview edition with a lengthy story about the startup of the GSU Panthers football team (NPR 2009; Heckert 2010). In 2007, results of GSU's football

feasibility study argue that the cost of adding a football team would benefit the university if it "intends on continuing to evolve from a commuter school to the more traditional college campus" (Bethea 2010). GSU's push to attract more traditional students helps the university fulfill the goal of having an enrollment of 36,000 students, which is part of the Main Street Master Plan that former GSU President Carl V. Patton established in the late 1990s and updated in 2005 (Georgia State University 2006). Others emphasize the value of athletics because marquee athletic events at large universities foster connections between students and create a bond between prospective alumni and the institution (Boyer 1987; Toma 2003; Beyer and Hannah 2000; Schurr et al. 1993; Wann and Robinson 2002). The connections between people and the institution is part of a concept called sense of community, which is a feeling of belonging and belief that members are important to each other and the group (McMillian and Chavis 1986). GSU has successfully garnered media coverage, but the impact of football on the university's sense of community has not been analyzed by academics or the media.

Scholars have examined the link between team identification and sense of community, but most studies focus on schools that have long histories of sponsoring intercollegiate athletics and tend to compete at the highest levels as members of the NCAA's Football Bowl Subdivision (Clopton 2008a; Clopton 2008b; Toma 1999; Toma 2003). One avenue researchers have not explored is how sense of community changes at a university that recently began sponsoring a varsity football program. Supporters justify sponsoring football because it promotes community-building, but GSU has not conducted any public studies to see if or how the GSU community has changed since the football team took the field in 2010. This study analyzes how the creation of a football program

affects the university's sense of community, and especially the impact on students. This research provides information to GSU's policymakers, the student population, and the university's stakeholders about changes in the students' sense of community since the addition of a varsity football team. It also provides a template that administrators at universities that have recently begun sponsoring football programs can follow to analyze the impact that the addition of a varsity football team has upon their students' sense of community.

Literature Review

From its humble beginnings in the Lyman Hall Chemistry Building on the campus of the Georgia School of Technology (now the Georgia Institute of Technology) with an initial class of forty-four students, GSU has morphed into a major presence in downtown Atlanta with 32,000 students including 4,000 living in residence halls (Smith 2010; Georgia State University 2012a; Georgia State University 2012b). One of the university's Main Street Master Plan goals is to "create a sense of place and identity" (Georgia State University 2006). Creating a sense of place and identity translates into developing a sense of community and generating a bond between students and the university.

Blake Gumprecht's (2008) book *The American College Town* has a chapter that details the impact of the Auburn University football program on the community. The chapter covers the unique geography of fans around the stadium, and details the stadium's expansion from a field with bleachers that held 700 people in the early 1900s

to a facility that currently holds over 87,000 fans with multiple luxury suites (Gumprecht 2008). Gumprecht (2008) also details how the football program's success and failures represent the spirit of the community, but his study focuses on the stereotypical college town where the university is a major economic force. GSU's history with downtown Atlanta is far from being the usual "college town" experience. While GSU may not be apart from downtown Atlanta, it has struggled to imbed itself as part of the downtown community. The university has been slow to develop a sense of community because of its long history as a commuter college with a largely non-traditional student population that lacked dormitories until 1996, and did not possess residence halls within walking distance of classroom buildings until the early-2000s. GSU is not attempting to create the college town experience in downtown Atlanta, but it is trying to build a sense of community among its students through athletics because sports are "a unifying force for those communities it represents" (Stone 1981, 230).

Defining the term community leads to two common usages of the word: a geographical, territorial idea tied to a specific location such as a city, town, or neighborhood and the relational concept concerned with human relationships regardless of location (Gusfield 1978). Gusfield (1978) observes that the uses of community are not mutually exclusive, which illustrates why GSU, and universities as a whole, employ both applications because alumni associations foster lifelong connections between people and a university, even though alumni may live thousands of miles away from where they attended college. The GSU community is based around attending or working at the university, but the relationship extends beyond the classroom and can impact a person for many years after leaving the university.

Within community psychology, many researchers follow the definition that "sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan and Chavis 1986, 9). There are four elements that define sense of community: membership, influence, integration and fulfillment of needs, and shared emotional connection (McMillan and Chavis 1986). The component of membership is probably the most basic, as there are "people who belong and people who do not" (McMillan and Chavis 1986, 9). Influence is a two-way street, as members affect what the group does and the group's cohesiveness impacts the behavior of members (McMillan and Chavis 1986). Integration and fulfillment of needs conveys reinforcement that incorporates aspects like the status of being a member and shared values (McMillan and Chavis 1986). The element of shared emotional connection rests partially upon a shared history. Members do not have to share the same history, but must identify with it (McMillan and Chavis 1986). These elements interact within the university setting, as McMillan and Chavis (1986) detail a hypothetical situation of students participating on an intramural athletic team.

It is possible to apply the university-setting example McMillan and Chavis (1986) discuss to GSU and the start of its football program. For example, students attend a football game out of their individual needs (integration and fulfillment of needs). The students attend the same university and sit in the same section of the football stadium (membership boundaries are established) and spend time cheering for the same team (contact hypothesis). They watch their team win and bask in its reflected glory (successful shared valence event). While cheering, members utilize energy by clapping

and yelling on behalf of the group (personal investment in the group). As the students see the same people attending games, members become recognized within the group (gaining honor and status for being members). Someone may recommend buying or wearing matching shirts at future games (common symbols), and they do (influence).

In a retrospective piece, McMillan (1996) alters the elements to spirit (membership), trust (influence), trade (integration and fulfillment of needs), and art (shared emotional connection). The components of membership such as boundaries and emotional safety remain the same from the original work, but McMillan places a greater emphasis on the sense of belonging and the need for people to have "connections to others so that we have a setting and an audience to express unique aspects of our personality" (McMillan 1996, 315). Trust maintains the same aspects as influence, but incorporates a broader component of maintaining order within a community (McMillan 1996). McMillan (1996) discusses trade from an economic standpoint, and details how the primitive fulfillment of needs and integration of people into a community evolved into an economic activity that relies upon the basic fulfillment of needs and integration. The element of art is based on collective experiences, or what was originally labeled shared emotional connection, and in a university setting can manifest itself as symbolic rituals that create a sense of belonging (Schlossberg 1989; McMillan 1996). Despite revisions in McMillan's theory, the common thread among the four elements remains the same as they create a self-perpetuating cycle that develops a sense of community.

Numerous researchers examine the role athletics play in building a sense of community. Since the early 1900s, university administrators have utilized athletics to create a sense of community among their diverse student populations because "athletics

was apparently the only element of higher education which could unite all of its diverse constituencies" (Frey 1985, 117). In the early 1900s, Yale University President Arthur Twining Hadley noted that the student body's class distinctions faded away because of the communal spirit generated by the football team's success (Chu 1989). Other administrators hoped that the success of sports at Harvard University and The University of Chicago would help acculturate and socialize the class-divided campuses of America's universities (Chu 1985). The literature shows that many critics hoped "sport could unify the campus as sport could unify the populations represented by college athletics teams" (Chu 1989, 159). Bale (1988) argues that sport creates the strongest positive identification with a place. Communities have few common goals except during times of crisis, but sporting events "engender a communal spirit and make members feel close to one another by creating collective goals" (Coleman 1961, 42). Researchers have examined football as a community-building tool (Clopton 2008a; Clopton 2008b; Toma 2003). However, the literature does not review the circumstances of universities with a larger commuter population that added football to generate a sense of community such as the situation at GSU.

McMillan developed the sense of community theory from his research with the Neighborhood Participation Project (NPP) in Nashville, TN, but left academia shortly afterward and left others to test and establish the validity of the theory (Chavis et al. 1986; McMillan 1996). From McMillan's initial work, Chavis et al. (1986) generated the Sense of Community Index (SCI) from the NPP data, which consisted of forty-four items from personal surveys. Another work developed the Sense of Community Scale (SCS), which contains forty items (Doolittle and Macdonald 1978). The literature that examines

sense of community on a college campus overlooks the role of athletics on student responses (Lounsbury and DeNeui 1995; Lounsbury and DeNeui 1996; Berger 1997). SCI is the most used and validated measure of sense of community, but researchers have utilized several other instruments to assess sense of community (Chavis and Pretty 1999; Chipuer and Pretty 1999). Research shows that students who possess a strong identification with their college athletics program are more likely to remain at their current institution of higher education, which affects their sense of community (Wann and Branscombe 1993; Wann and Robinson 2002). Many of these studies combine SCI with other instruments, which validate SCI as the premier measurement of sense of community. However, the need to adjust SCI indicates that the instrument has shortcomings and should be modified to fit the circumstances of each study.

Data and Methodology

This study consists of three populations. The first population is current members of the GSU student body, both graduate and undergraduate students, because they bear the primary burden for supporting the football program's operational budget with a $263 per semester athletic fee as part of mandatory student fees (GeorgiaStateSports.com 2008). Although the university chose to sponsor a varsity football team with an eye on improving the sense of community among undergraduate students, it is negligent to overlook how graduate students respond to the change and their impact on GSU's sense of community.

I implemented a survey combining elements of SCI, Lounsbury and DeNeui's studies, and sport team identification research. Combining components of the various studies allowed me to draw from the strengths of SCI while accounting for the uniqueness of the GSU community when creating a survey for students. The survey asked participants to rate questions on a five-point Likert scale ranging from "strongly disagree" to "strongly agree" covering sense-of-community and team-identification questions. Sample sense-of-community questions include: "I feel very attached to Georgia State University;" "I feel like I am part of a community at Georgia State University;" and "Attending Georgia State University athletic events make me feel like part of a community" (Appendix A1). Sample team-identification questions include: "I see myself as a fan of Georgia State University athletics;" "Being a Georgia State University athletics fan is important to me;" and "I regularly wear Georgia State University athletics insignia on my clothing" (Appendix A1).

In an attempt to reach one percent of the student population (approximately 320 people), I employed an opportunistic survey method utilizing an Internet site (www.surveymonkey.com). Opportunistic surveying means the sample may not reflect an accurate representation of the population, but using an opportunistic distribution method with an Internet survey provides the opportunity for a large sample size that typically results in a high level of precision (Fowler 2002). I circulated survey fliers in two ways during the 2012-13 academic year. I placed five advertisements in the GSU weekly student-operated newspaper, *The Signal*, which claims a 5,000-person weekly readership. I distributed fliers on campus three times during the academic year, twice

during the fall semester and once during the spring semester. During the fall semester, I handed out fliers at two football games.

Eighty-three students completed the survey during the Fall 2012 and Spring 2013 semesters. Calculating a response rate is difficult because of the nature of newspaper readership and the in-person interaction with people. *The Signal* claims a 5,000-person weekly readership, but does not distinguish between student and non-student readers nor does it track the number of new readers each week compared to the number of repeat readers.

Of the sample (n = 83), the gender divide is nearly evenly split with 50.6 percent of the respondents being female (n = 42). A majority of respondents (n = 43) identify themselves as being upperclassmen (either juniors or seniors) while nearly a third are lowerclassmen (n = 27) and almost 16 percent are graduate students (n = 13). Most students participate in a university-sponsored club or extracurricular organization (n = 58), but only a small percentage belong to a social fraternity or sorority (n = 8). The majority of respondents live off-campus either at a parent/guardian's residence or in off-campus apartments/houses (n = 60). The ethnic split closely mirrors GSU's demographics with 43.4 percent (n = 36) identify as Caucasian, 41 percent (n = 34) identify as African-American, 6.0 percent (n = 5) identify as Asian, 2.4 percent (n = 2) identify as Hispanic, and 7.2 percent (n = 6) identify as Other. Overall, the sample is representative of the GSU student population.

To balance the major shortcoming of surveys being unable to infer cause-and-effect, I conducted semi-structured interviews with two populations: student volunteers

and select university employees (Singleton and Straits 2004). Semi-structured interviews provide the flexibility of asking open-ended questions and exploring unique responses while allowing the researcher to explore common themes (Dunn 2005). Additionally, semi-structured interviews are content-based instead of question-focused like a structured interview or oriented on personal histories such as unstructured interviews (Dunn 2005). To cover common themes and allow for a better comparison between responses, I provided each subject with the same interview guide that included the structured questions prior to the interview. Providing an interview guide allows each respondent the opportunity to study questions and think about their responses, which commonly provides more thoughtful responses to the open-ended questions (Dunn 2005). Sample questions include: "How do you define community?" "How do you define a sense of community?" and "What is the sense of community like after the football team began playing games?" To gather multiple perspectives, I interviewed administrators who helped influence the decision to sponsor football and student-life personnel who interact with students on a daily basis.

Student participants were contacted via e-mail after volunteering to participate in an interview by responding affirmatively to a survey question. Employee participants were contacted through a phone call because of their position within the university. Before the interviews, all participants were asked for their voluntary written consent, including the use of employees' names because their position within the university makes them identifiable while students' names will not be disclosed. In-person and phone interviews were conducted and digitally recorded with those who indicated they were

willing to participate in this study. The interviews were transcribed and the interviewees were given the opportunity to review the transcripts for accuracy.

The second population consists of six student survey respondents who volunteered to participate in a semi-structured interview beyond the scope of the initial Internet survey. Interviewing student volunteers provides a fuller picture about the impact of athletics as a community-building technique with first-hand student observations. I read the interviews line by line searching for themes and key words to assign as codes and condense the data into categories with the aid of QSR NVivo 10 software. Coding the interviews provides additional information about the GSU sense of community due to the limited student surveys results.

The third population consists of select university employees. The nine interviewees represent a variety of positions within the university, including administrators who have worked at GSU for over a decade, young student-life employees who began working at the university as the football program started, and student leaders who function in the role of university representatives. Among the interviewees are administrators such as Tom Lewis, who serves as a senior advisor to current GSU President Dr. Mark P. Becker and worked as vice president for external affairs under former GSU Dr. President Carl V. Patton, and Dr. Edgar Torbert, who has worked as assistant to the provost for budget and facilities since 1987. I also interviewed Assistant Director of Housing Shannon Corey, who oversees the residence education and staff development, and Coordinator of New Student Orientation Amanda Antara, who supervises the student leaders who conduct campus tours and lead orientation groups at the beginning of the fall semester. Insights from Antara and Corey are important because

they interact with students on a daily basis, which balances the perspective of administrators like Lewis and Torbert.

I spoke with three Athletics Department employees. Allison George and Charlie Taylor, who both work in media relations, have been at GSU since 2007 and 2001 respectively. Prior to joining GSU, George and Taylor worked in media relations in Atlanta for many years. Another key individual from the Athletics Department I interviewed is retired head football coach Bill Curry, who led the football program from its first practice in 2008 through the end of the 2012 season. Beyond his time at GSU's first head football coach, Curry grew up in nearby College Park and played football at the Georgia Institute of Technology (Georgia Tech) during the 1960s and coached that university's team during the 1980s.

The student leaders I interviewed were Marcus Kernizan, president of the Student Government Association (SGA) during the 2012-13 academic year, and Mark Hogan, Jr., who was the first student-athlete to sign a National Letter of Intent to play football at GSU (GeorgiaStateSports.com 2012). Kernizan provides an important viewpoint about the university's sense of community and the role athletics has played in promoting a sense of community because of his elected position as a student leader. Hogan, who enrolled at GSU in January 2009, offers a unique perspective because of his role as a face of the football team before it ever played a down and his role as a current student (GeorgiaStateSports.com 2012). Like Curry, Hogan served as a symbol for the GSU community before the football team took the field.

Like the student interviews, I read the employee interviews line by line seeking out recurring themes and key words to assign as codes with the assistance of QSR NVivo 10 software. Interviewing university employees provides an additional set of observations because some of these subjects have long tenures at the university, and can tell behind-the-scenes stories about their involvement in GSU's addition of a varsity football team. The diversity of employees who participated in this study provides multiple perspectives about changes in GSU's sense of community since the football team began play in 2010.

Working under an interpretive theoretical approach, semi-structured interviews lend themselves to developing themes because the "researchers' values, theoretical orientations, and personal experiences" manifest themselves in the questions (Ryan and Bernard 2003, 88). The themes discovered come primarily from an *a priori* framework due to my experience as an undergraduate and graduate student at GSU from 1998 to 2003, and employment in the Athletics Department from 2007 to 2008. My experiences at GSU shaped the questions, and influenced my interpretation of the subjects' answers to the questions. The most developed theme was a change in the sense of community. The reliability and validity of themes can be difficult to establish due to the nature of qualitative data analysis (Ryan and Bernard 2003). However, themes gain reliability and validity when discovered through multiple techniques. As such, I utilized two different techniques to confirm the existence of a change in the sense of community.

Due to a deductive approach, the initial themes were centered on the semi-structured interview questions. As I read the transcript of each interview, I searched for "recurring regularities" as an application of the repetitions technique (Guba 1978, 53;

Ryan and Bernard 2003). Seeing similar words repeated for the same questions confirmed that a change in the sense of community is the key theme. For further analysis, I applied a processing technique called a word list (Ryan and Bernard 2003). After manually highlighting key phrases during the repetitions process, I used QSR NVivo 10's word count feature to create a word list, which identified all the unique words in a text and counted the number of times each occurred. Ryan and Bernard (2003) caution against word lists because a word count can cause words to be taken out of context, so they encourage researchers to examine the words surrounding the key word to retain its original context. The key word in context (KWIC) method requires researchers to identify the key words and copy the immediate context, which are then sorted into piles of similar meaning (Ryan and Bernard 2003). The KWIC method validated the repetition results, and provided a more robust analysis as words are seen in context instead of simply being counted for reoccurrences.

Findings and Discussion

When examining survey responses, four demographic categories exhibited marked differences on four key questions. The key questions relate to sense of belonging, sense of attachment, sense of community, and athletic event attendance contributing to sense of community. The average scores on these key questions displayed a notable difference based upon gender, race/ethnicity, student status, and fan identification.

The variation between genders provides some of the most visible differences when examining the survey results. On a five-point Likert scale, males rate their sense of belonging, sense of attachment, and sense of community noticeably lower than females. However, males rate that attending GSU athletic events makes them feel like part of a community higher than females (Table 4.1). Despite the differing ratings on the impact of attendance at an athletic event creating sense of community, the overall results to this question illustrates the complexity of the GSU community. Twenty-three of the eighty-three survey respondents (27.7 percent) agreed or strongly agreed that attending a GSU athletic event made him or her feel like part of a community while twenty-one people (25.3 percent) disagreed or strongly disagreed that attending a GSU athletic event made them feel like part of a community. Twenty-four participants (28.9 percent) recorded a neutral or not applicable answer, which broaches whether athletics is the primary force generating sense of community on the GSU campus.

Question	**Females**	**Males**	**Rating Average**
I feel like I belong at GSU	4.14	3.80	3.98
I feel very attached to GSU	3.95	3.66	3.81
I feel like I am part of a community at GSU	3.60	3.35	3.48
Attending GSU athletic events make me feel like part of a community	3.26	3.34	3.30

Table 4.1: Average Likert responses to key questions, by gender.

The results regarding race and ethnicity are not as stark as gender, but there are differing results from Caucasian and African-American respondents compared to Asian, Hispanic, and Other participants (Table 4.2). The differing responses among racial categories are noteworthy because according to 2010-2011 academic year data there is no majority racial group. Of the 24,101 undergraduates, 37.8 percent are African-American,

36.2 percent are Caucasian, and 10.8 percent are Asian (Georgia State University 2013). The number of respondents from the Asian (n = 5), Hispanic (n = 2), and Other categories (n = 6) account for 15.6 percent of the entire sample, but these three categories share similar responses compared to answers from Caucasians and African-Americans. Asian, Hispanic, and Other participants recorded higher feelings about sense of community. Only three Asian, Hispanic, or Other respondents registered a negative or neutral response about feeling like part of a community at GSU, and ten recorded a positive response to the same question. In contrast, nineteen of the thirty-six Caucasian participants (52.8 percent) registered a negative or neutral response about feeling like of a community while twelve of the thirty-four African-American participants (35.3 percent) recorded a negative or neutral answer to the same question.

Question	Caucasian	African-American	Asian	Hispanic	Other	Rating Average
I feel like I belong at GSU	3.81	4.15	3.60	3.50	4.50	3.98
I feel very attached to GSU	3.67	3.79	3.60	5.00	4.50	3.81
I feel like I am part of a community at GSU	3.14	3.65	4.25	4.00	3.83	3.48
Attending GSU athletic events make me feel like part of a community	3.24	3.25	3.75	4.00	3.50	3.30

Table 4.2: Average Likert responses to key questions, by racial/ethnic category.

Responses to the survey differ along the lines of student status with freshmen and sophomores registering noticeably different ratings compared to juniors and seniors (Table 4.3). Collectively underclassmen (freshmen and sophomores) report lower feelings of belonging, attachment, and sense of community compared to upperclassmen (juniors and seniors). Previous studies about student satisfaction and persistence report that upperclassmen tend to possess higher levels of belonging, attachment, and sense of

community with their university (Boyer 1987; Berger 1997). This study's results are consistent with the earlier research, as thirty-four out of forty-three upperclassmen (79.1 percent) recorded positive answers about belonging at GSU compared to nineteen out of twenty-seven underclassmen (70.4 percent) who registered positive answers about belonging at GSU. Feeling like part of a community had the most variation, as seniors and graduate students recorded much higher levels of sense of community, especially compared to freshmen. Seventeen out of twenty-nine seniors (58.6 percent) and eleven out of thirteen graduate students (84.6 percent) noted a positive feeling of community while only four out of nine freshmen (44.4 percent) recorded a positive feeling of community. Considering that the GSU administration added a football team with an eye on fostering sense of community among incoming students, it is surprising that freshmen record the lowest sense of community when attending GSU athletic events. It is not surprising that upperclassmen have lower ratings because many of them began their academic careers at GSU prior to the football team taking the field, so they may not regularly attend events and are more likely to work part-time jobs, intern, or focus on pursuing full-time jobs as they approach graduation.

Question	Freshman	Sophomore	Junior	Senior	Graduate Student	Rating Average
I feel like I belong at GSU	3.22	4.00	4.43	3.97	4.00	3.98
I feel very attached to GSU	3.67	3.67	3.79	3.86	4.00	3.81
I feel like I am part of a community at GSU	3.13	3.44	3.36	3.52	3.77	3.48
Attending GSU athletic events make me feel like part of a community	3.00	3.33	3.00	3.37	3.58	3.30

Table 4.3: Average Likert responses to key questions, by student status.

The last category that illustrates contrasting responses to the key survey questions is the fan and non-fan continuum. One of the survey questions asked people whether they see themselves as a fan of GSU athletics, and sixty-six of the eighty-three participants had either a positive (agree or strongly agree) or negative (disagree or strongly disagree) response. Forty-two respondents (50.6 percent) recorded a positive answer, which placed them in the fan category, and twenty-four respondents (28.9 percent) registered a negative answer, which placed them in the non-fan category. The seventeen respondents (20.5 percent) who marked either a neutral or not applicable response were removed from the fan and non-fan analysis.

On all four key questions, fans registered higher ratings of belonging, attachment, sense of community, and sense of community at an athletic event compared to non-fans (Table 4.4). These results mirror other studies that show students who identify as a fan of their institution possessing higher levels of attachment and sense of community (Wann and Branscombe 1993; Wolf-Wendel, Toma, and Morphew 2001; Wann and Robinson 2002; Clopton 2008a). The most compelling aspect of the results is how much higher fans rank above the rating average for each of the four questions. When rating belonging, twenty-one of the forty-two fans (50 percent) responded that they strongly agree with the question while only four non-fans (16.7 percent) responded that they strongly agreed. Twenty of the forty-two fans (47.6 percent) reported that they strongly agree about feeling very attached to GSU compared to just two out of the twenty-four non-fans (8.3 percent) registering the same sentiment. The sense of community responses between fans and non-fans are compelling because of the variance in replies. Only five fans (11.9 percent) replied that they strongly agree about feeling like a part of a community at GSU

while thirteen fans (31 percent) responded with neutral or disagree about feeling like a part of a community at GSU. Based upon previous studies, it is surprising to find fans that possess a negative sense of community.

Question	Non-Fans	Fans	Rating Average
I feel like I belong at GSU	3.29	4.38	3.98
I feel very attached to GSU	2.88	4.31	3.79
I feel like I am part of a community at GSU	3.01	3.67	3.43
Attending GSU athletic events make me feel like part of a community	2.16	3.98	3.32

Table 4.4: Average Likert responses to key questions, by level of fan identification.

Survey results provide some insight into the GSU sense of community, but are unable to capture the feelings and first-hand observations of people who are part of the community. After identifying the change in sense of community as a key theme from the interviews using manual repetitions technique, I conducted a word frequency query to find the 100 most common words in the theme (Table 4.5). In addition to counting each word, the NVivo software calculates a weighted percentage that represents the frequency of the word relative to the total words counted (QSR International 2014). Some of the interview subjects were not part of the GSU community prior to the football team's first season of competition in 2010, but all had a reference point from talking with colleagues or classmates who were part of the GSU community before the football team began play.

Word	Count	Weighted Percentage
See	15	7.77%
People	9	4.66%
Wear/Wearing	8	4.15%
Blue	7	3.63%
Shirts	7	3.63%
Lot	6	3.11%
Gear	5	2.59%
Paraphernalia	3	1.55%

Table 4.5: Top words used to explain changes in sense of community theme.

Fourteen of the fifteen interview participants commented about the visual difference on campus among the student population. Respondents use words like "see," "blue," "wear/wearing," and a variety of terms referencing clothing when describing the change in sense of community. None of the respondents describe that the community feels different, but they all note the visual change on campus and talk about students wearing more GSU clothing and the increased visibility of blue – blue and white are the university's primary colors – on campus.

Tom Lewis, who has worked at the university since 1991 in a variety of positions directly reporting to the president, perhaps best explains what the student population looked like prior to the addition of football. "If you walked out on our campus, you would see University of Georgia T-shirts, you would see Georgia Tech T-shirts, you would see Georgia Southern T-shirts," he said when describing the sense of community prior to the university's announcement that it would sponsor a football team. Former head football coach Bill Curry, who led the team from 2008 to 2012, echoes Lewis's remarks that GSU President Mark Becker pointed out that "most of the kids had on a Bulldog (University of Georgia's mascot) or a Yellow Jacket (Georgia Tech's mascot) or

a (University of Alabama) Crimson Tide T-shirt." SGA President Marcus Kernizan detailed what he saw on campus during his freshman year in 2009 saying, "I would walk down the street and sit in my classes and I couldn't count the number of people who had other schools' paraphernalia on. There was an incredibly high number of people representing other schools like UGA (University of Georgia), (University of) Alabama, and (Georgia) Tech."

Following the university's announcement in April 2008, and especially starting in the fall of 2010, the colors of T-shirts worn by students changed. "Blue was everywhere," said Lewis. Corey, who started working in University Housing just before GSU made its announcement, also commented on the visible change saying, "The amount of blue and white that I see whether it's a T-shirt or a sweatshirt or a bag, the difference is amazing."

Students have also noticed this visible change in GSU's sense of community. "People wear gear a lot more than they did ever. I mean, two years ago it was Georgia Tech, Georgia, I mean everywhere. Now there's a lot more blue," said one interview participant. Another participant talked about her orientation experience when describing the change in what people wear on campus. "When I used to visit before there was a football team, I think the time I saw blue the most was for the Panther Prowls," she said describing events sponsored by the student programming board designed to promote school spirit. "But after the football team actually had Homecoming and these big events that gave people a whole week to wear blue." A third student interviewee noted the visual change on campus saying, "It seems that I see more people wearing the GSU insignia and things of that nature than I did before."

The increased visibility of blue on campus personifies three parts of the definition of sense of community: spirit, trade, and art (McMillan 1996). Students demonstrate their sense of belonging to the GSU community by wearing clothing with the GSU logo or in the school's colors. This sense of belonging is what McMillan calls spirit (1996). As students choose to wear GSU related clothing, they influence others who may opt to buy Panther gear or wear a blue T-shirt the next day. The cohesiveness of the group to impact individuals is McMillan's (1996) component of trust. Wearing blue Panther T-shirts or clothing with the GSU logo illustrates that students are participating in collective experiences and these symbolic rituals of wearing blue during Homecoming week leads to a sense of belonging. McMillan (1996) calls these collective experiences art in his definition of sense of community.

Although many interview subjects talk about the visual change on campus there is also a discussion of pride and comments about GSU being a real university because it sponsors football, especially among the students. One student participant said, "I feel like there's now a sense that we're more a 'legitimate' university in that I think a lot of people ascribe a kind of legitimacy to having a football team." Another interviewee said, "People felt like, I guess, more that we're a real university." A third student struggled to pinpoint the words to express herself, but highlighted the completeness of the university when she said, "Now it's like we just finally have the whole – I can't even find the word for it," before elaborating, "The football program did bring the cheer and the happiness and citizenship that Georgia State needed." Kernizan, who serves as a university employee because of his position as SGA president but is also a student, best summarizes the sentiment: "It's like at Georgia State we're now a real university that we have football

even though we were a real university prior to that. But now we're the complete university pretty much. We have everything. We offer everything here, including football now."

Full-time employees like Lewis and Corey echo the statements of the students. When discussing the sense of community prior to the start of football, Lewis said that students lacked a sense of ownership. "I think the students are just more proud to be a Panther," said Corey when describing changes since the football team started play. The pride and ownership students possess illustrates an element of trade. In McMillan's (1996) definition of sense of community trade focuses on the integration of people into a community and their fulfillment of needs, which ultimately reinforces an individual's membership status. In this case, students have their emotional needs fulfilled because their university sponsors a football team like many other large universities.

Conclusion

Overall, there is a positive sense of community and sense of attachment among the GSU student population. However, the survey responses indicate that multiple factors influence these sentiments. GSU falls in line with previous studies about sense of community as students who identify more strongly as a fan of the athletic program report higher levels of belonging and attachment (Wann and Branscombe 1993; Wolf-Wendel, Toma, and Morphew 2001; Wann and Robinson 2002; Clopton 2008a). When examining the results it is difficult to discern the impact of adding a football team had on the sense of belonging, sense of attachment, and sense of community among the student

population. Lewis, who began working at the university well before a football team became reality, lists two things that have changed the GSU sense of community during his time at the university: student housing and football. "When we developed housing and when we developed a strong football program," he said about what has changed within the university community since the addition of a football team. "We're getting 18 to 22-year-olds coming here because it's their first choice. That is changing Georgia State. That's defining the community of Georgia State."

The biggest impact on the sense of community has been the visible change on the landscape as more students, especially traditional-aged undergraduates, regularly wear GSU clothing on campus. Although students may have worn GSU clothing prior to the football team's first season, the noticeable increase illustrates a strong sense of spirit and membership in the GSU community focused around athletics. It is likely that without the addition of a football team that UGA, Georgia Tech, and Alabama T-shirts would still dominate the crosswalk landscape.

Survey results show that football, and in general athletics, may not be the driving force behind GSU's changing sense of community. However, the seniors who graduated in May 2014 are the first group of students to have a football team for the duration of their enrollment at GSU. Bearing in mind that GSU has only played four seasons of football, it is difficult to judge the total impact of sponsoring a football team on the university's sense of community. Incorporating a temporal aspect, studying the impact the football team has on the ability to draw alumni to campus over the next ten years may better illustrate its power to foster a sense of community.

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CHAPTER V

CONCLUSION

The interaction between GSU and downtown Atlanta is extremely complicated. Results show that the university's expansion has increased property values neighboring campus. However, the increase in property values is modest. The university's location in the city influences crime patterns on and near campus, and creates hot spots on campus and on its edges. The addition of a football team has changed the students' sense of community, but the bigger change has been a visible transformation of the campus. Under some circumstances the city influences the university, and at other times the university affects the city.

These changes can be seen and unseen. GSU is transforming the downtown landscape through multiple construction projects, but the economic impact beyond campus can be difficult to trace. Crimes committed against GSU students can garner negative headlines for both the city and the university. Students can display their school pride by wearing a T-shirt supporting the football team while a sea of blue fills the streets in downtown as people move between classes. As the university continues to change, downtown Atlanta will change.

Chapter 2

The objective of this chapter was to examine the increase in property values surrounding the GSU campus. The local spatial autocorrelation results show that there are no significant clusters of high-value or low-value properties near campus. There are some clusters of high-value and low-value properties within the one-mile study area, but the cluster of high-value parcels are far from the GSU campus and are more likely influenced by developments closer to that location. Specifically, property on the edge of Centennial Olympic Park has dramatically increased in value, but the increase can be explained by the property's proximity to the numerous attractions surrounding the park and the park itself. The exploratory data analysis reveals that many of the properties bordering the GSU campus increased in value from 2000 to 2012, but most properties peaked at doubling their value. The overall results show that property surrounding GSU has increased in value, but not at a statistically significant rate to ascribe the increasing property values to the university's campus expansion.

Chapter 3

The objective of this chapter was to examine crime patterns around the GSU campus and assess the location of crime hot spots. The kernel density estimation (KDE) and repeat address mapping revealed four hot spots with two on campus and two off campus. One of the on-campus hot spots is near two residence halls that house over 3,000 students and the second on-campus hot spot is in the center of campus by the library. The two off-campus hot spots are the Metropolitan Atlanta Rapid Transit

Authority (MARTA) Five Points Station and Underground Atlanta, which is a multi-purpose facility that has shopping, dining, and entertainment establishments. The MARTA Five Points station and Underground Atlanta are within walking distance of campus, and draw a large number of residents because the station is just south of the central business district and just north of the government center that includes city, county, and state government offices. The urban crime theories of routine activities and social disorganization explain why these hot spots exist, but do not present clear solutions that can immediately be applied to GSU. The findings about these four hot spots provide information to the GSU and Atlanta police departments to reduce the crime rate by better patrol campus and its surroundings.

Chapter 4

The objective of this chapter was to examine how the GSU students' sense of community has changed since the introduction of a varsity football team in 2010. The survey results reveal that students who identify as a fan of the athletics report have higher levels of attachment to GSU, but the opening of two large dormitories just before the football team began playing games makes it difficult to assign all of the credit for an increased sense of community to the addition of a football program. Interviews reveal that students and employees, some who worked at the university prior to the start of the football team, do not feel that the sense of community has changed, but they see a change on the landscape. Multiple people observed that they see more students wearing T-shirts supporting GSU instead of displaying clothing that support other large universities in the

region with established football teams. The choice of wearing clothing associated with a student's university is a reflection of pride, which manifests itself as a component of the increased sense of community at GSU.

Summary and Future Research

Overall, this research examined three elements of GSU's interaction with downtown Atlanta: economic impact, crime patterns, and sense of community. The results indicate that the two entities have a noticeable influence on each other, although measuring the degrees of this relationship can be difficult. GSU's expansion has increased property values neighboring campus, but despite the goals of university and city leaders it clearly does not serve as an anchor for redevelopment on the eastern side of downtown Atlanta. Crime patterns on and around GSU are unique because the campus is woven into the urban fabric, which makes it difficult to determine the influence off-campus crime hot spots have upon students. Since the introduction of a football team in 2010, the GSU's sense of community has changed as students are more likely to exhibit school pride by wearing clothing in school colors or adorned with university logos as they traverse downtown Atlanta. Each element illustrates that the university and the city interact with each other on a regular basis.

However, other elements of the economic impact, crime patterns, and sense of community were not analyzed in this research. A traditional input-output model utilizing ZIP Code-level analysis would provide more information about GSU's contributions to the downtown Atlanta economy. Numerous studies about crime patterns on and near

GSU would reveal more intricate patterns about the different types of crime affecting the university's population. The addition of a football team was aimed primarily at traditional undergraduate students, but an examination of alumni involvement with the program would provide greater breadth to the team's impact on downtown Atlanta as games attract an audience from outside of the current student population. These ideas represent future avenues for research on this topic, as the university and the city continue to grow and shape each other.

This dissertation provided a case study of an urban university's interaction with its surrounding neighborhood. In the case of GSU and downtown Atlanta, their relationship is complex and covers many topics. Due to the intricate relationship between university and city leaders invested in the improvement of both entities, this research could also span other disciplines such as economics, political science, and urban planning but all can be brought together under a geographic lens examining the university and its city. As cities continue to attract large populations and urban universities continue to educate more students, the interaction between a university and its host city will continue to be at the forefront of issues facing political and academic leaders.

APPENDICES

The following sections include the online survey and initial structured questions utilized for interviewing employees and student volunteers as part of the sense of community research. Section A1 contains the thematic and demographic questions students were asked as part of the online survey. Section A2 contains the initial structured questions used to guide the semi-structured interviews with select university employees. Section A3 contains the preliminary structured questions that guided the semi-structured interviews with student volunteers.

A1: ONLINE SURVEY QUESTIONS FOR STUDENTS

Thematic Questions

Directions: Read each statement and select the answer that best describes you. Use the following scale:

1 = Strongly Disagree (you strongly disagree with the statement; it does not describe you at all)

2 = Disagree (you disagree with the statement; it does not describe you)

3 = Neutral (you are unsure whether you disagree or agree; you are undecided)

4 = Agree (you agree with the statement; it describes you)

5 = Strongly Agree (you strongly agree with the statement; it really describes you)

6 = Not Applicable (you believe the statement does not apply to you)

Community-Oriented Questions

1. I feel like I belong at Georgia State University.
2. I feel very attached to Georgia State University.
3. There is a lot of positive school spirit at Georgia State University.
4. There is a strong sense of togetherness on the Georgia State University campus.
5. I feel like I am part of a community at Georgia State University.
6. Attending Georgia State University athletic events make me feel like part of a community.
7. I attend Georgia State University football games with a consistent group of friends.
8. I attend Georgia State University athletic events (other than football) with a consistent group of friends.
9. The publicity of Georgia State University's football team made me consider attending the university.
10. Being able to attend a university with a football team affected my college choice.

Athletic-Oriented Questions

1. I see myself as a fan of Georgia State University athletics.
2. Being a Georgia State University athletics fan is important to me.
3. I regularly display Georgia State University athletic insignias at my home or workplace.
4. I regularly wear Georgia State University athletic insignias on my clothing.
5. I regularly display Georgia State University athletic insignias on my motor vehicle (bumper sticker/decal, flag, decorative license plate, license plate frame, etc.).

Demographic Questions

1. What is your student status at Georgia State University?

   A. Freshman

   B. Sophomore

   C. Junior

   D. Senior

   E. Graduate student (master's or doctoral level)

2. What is your enrollment status?

   A. Full-time (12 or more credit hours; 6 or more credit hours for graduate student)

   B. Part-time (11 or less credit hours; 5 or less credit hours for graduate student)

3. What is your current age group?

   A. 17-19

   B. 20-22

   C. 23-30

   D. 31+

4. Are/were you a member of a university-sponsored club or extracurricular organization at Georgia State University?

   A. Yes

   B. No

5. Are/were you a member of a social fraternity or sorority at Georgia State University?

   A. Yes

   B. No

6. What is your current housing status?

   A. On-campus residence hall (Freshman Housing, Greek Life Housing, Piedmont North, University Lofts, University Commons)

   B. Off-campus apartment or house

   C. Parent/guardian residence (apartment or house)

7. How many hours do you work on campus each week?

   A. 1-10

   B. 11-20

   C. 21-30

   D. 31-40

   E. 40+

   F. Not applicable; I work off campus

8. What do you consider your hometown?

9. What is your gender?

   A. Male

   B. Female

10. How would you best classify your racial/ethnic background (optional)?

    A. White/Caucasian, non-Hispanic

    B. Black/African-American, non-Hispanic

    C. American Indian or Alaskan Native

    D. Asian

    D. Native Hawaiian or other Pacific Islander

    E. Hispanic

    F. Other

11. Would you be willing to be interviewed about your experiences in the campus community and the effects of athletics on campus?

    A. Yes

    B. No

A2: STRUCTURED INTERVIEW QUESTIONS FOR EMPLOYEES

Introduction

The researcher provides his background and explains his "social self," and how he became interested in the topic. It is important to acknowledge my status as a Georgia State University alumnus, and previous roles as an undergraduate student leader, graduate student worker, and full-time employee. I do this to build rapport and create an environment where the interviewee shares thoughtful responses to the questions. Then the researcher can explain – in part – the study's research problems. I will explain to the research participants that through their roles they can provide important information about Georgia State University's sense of community and place-bonding due to the increased promotion of the athletics department. The objective is to get the respondents

to tell me their stories with minimal interruptions during the interview (i.e. semi-structured). In addition to the structured questions, there are probes that can help prompt subjects to discuss more about a topic.

1. How do you define community?
2. How do you define a sense of community?
3. How does the university use athletics, and specifically football, to promote a sense of community?
4. What was the sense of community like prior to the university's announcement that it would sponsor a football team?
5. What is the sense of community like after the football team began playing games?

   - Probe: What has changed within the university community?
6. How was the sense of community changed since the university announced that football would upgrade to the Football Bowl Subdivision (FBS)?
7. What is the sense of community like at a football game?
8. How has the sense of community changed at other sports since the university began sponsoring football?

A3: STRUCTURED INTERVIEW QUESTIONS FOR STUDENT VOLUNTEERS

Introduction

The researcher provides his background and explains his "social self," and how he became interested in the topic. It is important to acknowledge my status as a Georgia State University alumnus, and previous roles as an undergraduate student leader, graduate student worker, and full-time employee. I do this to build rapport and create an environment where the interviewee shares thoughtful responses to the questions. Then the researcher can explain – in part – the study's research problems. I will explain to the

research participants that through their roles they can provide important information about Georgia State University's sense of community and place-bonding due to the increased promotion of the athletics department. The objective is to get the respondents to tell me their stories with minimal interruptions during the interview (i.e. semi-structured). In addition to the structured questions, there are probes that can help prompt subjects to discuss more about a topic.

1. How do you define community?
2. How do you define a sense of community?
3. What makes you a member of the Georgia State University community?
4. What was the sense of community like prior to the university's announcement that it would sponsor a football team?
5. What is the sense of community like after the football team began playing games?

   - Probe: What has changed within the university community?
6. How was the sense of community changed since the university announced that football would upgrade to the Football Bowl Subdivision (FBS)?
7. What is the sense of community like at a football game?
8. How has the sense of community changed at other sports since the university began sponsoring football?
9. What role did athletics play integrating you into the Georgia State University community?

   - Probe: What else integrated you into the Georgia State University community?
10. Do you possess an emotional connection to the Georgia State University community when you attend Panther athletic events?

VITA

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